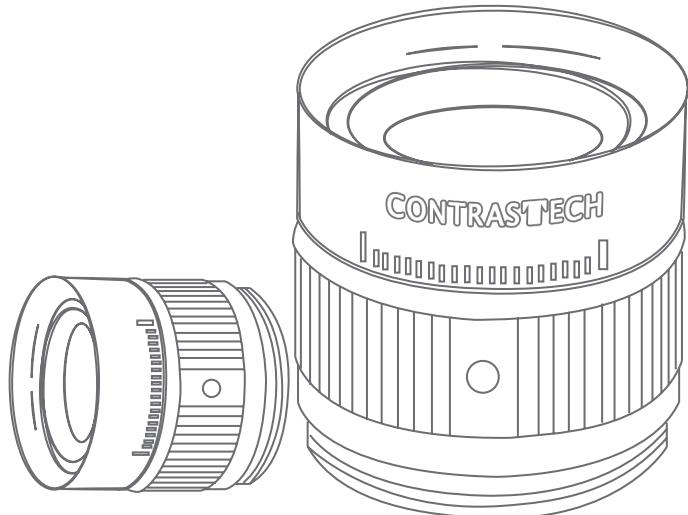


# MACHINE VISION LENSES

Lenses have the basic function of switching or adjusting the light beam. In machine vision system, lenses are used to shoot the target image on CCD surface. Therefore lens quality will directly affect the overall performance of the visual system. The correct selection and assembly of lenses is essential when designing machine vision system.

Contrastech lenses products include high-resolution Fixed-focus Lenses, Large-format Industrial Lenses, Line Scan Lenses, UV/SWIR Lenses, Macro Lenses and 360° View Lenses. All these products are greatly used in the fields of intelligent inspection, automotive industry, robotics and printing, logistics management and military.



Subject to change without prior notice.  
For more information, please contact our sales representatives.

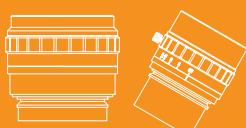
# ABOUT US

---

Hangzhou Contrastech Technology Co.,Ltd. was established in 2008, dedicated to professional machine vision and image technology. As leading manufacturer and provider of machine vision products in China, the major products include industrial camera, scientific standard camera, high definition frame grabber card, industrial FA lens, telecentric lens, machine vision lights and image processing software. All products comply with international quality standards and we have more than 20 years industry experience in the fields of machine vision image acquisition and processing, optical imaging and thousands of automation practice projects.

With advanced technology and creative power of image acquisition and processing, Contrastech products have been exported to almost 100 countries and regions, and in thousands of projects have won countless affirmations and reputations. Contrastech machine vision products are well-known as innovative, flexible, stable and easy to use, enabling reliable inspection in many applications.

This is Contrastech machine vision lenses catalogue. Contrastech industrial lens range from megapixels to 150 million pixels, covering various sensor size, camera interfaces, and waveband ranges. The products include fixed focus, zoom, macro, telecentric lenses and 360-degree lenses, and etc. For more requirements, please contact your sales engineer representative or our technical support team.



# CONTENTS

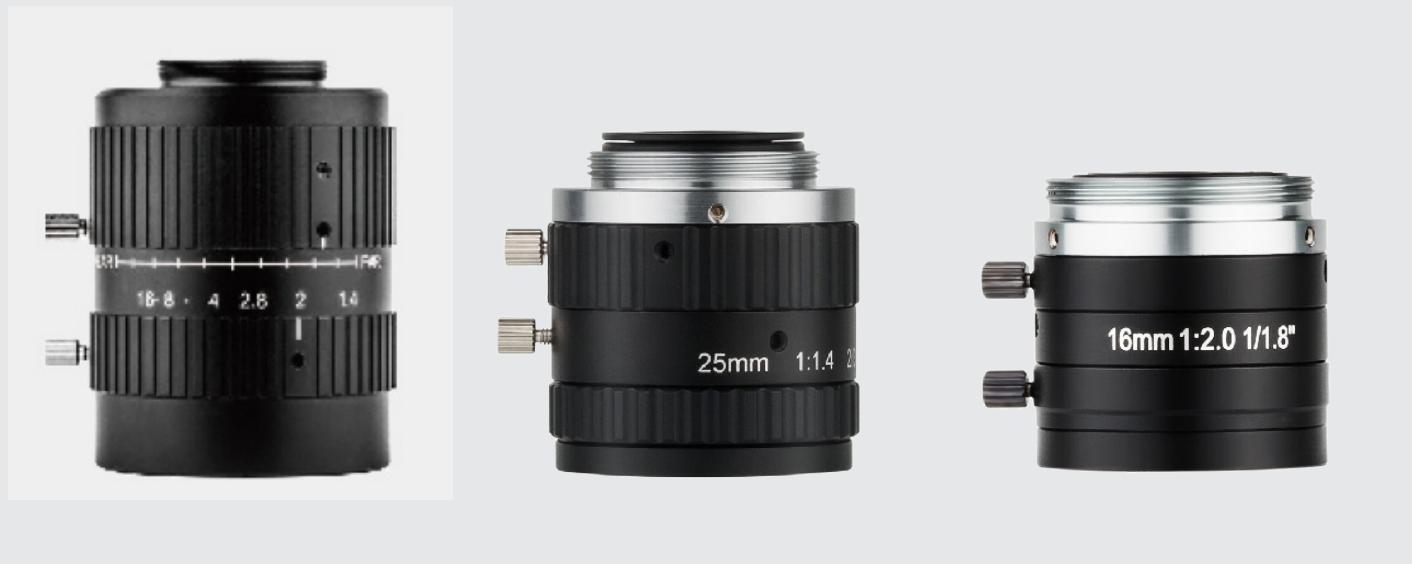
|  |           |
|--|-----------|
| <b>1 OVERVIEW .....</b>  | <b>5</b>  |
| Standard FA Lenses Overview.....                               | 5         |
| Large Format Lenses Overview.....                              | 9         |
| Line Scan Lenses Overview.....                                 | 12        |
| 360°Outer/Inner Surface Lenses.....                            | 15        |
| Macro Lenses Overview.....                                     | 18        |
| Fishey Lenses Overview.....                                    | 20        |
| IR Corrected Lenses Overview.....                              | 21        |
| SWIR Lenses Overview.....                                      | 22        |
| UV Lenses Overview.....  | 24        |
| Zoom Lenses Overview.....                                      | 25        |
| Motor Focus Lenses Overview.....                               | 26        |
| Board-Level Lenses.....  | 28        |
| Drone Lenses.....  | 32        |
| <b>2 FA FIXED FOCAL LENGTH LENSES(Parameter drawings).....</b> | <b>34</b> |
| 1/1.8" Format C-Mount (5 Mega Pixel).....                      | 34        |
| 2/3" Format C-Mount (2-10 Mega Pixel).....                     | 36        |
| 1" Format C-Mount (5-12 Mega Pixel).....                       | 38        |
| 1.1" Format C-Mount (12-25 Mega Pixel).....                    | 42        |
| 1.2" Format C-Mount (25 Mega Pixel).....                       | 45        |
| 1.4" Format C-Mount (45 Mega Pixel).....                       | 46        |
| 4/3" Format C-Mount (10-12 Mega Pixel).....                    | 47        |
| <b>3 LARGE FORMAT LENSE(Parameter drawings).....</b>           | <b>49</b> |
| 5MP Large Format F/T Mount Lenses.....                         | 49        |
| 29MP Large Format Lenses.....                                  | 51        |
| 65MP Large Format Lenses .....                                 | 53        |
| 100MP Large Format Lenses.....                                 | 56        |
| 150MP Large Format Lenses.....                                 | 57        |
| <b>4 LINE SCAN LENSES(Parameter drawings).....</b>             | <b>58</b> |
| Compact Line Scan Lenses.....                                  | 58        |
| 5.5K5 $\mu$ Line Scan Lenses.....                              | 59        |
| 8K7 $\mu$ Line Scan Lenses.....                                | 60        |
| 12K5 $\mu$ Line Scan Lenses.....                               | 62        |
| 16K3.5 $\mu$ Line Scan Lenses.....                             | 64        |
| 16K5 $\mu$ Line Scan Lenses.....                               | 66        |
| Coaxial Illumination Line Scan Lenses.....                     | 68        |
| Focusing Ring and Adapter.....                                 | 69        |

# CONTENTS

---

|   |           |
|---|-----------|
| <b>5 360° OUTER / INNER SURFACE LENSES(Parameter drawings).....</b> | <b>70</b> |
| 360° Inner Surface Lenses.....                                      | 70        |
| 360° Outer Surface Lenses.....                                      | 71        |
| 360° Mutil-Angle Lenses.....  | 73        |
| <b>6 MACRO LENSES(Parameter drawings).....</b>                      | <b>74</b> |
| <b>7 Fishey LENSES(Parameter drawings).....</b>                     | <b>75</b> |
| <b>8 IR Corrected LENSES(Parameter drawings).....</b>               | <b>76</b> |
| <b>9 SWIR LENSES(Parameter drawings).....</b>                       | <b>78</b> |
| <b>10 UV LENSES(Parameter drawings).....</b>                        | <b>84</b> |
| <b>11 ZOOM LENSES(Parameter drawings).....</b>                      | <b>86</b> |
| <b>12 MOTOR FOCUS LENSES(Parameter drawings).....</b>               | <b>90</b> |

# 1/1.8"~4/3" C-MOUNT



## C-MOUNT FIXED FA LENSES

These days, C-Mount lenses are still the most common type in industrial image processing, esp. in factory automation. Mostly they are used with digital cameras like USB, GigE and Smart Cameras.

LEM series is an advanced industrial lens product researched and developed by CONTRASTECH, which catering to the demands of recent market environment.

The quality of our lenses is guaranteed by refined optical glasses, mature coating process and advanced optical structure.

Developed with high cost-performance ratio, the quality and performance are quite competitive with foreign counterparts.

## PRODUCT FEATURES

---

1. Suitable for 5 mega up to 10 mega pixels sensors.
2. High resolution at whole range of WD and excellent brightness.
3. Robust design, suitable for most machine vision applications.
4. Professional MTF optimization
5. Lockable focus and iris screws prevent movement during vibrations or shocks.
6. High cost-performance ratio

**NOTE****HOT!** : Hot Product**NEW!** : New Product**ADV.** : Advantage Product**OOP** : Out of Production**1/1.8" C-MOUNT FIXED LENSES**[Click to view details/drawings](#)

| Part name              | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View (deg.)    | TV Distortion (%) | Filter Size | Mega Pixels (MP) | Type     |
|------------------------|----------|----------------|------------|-------------------------|-------------------|-------------|------------------|----------|
| VT-LEM0420 <b>HOT!</b> | 4.0      | F2.0           | 0.1        | D:94.0° H:82.9° V:66.5° | <0.5%             | -           | 5                | Standard |
| VT-LEM0620             | 6.0      | F2.0           | 0.1        | D:64.5° H:54.1° V:41.9° | <0.1%             | M25.5× 0.5  | 5                | Standard |
| VT-LEM0820             | 8.0      | F2.0           | 0.1        | D:56.0° H:46.8° V:36.0° | <0.1%             | M25.5× 0.5  | 5                | Standard |
| VT-LEM1220             | 12.0     | F2.0           | 0.1        | D:40.7° H:33.0° V:24.3° | <0.3%             | M25.5× 0.5  | 5                | Standard |
| VT-LEM1620             | 16.0     | F2.0           | 0.1        | D:30.3° H:24.7° V:18.2° | <0.1%             | M25.5× 0.5  | 5                | Standard |
| VT-LEM2520             | 25.0     | F2.0           | 0.1        | D:19.0° H:13.6° V:11.3° | <0.1%             | M25.5× 0.5  | 5                | Standard |
| VT-LEM3520             | 35.0     | F2.0           | 0.2        | D:12.24° H:8.8° V:7.0°  | <0.1%             | M25.5× 0.5  | 5                | Standard |
| VT-LEM5028             | 50.0     | F2.8           | 0.3        | D:10.2° H:8.2° V:6.1°   | <0.05%            | M28.5× 0.5  | 5                | Standard |
| VT-LEM7528 <b>HOT!</b> | 75.0     | F2.8           | 0.5        | D:5.84° H:5.4° V:4.04°  | <0.05%            | M30.5× 0.5  | 5                | Standard |
| VT-LEM0616MP5          | 6.0      | F1.6           | 0.1        | D:71.7° H:60.1° V:46.6° | <0.54%            | M34× 0.5    | 5                | Standard |
| VT-LEM014141-FE        | 1.4      | F1.41          | 0.1        | D:182° H:182° V:182°    | <-1%              | -           | 5                | Standard |

**2/3" C-MOUNT FIXED LENSES**[Click to view details/drawings](#)

| Part name                  | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View -D x H x V (deg.) | TV Distortion (%) | Filter Size | Mega Pixels (MP) | Type     |
|----------------------------|----------|----------------|------------|---------------------------------|-------------------|-------------|------------------|----------|
| VT-LEM0518MP10 <b>ADV.</b> | 5.0      | F1.8           | 0.1        | 95.45°× 66.85° × 82.7°          | <5%               | M62× 0.75   | 10               | Standard |
| VT-LEN2028MP10 <b>ADV.</b> | 20.0     | F2.8           | 0.2        | 28.6°× 23.33° × 82.7°           | <-0.60%           | -           | 10               | Standard |
| VT-LEM0814CBMP8            | 8.0      | F1.4           | 0.1        | 61.7°× 56.3° × 43.7°            | <0.1%             | M37× 0.5    | 8                | Standard |
| VT-LEM1216CBMP8            | 12.0     | F1.6           | 0.15       | 46.6°× 39°× 30.3°               | <0.8%             | M30.5× 0.5  | 8                | Standard |
| VT-LEM1614CBMP8            | 16.0     | F1.4           | 0.1        | 37.3°× 30.3°× 23°               | <0.1%             | M30.5× 0.5  | 8                | Standard |
| VT-LEM2514CBMP8            | 25.0     | F1.4           | 0.1        | 24.6°× 20°× 15°                 | <0.2%             | M30.5× 0.5  | 8                | Standard |
| VT-LEM3514CBMP8            | 35.0     | F1.4           | 0.15       | 17.3°× 13.9°× 10.4°             | <0.8%             | M37× 0.5    | 8                | Standard |
| VT-LEM5014CBMP8            | 50.0     | F1.4           | 0.3        | 13.04°× 10.46°× 7.86°           | <0.8%             | M37× 0.5    | 8                | Standard |
| VT-LEM10028 <b>ADV.</b>    | 100.0    | F2.8           | -          | 5.6°× 7.5°                      | <0.1%             | M37.5×0.5   | 2                | Standard |

**HOT! 1" C-MOUNT FIXED LENSES(5MP)**[Click to view details/drawings](#)

| Part name                   | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View (deg.) | TV Distortion (%) | Filter Size | Mega Pixels (MP) | Type     |
|-----------------------------|----------|----------------|------------|----------------------|-------------------|-------------|------------------|----------|
| VT-LEM7528MP5               | 75       | F2.8           | 0.6        | 11.4°× 9.2°× 4.8°    | <0.07%            | M34× 0.5    | 5                | Standard |
| VT-LEM1214CB-H1             | 12.5     | F1.4           | 0.1        | 66.3°× 54.5°× 42.0°  | <1.8%             | M46×0.75    | 5                | Standard |
| VT-LEM1614CB-H1             | 16       | F1.4           | 0.1        | 42.4°×32.4°×51.6°    | <0.1%             | M46×0.75    | 5                | Standard |
| VT-LEM2514CB-H1             | 25       | F1.4           | 0.1        | 28.7°×22.06°×34.94°  | <0.1%             | M40.5×0.5   | 5                | Standard |
| VT-LEM3514CB-H1             | 35       | F1.4           | 0.15       | 19.28°×9.8°×7.4°     | <0.1%             | M46×0.75    | 5                | Standard |
| VT-LEM5014CB-H1             | 50       | F1.4           | 0.3        | 17.14°×14.32°×23.92° | <0.1%             | M46×0.75    | 5                | Standard |
| VT-LEM7518CB-H1             | 75       | F1.8           | 0.8        | 12.2°×9.8°×7.4°      | <0.1%             | M55×0.75    | 5                | Standard |
| VT-LEM0814CE-H1 <b>NEW!</b> | 8        | F1.4           | 0.2        | 88°×70.5°×53°        | <1.5%             | -           | 5                | Standard |
| VT-LEM1216CE-H1             | 12       | F1.6           | 0.2        | 68.8°×57.1°×44.1°    | <1.5%             | M52×0.75    | 5                | Standard |
| VT-LEM1616CE-H1             | 16       | F1.6           | 1.0        | 54.3°× 44.2°× 33.5°  | <1.0%             | M37× 0.5    | 5                | Standard |
| VT-LEM2220CE-H1             | 22       | F2.0           | 0.4        | 40.0°× 32.0°× 24.0°  | <1.0%             | -           | 5                | Standard |
| VT-LEM2516CE-H1             | 25       | F1.6           | 1.0        | 36.2°× 29.0°× 21.8°  | <1.0%             | M39× 0.5    | 5                | Standard |
| VT-LEM3514CE-H1             | 35       | F1.4           | 1.0        | 25.7°× 20.7°× 15.6°  | <1.0%             | M39× 0.5    | 5                | Standard |

**HOT! 1" C-MOUNT FIXED LENSES(8-12MP)**
[Click to view details/drawings](#)

| Part name            | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View (deg.) | TV Distortion (%)           | Filter Size | Mega Pixels (MP) | Type     |
|----------------------|----------|----------------|------------|----------------------|-----------------------------|-------------|------------------|----------|
| VT-LEN0814MP8-H1 OOP | 8        | F1.4           | 0.5        | 96.0°×84.0°×68.0°    | <-4.65%                     | -           | 8                | Standard |
| VT-LEN1214MP8-H1 OOP | 12       | F1.4           | 0.3        | 68.0°×56.0°×43.0°    | <4.50%                      | -           | 8                | Standard |
| VT-LEN1614MP8-H1 OOP | 16       | F1.4           | 0.5        | 54.0°×43.0°×33.0°    | <5.90%                      | M39*0.5     | 8                | Standard |
| VT-LEN2014MP8-H1 OOP | 20       | F1.4           | 0.5        | 44.3°×35.7°×26.8°    | <-4.90%                     | M41*0.5     | 8                | Standard |
| VT-LEN2514MP8-H1 OOP | 25       | F1.4           | 1          | 36.5°×29.2°×21.9°    | <-2.90%                     | M40.5*0.5   | 8                | Standard |
| VT-LEN3514MP8-H1 OOP | 35       | F1.4           | 2          | 26.2°×20.9°×15.6°    | <-2.60%                     | -           | 8                | Standard |
| VT-LEN5014MP8-H1 OOP | 50       | F1.4           | 1.5        | 18.2°×14.6°×10.9°    | <-2%                        | -           | 8                | Standard |
| VT-LEN7018MP8-H1     | 70       | F1.8           | 3          | 12.8°×10.2°×7.7°     | <0.13%                      | -           | 8                | Standard |
| VT-LEM7528MP10-H1    | 75       | F2.8           | 0.6        | 10.4°×7.9°×13.0°     | <0.1%                       | M37.5*0.5   | 10               | Standard |
| VT-LEN17044MP10-H1   | 170      | F4.4           | 5          | 5.4°×4.32°×3.25°     | 0.27% in Max Circle 16.6 mm | -           | 10               | Standard |

**1.1" C-MOUNT FIXED LENSES(12MP)**
[Click to view details/drawings](#)

| Part name               | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View (deg.) | Filter Size | TV Distortion (%) | Mega Pixels (MP) | Design Wavelength (nm) | Type     |
|-------------------------|----------|----------------|------------|----------------------|-------------|-------------------|------------------|------------------------|----------|
| VT-LEN1228MP12-H1.1     | 12       | F2.8           | 0.1        | 66.7°×57°×45°        | -           | 1.50%             | 12               | 400-1000               | Standard |
| VT-LEN1628MP12-H1.1     | 16       | F2.8           | 0.1        | 55.6°×45.8°×35.3°    | M43*0.75    | 0.15%             | 12               | 400-1000               | Standard |
| VT-LEN2014MP12-H1.1 OOP | 20       | F1.4           | 0.5        | 49.06°×42.4°×27.96°  | M41*0.5     | <-4.90%           | 12               | 420-650                | Standard |
| VT-LEN2528MP12-H1.1     | 25       | F2.8           | 0.1        | 37.6°×30.4°×23°      | M35.5*0.5   | 0.10%             | 12               | 400-1000               | Standard |
| VT-LEN3528MP12-H1.1     | 35       | F2.8           | 0.2        | 28.3°×22.6°×17°      | M35.5*0.5   | 0.02%             | 12               | 400-1000               | Standard |
| VT-LEN5028MP12-H1.1     | 50       | F2.8           | 0.3        | 19.9°×15.9°×11.9°    | M35.5*0.5   | 0.04%             | 12               | 400-1000               | Standard |
| VT-LEM7526MP12-H1.1     | 75       | F2.6           | 0.3        | 7.53°×6.05°×4.65°    | M34*0.5     | <-0.35%           | 12               | 400-700                | Standard |

**1.1" C-MOUNT FIXED LENSES(20-25MP)**
[Click to view details/drawings](#)

| Part name                | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View (deg.) | Filter Size | TV Distortion (%) | Mega Pixels (MP) | Design Wavelength (nm) | Type     |
|--------------------------|----------|----------------|------------|----------------------|-------------|-------------------|------------------|------------------------|----------|
| VT-LEM0618MP20-H1.1 HOT! | 6        | F1.8           | 0.1        | 118.2°×104.91°×86.2° | -           | 2.3%              | 20               | 400-1000               | Standard |
| VT-LEM0814MP20-H1.1 HOT! | 8        | F1.4           | 0.1        | 98.4°×84.8°×68°      | M58*0.75    | 5.3%              | 20               | 400-1000               | Standard |
| VT-LEM1228CBMP20-H1.1    | 12       | F2.8           | 0.1        | 57°×45°×66.7°        | -           | <1.50%            | 20               | 420-1150               | Standard |
| VT-LEM1628CBMP20-H1.1    | 16       | F2.8           | 0.1        | 46.3°×36°×55.4°      | M35.5*0.5   | <0.50%            | 20               | 420-1150               | Standard |
| VT-LEM2528CBMP20-H1.1    | 25       | F2.8           | 0.1        | 30.4°×23°×37.6°      | M35.5*0.5   | <0.10%            | 20               | 420-1150               | Standard |
| VT-LEM3528CBMP20-H1.1    | 35       | F2.8           | 0.2        | 22.6°×17°×28.3°      | M35.5*0.5   | <0.02%            | 20               | 420-1150               | Standard |
| VT-LEM5028CBMP20-H1.1    | 50       | F2.8           | 0.3        | 15.9°×11.9°×19.9°    | M35.5*0.5   | <0.04%            | 20               | 420-1150               | Standard |
| VT-LEN0828MP25-H1.1      | 8        | F2.8           | 0.1        | 82.8°×65.8°          | -           | <3.0%             | 25               | -                      | Standard |

**NEW! 1.2" C-MOUNT FIXED LENSES**
[Click to view details/drawings](#)

| Part name           | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View (deg.) | Filter Size | TV Distortion (%) | Mega Pixels (MP) | Design Wavelength (nm) | Type     |
|---------------------|----------|----------------|------------|----------------------|-------------|-------------------|------------------|------------------------|----------|
| VT-LEN1224MP25-H1.2 | 12       | 2.4            | 0.1        | 76.12°×62.33°×55.33° | -           | 0.39%             | 25               | 380-780                | Standard |
| VT-LEN1624MP25-H1.2 | 16       | 2.4            | 0.1        | 61.36°×48.83°×42.86° | M40.5*0.5   | 0.07%             | 25               | 380-780                | Standard |
| VT-LEN2524MP25-H1.2 | 25       | 2.4            | 0.15       | 41.19°×31.42°×27.32° | M37*0.5     | -0.04%            | 25               | 380-780                | Standard |
| VT-LEN3524MP25-H1.2 | 35       | 2.4            | 0.15       | 29.33°×22.51°×19.53° | M40.5*0.5   | 0.02%             | 25               | 380-780                | Standard |
| VT-LEN5024MP25-H1.2 | 50       | 2.4            | 0.25       | 20.5°×15.66°×13.57°  | M40.5*0.5   | 0.01%             | 25               | 380-780                | Standard |

**NEW! 1.4" C-MOUNT FIXED LENSES****[Click to view details/drawings](#)**

| Part name           | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View -H x D x V (deg.) | Filter Size | TV Distortion (%) | Mega Pixels (MP) | Iris   | Type     |
|---------------------|----------|----------------|------------|---------------------------------|-------------|-------------------|------------------|--------|----------|
| VT-LEN1228MP45-H1.4 | 12       | 2.8~16         | 0.1        | 76.1° × 86.8° × 55.7°           | -           | <-0.5%            | 45               | Manual | Standard |
| VT-LEN1628MP45-H1.4 | 16       | 2.8~16         | 0.15       | 61.4° × 71.27° × 43.83°         | M46×0.75    | <0.70%            | 45               | Manual | Standard |
| VT-LEN2528MP45-H1.4 | 25       | 2.8~16         | 0.15       | 41.6° × 49.2° × 28.9°           | M43×0.5     | <0.05%            | 45               | Manual | Standard |
| VT-LEN3528MP45-H1.4 | 35       | 2.8~16         | 0.15       | 30.4° × 36.3° × 20.8°           | M34×0.5     | <-0.01%           | 45               | Manual | Standard |
| VT-LEN5028MP45-H1.4 | 50       | 2.8~16         | 0.25       | 21.5° × 25.8° × 14.7°           | M35.5×0.5   | <-0.03%           | 45               | Manual | Standard |

**HOT! 4/3" C-MOUNT FIXED LENSES****[Click to view details/drawings](#)**

| Part name                    | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View (deg.)      | Filter Size | Mega Pixels (MP) | Weight (g) | Design Wavelength (nm) | Type     |
|------------------------------|----------|----------------|------------|---------------------------|-------------|------------------|------------|------------------------|----------|
| VT-LEM0828CE-H2 <b>NEW!</b>  | 8        | 2.8            | 0.2        | 108° × 96° × 80.4°        | M86× 1      | 12               | -          | 400-700                |          |
| VT-LEM08528CD-H2 <b>ADV!</b> | 8.5      | 2.8            | 0.5        | 107.38° × 94.89° × 77.93° | M77× 0.5    | 12               | -          | 400-700                | Standard |
| VT-LEM1220CD-H2              | 12       | 2.0            | 0.15       | 89.02° × 75.46° × 61.08°  | M77× 0.75   | 10               | 447        | 400-700                | Standard |
| VT-LEM1620CD-H2              | 16       | 2.0            | 0.1        | 72.92° × 60.92° × 47.28°  | M58X0.75    | 10               | 338        | 400-700                | Standard |
| VT-LEM2520CD-H2              | 25       | 2.0            | 0.15       | 49.7° × 40.6° × 31°       | M46× 0.75   | 10               | 251        | 400-700                | Standard |
| VT-LEM3520CD-H2              | 35       | 2.0            | 0.2        | 36.6° × 29.6° × 22.4°     | M40.5× 0.5  | 10               | 173        | 400-700                | Standard |
| VT-LEM5020CD-H2              | 50       | 2.0            | 0.3        | 25.9° × 20.9° × 15.7°     | M40.5× 0.5  | 10               | 170        | 400-700                | Standard |
| VT-LEM8520CD-H2 <b>ADV!</b>  | 85       | 2.0            | 1.2        | 15.4° × 12.1° × 9.3°      | M77× 0.75   | 10               | -          | 400-700                | Standard |

# LARGE FORMAT LENSES



## LARGE FORMAT LENSES

Developed for large format area cameras and line-scan cameras, from 29MP to 150MP, covering variety of interfaces including F mount, T mount, M58 mount and M72 mount.

CONTRASTECH's large format lenses highlight among its peers, winning customers' favor and praise in tens of thousands projects with good performance.

## APPLICATION

1. Phone screen and glass cover inspections
2. Inspections on LED, LCD and OLED
3. Inspections on AOI, SPI and printing Solar panel inspection

**NOTE****LSC!** : For Line Scan Camera**5MP Large Format Lenses** [Click to view details/drawings](#)

| Part name                 | EFL (mm) | Resolution (lp/mm) | WD (mm) | Format (mm) | Aperture (F/#) | Distortion (%) | M.O.D. (m) | Angle of View(D) (deg) | Filter Size | Mount    |
|---------------------------|----------|--------------------|---------|-------------|----------------|----------------|------------|------------------------|-------------|----------|
| VT-LHF2428MP5 <b>LSC!</b> | 24       | 30lp/mm            | 500~∞   | 43          | F2.8~F22       | <-4%           | 0.15m      | 84°                    | M52 × 0.75  | F        |
| VT-LHT2428MP5 <b>LSC!</b> | 24       | 30lp/mm            | 500~∞   | 43          | F2.8~F22       | <-4%           | 0.15m      | 84°                    | M52 × 0.75  | M42×1(T) |
| VT-LHF2828MP5 <b>LSC!</b> | 28       | 30lp/mm            | 300~∞   | 43          | F2.8~F22       | <-3%           | 0.3m       | 74°                    | M52 × 0.75  | F        |
| VT-LHT2828MP5 <b>LSC!</b> | 28       | 30lp/mm            | 300~∞   | 43          | F2.8~F22       | <-3%           | 0.3m       | 74°                    | M52 × 0.75  | M42×1(T) |
| VT-LHF3525MP5 <b>LSC!</b> | 35       | 30lp/mm            | 300~∞   | 43          | F2.5~F22       | <-3%           | 0.3m       | 52.3°                  | M52 × 0.75  | F        |
| VT-LHT3525MP5 <b>LSC!</b> | 35       | 30lp/mm            | 300~∞   | 43          | F2.5~F22       | <-3%           | 0.3m       | 52.3°                  | M52 × 0.75  | M42×1(T) |
| VT-LHF5018MP5 <b>LSC!</b> | 50       | 30lp/mm            | 400~∞   | 43          | F1.8~F22       | <-1%           | 0.4m       | 45°                    | M52 × 0.75  | F        |
| VT-LHT5018MP5 <b>LSC!</b> | 50       | 30lp/mm            | 400~∞   | 43          | F1.8~F22       | <-1%           | 0.4m       | 45°                    | M52 × 0.75  | M42×1(T) |

**29MP Large Format Lenses** [Click to view details/drawings](#)

| Part name              | EFL (mm) | Format (mm) | Aperture (F/#) | Mag. Range   | Standard Mag.(x) | WD (mm) | TV Distortion | FFL (mm) | Filter Size | Mount |
|------------------------|----------|-------------|----------------|--------------|------------------|---------|---------------|----------|-------------|-------|
| VT-LEMF3528MP29-0.1X   | 35       | Ø45         | 2.8-16         | 0.05x-0.25x  | 0.1x             | 350.9   | < 0.4%        | 46.5     | M58×P0.75   | F     |
| VT-LEMF3528MP29-0.03X  | 35       | Ø45.3       | 2.8-16         | 0.01x-0.1x   | 0.03x            | 1158.7  | < 0.5%        | 46.5     | M67×P0.75   | F     |
| VT-LEMF3528MP29-0.057X | 35       | Ø45         | 2.8-16         | 0x-0.0435x   | 0.057x           | 1200    | < 0.4%        | 46.5     | M58×P0.75   | F     |
| VT-LEMF4028MP29-0.1X   | 40       | Ø43.2       | 2.8-22         | 0.01x-0.25x  | 0.1x             | 409     | < 0.2%        | 46.5     | M62×P0.75   | F     |
| VT-LEMF5028MP29-0.1X   | 50       | Ø43         | 2.8-22         | 0.02x-0.23x  | 0.1x             | 524.4   | 0.2%          | 46.5     | M62×P0.75   | F     |
| VT-LEMF5028MP29-0.06X  | 50       | Ø43         | 2.8-22         | 0.02x-0.1x   | 0.06x            | 862.1   | 0.2%          | 46.5     | M62×P0.75   | F     |
| VT-LEMF5028MP29-0.062X | 50       | Ø44         | 2.8-22         | 0.014x-0.24x | 0.062x           | 833.4   | < 0.3%        | 46.5     | M62×P0.75   | F     |
| VT-LEMF6040MP29-0.167X | 60       | Ø64         | 4.0-32         | 0.04x-0.33x  | 0.167x           | 384.9   | 0.19%         | 46.5     | M65×P0.75   | F     |
| VT-LEMF8056MP29-0.3X   | 80       | Ø58         | 5.6-32         | 0.2x-0.4x    | 0.3x             | 306.2   | < 0.01%       | 46.5     | M52×P0.75   | F     |
| VT-LEMF9040MP29-0.05X  | 90       | Ø43.2       | 4.0-16         | 0.01x-0.1x   | 0.05x            | 1985    | < 0.01%       | 46.5     | M62×P0.75   | F     |

**65MP Large Format Lenses** [Click to view details/drawings](#)

| Part name                     | EFL (mm) | Format (mm) | Mag. (x)    | WD (mm)  | FFL (mm) |       | Aperture (F/#) | TV Distortion (%) | FOV (D) (deg) | ENP Diameter (mm) | Mount             |
|-------------------------------|----------|-------------|-------------|----------|----------|-------|----------------|-------------------|---------------|-------------------|-------------------|
|                               |          |             |             |          | V.A      | V.B   |                |                   |               |                   |                   |
| VT-LEN58-2540MP65             | 25±5%    | Ø46         | 0-0.2x      | 100-∞    | 12       | 11.48 | F4-22          | <0.2%             | 83.8°         | Ø47.2             | M58 × P0.75       |
| VT-LEN72-2540MP65 <b>LSC!</b> | 25±5%    | Ø46         | 0-0.2x      | 100-∞    | 12       |       | F4-22          | <0.2%             | 83.8°         | Ø47.2             | M72 × P0.75       |
| VT-LEN58-3540MP65 <b>LSC!</b> | 35±5%    | Ø42         | 0-0.2x      | 150-∞    | 12       | 11.48 | F4-22          | <0.7%             | 59°           | Ø40               | M58 × P0.75       |
| VT-LEN72-3540MP65 <b>LSC!</b> | 35±5%    | Ø42         | 0-0.2x      | 150-∞    | 12       |       | F4-22          | <0.7%             | 59°           | Ø40               | M72 × P0.75       |
| VT-LEM42-5036MP65 <b>LSC!</b> | 50±5%    | Ø32         | 0.02-0.5x   | 80-2500  | 12       | 17.5  | F3.6-22        | <0.2%             | 32.6°         | Ø47.2             | M42 × P1.0        |
| VT-LEN58-5036MP65             | 50±5%    | Ø46         | 0.02-0.5x   | 80-2500  | 12       | 11.48 | F3.6-22        | <0.2%             | 43.4°         | Ø47.2             | M58 × P0.75       |
| VT-LEN72-5036MP65             | 50±5%    | Ø46         | 0.02-0.5x   | 80-2500  | 12       |       | F3.6-22        | <0.2%             | 43.4°         | Ø47.2             | M72 × P0.75       |
| VT-LEN58-8036MP65             | 80±5%    | Ø46         | 0.041-0.39x | 235-2000 | 12       | 11.48 | F3.6-22        | <0.2%             | 26.8°         | Ø47.2             | M58 × P0.75       |
| VT-LEN72-8036MP65             | 80±5%    | Ø46         | 0.041-0.39x | 235-2000 | 12       |       | F3.6-22        | <0.2%             | 26.8°         | Ø47.2             | M72 × P0.75       |
| VLEN xx-4032MP65-0.16X        | 40       | Ø43         | 0.04-0.33x  | 132-1044 | /        |       | F3.2-16        | <-0.4%            | /             | /                 | F/M42/48/58/72/90 |
| VLEN72-4056MP65-0.15X         | 40       | Ø60         | 0.04-0.25x  | 200-∞    | /        |       | F5.6-16        | /                 | /             | /                 | M72               |
| VLEN xx-6040MP65-0.16X        | 60       | Ø60         | 0.04-0.33x  | 214-1536 | /        |       | F4.0-16        | <-0.5%            | /             | /                 | F/M42/48/58/72    |
| VLEN xx-6040MP65-0.5X         | 60       | Ø60         | 0.15-1.0x   | 115-460  | /        |       | F4.0-16        | <0.23%            | /             | /                 | F/M58/M72         |
| VLENF/V-6040MP65-0.13X        | 60       | Ø60         | 0.05-0.33x  | 210-∞    | /        |       | F4.0-16        | /                 | /             | /                 | F/V-Mount         |

## 100MP Large Format Lenses

[Click to view details/drawings](#)

| Part name                            | EFL (mm) | F/# | M.O.D. (m) | Format (mm) | WD (mm)    | Angle of View (deg.)   | Filter Size | TV Distortion (%) | Mega Pixels (MP) | Mount |
|--------------------------------------|----------|-----|------------|-------------|------------|------------------------|-------------|-------------------|------------------|-------|
| VT-LEMF3528MP100                     | 35       | 2.8 | 0.12       | Ø46         | -          | 41.96°× 35.44°× 24.05° | M58×0.75    | 0.40%             | 100              | F     |
| VT-LEN72-4056MP100                   | 40       | 5.6 | 0.144      | Ø67         | 144 ~ 1043 | -                      | M40.5×0.75  | 0.55%             | 100              | M72   |
| VLEN72-4040MP100                     | 40       | 4.0 | -          | Ø58         | 200-∞      | -                      | M60×0.75    | -0.42%            | 100              | M72   |
| VT-LEMF5040MP100 <small>LSC!</small> | 50       | 4.0 | -          | Ø56         | 150-∞      | -                      | M52×0.75    | 0.41%             | 100              | F     |
| VT-LEN72-6040MP100                   | 60       | 4.0 | -          | Ø60         | 300 ~ 550  | -                      | M39×0.75    | 0.14%             | 100              | M72   |
| VT-LEMF8040MP100 <small>LSC!</small> | 80       | 4.0 | -          | Ø56         | 235-∞      | -                      | M52×0.75    | 0.12%             | 100              | F     |

## 150MP Large Format Lenses

[Click to view details/drawings](#)

| Part name                              | EFL (mm) | F/# | Mag.        | Format (mm) | WD (mm)    | Filter Size | Distortion (%) | Mega Pixels (MP) | Mount |
|--|----------|-----|-------------|-------------|------------|-------------|----------------|------------------|-------|
| VT-LEN72-5545MP150 <small>LSC!</small> | 55       | 4.5 | 0.01x-0.5x  | Ø67         | 98 ~ ∞     | -           | 0.05%          | 150              | M72   |
| VT-LEN72-8528MP150 <small>LSC!</small> | 85       | 2.8 | 0.001x-0.2x | Ø62         | 460 ~ ∞    | M77 × P0.75 | 0.04%          | 150              | M72   |
| VT-LEN72-9040MP150                     | 90       | 4.0 | 0.08x-0.14x | Ø67         | 722 ~ 1229 | M58 × P0.75 | 0.01%          | 150              | M72   |
| VT-LEN72-11635MP150                    | 116      | 3.5 | 0.93x-1.07x | Ø66         | 176 ~ 192  | -           | 0.0005%        | 150              | M72   |

# LINE SCAN LENSES



## LINE SCAN LENSES

Targeted at the line scan camera in the market, CONTRASTECH has developed lenses for 8K, 12K and 16K sensors. More than 30 models in this series with magnification varying from 0.0358X-3X, which could be applied in a variety of high resolution applications.

CONTRASTECH's line scan lenses stand out in their class with low price and good performance.

## APPLICATION

- 1.FPD/ PCB inspection
- 2.Textile Industry Inspection
- 3.Railway Track Inspection, and more automatic optical Inspection and Microdefect Detection

**Compact Line Scan Lenses**[Click to view details/drawings](#)

| Part name       | EFL (mm) | Mag. (x) | WD (mm) | Format (mm) | Aperture (F/#) | Distortion (%) | Mount     | Conjuguate distance (mm) | FBL (mm) | Resolution |
|-----------------|----------|----------|---------|-------------|----------------|----------------|-----------|--------------------------|----------|------------|
| VTL-2045-0.03X  | 20       | 0.0358x  | 557.4   | Ø30         | F4.5           | 0.20%          | M42       | 619.1                    | 12       | 4K7μ       |
| VTL-2840-0.1X   | 29       | 0.1x     | 299.7   | Ø30         | F4.0           | 0.10%          | V (Ø42.5) | 368                      | 26       | 4K7μ       |
| VTL-3545-0.08X  | 35       | 0.08x    | 508.49  | Ø30         | F4.5           | <0.05%         | V (Ø38)   | 574.5                    | 37.42    | 4K7μ       |
| VTL-4028-0.1X   | 40       | 0.1x     | 429.9   | Ø43         | F2.8           | <0.62%         | V (Ø38)   | 468.67                   | 39.62    | 4K7μ       |
| VTL-4040-0.05X  | 40       | 0.05x    | 818.8   | Ø60         | F4.0           | <0.2%          | M72       | 943.08                   | 12       | 4K7μ       |
| VTL-8028-0.177X | 80       | 0.177x   | 500     | Ø30         | F2.8           | <0.2%          | M42       | 620                      | 12       | 4K7μ       |

**5.5K5μ Line Scan Lenses**[Click to view details/drawings](#)

| Part name        | EFL (mm) | Mag. (x) | Format (mm) | Aperture (F/#) | Distortion (%) | Min Working Distance (mm) | Best Working Distance (mm) | Mount | FBL (mm) | Resolution |
|------------------|----------|----------|-------------|----------------|----------------|---------------------------|----------------------------|-------|----------|------------|
| VTL-5.5K-0.1X-A  | 50       | 0.0946x  | Ø30         | F2.8           | -0.61%         | 574                       | 600-700                    | M42   | 12       | 5.5K5μ     |
| VTL-5.5K-0.1X-B  | 50       | 0.0946x  | Ø30         | F2.8           | -0.61%         | 574                       | 600-700                    | M42   | 5.9      | 5.5K5μ     |
| VTL-5.5K-0.09X-A | 50       | 0.094x   | Ø30         | F4.0           | -0.61%         | 574                       | 600-700                    | M42   | 12       | 5.5K5μ     |
| VTL-5.5K-0.09X-B | 50       | 0.094x   | Ø30         | F4.0           | -0.61%         | 574                       | 600-700                    | M42   | 5.9      | 5.5K5μ     |

**8K7μ Line Scan Lenses**[Click to view details/drawings](#)

| Part name       | EFL (mm) | Mag. (x) | WD (mm) | Format (mm) | Aperture (F/#) | Distortion (%) | Mount   | Conjuguate distance (mm) | FBL (mm) | Resolution |
|-----------------|----------|----------|---------|-------------|----------------|----------------|---------|--------------------------|----------|------------|
| VTL-4040-0.05X  | 40       | 0.05x    | 818.8   | Ø60         | F4.0           | <0.2%          | M72     | 943.08                   | 12       | 8K7μ       |
| VTL-4540-0.2X   | 45       | 0.2x     | 223.5   | Ø62         | F4.0-16        | <0.5%          | M72     | 355.39                   | 12       | 8K7μ       |
| VTL-6040-0.167X | 60       | 0.167x   | 404.4   | Ø64         | F4.0           | 0.19%          | V (Ø38) | 496.32                   | 63.31    | 8K7μ       |
| VTL-8056-0.146X | 80       | 0.146x   | 591.1   | Ø62         | F5.6           | 0.05%          | V (Ø38) | 702.5                    | 81.54    | 8K7μ       |
| VTL-8056-0.21X  | 80       | 0.21x    | 418.85  | Ø62         | F5.6           | 0.05%          | V (Ø38) | 533.67                   | 85.54    | 8K7μ       |
| VTL-8056-0.3X   | 80       | 0.3x     | 320.26  | Ø64         | F5.6           | <0.01%         | V (Ø38) | 451.78                   | 102.92   | 8K7μ       |
| VTL-10045-0.2X  | 100      | 0.2x     | 654.8   | Ø66         | F4.5           | 0.005%         | V (Ø64) | 827.8                    | 123.5    | 8K7μ       |

**12K5μ Line Scan Lenses**[Click to view details/drawings](#)

| Part name     | EFL (mm) | Mag. (x) | WD (mm) | Format (mm) | Aperture (F/#) | Distortion (%) | Mount   | Conjuguate distance (mm) | FBL (mm) | Resolution |
|---------------|----------|----------|---------|-------------|----------------|----------------|---------|--------------------------|----------|------------|
| VTL-12K-0.2X  | 116      | 0.2x     | 652.4   | Ø62         | F4.5           | <0.01%         | V (Ø56) | 824.9                    | 122.8    | 12K5μ      |
| VTL-12K-0.33X | 116      | 0.33x    | 415.1   | Ø62         | F4.5           | <0.005%        | V (Ø56) | 599.7                    | 134.9    | 12K5μ      |
| VTL-12K-0.5X  | 116      | 0.5x     | 291.7   | Ø62         | F4.5           | <0.01%         | V (Ø56) | 491                      | 149.6    | 12K5μ      |
| VTL-12K-0.75X | 116      | 0.75x    | 209.8   | Ø62         | F4.5           | <0.005%        | V (Ø56) | 429.85                   | 170.3    | 12K5μ      |
| VTL-12K-0.8X  | 116      | 0.806x   | 203.8   | Ø62         | F4.5           | <0.005%        | V (Ø56) | 434.66                   | 181.2    | 12K5μ      |
| VTL-12K-1.0X  | 116      | 1.0x     | 164.2   | Ø62         | F4.5           | <0.05%         | V (Ø56) | 400.56                   | 186.7    | 12K5μ      |
| VTL-12K-1.24X | 116      | 1.24x    | 149.9   | Ø62         | F4.5           | <0.005%        | V (Ø56) | 434.66                   | 232.2    | 12K5μ      |

**16K3.5 $\mu$  Line Scan Lenses****Click to view details/drawings**

| Part name      | EFL (mm) | Mag. (x) | Image Size (Dia. mm) | Aperture (F/#) | Distortion (%) | Working distance (mm) | Mount   | Conjuguate distance (mm) | FBL (mm) | Resolution   |
|----------------|----------|----------|----------------------|----------------|----------------|-----------------------|---------|--------------------------|----------|--------------|
| VTL-9040-0.1X  | 90       | 0.1x     | Ø64                  | F4.0           | 0.01%          | 992.4                 | V (Ø64) | 1123.5                   | 82.7     | 16K3.5 $\mu$ |
| VTL-9540-0.05X | 95       | 0.05x    | Ø62                  | F4.0           | 0.005%         | 1980.85               | V (Ø56) | 2112.94                  | 81.2     | 16K3.5 $\mu$ |
| VTL-16K-0.26X  | 114      | 0.26x    | Ø66                  | F4.2           | 0.01%          | 497.5                 | V (Ø49) | 627.16                   | 128.3    | 16K3.5 $\mu$ |
| VTL-16K-0.33X  | 116      | 0.33x    | Ø66                  | F4.2           | <0.001%        | 412                   | V (Ø49) | 595                      | 137      | 16K3.5 $\mu$ |
| VTL-16K-0.42X  | 116      | 0.42x    | Ø66                  | F3.8           | 0.007%         | 339.74                | V (Ø49) | 530.1                    | 144.5    | 16K3.5 $\mu$ |
| VTL-16K-0.5X   | 116      | 0.5x     | Ø66                  | F3.8           | 0.0008%        | 296.2                 | V (Ø49) | 496                      | 153.3    | 16K3.5 $\mu$ |
| VTL-16K-0.67X  | 116      | 0.67x    | Ø66                  | F3.8           | 0.10%          | 237.4                 | V (Ø49) | 453.5                    | 170.2    | 16K3.5 $\mu$ |
| VTL-16K-0.7X   | 116      | 0.7x     | Ø66                  | F3.8           | 0.0001%        | 229.4                 | V (Ø49) | 447.2                    | 174.4    | 16K3.5 $\mu$ |
| VTL-16K-0.75X  | 100      | 0.75x    | Ø66                  | F3.8           | 0.0008%        | 220.8                 | V (Ø49) | 444.8                    | 180.5    | 16K3.5 $\mu$ |
| VTL-16K-1.0X   | 116      | 1.0x     | Ø66                  | F3.5           | 0.0005%        | 184.16                | V (Ø49) | 439.45                   | 209.47   | 16K3.5 $\mu$ |

**16K5 $\mu$  Line Scan Lenses****Click to view details/drawings**

| Part name       | EFL (mm) | Mag (x) | Image Size (Dia. mm) | Aperture (F/#) | Distortion (%) | Working distance (mm) | Mount   | Conjuguate distance (mm) | FBL (mm) | Resolution |
|-----------------|----------|---------|----------------------|----------------|----------------|-----------------------|---------|--------------------------|----------|------------|
| VTL-16KP-0.26X  | 120      | 0.26x   | Ø82                  | F4.0           | 0.001%         | 663.4                 | V (Ø49) | 874.3                    | 160.95   | 16K5 $\mu$ |
| VTL-16KP-0.3X   | 120      | 0.3x    | Ø82                  | F4.0           | 0.005%         | 534.64                | V (Ø56) | 757.63                   | 169.37   | 16K5 $\mu$ |
| VTL-16KP-0.5X   | 120      | 0.5x    | Ø82                  | F4.0           | 0.002%         | 390.66                | V (Ø56) | 636.99                   | 192.71   | 16K5 $\mu$ |
| VTL-16KP-0.625X | 116      | 0.625x  | Ø82                  | F3.8           | 0.17%          | 245.9                 | V (Ø49) | 458.9                    | 166.9    | 16K5 $\mu$ |
| VTL-16KP-1.3X   | 116      | 1.33x   | Ø84                  | F3.8           | 0.0003%        | 156.3                 | V (Ø49) | 444.5                    | 243.7    | 16K5 $\mu$ |
| VTL-16KP-1.5X   | 116      | 1.5x    | Ø84                  | F3.8           | 0.08%          | 143.9                 | V (Ø49) | 453.7                    | 263.8    | 16K5 $\mu$ |
| VTL-16KP-1.7X   | 116      | 1.7x    | Ø84                  | F3.8           | 0.05%          | 137.8                 | V (Ø49) | 470                      | 286.1    | 16K5 $\mu$ |
| VTL-16KP-2.0X   | 120      | 2.0x    | Ø82                  | F4.0           | 0.002%         | 127.2                 | V (Ø49) | 496                      | 332.8    | 16K5 $\mu$ |
| VTL-16KP-3.0X   | 116      | 3.0x    | Ø84                  | F4.0           | 0.001%         | 111.4                 | V (Ø49) | 591.3                    | 433.9    | 16K5 $\mu$ |
| VTL-16KP-3.0X-L | 120      | 3.0x    | Ø82                  | F4.0           | 0.001%         | 143.02                | V (Ø56) | 757.63                   | 568.28   | 16K5 $\mu$ |

**Coaxial Illumination Line Scan Lenses****Click to view details/drawings**

| Part name      | EFL (mm) | Mag (x) | Format (mm) | Aperture (F/#) | Distortion (%) | Relative illumination (%) | Working distance (mm) | Mount   | Conjuguate distance (mm) | FBL (mm) | Resolution |
|----------------|----------|---------|-------------|----------------|----------------|---------------------------|-----------------------|---------|--------------------------|----------|------------|
| VTCL-16KP-1.0X | 116      | 1.0x    | Ø82         | F3.8           | 0.0005%        | 90%                       | 157.39                | V (Ø49) | 449.53                   | 212.09   | 16K5 $\mu$ |
| VTCL-16KP-1.3X | 116      | 1.3x    | Ø82         | F4.3           | 0.0003%        | 90%                       | 71.54                 | V (Ø56) | 579.35                   | 327.28   | 16K5 $\mu$ |
| VTCL-16KP-1.5X | 145      | 1.5x    | Ø82         | F4.3           | 0.08%          | 90%                       | 27.3                  | V (Ø56) | 592.1                    | 351.95   | 16K5 $\mu$ |
| VTCL-16KP-1.7X | 116      | 1.7x    | Ø82         | F4.0           | 0.05%          | 90%                       | 48.83                 | V (Ø56) | 611.85                   | 381.66   | 16K5 $\mu$ |
| VTCL-16KP-2.0X | 120      | 2.0x    | Ø82         | F4.0           | 0.0005%        | 90%                       | 135.95                | V (Ø56) | 641.94                   | 424.66   | 16K5 $\mu$ |
| VTCL-16KP-3.0X | 120      | 3.0x    | Ø82         | F4.0           | 0.005%         | 90%                       | 112.6                 | V (Ø56) | 759.5                    | 565.5    | 16K5 $\mu$ |

# 360°SERIES LENSES



## 360 SERIES LENSES

Using fewer cameras to photograph each side of an object has become a common demand in the machine vision market, and this demand has become very common in industries such as beverages, medicines, and automobiles.

In traditional machine vision solutions, to capture information on the outer wall of an object, multiple cameras are required to capture one side of the object separately, and then synthesize the images. Using a 360° lens, only one camera can perfectly present the object in one image. Out-of-the-loop testing, multiple cameras and multiple lenses are not required, which effectively simplifies the layout of the vision system and reduces costs.

## APPLICATION

Inspection of medicine bottles, plastic caps, bottle necks, preforms, screws and mechanical parts cylinders, holes, bottles, threaded objects and mechanical parts

## 360°Inner Surface Lenses

[Click to view details/drawings](#)

| Part name      | Sensor Size | Image Size | WD (mm) | F/NO | Target Diameter (mm) | Measure Height (mm) | Illumination          | Mount   |
|----------------|-------------|------------|---------|------|----------------------|---------------------|-----------------------|---------|
| VT-360LEN-IN01 | 1/3"        | Φ3.6       | 12.5-50 | 14   | 25                   | 12.4                | Embedded Illumination | C-Mount |
|                |             |            |         |      | 65                   | 36.8                |                       |         |
|                |             |            |         |      | 100                  | 58.2                |                       |         |
| VT-360LEN-IN02 | 2/3"        | Φ6.6       | 2.7     | 8    | 5                    | 5                   | External Illumination | C-Mount |
|                |             |            |         |      | 60                   | 61.4                |                       |         |
|                |             |            |         |      | 120                  | 123                 |                       |         |

## 360°Outer Surface Lenses

[Click to view details/drawings](#)

| Part name       | Sensor Size | Image Size | Target Diameter (mm) | Measure Height (mm) | WD (mm) | F/NO | Mount   |
|-----------------|-------------|------------|----------------------|---------------------|---------|------|---------|
| VT-360LEN-OUT01 | 1/3"        | Φ3.6       | 7.5                  | 4.6                 | 46.2    | 16   | C-Mount |
|                 |             |            | 15                   | 10.9                | 34.5    | 10   |         |
|                 |             |            | 25                   | 19.54               | 19      | 6    |         |
| VT-360LEN-OUT02 | 1/3"        | Φ3.6       | 7.5                  | 6.4                 | 46.5    | 16   | C-Mount |
|                 |             |            | 15                   | 12.8                | 34.7    | 10   |         |
|                 |             |            | 30                   | 25.6                | 9.7     | 6    |         |
| VT-360LEN-OUT03 | 1/1.8"      | Φ5.32      | 7.5                  | 5.3                 | 45.4    | 16   | C-Mount |
|                 |             |            | 15                   | 11.86               | 33.8    | 12   |         |
|                 |             |            | 30                   | 25                  | 9       | 8    |         |
| VT-360LEN-OUT04 | 1/1.8"      | Φ5.32      | 4.5                  | 2.7                 | 50      | 16   | C-Mount |
|                 |             |            | 15                   | 11.86               | 33.8    | 12   |         |
|                 |             |            | 30                   | 25                  | 9       | 8    |         |
| VT-360LEN-OUT05 | 2/3"        | Φ6.6       | 7.5                  | 4                   | 48.2    | 16   | C-Mount |
|                 |             |            | 15                   | 10.6                | 36.8    | 12   |         |
|                 |             |            | 30                   | 23.4                | 14      | 8    |         |

# 360° MULTI-ANGLE LENSES

## PRODUCT FEATURES

1. Only one camera is needed to detect the side signs of the object
2. Simultaneous imaging of the outer wall and top of the object
3. Ultra-high resolution, can detect small defects



| 360° MULTI-ANGLE LENSES                   |                     |                    |                    |                    |                    | <a href="#">Click to view details/drawings</a> |    |    |    |    |    |  |   |
|---|---------------------|--------------------|--------------------|--------------------|--------------------|--|----|----|----|----|----|--|---|
| Model                                     |                     | VT-360LEN-0825-118 | VT-360LEN-0825-230 | VT-360LEN-0850-230 | VT-360LEN0825-H1.1 | VT-360LEN0816-H1.1                             |    |    |    |    |    |  |   |
| Max Support CCD Size (Φmm)                |                     | 2/3" (Optimal)     | 2/3"               | 2/3"               | 1.1" (Optimal)     | 1.1" (Optimal)                                 |    |    |    |    |    |  |   |
| Optical Specifications                    | Wavelength Range    | 400~680 nm         | 450~650 nm         | 400~680 nm         | 400~680 nm         | 400~680 nm                                     |    |    |    |    |    |  |   |
|   | Working Distance    | 3~40 mm            | 20~40 mm           | 23~85 mm           | 3~40 mm            | 5~100 mm                                       |    |    |    |    |    |  |   |
|   | MTF30               | 150 lp/mm          | 150 lp/mm          | /                  | 126 lp/mm          | 120 lp/mm                                      |    |    |    |    |    |  |   |
|   | Best Aperture (F/#) | 2.8~16             | 8~16               | 2.8~16             | 2.8~25             | 2.8~25   |    |    |    |    |    |  |   |
| Mechanical Specifications                 | Max Diameter        | 140 mm   |    |    |    |    |    |  |   |
|   | Length              | 230.9 mm           | 229.3 mm           | 238.4 mm           | 229.3 mm           | 299.5 mm                                       |    |    |    |    |    |  |   |
|   | Mount               | C                  | C                  | C                  | C                  | C  |    |    |    |    |    |  |   |
| Max Object Diam. Detected From Side       | Object Height 20mm  | 30mm               | 30mm               | 65mm               | 30mm               | 5  | 10 | 25 | 45 | 60 | 75 |  |   |
|   | Object Height 5mm   | 60mm               | 50mm               | /                  | 72mm               | 85   | 72 | 40 | 10 | 15 | 5  |  |   |
| Max Object Diam. Detected From Side + Top | Object Height 10mm  | 30mm               | 30mm               | /                  | 30mm               |  |    |    |    |    |    |  | / |

# MACRO LENSES



## MACRO LENSES

Macro lens is a special lens used for macro photography. It is mainly used to shoot very subtle objects, such as flowers/insects and observe workpieces at close range. In order to accurately focus on subjects at very close distances, macro lenses are usually designed to be stretched longer, so that the optical center is as far away from the photosensitive element as possible. At the same time, the design of the lens group must also pay attention to Control of deformation and chromatic aberration at close range.

## APPLICATION

Animal and plant photography, medical photography, remake, and police detection photography

## FEATURES

1. High performance, high resolution
2. Minimal distortion
3. High contrast, good color reproduction

| MACRO LENSES |          |             |                       |                       |      |                |         | <a href="#">Click to view details/drawings</a> |
|--------------|----------|-------------|-----------------------|-----------------------|------|----------------|---------|--|
| Part name    | EFL (mm) | Sensor Size | Optical Magnification | Working Distance (mm) | F/NO | Distortion(TV) | Mount   |  |
| VT-MC1628    | 16       | 1.1"        | -0.25X ~ -0.03X       | 52-546                | 2.8  | <0.33%         | C-Mount |  |
| VT-MC2528    | 25       | 1.1"        | -0.4 X ~ -0.1X        | 65-260.4              | 2.8  | <0.07%         | C-Mount |  |
| VT-MC3528    | 35       | 1.1"        | -0.7 X ~ -0.25X       | 59-150                | 2.8  | <0.05%         | C-Mount |  |
| VT-MC5028    | 50       | 1.1"        | -0.8 X ~ -0.5X        | 95.4-132.4            | 2.8  | <0.05%         | C-Mount |  |
| VT-MC7538    | 75       | 1.1"        | -0.38 X ~ -0.18X      | 257-471               | 3.8  | <0.05%         | C-Mount |  |
| VT-MC7526    | 75       | 1.1"        | -2.52X ~ -0.059X      | 300 -∞                | 2.6  | <-0.35%        | C-Mount |  |

# FISHEYE LENS



## APPLICATION

Used in production line inspection, product quality control, and machine vision in industrial automation fields.

## FEATURES

1. Wide-Angle View
2. High Resolution
3. Durable and Robust

### FISHEYE LENSES

[Click to view details/drawings](#)

| Part name        | EFL (mm) | Sensor Size | Aperture(F#) | Working Distance | D.H.V              | Mount      |
|------------------|----------|-------------|--------------|------------------|--------------------|------------|
| VT-LEN02321FE    | 2.3      | 2/3"        | F2.1-21      | 0.3m~∞           | 190°x 190°x 190°   | CS-Mount   |
| VT-LEN03324FE-H1 | 3.3      | 1"          | F2.4         | 0.1m~∞           | 190°x 190°x /°     | C-Mount    |
| VT-LEN03514FE    | 3.5      | 2/3"        | F1.4         | 0.1m~∞           | F.O.V (D) Φ11/152° | C/CS-Mount |
| VT-LEN04618FE    | 4.6      | Φ14.2mm     | F1.8         | 0.2m             | 2K7μm(14.2mm):183° | M42XP1     |
| VT-LEN04922FE-C  | 4.9      | Φ14.2mm     | F2.2         | 0.1m~∞           | 180°x150.2°x118°   | C-Mount    |
| VLEN-0725FE-H1   | 6.99     | 1"          | F2.55        | 0.5m~∞           | 143°x109.2°x80°    | C-Mount    |

# IR CORRECTED LENSES



## IR Corrected Lenses

### FEATURES

1. Up to 12 million pixels
2. C-Mount design with strong compatibility
3. Wide field of view covering various focal lengths

| IR CORRECTED LENSES  |                   |          |             |             |                       |            |             | Click to view details/drawings |                 |  |
|----------------------|-------------------|----------|-------------|-------------|-----------------------|------------|-------------|--------------------------------|-----------------|--|
| Part name            | Focal Length (mm) | Aperture | Sensor Size | Mega Pixels | Field of View (D*H*V) | M.O.D. (m) | Filter Size | Mount                          | Wavelength (nm) |  |
| VT-VIRLEN0815MP3     | 8                 | F1.5     | 1/1.2"      | 3 MP        | 90.2°x71°x54.6°       | 0.5        | M37.5X0.5   | C                              | 400-1000        |  |
| VT-VIRLEN3520MP5-H1  | 35                | F2.0     | 1"          | 5 MP        | 26.03°x20.7°x15.45°   | 1.5        | M30.5X0.5   | C                              | 400-1000        |  |
| VT-VIRLEN5028MP5-H1  | 50                | F2.8     | 1"          | 5 MP        | 18.4°x14.62°x11°      | 1          | M30.5X0.5   | C                              | 400-1000        |  |
| VT-VIRLEN1616MP10-H1 | 16                | F1.6     | 1"          | 10 MP       | 52.38°x42.49°x32.21°  | 0.35       | M40.5X0.5   | C                              | 400-950         |  |
| VT-VIRLEN2012MP10-H1 | 20                | F1.2     | 1"          | 10 MP       | 45.4°x33.18°x26.2°    | 1          | M43X0.75    | C                              | 400-1000        |  |
| VT-VIRLEN2512MP10-H1 | 25                | F1.2     | 1"          | 10 MP       | 36.4°x27.68°x18.36°   | 1.5        | M43X0.75    | C                              | 400-1000        |  |
| VT-VIRLEN2518MP10-H1 | 25                | F1.8     | 1"          | 10 MP       | 34.8°x28°x21.2°       | 0.8        | M30.5X0.5   | C                              | 400-1000        |  |
| VT-VIRLEN3512MP10-H1 | 35                | F1.2     | 1"          | 10 MP       | 26°x20.96°x15.72°     | 2          | M43X0.75    | C                              | 400-1000        |  |
| VT-VIRLEN1616MP10-H2 | 16                | F1.6     | 4/3"        | 10 MP       | 66.26°x56.04°x43.7°   | 0.35       | M49X0.75    | C                              | 400-950         |  |
| VT-VIRLEN2514MP8-H2  | 25                | F1.4-32  | 4/3"        | 8 MP        | 48.15°x39.74°x30.02°  | 0.5        | M58X0.75    | C                              | 400-950         |  |
| VT-VIRLEN2516MP10-H2 | 25                | F1.6     | 4/3"        | 10 MP       | 48.15°x38.91°x29.39°  | 0.3        | M43X0.75    | C                              | 400-900         |  |
| VT-VIRLEN5028MP18-H3 | 50                | F2.8     | 30mm        | 18 MP       | 31.74°x26.60°x17.86°  | 0.3        | M40.5X0.5   | M42                            | 400-900         |  |

# SWIR LENSES



## SWIR LENSES

### FEATURES

1. High performance, high resolution
2. Safe and non-heat design, C-Mount
3. High reliability and high tightness
4. Special infrared materials and coating design to ensure high transmittance in the infrared band

| SWIR LENSES          |           |              |             |                 |                        |            |         | <a href="#">Click to view details/drawings</a> |
|----------------------|-----------|--------------|-------------|-----------------|------------------------|------------|---------|--|
| Part name            | EFL(mm)   | Aperture(F#) | Sensor Size | Wavelength (nm) | Field of View (D*H*V)  | M.O.D. (m) | Mount   |  |
| VLEN2-0618SW-H1      | 6         | F1.8         | 1"          | 900-1700        | 105° /93.6° /77°       | 0.1        | C       |  |
| VLEN2-0814SW-H1      | 8         | F1.4         | 1"          | 900-1700        | 90.7° /78.4° /62.6°    | 0.1        | C       |  |
| VLEN2-1216SW-H1      | 12        | F1.6         | 1"          | 900-1700        | 70° /57° /44°          | 0.5        | C       |  |
| VLEN2-1614SW-H1      | 16        | F1.4         | 1"          | 900-1700        | 53.6°                  | 0.3        | C       |  |
| VLEN2-2514SW-H1      | 25        | F1.4         | 1"          | 900-1700        | 30°                    | 0.3        | C       |  |
| VLEN2-3514SW-H1      | 35        | F1.4         | 1"          | 900-1700        | 26.2°                  | 0.3        | C       |  |
| VLEN2-5014SW-H1      | 50        | F1.4         | 1"          | 900-1700        | 18.4°                  | 0.5        | C       |  |
| VLEN2-3520SW-H1.1    | 35        | F2           | 1.1"        | 400-1200        | 28°                    | 0.15       | C       |  |
| VLEN2-5020SW-H1.1    | 50        | F2           | 1.1"        | 400-1200        | 20.4°                  | 0.25       | C       |  |
| VLEN-3514SW-H2       | 35        | F1.4         | 4/3"        | 800-1700        | 31.2°/25.4°/18.7°      | 0.3        | T       |  |
| VLEN-2520SW-H3       | 25        | F2           | 28 mm       | 800-1700        | 56.2°/48.2°/32.4°      | 0.25       | C       |  |
| VLEN2-2519SW-H3      | 25        | F1.9         | 28 mm       | 900-1700        | 58°                    | 0.2        | M42     |  |
| VLEN2-4016SW-H3      | 40        | F1.6         | 28 mm       | 900-1700        | 37°                    | 0.25       | M42     |  |
| VLEN2-5014SW-H3      | 50        | F1.4         | 28 mm       | 900-1700        | 30° /24° /18°          | 0.43       | M42     |  |
| VLEN-5014SW-H3       | 50        | F1.4         | 28.6 mm     | 800-1700        | 27.26° /22.02° /16.62° | 0.3        | M42     |  |
| VT-LEM2518SWIR-H1    | 25        | F1.8         | 1"          | 900-1700        | 35.49° /28.5° /21.74°  | 0.3        | C       |  |
| VT-LEM7525SWIR-H1    | 75        | F2.5         | 1"          | 900-1700        | 9.08° /7.26° /5.45°    | 0.265-0.48 | C       |  |
| VT-LEM20040SWIR-H1   | 200       | F4-22        | 1"          | 900-1700        | 4.57°x3.66°x2.75°      | 10         | C       |  |
| VT-LEM30040SWIR-H1   | 300       | F4-22        | 1"          | 400-1700        | 3.06°x2.44°x1.83°      | 10         | C       |  |
| VT-LEM40056SWIR-H1   | 400       | F5.6         | 1"          | 900-1700        | 2.29°X1.83°X1.37°      | 20         | C       |  |
| VT-LEM3514SWIR-H2    | 35        | F1.4         | 4/3"        | 900-1700        | 31.2°/25.4°/18.7°      | 0.3        | M42     |  |
| VT-LEM10021SWIR-H2   | 100       | F2.1         | 25.6 mm     | 800-1700        | 14.33°/11.52°/8.72°    | 0.4        | M42/C/F |  |
| VT-LEM1616022SWIR-H1 | 16 - 160  | F2.2-Close   | 1"          | 900-1700        | 4.6 X 3.4°. at 160mm   | 1.1        | C       |  |
| VT-LEM2036060SWIR    | 20 - 360  | F6-10        | 12.3 mm     | 400-1700        | 1.1X 0.84°. at 360mm   | 15         | C       |  |
| VT-LEM2050036SWIR    | 20- 500   | F3.6-Close   | 1/1.8"      | 900-1700        | 0.84 X 0.63°. at 500mm | 4          | C       |  |
| VT-LEM2075036SWIR    | 20- 750   | F3.6-Close   | 1/1.8"      | 900-1700        | 0.6 X 0.4°. at 750mm   | 4          | C       |  |
| VT-LEM25120048SWIR   | 25 - 1200 | F4.8 - 10    | 12.3 mm     | 400-1700        | 0.34 X 0.2°. at 1200mm | 15         | C       |  |
| VT-LEN2509SWIR-S12   | 25        | F0.9-16      | 12.6 mm     | 900-1700        | /                      | 0.2        | C       |  |
| VT-LEN3514SWIR-S23   | 35        | F1.4-16      | 2/3"        | 900-1700        | 17.3°x13.9°x10.4°      | 0.15       | C       |  |
| VT-LEN5014SWIR-S23   | 50        | F1.4-Close   | 2/3"        | 900-1700        | 13.04°x10.46°x7.86°    | 0.3        | C       |  |
| VT-LEN1214SWIR-H1.1  | 12.3      | F1.4-16      | 1.1"        | 900-1700        | 71.2°x59.7°x46.6°      | 0.4        | C       |  |
| VT-LEN2528SWIR-H1.1  | 25        | F2.8-22      | 1.1"        | 900-1700        | 37.6°x30.4°x23°        | 0.1        | C       |  |
| VT-LEN1218VSW-S12    | 12        | F1.8-16      | 1/2"        | 400-1700        | 36.44°x29.02°x23.32°   | 0.1        | C       |  |
| VT-LEN1618VSW-S12    | 16        | F1.8-16      | 1/2"        | 400-1700        | 28.14°x22.44°x17.98°   | 0.1        | C       |  |
| VT-LEN2518VSW-S12    | 25        | F1.8-16      | 1/2"        | 400-1700        | 16.84°x13.44°x10.77°   | 0.1        | C       |  |
| VT-LEN3518VSW-S12    | 35        | F1.8-16      | 1/2"        | 400-1700        | 9.71°x7.51°x5.94°      | 0.1        | C       |  |

# UV LENSES



## UV LENSES

### FEATURES

1. High performance, optional focal length
2. Effectively filter out ultraviolet rays
3. Improve the effect of clarity and color reproduction

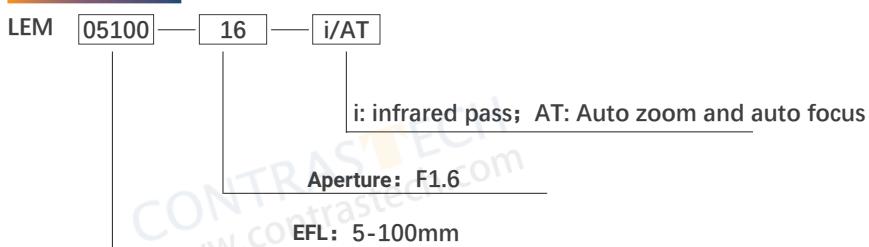
| UV LENSES        |         |              |                      |                |         | <a href="#">Click to view details/drawings</a> |
|------------------|---------|--------------|----------------------|----------------|---------|--|
| Part name        | EFL(mm) | Aperture(F#) | Sensor Size          | Back Focus(mm) | Mount   | Resolution                                     |
| VT-LEN2520UV-MP8 | 25      | 2.0-11       | 2/3"                 | 6.6            | C-Mount | 180lp/mm (8MP)                                 |
| VT-LEN2528UV     | 25      | 2.8          | 2/3"                 | 12.45          | C-Mount | 100lp/mm (2MP)                                 |
| VT-LEN2528UV-MP8 | 25      | 2.8          | 2/3"                 | 11.84          | C-Mount | 180lp/mm (8MP)                                 |
| VT-LEN3528UV-MP8 | 35      | 2.8          | 2/3"                 | 12.12          | C-Mount | 180lp/mm (8MP)                                 |
| VT-LEN5028UV-MP8 | 50      | 2.8          | 2/3"                 | 12.39          | C-Mount | 180lp/mm (8MP)                                 |
| VT-LEN5030UV     | 50      | 3.0          | 2/3"                 | 26.5           | C-Mount | 100lp/mm (2MP)                                 |
| VT-LEN7528UV-MP8 | 75      | 2.8          | 2/3"                 | 12.01          | C-Mount | 180lp/mm (8MP)                                 |
| VT-LEN7538UV     | 75      | 3.8          | 2/3"                 | 47.32          | C-Mount | 100lp/mm (2MP)                                 |
| VT-LENF7838UV    | 78      | 3.8          | 35mm<br>Image Circle | 74.6           | F-Mount | -  |
| VT-LENF8528UV    | 85      | 2.8          | 25mm<br>Image Circle | 43.34          | F-Mount | 65lp/mm  |

# ZOOM LENSES

C/CS-MOUNT



## NAMING RULES



## 1/3"~1" ZOOM LENSES

[Click to view details/drawings](#)

| Part name          | Sensor Size (inch) | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View (deg.)  | Mount    | Resolution    |
|--------------------|--------------------|----------|----------------|------------|---|----------|---------------|
| VT-LEM0510016i-AI  | 1/3"               | 5-100    | 1.6            | 0.7        | H: 52° ~ 2.8°   | CS-Mount | 1.3           |
| VT-LEM055016       | 1/3"               | 5-50     | 1.6            | 0.3        | 4.2° ~ 53.6°  | CS-Mount | -             |
| VT-LEM066016i      | 1/3"               | 6-60     | 1.6            | 0.5        | H: 44° ~ 4.58°  | CS-Mount | -             |
| VT-LEM10120016i-AT | 1/3"               | 10-120   | 1.6            | 2          | H: 27° ~ 2.3°   | CS-Mount | 1             |
| VT-LEM0281016-AT   | 1/2.8"             | 2.8-10   | 1.6            | 0.5        | D:128° ~ 41° , H:97° ~ 33° , V:70° ~ 24.5°                                | Ø14      | 1             |
| VT-LEM0281016i     | 1/2.8"             | 2.8-10   | 1.6            | 0.1        | D:120.6° ~ 40.2° , H:94.2° ~ 32.1° , V:69° ~ 24.4°                        | CS-Mount | 0.3@ 200lp/mm |
| VT-LEM03310514i    | 1/2.5"             | 3.3-10.5 | 1.4            | 0.3        | H: 90.5° ~ 30.4°  | CS-Mount | 3             |
| VT-LEM055014i-MP3  | 1/2.5"             | 5-50     | 1.4            | 0.2        | 5.36° ~ 51.5°   | CS-Mount | 3             |
| VT-LEM102221-AT    | 1/2.5"             | 10-22    | 2.1            | 0.3        | D:40 ~ 20° , H:31.2 ~ 16° , V: 23 ~ 12°                                   | Ø14      | 1             |
| VT-LEM041816-AI    | 1/1.8"             | 4-18     | 1.6            | 0.3        | D:137° , H:110° , V: 82°  | C-Mount  | 3             |
| VT-LEM03818MP12-AT | 1/1.7"             | 3.8-18   | 1.5            | -          | W: D:156° , H: 111° , V: 80°<br>T: D:38° , H: 30° , V: 23°                | CS-Mount | 12            |
| VT-LEM03618MP12    | 1/1.7"             | 3.6-18   | 1.5            | -          | W: D:156° , H: 111° , V: 80°<br>T: D:38° , H: 30° , V: 23°                | CS-Mount | 12            |
| VT-LEM0441012-AT   | 1/1.7"             | 4.4-10   | W:1.2,T:2.9    | 0.5        | D:150 ~ 57.7° , H:104 ~ 45.8° , V: 73.6 ~ 34.2°                           | Ø19      | 1             |
| VT-LEM0281216i     | 1/2"               | 2.8-12   | 1.6            | 0.3        | H: 98° ~ 30.5°  | C-Mount  | 3             |
| VT-LEM061216       | 1/2"               | 6-12     | 1.6            | 0.1        | 53.9° × 29.6°   | C-Mount  | -             |
| VT-LEM1060MP2      | 2/3"               | 10-60    | 1.4            | -          | 51° ~ 11°   | C-Mount  | 2             |
| VT-LEM1236MP3-23   | 2/3"               | 12-36    | 2.8            | -          | W: D: 50.8° , H:41.3° , V:31.2°<br>T: D:17.0° , H: 13.8° , V: 10.4°       | C-Mount  | 3             |
| VT-LEM1236MP10     | 2/3"               | 12-36    | 2.8            | -          | W: D: 50.8° , H:41.3° , V:31.2°<br>T: D:17.0° , H: 13.8° , V: 10.4°       | C-Mount  | 10            |
| VT-LEM1648MP3      | 2/3"               | 16-48    | 2.0            | 0.2        | W: 30.0° × 22.7° , T:11.2° × 8.4°   | C-Mount  | 3             |
| VT-LEM104020MP3    | 2/3"               | 10-40    | 2.0            | 0.3        | W: D:47.5° , H: 40.3° , V: 30.8°<br>T: D:16.7° , H: 13.4° , V: 10.1°      | C-Mount  | 3             |
| VT-LEM1632MP5-H1   | 1"                 | 16-32    | 1.8            | 1.5        | W: D: 53.26° , H:43.85° , V:33.44°<br>T: D:27.57° , H: 22.43° , V: 17.01° | C-Mount  | 100@ 1p/mm    |

# MOTOR FOCUS LENSES



## MOTOR FOCUS LENSES

- 1.Excellent autofocus performance
- 2.Support multiple communication modes:RS232/TTL/pulse
- 3.Autofocus accuracy $\pm 0.001$  degree
- 4.The response time is less than 1ms
- 5.EFL covers 8-50mm

## FEATURES

- 1.Car exterior blemishes
- 2.Industrial identification recognition

**2/3 " MOTOR FOCUS LENSES**[Click to view details/drawings](#)

| Part name           | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View (deg.)    | TV Distortion (%) | Filter screw size | Mega Pixels (MP) | Type     |
|---------------------|----------|----------------|------------|-------------------------|-------------------|-------------------|------------------|----------|
| VT-LEMAF0814-CBMP10 | 8        | F1.4           | 0.1        | 56.3° × 43.7° × 67.1°   | <1%               | M37×0.5           | 10               | Standard |
| VT-LEMAF1614-CBMP10 | 16       | F1.4           | 0.1        | 30.3° × 23° × 37.3 °    | <0.1%             | M30.5×0.5         | 10               | Standard |
| VT-LEMAF2514-CBMP10 | 25       | F1.4           | 0.1        | 20° × 15° × 24.6 °      | <0.2%             | M30.5×0.5         | 10               | Standard |
| VT-LEMAF3514-CBMP10 | 35       | F1.4           | 0.15       | 13.9° × 10.4° × 17.3°   | -0.8%             | M35×0.5           | 10               | Standard |
| VT-LEMAF5014-CBMP10 | 50       | F1.4           | 0.3        | 10.46° × 7.86° × 13.04° | -0.8%             | M37×0.5           | 10               | Standard |

**1.1" MOTOR FOCUS LENSES**[Click to view details/drawings](#)

| Part name              | EFL (mm) | Aperture (F/#) | M.O.D. (m) | Angle of View (deg.)   | TV Distortion (%) | Filter screw size | Mega Pixels (MP) | Type     |
|------------------------|----------|----------------|------------|------------------------|-------------------|-------------------|------------------|----------|
| VT-LEMAF1228-MP20-H1.1 | 12       | F2.8           | 0.1        | 57° × 45 ° × 66.7°     | <1.5%             | -                 | 20               | Standard |
| VT-LEMAF1628-MP20-H1.1 | 16       | F2.8           | 0.1        | 46.3° × 36 ° × 55.4°   | <0.5%             | M35.5×0.5         | 20               | Standard |
| VT-LEMAF2528-MP20-H1.1 | 25       | F2.8           | 0.1        | 30.4° × 23 ° × 37.6°   | <0.1%             | M35.5×0.5         | 20               | Standard |
| VT-LEMAF3528-MP20-H1.1 | 35       | F2.8           | 0.2        | 22.6° × 17° × 28.3°    | <0.02%            | M35.5×0.5         | 20               | Standard |
| VT-LEMAF5028-MP20-H1.1 | 50       | F2.8           | 0.3        | 15.9° × 11.9 ° × 19.9° | <0.04%            | M35.5×0.5         | 20               | Standard |

# BOARD-LEVEL LENSES



## S-MOUNT BOARD LENSES

With M12X0.5mm thread formally known as S-Mount lenses, it is also called M12 lenses, M12X0.5 lenses, or board camera lenses. It is compact imaging lenses designed for many small cameras. In applications where space is limited, M12 lenses is ideal choice and the best alternative comparing to standard imaging lenses.

CONTRASTECH M12 S-mount lenses, designed for use in the visible to near-infrared spectra or within harsh environments, are widely used for security, surveillance and industrial inspection. Though compact in size, the multi-element all glass design offers optimum performance and high image quality.

## APPLICATION

Industrial recognition, security monitoring, driving recorder, intelligent AI

# S-Mount Lenses

## FEATURES

- 1. Megapixel High Resolution Design**
- 2. Optimized for 1/3" and 1/2" Sensors with Small Pixels**
- 3. Multiple f/# Options for Performance**
- 4. High Cost Performance**



### < 1/2" BOARD-LEVEL LENSES

| Part name              | EFL(mm) | Aperture(F#) | Angle | Sensor Size | Distortion | Resolution |
|------------------------|---------|--------------|-------|-------------|------------|------------|
| VT-LEM01920-M12        | 1.9     | 2.0          | 140°  | 1/3"        | 10.00%     | 2          |
| VT-LEM02618-M12-MP5    | 2.6     | 1.8          | 130°  | 1/2.5"      | 8.80%      | 5          |
| VT-LEM02718-M12-MP8    | 2.7     | 1.8          | 120°  | 1/2.5"      | 4.00%      | 8          |
| VT-LEM02825CB-M12-MP16 | 2.8     | 2.5          | 150°  | 1/2.3"      | 62.90%     | 16         |
| VT-LEM02828-M12-MP8    | 2.8     | 2.8          | 110°  | 1/2.5"      | 3.00%      | 8          |
| VT-LEM02924-M12-A      | 2.9     | 2.4          | 106°  | 1/2.9"      | 0.50%      | 2          |
| VT-LEM02924-M12-B      | 2.9     | 2.4          | 105°  | 1/2.9"      | 1.00%      | 2          |
| VT-LEM02924-M12-MP5    | 2.9     | 2.4          | 102°  | 1/2.5"      | 1.00%      | 5          |
| VT-LEM03028-M12        | 3.0     | 2.8          | 95°   | 1/2.7"      | 0.50%      | 3          |
| VT-LEM03124-M12-MP8    | 3.1     | 2.4          | 90°   | 1/2.5"      | 1.50%      | 8          |
| VT-LEM033728i-M12-MP16 | 3.3     | 2.8          | 99°   | 1/2.3"      | 1.00%      | 16         |
| VT-LEM03630-M12-B      | 3.6     | 3            | 85°   | 1/2.5"      | 0.50%      | 3          |
| VT-LEM03630-M12-A      | 3.6     | 3            | 96°   | -           | 0.35%      | -          |
| VT-LEM03620-M12-MP12   | 3.6     | 2            | 90.5° | 1/2.7"      | 1.50%      | 12         |
| VT-LEM03928-M12        | 3.9     | 2.8          | 75°   | 1/2.5"      | 0.50%      | 3          |
| VT-LEM04218CE-M12-MP3  | 4.2     | 1.8          | 85°   | 1/2.5"      | -          | 3          |
| VT-LEM04224CE-M12-MP3  | 4.2     | 2.4          | 70°   | 1/2.7"      | 0.50%      | 3          |
| VT-LEM0424-M12         | 4.2     | 2.4          | 77°   | 1/2.7"      | 0.10%      | -          |
| VT-LEM04218CE-M12      | 4.2     | -            | 92°   | 1/3"        | 10.00%     | -          |
| VT-LEM04328-MP8        | 4.3     | 2.8          | 78°   | 1/2.3"      | 1.50%      | 8          |
| VT-LEM0535-MP5         | 5.0     | 3.5          | 60°   | 1/2.5"      | 0.50%      | 5          |
| VT-LEM05425i-M12-MP10  | 5.4     | 2.5          | -     | 1/2.3"      | -2%        | 10         |
| VT-LEM07125-M12-MP5    | 7.1     | 2.5          | 50°   | 1/2.5"      | 0.50%      | 5          |
| VT-LEM-07224i-M12-MP10 | 7.2     | 2.4          | -     | 1/2.3"      | -0.1%      | 10         |
| VT-LEM0828-M12         | 8.0     | 2.8          | 45°   | 1/2.5"      | 0.50%      | 3          |
| VT-LEM0823IR850BP-M12  | 8.16    | 2.3          | -     | 1/2.5"      | <-3.16%    | -          |
| VT-LEM1220-M12-B       | 12      | 2            | 32°   | 1/3"        | 5.00%      | -          |
| VT-LEM1218-M12-MP5     | 12      | 1.8          | 30°   | 1/2.5"      | 1.00%      | 5          |
| VT-LEM1618-M12-MP5     | 16      | 1.8          | 20°   | 1/2.5"      | 1.00%      | 5          |

**1/2"-1/1.7" BOARD-LEVEL LENSES**

| Part name              | EFL(mm) | Aperture(F#)    | Angle | Sensor Size | Distortion   | Resolution |
|------------------------|---------|-----------------|-------|-------------|--------------|------------|
| VT-LEM03026-M12-MP5    | 3.0     | 2.6             | 110°  | 1/2"        | 10.00%       | 5          |
| VLEN-0337xx(i)-M12-MP5 | 3.37    | 2.8/4.0/5.6/8.0 | 100°  | 1/2"        | 1.00%        | 5          |
| VT-LEM0520iM12-MP12    | 5.0     | 2               | -     | 1/1.7"      | -43.7%(MAX)  | 12         |
| VLEN-06xx(i)-M12-MP5   | 6.0     | 2.8/4.0/5.6     | 72°   | 1/1.8"      | 0.50%        | 5          |
| VT-LEM0628-M12-MP8     | 6.0     | 6               | 70°   | 1/1.8"      | 0.50%        | 8          |
| VT-LEM0818iM12-MP12    | 8.0     | 1.8             |       | 1/1.7"      | -15.68%(MAX) | 12         |
| VLEN-08xx(i)-M12-MP5   | 8.0     | 2.8/5.6/8       | 56.8° | 1/1.8"      | 0.30%        | 5          |
| VT-LEM0840M12-MP5      | 8.0     | 4               | -     | 2/3"        | <-0.57%      | 5          |
| VLEN-12xx(i)-M12-MP5   | 12      | 1.8/2.8/5.6/8   | 40.5° | 1/1.8"      | 0.20%        | 5          |
| VT-LEM1220-M12-A       | 12      | 2               | 44°   | 1/1.8"      | 5.00%        | -          |
| VT-LEM1225M12-MP10     | 12      | 2.5             | -     | 2/3"        | <-1.20%      | 10         |
| VT-LEM1256-M12-MP12    | 12      | 5.6             | -     | 1/1.7"      | -0.514625%   | 12         |
| VT-LEM1618i-M12        | 16.3    | 1.83            | 17.6° | 1/1.8"      | <1%          | 3          |
| VLEN-16xx(i)-M12-MP5   | 16      | 2.8/5.6/8       | 30.3° | 1/1.8"      | 0.1%         | 5          |
| VT-LEM1656-M12-MP12    | 16      | 5.6             | -     | 1/1.7"      | -0.29%       | 12         |
| VT-LEM2524-M12-MP5     | 25      | 2.4             | 15°   | 1/2"        | 1.00%        | 5          |
| VLEN-25xx(i)-M12-MP5   | 25      | 2.8/5.6/8       | 19.5° | 1/1.8"      | 0.05%        | 5          |
| VT-LEM2556-M12-MP12    | 25      | 5.6             | -     | 1/1.7"      | 0.13%        | 12         |
| VT-LEM3528i-M12-MP3    | 35      | 2.8             | 10°   | 1/1.7"      | <0.1%        | 1          |
| VT-LEM5028i-M12-MP3    | 50      | 2.8             | 7.6°  | 1/2"        | <-0.02%      | 1          |

**2/3" BOARD-LEVEL LENSES**

| Part name          | EFL(mm) | Aperture(F#) | Angle | Sensor Size | Distortion | Resolution |
|--------------------|---------|--------------|-------|-------------|------------|------------|
| VT-LEM0840M12-MP5  | 8.0     | 4            | -     | 2/3"        | <-0.57%    | 5          |
| VT-LEM1225M12-MP10 | 12      | 2.5          | -     | 2/3"        | <-1.20%    | 10         |
| VT-LEM1620M12-MP10 | 16      | 2            | -     | 2/3"        | <-2.0%     | 10         |

# M12-Fisheye Lenses

## FEATURES

1. Megapixel High Resolution Design
2. Optimized for 1/3" and 1/2" Sensors with Small Pixels
3. Multiple f/# Options for Performance
4. High Cost Performance
5. Large light flux, high light transmittance



## M12-FISHEYE LENSES

| Part name                   | EFL(mm) | Aperture(F#) | Sensor Size | Image Format | Resolution | With IR or IR Cut |
|-----------------------------|---------|--------------|-------------|--------------|------------|-------------------|
| VT-LEM010824FEMP12-M12      | 1.08    | 2.4          | 1/3.2"      | 3.5 µm       | 12MP       | IR Cut            |
| VT-LEM014520FEMP10-i-M12    | 1.45    | 2            | 1/2.3"      | 4.6 µm       | 10MP       | With IR           |
| VT-LEM014520FEMP10-M12      | 1.45    | 2            | 1/2.3"      | 4.6 µm       | 10MP       | IR Cut            |
| VT-LEM01528FEMP10-i-M12     | 1.5     | 2.8          | 1/2.3"      | 4.3 µm       | 10MP       | With IR           |
| VT-LEM015828FEMP10-i-M12    | 1.58    | 2.8          | 1/2.5"      | 4.1 µm       | 10MP       | With IR           |
| VT-LEM019828FEMP10-i-M12    | 1.98    | 2.8          | 1/1.8"      | 5.6 µm       | 10MP       | With IR           |
| VT-LEM011920FE-i-M12        | 1.19    | 2            | 1/3.2"      | 3.2 µm       | 5MP        | With IR           |
| VT-LEM012520FE-i-M12(1/2.8) | 1.25    | 2            | 1/2.8"      | 3.93 µm      | 5MP        | With IR           |
| VT-LEM012520FE-M12(1/2.8)   | 1.25    | 2            | 1/2.8"      | 3.93 µm      | 5MP        | IR Cut            |
| VT-LEM01423FE-i-M12         | 1.4     | 2.3          | 1/4"        | 4.05 µm      | 2MP        | With IR           |
| VT-LEM01420FE-M12           | 1.4     | 2            | 1/2.5"      | -            | 8MP        | With IR           |
| VT-LEM015620FE-i-M12        | 1.56    | 2            | 1/2.5"      | -            | -          | With IR           |
| VT-LEM01720FE-i-M12         | 1.7     | 2            | 1/2.5"      | -            | 5MP        | With IR           |
| VT-LEM019622FE-i-M12        | 1.96    | 2.2          | 1/2.9"      | 5.6µm        | 4MP        | With IR           |
| VT-LEM02122FE-i-M12         | 2.1     | 2.2          | 1/3"        | 4.8µm        | 3MP        | With IR           |
| VT-LEM0220FE-i-M12          | 2       | 2            | 2/3"        | 6.6µm        | 1MP        | With IR           |
| VT-LEM0223FE-i-M12          | 2       | 2.3          | 2/3"        | 6.6µm        | 5MP        | With IR           |
| VT-LEM02223FE-i-M12         | 2.2     | 2.3          | 1/2.9"      | 6.2µm        | 4MP        | With IR           |
| VT-LEM02223FE-M12           | 2.2     | 2.3          | 1/2.9"      | 6.2µm        | 4MP        | IR Cut            |

## Adapter

The lenses above can be used with the M12 x 0.5 Adapter for C/CS Mount Cameras

| Product Type  | Adapter  |
|---------------|----------|
| Material      | Aluminum |
| Height (mm)   | 5.5      |
| Diameter (mm) | 31       |
| Color         | Black    |
| Weight        | 6.4 g    |



# Drone Lenses

## FEATURES

1. Navigation Lens: FOV200°, short TTL 12-15mm
2. Thermal Imaging Lens: Waveleangth 8-12μm
3. Night Vision Lens: Wavelength 400-1100nm



Wavelength 435-850nm

### ► Navigation

| Model            | Sensor Size | EFL(mm) | DFOV(°) | Aperture(F#) | TTL(mm) | Mount |
|------------------|-------------|---------|---------|--------------|---------|-------|
| VT-LEMDR00920FE  | φ2.9        | 0.9     | 200°    | F2.0         | 10      | M12   |
| VT-LEMDR009622FE | φ3.28       | 0.96    | 220°    | F2.2         | 12.8    | M12   |
| VT-LEMDR012522FE | φ3.93       | 1.25    | 190°    | F2.2         | 11.8    | M12   |
| VT-LEMDR009520FE | φ4          | 0.95    | 200°    | F2           | 12.89   | M12   |
| VT-LEMDR019322FE | φ5.6        | 1.9     | 187°    | F2.2         | 12.19   | M12   |
| VT-LEMDR02321FE  | φ7          | 2.3     | 180°    | F2.1         | 15      | M12   |

### ► Thermal Imaging

| Model             | Adaptation<br>Detector* | EFL(mm) | Aperture<br>(F#) | FOV        |          | Wavelength |
|-------------------|-------------------------|---------|------------------|------------|----------|------------|
|                   |                         |         |                  | Horizontal | Vertical |            |
| VT-LEMDR0610-TI   | 256*190-12um            | 6       | F1.0             | 29.2°      | 21.7°    | 8-12um     |
| VT-LEMDR0710-TI   | 384*288-17um            | 7       | F1.0             | 53.3°      | 40°      | 8-12um     |
| VT-LEMDR1010S-TI  | 384*288-17um            | 10      | F1.0             | 37.7°      | 28.2°    | 8-12um     |
| VT-LEMDR1310S-TI  | 384*288-17um            | 13      | F1.0             | 28.4°      | 21.2°    | 8-12um     |
| VT-LEMDR07110M-TI | 640*480-17um            | 7.1     | F1.0             | 90.4°      | 66.7°    | 8-12um     |
| VT-LEMDR1010M-TI  | 640*480-17um            | 10      | F1.0             | 64.2°      | 47.5°    | 8-12um     |
| VT-LEMDR1310M-TI  | 640*480-17um            | 13      | F1.0             | 48.5°      | 35.7°    | 8-12um     |
| VT-LEMDR07110L-TI | 640*512-12um            | 7.1     | F1.0             | 62.5°      | 49.6°    | 8-12um     |
| VT-LEMDR09110-TI  | 640*512-12um            | 9.1     | F1.0             | 49°        | 38.8°    | 8-12um     |
| VT-LEMDR1310L-TI  | 640*512-12um            | 13      | F1.0             | 34.2°      | 27.1°    | 8-12um     |

\*Contact a sales engineer for more information

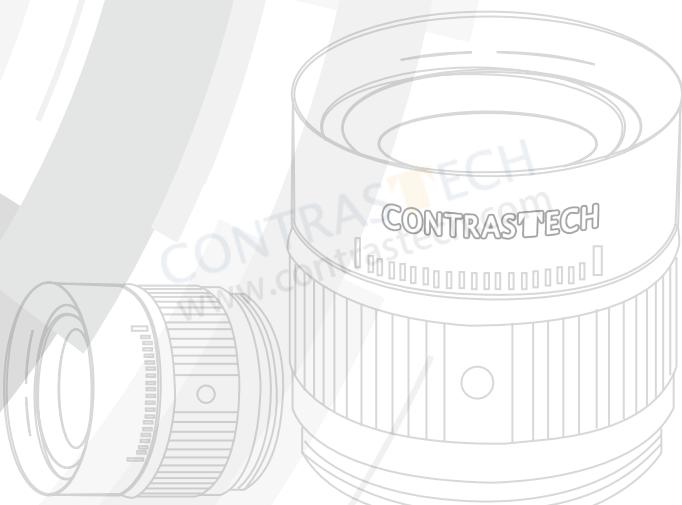
### ► Night Vision

| Model               | Sensor Size | EFL(mm) | DFOV(°) | Aperture(F#) | TTL(mm) | Equivalent focal length(mm) | Wavelength |
|---------------------|-------------|---------|---------|--------------|---------|-----------------------------|------------|
| VT-LEMDR1213-i-H1   | 1"          | 12      | 70.5°   | F1.3         | 26      | f32.5mm                     | 400-1100nm |
| VT-LEMDR16313-i-H1  | 1"          | 16.3    | 51.3°   | F1.3         | 26      | f44mm                       |            |
| VT-LEMDR1615-i-H1.1 | 1.1"        | 16      | 41°     | F1.5         | 19      | f41mm                       |            |
| VT-LEMDR4617-i-H1.1 | 1.1"        | 46      | 23.4°   | F1.7         | 39      | f120mm                      |            |

### ► For Main Cameras

| Model           | Sensor Size | EFL(mm) | HFOV (°)   | DFOV(°)    | TTL(mm) | Equivalent focal length(mm) | Wavelength | Mount |
|-----------------|-------------|---------|------------|------------|---------|-----------------------------|------------|-------|
| VT-LEMDR1250-12 | 1/2"        | 12-50   | 23.2°~7.2° | 28.3°~8.9° | 40.8    | f65-270                     | 435-850nm  | -     |
| VT-LEMDR13-43   | 4/3"        | 13      | 67°        | 80°        | 59.61   | f26                         |            | M12   |
| VT-LEMDR04-118  | 1/1.8"      | 4       | 126°       | 160°       | 25.95   | f19.2                       |            | M12   |
| VT-LEMDR08-118  | 1/1.8"      | 8       | 53°        | 60°        | 34.4    | f37.8                       |            | M12   |
| VT-LEMDR25-118  | 1/1.8"      | 25      | 14°        | 18°        | 25      | f120.2                      |            | M12   |
| VT-LEMDR028-123 | 1/2.3"      | 2.8     | 97°        | 112°       | 27.69   | f15                         |            | M12   |
| VT-LEMDR054-123 | 1/2.3"      | 5.4     | 61°        | 72°        | 24.63   | f30                         |            | M12   |

# LENS PARAMETER DIAGRAM

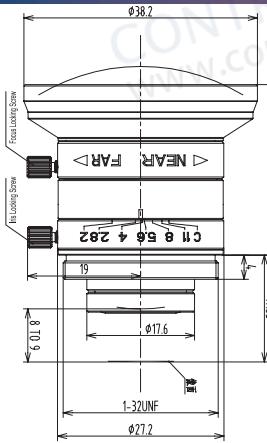


# 1/1.8" C-Mount FIXED LENSES

1. Suitable for 2-3 megapixels sensors
2. Lockable focus and iris screws prevent movement during vibrations or shocks
3. Compact design
4. TV distortion less than 1%

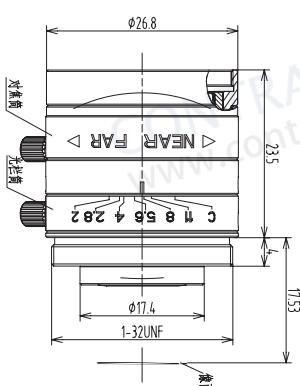


## VT-LEM0420



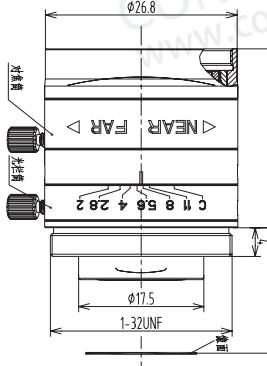
|                           |                          |
|---------------------------|--------------------------|
| Image Size (inch)         | 1/1.8"                   |
| EFL (mm)                  | 4.0                      |
| Aperture, F/#             | F2~Close                 |
| M.O.D.                    | 0.1m                     |
| FOV(°)                    | 94°×82.9°×66.5°          |
| Distortion(TV)            | <0.5%                    |
| FBL (mm)                  | 17.526                   |
| Back Focus(mm)            | 8.7                      |
| Filter screw size         | -                        |
| Front/Rear Effective Dia. | Front Ø35mm<br>Rear Ø7mm |
| Mount                     | C-Mount                  |
| Temperature Range         | -10~+50°C                |
| Storage Temperature Range | -20~+60°C                |

## VT-LEM0620



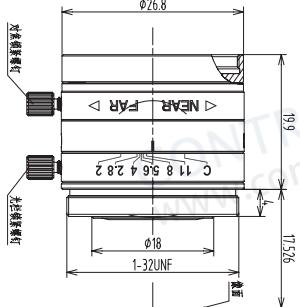
|                           |                                |
|---------------------------|--------------------------------|
| Image Size (inch)         | 1/1.8"                         |
| EFL (mm)                  | 6.0                            |
| Aperture, F/#             | F2~Close                       |
| M.O.D.                    | 0.1m                           |
| FOV(°)                    | 69.8°×59.6°×46°                |
| Distortion(TV)            | <0.1%                          |
| FBL (mm)                  | 17.526                         |
| Back Focus(mm)            | 11.6                           |
| Filter Size               | M25.5×P0.5                     |
| Front/Rear Effective Dia. | Front Ø18.12mm<br>Rear Ø5.81mm |
| Mount                     | C-Mount                        |
| Temperature Range         | -10~+50°C                      |
| Storage Temperature Range | -20~+60°C                      |

## VT-LEM0820



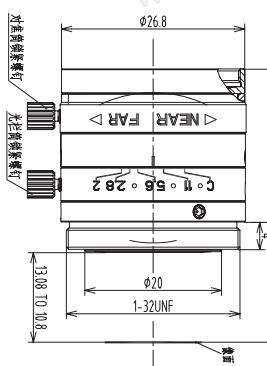
|                           |                            |
|---------------------------|----------------------------|
| Image Size (inch)         | 1/1.8"                     |
| EFL (mm)                  | 8.0                        |
| Aperture, F/#             | F2~Close                   |
| M.O.D.                    | 0.1m                       |
| FOV(°)                    | 56.0°×46.8°×36.0°          |
| Distortion(TV)            | <0.1%                      |
| FBL (mm)                  | 17.526                     |
| Back Focus(mm)            | 11.4                       |
| Filter Size               | M25.5×P0.5                 |
| Front/Rear Effective Dia. | Front Ø20.1mm<br>Rear Ø6mm |
| Mount                     | C-Mount                    |
| Temperature Range         | -10~+50°C                  |
| Storage Temperature Range | -20~+60°C                  |

## VT-LEM1220



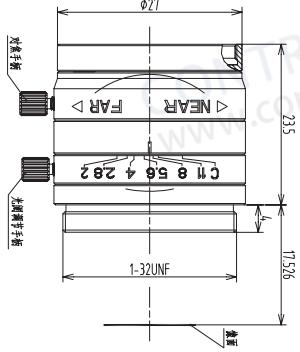
|                           |                            |
|---------------------------|----------------------------|
| Image Size (inch)         | 1/1.8"                     |
| EFL (mm)                  | 12.0                       |
| Aperture, F/#             | F2~Close                   |
| M.O.D.                    | 0.1m                       |
| FOV(°)                    | 40.7°×33.0°×24.3°          |
| Distortion(TV)            | <0.3%                      |
| FBL (mm)                  | 17.526                     |
| Back Focus(mm)            | 12.5                       |
| Filter Size               | M25.5×P0.5                 |
| Front/Rear Effective Dia. | Front Ø15.2mm<br>Rear Ø6mm |
| Mount                     | C-Mount                    |
| Temperature Range         | -10~+50°C                  |
| Storage Temperature Range | -20~+60°C                  |

## VT-LEM1620



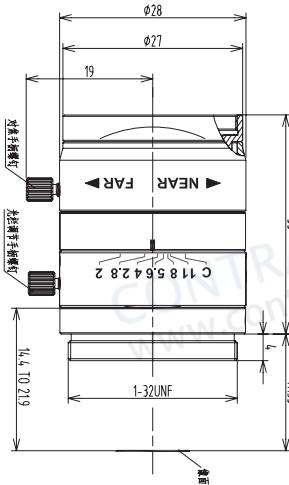
|                           |                            |
|---------------------------|----------------------------|
| Image Size (inch)         | 1/1.8"                     |
| EFL (mm)                  | 16.0                       |
| Aperture, F/#             | F2~Close                   |
| M.O.D.                    | 0.1m                       |
| FOV(°)                    | 30.3°×24.7°×18.2°          |
| Distortion(TV)            | <0.1%                      |
| FBL (mm)                  | 17.526                     |
| Back Focus(mm)            | 12.7                       |
| Filter Size               | M25.5×P0.5                 |
| Front/Rear Effective Dia. | Front Ø15.2mm<br>Rear Ø6mm |
| Mount                     | C-Mount                    |
| Temperature Range         | -10~+50°C                  |
| Storage Temperature Range | -20~+60°C                  |

## VT-LEM2520



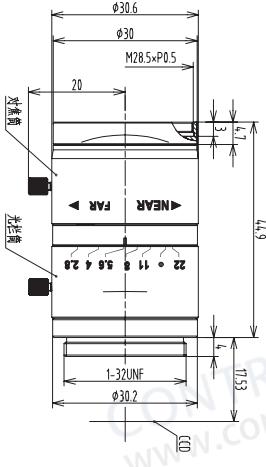
|                           |                              |
|---------------------------|------------------------------|
| Image Size (inch)         | 1/1.8"                       |
| EFL (mm)                  | 25.0                         |
| Aperture, F/#             | F2~Close                     |
| M.O.D.                    | 0.1m                         |
| FOV(°)                    | 19.0°×13.6°×11.3°            |
| Distortion(TV)            | <0.1%                        |
| FBL (mm)                  | 17.526                       |
| Back Focus(mm)            | 13.7                         |
| Filter Size               | M25.5×P0.5                   |
| Front/Rear Effective Dia. | Front Ø15.2mm<br>Rear Ø6.6mm |
| Mount                     | C-Mount                      |
| Temperature Range         | -10~+50°C                    |
| Storage Temperature Range | -20~+60°C                    |

### VT-LEM3520



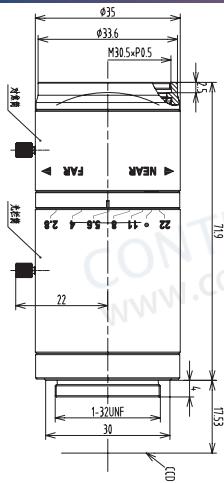
|                           |                              |
|---------------------------|------------------------------|
| Image Size (inch)         | 1/1.8"                       |
| EFL (mm)                  | 35.0                         |
| Aperture, F/#             | F2~Close                     |
| M.O.D.                    | 0.2m                         |
| FOV(°)                    | 12.24°×8.8°×7.0°             |
| Distortion(TV)            | <0.1%                        |
| FBL (mm)                  | 17.526                       |
| Back Focus(mm)            | 19                           |
| Filter Size               | M25.5×P0.5                   |
| Front/Rear Effective Dia. | Front Ø15.7mm<br>Rear Ø8.5mm |
| Mount                     | C-Mount                      |
| Temperature Range         | -10~+50°C                    |
| Storage Temperature Range | -20~+60°C                    |

### VT-LEM5028



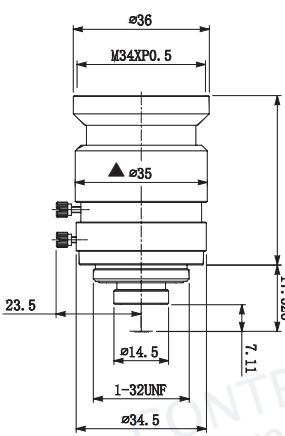
|                           |                            |
|---------------------------|----------------------------|
| Image Size (inch)         | 1/1.8"                     |
| EFL (mm)                  | 50.0                       |
| Aperture, F/#             | F2.8~Close                 |
| M.O.D.                    | 0.3m                       |
| FOV(°)                    | 10.2°×8.2°×6.1°            |
| Distortion(TV)            | <0.05%                     |
| FBL (mm)                  | 17.526                     |
| Back Focus(mm)            | 17.4~27.1                  |
| Filter Size               | M28.5×P0.5                 |
| Front/Rear Effective Dia. | Front Ø17.4mm<br>Rear Ø8mm |
| Mount                     | C-Mount                    |
| Temperature Range         | -10~+50°C                  |
| Storage Temperature Range | -20~+60°C                  |

### VT-LEM7528



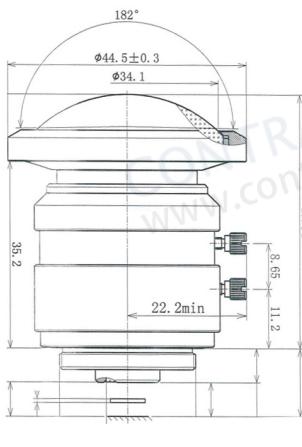
|                           |                             |
|---------------------------|-----------------------------|
| Image Size (inch)         | 1/1.8"                      |
| EFL (mm)                  | 75.0                        |
| Aperture, F/#             | F2.8~Close                  |
| M.O.D.                    | 0.5m                        |
| FOV(°)                    | 5.84°×5.4°×4.04°            |
| Distortion(TV)            | <0.05%                      |
| FBL (mm)                  | 17.526                      |
| Back Focus(mm)            | 42.2~55.5                   |
| Filter Size               | M30.5×P0.5                  |
| Front/Rear Effective Dia. | Front Ø24mm<br>Rear Ø14.5mm |
| Mount                     | C-Mount                     |
| Temperature Range         | -10~+50°C                   |
| Storage Temperature Range | -20~+60°C                   |

### VT-LEM0616MP5



|                           |                                |
|---------------------------|--------------------------------|
| Image Size (inch)         | 1/1.8"                         |
| EFL (mm)                  | 6.0                            |
| Aperture, F/#             | F1.6~Close                     |
| M.O.D.                    | 0.1m                           |
| FOV(°)                    | 71.7°×60.1°×46.6°              |
| Distortion(TV)            | <0.54%                         |
| FBL (mm)                  | 17.526                         |
| Back Focus(mm)            | 7.94                           |
| Filter Size               | M34×P0.5                       |
| Front/Rear Effective Dia. | Front Ø21.56mm<br>Rear Ø10.1mm |
| Mount                     | C-Mount                        |
| Temperature Range         | -10~+50°C                      |
| Storage Temperature Range | -20~+60°C                      |

### VT-LEM014141-FE OOP



|                           |                              |
|---------------------------|------------------------------|
| Image Size (inch)         | 1/2.3"                       |
| EFL (mm)                  | 1.4                          |
| Aperture, F/#             | F1.41~Close                  |
| M.O.D.                    | 0.1m                         |
| FOV(°)                    | 182°×182°×182°               |
| Distortion(TV)            | <-1%                         |
| FBL (mm)                  | 12.73                        |
| Back Focus(mm)            | 6.43                         |
| Filter Size               | -                            |
| Front/Rear Effective Dia. | Front Ø33.8mm<br>Rear Ø6.8mm |
| Mount                     | CS-Mount                     |
| Temperature Range         | -10~+50°C                    |
| Storage Temperature Range | -20~+60°C                    |

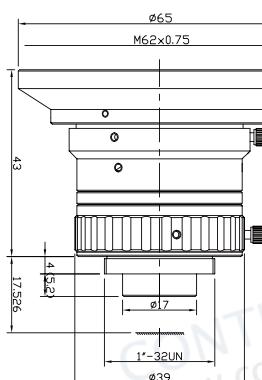
## 2/3" C-Mount FIXED LENSES

HOT

1. Mono-focal for best image quality
2. High performance for 8 mega pixels camera
3. Large aperture ratio for low illumination
4. TV Free distortion less than 1%
5. Focus range from 0.1M to Infinity
6. Higher relative illuminate rate at corner

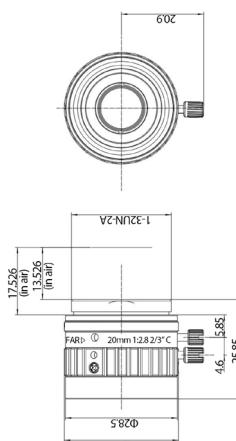


**VT-LEM0518MP10**



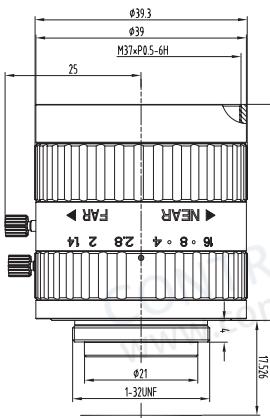
|                       |                   |
|-----------------------|-------------------|
| Resolution            | 200lp/mm(10MP)    |
| Image Size (inch)     | 2/3"              |
| EFL (mm)              | 5.0               |
| Aperture, F/#         | F1.8~Close        |
| M.O.D.                | 0.1m              |
| FOV(°)                | 95.5°×82.7°×66.8° |
| Distortion(TV)        | <5%               |
| FBL (mm)              | 17.526            |
| Back Focus(mm)        | 8.54              |
| Filter Size           | M62 × 0.75        |
| Relative illumination | 43%               |
| Mount                 | C-Mount           |
| Wavelength            | 400nm~950nm       |
| Weight                | 150g              |

**VT-LEN2028MP10**



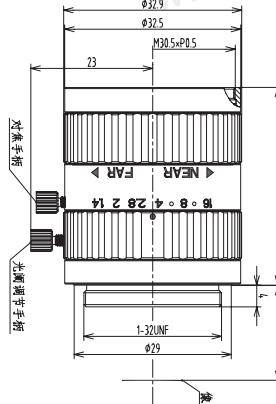
|                       |                     |
|-----------------------|---------------------|
| Resolution            | 10MP                |
| Image Size (inch)     | 2/3"                |
| EFL (mm)              | 20±5%               |
| Aperture, F/#         | F2.8±10%            |
| M.O.D.                | 0.2m                |
| FOV(°)                | 28.6°×23.33°×17.35° |
| Distortion(TV)        | <-0.60%             |
| FBL (mm)              | 17.526              |
| Optical back focus    | 13.45~15.48         |
| MBF(mm)               | <13.526             |
| Relative illumination | 43%                 |
| Mount                 | C-Mount             |
| Wavelength            | 400nm~950nm         |
| Weight                | 150g                |

**VT-LEM0814CBMP8**

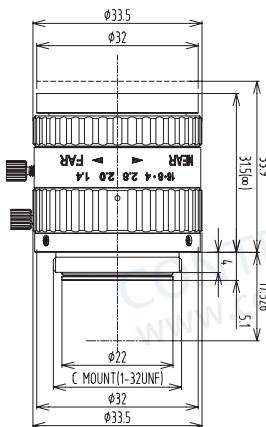


|                           |                               |
|---------------------------|-------------------------------|
| Image Size (inch)         | 2/3"                          |
| EFL (mm)                  | 8.0                           |
| Aperture, F/#             | F1.4~Close                    |
| M.O.D.                    | 0.1m                          |
| FOV(°)                    | 61.7°×56.3°×43.7°             |
| Distortion(TV)            | <0.1%                         |
| FBL (mm)                  | 17.526                        |
| Back Focus(mm)            | 10.74                         |
| Filter Size               | M37xP0.5                      |
| Front/Rear Effective Dia. | Front Ø26.2mm<br>Rear Ø12.7mm |
| Mount                     | C-Mount                       |
| Temperature Range         | -10~+50°C                     |
| Storage Temperature Range | -20~+60°C                     |

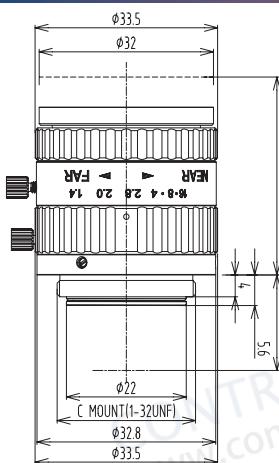
**VT-LEM1216CBMP8**



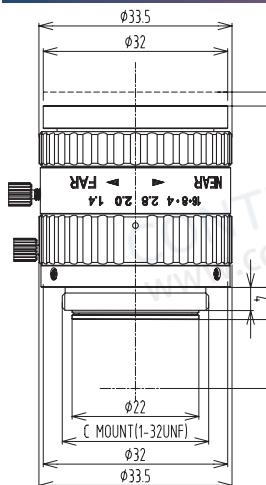
|                           |                           |
|---------------------------|---------------------------|
| Image Size (inch)         | 2/3"                      |
| EFL (mm)                  | 12.0                      |
| Aperture, F/#             | F1.6~Close                |
| M.O.D.                    | 0.15m                     |
| FOV(°)                    | 46.6°×39°×30.3°           |
| Distortion(TV)            | <0.8%                     |
| FBL (mm)                  | 17.526                    |
| Back Focus(mm)            | 13                        |
| Filter Size               | M30.5xP0.5                |
| Front/Rear Effective Dia. | Front Ø24mm<br>Rear Ø10mm |
| Mount                     | C-Mount                   |
| Temperature Range         | -10~+50°C                 |
| Storage Temperature Range | -20~+60°C                 |

**VT-LEM1614CBMP8**

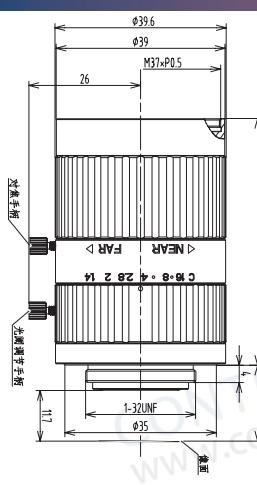
|                                  |                             |
|----------------------------------|-----------------------------|
| <b>Image Size (inch)</b>         | 2/3"                        |
| <b>EFL (mm)</b>                  | 16.0                        |
| <b>Aperture, F/#</b>             | F1.4~Close                  |
| <b>M.O.D.</b>                    | 0.1m                        |
| <b>FOV(°)</b>                    | 37.3°×30.3°×23°             |
| <b>Distortion(TV)</b>            | <0.1%                       |
| <b>FBL (mm)</b>                  | 17.526                      |
| <b>Back Focus(mm)</b>            | 12.7                        |
| <b>Filter Size</b>               | M30.5×P0.5                  |
| <b>Front/Rear Effective Dia.</b> | Front Ø19mm<br>Rear Ø14.2mm |
| <b>Mount</b>                     | C-Mount                     |
| <b>Temperature Range</b>         | -10~+50°C                   |
| <b>Storage Temperature Range</b> | -20~+60°C                   |

**VT-LEM2514CBMP8**

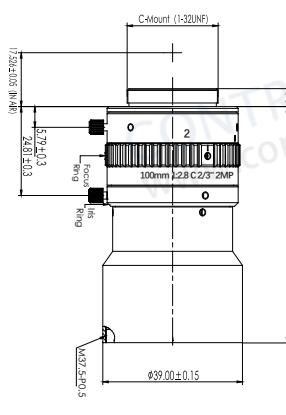
|                                  |                               |
|----------------------------------|-------------------------------|
| <b>Image Size (inch)</b>         | 2/3"                          |
| <b>EFL (mm)</b>                  | 25.0                          |
| <b>Aperture, F/#</b>             | F1.4~Close                    |
| <b>M.O.D.</b>                    | 0.1m                          |
| <b>FOV(°)</b>                    | 24.6°×20°×15°                 |
| <b>Distortion(TV)</b>            | <0.2%                         |
| <b>FBL (mm)</b>                  | 17.526                        |
| <b>Back Focus(mm)</b>            | 12.25                         |
| <b>Filter Size</b>               | M30.5×P0.5                    |
| <b>Front/Rear Effective Dia.</b> | Front Ø22.7mm<br>Rear Ø12.6mm |
| <b>Mount</b>                     | C-Mount                       |
| <b>Temperature Range</b>         | -10~+50°C                     |
| <b>Storage Temperature Range</b> | -20~+60°C                     |

**VT-LEM3514CBMP8**

|                                  |                             |
|----------------------------------|-----------------------------|
| <b>Image Size (inch)</b>         | 2/3"                        |
| <b>EFL (mm)</b>                  | 35.0                        |
| <b>Aperture, F/#</b>             | F1.4~Close                  |
| <b>M.O.D.</b>                    | 0.15m                       |
| <b>FOV(°)</b>                    | 17.3°×13.9°×10.4°           |
| <b>Distortion(TV)</b>            | <0.8%                       |
| <b>FBL (mm)</b>                  | 17.526                      |
| <b>Back Focus(mm)</b>            | 12.7                        |
| <b>Filter Size</b>               | M30.5×P0.5                  |
| <b>Front/Rear Effective Dia.</b> | Front Ø19mm<br>Rear Ø14.2mm |
| <b>Mount</b>                     | C-Mount                     |
| <b>Temperature Range</b>         | -10~+50°C                   |
| <b>Storage Temperature Range</b> | -20~+60°C                   |

**VT-LEM5014CBMP8**

|                                  |                              |
|----------------------------------|------------------------------|
| <b>Image Size (inch)</b>         | 2/3"                         |
| <b>EFL (mm)</b>                  | 50.0                         |
| <b>Aperture, F/#</b>             | F1.4~Close                   |
| <b>M.O.D.</b>                    | 0.3m                         |
| <b>FOV(°)</b>                    | 10.2°×8.2°×6.1°              |
| <b>Distortion(TV)</b>            | <0.8%                        |
| <b>FBL (mm)</b>                  | 17.526                       |
| <b>Back Focus(mm)</b>            | 12.4                         |
| <b>Filter Size</b>               | M37×P0.5                     |
| <b>Front/Rear Effective Dia.</b> | Front Ø24mm<br>Rear Ø11.78mm |
| <b>Mount</b>                     | C-Mount                      |
| <b>Temperature Range</b>         | -10~+50°C                    |
| <b>Storage Temperature Range</b> | -20~+60°C                    |

**VT-LEM10028**

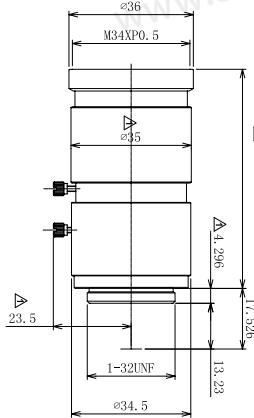
|                          |                  |
|--------------------------|------------------|
| <b>Image Size (inch)</b> | 2/3", Support 1" |
| <b>EFL (mm)</b>          | 100.0            |
| <b>Aperture, F/#</b>     | F2.8~16          |
| <b>M.O.D.</b>            | -                |
| <b>FOV(°)</b>            | 5.6°×7.5°        |
| <b>Distortion(TV)</b>    | <0.1%            |
| <b>Resolution</b>        | 2MP              |
| <b>WD</b>                | 2m ~ ∞           |
| <b>Wavelength</b>        | 400-1100nm       |
| <b>Filter Size</b>       | M37.5×0.5        |
| <b>Dimension (mm)</b>    | Ø39×65.85        |
| <b>Mount</b>             | C-Mount          |
| <b>Iris</b>              | M-Iris           |
| <b>Temperature Range</b> | -10~+50°C        |

# 1" C-Mount FIXED LENSES

1. Multi-layer coating technology to effectively prevent glare, ghosting
2. Suitable for 5MP camera
3. High resolution, high contrast
4. Locking set screws for focus and iris compact design-diameter
5. Low distortion

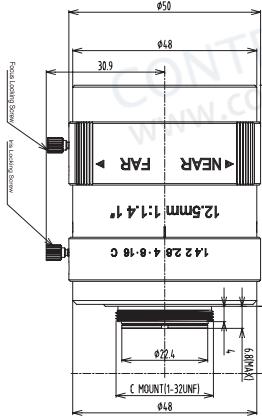


**VT-LEM7528MP5**



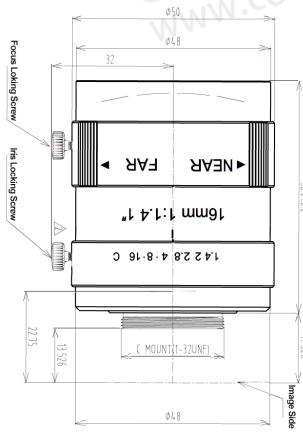
|                           |                               |
|---------------------------|-------------------------------|
| Image Size (inch)         | 1"                            |
| EFL (mm)                  | 75.0                          |
| Aperture, F/#             | F2.8~Close                    |
| M.O.D.                    | 0.6m                          |
| FOV(°)                    | 11.4°×9.2°×6.9°               |
| Distortion(TV)            | 0.07%                         |
| FBL (mm)                  | 17.526                        |
| Back Focus(mm)            | 17.69                         |
| Filter Size               | M34×0.5                       |
| Front/Rear Effective Dia. | Front Ø29.4mm<br>Rear Ø17.0mm |
| Mount                     | C-Mount                       |
| Relative illumination     | >97.6%                        |
| TTL                       | 79.38mm                       |

**VT-LEM1214CB-H1**



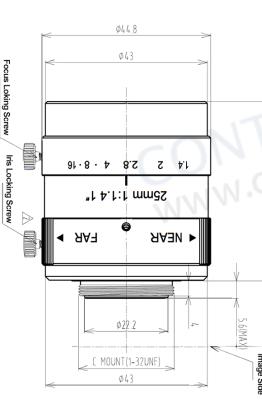
|                           |                             |
|---------------------------|-----------------------------|
| Image Size (inch)         | 1"                          |
| EFL (mm)                  | 12.5                        |
| Aperture, F/#             | F1.4~Close                  |
| M.O.D.                    | 0.1m                        |
| FOV(°)                    | 66.3°×38.5°×42°             |
| Distortion(TV)            | 1.8%                        |
| FBL (mm)                  | 17.526                      |
| Back Focus(mm)            | 15.7                        |
| Filter Size               | M46×0.75                    |
| Front/Rear Effective Dia. | Front Ø35mm<br>Rear Ø18.8mm |
| Mount                     | C-Mount                     |
| Temperature Range         | -10~+50°C                   |
| Storage Temperature Range | -20~+60°C                   |

**VT-LEM1614CB-H1**



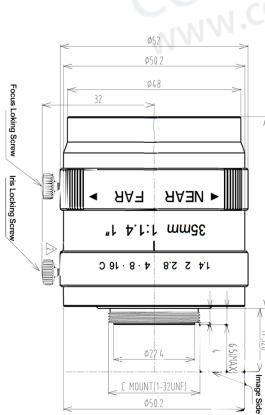
|                           |                               |
|---------------------------|-------------------------------|
| Image Size (inch)         | 1"                            |
| EFL (mm)                  | 16                            |
| Aperture, F/#             | F1.4~Close                    |
| M.O.D.                    | 0.1m                          |
| FOV(°)                    | 42.4°×32.4°×51.6°             |
| Distortion(TV)            | 0.1%                          |
| FBL (mm)                  | 17.526                        |
| Back Focus(mm)            | 22.75                         |
| Filter Size               | M46×0.75                      |
| Front/Rear Effective Dia. | Front Ø35.3mm<br>Rear Ø11.5mm |
| Mount                     | C-Mount                       |
| Temperature Range         | -10~+50°C                     |
| Storage Temperature Range | -20~+60°C                     |

**VT-LEM2514CB-H1**



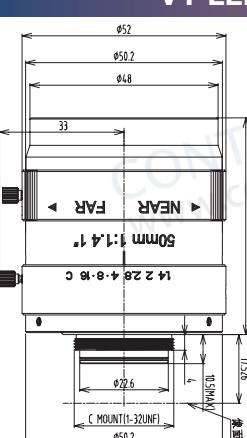
|                           |                                |
|---------------------------|--------------------------------|
| Image Size (inch)         | 1"                             |
| EFL (mm)                  | 25                             |
| Aperture, F/#             | F1.4~Close                     |
| M.O.D.                    | 0.1m                           |
| FOV(°)                    | 28.7°×22.06°×34.94°            |
| Distortion(TV)            | 0.1%                           |
| FBL (mm)                  | 17.526                         |
| Back Focus(mm)            | 19.97                          |
| Filter Size               | M40.5×0.5                      |
| Front/Rear Effective Dia. | Front Ø19.8mm<br>Rear Ø13.75mm |
| Mount                     | C-Mount                        |
| Temperature Range         | -10~+50°C                      |
| Storage Temperature Range | -20~+60°C                      |

**VT-LEM3514CB-H1**

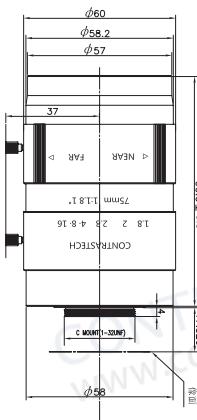
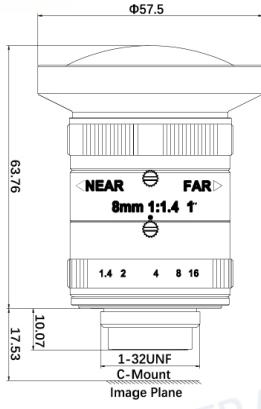
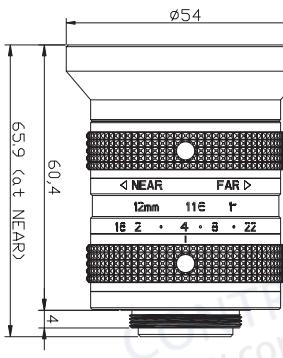
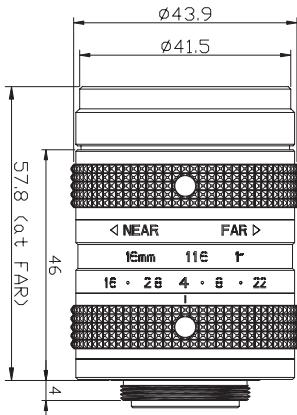
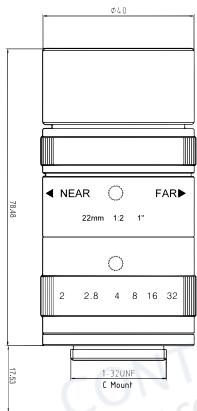
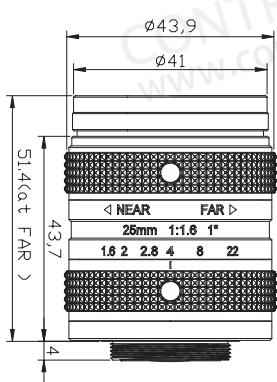
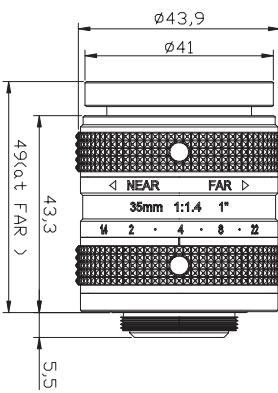


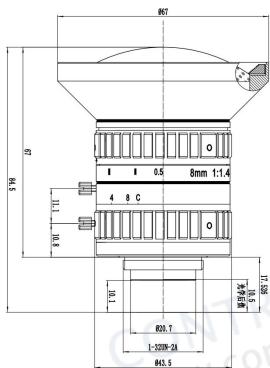
|                           |                           |
|---------------------------|---------------------------|
| Image Size (inch)         | 1"                        |
| EFL (mm)                  | 35                        |
| Aperture, F/#             | F1.4~Close                |
| M.O.D.                    | 0.1m                      |
| FOV(°)                    | 19.28°×14.32°×23.92°      |
| Distortion(TV)            | 0.1%                      |
| FBL (mm)                  | 17.526                    |
| Back Focus(mm)            | 11.2                      |
| Filter Size               | M46×0.75                  |
| Front/Rear Effective Dia. | Front Ø27mm<br>Rear Ø17mm |
| Mount                     | C-Mount                   |
| Temperature Range         | -10~+50°C                 |
| Storage Temperature Range | -20~+60°C                 |

**VT-LEM5014CB-H1**

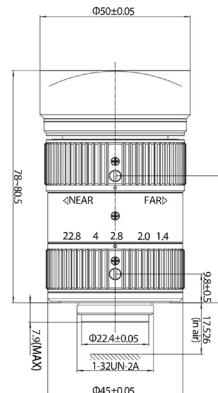


|                           |                             |
|---------------------------|-----------------------------|
| Image Size (inch)         | 1"                          |
| EFL (mm)                  | 50.0                        |
| Aperture, F/#             | F1.4~Close                  |
| M.O.D.                    | 0.3m                        |
| FOV(°)                    | 17.14°×13.86°×10.4°         |
| Distortion(TV)            | 0.1%                        |
| FBL (mm)                  | 17.526                      |
| Back Focus(mm)            | 10.5                        |
| Filter Size               | M46×0.75                    |
| Front/Rear Effective Dia. | Front Ø30.5mm<br>Rear Ø18mm |
| Mount                     | C-Mount                     |
| Temperature Range         | -10~+50°C                   |
| Storage Temperature Range | -20~+60°C                   |

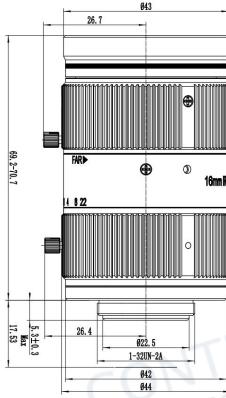
**VT-LEM7518CB-H1****VT-LEM0814CE-H1****VT-LEM1216CE-H1****VT-LEM1616CE-H1****VT-LEM2220CE-H1****VT-LEM2516CE-H1****VT-LEM3514CE-H1**

**VT-LEN0814MP8-H1 NEW!**

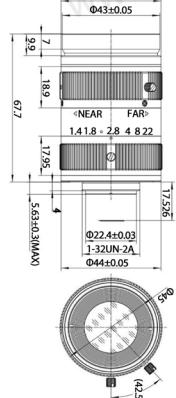
|                   |               |
|-------------------|---------------|
| Image Size (inch) | 1"            |
| EFL (mm)          | 8±5%          |
| Aperture, F/#     | F1.4~Close    |
| M.O.D.            | 0.5m          |
| FOV(°)            | 96°×84°×88°   |
| Distortion(TV)    | -4.65%(1")    |
| FBL(mm)           | 17.526        |
| BFL(mm)           | 10.5          |
| MBF(mm)           | 10.1          |
| Iris              | Manual        |
| Mount             | C-Mount       |
| Temperature Range | -30°C ~ +70°C |
| Weight            | 303g          |

**VT-LEN1214MP8-H1 NEW!**

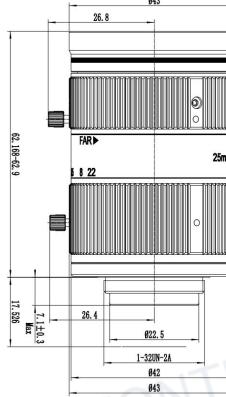
|                   |                   |
|-------------------|-------------------|
| Image Size (inch) | 1"                |
| EFL (mm)          | 12±5%             |
| Aperture, F/#     | F1.4±10%          |
| M.O.D.            | 0.3m              |
| FOV(°)            | 68.0°×56.0°×43.0° |
| Distortion(TV)    | 4.50%             |
| FBL(mm)           | 17.526 (in air)   |
| BFL(mm)           | 11.56 (in air)    |
| MBF(mm)           | 9.88 (in air)     |
| Iris              | Manual            |
| Mount             | C-Mount           |
| Temperature Range | -30°C ~ +70°C     |
| Weight            | 318.5g±5g         |

**VT-LEN1614MP8-H1 NEW!**

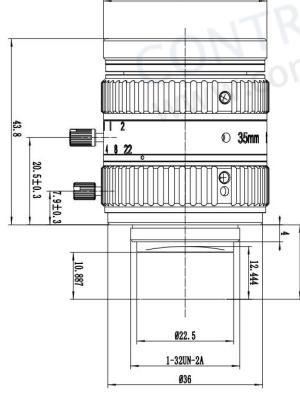
|                   |                 |
|-------------------|-----------------|
| Image Size (inch) | 1"              |
| EFL (mm)          | 16±5%           |
| Aperture, F/#     | F1.4±10%        |
| M.O.D.            | 0.5m            |
| FOV(°)            | 54°×43°×33°     |
| Distortion(TV)    | 5.9%@Φ16mm      |
| FBL(mm)           | 17.526          |
| BFL(mm)           | 13.863 (in air) |
| MBF(mm)           | 12.2 (in air)   |
| Iris              | Manual          |
| Mount             | C-Mount         |
| Temperature Range | -30°C ~ +70°C   |
| Weight            | 248±5g          |

**VT-LEN2014MP8-H1 NEW!**

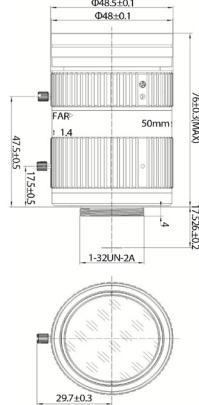
|                   |                   |
|-------------------|-------------------|
| Image Size (inch) | 1"                |
| EFL (mm)          | 20±5%             |
| Aperture, F/#     | F1.4±5%           |
| M.O.D.            | 0.5m              |
| FOV(°)            | 44.3°×35.7°×26.8° |
| Distortion(TV)    | -4.9%@Φ16mm       |
| FBL(mm)           | 17.526            |
| BFL(mm)           | 12.474 (in air)   |
| MBF(mm)           | 13.5 (in air)     |
| Iris              | Manual            |
| Mount             | C-Mount           |
| Temperature Range | -30°C~+70°C       |
| Weight            | 212±5g            |

**VT-LEN2514MP8-H1 NEW!**

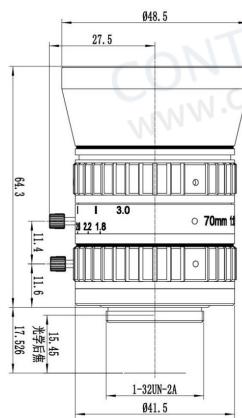
|                   |                   |
|-------------------|-------------------|
| Image Size (inch) | 1"                |
| EFL (mm)          | 25±5%             |
| Aperture, F/#     | F1.4±10%          |
| M.O.D.            | 1m                |
| FOV(°)            | 36.5°×29.2°×21.9° |
| Distortion(TV)    | -2.9%@Φ16mm       |
| FBL(mm)           | 17.526            |
| BFL(mm)           | 11.70 (in air)    |
| MBF(mm)           | 11.10 (in air)    |
| Iris              | Manual            |
| Mount             | C-Mount           |
| Temperature Range | -30°C~+70°C       |
| Weight            | 195±5g            |

**VT-LEN3514MP8-H1 NEW!**

|                   |                   |
|-------------------|-------------------|
| Image Size (inch) | 1"                |
| EFL (mm)          | 35±5%             |
| Aperture, F/#     | F1.4±10%          |
| M.O.D.            | 2m                |
| FOV(°)            | 26.2°×20.9°×15.6° |
| Distortion(TV)    | -2.6%@Φ16mm       |
| FBL(mm)           | 17.526            |
| BFL(mm)           | 12.4 (in air)     |
| MBF(mm)           | 10.89 (in air)    |
| Iris              | Manual            |
| Mount             | C-Mount           |
| Temperature Range | -30°C~+70°C       |
| Weight            | 126±5g            |

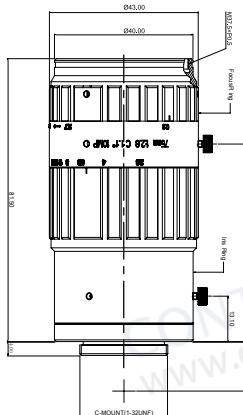
**VT-LEN5014MP8-H1 NEW!**

|                   |                   |
|-------------------|-------------------|
| Image Size (inch) | 1"                |
| EFL (mm)          | 50±5%             |
| Aperture, F/#     | F1.4±10%          |
| M.O.D.            | 1.5m              |
| FOV(°)            | 18.2°×14.6°×10.9° |
| Distortion(TV)    | -2% @Φ16mm        |
| FBL(mm)           | 17.526±0.5        |
| BFL(mm)           | 19.6 (in air)     |
| MBF(mm)           | 13.526 (in air)   |
| Iris              | Manual            |
| Mount             | C-Mount           |
| Temperature Range | -30°C~+70°C       |
| Weight            | 318.3g±5g         |

**VT-LEN7018MP8-H1**

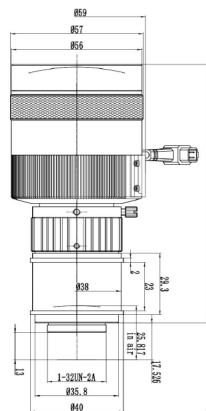
|                   |                  |
|-------------------|------------------|
| Image Size (inch) | 1"               |
| EFL (mm)          | 70±5%            |
| Aperture, F/#     | F1.8±10%         |
| M.O.D.            | 3m               |
| FOV(°)            | 12.8°×10.2°×7.7° |
| Distortion(TV)    | 0.13%            |
| FBL(mm)           | 17.526           |
| BFL(mm)           | 15.45            |
| MBF(mm)           | 13.5             |
| Iris              | Manual           |
| Mount             | C-Mount          |
| Temperature Range | -30°C~+70°C      |
| Weight            | 230±5g           |

## VT-LEM7528MP10-H1



|                   |                  |
|-------------------|------------------|
| Image Size (inch) | 1"               |
| EFL (mm)          | 75               |
| Aperture, F/#     | F2.8-32          |
| M.O.D.            | 0.6m             |
| FOV(°)            | 10.4°×7.9°×13.0° |
| Distortion        | <0.1%            |
| Back Focus(mm)    | 36.90            |
| Resolution        | 10 MP            |
| Filter Size       | M37.5×P0.5       |
| Mount             | C-Mount          |
| Dimension         | Ø43.00×81.50     |
| Adjustment Type   | Manual           |
| Temperature Range | -20°C ~ +60°C    |
| Weight            | 250g             |

## VT-LEN17044MP10-H1



|                   |                             |
|-------------------|-----------------------------|
| Image Size (inch) | 1"                          |
| EFL (mm)          | 170                         |
| Aperture, F/#     | F4.4                        |
| M.O.D.            | 5m                          |
| FOV(°)            | 5.4°×4.32°×3.25°            |
| Distortion(TV)    | 0.27% in Max Circle 16.6 mm |
| FBL (mm)          | 17.53                       |
| BFL(mm)           | 25.817(in air)              |
| MBF(mm)           | 13(in air)                  |
| IR Correction     | Yes                         |
| Iris              | P-Iris                      |
| Mount             | C-Mount                     |
| Dimension         | Ø59×123.3 mm                |
| Temperature Range | -30°C~+60°C                 |

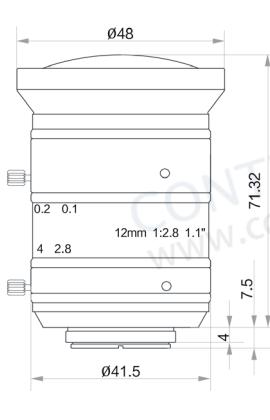
## 1.1" C-Mount FIXED LENSES

1. Mono-focal for best image quality
2. High performance for 10 mega pixels camera
3. Large aperture ratio for low illumination
4. TV Free distortion less than 1%
5. Focus range from 0.1M to Infinity
6. Higher relative illuminate rate at corner

HOT

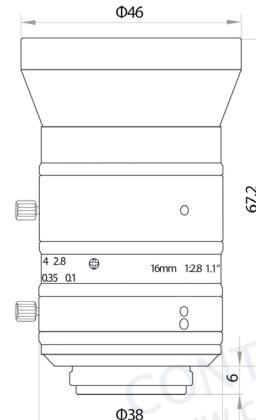


**VT-LEN1228MP12-H1.1**



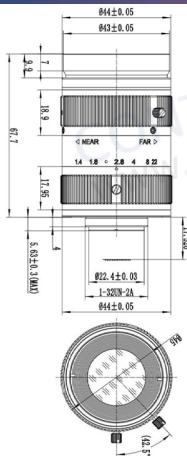
|                          |                       |
|--------------------------|-----------------------|
| <b>Image Size (inch)</b> | <b>1.1"</b>           |
| <b>EFL (mm)</b>          | <b>12.0</b>           |
| <b>Aperture, F/#</b>     | <b>F2.8-F22</b>       |
| <b>M.O.D.</b>            | <b>0.1m</b>           |
| <b>FOV(°)</b>            | <b>66.7°×57°×45°</b>  |
| <b>Distortion(TV)</b>    | <b>1.50%</b>          |
| <b>FBL(mm)</b>           | <b>17.526(in air)</b> |
| <b>Resolution</b>        | <b>12MP</b>           |
| <b>Design Wavelength</b> | <b>400-1000nm</b>     |
| <b>Filter Size</b>       | <b>-</b>              |
| <b>Dimension</b>         | <b>Φ48×71.32 mm</b>   |
| <b>Mount</b>             | <b>C-Mount</b>        |
| <b>Weight</b>            | <b>245 g</b>          |
| <b>Temperature Range</b> | <b>-10~+50°C</b>      |

**VT-LEN1628MP12-H1.1**



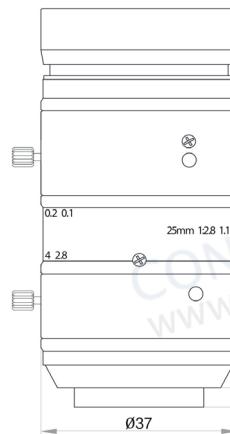
|                          |                          |
|--------------------------|--------------------------|
| <b>Image Size (inch)</b> | <b>1.1"</b>              |
| <b>EFL (mm)</b>          | <b>16.0</b>              |
| <b>Aperture, F/#</b>     | <b>F2.8-F16</b>          |
| <b>M.O.D.</b>            | <b>0.1m</b>              |
| <b>FOV(°)</b>            | <b>55.6°×45.8°×35.3°</b> |
| <b>Distortion(TV)</b>    | <b>0.15%</b>             |
| <b>FBL (mm)</b>          | <b>17.526</b>            |
| <b>Resolution</b>        | <b>12MP</b>              |
| <b>Design Wavelength</b> | <b>400-1000nm</b>        |
| <b>Filter Size</b>       | <b>M43×0.75</b>          |
| <b>Dimension</b>         | <b>Φ45.6×67.2 mm</b>     |
| <b>Mount</b>             | <b>C-Mount</b>           |
| <b>Weight</b>            | <b>189 g</b>             |
| <b>Temperature Range</b> | <b>-10~+50°C</b>         |

**VT-LEN2014MP12-H1.1 OOP**



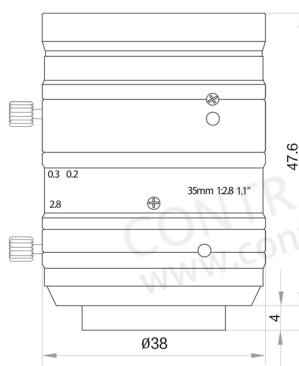
|                          |                            |
|--------------------------|----------------------------|
| <b>Image Size (inch)</b> | <b>1.1"</b>                |
| <b>EFL (mm)</b>          | <b>20±5%</b>               |
| <b>Aperture, F/#</b>     | <b>F1.4±5%</b>             |
| <b>M.O.D.</b>            | <b>0.5m</b>                |
| <b>FOV(°)</b>            | <b>49.06°×42.4°×27.96°</b> |
| <b>Distortion(TV)</b>    | <b>&lt;4.50%</b>           |
| <b>FBL(mm)</b>           | <b>17.526 (in air)</b>     |
| <b>BFL(mm)</b>           | <b>12.474(in air)</b>      |
| <b>MBF(mm)</b>           | <b>13.5 (in air)</b>       |
| <b>Resolution</b>        | <b>12 MP</b>               |
| <b>Design Wavelength</b> | <b>420-650nm</b>           |
| <b>Mount</b>             | <b>C-Mount</b>             |
| <b>Temperature Range</b> | <b>-30°C~+70°C</b>         |
| <b>Weight</b>            | <b>212±5g</b>              |

**VT-LEN2528MP12-H1.1**



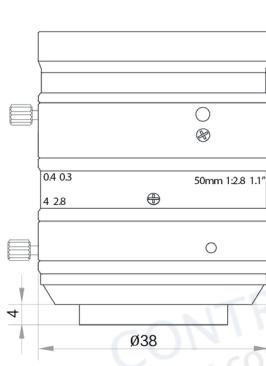
|                          |                        |
|--------------------------|------------------------|
| <b>Image Size (inch)</b> | <b>1.1"</b>            |
| <b>EFL (mm)</b>          | <b>25.0</b>            |
| <b>Aperture, F/#</b>     | <b>F2.8-F22</b>        |
| <b>M.O.D.</b>            | <b>0.1m</b>            |
| <b>FOV(°)</b>            | <b>37.6°×30.4°×23°</b> |
| <b>Distortion(TV)</b>    | <b>0.10%</b>           |
| <b>FBL (mm)</b>          | <b>17.526</b>          |
| <b>Resolution</b>        | <b>12MP</b>            |
| <b>Design Wavelength</b> | <b>400-1000nm</b>      |
| <b>Filter Size</b>       | <b>M35.5×0.5</b>       |
| <b>Dimension</b>         | <b>Φ37×82 mm</b>       |
| <b>Mount</b>             | <b>C-Mount</b>         |
| <b>Weight</b>            | <b>180 g</b>           |
| <b>Temperature Range</b> | <b>-10~+50°C</b>       |

### VT-LEN3528MP12-H1.1



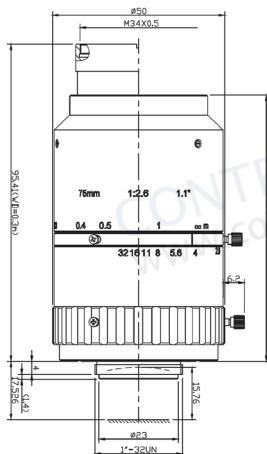
|                          |                 |
|--------------------------|-----------------|
| <b>Image Size (inch)</b> | 1.1"            |
| <b>EFL (mm)</b>          | 35.0            |
| <b>Aperture, F/#</b>     | F2.8-F22        |
| <b>M.O.D.</b>            | 0.2m            |
| <b>FOV(°)</b>            | 28.3°×22.6°×17° |
| <b>Distortion(TV)</b>    | 0.02%           |
| <b>FBL (mm)</b>          | 17.526          |
| <b>Resolution</b>        | 12MP            |
| <b>Design Wavelength</b> | 400-1000nm      |
| <b>Filter Size</b>       | M35.5×0.5       |
| <b>Dimension</b>         | Ø38×47.6 mm     |
| <b>Mount</b>             | C-Mount         |
| <b>Weight</b>            | 107 g           |
| <b>Temperature Range</b> | -10~+50°C       |

### VT-LEN5028MP12-H1.1



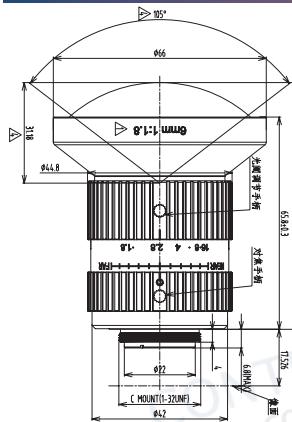
|                          |                   |
|--------------------------|-------------------|
| <b>Image Size (inch)</b> | 1.1"              |
| <b>EFL (mm)</b>          | 50.0              |
| <b>Aperture, F/#</b>     | F2.8-F22          |
| <b>M.O.D.</b>            | 0.3m              |
| <b>FOV(°)</b>            | 19.9°×15.9°×11.9° |
| <b>Distortion(TV)</b>    | 0.04%             |
| <b>FBL (mm)</b>          | 17.526            |
| <b>Resolution</b>        | 12MP              |
| <b>Design Wavelength</b> | 400-1000nm        |
| <b>Filter Size</b>       | M35.5×0.5         |
| <b>Dimension</b>         | Ø38×53.9 mm       |
| <b>Mount</b>             | C-Mount           |
| <b>Weight</b>            | 121 g             |
| <b>Temperature Range</b> | -10~+50°C         |

### VT-LEM7526MP12-H1.1



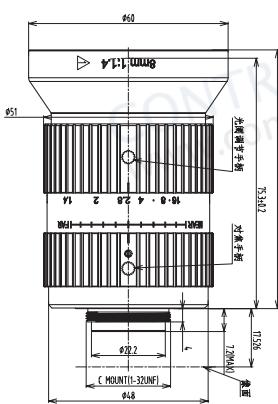
|                          |                   |
|--------------------------|-------------------|
| <b>Image Size (inch)</b> | 1.1"              |
| <b>EFL (mm)</b>          | 75                |
| <b>Aperture, F/#</b>     | F2.6~F32          |
| <b>M.O.D.</b>            | 0.3m              |
| <b>FOV(°)</b>            | 7.53°×6.05°×4.65° |
| <b>Distortion(TV)</b>    | <-0.35%           |
| <b>Back Focus(mm)</b>    | 15.76             |
| <b>Design Wavelength</b> | 400-700nm         |
| <b>Iris</b>              | Manual            |
| <b>Resolution</b>        | 12 MP             |
| <b>Filter Size</b>       | M34 × 0.5         |
| <b>Mount</b>             | C-Mount           |
| <b>Temperature Range</b> | -30°C ~ +70°C     |
| <b>Dimension (mm)</b>    | Ø50 x 95.41mm     |
| <b>Weight</b>            | 270g              |

### VT-LEM0618MP20-H1.1



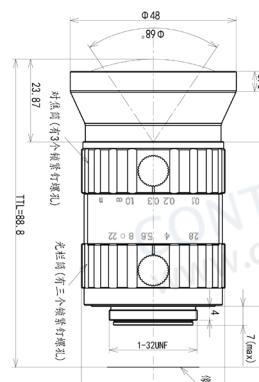
|                                  |                                |
|----------------------------------|--------------------------------|
| <b>Image Size (inch)</b>         | 1.1"                           |
| <b>EFL (mm)</b>                  | 6.0                            |
| <b>Aperture, F/#</b>             | F1.8~16                        |
| <b>M.O.D.</b>                    | 0.1m                           |
| <b>FOV(°) H×V×D</b>              | 104.9°×86.2°×118.2°            |
| <b>Distortion(TV)</b>            | <2.3%                          |
| <b>FBL (mm)</b>                  | 17.526                         |
| <b>Back Focus(mm)</b>            | 13.57                          |
| <b>Filter Size</b>               | -                              |
| <b>Front/Rear Effective Dia.</b> | Front Ø58.6mm<br>Rear Ø15.05mm |
| <b>Resolution</b>                | 20MP                           |
| <b>Design Wavelength</b>         | 400-1000nm                     |
| <b>Mount</b>                     | C-Mount                        |
| <b>Operating Temperature</b>     | -10~+50°C                      |

### VT-LEM0814MP20-H1.1

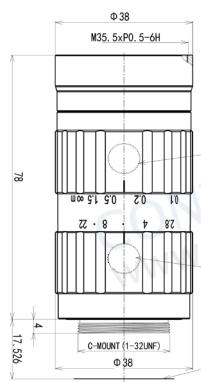


|                                  |                                 |
|----------------------------------|---------------------------------|
| <b>Image Size (inch)</b>         | 1.1"                            |
| <b>EFL (mm)</b>                  | 8.0                             |
| <b>Aperture, F/#</b>             | F1.4~16                         |
| <b>M.O.D.</b>                    | 0.1m                            |
| <b>FOV(°) H×V×D</b>              | 84.8°×68°×98.4°                 |
| <b>Distortion(TV)</b>            | <5.3%                           |
| <b>FBL (mm)</b>                  | 17.526                          |
| <b>Back Focus(mm)</b>            | 10.35                           |
| <b>Filter Size</b>               | M58 × P0.75                     |
| <b>Front/Rear Effective Dia.</b> | Front Ø40.52mm<br>Rear Ø17.32mm |
| <b>Resolution</b>                | 20MP                            |
| <b>Design Wavelength</b>         | 400-1000nm                      |
| <b>Mount</b>                     | C-Mount                         |
| <b>Operating Temperature</b>     | -10~+50°C                       |

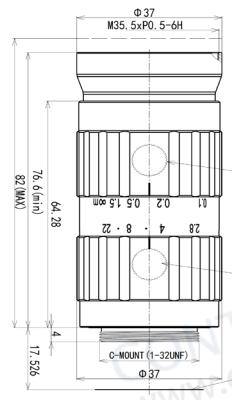
### VT-LEM1228CBMP20-H1.1



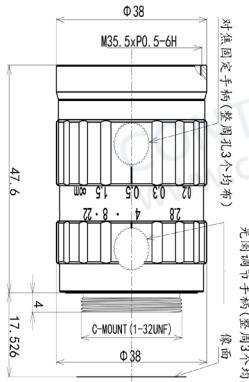
|                                  |                               |
|----------------------------------|-------------------------------|
| <b>Image Size (inch)</b>         | 1.1"                          |
| <b>EFL (mm)</b>                  | 12                            |
| <b>Aperture, F/#</b>             | F1.8~22                       |
| <b>M.O.D.</b>                    | 0.1m                          |
| <b>FOV(°) H×V×D</b>              | 57°×45°×66.7°                 |
| <b>Distortion(TV)</b>            | <1.5%                         |
| <b>FBL (mm)</b>                  | 17.526                        |
| <b>Back Focus(mm)</b>            | 10.6                          |
| <b>Filter Size</b>               | -                             |
| <b>Front/Rear Effective Dia.</b> | Front Ø42.9mm<br>Rear Ø20.5mm |
| <b>Resolution</b>                | 20MP                          |
| <b>Design Wavelength</b>         | -                             |
| <b>Dimension</b>                 | -                             |
| <b>Mount</b>                     | C-Mount                       |
| <b>Temperature Range</b>         | -10~+50°C                     |

**VT-LEM1628CBMP20-H1.1**

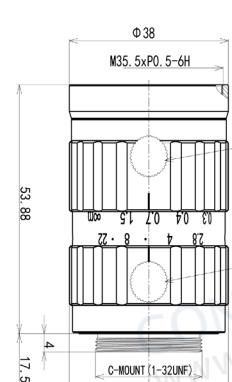
|                           |                               |
|---------------------------|-------------------------------|
| Image Size (inch)         | 1.1"                          |
| EFL (mm)                  | 16                            |
| Aperture, F/#             | F2.8-22                       |
| M.O.D.                    | 0.1m                          |
| FOV(°) H×V×D              | 46.3° × 36° × 55.4°           |
| Distortion(TV)            | <0.5%                         |
| FBL (mm)                  | 17.526                        |
| Back Focus(mm)            | 22.4                          |
| Filter Size               | M35.5×0.5                     |
| Front/Rear Effective Dia. | Front Ø26.7mm<br>Rear Ø19.2mm |
| Resolution                | 20MP                          |
| Design Wavelength         | -                             |
| Dimension                 | -                             |
| Mount                     | C-Mount                       |
| Temperature Range         | -10~+50°C                     |

**VT-LEM2528CBMP20-H1.1**

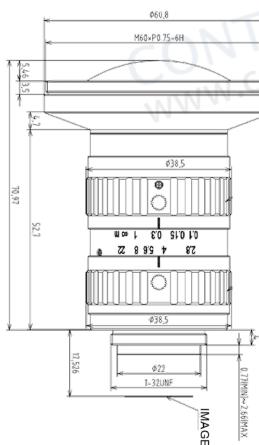
|                           |                             |
|---------------------------|-----------------------------|
| Image Size (inch)         | 1.1"                        |
| EFL (mm)                  | 25                          |
| Aperture, F/#             | F2.8~22                     |
| M.O.D.                    | 0.1m                        |
| FOV(°) H×V×D              | 30.4° × 23° × 37.6°         |
| Distortion(TV)            | <0.1%                       |
| FBL (mm)                  | 17.526                      |
| Back Focus(mm)            | 29.6                        |
| Filter Size               | MP35x0.5                    |
| Front/Rear Effective Dia. | Front Ø20mm<br>Rear Ø19.2mm |
| Resolution                | 20MP                        |
| Design Wavelength         | -                           |
| Dimension                 | -                           |
| Mount                     | C-Mount                     |
| Temperature Range         | -10~+50°C                   |

**VT-LEM3528CBMP20-H1.1**

|                           |                             |
|---------------------------|-----------------------------|
| Image Size (inch)         | 1.1"                        |
| EFL (mm)                  | 35                          |
| Aperture, F/#             | F2.8-22                     |
| M.O.D.                    | 0.2m                        |
| FOV(°) H×V×D              | 22.6° × 17° × 28.3°         |
| Distortion(TV)            | <0.02%                      |
| FBL (mm)                  | 17.526                      |
| Back Focus(mm)            | 22.9                        |
| Filter Size               | M35.5×0.5                   |
| Front/Rear Effective Dia. | Front Ø23mm<br>Rear Ø19.1mm |
| Resolution                | 20MP                        |
| Design Wavelength         | -                           |
| Dimension                 | -                           |
| Mount                     | C-Mount                     |
| Temperature Range         | -10~+50°C                   |

**VT-LEM5028CBMP20-H1.1**

|                           |                             |
|---------------------------|-----------------------------|
| Image Size (inch)         | 1.1"                        |
| EFL (mm)                  | 50                          |
| Aperture, F/#             | F2.8-22                     |
| M.O.D.                    | 0.3m                        |
| FOV(°) H×V×D              | 15.9° × 11.9° × 19.9°       |
| Distortion(TV)            | <0.04%                      |
| FOV(°) H×V×D              | 17.526                      |
| Back Focus(mm)            | 21.1                        |
| Filter Size               | M35.5×0.5                   |
| Front/Rear Effective Dia. | Front Ø24mm<br>Rear Ø21.7mm |
| Resolution                | 20MP                        |
| Design Wavelength         | -                           |
| Dimension                 | -                           |
| Mount                     | C-Mount                     |
| Temperature Range         | -10~+50°C                   |

**VT-LEN0828MP25-H1.1**

|                   |                    |
|-------------------|--------------------|
| Image Size (inch) | 1.1"               |
| EFL (mm)          | 8.0                |
| Aperture, F/#     | F2.8~22            |
| M.O.D.            | 0.1m               |
| Angle FOV         | 2/3" 55.2° × 47.5° |
|                   | 1" 70.35° × 70.35° |
|                   | 1.1" 82.8° × 65.8° |
| Distortion(TV)    | <3.0%              |
| FBL (mm)          | -                  |
| Back Focus(mm)    | -                  |
| Filter Size       | -                  |
| Resolution        | 20MP               |
| Weight            | 337g               |
| Mount             | C-Mount            |
| Temperature Range | -10~+50°C          |

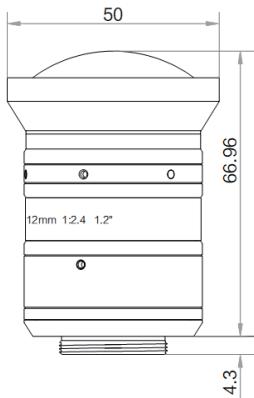
# 1.2" C-Mount FIXED LENSES

**NEW**

1. Ultra-high resolution, high consistency of picture clarity
2. 1.2" large target surface, large aperture, low distortion, high peripheral brightness ratio
3. Achromatic design, better imaging with color camera
4. Excellent high and low temperature stability, suitable for harsh environments
5. Excellent anti-vibration and impact resistance

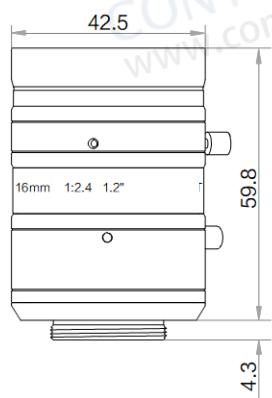


**VT-LEN1224MP25-H1.2**



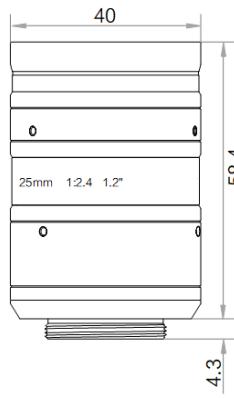
|                   |                      |
|-------------------|----------------------|
| Image Size (inch) | 1.2"                 |
| EFL (mm)          | 12.0                 |
| Aperture, F/#     | F2.4-F16             |
| M.O.D.            | 0.1m                 |
| FOV(°)            | 76.12°×62.33°×55.33° |
| Distortion(TV)    | 0.39%                |
| FBL (mm)          | 17.526               |
| Resolution        | 25MP                 |
| Design Wavelength | 380-780 nm           |
| Filter Size       | -                    |
| Dimension (mm)    | Φ42.5×59.8           |
| Mount             | C-Mount              |
| Weight            | 215 g                |
| Temperature Range | -10~+50°C            |

**VT-LEN1624MP25-H1.2**



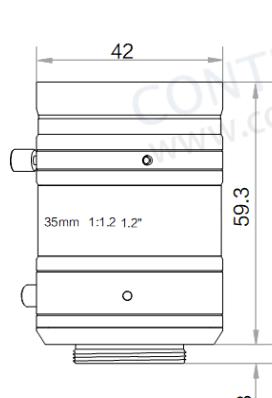
|                   |                      |
|-------------------|----------------------|
| Image Size (inch) | 1.2"                 |
| EFL (mm)          | 16.0                 |
| Aperture, F/#     | F2.4-F16             |
| M.O.D.            | 0.1m                 |
| FOV(°)            | 61.36°×48.83°×42.86° |
| Distortion(TV)    | 0.07%                |
| FBL (mm)          | 17.526               |
| Resolution        | 25MP                 |
| Design Wavelength | 380-780 nm           |
| Filter Size       | M40.5x0.5            |
| Dimension (mm)    | Φ42.5×59.8           |
| Mount             | C-Mount              |
| Weight            | 186 g                |
| Temperature Range | -10~+50°C            |

**VT-LEN2524MP25-H1.2**



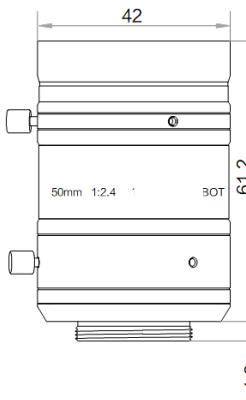
|                   |                      |
|-------------------|----------------------|
| Image Size (inch) | 1.2"                 |
| EFL (mm)          | 25.0                 |
| Aperture, F/#     | F2.4-F16             |
| M.O.D.            | 0.1m                 |
| FOV(°)            | 41.19°×31.42°×27.32° |
| Distortion(TV)    | -0.04%               |
| FBL (mm)          | 17.526               |
| Resolution        | 25MP                 |
| Design Wavelength | 380-780nm            |
| Filter Size       | M37x0.5              |
| Dimension (mm)    | Φ40×58.4             |
| Mount             | C-Mount              |
| Weight            | 163 g                |
| Temperature Range | -10~+50°C            |

**VT-LEN3524MP25-H1.2**



|                   |                      |
|-------------------|----------------------|
| Image Size (inch) | 1.2"                 |
| EFL (mm)          | 35.0                 |
| Aperture, F/#     | F2.4-F16             |
| M.O.D.            | 0.15m                |
| FOV(°)            | 29.33°×22.51°×19.53° |
| Distortion(TV)    | 0.02%                |
| FBL (mm)          | 17.526               |
| Resolution        | 25MP                 |
| Design Wavelength | 380-780nm            |
| Filter Size       | M40.5x0.5            |
| Dimension (mm)    | Φ42×59.3             |
| Mount             | C-Mount              |
| Weight            | 174 g                |
| Temperature Range | -10~+50°C            |

**VT-LEN5024MP25-H1.2**



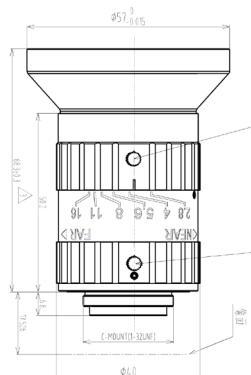
|                   |                     |
|-------------------|---------------------|
| Image Size (inch) | 1.2"                |
| EFL (mm)          | 50.0                |
| Aperture, F/#     | F2.4-F16            |
| M.O.D.            | 0.25m               |
| FOV(°)            | 20.5°×15.66°×13.57° |
| Distortion(TV)    | 0.01%               |
| FBL(mm)           | 17.526              |
| Resolution        | 25MP                |
| Design Wavelength | 380-780 nm          |
| Filter Size       | M40.5x0.5           |
| Dimension (mm)    | Φ42×61.2            |
| Mount             | C-Mount             |
| Weight            | 177 g               |
| Temperature Range | -10~+50°C           |

## 1.4" C-Mount FIXED LENSES

1. Ultra-high resolution, high consistency of picture clarity
2. 1.4" large target surface, large aperture, low distortion, high peripheral brightness ratio
3. Achromatic design, better imaging with color camera
4. Excellent high and low temperature stability, suitable for harsh environments
5. Excellent anti-vibration and impact resistance

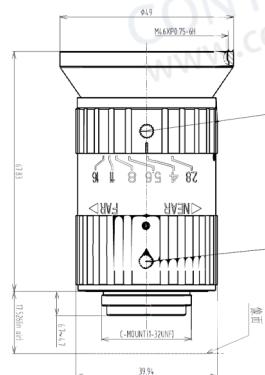


**VT-LEN1228MP45-H1.4**



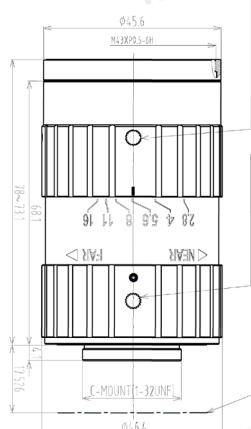
|                   |                       |
|-------------------|-----------------------|
| Image Size (inch) | 1.4"                  |
| EFL(mm)           | 12                    |
| Aperture, F/#     | 2.8~16                |
| M.O.D.            | 0.1m                  |
| FOV(°)            | 76.1° × 86.8° × 55.7° |
| Distortion(TV)    | <-0.5%                |
| Back Focus(mm)    | 11.7                  |
| TTL               | -                     |
| Resolution        | 45MP                  |
| FBL (mm)          | 17.526(in air)        |
| Mount             | C-Mount               |
| Dimension(mm)     | Ø42.6×16.2            |
| Lris              | Manual                |
| Temperature Range | -20°C ~ +60°C         |

**VT-LEN1628MP45-H1.4**



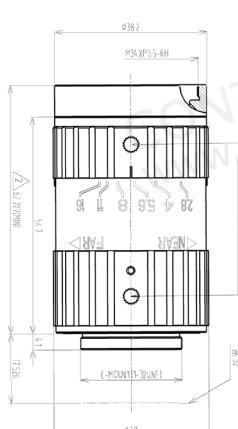
|                   |                         |
|-------------------|-------------------------|
| Image Size (inch) | 1.4"                    |
| EFL (mm)          | 16                      |
| Aperture, F/#     | 2.8~16                  |
| M.O.D.            | 0.15m                   |
| FOV(°)            | 61.4° × 71.27° × 43.83° |
| Distortion(TV)    | <0.70%                  |
| Back Focus(mm)    | 11.7                    |
| TTL               | -                       |
| Resolution        | 45MP                    |
| Filter Size       | M46×0.75                |
| Mount             | C-Mount                 |
| Dimension(mm)     | Ø33×18                  |
| Lris              | Manual                  |
| Temperature Range | -20°C ~ +60°C           |

**VT-LEN2528MP45-H1.4**



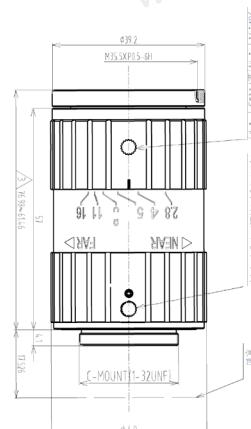
|                   |                       |
|-------------------|-----------------------|
| Image Size (inch) | 1.4"                  |
| EFL(mm)           | 25                    |
| Aperture, F/#     | 2.8~16                |
| M.O.D.            | 0.15m                 |
| FOV(°)            | 41.6° × 49.2° × 28.9° |
| Distortion(TV)    | <0.05%                |
| Back Focus(mm)    | 17.2                  |
| TTL               | -                     |
| Resolution        | 45MP                  |
| Filter Size       | M43×0.5               |
| Mount             | C-Mount               |
| Dimension(mm)     | Ø28.0×16.5            |
| Lris              | Manual                |
| Temperature Range | -20°C ~ +60°C         |

**VT-LEN3528MP45-H1.4**



|                   |                       |
|-------------------|-----------------------|
| Image Size (inch) | 1.4"                  |
| EFL (mm)          | 35                    |
| Aperture, F/#     | 2.8~16                |
| M.O.D.            | 0.15m                 |
| FOV(°)            | 30.4° × 36.3° × 20.8° |
| Distortion(TV)    | <-0.01%               |
| Back Focus(mm)    | 20                    |
| TTL               | -                     |
| Resolution        | 45MP                  |
| Filter Size       | M34×0.5               |
| Mount             | C-Mount               |
| Dimension(mm)     | Ø24.2×16.74           |
| Lris              | Manual                |
| Temperature Range | -20°C ~ +60°C         |

**VT-LEN5028MP45-H1.4**



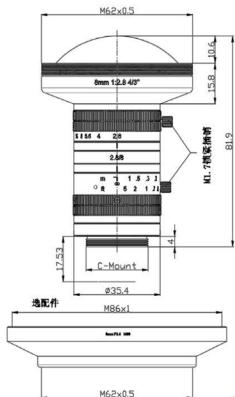
|                   |                       |
|-------------------|-----------------------|
| Image Size (inch) | 1.4"                  |
| EFL(mm)           | 50                    |
| Aperture, F/#     | 2.8~16                |
| M.O.D.            | 0.25m                 |
| FOV(°)            | 21.5° × 25.8° × 14.7° |
| Distortion(TV)    | <-0.03%               |
| Back Focus(mm)    | 23.5                  |
| TTL               | -                     |
| Resolution        | 45MP                  |
| Filter Size       | M35.5×0.5             |
| Mount             | C-Mount               |
| Dimension(mm)     | Ø23.6×19.8            |
| Lris              | Manual                |
| Temperature Range | -20°C ~ +60°C         |

# 4/3" C-Mount FIXED LENSES

1. Adopt professional optical lens module and coating process
2. Provides higher performance for 10-megapixel cameras
3. Large aperture ratio, low illumination
4. TV distortion is less than 1%
5. The whole series reaches 5 million optical points

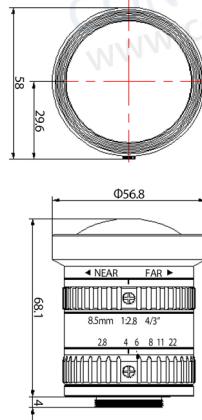


## VT-LEM0828CE-H2



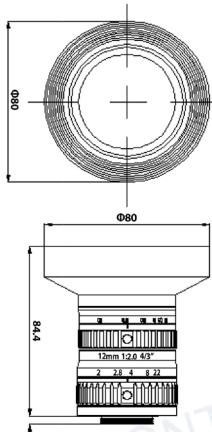
|                   |                |
|-------------------|----------------|
| Image Size (inch) | 4/3"           |
| EFL (mm)          | 8              |
| Aperture, F/#     | F2.8-F16       |
| Focus Range       | 0.2m-oo        |
| FOV(°)            | 108°×96°×80.4° |
| Distortion        | -2.2%@y=11.5mm |
| FBL (mm)          | 17.526         |
| Resolution        | 12 MP          |
| Design Wavelength | 400-700 nm     |
| Mount             | C-Mount        |
| Filter Size       | M86x1          |
| Iris              | Manual         |
| Focus             | M-Iris         |
| Temperature Range | -10~+50°C      |

## VT-LEM08528CD-H2



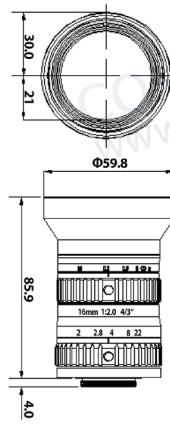
|                   |                    |
|-------------------|--------------------|
| Image Size (inch) | 4/3"               |
| EFL (mm)          | 8.5                |
| Aperture, F/#     | F2.8-F22           |
| M.O.D.            | 0.5m-oo            |
| FOV(°)            | 107.4°×94.9°×77.9° |
| Distortion(TV)    | <-4.54%            |
| Back Focus(mm)    | 18.87 (in air)     |
| Resolution        | 10 MP              |
| Design Wavelength | 400-700 nm         |
| Mount             | C-Mount            |
| Temperature Range | -10°C~+50°C        |
| Weight            | -                  |
| Dimension (mm)    | Ø 58.61 × 72.08    |

## VT-LEM1220CD-H2



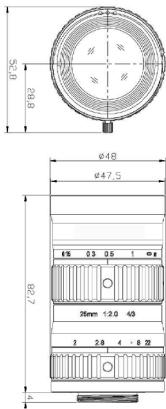
|                   |                      |
|-------------------|----------------------|
| Image Size (inch) | 4/3"                 |
| EFL (mm)          | 12                   |
| Aperture, F/#     | F2.0-F22             |
| M.O.D.            | 0.15m-oo             |
| FOV(°)            | 89.02°×75.46°×61.08° |
| Distortion(TV)    | <-2.40%              |
| Back Focus(mm)    | 18.93 (in air)       |
| Resolution        | 10 MP                |
| Design Wavelength | 400-700 nm           |
| Mount             | C-Mount              |
| Temperature Range | -10°C~+50°C          |
| Weight            | 447g                 |
| Dimension (mm)    | Ø 80 × 84.4 mm       |

## VT-LEM1620CD-H2



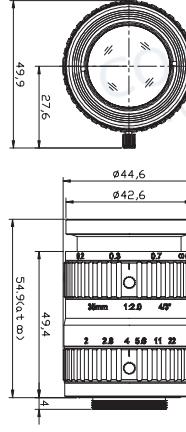
|                   |                   |
|-------------------|-------------------|
| Image Size (inch) | 4/3"              |
| EFL (mm)          | 16                |
| Aperture, F/#     | F2.0-F22          |
| M.O.D.            | 0.15m-oo          |
| FOV(°)            | 73.0°×61.0°×47.2° |
| Distortion(TV)    | <-2.81%           |
| Back Focus(mm)    | 21.0              |
| Resolution        | 10 MP             |
| Design Wavelength | 400-700 nm        |
| Mount             | C-Mount           |
| Temperature Range | -10°C~+50°C       |
| Weight            | 338 g             |
| Dimension (mm)    | Ø 60 × 89.9       |

## VT-LEM2520CD-H2



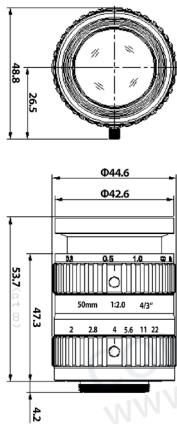
|                   |                 |
|-------------------|-----------------|
| Image Size (inch) | 4/3"            |
| EFL (mm)          | 25              |
| Aperture, F/#     | F2.0-F22        |
| M.O.D.            | 0.15m-oo        |
| FOV(°)            | 49.7°×40.6°×31° |
| Distortion(TV)    | <-0.66%         |
| Back Focus(mm)    | 22.43           |
| Resolution        | 10 MP           |
| Design Wavelength | 400-700 nm      |
| Mount             | C-Mount         |
| Temperature Range | -10°C~+50°C     |
| Weight            | 251 g           |
| Dimension (mm)    | Ø48 × 86.7      |

## VT-LEM3520CD-H2



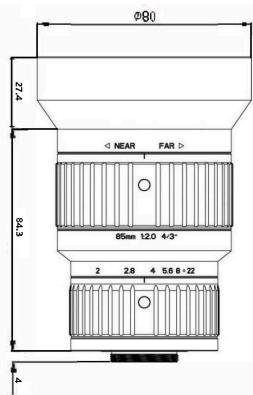
|                   |                   |
|-------------------|-------------------|
| Image Size (inch) | 4/3"              |
| EFL (mm)          | 35                |
| Aperture, F/#     | F2.0-F22          |
| M.O.D.            | 0.2m-oo           |
| FOV(°)            | 36.6°×29.6°×22.4° |
| Distortion(TV)    | <-0.56%           |
| Back Focus(mm)    | 18.65             |
| Resolution        | 10 MP             |
| Design Wavelength | 400-700 nm        |
| Mount             | C-Mount           |
| Temperature Range | -10°C~+50°C       |
| Weight            | 173 g             |
| Dimension (mm)    | Ø44.6 × 58.9      |

## VT-LEM5020CD-H2



|                   |                   |
|-------------------|-------------------|
| Image Size (inch) | 4/3"              |
| EFL (mm)          | 50                |
| Aperture, F/#     | F2.0-F22          |
| M.O.D.            | 0.3m-∞            |
| FOV(°)            | 25.9°x20.9°x15.7° |
| Distortion(TV)    | <-0.14%           |
| Back Focus(mm)    | 20.29             |
| Resolution        | 10 MP             |
| Design Wavelength | 400-700 nm        |
| Mount             | C-Mount           |
| Temperature Range | -10°C~+50°C       |
| Weight            | 170 g             |
| Dimension (mm)    | Ø44.6 x 57.9      |

## VT-LEM8520CD-H2



|                   |                  |
|-------------------|------------------|
| Image Size (inch) | 4/3"             |
| EFL (mm)          | 85               |
| Aperture, F/#     | F2.0-F22         |
| M.O.D.            | 1.2m-∞           |
| FOV(°)            | 15.4°x12.1°x9.3° |
| Distortion(TV)    | 0.04%@y=11.5mm   |
| Back Focus(mm)    | 24.53 (in air)   |
| Resolution        | 10 MP            |
| Design Wavelength | 400-700 nm       |
| Mount             | C-Mount          |
| Temperature Range | -10~+50°C        |
| Filter Size       | M77.0 x 0.75     |
| Dimension (mm)    | Ø80 x 115.7      |

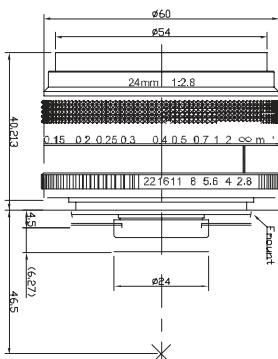
# 5MP Large Format F/T Mount Lenses

## FEATURES

1. Wide wavelength from 400~950nm
2. Full-frame design covering φ43mm
3. Support 4K line scan cameras
4. Low cost

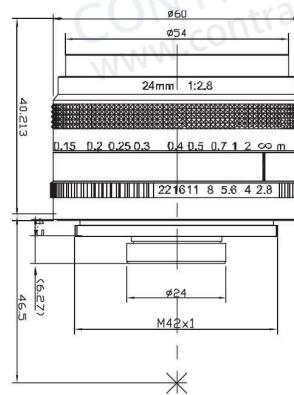


**VT-LHF2428MP5**



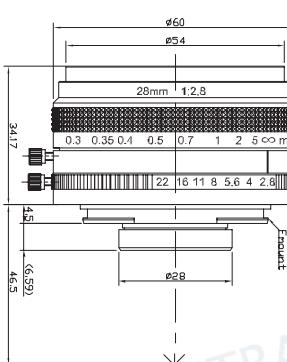
|                   |              |
|-------------------|--------------|
| Resolution        | 30lp/mm(5MP) |
| Format (mm)       | 43           |
| WD (m)            | 0.5~∞        |
| EFL(mm)           | 24           |
| Aperture(F/#)     | F2.8 - 22    |
| Back Focus(mm)    | 36           |
| Angle FOV(D)      | 84°          |
| Distortion        | <-4%         |
| Focusing Range    | ∞ - 0.15m    |
| Filter Thread     | M52 x 0.75   |
| Design Wavelength | -            |
| Iris              | Manual       |
| Mount             | F-Mount      |
| Weight (g)        | 227.5        |
| Dimension (mm)    | Ø60 x 27.02  |

**VT-LHT2428MP5**



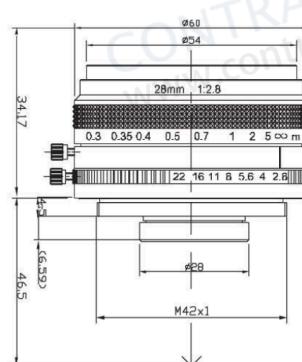
|                   |              |
|-------------------|--------------|
| Resolution        | 30lp/mm(5MP) |
| Format (mm)       | 43           |
| WD (m)            | 0.5~∞        |
| EFL(mm)           | 24           |
| Aperture(F/#)     | F2.8 - 22    |
| Back Focus(mm)    | 36           |
| Angle FOV(D)      | 84°          |
| Distortion        | <-4%         |
| Focusing Range    | ∞ - 0.1m     |
| Filter Thread     | -            |
| Design Wavelength | 400-950      |
| Iris              | Manual       |
| Mount             | M42          |
| Weight (g)        | 227.5        |
| Dimension (mm)    | Ø60 x 40.21  |

**VT-LHF2828MP5**

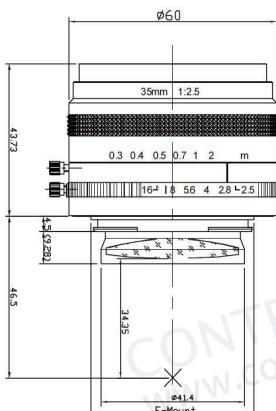
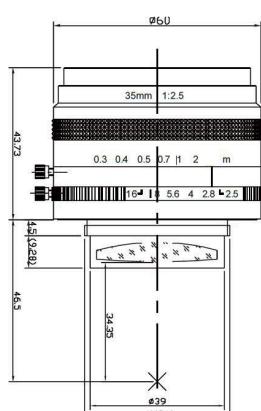
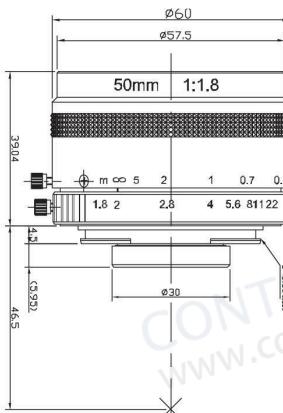
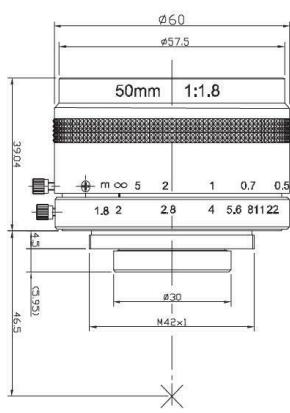


|                   |              |
|-------------------|--------------|
| Resolution        | 30lp/mm(5MP) |
| Format (mm)       | 43           |
| WD (m)            | 0.3~∞        |
| EFL(mm)           | 28           |
| Aperture(F/#)     | F2.8 - 22    |
| Back Focus(mm)    | 35.7         |
| Angle FOV(D)      | 74°          |
| Distortion        | <-3%         |
| Focusing Range    | ∞ - 0.3m     |
| Filter Thread     | M52 x 0.75   |
| Design Wavelength | -            |
| Iris              | Manual       |
| Mount             | F-Mount      |
| Weight (g)        | 199.5        |
| Dimension (mm)    | Ø60 x 34.17  |

**VT-LHT2828MP5**



|                   |              |
|-------------------|--------------|
| Resolution        | 30lp/mm(5MP) |
| Format (mm)       | 43           |
| WD (m)            | 0.3~∞        |
| EFL(mm)           | 28           |
| Aperture(F/#)     | F2.8 - 22    |
| Back Focus(mm)    | 35.7         |
| Angle FOV(D)      | 74°          |
| Distortion        | <-3%         |
| Focusing Range    | ∞ - 0.3m     |
| Filter Thread     | M52 x 0.75   |
| Design Wavelength | 400-950      |
| Iris              | Manual       |
| Mount             | M42          |
| Weight (g)        | 173.5        |
| Dimension (mm)    | Ø60 x 34.17  |

**VT-LHF3525MP5****VT-LHT3525MP5****VT-LHF5018MP5****VT-LHT5018MP5**

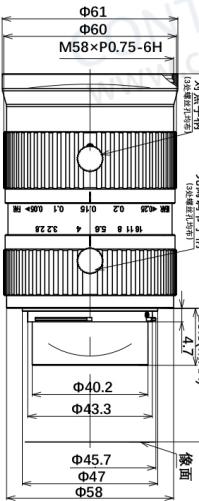
# 29MP Large Format Lenses

## FEATURES

1. Maximum image area of 43mm, supporting 29 million pixel sensor
2. Compatible with 4K line scan cameras, corresponding to 5μ/ 7μ pixels
3. Optional focal lengths and magnifications
4. Suitable for printing and packaging inspection

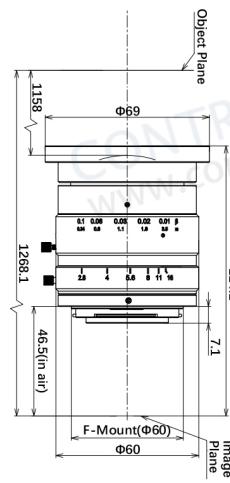


**VT-LEMF3528MP29-0.1X**



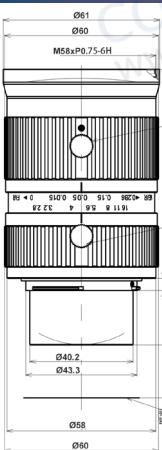
| Mag. (x)                | 0.05x           | 0.10x   | 0.20x   |
|-------------------------|-----------------|---------|---------|
| WD (mm)                 | 728.7±5         | 350.9±5 | 163±5   |
| Conjugate Distance (mm) | 850.8±9         | 474.5±9 | 289.5±9 |
| FFL (mm)                | 46.5            |         |         |
| Max Image               | Ø45             |         |         |
| Aperture (F/#)          | F2.8-16         |         |         |
| EFL (mm)                | 35              |         |         |
| FOV                     | 60.3°           |         |         |
| Focus Distance (min)    | 125.5 mm(0.25x) |         |         |
| TV Distortion           | <0.4%           |         |         |
| Filter Size             | M58×P0.75       |         |         |
| Mount                   | F-Mount         |         |         |
| Relative Illumination   | -               |         |         |
| Dimensions              | -               |         |         |

**VT-LEMF3528MP29-0.03X**



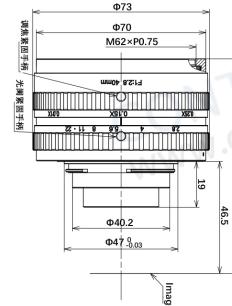
| Mag. (x)                | 0.01x     | 0.03x  | 0.1x |
|-------------------------|-----------|--------|------|
| WD (mm)                 | 3500      | 1158.7 | 340  |
| Conjugate Distance (mm) | 1268.1    |        |      |
| FFL (mm)                | 46.5      |        |      |
| Max Image               | Ø45.3     |        |      |
| Aperture (F/#)          | F2.8-16   |        |      |
| EFL (mm)                | 35        |        |      |
| FOV                     | 65°       |        |      |
| ENP Diameter            | Ø12.2     |        |      |
| TV Distortion           | <0.5%     |        |      |
| Filter Size             | M67×P0.75 |        |      |
| Mount                   | F-Mount   |        |      |
| Relative Illumination   | -         |        |      |
| Dimensions              | -         |        |      |

**VT-LEMF3528MP29-0.057X**



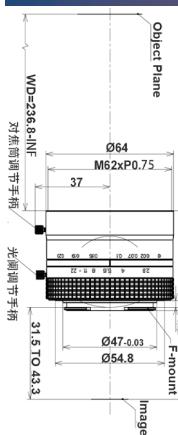
| Mag. (x)                | 0.286x    | 0.2x    | 0.1x  | 0.057x  | 0.0141x  |
|-------------------------|-----------|---------|-------|---------|----------|
| WD (mm)                 | 100±5     | 150±5   | 235±5 | 589.2±5 | 2487.9±5 |
| Conjugate Distance (mm) | 228±9     | 278.1±9 | 363±9 | 717.2±9 | 2615.9±9 |
| FFL (mm)                | 46.5      |         |       |         |          |
| Max Image               | Ø45       |         |       |         |          |
| Aperture (F/#)          | F2.8-16   |         |       |         |          |
| EFL (mm)                | 35        |         |       |         |          |
| FOV                     | 60.3°     |         |       |         |          |
| Focus Distance          | -         |         |       |         |          |
| TV Distortion           | <0.4%     |         |       |         |          |
| Filter Size             | M58×P0.75 |         |       |         |          |
| Mount                   | F-Mount   |         |       |         |          |
| Relative Illumination   | -         |         |       |         |          |
| Dimensions              | Ø61x81.5  |         |       |         |          |

**VT-LEMF4028MP29-0.1X**



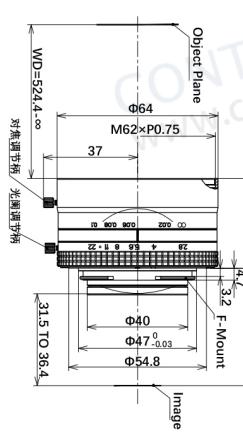
| Mag. (x)                | 0.01x              | 0.1x     | 0.238x   |
|-------------------------|--------------------|----------|----------|
| WD (mm)                 | 4000±5             | 436±5    | 200±5    |
| Conjugate Distance (mm) | 4054.8±9           | 468.68±9 | 264.15±9 |
| FFL (mm)                | 46.5               |          |          |
| Max Image               | Ø43.2              |          |          |
| Aperture (F/#)          | F2.8-22            |          |          |
| EFL (mm)                | 40                 |          |          |
| FOV                     | 1085.3 402.9 130.8 |          |          |
| Focus Distance          | 0.2m - +∞          |          |          |
| TV Distortion           | <0.2%              |          |          |
| Filter Size             | M62×P0.75          |          |          |
| Mount                   | F-Mount            |          |          |
| Relative Illumination   | 40%                |          |          |
| Dimensions              | -                  |          |          |

**VT-LEMF5028MP29-0.1X**

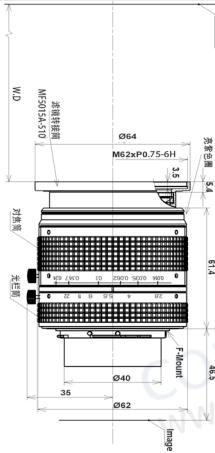


| Mag. (x)              | 0.23x     | 0.19x | 0.15x | 0.1x  | 0.07x | 0.02x  |
|-----------------------|-----------|-------|-------|-------|-------|--------|
| WD (mm)               | 236.8     | 283.7 | 355.0 | 524.4 | 741.6 | 2472.5 |
| FFL (mm)              | 46.5      |       |       |       |       |        |
| Max Image             | Ø43       |       |       |       |       |        |
| Aperture (F/#)        | F2.8-22   |       |       |       |       |        |
| EFL (mm)              | 50        |       |       |       |       |        |
| FOV                   | 45.5°     |       |       |       |       |        |
| ENP Diameter          | -         |       |       |       |       |        |
| TV Distortion         | 0.2%      |       |       |       |       |        |
| Filter Size           | M62×P0.75 |       |       |       |       |        |
| Mount                 | F-Mount   |       |       |       |       |        |
| Relative Illumination | -         |       |       |       |       |        |
| Dimensions            | Ø64x42.4  |       |       |       |       |        |

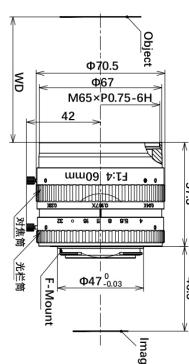
**VT-LEMF5028MP29-0.06X**



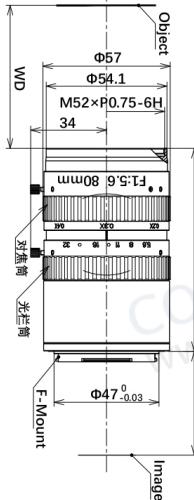
| Mag. (x)                | 0.10x      | 0.08x | 0.06x | 0.02x  |
|-------------------------|------------|-------|-------|--------|
| WD (mm)                 | 524.4      | 625   | 862.1 | 2472.5 |
| Conjugate Distance (mm) | -          | -     | 942.2 | -      |
| FFL (mm)                | 46.5       |       |       |        |
| Max Image               | Ø43        |       |       |        |
| Aperture (F/#)          | F2.8-22    |       |       |        |
| EFL (mm)                | 50±5%      |       |       |        |
| FOV                     | 45.4°±3°   |       |       |        |
| ENP Diameter            | Ø21.1      |       |       |        |
| TV Distortion           | <0.2%      |       |       |        |
| Filter Size             | M62×P0.75  |       |       |        |
| Mount                   | F-Mount    |       |       |        |
| Relative Illumination   | -          |       |       |        |
| Dimensions              | Ø56.8x35.6 |       |       |        |

**VT-LEMF5028MP29-0.062X**

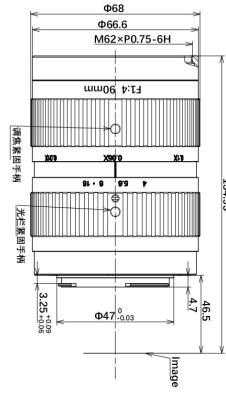
| Mag. (x)              | 0.24x         | 0.1x  | 0.062x | 0.035x | 0.014x |
|-----------------------|---------------|-------|--------|--------|--------|
| WD (mm)               | 228           | 522.6 | 828    | 1442.1 | 3580.5 |
| FFL (mm)              | 46.5          |       |        |        |        |
| Max Image             | Ø44           |       |        |        |        |
| Aperture (F/#)        | F2.8-22       |       |        |        |        |
| EFL (mm)              | 50±5%         |       |        |        |        |
| FOV                   | 47°           |       |        |        |        |
| Focus Distance        | Ø18.1         |       |        |        |        |
| TV Distortion         | <0.3%         |       |        |        |        |
| Filter Size           | M62×P0.75     |       |        |        |        |
| Mount                 | F-Mount       |       |        |        |        |
| Relative Illumination | -             |       |        |        |        |
| Dimensions            | Ø62×(61.1-77) |       |        |        |        |

**VT-LEMF6040MP29-0.167X**

| Mag. (x)                | 0.04x     | 0.167x    | 0.33x     |
|-------------------------|-----------|-----------|-----------|
| WD (mm)                 | 1537.9±5  | 384.9±5   | 199.5±5   |
| Image Distance (mm)     | 40.49±2.5 | 48.07±2.5 | 58.24±2.5 |
| Conjugate Distance (mm) | 1641.73±9 | 496.32±9  | 321.05±9  |
| FFL (mm)                | 46.5      |           |           |
| Max Image               | Ø64       |           |           |
| Aperture (F/#)          | F4.0-32   |           |           |
| EFL                     | 60        |           |           |
| FOV                     | 1591.2    | 386.92    | 192.5     |
| TV Distortion           | 0.6%      | 0.19%     | 0.12%     |
| Filter Size             | M65×P0.75 |           |           |
| Mount                   | F-Mount   |           |           |
| Relative Illumination   | 45%       |           |           |
| Dimensions              | -         |           |           |

**VT-LEMF8056MP29-0.3X**

| Mag. (x)                | 0.2x      | 0.3x      | 0.4x     |
|-------------------------|-----------|-----------|----------|
| WD (mm)                 | 439.6±5   | 314.3±5   | 255.6±5  |
| Image Distance (mm)     | 80.67±2.5 | 88.79±2.5 | 96.7±2.5 |
| Conjugate Distance (mm) | 577.1±9   | 451.8±9   | 393.1±9  |
| FFL (mm)                | 46.5      |           |          |
| Max Image               | Ø58       |           |          |
| Aperture (F/#)          | F5.6-32   |           |          |
| EFL                     | 80        |           |          |
| FOV                     | -         |           |          |
| TV Distortion           | <0.03%    | <0.01%    | <0.01%   |
| Filter Size             | M52×P0.75 |           |          |
| Mount                   | F-Mount   |           |          |
| Relative Illumination   | 68%       |           |          |
| Dimensions              | -         |           |          |

**VT-LEMF9040MP29-0.05X**

| Mag. (x)                | 0.01x     | 0.05x  | 0.1x   |
|-------------------------|-----------|--------|--------|
| WD (mm)                 | ∞         | 1985±9 | 1000±5 |
| Conjugate Distance (mm) | ∞         | 2112±5 | 1132±9 |
| FFL (mm)                | 46.5      |        |        |
| Max Image               | Ø43.2     |        |        |
| Aperture (F/#)          | F4.0-16   |        |        |
| EFL (mm)                | 90        |        |        |
| FOV                     | 4320mm    | 864mm  | 432mm  |
| Focus Distance          | 1m-∞      |        |        |
| TV Distortion           | <0.01%    |        |        |
| Filter Size             | M62×P0.75 |        |        |
| Mount                   | F-Mount   |        |        |
| Relative Illumination   | 40%       |        |        |
| Dimensions              | -         |        |        |

# 65MP Large Format Lenses

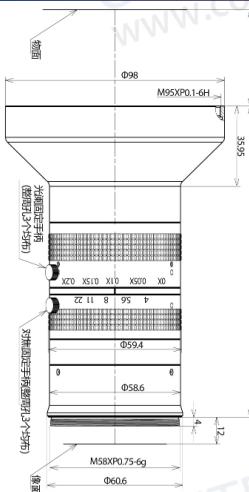
**NEW**

## FEATURES

1. Super high resolution for  $3.2\mu$ , Support 65MP sensor
2. Suitable for high-precision detection of large format
3. Optional focal lengths and magnifications
4. Compatible with 8K5 $\mu$  line scan cameras

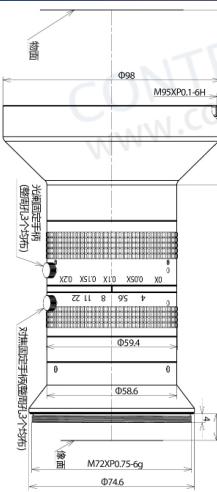


**VT-LEM58-2540MP65**



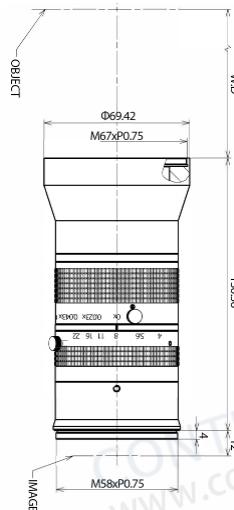
| Mag. (x)       | 0                              | 0.05 | 0.1 | 0.15 | 0.2 |
|----------------|--------------------------------|------|-----|------|-----|
| WD (mm)        | $\infty$                       | 500  | 220 | 140  | 100 |
| Format (mm)    | $\varnothing 46$               |      |     |      |     |
| Aperture (F/#) | F4 - 22                        |      |     |      |     |
| EFL (mm)       | 25±5%                          |      |     |      |     |
| FOV (D)        | 83.8°                          |      |     |      |     |
| ENP Diameter   | $\varnothing 47.2$             |      |     |      |     |
| TV Distortion  | <0.2%                          |      |     |      |     |
| Mount          | M58 x P0.75                    |      |     |      |     |
| Weight (g)     | -                              |      |     |      |     |
| Dimensions     | $\varnothing 98 \times 139.09$ |      |     |      |     |

**VT-LEM72-2540MP65**



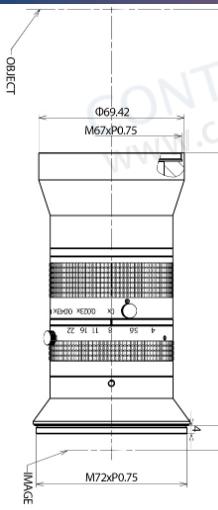
| Mag. (x)       | 0                              | 0.05 | 0.1 | 0.15 | 0.2 |
|----------------|--------------------------------|------|-----|------|-----|
| WD (mm)        | $\infty$                       | 500  | 220 | 140  | 100 |
| Format (mm)    | $\varnothing 46$               |      |     |      |     |
| Aperture (F/#) | F4 - 22                        |      |     |      |     |
| EFL (mm)       | 25±5%                          |      |     |      |     |
| FOV (D)        | 83.8°                          |      |     |      |     |
| ENP Diameter   | $\varnothing 47.2$             |      |     |      |     |
| TV Distortion  | <0.2%                          |      |     |      |     |
| Mount          | M72 x P0.75                    |      |     |      |     |
| Weight (g)     | -                              |      |     |      |     |
| Dimensions     | $\varnothing 98 \times 139.09$ |      |     |      |     |

**VT-LEM58-3540MP65**

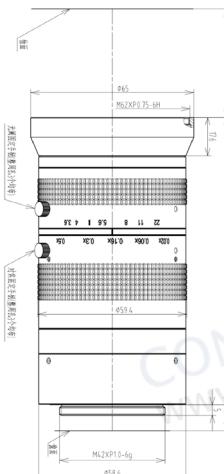


| Mag. (x)       | 0                               | 0.023 | 0.038 | 0.067 | 0.2 |
|----------------|---------------------------------|-------|-------|-------|-----|
| WD (mm)        | $\infty$                        | 1500  | 1000  | 500   | 150 |
| Format (mm)    | $\varnothing 42$                |       |       |       |     |
| Aperture (F/#) | F4 - 22                         |       |       |       |     |
| EFL (mm)       | 35±5%                           |       |       |       |     |
| FOV (D)        | 59°                             |       |       |       |     |
| ENP Diameter   | $\varnothing 40$                |       |       |       |     |
| TV Distortion  | <0.7%                           |       |       |       |     |
| Mount          | M58 x P0.75                     |       |       |       |     |
| Weight (g)     | -                               |       |       |       |     |
| Dimensions     | $\varnothing 69.8 \times 133.5$ |       |       |       |     |

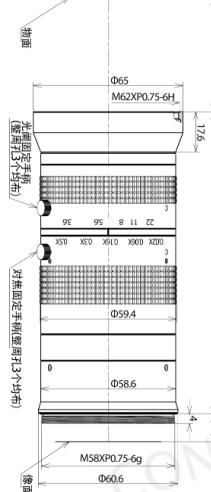
**VT-LEM72-3540MP65**



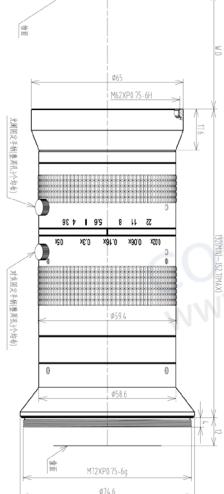
| Mag. (x)       | 0                                 | 0.023 | 0.038 | 0.067 | 0.2 |
|----------------|-----------------------------------|-------|-------|-------|-----|
| WD (mm)        | $\infty$                          | 1500  | 1000  | 500   | 150 |
| Format (mm)    | $\varnothing 42$                  |       |       |       |     |
| Aperture (F/#) | F4 - 22                           |       |       |       |     |
| EFL (mm)       | 35±5%                             |       |       |       |     |
| FOV (D)        | 59°                               |       |       |       |     |
| ENP Diameter   | $\varnothing 40$                  |       |       |       |     |
| TV Distortion  | <0.7%                             |       |       |       |     |
| Mount          | M72 x P0.75                       |       |       |       |     |
| Weight (g)     | -                                 |       |       |       |     |
| Dimensions     | $\varnothing 69.42 \times 130.56$ |       |       |       |     |

**VT-LEM42-5036MP65**

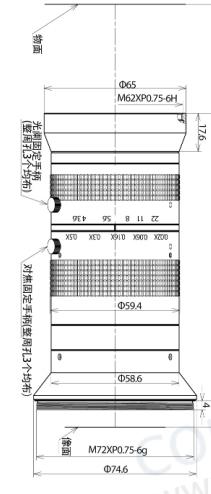
|                       |             |      |      |     |     |
|-----------------------|-------------|------|------|-----|-----|
| <b>Mag. (x)</b>       | 0.02        | 0.06 | 0.16 | 0.3 | 0.5 |
| <b>WD (mm)</b>        | 2500        | 800  | 300  | 150 | 80  |
| <b>Format (mm)</b>    | Ø32         |      |      |     |     |
| <b>Aperture (F/#)</b> | F3.6 ~ 22   |      |      |     |     |
| <b>EFL (mm)</b>       | 50±5%       |      |      |     |     |
| <b>FOV (D)</b>        | 32.6°       |      |      |     |     |
| <b>ENP Diameter</b>   | Ø47.2       |      |      |     |     |
| <b>TV Distortion</b>  | <0.2%       |      |      |     |     |
| <b>Mount</b>          | M42 x P1.0  |      |      |     |     |
| <b>Weight (g)</b>     | -           |      |      |     |     |
| <b>Dimensions</b>     | Ø65 x 152.7 |      |      |     |     |

**VT-LEM58-5036MP65**

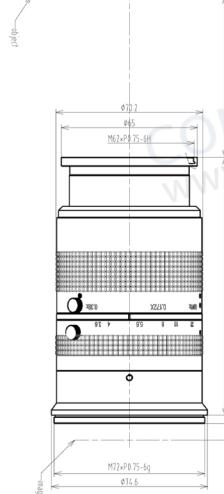
|                       |             |      |      |     |     |
|-----------------------|-------------|------|------|-----|-----|
| <b>Mag. (x)</b>       | 0.02        | 0.06 | 0.16 | 0.3 | 0.5 |
| <b>WD (mm)</b>        | 2500        | 800  | 300  | 150 | 80  |
| <b>Format (mm)</b>    | Ø46         |      |      |     |     |
| <b>Aperture (F/#)</b> | F3.6 ~ 22   |      |      |     |     |
| <b>EFL (mm)</b>       | 50±5%       |      |      |     |     |
| <b>FOV (D)</b>        | 43.4°       |      |      |     |     |
| <b>ENP Diameter</b>   | Ø47.2       |      |      |     |     |
| <b>TV Distortion</b>  | <0.2%       |      |      |     |     |
| <b>Mount</b>          | M58 x P0.75 |      |      |     |     |
| <b>Weight (g)</b>     | -           |      |      |     |     |
| <b>Dimensions</b>     | Ø65 x 152.7 |      |      |     |     |

**VT-LEM72-5036MP65**

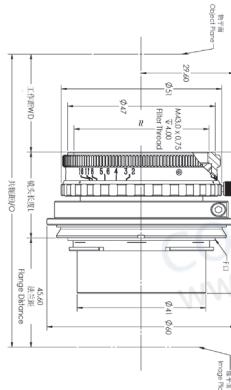
|                       |             |      |      |     |     |
|-----------------------|-------------|------|------|-----|-----|
| <b>Mag. (x)</b>       | 0.02        | 0.06 | 0.16 | 0.3 | 0.5 |
| <b>WD (mm)</b>        | 2500        | 800  | 300  | 150 | 80  |
| <b>Format (mm)</b>    | Ø46         |      |      |     |     |
| <b>Aperture (F/#)</b> | F3.6 ~ 22   |      |      |     |     |
| <b>EFL (mm)</b>       | 50±5%       |      |      |     |     |
| <b>FOV (D)</b>        | 43.4°       |      |      |     |     |
| <b>ENP Diameter</b>   | Ø47.2       |      |      |     |     |
| <b>TV Distortion</b>  | <0.2%       |      |      |     |     |
| <b>Mount</b>          | M72 x P0.75 |      |      |     |     |
| <b>Weight (g)</b>     | -           |      |      |     |     |
| <b>Dimensions</b>     | Ø65 x 152.7 |      |      |     |     |

**VT-LEM58-8036MP65**

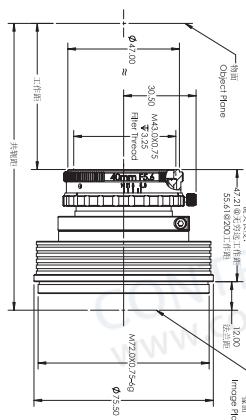
|                       |               |       |      |
|-----------------------|---------------|-------|------|
| <b>Mag. (x)</b>       | 0.041         | 0.172 | 0.39 |
| <b>WD (mm)</b>        | 2000          | 500   | 235  |
| <b>Format (mm)</b>    | Ø46           |       |      |
| <b>Aperture (F/#)</b> | F3.6 ~ 22     |       |      |
| <b>EFL (mm)</b>       | 80±5%         |       |      |
| <b>FOV (D)</b>        | 26.8°         |       |      |
| <b>ENP Diameter</b>   | Ø47.2         |       |      |
| <b>TV Distortion</b>  | <0.2%         |       |      |
| <b>Mount</b>          | M58 x P0.75   |       |      |
| <b>Weight (g)</b>     | -             |       |      |
| <b>Dimensions</b>     | Ø69.8 x 133.5 |       |      |

**VT-LEM72-8036MP65**

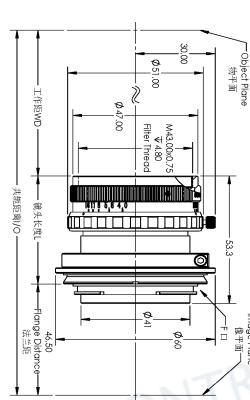
|                       |               |       |      |
|-----------------------|---------------|-------|------|
| <b>Mag. (x)</b>       | 0.041         | 0.172 | 0.39 |
| <b>WD (mm)</b>        | 2000          | 500   | 235  |
| <b>Format (mm)</b>    | Ø46           |       |      |
| <b>Aperture (F/#)</b> | F3.6 ~ 22     |       |      |
| <b>EFL (mm)</b>       | 80±5%         |       |      |
| <b>FOV (D)</b>        | 26.8°         |       |      |
| <b>ENP Diameter</b>   | Ø47.2         |       |      |
| <b>TV Distortion</b>  | <0.2%         |       |      |
| <b>Mount</b>          | M72 x P0.75   |       |      |
| <b>Weight (g)</b>     | -             |       |      |
| <b>Dimensions</b>     | Ø69.8 x 133.5 |       |      |

**VLENF/42/48/58/72/90-4032MP65-0.16X**

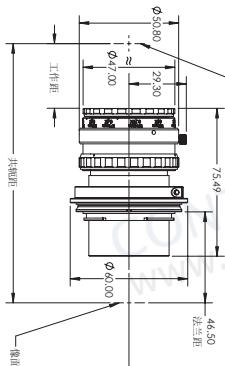
|                       |                       |        |        |
|-----------------------|-----------------------|--------|--------|
| <b>Mag. (x)</b>       | 0.04                  | 0.16   | 0.33   |
| <b>WD (mm)</b>        | 1044.09               | 265.75 | 132.08 |
| <b>Format (mm)</b>    | Ø43                   |        |        |
| <b>Aperture (F/#)</b> | F3.2 ~ 16             |        |        |
| <b>EFL (mm)</b>       | 40                    |        |        |
| <b>FOV (D)</b>        | /                     |        |        |
| <b>ENP Diameter</b>   | /                     |        |        |
| <b>TV Distortion</b>  | <-0.4%                |        |        |
| <b>Mount</b>          | F M42 M48 M58 M72 M90 |        |        |
| <b>Weight (g)</b>     | 167g@ F mount         |        |        |
| <b>Dimensions</b>     | Ø60 x 49.1            |        |        |

**VLEN72-4056MP65-0.15X**

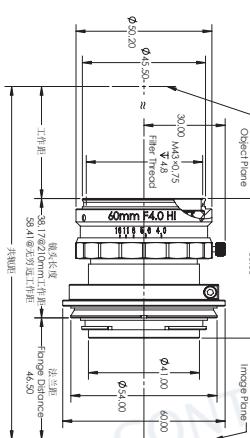
|                       |               |      |      |
|-----------------------|---------------|------|------|
| <b>Mag. (x)</b>       | 0.04          | 0.15 | 0.25 |
| <b>WD (mm)</b>        | 1059          | 299  | 188  |
| <b>Format (mm)</b>    | Ø60           |      |      |
| <b>Aperture (F/#)</b> | F5.6 ~ 16     |      |      |
| <b>EFL (mm)</b>       | 40            |      |      |
| <b>FOV (D)</b>        | /             |      |      |
| <b>ENP Diameter</b>   | /             |      |      |
| <b>TV Distortion</b>  | /             |      |      |
| <b>Mount</b>          | M72           |      |      |
| <b>Weight (g)</b>     | 201g          |      |      |
| <b>Dimensions</b>     | Ø75.5 x 47.21 |      |      |

**VLENF/42/48/58/72-6040MP65-0.16X**

|                       |                   |        |        |
|-----------------------|-------------------|--------|--------|
| <b>Mag. (x)</b>       | 0.04              | 0.16   | 0.33   |
| <b>WD (mm)</b>        | 1536.06           | 408.13 | 214.45 |
| <b>Format (mm)</b>    | Ø60               |        |        |
| <b>Aperture (F/#)</b> | F4.0 ~ 16         |        |        |
| <b>EFL (mm)</b>       | 60                |        |        |
| <b>FOV (D)</b>        | /                 |        |        |
| <b>ENP Diameter</b>   | /                 |        |        |
| <b>TV Distortion</b>  | <-0.5%            |        |        |
| <b>Mount</b>          | F M42 M48 M58 M72 |        |        |
| <b>Weight (g)</b>     | 189g@ F mount     |        |        |
| <b>Dimensions</b>     | Ø51 x 53.3        |        |        |

**VLENF/58/72-6040MP65-0.5X**

|                       |             |      |     |
|-----------------------|-------------|------|-----|
| <b>Mag. (x)</b>       | 0.15        | 0.50 | 1.0 |
| <b>WD (mm)</b>        | 450         | 180  | 119 |
| <b>Format (mm)</b>    | Ø60         |      |     |
| <b>Aperture (F/#)</b> | F4.0 ~ 16   |      |     |
| <b>EFL (mm)</b>       | 60          |      |     |
| <b>FOV (D)</b>        | /           |      |     |
| <b>ENP Diameter</b>   | /           |      |     |
| <b>TV Distortion</b>  | <0.23%      |      |     |
| <b>Mount</b>          | F/M58/M72   |      |     |
| <b>Weight (g)</b>     | - g         |      |     |
| <b>Dimensions</b>     | Ø60 x 75.49 |      |     |

**VLENF/V-6040MP65-0.13X**

|                       |             |        |        |
|-----------------------|-------------|--------|--------|
| <b>Mag. (x)</b>       | 0.05        | 0.13   | 0.33   |
| <b>WD (mm)</b>        | 1243.69     | 501.69 | 218.69 |
| <b>Format (mm)</b>    | Ø60         |        |        |
| <b>Aperture (F/#)</b> | F4.0 ~ 16   |        |        |
| <b>EFL (mm)</b>       | 60          |        |        |
| <b>FOV (D)</b>        | /           |        |        |
| <b>ENP Diameter</b>   | /           |        |        |
| <b>TV Distortion</b>  | /           |        |        |
| <b>Mount</b>          | F/V-Mount   |        |        |
| <b>Weight (g)</b>     | 189.2g      |        |        |
| <b>Dimensions</b>     | Ø60 x 53.38 |        |        |

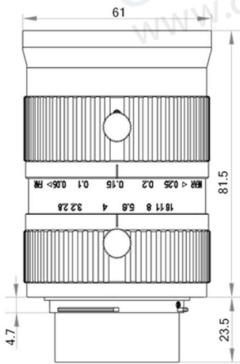
# 100MP Large Format Lenses

## FEATURES

1. 100MP high resolution supporting 3.1μm
2. Support large target area camera and 8K7μ/16K3.5μ line camera
3. Low distortion, high relative illumination
4. Excellent picture definition consistency

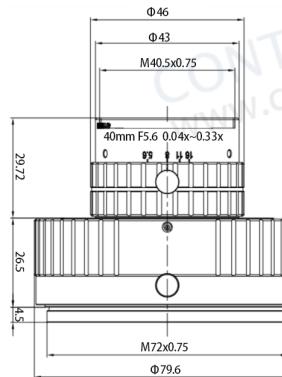


**VT-LEMF3528MP100**



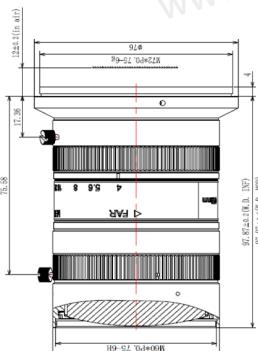
|                 |                |
|-----------------|----------------|
| Format (mm)     | Ø46            |
| EFL (mm)        | 35             |
| WD (mm)         | -              |
| M.O.D (m)       | 0.12 m         |
| Aperture (F/#)  | F2.8-16        |
| Mag. (x)        | 0.25x~0.05x    |
| FOV             | 101.4°×86°×46° |
| TV Distortion   | 0.40%          |
| Filter Size     | M58×0.75       |
| BFL (mm)        | 46.5           |
| Mount           | F-Mount        |
| Weight(g)       | 536            |
| Dimensions (mm) | Ø61×81.5       |

**VT-LEN72-4056MP100**



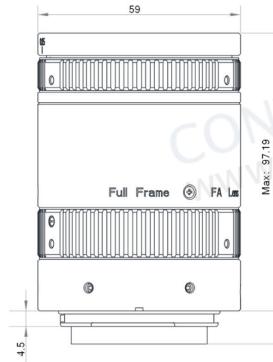
|                 |                 |
|-----------------|-----------------|
| Format (mm)     | Ø60             |
| EFL (mm)        | 40              |
| Aperture (F/#)  | F5.6~F16        |
| Distortion      | 0.55%           |
| Mag. (x)        | 0.04x~0.33x     |
| WD (mm)         | 144~1043        |
| Iris            | Manual          |
| Focus           | Manual          |
| FBL (mm)        | 12              |
| Mount           | M72 × P0.75     |
| Filter Size     | M40.5×P0.75     |
| Weight(g)       | -               |
| Dimensions (mm) | Ø79.6×56.2-77.2 |
| Operating Temp. | -10 ~ 50°C      |

**VLEN72-4040MP100**



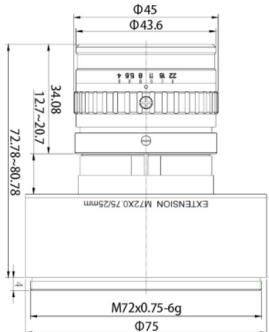
|                 |                        |
|-----------------|------------------------|
| Format (mm)     | Ø58                    |
| EFL (mm)        | 40                     |
| WD (mm)         | 200 ~ ∞                |
| M.O.D (m)       | -                      |
| Aperture (F/#)  | F4.0-22                |
| Mag. (x)        | 0.21x ~ 0.10x ~ 0.001x |
| FOV             | -                      |
| TV Distortion   | -0.42%                 |
| Filter Size     | M60×0.75               |
| FBL (mm)        | 12                     |
| Mount           | M72×0.75               |
| Weight(g)       | 625g                   |
| Dimensions (mm) | Ø76×97.9               |

**VT-LEMF5040MP100**



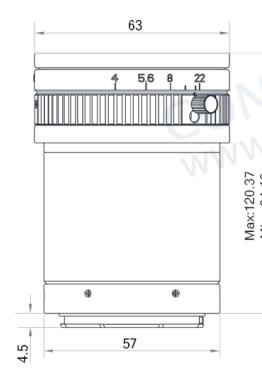
|                 |             |
|-----------------|-------------|
| Format (mm)     | Ø56         |
| EFL (mm)        | 50          |
| WD (mm)         | 150 ~ ∞     |
| M.O.D (m)       | -           |
| Aperture (F/#)  | F4.0-32     |
| Mag. (x)        | 0.01x~0.33x |
| FOV             | -           |
| TV Distortion   | 0.41%       |
| Filter Size     | M52×0.75    |
| FBL (mm)        | 46.5        |
| Mount           | F-Mount     |
| Weight(g)       | 601.5       |
| Dimensions (mm) | Ø59×97.19   |

**VT-LEN72-6040MP100**



|                 |                 |
|-----------------|-----------------|
| Format (mm)     | Ø62             |
| EFL (mm)        | 60              |
| Aperture (F/#)  | F4.0-F22        |
| Distortion      | 0.14%           |
| Mag. (x)        | 0.118x - 0.233x |
| WD (mm)         | 300-550         |
| Iris            | Manual          |
| Focus           | Manual          |
| FBL (mm)        | 12              |
| Mount           | M72 × P0.75     |
| Filter Size     | M39 × P0.75     |
| Weight(g)       | -               |
| Dimensions (mm) | Ø75 × 72.8-80.8 |
| Operating Temp. | -10 ~ 50°C      |

**VT-LEMF8040MP100**



|                 |              |
|-----------------|--------------|
| Format (mm)     | Ø56          |
| EFL (mm)        | 80           |
| WD (mm)         | 235 ~ ∞      |
| M.O.D (m)       | -            |
| Aperture (F/#)  | F4.0-22      |
| Mag. (x)        | 0.01x ~ 0.4x |
| FOV             | -            |
| TV Distortion   | 0.12%        |
| Filter Size     | M52×0.75     |
| FBL (mm)        | 46.5         |
| Mount           | F-Mount      |
| Weight(g)       | 601.0        |
| Dimensions (mm) | Ø63×120.37   |

# 150MP Large Format Lenses

**NEW**

## FEATURES

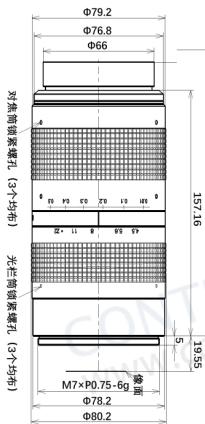
1. 150Mega Pixel,large format to 66.7mm
2. Compatible with 8K7μ/16K3.5μ line scan cameras

### 3. VT-LEN72-5545MP150

- Full field uniform imaging
- Meet the requirement of high-precision pixel (3.76um)
- Supports 0.01x-0.5x super large magnification range,to meet wide FOV requirements EFL of 55mm
- At the same magnification,the conjugate distance of is only half of traditional lens
- Suitable for OLED screen detection , ranging from electronic watch screen to TV screen

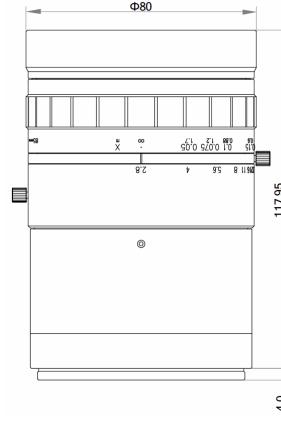


**VT-LEN72-5545MP150**



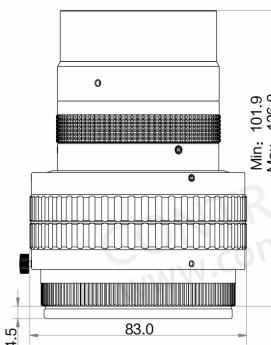
|                        |               |
|------------------------|---------------|
| <b>Format (mm)</b>     | Ø67           |
| <b>EFL (mm)</b>        | 55            |
| <b>Aperture (F/#)</b>  | F4.5 - F22    |
| <b>Distortion</b>      | 0.05%         |
| <b>Mag. (x)</b>        | 0.01x - 0.5x  |
| <b>WD (mm)</b>         | 98 - ∞        |
| <b>Iris</b>            | Manual        |
| <b>Focus</b>           | Manual        |
| <b>FBL (mm)</b>        | 19.55         |
| <b>Mount</b>           | M72 × P0.75   |
| <b>Filter Size</b>     | -             |
| <b>Weight(g)</b>       | 1618.6 g      |
| <b>Dimensions (mm)</b> | Ø80.2 × 179.5 |
| <b>Operating Temp.</b> | -10 - 50°C    |

**VT-LEN72-8528MP150**



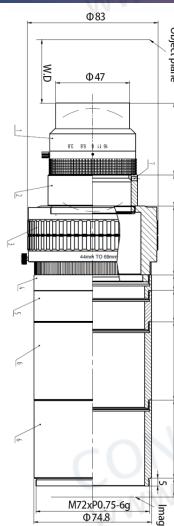
|                        |               |
|------------------------|---------------|
| <b>Format (mm)</b>     | Ø62           |
| <b>EFL (mm)</b>        | 85            |
| <b>Aperture (F/#)</b>  | F2.8-F32      |
| <b>Distortion</b>      | 0.04%         |
| <b>Mag. (x)</b>        | 0.001x - 0.2x |
| <b>WD (mm)</b>         | 460 - ∞       |
| <b>Iris</b>            | Manual        |
| <b>Focus</b>           | Manual        |
| <b>FBL (mm)</b>        | 19.55         |
| <b>Mount</b>           | M72 × P0.75   |
| <b>Filter Size</b>     | M77 × P0.75   |
| <b>Weight(g)</b>       | 690 g         |
| <b>Dimensions (mm)</b> | Ø80 × 117.95  |
| <b>Operating Temp.</b> | -10 - 50°C    |

**VT-LEN72-9040MP150**



|                                   |               |
|-----------------------------------|---------------|
| <b>Format (mm)</b>                | Ø67           |
| <b>EFL (mm)</b>                   | 90            |
| <b>Aperture (F/#)</b>             | F4.0-F16      |
| <b>Distortion</b>                 | 0.01%         |
| <b>Mag. (x)</b>                   | 0.08x - 0.14x |
| <b>WD (mm)</b>                    | 722 - 1229    |
| <b>Object Image Distance (mm)</b> | 857 - 1358    |
| <b>Iris</b>                       | Manual        |
| <b>Focus</b>                      | Manual        |
| <b>FBL (mm)</b>                   | 19.55         |
| <b>Mount</b>                      | M72 × P0.75   |
| <b>Filter Size</b>                | M58 × P0.75   |
| <b>Weight(g)</b>                  | 653 g         |
| <b>Dimensions (mm)</b>            | Ø83 × 126.9   |
| <b>Operating Temp.</b>            | -10 - 50°C    |

**VT-LEN72-11635MP150**



|                                   |               |
|-----------------------------------|---------------|
| <b>Format (mm)</b>                | Ø66           |
| <b>EFL (mm)</b>                   | 116           |
| <b>Aperture (F/#)</b>             | F3.5~F16      |
| <b>Distortion</b>                 | 0.0005%       |
| <b>Mag. (x)</b>                   | 0.93x - 1.07x |
| <b>WD (mm)</b>                    | 176 - 192     |
| <b>Object Image Distance (mm)</b> | 440           |
| <b>Iris</b>                       | Manual        |
| <b>Focus</b>                      | Manual        |
| <b>FBL (mm)</b>                   | 12            |
| <b>Mount</b>                      | M72 × P0.75   |
| <b>Filter Size</b>                | -             |
| <b>Weight(g)</b>                  | -             |
| <b>Dimensions (mm)</b>            | Ø83×266-291   |
| <b>Operating Temp.</b>            | -10 - 50°C    |

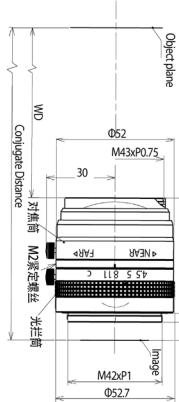
# Compact Line Scan Lenses

## FEATURES

1. Designed for compact line scan cameras
2. Compatible with 4K7μ line scan cameras
3. Small magnification for the application of large size inspection
4. Interface could be changed from V-Mount to M42, M58 or F-Mount

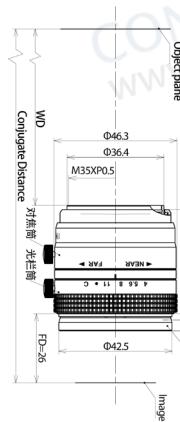


**VTL-2045-0.03X**



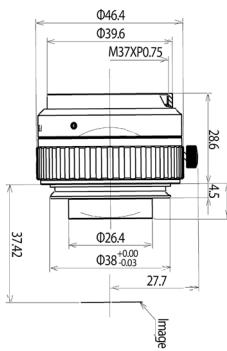
| Mag.                    | 0.1x     | 0.0358x  | 0.02x    |
|-------------------------|----------|----------|----------|
| WD (mm)                 | 198.7±5  | 557.4±5  | 998.7±5  |
| Image Distance (mm)     | 14.6±2.5 | 13.3±2.5 | 13.0±2.5 |
| Conjugate Distance (mm) | 261.7±9  | 619.1±9  | 1060.1±9 |
| FFL (mm)                | 12±0.1   |          |          |
| EFL (mm)                | 20       |          |          |
| Format                  | Ø30      |          |          |
| Aperture (F/#)          | F4.5     |          |          |
| TV Distortion           | 0.2%     |          |          |
| Relative Illumination   | >50%     |          |          |
| Mount                   | M42      |          |          |

**VTL-2840-0.1X**



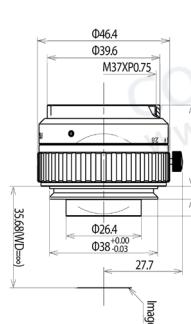
| Mag.                    | 0.05x     | 0.1x     | 0.3x     |
|-------------------------|-----------|----------|----------|
| WD (mm)                 | 594.7±5   | 299.7±5  | 103.0±5  |
| Image Distance (mm)     | 24.5±2.5  | 26.0±2.5 | 31.8±2.5 |
| Conjugate Distance (mm) | 661.5±9   | 368±9    | 177.2±9  |
| FOV                     | 600       | 300      | 100      |
| FFL (mm)                | 26±0.1    |          |          |
| EFL (mm)                | 29        |          |          |
| Format                  | Ø30       |          |          |
| Aperture (F/#)          | F4.0      |          |          |
| TV Distortion           | 0.1%      |          |          |
| Relative Illumination   | 40%       |          |          |
| Mount                   | V (Ø42.5) |          |          |

**VTL-3545-0.08X**



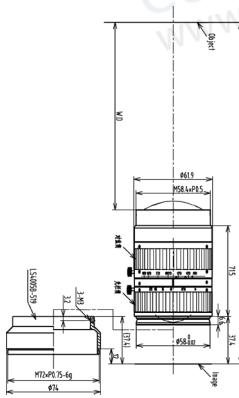
| Mag.                    | 0.04x     | 0.08x     | 0.1x      |
|-------------------------|-----------|-----------|-----------|
| WD (mm)                 | 1008.49±5 | 508.49±5  | 408.49±5  |
| Image Distance (mm)     | 25.23±2.5 | 26.84±2.5 | 27.64±2.5 |
| Conjugate Distance (mm) | 1072.89±9 | 574.5±9   | 475.31±9  |
| FFL (mm)                | 35.81±0.5 | 37.42±0.5 | 38.22±0.5 |
| EFL (mm)                | 35        |           |           |
| Format                  | Ø30       |           |           |
| Aperture (F/#)          | F4.5      |           |           |
| TV Distortion           | <0.05%    | <0.01%    | <0.03%    |
| Relative Illumination   | 80%       |           |           |
| Mount                   | V (Ø38)   |           |           |

**VTL-4028-0.1X**



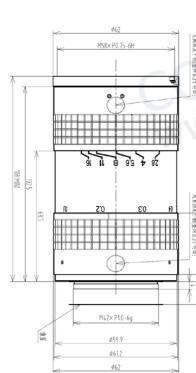
| Mag.                    | 0.04x     | 0.1x      | 0.33x     |
|-------------------------|-----------|-----------|-----------|
| WD (mm)                 | 1051.4±5  | 400±5     | 140.7±5   |
| Image Distance (mm)     | 27.65±2.5 | 30.43±2.5 | 39.68±2.5 |
| Conjugate Distance (mm) | 1117.3±9  | 468.67±9  | 218.65±9  |
| FOV                     | 1085.3    | 402.9     | 130.8     |
| FFL (mm)                | 37.31±0.5 | 40.1±0.5  | 49.34±0.5 |
| EFL (mm)                | 40        |           |           |
| Format                  | Ø43.2     |           |           |
| Aperture (F/#)          | F2.8      |           |           |
| TV Distortion           | 0.39%     | 0.5%      | 0.62%     |
| Relative Illumination   | 40%       |           |           |
| Mount                   | V (Ø38)   |           |           |

**VTL-4040-0.05X**



| Mag.                    | 0.16x         | 0.05x    | 0.02x     |
|-------------------------|---------------|----------|-----------|
| WD (mm)                 | 256.3±5       | 818.8±5  | 1982.1±5  |
| Image Distance (mm)     | -             |          |           |
| Conjugate Distance (mm) | 385.78±9      | 943.08±9 | 2104.87±9 |
| FOV                     | 71°           |          |           |
| FFL (mm)                | 12±0.5 (37.4) |          |           |
| EFL (mm)                | 40            |          |           |
| Format                  | Ø60           |          |           |
| Aperture (F/#)          | F4.0          |          |           |
| TV Distortion           | <0.2%         |          |           |
| Relative Illumination   | -             |          |           |
| Mount                   | M72           |          |           |

**VTL-8028-0.177X**



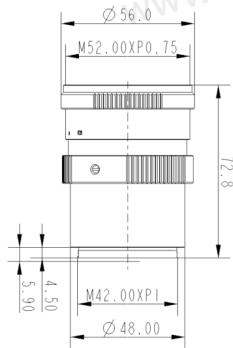
| WD                    | 220-5000    | WD(mm) | Mag.   |
|-----------------------|-------------|--------|--------|
| Magnification Range   | 0.46x-0.02x | 220    | 0.46x  |
| Max image             | Ø30         | 250    | 0.394x |
| F.No                  | 2.8-16      | 300    | 0.317x |
| FFL (mm)              | 12          | 350    | 0.26x  |
| EFL (mm)              | 80±5%       | 500    | 0.177x |
| FOV                   | 19.5°       | 600    | 0.145x |
| ENP Diameter          | Ø28.5       | 800    | 0.106x |
| Distortion            | <0.2%       | 1000   | 0.084x |
| Relative Illumination | >78%        | 1500   | 0.055x |
| Dimensions            | Ø62x112     | 2000   | 0.04x  |
| Filter Screw Size     | M58xP0.75   | 3000   | 0.027x |
| Mount                 | M42xP1.0    | 5000   | 0.02x  |

# 5.5K $\mu$ Line Scan Lenses

## FEATURES

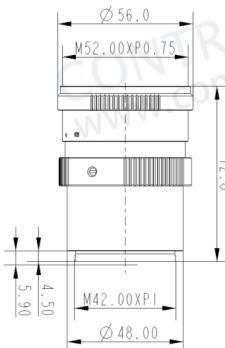
1. Designed for high resolution up to 5.5K $\mu$
2. M42 mount as standard, adaptable to various camera mount
3. Large aperture F2.8

**VTL-5.5K-0.1X-A**



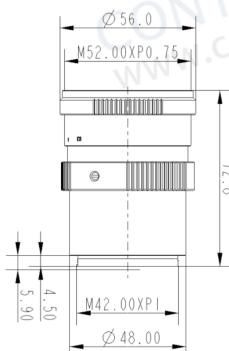
|                       |              |
|-----------------------|--------------|
| EFL (mm)              | 50           |
| Mag. (x)              | 0.0946       |
| Format (mm)           | φ30          |
| Aperture(F/#)         | F2.8         |
| Distortion            | -0.61%       |
| Relative Illumination | 95.50%       |
| Min WD (mm)           | 574          |
| Best WD (mm)          | 600-700      |
| Mount                 | M42 x 1      |
| FFL (mm)              | 12           |
| Resolution            | 5.5K 5 $\mu$ |

**VTL-5.5K-0.1X-B**



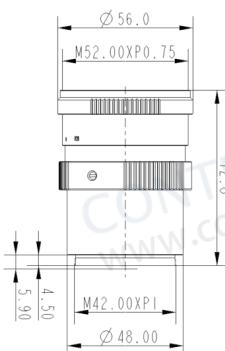
|                       |              |
|-----------------------|--------------|
| EFL (mm)              | 50           |
| Mag. (x)              | 0.0946       |
| Format (mm)           | φ30          |
| Aperture(F/#)         | F2.8         |
| Distortion            | -0.61%       |
| Relative Illumination | 95.50%       |
| Min WD (mm)           | 574          |
| Best WD (mm)          | 600-700      |
| Mount                 | M42 x 1      |
| FFL (mm)              | 5.9          |
| Resolution            | 5.5K 5 $\mu$ |

**VTL-5.5K-0.09X-A**



|                       |              |
|-----------------------|--------------|
| EFL (mm)              | 50           |
| Mag. (x)              | 0.094        |
| Format (mm)           | φ30          |
| Aperture(F/#)         | F4.0         |
| Distortion            | -0.61%       |
| Relative Illumination | 95.50%       |
| Min WD (mm)           | 574          |
| Best WD (mm)          | 600-700      |
| Mount                 | M42 x 1      |
| FFL (mm)              | 12           |
| Resolution            | 5.5K 5 $\mu$ |

**VTL-5.5K-0.09X-B**



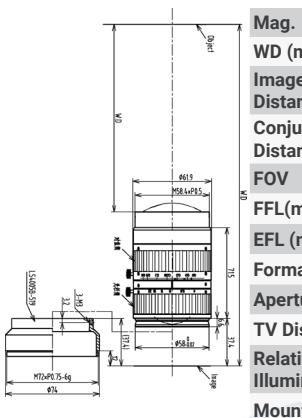
|                       |              |
|-----------------------|--------------|
| EFL (mm)              | 50           |
| Mag. (x)              | 0.094        |
| Format (mm)           | φ30          |
| Aperture(F/#)         | F4.0         |
| Distortion            | -0.61%       |
| Relative Illumination | 95.50%       |
| Min WD (mm)           | 574          |
| Best WD (mm)          | 600-700      |
| Mount                 | M42 x 1      |
| FFL (mm)              | 5.9          |
| Resolution            | 5.5K 5 $\mu$ |

# 8K7 $\mu$ Line Scan Lenses

## FEATURES

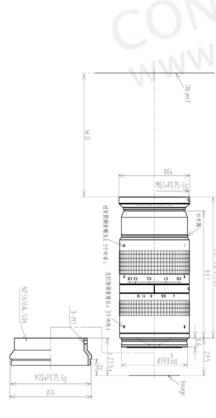
1. Specially designed for 8K7 $\mu$  line scan camera
2. Optional standard EFL and magnification
3. Magnification from 0.02x-0.4x
4. V-mount as standard, adaptable to various camera mount
5. Applied to big size detection such as lithium battery

**VTL-4040-0.05X**



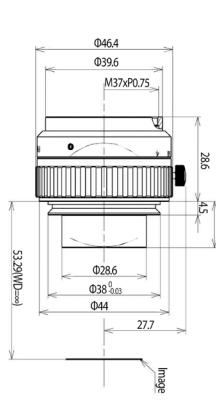
| Mag.                       | 0.16x        | 0.05x    | 0.02x     |
|----------------------------|--------------|----------|-----------|
| WD (mm)                    | 256.3±5      | 818.8±5  | 1982.1±5  |
| <b>Image Distance (mm)</b> |              |          |           |
| Conjugate Distance (mm)    | 385.78±9     | 943.08±9 | 2104.87±9 |
| FOV                        | 71°          |          |           |
| FFL(mm)                    | 12±0.5(37.4) |          |           |
| EFL (mm)                   | 40           |          |           |
| Format                     | Ø60          |          |           |
| Aperture (F/#)             | F4.0         |          |           |
| TV Distortion              | <0.2%        |          |           |
| Relative Illumination      | -            |          |           |
| Mount                      | M72          |          |           |

**VTL-4540-0.2X**



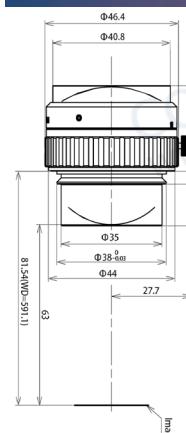
| Mag.                       | 0.03x   | 0.2x  | 0.35x |
|----------------------------|---------|-------|-------|
| WD (mm)                    | 1493.5  | 223.5 | 133.5 |
| <b>Image Distance (mm)</b> |         |       |       |
| Conjugate Distance (mm)    | -       | -     | -     |
| FOV                        | 53°-64° |       |       |
| FFL(mm)                    | -       |       |       |
| EFL (mm)                   | 45±5%   |       |       |
| Format                     | Ø62     |       |       |
| Aperture (F/#)             | F4-16   |       |       |
| TV Distortion              | <0.5%   |       |       |
| Relative Illumination      | -       |       |       |
| Mount                      | M72     |       |       |

**VTL-6040-0.167X**



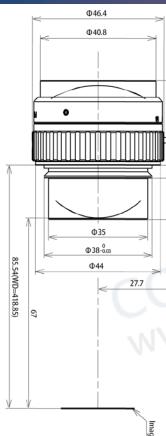
| Mag.                       | 0.04x     | 0.167x    | 0.33x     |
|----------------------------|-----------|-----------|-----------|
| WD (mm)                    | 1557.4±5  | 404.4±5   | 218.97±5  |
| <b>Image Distance (mm)</b> |           |           |           |
| Conjugate Distance (mm)    | 40.49±2.5 | 48.07±2.5 | 58.24±2.5 |
| FOV                        | 1641.73±9 | 496.32±9  | 321.05±9  |
| FFL (mm)                   | 55.73±0.5 | 63.31±0.5 | 73.48±0.5 |
| EFL (mm)                   | 60        |           |           |
| Format                     | Ø64       |           |           |
| Aperture (F/#)             | F4.0      |           |           |
| TV Distortion              | 0.6%      | 0.19%     | 0.12%     |
| Relative Illumination      | 45%       |           |           |
| Mount                      | V (Ø38)   |           |           |

**VTL-8056-0.146X**

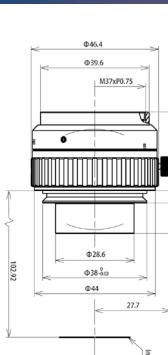


| Mag.                       | 0.13x     | 0.146x    | 0.167x    |
|----------------------------|-----------|-----------|-----------|
| WD (mm)                    | 658.3±5   | 591.1±5   | 522.3±5   |
| <b>Image Distance (mm)</b> |           |           |           |
| Conjugate Distance (mm)    | 61.7±2.5  | 63±2.5    | 64.7±2.5  |
| FOV                        | 768.4±9   | 702.5±9   | 635.4±9   |
| FFL (mm)                   | 80.24±0.5 | 81.54±0.5 | 83.24±0.5 |
| EFL (mm)                   | 80        |           |           |
| Format                     | Ø62       |           |           |
| Aperture (F/#)             | F5.6      |           |           |
| TV Distortion              | 0.05%     | 0.05%     | 0.05%     |
| Relative Illumination      | -         |           |           |
| Mount                      | V (Ø38)   |           |           |

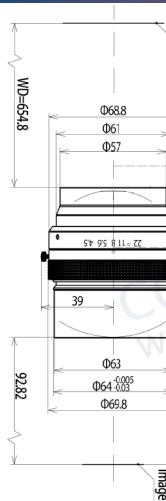
### VTL-8056-0.21X



### VTL-8056-0.3X



### VTL-10045-0.2X



| Mag.                    | 0.15x     | 0.2x      | 0.25x     |
|-------------------------|-----------|-----------|-----------|
| WD (mm)                 | 860±5     | 654.8±5   | 538±5     |
| Image Distance (mm)     | 86.58±2.5 | 92.82±2.5 | 98.81±2.5 |
| Conjugate Distance (mm) | 1026.7±9  | 827.8±9   | 717.1±9   |
| FFL (mm)                | 117.0     | 123.5     | 129.2     |
| FOV                     | 34.6°     |           |           |
| EFL (mm)                | 100       |           |           |
| Format                  | Ø66       |           |           |
| Aperture (F/#)          | F4.5      |           |           |
| TV Distortion           | 0.005%    |           |           |
| Relative Illumination   | -         |           |           |
| Mount                   | V (Ø64)   |           |           |

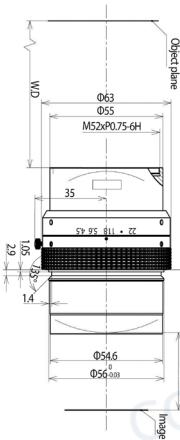
# 12K5 $\mu$ Line Scan Lenses

## FEATURES

1. Max image circle up to  $\Phi$ 62mm
2. Suitable for 8K/12K resolution camera
3. Standard magnification from 0.18x-1.29x
4. Big aperture F4.5
5. Ultra-low optical distortion

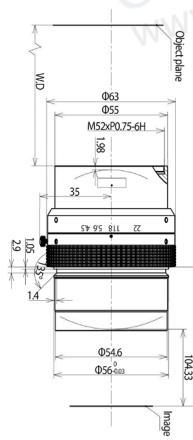


**VTL-12K-0.2X**



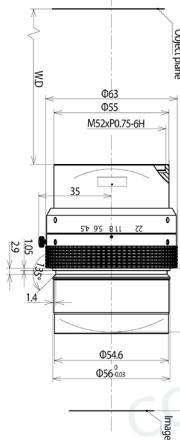
|                         |             |           |           |
|-------------------------|-------------|-----------|-----------|
| Mag.                    | 0.18x       | 0.2x      | 0.24x     |
| WD (mm)                 | 717.3±5     | 652.4±5   | 550.87±5  |
| Image Distance (mm)     | 89.8±2.5    | 92.17±2.5 | 97.05±2.5 |
| Conjugate Distance (mm) | 887.35±9    | 824.9±9   | 728.2±9   |
| FFL (mm)                | 120.4       | 122.8     | 127.6     |
| FOV                     | 28°         |           |           |
| EFL (mm)                | 116         |           |           |
| Format                  | Ø62         |           |           |
| Aperture (F/#)          | F4.5        |           |           |
| TV Distortion           | <0.01%      |           |           |
| ENP Diam.               | 23          |           |           |
| Filter Thread           | M52 x P0.75 |           |           |
| Mount                   | V(Ø56)      |           |           |

**VTL-12K-0.33X**



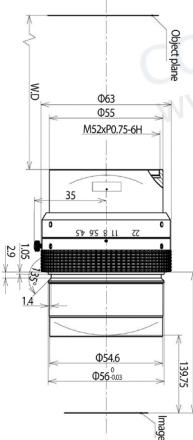
|                         |             |            |            |
|-------------------------|-------------|------------|------------|
| Mag.                    | 0.29x       | 0.33x      | 0.4x       |
| WD (mm)                 | 465±5       | 415.1±5    | 351.2±5    |
| Image Distance (mm)     | 99.55±2.5   | 104.33±2.5 | 112.78±2.5 |
| Conjugate Distance (mm) | 644.85±9    | 599.7±9    | 544.58±9   |
| FFL (mm)                | 130.1       | 134.9      | 143.4      |
| FOV                     | 29°         |            |            |
| EFL (mm)                | 116         |            |            |
| Format                  | Ø62         |            |            |
| Aperture (F/#)          | F4.5        |            |            |
| TV Distortion           | <0.005%     |            |            |
| ENP Diam.               | 23.37       |            |            |
| Filter Thread           | M52 x P0.75 |            |            |
| Mount                   | V(Ø56)      |            |            |

**VTL-12K-0.5X**



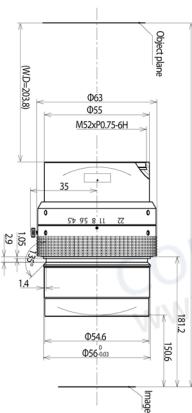
|                         |             |            |            |
|-------------------------|-------------|------------|------------|
| Mag.                    | 0.45x       | 0.5x       | 0.6x       |
| WD (mm)                 | 318.2±5     | 291.7±5    | 251.9±5    |
| Image Distance (mm)     | 113.17±2.5  | 119.03±2.5 | 131.05±2.5 |
| Conjugate Distance (mm) | 511.61±9    | 491±9      | 463.19±9   |
| FFL (mm)                | 143.8       | 149.6      | 161.6      |
| FOV                     | 29°         |            |            |
| EFL (mm)                | 116         |            |            |
| Format                  | Ø62         |            |            |
| Aperture (F/#)          | F4.5        |            |            |
| TV Distortion           | <0.01%      |            |            |
| ENP Diam.               | 24.1        |            |            |
| Filter Thread           | M52 x P0.75 |            |            |
| Mount                   | V(Ø56)      |            |            |

**VTL-12K-0.75X**



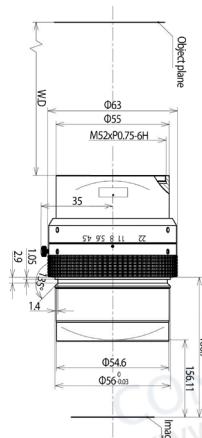
|                         |             |            |            |
|-------------------------|-------------|------------|------------|
| Mag.                    | 0.7x        | 0.75x      | 0.85x      |
| WD (mm)                 | 220.9±5     | 209.8±5    | 191.4±5    |
| Image Distance (mm)     | 133.96±2.5  | 139.75±2.5 | 151.58±2.5 |
| Conjugate Distance (mm) | 435.1±9     | 429.85±9   | 423.2±9    |
| FFL (mm)                | 164.5       | 170.3      | 182.2      |
| FOV                     | 29°         |            |            |
| EFL (mm)                | 116         |            |            |
| Format                  | Ø62         |            |            |
| Aperture (F/#)          | F4.5        |            |            |
| TV Distortion           | <0.005%     |            |            |
| ENP Diam.               | 25          |            |            |
| Filter Thread           | M52 x P0.75 |            |            |
| Mount                   | V(Ø56)      |            |            |

### VTL-12K-0.8X



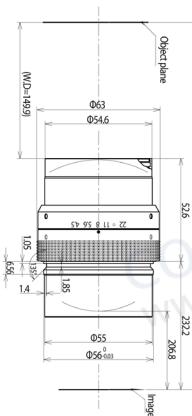
|                                |                    |                  |                   |
|--------------------------------|--------------------|------------------|-------------------|
| <b>Mag.</b>                    | <b>0.85x</b>       | <b>0.806x</b>    | <b>0.75x</b>      |
| <b>WD (mm)</b>                 | <b>196±5</b>       | <b>203.8±5</b>   | <b>214.9±5</b>    |
| <b>Image Distance (mm)</b>     | <b>155.88±2.5</b>  | <b>150.6±2.5</b> | <b>143.82±2.5</b> |
| <b>Conjugate Distance (mm)</b> | <b>432.2±9</b>     | <b>434.66±9</b>  | <b>439.9±9</b>    |
| <b>FFL (mm)</b>                | <b>186.5</b>       | <b>181.2</b>     | <b>174.4</b>      |
| <b>FOV</b>                     | <b>23°</b>         |                  |                   |
| <b>EFL (mm)</b>                | <b>116</b>         |                  |                   |
| <b>Format</b>                  | <b>Ø62</b>         |                  |                   |
| <b>Aperture (F/#)</b>          | <b>F4.5</b>        |                  |                   |
| <b>TV Distortion</b>           | <b>&lt;0.005%</b>  |                  |                   |
| <b>ENP Diam.</b>               | <b>26.08</b>       |                  |                   |
| <b>Filter Thread</b>           | <b>M52 x P0.75</b> |                  |                   |
| <b>Mount</b>                   | <b>V(Ø56)</b>      |                  |                   |

### VTL-12K-1.0X



|                                |                    |                   |                   |
|--------------------------------|--------------------|-------------------|-------------------|
| <b>Mag.</b>                    | <b>0.9x</b>        | <b>1.0x</b>       | <b>1.1x</b>       |
| <b>WD (mm)</b>                 | <b>176.7±5</b>     | <b>164.2±5</b>    | <b>153.7±5</b>    |
| <b>Image Distance (mm)</b>     | <b>144.8±2.5</b>   | <b>156.11±2.5</b> | <b>167.67±2.5</b> |
| <b>Conjugate Distance (mm)</b> | <b>401.8±9</b>     | <b>400.56±9</b>   | <b>401.67±9</b>   |
| <b>FFL (mm)</b>                | <b>175.4</b>       | <b>186.7</b>      | <b>198.3</b>      |
| <b>FOV</b>                     | <b>28°</b>         |                   |                   |
| <b>EFL (mm)</b>                | <b>116</b>         |                   |                   |
| <b>Format</b>                  | <b>Ø62</b>         |                   |                   |
| <b>Aperture (F/#)</b>          | <b>F4.5</b>        |                   |                   |
| <b>TV Distortion</b>           | <b>&lt;0.05%</b>   |                   |                   |
| <b>ENP Diam.</b>               | <b>25.6</b>        |                   |                   |
| <b>Filter Thread</b>           | <b>M52 x P0.75</b> |                   |                   |
| <b>Mount</b>                   | <b>V(Ø56)</b>      |                   |                   |

### VTL-12K-1.24X



|                                |                    |                  |                   |
|--------------------------------|--------------------|------------------|-------------------|
| <b>Mag.</b>                    | <b>1.29x</b>       | <b>1.24x</b>     | <b>1.19x</b>      |
| <b>WD (mm)</b>                 | <b>146.2±5</b>     | <b>149.9±5</b>   | <b>154±5</b>      |
| <b>Image Distance (mm)</b>     | <b>212.56±2.5</b>  | <b>206.8±2.5</b> | <b>200.62±2.5</b> |
| <b>Conjugate Distance (mm)</b> | <b>436.67±9</b>    | <b>434.66±9</b>  | <b>432.54±9</b>   |
| <b>FFL (mm)</b>                | <b>237.9</b>       | <b>232.2</b>     | <b>226</b>        |
| <b>FOV</b>                     | <b>20.88°</b>      |                  |                   |
| <b>EFL (mm)</b>                | <b>116</b>         |                  |                   |
| <b>Format</b>                  | <b>Ø62</b>         |                  |                   |
| <b>Aperture (F/#)</b>          | <b>F4.5</b>        |                  |                   |
| <b>TV Distortion</b>           | <b>&lt;0.005%</b>  |                  |                   |
| <b>ENP Diam.</b>               | <b>29.75</b>       |                  |                   |
| <b>Filter Thread</b>           | <b>M52 x P0.75</b> |                  |                   |
| <b>Mount</b>                   | <b>V(Ø56)</b>      |                  |                   |

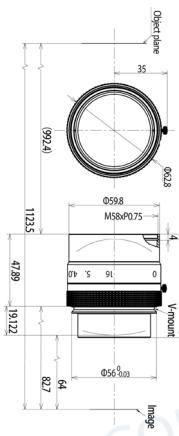
# 16K3.5 $\mu$ Line Scan Lenses

## FEATURES

1. Resolution of 3.5 $\mu$ , up to 160lp/mm
2. Max image circle is up to 66mm, also compatible with 12K5 $\mu$  camera
3. Optical distortion <0.005%
4. Big aperture F4.0

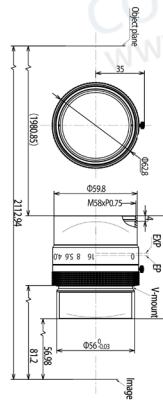


**VTL-9040-0.1X**



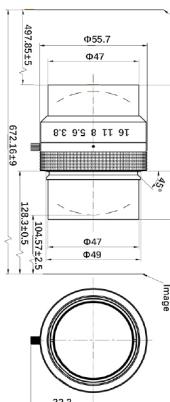
| Mag.                       | 0.14x    | 0.1x     | 0.08x     |
|----------------------------|----------|----------|-----------|
| WD (mm)                    | 722±5    | 922.4±5  | 1229.2±5  |
| <b>Image Distance (mm)</b> |          |          |           |
| Conjugate Distance (mm)    | 856.86±9 | 1123.5±9 | 1358.34±9 |
| FOV                        | -        | -        | -         |
| FFL (mm)                   | 87±0.5   | 82.7±0.5 | 81.3±0.5  |
| EFL (mm)                   | 90       | -        | -         |
| Format                     | Ø64      | -        | -         |
| Aperture (F/#)             | F4.0-16  | -        | -         |
| TV Distortion              | 0.01%    | -        | -         |
| Relative Illumination      | -        | -        | -         |
| Mount                      | V (Ø64)  | -        | -         |

**VTL-9540-0.05X**



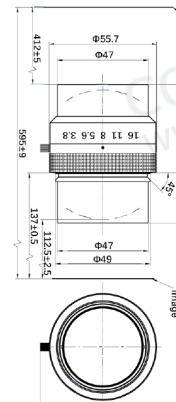
| Mag.                       | 0.03x     | 0.05x     | 0.08x     |
|----------------------------|-----------|-----------|-----------|
| WD (mm)                    | 3274.18±5 | 1980.85±5 | 1253.35±5 |
| <b>Image Distance (mm)</b> |           |           |           |
| Conjugate Distance (mm)    | 3403.23±9 | 2112.94±9 | 1388.36±9 |
| FOV                        | -         | -         | -         |
| FFL (mm)                   | 79.26±0.5 | 81.2±0.5  | 84.11±0.5 |
| EFL (mm)                   | 95        | -         | -         |
| Format                     | Ø62       | -         | -         |
| Aperture (F/#)             | F4.0-16   | -         | -         |
| TV Distortion              | <0.05%    | -         | -         |
| Relative Illumination      | -         | -         | -         |
| Mount                      | V (Ø56)   | -         | -         |

**VTL-16K-0.26X**



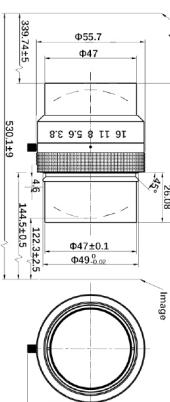
| Mag. (x)                   | 0.23x      | 0.26x     | 0.28x      |
|----------------------------|------------|-----------|------------|
| WD (mm)                    | 555.5±5    | 497.85±5  | 466.6±5    |
| <b>Image Distance (mm)</b> |            |           |            |
| Conjugate Distance (mm)    | 726.28±9   | 672.16±9  | 643.08±9   |
| FFL (mm)                   | 124.72±0.5 | 128.3±0.5 | 130.47±0.5 |
| FOV                        | 28.6°      | -         | -          |
| EFL (mm)                   | 114        | -         | -          |
| Format                     | Ø66        | -         | -          |
| Aperture(F/#)              | F4.2       | -         | -          |
| Distortion                 | 0.01%      | -         | -          |
| ENP Diameter               | 27.12      | -         | -          |
| Mount                      | V (Ø49)    | -         | -          |

**VTL-16K-0.33X**



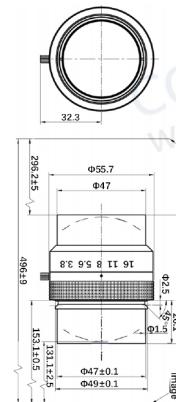
| Mag. (x)                   | 0.31x   | 0.33x | 0.36x   |
|----------------------------|---------|-------|---------|
| WD (mm)                    | 434.7±5 | 412±5 | 382.8±5 |
| <b>Image Distance (mm)</b> |         |       |         |
| Conjugate Distance (mm)    | 615.4±9 | 595±9 | 569.3±9 |
| FFL (mm)                   | 134.7   | 137   | 140.5   |
| FOV                        | 13.83°  | -     | -       |
| EFL (mm)                   | 116     | -     | -       |
| Format                     | Ø66     | -     | -       |
| Aperture(F/#)              | F4.2    | -     | -       |
| Distortion                 | 0.001%  | -     | -       |
| ENP Diameter               | 27.57   | -     | -       |
| Mount                      | V (Ø49) | -     | -       |

**VTL-16K-0.42X**



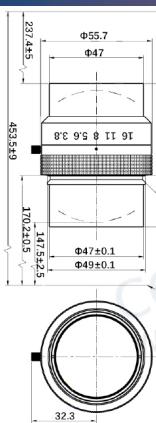
| Mag. (x)                   | 0.38x      | 0.42x     | 0.45x      |
|----------------------------|------------|-----------|------------|
| WD (mm)                    | 368.69±5   | 339.74±5  | 321.15±5   |
| <b>Image Distance (mm)</b> |            |           |            |
| Conjugate Distance (mm)    | 554.4±9    | 530.1±9   | 514.97±9   |
| FFL (mm)                   | 139.85±0.5 | 144.5±0.5 | 147.96±0.5 |
| FOV                        | 28.5°      | -         | -          |
| EFL (mm)                   | 116        | -         | -          |
| Format                     | Ø66        | -         | -          |
| Aperture(F/#)              | F3.8       | -         | -          |
| Distortion                 | 0.007%     | -         | -          |
| ENP Diameter               | 30.46      | -         | -          |
| Mount                      | V (Ø49)    | -         | -          |

**VTL-16K-0.5X**



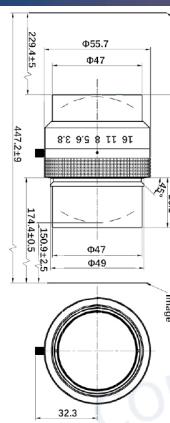
| Mag. (x)                   | 0.46x   | 0.469x  | 0.5x    | 0.54x   |
|----------------------------|---------|---------|---------|---------|
| WD (mm)                    | 315.9±5 | 311.2±5 | 296.2±5 | 278.7±5 |
| <b>Image Distance (mm)</b> |         |         |         |         |
| Conjugate Distance (mm)    | 511.2±9 | 507.5±9 | 496±9   | 483.2±9 |
| FFL (mm)                   | 148.8   | 149.8   | 153.3   | 158     |
| FOV                        | 21.8°   | -       | -       | -       |
| EFL (mm)                   | 116     | -       | -       | -       |
| Format                     | Ø66     | -       | -       | -       |
| Aperture(F/#)              | F3.8    | -       | -       | -       |
| Distortion                 | 0.0008% | -       | -       | -       |
| ENP Diameter               | 30.52   | -       | -       | -       |
| Mount                      | V (Ø49) | -       | -       | -       |

### VTL-16K-0.67X



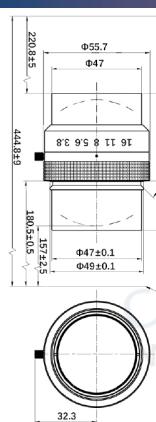
| Mag. (x)                | 0.65x     | 0.67x     | 0.7x      |
|-------------------------|-----------|-----------|-----------|
| WD (mm)                 | 242.7±5   | 237.4±5   | 230.1±5   |
| Image Distance (mm)     | 145.3±2.5 | 147.5±2.5 | 151±2.5   |
| Conjugate Distance (mm) | 456.4±9   | 453.5±9   | 449.5±9   |
| FFL (mm)                | 167.9±0.5 | 170.2±0.5 | 173.6±0.5 |
| FOV                     | 98.5 mm   |           |           |
| EFL (mm)                | 116       |           |           |
| Format (mm)             | Ø66       |           |           |
| Aperture(F/#)           | F3.8      |           |           |
| Distortion              | 0.1%      |           |           |
| ENP Diameter            | Ø30.5     |           |           |
| Mount                   | V (Ø49)   |           |           |

### VTL-16K-0.7X



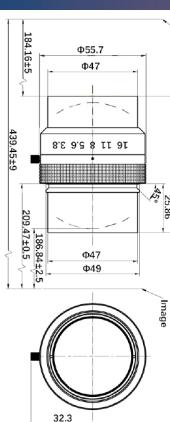
| Mag. (x)                | 0.66x     | 0.7x      | 0.75x     |
|-------------------------|-----------|-----------|-----------|
| WD (mm)                 | 240.1±5   | 229.4±5   | 219.3±5   |
| Image Distance (mm)     | 145.9±2.5 | 150.9±2.5 | 156.2±2.5 |
| Conjugate Distance (mm) | 452.9±9   | 447.2±9   | 442.4±9   |
| FFL (mm)                | 169.4     | 174.4     | 179.7     |
| FOV                     | 14.1°     |           |           |
| EFL (mm)                | 116       |           |           |
| Format (mm)             | Ø66       |           |           |
| Aperture(F/#)           | F3.8      |           |           |
| Distortion              | 0%        |           |           |
| ENP Diameter            | 30.28     |           |           |
| Mount                   | V (Ø49)   |           |           |

### VTL-16K-0.75X



| Mag. (x)                | 0.7x      | 0.75x     | 0.8x      |
|-------------------------|-----------|-----------|-----------|
| WD (mm)                 | 232±5     | 220.8±5   | 211±5     |
| Image Distance (mm)     | 151.2±2.5 | 157±2.5   | 162.9±2.5 |
| Conjugate Distance (mm) | 450.1±9   | 444.8±9   | 440.9±9   |
| FFL (mm)                | 174.7±0.5 | 180.5±0.5 | 186.4±0.5 |
| FOV                     | 18.8°     |           |           |
| EFL (mm)                | 100       |           |           |
| Format (mm)             | Ø66       |           |           |
| Aperture(F/#)           | F3.8      |           |           |
| Distortion              | 0.0008%   |           |           |
| ENP Diameter            | 30.28     |           |           |
| Mount                   | V (Ø49)   |           |           |

### VTL-16K-1.0X



| Mag. (x)                | 0.93x      | 1.0x       | 1.07x      |
|-------------------------|------------|------------|------------|
| WD (mm)                 | 192.48±5   | 184.16±5   | 176.28±5   |
| Image Distance (mm)     | 178.78±2.5 | 186.84±2.5 | 194.87±2.5 |
| Conjugate Distance (mm) | 439.7±9    | 439.45±9   | 439.6±9    |
| FFL (mm)                | 201.4±0.5  | 209.47±0.5 | 217.5±0.5  |
| FOV                     | 16.2°      |            |            |
| EFL (mm)                | 116        |            |            |
| Format (mm)             | Ø66        |            |            |
| Aperture(F/#)           | F3.5       |            |            |
| Distortion              | 0.0005%    |            |            |
| ENP Diameter            | 33.06      |            |            |
| Mount                   | V (Ø49)    |            |            |

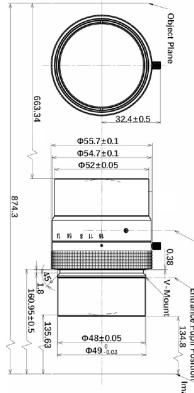
# 16K5 $\mu$ Line Scan Lenses

## FEATURES

1. Specially designed for 16K5 $\mu$  super high resolution line scan camera
2. Lens real resolution up to 160lp / mm
3. Provide higher contrast for cameras
4. Max image circle up to 82mm ,also compatible with 12K5 $\mu$  / 16K3.5 $\mu$  camera
5. Optical distortion < 1 pixel size
6. Magnification from 0.22x-4.5x

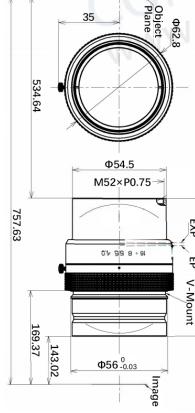


**VTL-16KP-0.26X**



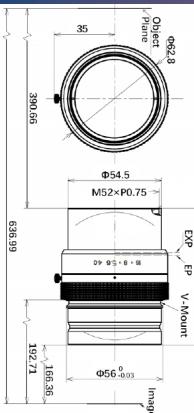
| Mag. (x)                   | 0.22x    | 0.26x    | 0.3x     |
|----------------------------|----------|----------|----------|
| WD (mm)                    | 767.64±5 | 663.34±5 | 587.64±5 |
| <b>Image Distance (mm)</b> |          |          |          |
| Conjugate Distance (mm)    | 969.75±9 | 874.3±9  | 804.5±9  |
| FFL (mm)                   | 155.15   | 160.95   | 166.85   |
| FOV                        | -        |          |          |
| EFL (mm)                   | 116      |          |          |
| Format (mm)                | Ø82      |          |          |
| Aperture(F/#)              | F3.8-16  |          |          |
| Distortion                 | 0.001%   |          |          |
| ENP Diameter               | -        |          |          |
| Mount                      | V (Ø49)  |          |          |

**VTL-16KP-0.3X**



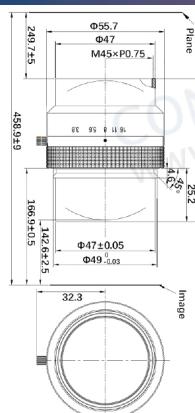
| Mag. (x)                   | 0.29x   | 0.33x      | 0.38x     |
|----------------------------|---------|------------|-----------|
| WD (mm)                    | 599.5±5 | 534.64±5   | 480±5     |
| <b>Image Distance (mm)</b> |         |            |           |
| Conjugate Distance (mm)    | 816.1±9 | 757.63±9   | 709.9±9   |
| FFL (mm)                   | 163±0.5 | 169.37±0.5 | 176.3±0.5 |
| FOV                        | -       |            |           |
| EFL (mm)                   | 120     |            |           |
| Format (mm)                | Ø82     |            |           |
| Aperture(F/#)              | F4.0-16 |            |           |
| Distortion                 | 0.005%  |            |           |
| ENP Diameter               | -       |            |           |
| Mount                      | V (Ø56) |            |           |

**VTL-16KP-0.5X**



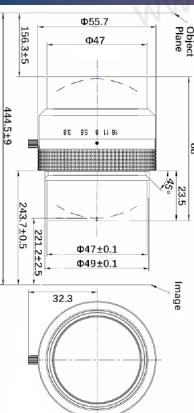
| Mag. (x)                   | 0.43x   | 0.5x       | 0.57x   |
|----------------------------|---------|------------|---------|
| WD (mm)                    | 437.5±5 | 390.66±5   | 354±5   |
| <b>Image Distance (mm)</b> |         |            |         |
| Conjugate Distance (mm)    | 674±9   | 636.99±9   | 611±9   |
| FFL (mm)                   | 181±0.5 | 192.71±0.5 | 202±0.5 |
| FOV                        | -       |            |         |
| EFL (mm)                   | 120     |            |         |
| Format (mm)                | Ø82     |            |         |
| Aperture(F/#)              | F4.0-16 |            |         |
| Distortion                 | 0.002%  |            |         |
| ENP Diameter               | -       |            |         |
| Mount                      | V (Ø56) |            |         |

**VTL-16KP-0.625X**



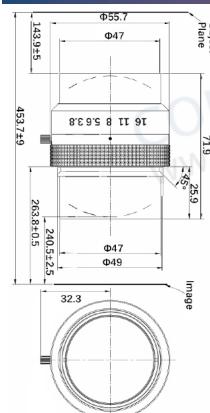
| Mag. (x)                   | 0.59x   | 0.625x    | 0.67x   |
|----------------------------|---------|-----------|---------|
| WD (mm)                    | 260.5±5 | 245.9±5   | 237.5±5 |
| <b>Image Distance (mm)</b> |         |           |         |
| Conjugate Distance (mm)    | 465.7±9 | 458.9±9   | 451.7±9 |
| FFL (mm)                   | 163±0.5 | 166.9±0.5 | 172±0.5 |
| FOV                        | 26.2°   |           |         |
| EFL (mm)                   | 116     |           |         |
| Format (mm)                | Ø82     |           |         |
| Aperture(F/#)              | F3.8    |           |         |
| Distortion                 | 0.001%  |           |         |
| ENP Diameter               | Ø29.8   |           |         |
| Mount                      | V (Ø49) |           |         |

**VTL-16KP-1.3X**

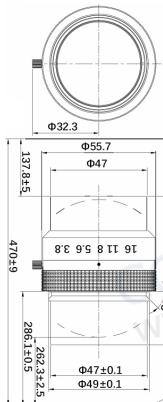


| Mag. (x)                   | 1.25x   | 1.33x    | 1.47x   |
|----------------------------|---------|----------|---------|
| WD (mm)                    | 161.9±5 | 156.36±5 | 148.1±5 |
| <b>Image Distance (mm)</b> |         |          |         |
| Conjugate Distance (mm)    | 440.8±9 | 444.5±9  | 452.4±9 |
| FFL (mm)                   | 234.5   | 243.7    | 259.8   |
| FOV                        | 13.9°   |          |         |
| EFL (mm)                   | 116     |          |         |
| Format (mm)                | Ø84     |          |         |
| Aperture(F/#)              | F3.8    |          |         |
| Distortion                 | 0.0003% |          |         |
| ENP Diameter               | Ø30.28  |          |         |
| Mount                      | V (Ø49) |          |         |

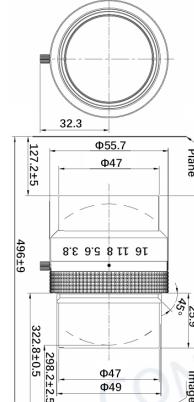
**VTL-16KP-1.5X**



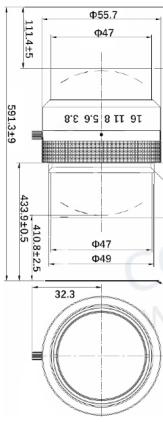
| Mag. (x)                   | 1.3x      | 1.5x      | 1.6x      |
|----------------------------|-----------|-----------|-----------|
| WD (mm)                    | 155.7±5   | 143.9±5   | 139.1±5   |
| <b>Image Distance (mm)</b> |           |           |           |
| Conjugate Distance (mm)    | 442.6±9   | 453.7±9   | 460.4±9   |
| FFL (mm)                   | 240.9±0.5 | 263.8±0.5 | 275.3±0.5 |
| FOV                        | 54.7 mm   |           |           |
| EFL (mm)                   | 116       |           |           |
| Format (mm)                | Ø84       |           |           |
| Aperture(F/#)              | F3.8      |           |           |
| Distortion                 | 0.08%     |           |           |
| ENP Diameter               | Ø30.6     |           |           |
| Mount                      | V (Ø49)   |           |           |

**VTL-16KP-1.7X**

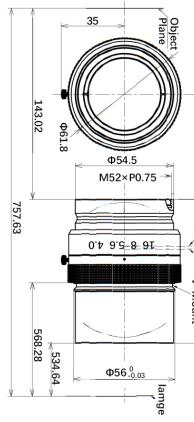
|                         | Mag. (x)  | 1.65x     | 1.7x      | 1.73x |
|-------------------------|-----------|-----------|-----------|-------|
| WD (mm)                 | 139.9±5   | 137.8±5   | 136.7±5   |       |
| Image Distance (mm)     | 256.5±2.5 | 262.3±2.5 | 265.8±2.5 |       |
| Conjugate Distance (mm) | 466.3±9   | 470±9     | 472.3±9   |       |
| FFL (mm)                | 280.3     | 286.1     | 289.6     |       |
| FOV                     | Ø38.8     |           |           |       |
| EFL (mm)                | 116       |           |           |       |
| Format (mm)             | Ø84       |           |           |       |
| Aperture(F/#)           | F3.8      |           |           |       |
| Distortion              | 0.05%     |           |           |       |
| ENP Diameter            | Ø30.9     |           |           |       |
| Mount                   | V (Ø49)   |           |           |       |

**VTL-16KP-2.0X**

|                         | Mag. (x)  | 1.75x     | 2x        | 2.25x |
|-------------------------|-----------|-----------|-----------|-------|
| WD (mm)                 | 135.7±5   | 127.2±5   | 121±5     |       |
| Image Distance (mm)     | 268.4±2.5 | 298.3±2.5 | 326.4±2.5 |       |
| Conjugate Distance (mm) | 474.7±9   | 496±9     | 517.9±9   |       |
| FFL (mm)                | 292.9±0.5 | 322.8±0.5 | 350.9±0.5 |       |
| FOV                     | 11.3°     |           |           |       |
| EFL (mm)                | 116       |           |           |       |
| Format (mm)             | Ø84       |           |           |       |
| Aperture(F/#)           | F3.8      |           |           |       |
| Distortion              | 0.0008%   |           |           |       |
| ENP Diameter            | Ø30.52    |           |           |       |
| Mount                   | V (Ø49)   |           |           |       |

**VTL-16KP-3.0X**

|                         | Mag. (x)  | 2.5x      | 3x        | 4.5x |
|-------------------------|-----------|-----------|-----------|------|
| WD (mm)                 | 119.2±5   | 111.4±5   | 98.6±5    |      |
| Image Distance (mm)     | 352.8±2.5 | 410.8±2.5 | 583.8±2.5 |      |
| Conjugate Distance (mm) | 541.1±9   | 591.3±9   | 751.5±9   |      |
| FFL (mm)                | 375.9     | 433.9     | 606.9     |      |
| FOV                     | 13.83°    |           |           |      |
| EFL (mm)                | 116       |           |           |      |
| Format (mm)             | Ø84       |           |           |      |
| Aperture(F/#)           | F4.2      |           |           |      |
| Distortion              | 0.001%    |           |           |      |
| ENP Diameter            | Ø29.52    |           |           |      |
| Mount                   | V (Ø49)   |           |           |      |

**VTL-16KP-3.0X-L**

|                         | Mag. (x)  | 2.5x       | 3x      | 4.5x |
|-------------------------|-----------|------------|---------|------|
| WD (mm)                 | 155.3±5   | 143.02±5   | 128.8±5 |      |
| Image Distance (mm)     | -         | -          | -       |      |
| Conjugate Distance (mm) | 681±9     | 757.63±9   | 864.5±9 |      |
| FFL (mm)                | 479.1±0.5 | 568.28±0.5 | 585±0.5 |      |
| FOV                     | -         |            |         |      |
| EFL (mm)                | 120       |            |         |      |
| Format (mm)             | Ø82       |            |         |      |
| Aperture(F/#)           | F4.0-16   |            |         |      |
| Distortion              | 0.001%    |            |         |      |
| ENP Diameter            | Ø31.4     |            |         |      |
| Mount                   | V (Ø56)   |            |         |      |

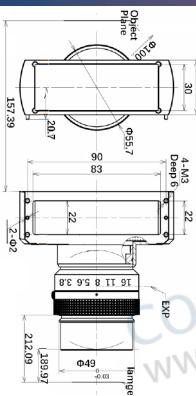
# Coaxial Illumination Line Scan Lenses

## FEATURES

1. Designed for coaxial lighting system
2. Avoid the resolution deduction caused by using the beam splitter
3. High resolution and contrast, supporting 16K 5μ line scan cameras
4. With 30\*80mm beam splitter
5. Ultra-low optical distortion , less than 0.001% or 1 pixel

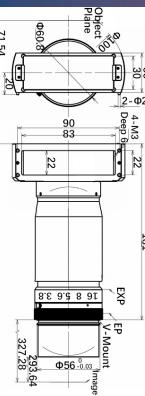


**VTCL-16KP-1.0X**



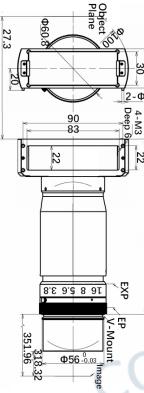
| Mag. (x)                | 0.9x      | 1x         | 1.2x       |
|-------------------------|-----------|------------|------------|
| WD (mm)                 | 170.1±5   | 157.39±5   | 138±5      |
| Conjugate Distance (mm) | 450.8±9   | 449.53±9   | 453.4±9    |
| FFL (mm)                | 200.6±0.5 | 212.09±0.5 | 235.33±0.5 |
| Resolution              | 16k5μ     |            |            |
| EFL (mm)                | 116       |            |            |
| Format (mm)             | Ø82       |            |            |
| Aperture (F/#)          | F3.8-16   |            |            |
| Distortion              | 0.0005%   |            |            |
| Relative Illumination   | 90%       |            |            |
| Mount                   | V (Ø49)   |            |            |

**VTCL-16KP-1.3X**



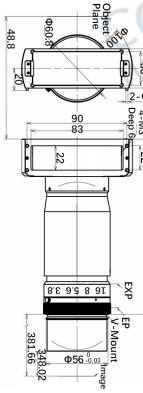
| Mag. (x)                | 1.2x      | 1.33x      | 1.43x      |
|-------------------------|-----------|------------|------------|
| WD (mm)                 | 83.33±5   | 71.54±5    | 63.87±5    |
| Conjugate Distance (mm) | 572.34±9  | 579.35±9   | 586.3±9    |
| FFL (mm)                | 308.5±0.5 | 327.28±0.5 | 341.92±0.5 |
| Resolution              | 16k5μ     |            |            |
| EFL (mm)                | 116       |            |            |
| Format (mm)             | Ø82       |            |            |
| Aperture (F/#)          | F4.3-16   |            |            |
| Distortion              | 0.001%    |            |            |
| Relative Illumination   | 90%       |            |            |
| Mount                   | V (Ø56)   |            |            |

**VTCL-16KP-1.5X**



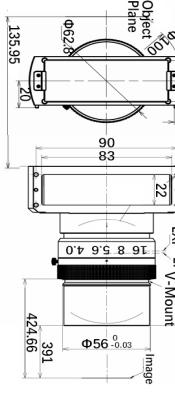
| Mag. (x)                | 1.4x       | 1.5x       | 1.6x       |
|-------------------------|------------|------------|------------|
| WD (mm)                 | 34.1±5     | 27.3±5     | 21.2±5     |
| Conjugate Distance (mm) | 584.2±9    | 592.1±9    | 600.28±9   |
| FFL (mm)                | 337.59±0.5 | 351.95±0.5 | 366.56±0.5 |
| Resolution              | 16k5μ      |            |            |
| EFL (mm)                | 145        |            |            |
| Format (mm)             | Ø82        |            |            |
| Aperture (F/#)          | F4.3-16    |            |            |
| Distortion              | 0.001%     |            |            |
| Relative Illumination   | 90%        |            |            |
| Mount                   | V (Ø56)    |            |            |

**VTCL-16KP-1.7X**



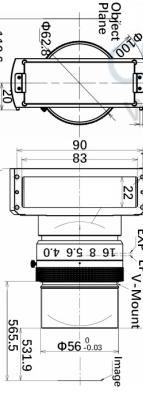
| Mag. (x)                | 1.45x      | 1.7x       | 2x        |
|-------------------------|------------|------------|-----------|
| WD (mm)                 | 67.2±5     | 48.83±5    | 35.7±5    |
| Conjugate Distance (mm) | 586.5±9    | 611.85±9   | 643.1±9   |
| FFL (mm)                | 337.86±0.5 | 381.66±0.5 | 425.6±0.5 |
| Resolution              | 16k5μ      |            |           |
| EFL (mm)                | 116        |            |           |
| Format (mm)             | Ø82        |            |           |
| Aperture (F/#)          | F4.0-16    |            |           |
| Distortion              | 0.001%     |            |           |
| Relative Illumination   | 90%        |            |           |
| Mount                   | V (Ø56)    |            |           |

**VTCL-16KP-2.0X**



| Mag. (x)                | 1.7x      | 2x         | 2.4x    |
|-------------------------|-----------|------------|---------|
| WD (mm)                 | 92±5      | 135.95±5   | 117±5   |
| Conjugate Distance (mm) | 611±9     | 641.94±9   | 688±9   |
| FFL (mm)                | 380.6±0.5 | 424.66±0.5 | 482±0.5 |
| Resolution              | 16k5μ     |            |         |
| EFL (mm)                | 120       |            |         |
| Format (mm)             | Ø82       |            |         |
| Aperture (F/#)          | F4.0-16   |            |         |
| Distortion              | 0.0005%   |            |         |
| Relative Illumination   | 90%       |            |         |
| Mount                   | V (Ø56)   |            |         |

**VTCL-16KP-3.0X**



| Mag. (x)                | 2.5x    | 3x        | 3.5x    |
|-------------------------|---------|-----------|---------|
| WD (mm)                 | 102.4±5 | 112.6±5   | 105.5±5 |
| Conjugate Distance (mm) | 696.5±9 | 759.5±9   | 825.9±9 |
| FFL (mm)                | 493±0.5 | 565.5±0.5 | 639±0.5 |
| Resolution              | 16k5μ   |           |         |
| EFL (mm)                | 120     |           |         |
| Format (mm)             | Ø82     |           |         |
| Aperture (F/#)          | F4.0-16 |           |         |
| Distortion              | 0.005%  |           |         |
| Relative Illumination   | 90%     |           |         |
| Mount                   | V (Ø56) |           |         |

# Focusing Ring and Adapter



|              | Lens Mount  | Camera Mount | Length (mm) |
|--------------|-------------|--------------|-------------|
| Adapter Ring | M58 × P0.75 | C-Mount      | 10          |
|              | M58 × P0.75 | F Mount      | 9           |
|              | M58 × P0.75 | M42 × P0.75  | 10          |
|              | M58 × P0.75 | M42 × P1     | 10          |
|              | M58 × P0.75 | M42 × P1     | 24.3        |
|              | M58 × P0.75 | M48 × P0.75  | 10          |
|              | M58 × P0.75 | M48 × P0.75  | 29.74       |
|              | M58 × P0.75 | M72 × P0.75  | 2           |
|              | M58 × P0.75 | M72 × P0.75  | 16.75       |
|              | M58 × P0.75 | M72 × P0.75  | 24.3        |
|              | M58 × P0.75 | M72 × P0.75  | 25          |
|              | M58 × P0.75 | M72 × P0.75  | 50          |
|              | M58 × P0.75 | M72 × P0.75  | 100         |
|              | M58 × P0.75 | M95 × P1     | 25          |
|              | M58 × P0.75 | M95 × P1     | 50          |
|              | M58 × P0.75 | M95 × P1     | 100         |

|              | Lens Mount  | Camera Mount | Length (mm) |
|--------------|-------------|--------------|-------------|
| Adapter Ring | C-Mount     | M42 × P1     | 5.526       |
|              | C-Mount     | M42 × P1     | 12.5        |
|              | M42 × P1    | M58 × P0.75  | 4           |
|              | M42 × P1    | M72 × P0.75  | 4           |
|              | M72 × P0.75 | M58 × P0.75  | 6           |
|              | M72 × P0.75 | M90 × P1     | 3           |
|              | M72 × P0.75 | M90 × P1     | 50          |
|              | M72 × P0.75 | M95 × P1     | 3           |
|              | M72 × P0.75 | M95 × P1     | 50          |
|              | V (Ø38)     | M42 × P0.75  | 4.5         |
|              | V (Ø38)     | M42 × P1     | 4.5         |
|              | V (Ø38)     | M42 × P1     | 6.5         |
|              | V (Ø42.5)   | C-Mount      | 8.47        |
|              | V (Ø42.5)   | M42 × P1     | 14          |
|              | V (Ø42.5)   | M58 × P0.75  | 14.52       |

|                      | Lens Mount  | Camera Mount | Focus Range (mm) | Length (mm) |
|----------------------|-------------|--------------|------------------|-------------|
| Focus Adjusting Ring | V (Ø38)     | V(Ø38)       | 17.4-29.4        | 12          |
|                      | M54 × P0.75 | M72 × P0.75  | 44-69            | 25          |
|                      | V (Ø38)     | M58 × P0.75  | 24-45            | 21          |
|                      | M60 × P0.75 | M72 × P0.75  | 44-69            | 25          |
|                      | F Mount     | M58 × P0.75  | -                | 10.2        |
|                      | M72 × P0.75 | M72 × P0.75  | 43.3-68.3        | 25          |
|                      | V (Ø38)     | M72 × P0.75  | 40.7-64.7        | 24          |

|                | Mount 1     | Mount 2     | Length (mm) |
|----------------|-------------|-------------|-------------|
| Extension Tube | M58 × P0.75 | M58 × P0.75 | 10          |
|                | M58 × P0.75 | M58 × P0.75 | 24          |
|                | M58 × P0.75 | M58 × P0.75 | 24.82       |
|                | M58 × P0.75 | M58 × P0.75 | 25          |
|                | M58 × P0.75 | M58 × P0.75 | 50          |
|                | M58 × P0.75 | M58 × P0.75 | 100         |
|                | M72 × P0.75 | M72 × P0.75 | 10          |
|                | M72 × P0.75 | M72 × P0.75 | 20          |
|                | M72 × P0.75 | M72 × P0.75 | 35          |
|                | M72 × P0.75 | M72 × P0.75 | 50          |
|                | M90 × P1    | M90 × P1    | 20          |
|                | M90 × P1    | M90 × P1    | 50          |
|                | M95 × P1    | M95 × P1    | 20          |
|                | M95 × P1    | M95 × P1    | 50          |

|             | Lens Mount | Mount 2     | Length (mm) |
|-------------|------------|-------------|-------------|
| Lens Holder | V (Ø38)    | M42 × P0.75 | 4.5         |
|             | V (Ø38)    | M42 × P0.75 | 6.5         |
|             | V (Ø42.5)  | M42 × P0.75 | 14          |
|             | V (Ø42.5)  | M58 × P0.75 | 14.52       |
|             | V (Ø49)    | M49 × P0.75 | 30          |
|             | V (Ø49)    | M54 × P0.75 | 20          |
|             | V (Ø56)    | M60 × P0.75 | 10          |
|             | V (Ø64)    | M72 × P0.75 | 6           |

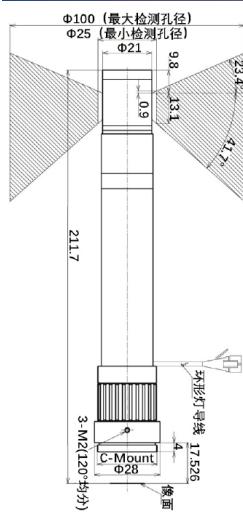
# 360°Inner Surface Lenses

## FEATURES

1. High resolution and compact design
2. Can clearly detect hidden features and defects
3. Highlight the tiny defects of the detected object
4. The lens comes with an integrated LED light source
5. Able to detect tiny defects under a very wide viewing angle
6. Applicable to objects whose internal features can only enter the hole through the internal inspection lens

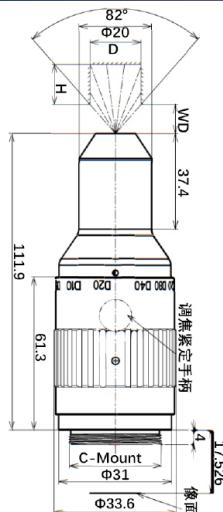


**VT-360LEN-IN01**



|                        |                                   |
|------------------------|-----------------------------------|
| Sensor Size            | 1/3"                              |
| Format (mm)            | Ø3.6                              |
| Aperture (F/#)         | F14                               |
| WD (mm)                | -                                 |
| Object Diam. (mm)      | Ø25-Ø100                          |
| Object Height (mm)     | 12.4-58.2                         |
| Wavelength Range       | 420-1150 nm                       |
| FOV<br>(Diam x Height) | Min Ø25 x 12.4<br>Max Ø100 x 58.2 |
| FOV                    | 62°                               |
| Dimensions (mm)        | Ø100 x 63.6 mm                    |
| Mount                  | C-Mount                           |

**VT-360LEN-IN02**



|                        |                            |
|------------------------|----------------------------|
| Sensor Size            | 2/3"                       |
| Format (mm)            | Ø6.6                       |
| Aperture (F/#)         | -                          |
| WD (mm)                | 2.7-70                     |
| Object Diam. (mm)      | 5-120                      |
| Object Height (mm)     | 5-123                      |
| Wavelength Range       | 450-650 nm                 |
| FOV<br>(Diam x Height) | Min 5 x 5<br>Max 120 x 123 |
| Dimensions (mm)        | Ø100 x 63.6 mm             |
| Mount                  | C-Mount                    |

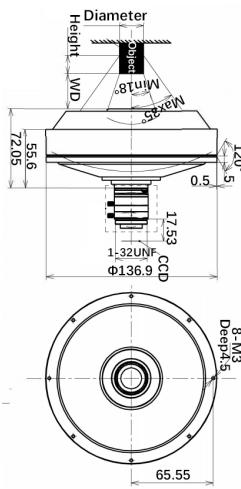
# 360°Outer Surface Lenses

## FEATURES

1. High resolution and compact design
2. Used to achieve 360° side view imaging of small objects
3. The minimum measuring object is 4.5mm (outer surface)
4. Suitable for detecting components such as drug containers, bottlenecks, and other threaded objects

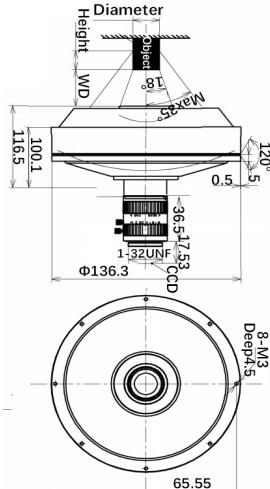


**VT-360LEN-OUT01**



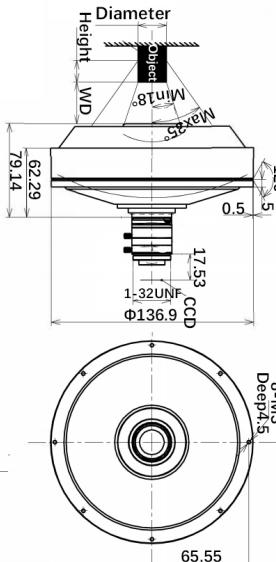
|                     |   |
|---------------------|---|
| Sensor Size         | 1/3"  |
| Format (mm)         | Ø3.6  |
| Aperture (F/#)      | F6-16   |
| WD (mm)             | 19-46.2   |
| Object Diam. (mm)   | 7.5-25  |
| Object Height (mm)  | 4.6-19.54   |
| Wavelength Range    | 450-650 nm  |
| FOV (Diam x Height) | Min Ø7.5 x 4.9<br>Typical Ø15 x 10.9<br>Max Ø25 x 19.54 |
| Dimensions (mm)     | -   |
| Mount               | C-Mount   |

**VT-360LEN-OUT02**



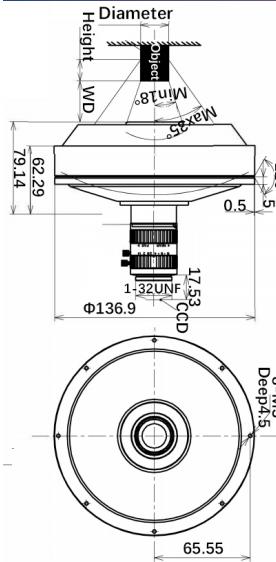
|                     |  |
|---------------------|--|
| Sensor Size         | 1/3"   |
| Format (mm)         | Ø3.6   |
| Aperture (F/#)      | F6-16  |
| WD (mm)             | 9.7-46.5   |
| Object Diam. (mm)   | 7.5-30   |
| Object Height (mm)  | 6.4-25.6   |
| Wavelength Range    | 450-650 nm   |
| FOV (Diam x Height) | Min Ø4.5 x 3.1<br>Typical Ø15 x 12.8<br>Max Ø30 x 25.6 |
| Dimensions (mm)     | -  |
| Mount               | C-Mount  |

**VT-360LEN-OUT03**



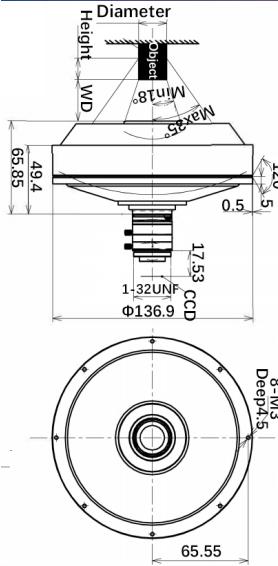
|                     |   |
|---------------------|---|
| Sensor Size         | 1/1.8"  |
| Format (mm)         | Ø5.32   |
| Aperture (F/#)      | F8-16   |
| WD (mm)             | 9-45.4  |
| Object Diam. (mm)   | 7.5-30  |
| Object Height (mm)  | 5.3-25  |
| Wavelength Range    | 450-650 nm  |
| FOV (Diam x Height) | Min Ø7.5 x 5.3<br>Typical Ø15 x 11.86<br>Max Ø30 x 25 |
| Dimensions (mm)     | -   |
| Mount               | C-Mount   |

**VT-360LEN-OUT04**



|                     |   |
|---------------------|---|
| Sensor Size         | 1/1.8"  |
| Format (mm)         | Ø5.32   |
| Aperture (F/#)      | F8-16   |
| WD (mm)             | 9-50  |
| Object Diam. (mm)   | 4.5-30  |
| Object Height (mm)  | 2.7-25  |
| Wavelength Range    | 450-650 nm  |
| FOV (Diam x Height) | Min Ø4.5 x 2.7<br>Typical Ø15 x 11.86<br>Max Ø30 x 25 |
| Dimensions (mm)     | -   |
| Mount               | C-Mount   |

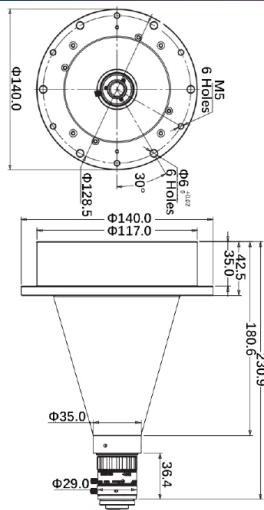
## VT-360LEN-OUT05



|                        |  |
|------------------------|--|
| Sensor Size            | 2/3"   |
| Format (mm)            | Ø6.6   |
| Aperture (F/#)         | F8-16  |
| WD (mm)                | 14-48.2  |
| Object Diam. (mm)      | 7.5-30   |
| Object Height (mm)     | 4-23.4   |
| Wavelength Range       | 450-650 nm   |
| FOV<br>(Diam x Height) | Min Ø7.5 x 4<br>Typical Ø15 x 10.6<br>Max Ø30 x 23.4 |
| Dimensions (mm)        | -  |
| Mount                  | C-Mount  |

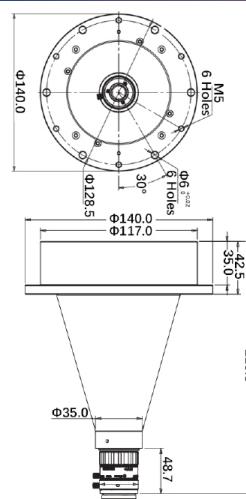
# 360°Multi-Angle Lenses

## VT-360LEN-0825-118



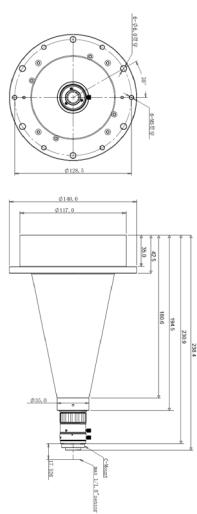
|                                  |   |
|----------------------------------|---|
| Sensor Size                      | 2/3"                                      |
| Wavelength Range                 | 400-600 nm                                |
| WD                               | 3-40 mm                                   |
| MTF30                            | 150 lp/mm                                 |
| Aperture (F/#)                   | 2.8~16                                    |
| Max Diam.                        | 140                                       |
| Length                           | 230.9                                     |
| Max Object Diam. From Side       | Object height 20 mm<br>Object height 5 mm |
| Max Object Diam. From Side + Top | Object height 10 mm                       |
| Mount                            | C-Mount                                   |

## VT-360LEN-0825-230



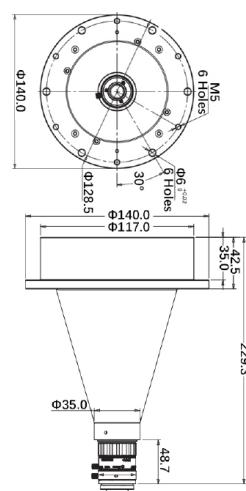
|                                  |   |
|----------------------------------|---|
| Sensor Size                      | 2/3"                                      |
| Wavelength Range                 | 450-650 nm                                |
| WD                               | 20-40 mm                                  |
| MTF30                            | 150 lp/mm                                 |
| Aperture (F/#)                   | 8~16                                      |
| Max Diam.                        | 140                                       |
| Length                           | 229.3                                     |
| Max Object Diam. From Side       | Object height 20 mm<br>Object height 5 mm |
| Max Object Diam. From Side + Top | Object height 10 mm                       |
| Mount                            | C-Mount                                   |

## VT-360LEN-0850-230



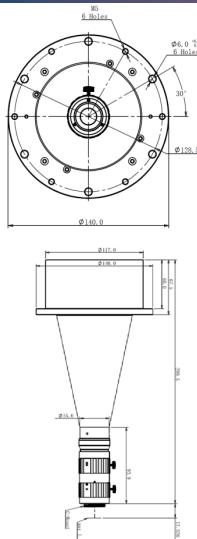
|                                  |  |
|----------------------------------|--|
| Sensor Size                      | 2/3"                                       |
| Wavelength Range                 | 400-680 nm                                 |
| WD                               | 23-85 mm                                   |
| MTF30                            | /  |
| Aperture (F/#)                   | 2.8~16                                     |
| Max Diam.                        | 140  |
| Length                           | 238.4                                      |
| Max Object Diam. From Side       | Object height 40 mm<br>Object height 20 mm |
| Max Object Diam. From Side + Top | Object height 10 mm                        |
| Mount                            | C-Mount                                    |

## VT-360LEN-0825-H1.1



|                                  |   |
|----------------------------------|---|
| Sensor Size                      | 1.1 "                                     |
| Wavelength Range                 | 400-680 nm                                |
| WD                               | 3-40 mm                                   |
| MTF30                            | 126 lp/mm                                 |
| Aperture (F/#)                   | 2.8~25                                    |
| Max Diam.                        | 140                                       |
| Length                           | 229.3                                     |
| Max Object Diam. From Side       | Object height 20 mm<br>Object height 5 mm |
| Max Object Diam. From Side + Top | Object height 10 mm                       |
| Mount                            | C-Mount                                   |

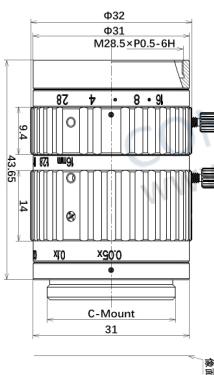
## VT-360LEN-0816-H1.1



|                                  |   |
|----------------------------------|---|
| Sensor Size                      | 1.1 "                                     |
| Wavelength Range                 | 400-680 nm                                |
| WD                               | 5-100 mm                                  |
| MTF30                            | 120 lp/mm                                 |
| Aperture (F/#)                   | 2.8~25                                    |
| Max Diam.                        | 140                                       |
| Length                           | 299.5                                     |
| Max Object Diam. From Side       | Object height 20 mm<br>Object height 5 mm |
| Max Object Diam. From Side + Top | Object height 10 mm                       |
| Mount                            | C-Mount                                   |

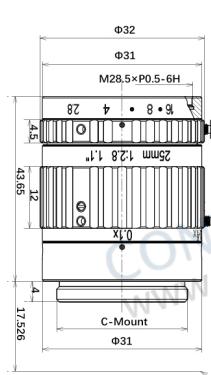
# Macro Lenses

## VT-MC1628



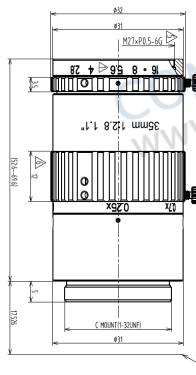
|               |                |             |         |           |      |      |      |   |   |   |  |
|---------------|----------------|-------------|---------|-----------|------|------|------|---|---|---|--|
| EFL (mm)      | 16             |             |         |           |      |      |      |   |   |   |  |
| F.NO (F/#)    | F2.8-16(±10%)  |             |         |           |      |      |      |   |   |   |  |
| FFL (mm)      | 17.526         |             |         |           |      |      |      |   |   |   |  |
| O/I           | 115.5-606.9 mm |             |         |           |      |      |      |   |   |   |  |
| TV Distortion | <0.33%         |             |         |           |      |      |      |   |   |   |  |
| WD (mm)       | Mag. (x)       | FOV(mm)     |         |           |      |      |      |   |   |   |  |
|               |                | 1.1"(Ø17.6) | 1"(Ø16) | 2/3"(Ø11) | H    | V    | H    | V | H | V |  |
| 52            | -0.25          | 56.6        | 42      | 51.2      | 38.4 | 35.2 | 26.4 |   |   |   |  |
| 66            | -0.2           | 66.4        | 50      | 62.4      | 46.8 | 42.9 | 32   |   |   |   |  |
| 94            | -0.15          | 92.8        | 70      | 84        | 63   | 58   | 43.5 |   |   |   |  |
| 152           | -0.10          | 142         | 106     | 144       | 108  | 89   | 66.8 |   |   |   |  |
| 321           | -0.05          | 284         | 213     | 260       | 195  | 179  | 134  |   |   |   |  |
| 546           | -0.03          | 474         | 356     | 433       | 325  | 299  | 224  |   |   |   |  |
|               |                |             |         |           |      |      |      |   |   |   |  |

## VT-MC2528



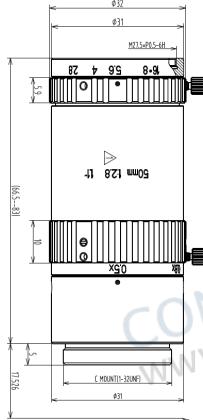
|               |               |             |         |           |      |      |      |   |   |   |  |
|---------------|---------------|-------------|---------|-----------|------|------|------|---|---|---|--|
| EFL (mm)      | 25            |             |         |           |      |      |      |   |   |   |  |
| F.NO (F/#)    | F2.8-16(±10%) |             |         |           |      |      |      |   |   |   |  |
| FFL (mm)      | 17.526        |             |         |           |      |      |      |   |   |   |  |
| O/I           | 126-314.1 mm  |             |         |           |      |      |      |   |   |   |  |
| TV Distortion | <0.07%        |             |         |           |      |      |      |   |   |   |  |
| WD (mm)       | Mag. (x)      | FOV(mm)     |         |           |      |      |      |   |   |   |  |
|               |               | 1.1"(Ø17.6) | 1"(Ø16) | 2/3"(Ø11) | H    | V    | H    | V | H | V |  |
| 65            | -0.4          | 35          | 26      | 32        | 24   | 22   | 16.5 |   |   |   |  |
| 74.4          | -0.35         | 40          | 30      | 35.6      | 27.4 | 25   | 18.8 |   |   |   |  |
| 85.4          | -0.3          | 47          | 35      | 42.6      | 32   | 29   | 22   |   |   |   |  |
| 103.4         | -0.25         | 56          | 42      | 51        | 38   | 35   | 26   |   |   |   |  |
| 125.4         | -0.2          | 70          | 52.8    | 64        | 48   | 44   | 33   |   |   |   |  |
| 173.4         | -0.15         | 93          | 70      | 85        | 64   | 58.6 | 44   |   |   |   |  |
| 260.4         | -0.1          | 140         | 105     | 128       | 96   | 88   | 66   |   |   |   |  |

## VT-MC3528



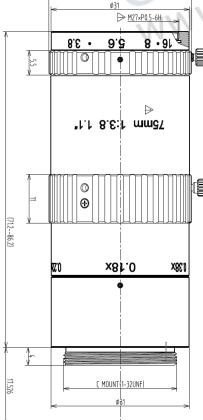
|               |                |             |         |           |      |      |      |   |   |   |  |
|---------------|----------------|-------------|---------|-----------|------|------|------|---|---|---|--|
| EFL (mm)      | 35             |             |         |           |      |      |      |   |   |   |  |
| F.NO (F/#)    | F2.8-16(±10%)  |             |         |           |      |      |      |   |   |   |  |
| FFL (mm)      | 17.526         |             |         |           |      |      |      |   |   |   |  |
| O/I           | 145.3-220.6 mm |             |         |           |      |      |      |   |   |   |  |
| TV Distortion | <0.05%         |             |         |           |      |      |      |   |   |   |  |
| WD (mm)       | Mag. (x)       | FOV(mm)     |         |           |      |      |      |   |   |   |  |
|               |                | 1.1"(Ø17.6) | 1"(Ø16) | 2/3"(Ø11) | H    | V    | H    | V | H | V |  |
| 59            | -0.7           | 20.1        | 15      | 18.2      | 13.7 | 12.6 | 9.5  |   |   |   |  |
| 63            | -0.65          | 21.6        | 16.2    | 19.6      | 14.7 | 13.6 | 10.2 |   |   |   |  |
| 67            | -0.6           | 23.4        | 17.6    | 21.3      | 16   | 14.8 | 11.1 |   |   |   |  |
| 73            | -0.55          | 25.6        | 19.2    | 23.2      | 17.4 | 16.1 | 12.1 |   |   |   |  |
| 78            | -0.5           | 28.1        | 21.1    | 25.6      | 19.2 | 17.6 | 13.3 |   |   |   |  |
| 87            | -0.45          | 31.2        | 23.4    | 28.4      | 21.3 | 19.7 | 14.8 |   |   |   |  |
| 97            | -0.4           | 35.2        | 26.4    | 32        | 24   | 22.2 | 16.6 |   |   |   |  |
| 110           | -0.35          | 40.2        | 30.1    | 36.5      | 27.4 | 25.3 | 19   |   |   |   |  |
| 125           | -0.3           | 46.9        | 35.2    | 42.6      | 32   | 29.6 | 22.2 |   |   |   |  |
| 150           | -0.25          | 56.3        | 42.2    | 55.6      | 41.7 | 38.6 | 28.9 |   |   |   |  |

## VT-MC5028



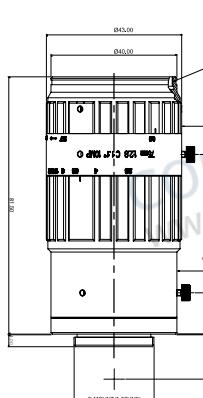
|               |                |             |         |           |      |      |      |   |   |   |  |
|---------------|----------------|-------------|---------|-----------|------|------|------|---|---|---|--|
| EFL (mm)      | 50             |             |         |           |      |      |      |   |   |   |  |
| F.NO (F/#)    | F2.8-16(±10%)  |             |         |           |      |      |      |   |   |   |  |
| FFL (mm)      | 17.526         |             |         |           |      |      |      |   |   |   |  |
| O/I           | 195.6-220.1 mm |             |         |           |      |      |      |   |   |   |  |
| TV Distortion | <0.05%         |             |         |           |      |      |      |   |   |   |  |
| WD (mm)       | Mag. (x)       | FOV(mm)     |         |           |      |      |      |   |   |   |  |
|               |                | 1.1"(Ø17.6) | 1"(Ø16) | 2/3"(Ø11) | H    | V    | H    | V | H | V |  |
| 95.4          | -0.8           | 17.5        | 13      | 15.9      | 11.9 | 11   | 8.2  |   |   |   |  |
| 99.4          | -0.75          | 18.6        | 14      | 16.9      | 12.7 | 11.7 | 8.8  |   |   |   |  |
| 103.4         | -0.7           | 20          | 15      | 18.2      | 13.6 | 12.6 | 9.4  |   |   |   |  |
| 109.4         | -0.65          | 21.5        | 16.1    | 19.6      | 14.7 | 13.6 | 10.2 |   |   |   |  |
| 115.4         | -0.6           | 23.3        | 17.6    | 21.2      | 15.9 | 14.7 | 11   |   |   |   |  |
| 123.4         | -0.55          | 25.5        | 19.1    | 23.1      | 17.3 | 16   | 12   |   |   |   |  |
| 132.4         | -0.5           | 28          | 21      | 25.4      | 19   | 17.6 | 13.2 |   |   |   |  |

## VT-MC7538



|               |               |             |         |           |       |       |       |   |   |   |  |
|---------------|---------------|-------------|---------|-----------|-------|-------|-------|---|---|---|--|
| EFL (mm)      | 75            |             |         |           |       |       |       |   |   |   |  |
| F.NO (F/#)    | F3.8-16(±10%) |             |         |           |       |       |       |   |   |   |  |
| FFL (mm)      | 17.526        |             |         |           |       |       |       |   |   |   |  |
| O/I           | 357-557 mm    |             |         |           |       |       |       |   |   |   |  |
| TV Distortion | <0.05%        |             |         |           |       |       |       |   |   |   |  |
| WD (mm)       | Mag. (x)      | FOV(mm)     |         |           |       |       |       |   |   |   |  |
|               |               | 1.1"(Ø17.6) | 1"(Ø16) | 2/3"(Ø11) | H     | V     | H     | V | H | V |  |
| 257           | -0.38         | 30.75       | 27.78   | 33.68     | 25.26 | 23.15 | 17.36 |   |   |   |  |
| 282           | -0.337        | 41.78       | 31.33   | 37.98     | 28.48 | 26.11 | 19.58 |   |   |   |  |
| 307           | -0.302        | 46.62       | 34.96   | 42.38     | 31.78 | 29.13 | 21.85 |   |   |   |  |
| 332           | -0.274        | 51.38       | 38.54   | 46.71     | 35.03 | 32.11 | 24.08 |   |   |   |  |
| 357           | -0.25         | 56.32       | 42.24   | 51.2      | 38.4  | 35.2  | 26.4  |   |   |   |  |
| 382           | -0.231        | 60.95       | 45.71   | 55.41     | 41.55 | 38.09 | 28.57 |   |   |   |  |
| 407           | -0.214        | 65.79       | 45.71   | 59.81     | 44.85 | 41.12 | 30.84 |   |   |   |  |
| 432           | -0.2          | 70.4        | 52.8    | 64        | 48    | 44    | 33    |   |   |   |  |
| 457           | -0.186        | 75.69       | 56.77   | 68.81     | 51.61 | 47.31 | 35.48 |   |   |   |  |
| 471           | -0.18         | 78.22       | 58.66   | 71.11     | 53.33 | 48.88 | 36.66 |   |   |   |  |

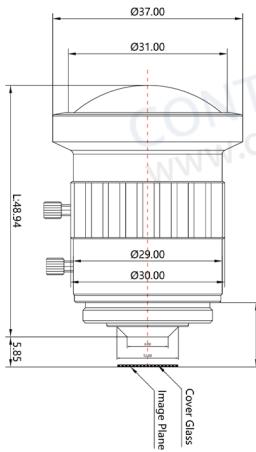
## VT-MC7526



|               |            |             |         |           |       |       |       |   |   |   |  |
|---------------|------------|-------------|---------|-----------|-------|-------|-------|---|---|---|--|
| EFL (mm)      | 75         |             |         |           |       |       |       |   |   |   |  |
| F.NO (F/#)    | F2.6       |             |         |           |       |       |       |   |   |   |  |
| FFL (mm)      | 15.76      |             |         |           |       |       |       |   |   |   |  |
| O/I           | 357-557 mm |             |         |           |       |       |       |   |   |   |  |
| TV Distortion | <0.05%     |             |         |           |       |       |       |   |   |   |  |
| WD (mm)       | Mag. (x)   | FOV(mm)     |         |           |       |       |       |   |   |   |  |
|               |            | 1.1"(Ø17.6) | 1"(Ø16) | 2/3"(Ø11) | H     | V     | H     | V | H | V |  |
| 1800          | -0.059     | 238.6       | 179.0   | 216.9     | 162.7 | 149.2 | 111.9 |   |   |   |  |
| 1500          | -0.071     | 198.3       | 148.7   | 180.3     | 135.2 | 123.9 | 93.0  |   |   |   |  |
| 1200          | -0.09      | 156.4       | 117.3   | 142.2     | 106.7 | 97.8  | 73.3  |   |   |   |  |
| 900           | -0.122     | 115.4       | 86.6    | 104.9     | 78.7  | 72.1  | 54.1  |   |   |   |  |
| 600           | -0.189     | 74.5        | 55.9    | 67.7      | 50.8  | 46.6  | 34.9  |   |   |   |  |
| 300           | -0.425     | 33.1        | 24.8    | 30.1      | 22.6  | 20.7  | 15.5  |   |   |   |  |
| 100           | -2.520     | 5.6         | 4.2     | 5.1       | 3.8   | 3.5   | 2.6   |   |   |   |  |

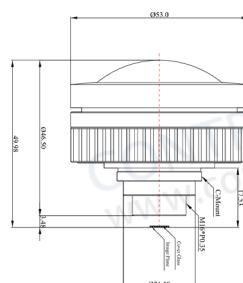
# Fisheye Lenses

## VT-LEN02321FE



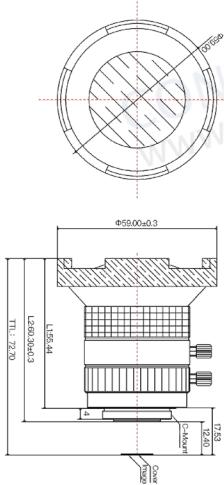
|                       |                  |
|-----------------------|------------------|
| Image Size (inch)     | 2/3"             |
| EFL (mm)              | 2.3              |
| Aperture, F/#         | F2.1-21          |
| Resolution            | 8MP              |
| D*H*V                 | 190°x 190°x 190° |
| Distortion(OPT)       | -97%             |
| BFL (mm)              | 12.53            |
| M.O.D                 | 0.3m~∞           |
| Filter Size           | -                |
| Focusing Method       | Manual           |
| Iris Type             | Manual           |
| Mount                 | CS-Mount         |
| Weight                | 81g              |
| Dimension             | Ø37x48.94mm      |
| Operating Temperature | -20~+85°C        |

## VT-LEN03324FE-H1



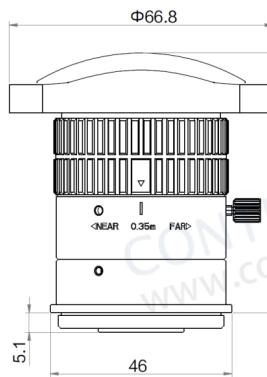
|                       |                |
|-----------------------|----------------|
| Image Size (inch)     | 1"             |
| EFL (mm)              | 3.3            |
| Aperture, F/#         | F2.4           |
| Resolution            | 20MP           |
| D*H*V                 | 190°x 190°x /° |
| Distortion            | 0%~F∞          |
| BFL (mm)              | 4.90           |
| M.O.D                 | 0.1m~∞         |
| Filter Size           | -              |
| Focusing Method       | Manual         |
| Iris Type             | Fixed          |
| Mount                 | C-Mount        |
| Weight                | 145g           |
| Dimension             | Ø53x46.5mm     |
| Operating Temperature | -25~+85°C      |

## VT-LEN03514FE



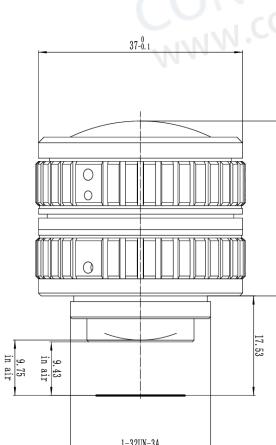
|                       |               |
|-----------------------|---------------|
| Image Size (inch)     | 2/3"(Ø11.2mm) |
| EFL (mm)              | 3.5           |
| Aperture, F/#         | F1.4          |
| Resolution            | 5MP           |
| F.O.V (D)             | Ø11/152°      |
| TV Distortion         | <-37%         |
| BFL (mm)              | 17.53         |
| M.O.D                 | 0.1m~∞        |
| Filter Size           | -             |
| Focusing Method       | Manual        |
| Iris Type             | Manual        |
| Mount                 | C/CS-Mount    |
| Weight                | 200g          |
| Dimension             | Ø59x60.3mm    |
| Operating Temperature | -20~+85°C     |

## VT-LEN04618FE



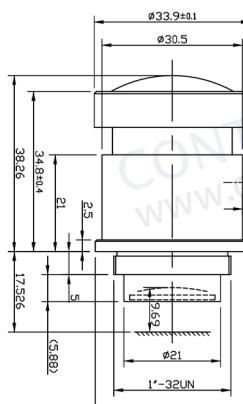
|                       |                    |
|-----------------------|--------------------|
| Image Size            | Ø14.2mm (0.9")     |
| EFL (mm)              | 4.6                |
| Aperture, F/#         | F1.8               |
| FOV(°)                | 2K7μm(14.2mm):183° |
| Distortion(TV)        | -2.0%              |
| FBL (mm)              | 12                 |
| Working Distance      | 0.2m               |
| Filter Size           | -                  |
| Focusing Method       | Manual             |
| Iris Type             | Fixed              |
| Mount                 | M42XP1             |
| Weight                | 247g               |
| Dimension             | Ø66.8x66.2mm       |
| Operating Temperature | -10~+50°C          |

## VT-LEN04922FE-C



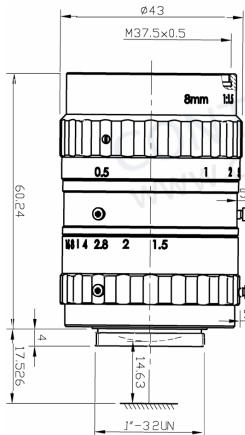
|                       |                  |
|-----------------------|------------------|
| Image Size            | Ø14.2mm (180° )  |
| EFL (mm)              | 4.9              |
| Aperture, F/#         | F2.2±0.15        |
| FOV(°)                | 180°x150.2°x118° |
| Distortion(TV)        | -97%             |
| FBL (mm)              | 17.53            |
| Working Distance      | 0.1m~∞           |
| Filter Size           | -                |
| Focusing Method       | Manual           |
| Iris Type             | Fixed            |
| Mount                 | C-Mount          |
| CAR                   | ≤9.9°            |
| Dimension             | Ø37x38.9mm       |
| Operating Temperature | -20~+55°C        |

## VLEN-0725FE-H1

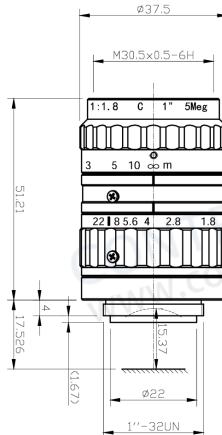


|                       |                 |
|-----------------------|-----------------|
| Image Size            | 1"              |
| EFL (mm)              | 6.99            |
| Aperture, F/#         | F2.55           |
| FOV(°)                | 143°x109.2°x80° |
| Distortion(TV)        | <-61%           |
| Back Focus (mm)       | 9.69            |
| Working Distance      | 0.5m~∞          |
| Filter Size           | -               |
| Focusing Method       | Manual          |
| Iris Type             | Fixed           |
| Mount                 | C-Mount         |
| CAR                   | 16.74°          |
| Dimension             | Ø33.9x38.26mm   |
| Operating Temperature | -20~+65°C       |

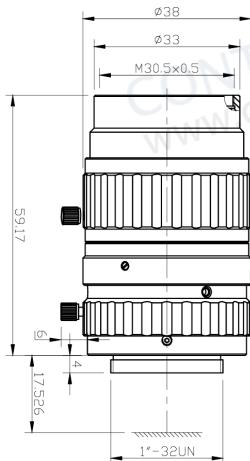
# IR Corrected Lenses

**VT-VIRLEN0815MP3**


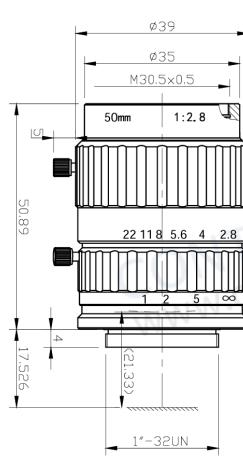
|                              |                   |
|------------------------------|-------------------|
| <b>Image Size (inch)</b>     | 1/1.2"            |
| <b>Resolution</b>            | 3MP               |
| <b>EFL(mm)</b>               | 8                 |
| <b>Aperture, F/#</b>         | F1.5              |
| <b>D*H*V</b>                 | 90.2°x 71°x 54.6° |
| <b>Optical Distortion</b>    | <-20%             |
| <b>CRA</b>                   | 6.79°             |
| <b>Back Focus (mm)</b>       | 14.63             |
| <b>Design Wavelength</b>     | 400-1000nm        |
| <b>Relative illuminatio</b>  | 31%               |
| <b>IR Correction</b>         | Yes               |
| <b>Mount</b>                 | C-Mount           |
| <b>Dimension</b>             | Φ43x60.24mm       |
| <b>Filter Thread</b>         | M37.5X0.5         |
| <b>Operating Temperature</b> | -20°C~+65°C       |

**VT-VIRLEN2518MP10-H1**


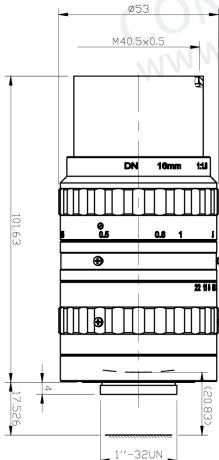
|                              |                 |
|------------------------------|-----------------|
| <b>Image Size (inch)</b>     | 1"              |
| <b>Resolution</b>            | 10MP(150lp/mm)  |
| <b>EFL(mm)</b>               | 25              |
| <b>Aperture, F/#</b>         | F1.8            |
| <b>D*H*V</b>                 | 34.8°x28°x21.2° |
| <b>Optical Distortion</b>    | <-0.8%          |
| <b>CRA</b>                   | 12.05°          |
| <b>Back Focus (mm)</b>       | 15.37           |
| <b>Design Wavelength</b>     | 400-1000nm      |
| <b>Relative illuminatio</b>  | 50%             |
| <b>IR Correction</b>         | Yes             |
| <b>Mount</b>                 | C-Mount         |
| <b>Dimension</b>             | Φ37.5x51.21mm   |
| <b>Filter Thread</b>         | M30.5X0.5       |
| <b>Operating Temperature</b> | -20°C~+65°C     |

**VT-VIRLEN3520MP5-H1**


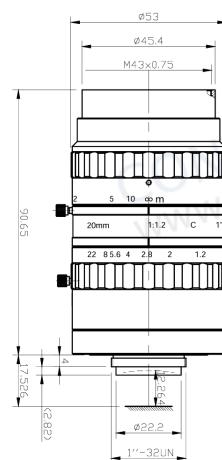
|                              |                     |
|------------------------------|---------------------|
| <b>Image Size (inch)</b>     | 1"                  |
| <b>Resolution</b>            | 5MP(100lp/mm)       |
| <b>EFL(mm)</b>               | 35                  |
| <b>Aperture, F/#</b>         | F2.0                |
| <b>D*H*V</b>                 | 26.03°x20.7°x15.45° |
| <b>Optical Distortion</b>    | <-3.4%              |
| <b>CRA</b>                   | 11.68°              |
| <b>Back Focus (mm)</b>       | 19.59               |
| <b>Design Wavelength</b>     | 400-1000nm          |
| <b>Relative illuminatio</b>  | 67%                 |
| <b>IR Correction</b>         | Yes                 |
| <b>Mount</b>                 | C-Mount             |
| <b>Dimension</b>             | Φ38x59.17mm         |
| <b>Filter Thread</b>         | M30.5X0.5           |
| <b>Operating Temperature</b> | -20°C~+65°C         |

**VT-VIRLEN5028MP5-H1**


|                              |                  |
|------------------------------|------------------|
| <b>Image Size (inch)</b>     | 1"               |
| <b>Resolution</b>            | 5MP              |
| <b>EFL(mm)</b>               | 50               |
| <b>Aperture, F/#</b>         | F2.8             |
| <b>D*H*V</b>                 | 18.4°x14.62°x11° |
| <b>Optical Distortion</b>    | <0.26%           |
| <b>CRA</b>                   | 11.20°           |
| <b>Back Focus (mm)</b>       | 21.33            |
| <b>Design Wavelength</b>     | 400-1000nm       |
| <b>Relative illuminatio</b>  | 55.55%           |
| <b>IR Correction</b>         | Yes              |
| <b>Mount</b>                 | C-Mount          |
| <b>Dimension</b>             | Φ39x50.89mm      |
| <b>Filter Thread</b>         | M30.5X0.5        |
| <b>Operating Temperature</b> | -20°C~+65°C      |

**VT-VIRLEN1616MP10-H1**


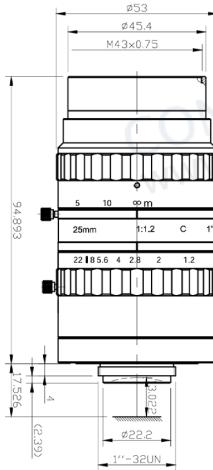
|                              |                      |
|------------------------------|----------------------|
| <b>Image Size (inch)</b>     | 1"                   |
| <b>Resolution</b>            | 10MP(120 lp/mm)      |
| <b>EFL (mm)</b>              | 16                   |
| <b>Aperture, F/#</b>         | F1.6                 |
| <b>D*H*V</b>                 | 52.38°x42.49°x32.21° |
| <b>Optical Distortion</b>    | <-3.56%              |
| <b>CRA</b>                   | 7.4°                 |
| <b>Back Focus (mm)</b>       | 20.83                |
| <b>Design Wavelength</b>     | 400-950nm            |
| <b>Relative illuminatio</b>  | 76.7%                |
| <b>IR Correction</b>         | Yes                  |
| <b>Mount</b>                 | C-Mount              |
| <b>Dimension</b>             | Φ53x101.63mm         |
| <b>Filter Thread</b>         | M40.5X0.5            |
| <b>Operating Temperature</b> | -20°C~+65°C          |

**VT-VIRLEN2012MP10-H1**


|                              |                    |
|------------------------------|--------------------|
| <b>Image Size (inch)</b>     | 1"                 |
| <b>Resolution</b>            | 10MP               |
| <b>EFL(mm)</b>               | 20                 |
| <b>Aperture, F/#</b>         | F1.2               |
| <b>D*H*V</b>                 | 45.4°x33.18°x26.2° |
| <b>Optical Distortion</b>    | <-4.0%             |
| <b>CRA</b>                   | 5.48°              |
| <b>Back Focus (mm)</b>       | 12.26              |
| <b>Design Wavelength</b>     | 400-1000nm         |
| <b>Relative illuminatio</b>  | 42%                |
| <b>IR Correction</b>         | Yes                |
| <b>Mount</b>                 | C-Mount            |
| <b>Dimension</b>             | Φ53x90.65mm        |
| <b>Filter Thread</b>         | M43X0.75           |
| <b>Operating Temperature</b> | -20°C~+65°C        |

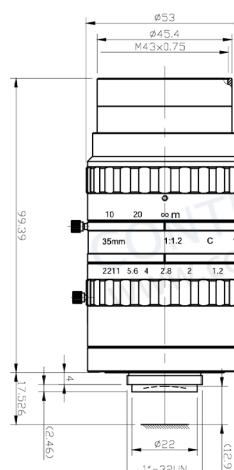
# IR Corrected Lenses

**VT-VIRLEN2512MP10-H1**



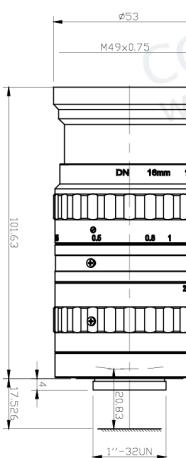
|                       |                       |
|-----------------------|-----------------------|
| Image Size (inch)     | 1"                    |
| Resolution            | 10MP                  |
| EFL(mm)               | 25                    |
| Aperture, F/#         | F1.2                  |
| D*H*V                 | 36.4°x 27.68°x 18.36° |
| Optical Distortion    | <-2.5%                |
| CRA                   | 8.51°                 |
| Back Focus (mm)       | 13.02                 |
| Design Wavelength     | 400-1000nm            |
| Relative illuminatio  | 46%                   |
| IR Correction         | Yes                   |
| Mount                 | C-Mount               |
| Dimension             | Φ53x94.89mm           |
| Filter Thread         | M43X0.75              |
| Operating Temperature | -20°C~+65°C           |

**VT-VIRLEN3512MP10-H1**



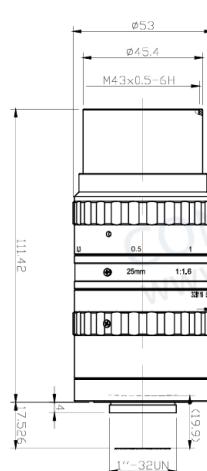
|                       |                     |
|-----------------------|---------------------|
| Image Size (inch)     | 1"                  |
| Resolution            | 10MP                |
| EFL(mm)               | 35                  |
| Aperture, F/#         | F1.2                |
| D*H*V                 | 26°x 20.96°x 15.72° |
| Optical Distortion    | <-2.2%              |
| CRA                   | 16.47°              |
| Back Focus (mm)       | 12.92               |
| Design Wavelength     | 400-1000nm          |
| Relative illuminatio  | 37%                 |
| IR Correction         | Yes                 |
| Mount                 | C-Mount             |
| Dimension             | Φ53x99.39mm         |
| Filter Thread         | M43X0.75            |
| Operating Temperature | -20°C~+65°C         |

**VT-VIRLEN1616MP10-H2**



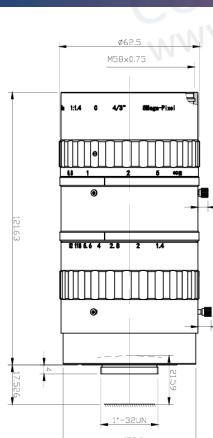
|                       |                       |
|-----------------------|-----------------------|
| Image Size (inch)     | 4/3"                  |
| Resolution            | 10MP                  |
| EFL(mm)               | 16                    |
| Aperture, F/#         | F1.6                  |
| D*H*V                 | 66.26°x 56.04°x 43.7° |
| Optical Distortion    | <-5.63%               |
| CRA                   | 7.49°                 |
| Back Focus (mm)       | 20.83                 |
| Design Wavelength     | 400-950nm             |
| Relative illuminatio  | 45.3%                 |
| IR Correction         | Yes                   |
| Mount                 | C-Mount               |
| Dimension             | Φ53x101.63mm          |
| Filter Thread         | M49X0.75              |
| Operating Temperature | -20°C~+65°C           |

**VT-VIRLEN2516MP10-H2**



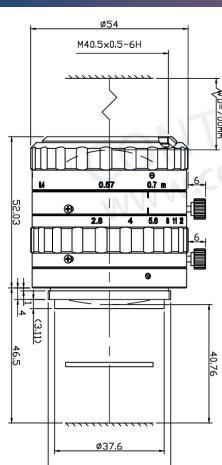
|                       |                        |
|-----------------------|------------------------|
| Image Size (inch)     | 4/3"                   |
| Resolution            | 10MP                   |
| EFL(mm)               | 25                     |
| Aperture, F/#         | F1.6                   |
| D*H*V                 | 48.15°x 38.91°x 29.39° |
| Optical Distortion    | <-3.54%                |
| CRA                   | 6.8°                   |
| Back Focus (mm)       | 19.9                   |
| Design Wavelength     | 400-950nm              |
| Relative illuminatio  | 49.9%                  |
| IR Correction         | Yes                    |
| Mount                 | C-Mount                |
| Dimension             | Φ53x111.42mm           |
| Filter Thread         | M43X0.75               |
| Operating Temperature | -20°C~+65°C            |

**VT-VIRLEN2514MP8-H2**



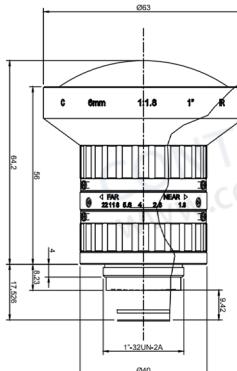
|                       |                        |
|-----------------------|------------------------|
| Image Size (inch)     | 4/3"                   |
| Resolution            | 8MP                    |
| EFL(mm)               | 25                     |
| Aperture, F/#         | F1.4-32                |
| D*H*V                 | 48.15°x 39.74°x 30.02° |
| Optical Distortion    | <-3.5%                 |
| CRA                   | 6.8°                   |
| Back Focus (mm)       | 21.59                  |
| Design Wavelength     | 400-900nm              |
| Relative illuminatio  | 50%                    |
| IR Correction         | Yes                    |
| Mount                 | C-Mount                |
| Dimension             | Φ62.5x121.63mm         |
| Filter Thread         | M58X0.75               |
| Operating Temperature | -20°C~+65°C            |

**VT-VIRLEN5028MP18-H3**

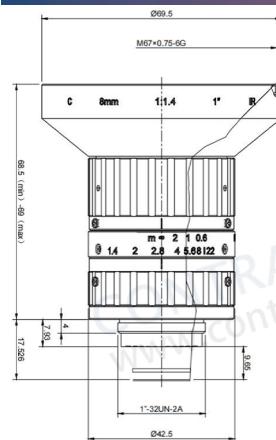


|                       |                       |
|-----------------------|-----------------------|
| Image Size            | 30mm                  |
| Resolution            | 120lp/mm              |
| EFL(mm)               | 50                    |
| Aperture, F/#         | F2.8                  |
| D*H*V                 | 31.74°x 26.6°x 17.86° |
| Optical Distortion    | <-0.3%                |
| CRA                   | /                     |
| Back Focus (mm)       | 40.76                 |
| Design Wavelength     | 400-900nm             |
| Relative illuminatio  | /                     |
| IR Correction         | Yes                   |
| Mount                 | M42                   |
| Dimension             | Φ54x52.03mm           |
| Filter Thread         | M40.5X0.5             |
| Operating Temperature | -20°C~+65°C           |

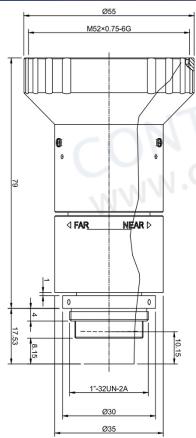
# SWIR Lenses

**VLEN2-0618SW-H1**


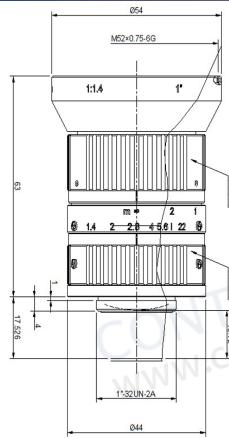
|                        |                       |
|------------------------|-----------------------|
| <b>EFL (mm)</b>        | <b>6</b>              |
| <b>Aperture (F/#)</b>  | <b>F1.8</b>           |
| <b>Sensor Size</b>     | <b>1"</b>             |
| <b>FOV (D/H/V)</b>     | <b>105°/93.6°/77°</b> |
| <b>Back Focus (mm)</b> | <b>9.42</b>           |
| <b>FBL(mm)</b>         | <b>17.526mm</b>       |
| <b>Wavelength</b>      | <b>900-1700nm</b>     |
| <b>Iris</b>            | <b>Manual</b>         |
| <b>M.O.D. (m)</b>      | <b>0.1</b>            |
| <b>Distortion</b>      | <b>&lt;-4.8%</b>      |
| <b>Dimension (mm)</b>  | <b>Ø63×64.2</b>       |
| <b>Mount</b>           | <b>C-Mount</b>        |
| <b>Resolution</b>      | <b>2MP</b>            |

**VLEN2-0814SW-H1**


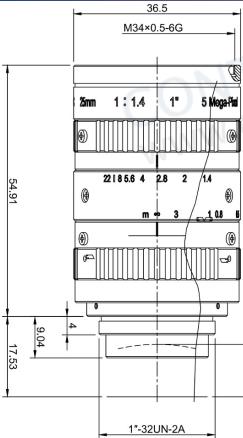
|                          |                          |
|--------------------------|--------------------------|
| <b>EFL (mm)</b>          | <b>8</b>                 |
| <b>Aperture (F/#)</b>    | <b>F1.4</b>              |
| <b>Sensor Size</b>       | <b>1"</b>                |
| <b>FOV (D/H/V)</b>       | <b>90.7°/78.4°/62.6°</b> |
| <b>Back Focus (mm)</b>   | <b>9.65</b>              |
| <b>FBL(mm)</b>           | <b>17.526mm</b>          |
| <b>Wavelength</b>        | <b>900-1700nm</b>        |
| <b>Iris</b>              | <b>Manual</b>            |
| <b>M.O.D. (m)</b>        | <b>0.1</b>               |
| <b>Distortion</b>        | <b>&lt;-3.6%</b>         |
| <b>Dimension (mm)</b>    | <b>Ø69.5×69</b>          |
| <b>Filter Screw Size</b> | <b>M67×0.75mm</b>        |
| <b>Mount</b>             | <b>C-Mount</b>           |
| <b>Resolution</b>        | <b>2MP</b>               |

**VLEN2-1216SW-H1**


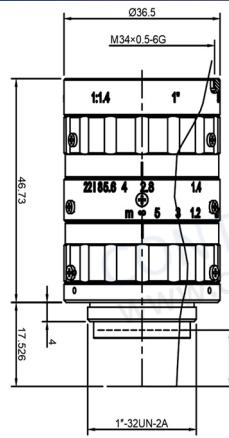
|                          |                    |
|--------------------------|--------------------|
| <b>EFL (mm)</b>          | <b>12</b>          |
| <b>Aperture (F/#)</b>    | <b>F1.6</b>        |
| <b>Sensor Size</b>       | <b>1"</b>          |
| <b>FOV (D/H/V)</b>       | <b>70°/57°/44°</b> |
| <b>Back Focus (mm)</b>   | <b>10.15</b>       |
| <b>FBL(mm)</b>           | <b>17.53mm</b>     |
| <b>Wavelength</b>        | <b>900-1700nm</b>  |
| <b>Iris</b>              | <b>Fixed</b>       |
| <b>M.O.D. (m)</b>        | <b>0.5</b>         |
| <b>Distortion</b>        | <b>≤0.8%</b>       |
| <b>Dimension (mm)</b>    | <b>Ø55×79</b>      |
| <b>Filter Screw Size</b> | <b>M52×0.75mm</b>  |
| <b>Mount</b>             | <b>C-Mount</b>     |
| <b>Resolution</b>        | <b>5MP</b>         |

**VLEN2-1614SW-H1**


|                          |                   |
|--------------------------|-------------------|
| <b>EFL (mm)</b>          | <b>16</b>         |
| <b>Aperture (F/#)</b>    | <b>F1.4</b>       |
| <b>Sensor Size</b>       | <b>1"</b>         |
| <b>FOV</b>               | <b>53.6°</b>      |
| <b>Back Focus (mm)</b>   | <b>13.72</b>      |
| <b>FBL(mm)</b>           | <b>17.526mm</b>   |
| <b>Wavelength</b>        | <b>900-1700nm</b> |
| <b>Iris</b>              | <b>Manual</b>     |
| <b>M.O.D. (m)</b>        | <b>0.3</b>        |
| <b>Distortion</b>        | <b>≤-0.6%</b>     |
| <b>Dimension (mm)</b>    | <b>Ø54×63</b>     |
| <b>Filter Screw Size</b> | <b>M52×0.75mm</b> |
| <b>Mount</b>             | <b>C-Mount</b>    |
| <b>Resolution</b>        | <b>5MP</b>        |

**VLEN2-2514SW-H1**


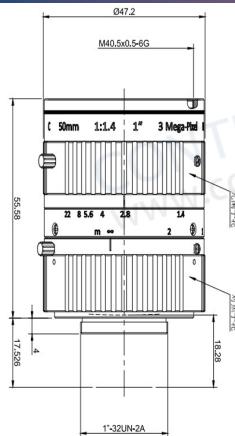
|                          |                    |
|--------------------------|--------------------|
| <b>EFL (mm)</b>          | <b>25</b>          |
| <b>Aperture (F/#)</b>    | <b>F1.4</b>        |
| <b>Sensor Size</b>       | <b>1"</b>          |
| <b>FOV</b>               | <b>30°</b>         |
| <b>Back Focus (mm)</b>   | <b>11.46</b>       |
| <b>FBL(mm)</b>           | <b>17.53mm</b>     |
| <b>Wavelength</b>        | <b>900-1700nm</b>  |
| <b>Iris</b>              | <b>Manual</b>      |
| <b>M.O.D. (m)</b>        | <b>0.3</b>         |
| <b>Distortion</b>        | <b>≤-0.96%</b>     |
| <b>Dimension (mm)</b>    | <b>Ø36.5×54.91</b> |
| <b>Filter Screw Size</b> | <b>M34×0.5mm</b>   |
| <b>Mount</b>             | <b>C-Mount</b>     |
| <b>Resolution</b>        | <b>80lp/mm</b>     |

**VLEN2-3514SW-H1**


|                          |                    |
|--------------------------|--------------------|
| <b>EFL (mm)</b>          | <b>35</b>          |
| <b>Aperture (F/#)</b>    | <b>F1.4</b>        |
| <b>Sensor Size</b>       | <b>1"</b>          |
| <b>FOV</b>               | <b>26.2°</b>       |
| <b>Back Focus (mm)</b>   | <b>11.76</b>       |
| <b>FBL(mm)</b>           | <b>17.526mm</b>    |
| <b>Wavelength</b>        | <b>900-1700nm</b>  |
| <b>Iris</b>              | <b>Manual</b>      |
| <b>M.O.D. (m)</b>        | <b>0.3</b>         |
| <b>Distortion</b>        | <b>≤-0.52%</b>     |
| <b>Dimension (mm)</b>    | <b>Ø36.5×46.73</b> |
| <b>Filter Screw Size</b> | <b>M34×0.5mm</b>   |
| <b>Mount</b>             | <b>C-Mount</b>     |
| <b>Resolution</b>        | <b>5MP</b>         |

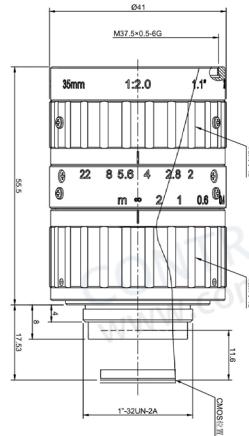
# SWIR Lenses

## VLEN2-5014SW-H1



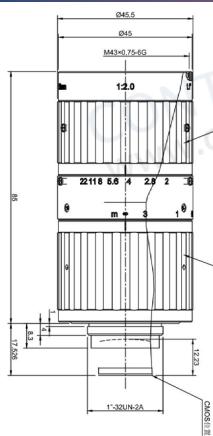
|                   |             |
|-------------------|-------------|
| EFL (mm)          | 50          |
| Aperture (F/#)    | F1.4        |
| Sensor Size       | 1"          |
| FOV               | 18.4°       |
| Back Focus (mm)   | 18.28       |
| FBL(mm)           | 17.526mm    |
| Wavelength        | 900-1700nm  |
| Iris              | Manual      |
| M.O.D. (m)        | 0.5         |
| Distortion        | ≤0.6%       |
| Dimension (mm)    | Ø47.2×55.58 |
| Filter Screw Size | M40.5×0.5mm |
| Mount             | C-Mount     |
| Resolution        | 5MP         |

## VLEN2-3520SW-H1.1



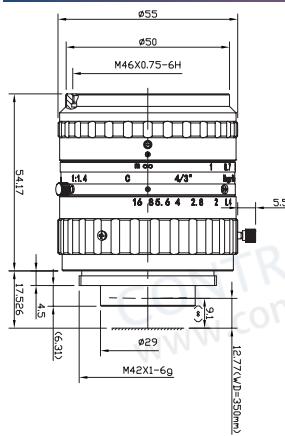
|                   |             |
|-------------------|-------------|
| EFL (mm)          | 35          |
| Aperture (F/#)    | F2          |
| Sensor Size       | 1.1"        |
| FOV               | 28°         |
| Back Focus (mm)   | 11.6        |
| FBL(mm)           | 17.53mm     |
| Wavelength        | 400-1200nm  |
| Iris              | Manual      |
| M.O.D. (m)        | 0.15        |
| Distortion        | ≤-0.07%     |
| Dimension (mm)    | Ø41×55.5    |
| Filter Screw Size | M37.5×0.5mm |
| Mount             | C-Mount     |
| Resolution        | 200lp/mm    |

## VLEN2-5020SW-H1.1



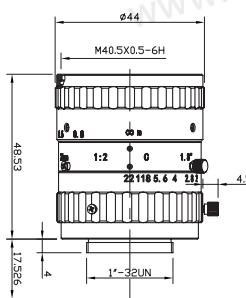
|                   |            |
|-------------------|------------|
| EFL (mm)          | 50         |
| Aperture (F/#)    | F2.0       |
| Sensor Size       | 1.1"       |
| FOV               | 20.4°      |
| Back Focus (mm)   | 12.23      |
| FBL(mm)           | 17.526mm   |
| Wavelength        | 400-1200nm |
| Iris              | Manual     |
| M.O.D. (m)        | 0.25       |
| Distortion        | ≤-0.3%     |
| Dimension (mm)    | Ø45.5×85   |
| Filter Screw Size | M43×0.75mm |
| Mount             | C-Mount    |
| Resolution        | 200lp/mm   |

## VLEN-3514SW-H2



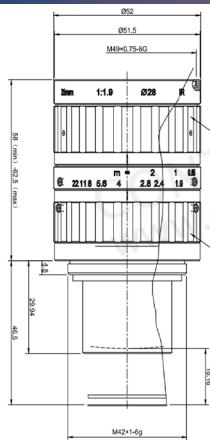
|                   |                   |
|-------------------|-------------------|
| EFL (mm)          | 35                |
| Aperture (F/#)    | F1.4              |
| Sensor Size       | 4/3"              |
| FOV               | 31.2°/25.4°/18.7° |
| Back Focus (mm)   | 9.1               |
| FBL(mm)           | /                 |
| Wavelength        | 900-1700nm        |
| Iris              | Manual            |
| M.O.D. (m)        | 0.3               |
| Distortion        | <-0.4%            |
| Dimension (mm)    | Ø55×54.17         |
| Filter Screw Size | M46×0.75mm        |
| Mount             | T-Mount           |
| Resolution        | 60lp/mm           |

## VLEN-2520SW-H3



|                   |                   |
|-------------------|-------------------|
| EFL (mm)          | 25                |
| Aperture (F/#)    | F2                |
| Sensor Size       | 28mm              |
| FOV               | 56.2°/48.2°/32.4° |
| Back Focus (mm)   | 15.07             |
| FBL(mm)           | /                 |
| Wavelength        | 900-1700nm        |
| Iris              | Manual            |
| M.O.D. (m)        | 0.25              |
| Distortion        | <-2.3%            |
| Dimension (mm)    | Ø44×48.53         |
| Filter Screw Size | M40.5×0.5mm       |
| Mount             | C-Mount           |
| Resolution        | 12.5μm            |

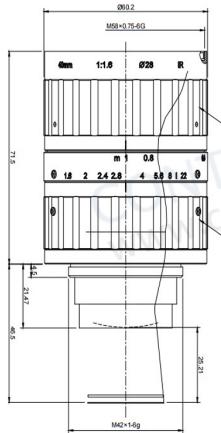
## VLEN2-2519SW-H3



|                   |            |
|-------------------|------------|
| EFL (mm)          | 25         |
| Aperture (F/#)    | F1.9       |
| Sensor Size       | 28 mm      |
| FOV               | 58°        |
| Back Focus (mm)   | 18.16      |
| FBL(mm)           | 46.5mm     |
| Wavelength        | 900-1700nm |
| Iris              | Manual     |
| M.O.D. (m)        | 0.2        |
| Distortion        | ≤1.6%      |
| Dimension (mm)    | Ø52×62.5   |
| Filter Screw Size | M49×0.75mm |
| Mount             | M42        |
| Resolution        | 70lp/mm    |

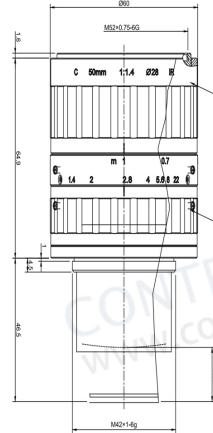
# SWIR Lenses

## VLEN2-4016SW-H3



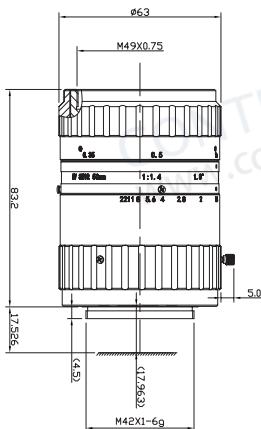
|                   |            |
|-------------------|------------|
| EFL (mm)          | 40         |
| Aperture (F/#)    | F1.6       |
| Sensor Size       | 28 mm      |
| FOV               | 37°        |
| Back Focus (mm)   | 25.21      |
| FBL(mm)           | 46.5mm     |
| Wavelength        | 900-1700nm |
| Iris              | Manual     |
| M.O.D. (m)        | 0.25       |
| Distortion        | ≤-0.8%     |
| Dimension (mm)    | Ø60.2×71.5 |
| Filter Screw Size | M58×0.75mm |
| Mount             | M42        |
| Resolution        | 120lp/mm   |

## VLEN2-5014SW-H3



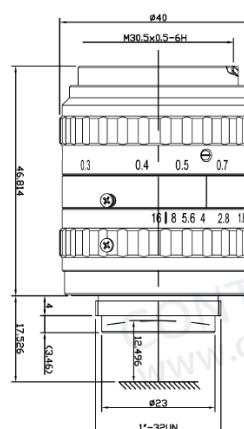
|                   |             |
|-------------------|-------------|
| EFL (mm)          | 50          |
| Aperture (F/#)    | F1.4        |
| Sensor Size       | 28 mm       |
| FOV (D/H/V)       | 30°/24°/18° |
| Back Focus (mm)   | 17.55       |
| FBL(mm)           | 46.5mm      |
| Wavelength        | 900-1700nm  |
| Iris              | Manual      |
| M.O.D. (m)        | 0.43        |
| Distortion        | ≤1.5%       |
| Dimension (mm)    | Ø60.2×64.9  |
| Filter Screw Size | M52×0.75mm  |
| Mount             | M42         |
| Resolution        | 100lp/mm    |

## VLEN-5014SW-H3



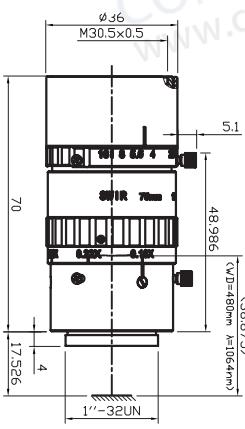
|                   |                      |
|-------------------|----------------------|
| EFL (mm)          | 50                   |
| Aperture (F/#)    | F1.4                 |
| Sensor Size       | 28.6mm               |
| FOV               | 27.26°/22.02°/16.62° |
| Back Focus (mm)   | 17.96                |
| FBL(mm)           | /                    |
| Wavelength        | 900-1700nm           |
| Iris              | Manual               |
| M.O.D. (m)        | 0.3                  |
| Distortion        | -0.22                |
| Dimension (mm)    | Ø63×83.2             |
| Filter Screw Size | M49×0.75mm           |
| Mount             | M42                  |
| Resolution        | 90lp/mm              |

## VT-LEM2518SWIR-H1



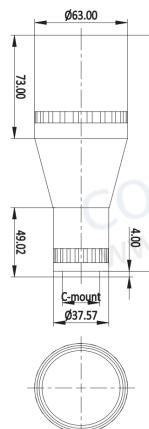
|                                |                              |
|--------------------------------|------------------------------|
| EFL (mm)                       | 25                           |
| Aperture (F/#)                 | F1.8                         |
| Sensor Size                    | 1"                           |
| FOV (D/H/V)                    | 35.49°/28.5°/21.74°          |
| Back Focus (mm)                | 13.09                        |
| TTL (mm)                       | 59.639                       |
| Front/Rear Effective Dia. (mm) | Front : Ø24.19 Rear : Ø19.76 |
| Max. CRA                       | 0.65°                        |
| Wavelength                     | 900-1700nm                   |
| M.O.D. (m)                     | 0.3                          |
| Distortion                     | <-0.5%                       |
| Filter Screw Size              | M30.5×P0.5                   |
| Dimension (mm)                 | Ø40×46.81 mm                 |
| Mount                          | C-Mount                      |
| Resolution                     | 100lp/mm                     |

## VT-LEM7525SWIR-H1



|                                |                          |
|--------------------------------|--------------------------|
| EFL (mm)                       | 75                       |
| Aperture (F/#)                 | F2.5                     |
| Sensor Size                    | 1"                       |
| FOV (D/H/V)                    | 9.08°/7.26°/5.45°        |
| Back Focus (mm)                | 38.875                   |
| TTL (mm)                       | 95                       |
| Front/Rear Effective Dia. (mm) | Front: Ø22.4 Rear: Ø10.9 |
| Wavelength                     | 900-1700nm               |
| M.O.D. (m)                     | 0.265-0.48               |
| Wavelength                     | 900-1700nm               |
| Distortion                     | <0.32%                   |
| Filter Screw Size              | M30.5×0.5                |
| Dimension (mm)                 | Ø36×70 mm                |
| Mount                          | C-Mount                  |
| Resolution                     | 90lp/mm                  |

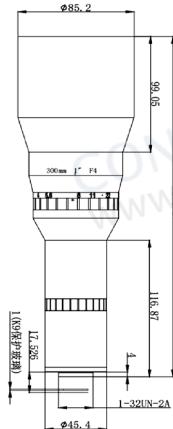
## VT-LEM20040SWIR-H1



|                        |                   |
|------------------------|-------------------|
| EFL (mm)               | 200               |
| Aperture (F/#)         | F4-F22            |
| Sensor Size            | 1"(16mm)          |
| Working Distance       | 10m~∞             |
| FOV (D/H/V)            | 4.57°×3.66°×2.75° |
| Back Focus (mm)        | 48.7              |
| TTL (mm)               | 180               |
| Iris                   | Manual            |
| Wavelength             | 900-1700nm        |
| Distortion             | 0.3%@y=8mm        |
| Filter Screw Size      | M60×0.5mm         |
| Dimension (mm)         | Ø63×170           |
| Mount                  | C-Mount           |
| Object Size[in M.O.D.] | 800×640×480mm     |

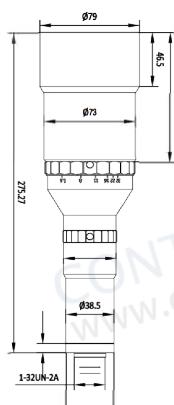
# SWIR Lenses

## VT-LEM30040SWIR-H1



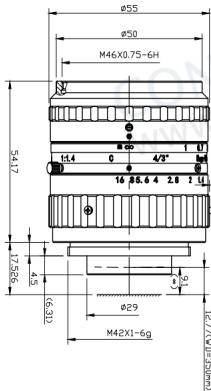
|                       |                   |
|-----------------------|-------------------|
| EFL (mm)              | 300               |
| Aperture (F/#)        | F4-F22            |
| Sensor Size           | 1"(16mm)          |
| Working Distance      | 10m~∞             |
| FOV (D/H/V)           | 3.06°x2.44°x1.83° |
| Back Focus (mm)       | 81.02             |
| TTL (mm)              | 300               |
| Iris                  | Manual            |
| Wavelength            | 400-1700nm        |
| Distortion            | 0.06%@y=8mm       |
| Filter Screw Size     | M82x0.75mm        |
| Dimension (mm)        | Ø85.2x292         |
| Mount                 | C-Mount           |
| Object Size[in M.O.D] | 535x428x321 mm    |

## VT-LEM40056SWIR-H1



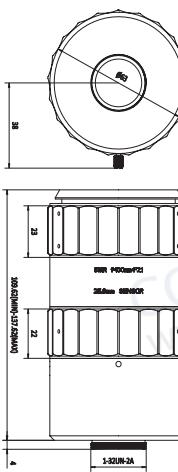
|                       |                     |
|-----------------------|---------------------|
| EFL (mm)              | 400                 |
| Aperture (F/#)        | F5.6                |
| Sensor Size           | 1"(16mm)            |
| Working Distance      | 20m~∞               |
| FOV (D/H/V)           | 2.29°X1.83°X1.37°   |
| Back Focus (mm)       | 106.6               |
| TTL (mm)              | 290                 |
| Iris                  | Manual              |
| Wavelength            | 900-1700nm          |
| Distortion            | 0.28%               |
| Filter Screw Size     | /                   |
| Dimension (mm)        | Ø33.5x58            |
| Mount                 | C-Mount             |
| Object Size[in M.O.D] | 805.1x644.1x483.1mm |

## VT-LEM3514SWIR-H2



|                                |                                 |
|--------------------------------|---------------------------------|
| EFL (mm)                       | 35                              |
| Aperture (F/#)                 | F1.4                            |
| Sensor Size                    | 4/3"                            |
| FOV (D/H/V)                    | 31.2°/25.4°/18.7°               |
| Back Focus (mm)                | 9.1                             |
| TTL (mm)                       | 67                              |
| Front/Rear Effective Dia. (mm) | Front : Ø34.13<br>Rear : Ø20.91 |
| Max. CRA                       | 15.64°                          |
| Wavelength                     | 900-1700nm                      |
| M.O.D. (m)                     | 0.3                             |
| Distortion                     | <-0.4%                          |
| Filter Screw Size              | M46xP0.75                       |
| Dimension (mm)                 | Ø55x54.17                       |
| Mount                          | M42                             |
| Resolution                     | 60lp/mm                         |

## VT-LEM10021SWIR-H2



|                       |                             |
|-----------------------|-----------------------------|
| EFL (mm)              | 100                         |
| Aperture (F/#)        | F2.1-22                     |
| Sensor Size           | 25.6 mm                     |
|                       | 25.6mm 14.33°/11.52°/8.72°  |
| FOV (D/H/V)           | 4/3" 11.96°/9.68°/7.26°     |
|                       | 1" 9.08°/7.30°/5.50°        |
|                       | 1/2" 4.58°/3.64°/2.80°      |
| Back Focus            | 25.485 mm                   |
| Focusing Range        | 0.4m~∞                      |
|                       | 25.6mm 109.44/87.55/65.66mm |
| Object Size[in M.O.D] | 4/3" 90.84x72.67x54.50mm    |
|                       | 1" 68.10x54.48x40.86mm      |
|                       | 1/2" 34.00x27.20x20.40mm    |
| Wavelength            | 800-1700nm                  |
| M.O.D. (m)            | 0.4                         |
|                       | 25.6mm 0.17%@y=12.8mm       |
| Distortion            | 4/3" 0.12%@y=11.5mm         |
|                       | 1" 0.068%@y=8mm             |
|                       | 1/2" 0.018%@y=4mm           |
| Filter Screw Size     | M49xP0.75                   |
| Size                  | Ø69.5x141.62 mm             |
| Mount                 | M42/C/F-Mount               |

## VT-LEM1616022SWIR-H1

|                   |  |
|-------------------|--|
| EFL (mm)          | 16 - 160                                       |
| Aperture (F/#)    | F2.2-Close                                     |
| Sensor Size       | 1"(16mm)                                       |
| Field of View     | 43.6 X33.4 °. at 16mm<br>4.6 X 3.4 °. at 160mm |
| Back Focus (mm)   | 18.6(In Air)                                   |
| FBL (mm)          | 17.526   |
| Iris              | Motorized                                      |
| Focus             | Motorized                                      |
| Zoom              | Motorized                                      |
| Zoom Ratio        | 10X  |
| M.O.D.            | 1.1m(From Front Vertex)                        |
| Wavelength        | 900-1700nm                                     |
| Filter Screw Size | M77x0.75mm                                     |
| Dimension (mm)    | 117X100X176mm                                  |
| Mount             | C-Mount  |

## VT-LEM2036060SWIR

|                |  |
|----------------|--|
| EFL (mm)       | 20 - 360                                     |
| Aperture (F/#) | F6-10  |
| Sensor Size    | 12.3 mm                                      |
| Field of View  | 20.3X15.1°. at 20mm<br>1.1X 0.84 °. at 360mm |
| Image Format : | 7.2X5.4mm(D9mm)                              |
| FBL (mm)       | 17.526                                       |
| Zoom Ratio     | 18X  |
| M.O.D.         | 15m(From Front Vertex)                       |
| Wavelength     | 400-1700nm                                   |
| Dimension (mm) | 93X92X196                                    |
| Iris           | -  |
| Focus          | Motorized                                    |
| Zoom           | Motorized                                    |
| Mount          | C-Mount                                      |

# SWIR Lenses

## VT-LEM2050036SWIR

|                |  |
|----------------|--|
| EFL (mm)       | 20- 500  |
| Aperture (F/#) | F3.6-Close                                     |
| Sensor Size    | 1/1.8"   |
| Field of View  | 18.9 X14.2°. at 20mm<br>0.84 X 0.63°. at 500mm |
| Iris           | Motorized                                      |
| Focus          | Motorized                                      |
| Zoom           | Motorized                                      |
| FBL (mm)       | 17.526   |
| Zoom Ratio     | 37.5X  |
| M.O.D.         | 4m(From Front Vertex)                          |
| Wavelength     | 900-1700nm                                     |
| Dimension (mm) | 120X120.5X306.8                                |
| Mount          | C-Mount  |

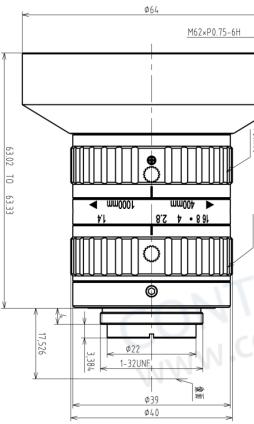
## VT-LEM2075036SWIR

|                |  |
|----------------|--|
| EFL (mm)       | 20- 750                                      |
| Aperture (F/#) | F3.6-Close                                   |
| Sensor Size    | 1/1.8"                                       |
| Field of View  | 18.9 X14.2°. at 20mm<br>0.6 X 0.4°. at 750mm |
| Iris           | Motorized                                    |
| Focus          | Motorized                                    |
| Zoom           | Motorized                                    |
| FBL (mm)       | 17.526                                       |
| Zoom Ratio     | 37.5X  |
| M.O.D.         | 4m(From Front Vertex)                        |
| Wavelength     | 900-1700nm                                   |
| Dimension (mm) | 120X120.5X306.8                              |
| Mount          | C-Mount                                      |

## VT-LEM25120048SWIR

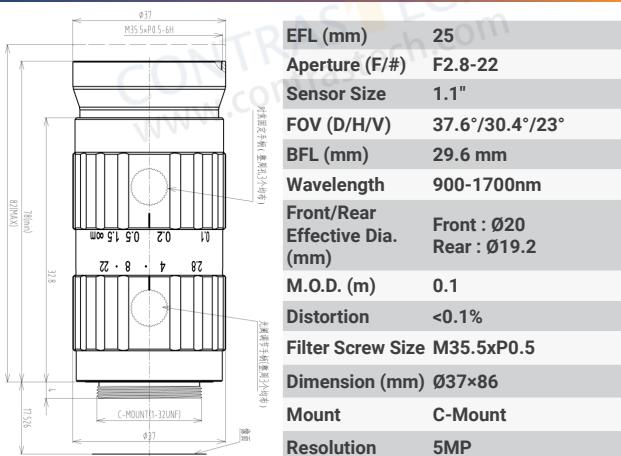
|                |   |
|----------------|---|
| EFL (mm)       | 25 - 1200                                     |
| Aperture (F/#) | F4.8 - 10                                     |
| Sensor Size    | 12.3 mm                                       |
| Field of View  | 16.4 X9.2°. at 25mm<br>0.34 X 0.2°. at 1200mm |
| Iris           | Fixed   |
| Focus          | Motorized                                     |
| Zoom           | Motorized                                     |
| FBL (mm)       | 17.526  |
| Zoom Ratio     | 48X   |
| M.O.D.         | 15m~∞   |
| Wavelength     | 400-1700nm                                    |
| Dimension (mm) | 178X139X429mm                                 |
| Mount          | C-Mount                                       |

## VT-LEN1214SWIR-H1.1

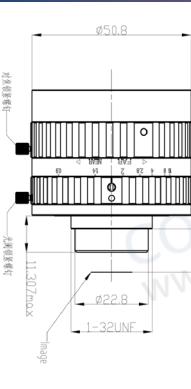


|                                |                   |
|--------------------------------|-------------------|
| EFL (mm)                       | 12.3              |
| Aperture (F/#)                 | F1.4-16           |
| Sensor Size                    | 1.1"              |
| FOV (D/H/V)                    | 71.2°/59.7°/46.6° |
| BFL (mm)                       | 12.08 mm          |
| Wavelength                     | 900-1700nm        |
| Front/Rear Effective Dia. (mm) | /                 |
| M.O.D. (m)                     | 0.4               |
| Distortion                     | <2%               |
| Filter Screw Size              | /                 |
| Dimension (mm)                 | Ø64x71.2          |
| Mount                          | C-Mount           |
| Resolution                     | 5MP               |

## VT-LEN2528SWIR-H1.1



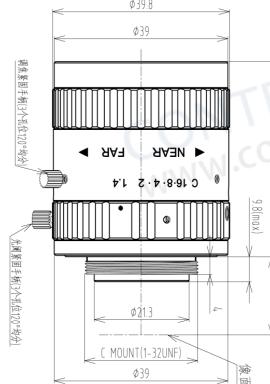
## VT-LEN2509SWIR-S12



|                    |                         |
|--------------------|-------------------------|
| EFL (mm)           | 25                      |
| Aperture (F/#)     | F0.9                    |
| Sensor Size        | Ø12.6mm                 |
| Wavelength         | 900-1700nm              |
| Magnification      | 0.141X 0.09X 0.05X      |
| Working Distance   | 200±5 300±5 500±5       |
| Conjugate Distance | 252.4±9 351.1±9 550.2±9 |
| Distortion         | <0.1%                   |
| M.O.D. (m)         | 0.2                     |
| Filter Screw Size  | /                       |
| Dimension (mm)     | Ø50.8x50.6              |
| Mount              | C-Mount                 |
| Resolution         | 5MP                     |

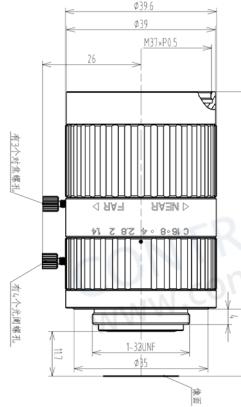
# SWIR Lenses

## VT-LEN3514SWIR-S23



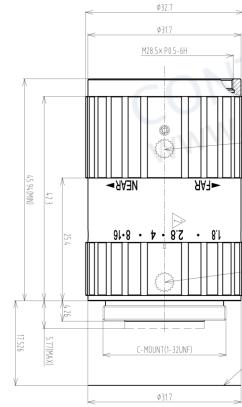
|                                |                               |
|--------------------------------|-------------------------------|
| EFL (mm)                       | 35                            |
| Aperture (F/#)                 | F1.4-16                       |
| Sensor Size                    | 2/3"                          |
| FOV (D/H/V)                    | 17.3°/13.9°/10.4°             |
| Wavelength                     | 900-1700nm                    |
| Front/Rear Effective Dia. (mm) | Front : Ø24.8<br>Rear : Ø13.6 |
| M.O.D. (m)                     | 0.15                          |
| Distortion                     | <-0.8%                        |
| Filter Screw Size              | M37xP0.5                      |
| Dimension (mm)                 | Ø39.8×53.8                    |
| Mount                          | C-Mount                       |
| Resolution                     | 5MP                           |

## VT-LEN5014SWIR-S23



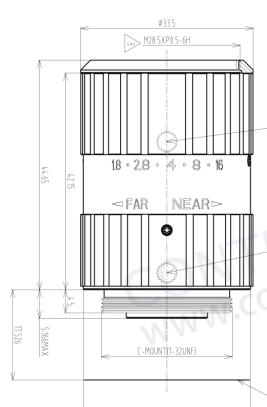
|                                |                              |
|--------------------------------|------------------------------|
| EFL (mm)                       | 50                           |
| Aperture (F/#)                 | F1.4-Close                   |
| Sensor Size                    | 2/3"                         |
| FOV (D/H/V)                    | 13.04°/10.46°/7.86°          |
| Wavelength                     | 900-1700nm                   |
| Front/Rear Effective Dia. (mm) | Front : Ø24<br>Rear : Ø11.78 |
| M.O.D. (m)                     | 0.3                          |
| Distortion                     | <-0.8%                       |
| Filter Screw Size              | M37xP0.5                     |
| Dimension (mm)                 | Ø39.6×62.8                   |
| Mount                          | C-Mount                      |
| Resolution                     | 5MP                          |

## VT-LEN1218VSW-S12



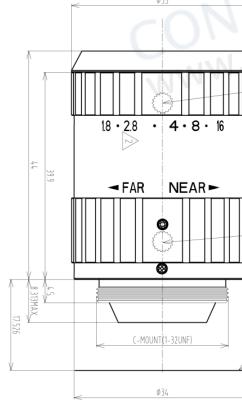
|                                |                          |
|--------------------------------|--------------------------|
| EFL (mm)                       | 12                       |
| Aperture (F/#)                 | F1.8-16                  |
| Sensor Size                    | 1/2"                     |
| FOV (D/H/V)                    | 36.44°/29.02°/23.32 °    |
| Back Focus (mm)                | 12.6                     |
| Wavelength                     | 400-1700nm               |
| Front/Rear Effective Dia. (mm) | Front : Ø21<br>Rear : Ø8 |
| M.O.D. (m)                     | 0.1                      |
| Distortion                     | <0.3%                    |
| Filter Screw Size              | M28.5xP0.5               |
| Dimension (mm)                 | Ø32.7×51.71              |
| Mount                          | C-Mount                  |
| Resolution                     | 3MP                      |

## VT-LEN1618VSW-S12



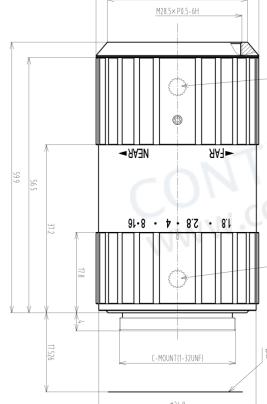
|                                |                             |
|--------------------------------|-----------------------------|
| EFL (mm)                       | 16                          |
| Aperture (F/#)                 | F1.8-16                     |
| Sensor Size                    | 1/2"                        |
| FOV (D/H/V)                    | 28.14°/22.44°/17.98 °       |
| Back Focus (mm)                | 13                          |
| Wavelength                     | 400-1700nm                  |
| Front/Rear Effective Dia. (mm) | Front : Ø17.7<br>Rear : Ø11 |
| M.O.D. (m)                     | 0.1                         |
| Distortion                     | <0.4%                       |
| Filter Screw Size              | M28.5xP0.5                  |
| Dimension (mm)                 | Ø33.5×49.8                  |
| Mount                          | C-Mount                     |
| Resolution                     | 3MP                         |

## VT-LEN2518VSW-S12



|                                |                             |
|--------------------------------|-----------------------------|
| EFL (mm)                       | 25                          |
| Aperture (F/#)                 | F1.8-16                     |
| Sensor Size                    | 1/2"                        |
| FOV (D/H/V)                    | 16.84°/13.44°/10.77°        |
| Back Focus (mm)                | 13                          |
| Wavelength                     | 400-1700nm                  |
| Front/Rear Effective Dia. (mm) | Front : Ø17.9<br>Rear : Ø10 |
| M.O.D. (m)                     | 0.1                         |
| Distortion                     | <0.4%                       |
| Filter Screw Size              | M28.5xP0.5                  |
| Dimension (mm)                 | Ø35×52.3                    |
| Mount                          | C-Mount                     |
| Resolution                     | 3MP                         |

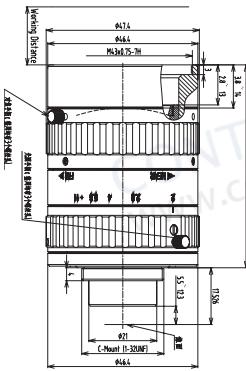
## VT-LEN3518VSW-S12



|                                |                             |
|--------------------------------|-----------------------------|
| EFL (mm)                       | 35                          |
| Aperture (F/#)                 | F1.8-16                     |
| Sensor Size                    | 1/2"                        |
| FOV (D/H/V)                    | 9.71°/7.51°/5.94°           |
| Back Focus (mm)                | 17.764                      |
| Wavelength                     | 400-1700nm                  |
| Front/Rear Effective Dia. (mm) | Front : Ø21<br>Rear : Ø16.3 |
| M.O.D. (m)                     | 0.1                         |
| Distortion                     | <0.14%                      |
| Filter Screw Size              | M28.5xP0.5                  |
| Dimension (mm)                 | Ø36×63.9                    |
| Mount                          | C-Mount                     |
| Resolution                     | 3MP                         |

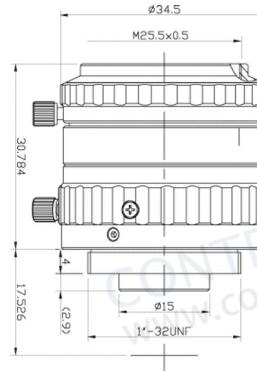
# UV Lenses

## VT-LEN2520UV-MP8



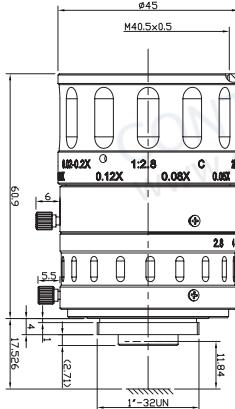
|                               |                       |
|-------------------------------|-----------------------|
| <b>EFL (mm)</b>               | 25                    |
| <b>Resolution</b>             | 8MP                   |
| <b>Aperture (F/#)</b>         | F2.0-11               |
| <b>Image Circle/mm</b>        | 2/3"                  |
| <b>FOV (D/H/V)</b>            | 18.5° x 14.9° x 11.2° |
| <b>Back Focus (mm)</b>        | 6.6                   |
| <b>Distortion</b>             | <0.5%                 |
| <b>Working Distance</b>       | 0.1m-∞                |
| <b>Iris</b>                   | Manual                |
| <b>Design Wavelength (nm)</b> | 240-1000              |
| <b>Filter Thread Size</b>     | M43 x 0.75            |
| <b>Dimension (mm)</b>         | Φ 47.4 x 62.71        |
| <b>Mount</b>                  | C-Mount               |

## VT-LEN2528UV



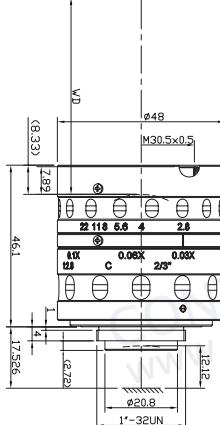
|                               |                      |
|-------------------------------|----------------------|
| <b>EFL (mm)</b>               | 25                   |
| <b>Resolution</b>             | 100lp/mm (2MP)       |
| <b>Aperture (F/#)</b>         | F2.8                 |
| <b>Sensor Size</b>            | 2/3"                 |
| <b>FOV (D/H/V)</b>            | 24.81°/15.04°/19.96° |
| <b>Back Focus (mm)</b>        | 12.45                |
| <b>Distortion</b>             | <0.4%                |
| <b>Focusing Range</b>         | ∞ ~ 0.2m             |
| <b>Iris</b>                   | Manual               |
| <b>Design Wavelength (nm)</b> | 200-1000             |
| <b>Filter Thread Size</b>     | M25.5 x 0.5          |
| <b>Dimension (mm)</b>         | Ø34.5x30.78          |
| <b>Mount</b>                  | C-Mount              |

## VT-LEN2528UV-MP8



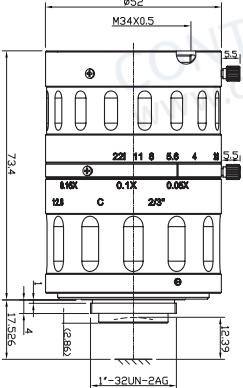
|                               |                          |
|-------------------------------|--------------------------|
| <b>EFL (mm)</b>               | 25                       |
| <b>Resolution</b>             | 180lp/mm (8MP)           |
| <b>Aperture (F/#)</b>         | F2.8                     |
| <b>Image Circle/mm</b>        | 2/3"                     |
| <b>FOV (D/H/V)</b>            | 21.76° x 17.41° x 13.06° |
| <b>Back Focus (mm)</b>        | 11.84                    |
| <b>Distortion</b>             | <0.8%                    |
| <b>Magnification</b>          | -0.02X~0.2X              |
| <b>Iris</b>                   | Manual                   |
| <b>Design Wavelength (nm)</b> | /                        |
| <b>Filter Thread Size</b>     | M40.5 x 0.5              |
| <b>Dimension (mm)</b>         | Φ 45 x 60.9              |
| <b>Mount</b>                  | C-Mount                  |

## VT-LEN3528UV-MP8



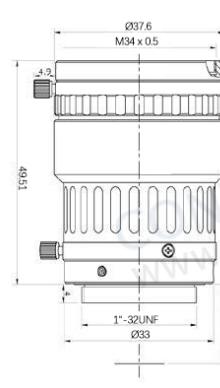
|                               |                         |
|-------------------------------|-------------------------|
| <b>EFL (mm)</b>               | 35                      |
| <b>Resolution</b>             | 180lp/mm (8MP)          |
| <b>Aperture (F/#)</b>         | F2.8                    |
| <b>Image Circle/mm</b>        | 2/3"                    |
| <b>FOV (D/H/V)</b>            | 14.78° x 12.62° x 9.47° |
| <b>Back Focus (mm)</b>        | 12.12                   |
| <b>Distortion</b>             | <0.2%                   |
| <b>Magnification</b>          | -0.033X~0.2X            |
| <b>Iris</b>                   | Manual                  |
| <b>Design Wavelength (nm)</b> | /                       |
| <b>Filter Thread Size</b>     | M30.5 x 0.5             |
| <b>Dimension (mm)</b>         | Φ 48 x 46.1             |
| <b>Mount</b>                  | C-Mount                 |

## VT-LEN5028UV-MP8



|                               |                       |
|-------------------------------|-----------------------|
| <b>EFL (mm)</b>               | 50                    |
| <b>Resolution</b>             | 180lp/mm (8MP)        |
| <b>Aperture (F/#)</b>         | F2.8                  |
| <b>Image Circle/mm</b>        | 2/3"                  |
| <b>FOV (D/H/V)</b>            | 9.09° x 7.27° x 5.45° |
| <b>Back Focus (mm)</b>        | 12.39                 |
| <b>Distortion</b>             | <0.06%                |
| <b>Magnification</b>          | -0.05X~0.3X           |
| <b>Iris</b>                   | Manual                |
| <b>Design Wavelength (nm)</b> | /                     |
| <b>Filter Thread Size</b>     | M34 x 0.5             |
| <b>Dimension (mm)</b>         | Φ 52 x 73.4           |
| <b>Mount</b>                  | C-Mount               |

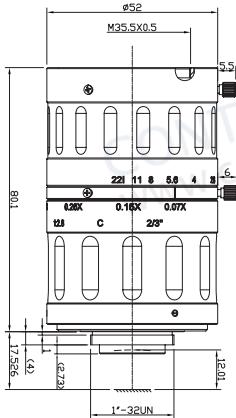
## VT-LEN5030UV



|                               |                     |
|-------------------------------|---------------------|
| <b>EFL (mm)</b>               | 50                  |
| <b>Resolution</b>             | 100lp/mm (2MP)      |
| <b>Aperture (F/#)</b>         | F3.0                |
| <b>Sensor Size</b>            | 2/3"                |
| <b>FOV (D/H/V)</b>            | 12.55°/7.55°/10.06° |
| <b>Back Focus (mm)</b>        | 26.5                |
| <b>Distortion</b>             | <-0.08%             |
| <b>Focusing Range</b>         | ∞ ~ 0.3m            |
| <b>Iris</b>                   | Manual              |
| <b>Design Wavelength (nm)</b> | 200nm-1000nm        |
| <b>Filter Thread Size</b>     | M34 x 0.5           |
| <b>Dimension (mm)</b>         | Ø37.6 x 49.51       |
| <b>Mount</b>                  | C-Mount             |

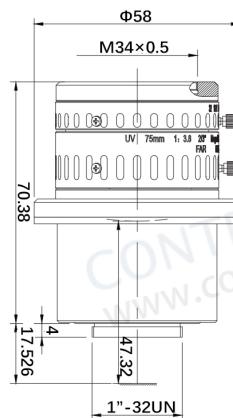
# UV Lenses

## VT-LEN7528UV-MP8



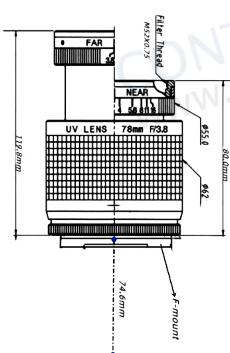
|                        |                      |
|------------------------|----------------------|
| EFL (mm)               | 75                   |
| Resolution             | 180lp/mm (8MP)       |
| Aperture (F/#)         | F2.8                 |
| Image Circle/mm        | 2/3"                 |
| FOV (D/H/V)            | 7.2° x 5.76° x 4.32° |
| Back Focus (mm)        | 12.01                |
| Distortion             | <0.82%               |
| Magnification          | 0.07X~0.5X           |
| Iris                   | Manual               |
| Design Wavelength (nm) | /                    |
| Filter Thread Size     | M35.5 x 0.5          |
| Dimension (mm)         | Φ 52 x 80.1          |
| Mount                  | C-Mount              |

## VT-LEN7538UV



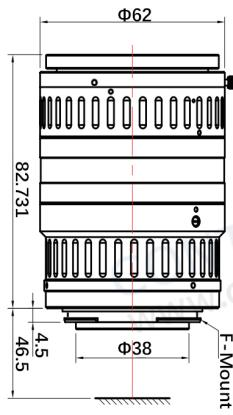
|                        |                   |
|------------------------|-------------------|
| EFL (mm)               | 75                |
| Resolution             | 100lp/mm (2MP)    |
| Aperture (F/#)         | F3.8              |
| Sensor Size            | 2/3"              |
| FOV (D/H/V)            | 8.38°/5.04°/6.72° |
| Back Focus (mm)        | 47.32             |
| Distortion             | <0.1%             |
| Focusing Range         | ∞ ~ 0.5m          |
| Iris                   | Manual            |
| Design Wavelength (nm) | 200-1000          |
| Filter Thread Size     | M34 x 0.5         |
| Dimension (mm)         | Ø40.2 x 70.38     |
| Mount                  | C-Mount           |

## VT-LENF7838UV



|                        |                      |
|------------------------|----------------------|
| EFL (mm)               | 78                   |
| Resolution             | -                    |
| Aperture (F/#)         | F3.8-16              |
| Image Circle/mm        | 35mm                 |
| FOV (D/H/V)            | 15.05° x 12.29° x 9° |
| Back Focus (mm)        | 74.6                 |
| Distortion             | <0.1%                |
| Working Distance       | 0.22m-∞              |
| Iris                   | Manual               |
| Design Wavelength (nm) | 190-1000             |
| Filter Thread Size     | M52 x 0.75           |
| Dimension (mm)         | Φ 64 x 80            |
| Mount                  | F-Mount              |

## VT-LENF8528UV

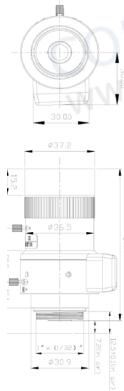


|                        |                     |
|------------------------|---------------------|
| EFL (mm)               | 85                  |
| Resolution             | 65lp/mm             |
| Aperture (F/#)         | F2.8                |
| Sensor Size            | 25 mm               |
| FOV (D/H/V)            | 14.03°/11.28°/8.48° |
| Back Focus (mm)        | 43.34               |
| Distortion             | <0.1%               |
| Focusing Range         | -                   |
| Iris                   | Manual              |
| Design Wavelength (nm) | -                   |
| Filter Thread Size     | M55 x 0.75          |
| Dimension (mm)         | Ø62 x 82.73         |
| Mount                  | F-Mount             |

# 1/3" -1" ZOOM Lenses

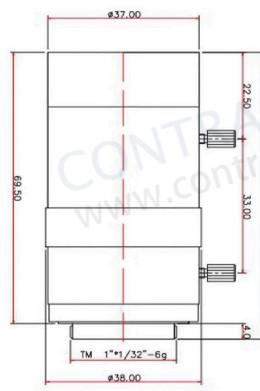
1. 1-12MP pixels.
2. Any focal length within the zoom range can be used for photography.
3. Arrange the picture composition more ideally before shooting.
4. High environmental adaptability, can work normally in the environment of -10°C ~ 50°C .

**VT-LEM0510016i-AI**



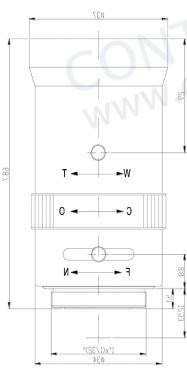
|                     |                    |
|---------------------|--------------------|
| EFL (mm)            | 5-100              |
| FNo.                | F=1.6              |
| Image Fromat        | 1/3"               |
| F.O.V. (H)          | 52 ~ 2.8°          |
| M.O.D. (m)          | 0.7                |
| Lens-Mount          | CS-Mount           |
| Dimension Ø×L×W(mm) | Ø37.5 × 87.4 ×57.4 |
| Weight (g)          | 164±5%             |
| Focus               | W / Locks          |
| Operation           | Zoom W / Locks     |
| Iris                | DC                 |
| Temperature         | -10~+50°C          |

**VT-LEM055016**



|                   |                |
|-------------------|----------------|
| EFL (mm)          | 5-50           |
| FNo.              | F=1.6          |
| Image Fromat      | 1/3" CCD/CMOS  |
| F.O.V.            | 4.2 ~ 53.6°    |
| M.O.D. (m)        | 0.3            |
| BFL(mm)           | 8              |
| Lens-Mount        | CS-Mount       |
| Dimension Ø×L(mm) | Ø36 × 74.5     |
| Weight (g)        | 160            |
| Operation         | Zoom W / Locks |
| Iris              | W / Locks      |
| Temperature       | -10~+50°C      |

**VT-LEM066016i**



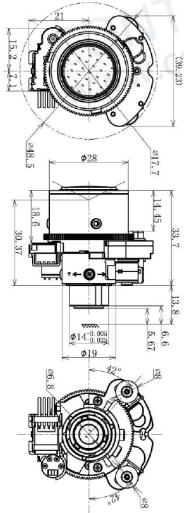
|                     |                 |
|---------------------|-----------------|
| EFL (mm)            | 6-100           |
| FNo.                | F=1.6           |
| Image Fromat        | 1/3" CCD/CMOS   |
| F.O.V. (H)          | 44° ~ 4.58°     |
| M.O.D. (m)          | 0.5             |
| Lens-Mount          | CS-Mount        |
| Dimension Ø×L×W(mm) | Ø37 × 68.7 × 34 |
| Weight (g)          | 118±3           |
| Focus               | W / Locks       |
| Operation           | Zoom W / Locks  |
| Iris                | Manual          |
| Temperature         | -10~+50°C       |

**VT-LEM10120016i-AT**



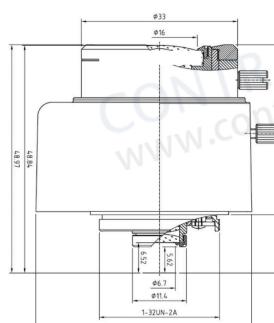
|                     |                    |
|---------------------|--------------------|
| EFL (mm)            | 10-120             |
| FNo.                | F=1.6              |
| Image Fromat        | 1/3" CCD/CMOS      |
| F.O.V. (H)          | 27 ~ 2.3°          |
| M.O.D. (m)          | 2                  |
| Resolution          | 1MP / IR           |
| Lens-Mount          | CS-Mount           |
| Dimension Ø×L×W(mm) | Ø44 × 109.8 × 50.6 |
| Weight (g)          | 210±2              |
| Focus               | W / Locks          |
| Operation           | Zoom W / Locks     |
| Iris                | Manual             |
| Temperature         | -10~+50°C          |

**VT-LEM0281016-AT**



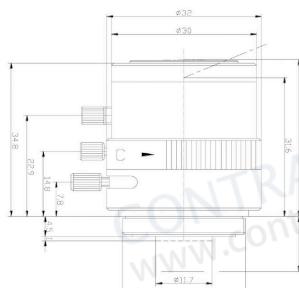
|                     |                 |
|---------------------|-----------------|
| EFL (mm)            | 2.8-10          |
| FNo.                | F=1.6           |
| Image Fromat        | 1/2.8" CCD/CMOS |
| D: 128° ~ 41°       |                 |
| H: 97° ~ 33°        |                 |
| V: 70° ~ 24.5°      |                 |
| M.O.D. (m)          | 0.5             |
| Distortion          | -51%W~-5.0%T    |
| Resolution          | 1MP             |
| TTL (mm)            | 49.04           |
| BFL (mm)            | 6.23-12.79      |
| Iris                | P-Iris (ICR)    |
| Lens-Mount          | Ø14             |
| Dimension Ø×L×W(mm) | Ø28×33.7×Ø48.5  |
| Operation           | Zoom            |
| Temperature         | -10~+50°C       |

**VT-LEM0281016i**



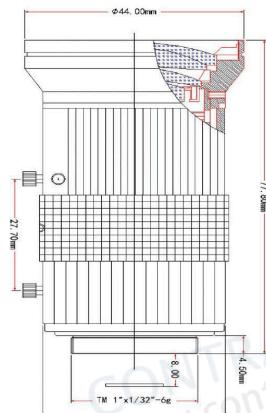
|                     |                 |
|---------------------|-----------------|
| EFL (mm)            | 2.8-10          |
| FNo.                | F=1.6           |
| Image Fromat        | 1/2.8" CCD/CMOS |
| D: 120.6° ~ 40.2°   |                 |
| H: 94.2° ~ 32.1°    |                 |
| V: 69° ~ 24.4°      |                 |
| M.O.D. (m)          | 0.1             |
| Distortion          | -               |
| Resolution          | 0.3@200lp/mm    |
| BFL (mm)            | 6.52-13.4       |
| Effective Aperture  | Ø16mm           |
| Lens-Mount          | CS-Mount        |
| Dimension Ø×L×W(mm) | Ø33×36.47×45.5  |
| Operation           | Iris Auto       |
| Temperature         | -10~+50°C       |

### VT- LEM03310514i



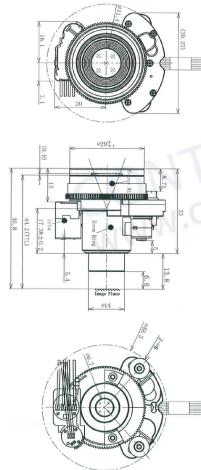
|              |                 |
|--------------|-----------------|
| EFL (mm)     | 3.3-10.5        |
| FNo.         | F=1.4           |
| Image Format | 1/2.5" CCD/CMOS |
| F.O.V. (H)   | 90.5 ~ 30.4°    |
| M.O.D. (m)   | 0.3             |
| Resolution   | 3MP / IR        |
| Lens-Mount   | CS-Mount        |
| Dimension    | Ø32 x 39.3      |
| Weight (g)   | 48±2            |
| Focus        | W / Locks       |
| Operation    | Zoom W / Locks  |
| Iris         | Manual          |
| Temperature  | -10~+50°C       |

### VT-LEM055014i-MP3



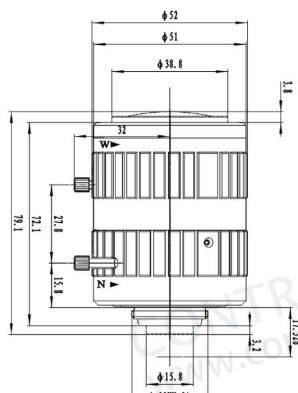
|              |                 |
|--------------|-----------------|
| EFL (mm)     | 5-50            |
| FNo.         | F=1.4           |
| Image Format | 1/2.5" CCD/CMOS |
| F.O.V.       | 5.36° - 51.5°   |
| M.O.D. (m)   | 0.2             |
| Resolution   | 3MP             |
| BFL(mm)      | 8               |
| Lens-Mount   | CS-Mount        |
| Dimension    | Ø44 x 77.8      |
| Weight (g)   | 152.5           |
| Operation    | Zoom W / Locks  |
| Iris         | W / Locks       |
| Temperature  | -10~+50°C       |

### VT-LEM102221-AT



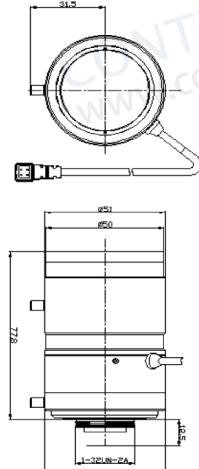
|               |                 |
|---------------|-----------------|
| EFL (mm)      | 10-22           |
| FNo.          | F=2.1           |
| Image Format  | 1/2.5" CCD/CMOS |
| D: 40 ~ 20°   |                 |
| H: 31.2 ~ 16° |                 |
| V: 23 ~ 12°   |                 |
| M.O.D. (m)    | 0.3             |
| Resolution    | 1MP             |
| BFL(mm)       | 7.64 ~ 13.95    |
| TV Distortion | -5%W ~ -0.83%T  |
| Iris          | DC-Iris(ICR)    |
| Lens-Mount    | Ø14             |
| Dimension     | Ø29x33xØ48.5    |
| Operation     | Zoom -          |
| Temperature   | -10~+50°C       |

### VT-LEM041816-AI



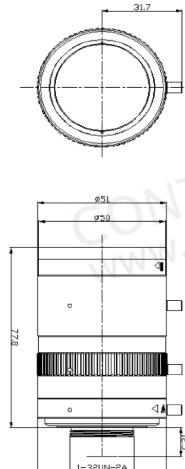
|                |                 |
|----------------|-----------------|
| EFL (mm)       | 4-18            |
| FNo.           | F=1.6           |
| Image Format   | 1/1.8" CCD/CMOS |
| F.O.V. (D/H/V) | 137°/110°/82°   |
| M.O.D. (m)     | 0.3             |
| Resolution     | 3MP             |
| BFL(mm)        | 8-20            |
| Distortion     | -57.5% ~ -2.7%  |
| Lens-Mount     | C-Mount         |
| Dimension      | Ø52 x 79.1      |
| Weight (g)     | 207.3±5         |
| Focus          | Manual          |
| Operation      | Zoom Manual     |
| Iris           | Auto (DC)       |
| Temperature    | -20~+60°C       |

### VT-LEM03818MP12-AT

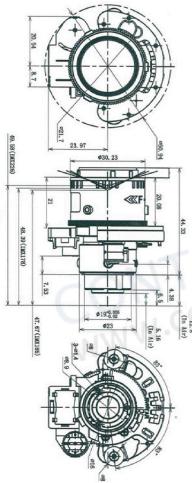


|                 |  |
|-----------------|--|
| EFL (mm)        | 3.8-18                                     |
| FNo.            | F=1.5                                      |
| Image Format    | 1/1.7" CCD/CMOS                            |
| F.O.V. (D/H/V)  | W: 156° / 111° / 80°<br>T: 38° / 30° / 23° |
| Resolution      | 12MP                                       |
| FBL (mm)        | 12.5                                       |
| Focus range (m) | 0.3 (W) ~ ∞                                |
| Distortion      | -57.5% ~ -2.7%                             |
| TTL (mm)        | ≤96  |
| Lens-Mount      | CS-Mount                                   |
| Dimension       | Ø51 x 77.8                                 |
| Focus           | Manual                                     |
| Operation       | Zoom Manual                                |
| Iris            | Auto (DC)                                  |
| Temperature     | -10~+50°C                                  |

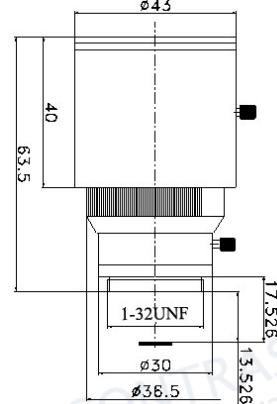
### VT-LEM03618MP12



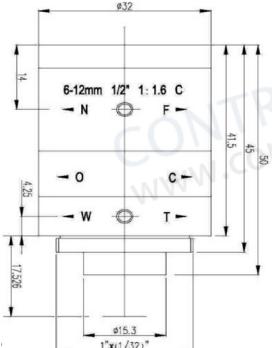
|                 |  |
|-----------------|--|
| EFL (mm)        | 3.6-18                                     |
| FNo.            | F=1.5                                      |
| Image Format    | 1/1.7" CCD/CMOS                            |
| F.O.V. (D/H/V)  | W: 156° / 111° / 80°<br>T: 38° / 30° / 23° |
| Resolution      | 12MP                                       |
| FBL (mm)        | 12.5                                       |
| Focus range (m) | 0.3 (W) ~ ∞                                |
| TV Distortion   | <-28%                                      |
| TTL (mm)        | ≤96  |
| Lens-Mount      | CS-Mount                                   |
| Dimension       | Ø51 x 77.8                                 |
| Focus           | Manual                                     |
| Operation       | Zoom Manual                                |
| Iris            | Manual                                     |
| Temperature     | -10~+50°C                                  |

**VT-LEM0441012-AT**

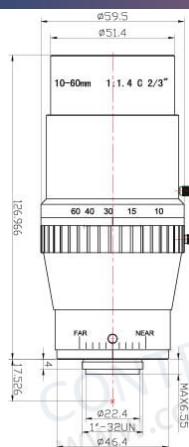
|                        |   |
|------------------------|---|
| EFL (mm)               | 4.4-10  |
| FNo.                   | F=1.2(W)-F2.9(T)  |
| Image Format           | 1/1.7" CCD/CMOS   |
| F.O.V. (D/H/V)         | D: 150 ~ 57.7° /<br>H: 104 ~ 45.8° /<br>V: 73.6 ~ 34.2° |
| M.O.D. (m)             | 0.5   |
| Resolution             | 1MP   |
| BFL(mm)                | 6.28 ~ 11.64  |
| Focus range            | 0.3 m (W) ~ $\infty$                                    |
| Distortion             | -29%W ~ -6%T  |
| TTL(mm)                | 52.76   |
| Iris                   | P-Iris (ICR)  |
| Lens-Mount             | CS-Mount  |
| Dimension<br>ØxLxW(mm) | Ø30.2 x 40.2 x Ø51                                      |
| Temperature            | -10~+50°C   |

**VT-LEM0281216i**

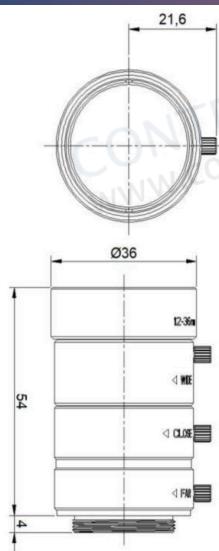
|                       |               |
|-----------------------|---------------|
| EFL (mm)              | 2.8-12        |
| FNo.                  | F=1.6         |
| Image Format          | 1/2" CCD/CMOS |
| F.O.V. (H)            | 98-30.5°      |
| M.O.D. (m)            | ≥0.3          |
| Resolution            | 3MP           |
| Lens-Mount            | C-Mount       |
| Dimension<br>ØxL (mm) | Ø43 x 67.5    |
| Weight (g)            | 140g          |
| Focus                 | W / Locks     |
| Operation             | Zoom Fixed    |
| Iris                  | Manual        |
| Temperature           | -10~+50°C     |

**VT-LEM061216**

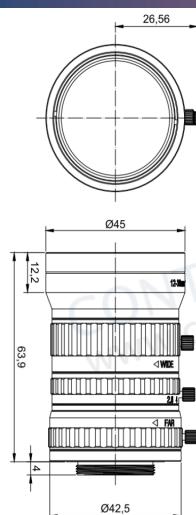
|                       |               |
|-----------------------|---------------|
| EFL (mm)              | 6-12          |
| FNo.                  | F=1.6         |
| Image Format          | 1/2" CCD/CMOS |
| F.O.V. (H)            | 53.9° x 29.6° |
| M.O.D. (m)            | 0.1           |
| Resolution            | 3MP           |
| Distortion            | -0.1%         |
| Lens-Mount            | C-Mount       |
| Dimension<br>ØxL (mm) | Ø32 x 49.6    |
| Weight (g)            | 118g          |
| Focus                 | Manual        |
| Operation             | Zoom Manual   |
| Iris                  | Manual        |
| Temperature           | -10~+50°C     |

**VT-LEM1060MP2**

|                       |               |
|-----------------------|---------------|
| EFL (mm)              | 10-60         |
| FNo.                  | F=1.4         |
| Image Format          | 2/3" CCD/CMOS |
| F.O.V. (D/H/V)        | 51° ~ 11°     |
| BFL (mm)              | 10.51         |
| Resolution            | 2MP           |
| Wavelength(nm)        | 400-950       |
| Distortion(mm)        | <12~1%        |
| IR Correction         | OK            |
| Filter Size(mm)       | M49x0.75      |
| Lens-Mount            | C-Mount       |
| Dimension<br>ØxL (mm) | Ø59.5x126.966 |
| Operation             | Iris Manual   |
| Temperature           | -10~+50°C     |

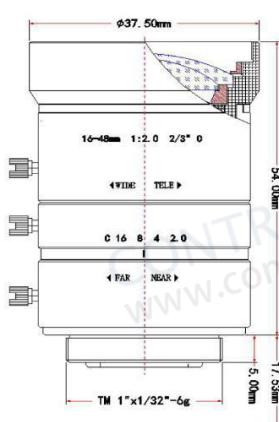
**VT-LEM1236MP3-23**

|                       |   |
|-----------------------|---|
| EFL (mm)              | 12-36                                       |
| FNo.                  | F=2.8                                       |
| Image Format          | 2/3"  |
| F.O.V. (D/H/V)        | W:50.8°/41.3°/31.2°<br>T: 17.0°/13.8°/10.4° |
| M.O.D. (m)            | -   |
| Resolution            | 3MP   |
| Wavelength(nm)        | 420~1000                                    |
| Focus Range(mm)       | W: 0.15m-∞<br>T: 0.45m-∞                    |
| Distortion (mm)       | W: -3.43%@y=5.5<br>T: 2.30%@y=5.5           |
| Filter Size(mm)       | M35.5x0.5                                   |
| Lens-Mount            | C-Mount                                     |
| Dimension<br>ØxL (mm) | Ø36 x 59                                    |
| Weight (g)            | 105.25g                                     |
| Operation             | Zoom Manual                                 |
| Iris                  | Manual                                      |
| Temperature           | -20~+60°C                                   |

**VT-LEM1236MP10**

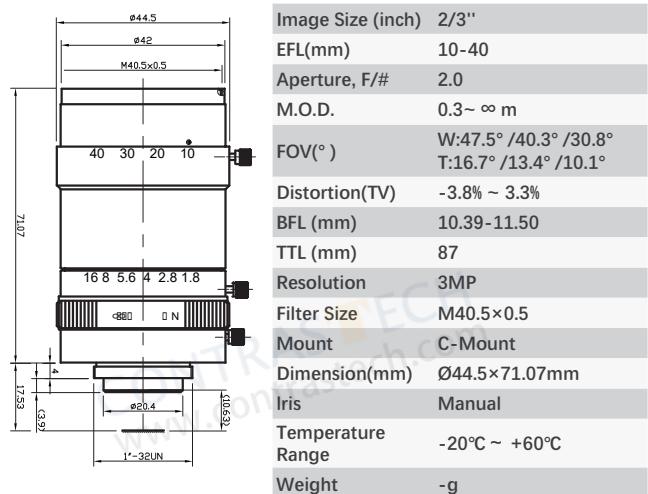
|                       |   |
|-----------------------|---|
| EFL (mm)              | 12-36                                       |
| FNo.                  | F=2.8                                       |
| Image Format          | 2/3"  |
| F.O.V. (D/H/V)        | W:50.8°/41.3°/31.2°<br>T: 17.0°/13.8°/10.4° |
| M.O.D. (m)            | -   |
| Resolution            | 10MP  |
| Wavelength(nm)        | 420~1000                                    |
| Focus Range(mm)       | W: 0.15m-∞<br>T: 0.45m-∞                    |
| Distortion (mm)       | W: -3.43%@y=5.5<br>T: 2.30%@y=5.5           |
| Filter Size(mm)       | C-Mount                                     |
| Lens-Mount            | M40.5x0.5                                   |
| Dimension<br>ØxL (mm) | Ø36 x 59                                    |
| Weight (g)            | 182 g                                       |
| Operation             | Zoom Manual                                 |
| Iris                  | Manual                                      |
| Temperature           | -20~+60°C                                   |

## VT-LEM1648MP3



|                    |                               |
|--------------------|-------------------------------|
| EFL (mm)           | 16-48                         |
| FNo.               | F=2.0                         |
| Image Format       | 2/3" CCD/CMOS                 |
| F.O.V. (D/H/V)     | W: 30°x22.7°<br>T: 11.2°x8.4° |
| M.O.D. (m)         | 0.2                           |
| Resolution         | 3MP                           |
| BFL(mm)            | 17.53                         |
| Lens-Mount         | C-Mount                       |
| Filter Size(mm)    | M40.5x0.5                     |
| Dimension ØxL (mm) | Ø37.5 x54.0                   |
| Weight (g)         | 128 g                         |
| Focus              | W / Locks                     |
| Operation          | Zoom W / Locks                |
| Iris               | W / Locks                     |
| Temperature        | -10~+50°C                     |

## VT-LEM104020MP3



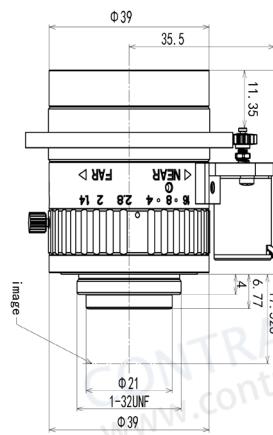
|                   |  |
|-------------------|--|
| Image Size (inch) | 1"   |
| EFL(mm)           | 16-32  |
| Aperture, F/#     | 1.8  |
| M.O.D.            | 1.5~∞ m  |
| FOV(° )           | W:53.26° /33.44° /43.85°<br>T:27.57° /17.01° /22.43° |
| Distortion(TV)    | -1.89%~1.98%   |
| Back Focus (mm)   | 21.58  |
| TTL (mm)          | 129  |
| Resolution        | 100 1p/mm  |
| Filter Size       | M62×0.75   |
| Mount             | C-Mount  |
| Dimension(mm)     | Ø65.00×113.35  |
| Iris              | Manual   |
| Temperature Range | -20°C ~ +60°C  |
| Weight            | 619g   |

## 2/3" Motor Focus Lenses

1. Support 20MP area scan cameras
2. High relative illumination, with big aperture
3. Compatible with 2/3" sensor
4. Distortion < 0.1%

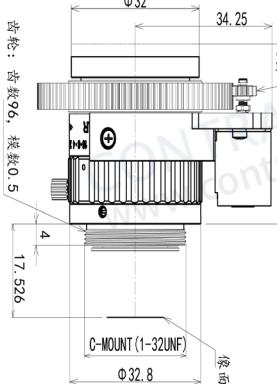


**VT-LEMAF0814-MP10**



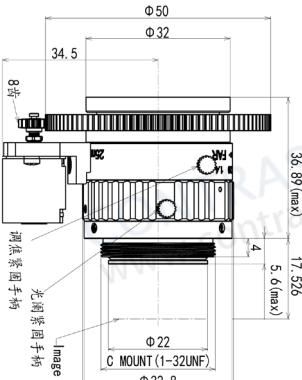
| EFL (mm)                     | 8                              |                         | Working distance(mm) | Optical Magnification      | Field of View(H/V)                        |
|------------------------------|--------------------------------|-------------------------|----------------------|----------------------------|---|
| Aperture, F/#                | F1.4~F16                       |                         | 900                  | 0.009X                     | 976.8 731.5                               |
| M.O.D.                       | 0.1m                           |                         | 850                  | 0.010X                     | 923.3 691.4                               |
| FBL (mm)                     | 17.526                         |                         | 800                  | 0.010X                     | 869.8 651.3                               |
| Back Focus (mm)              | 10.74                          |                         | 750                  | 0.011X                     | 816.3 611.2                               |
| Filter Size                  | M37×0.5                        |                         | 700                  | 0.012X                     | 762.8 571.1                               |
| Front/Rear Effective Dia.    | Front Ø26.2mm Rear Ø12.7mm     |                         | 650                  | 0.013X                     | 709.3 531.0                               |
| Mount                        | C-Mount                        |                         | 600                  | 0.014X                     | 6558 490.9                                |
| Temperature Range            | -10~+50° C                     |                         | 550                  | 0.015X                     | 602.3 450.8                               |
| Storage Temperature Range    | -20~+60° C                     |                         | 500                  | 0.016X                     | 548.8 410.7                               |
| Image Size (inch)            | 2/3"                           | 1/2"                    | 450                  | 0.018X                     | 495.3 370.6                               |
| H                            | 56.3°                          | 42.5°                   | 400                  | 0.020X                     | 441.8 330.5                               |
| V                            | 43.7°                          | 32.4°                   | 350                  | 0.023X                     | 388.3 290.4                               |
| D                            | 67.1°                          | 51.9°                   | 300                  | 0.027X                     | 334.8 250.3                               |
| Object Dimension at WD.100mm | H 123mm<br>V 91mm<br>D 154.8mm | 88mm<br>65.5mm<br>111mm | 250<br>200<br>150    | 0.032X<br>0.039X<br>0.052X | 281.2 210.2<br>227.7 170.0<br>174.2 129.9 |
| Distortion(TV)               | < 1%                           | < 0.8%                  | 100                  | 0.075X                     | 120.7 89.8                                |

**VT-LEMAF1614-MP10**



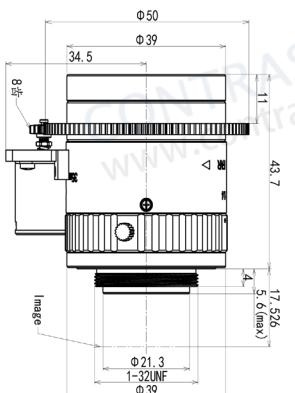
| EFL (mm)                     | 16                                  |                              | Working distance(mm)       | Optical Magnification      | Field of View(H/V)                     |
|------------------------------|-------------------------------------|------------------------------|----------------------------|----------------------------|--|
| Aperture, F/#                | F1.4~F16                            |                              | 900                        | 0.018X                     | 503.2 376.8                            |
| M.O.D.                       | 0.1m                                |                              | 850                        | 0.019X                     | 475.6 356.2                            |
| FBL (mm)                     | 17.526                              |                              | 800                        | 0.020X                     | 448.0 335.5                            |
| Back Focus (mm)              | 12.7                                |                              | 750                        | 0.021X                     | 420.4 314.8                            |
| Filter Size                  | M30.5×0.5                           |                              | 700                        | 0.023X                     | 392.8 294.1                            |
| Front/Rear Effective Dia.    | Front Ø19mm Rear Ø14.2mm            |                              | 650                        | 0.024X                     | 365.2 273.4                            |
| Mount                        | C-Mount                             |                              | 600                        | 0.026X                     | 337.6 252.8                            |
| Temperature Range            | -10~+50° C                          |                              | 550                        | 0.029X                     | 310.0 232.1                            |
| Storage Temperature Range    | -20~+60° C                          |                              | 500                        | 0.031X                     | 282.5 211.4                            |
| Image Size (inch)            | 2/3"                                | 1/2"                         | 450                        | 0.035X                     | 254.9 190.7                            |
| H                            | 30.3°                               | 22.3°                        | 400                        | 0.039X                     | 227.3 170.0                            |
| V                            | 23°                                 | 16.8°                        | 350                        | 0.044X                     | 199.7 149.4                            |
| D                            | 37.3°                               | 27.8°                        | 300                        | 0.052X                     | 170.4 127.6                            |
| Object Dimension at WD.100mm | H 170.4mm<br>V 127.6mm<br>D 212.8mm | 123.7mm<br>92.7mm<br>154.9mm | 116mm<br>69.4mm<br>123.7mm | 0.061X<br>0.076X<br>0.100X | 144.5 108.0<br>116.9 87.3<br>89.3 66.6 |
| Distortion(TV)               | < 0.1%                              | < 0.3%                       | < 0.1%                     | 0.145X                     | 61.7 45.9                              |

## VT-LEMAF2514-MP10



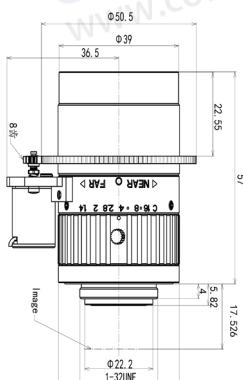
| EFL (mm)                     | 25                         |        |        | Working distance(mm) | Optical Magnification | Field of View(H/V) |           |
|------------------------------|----------------------------|--------|--------|----------------------|-----------------------|--------------------|-----------|
| Aperture, F/#                | F1.4~F16                   |        |        | 900                  | 0.028X                | 317.5 237.7        |           |
| M.O.D.                       | 0.1m                       |        |        | 850                  | 0.029X                | 299.9 224.5        |           |
| FBL (mm)                     | 17.526                     |        |        | 800                  | 0.031X                | 282.3 211.3        |           |
| Back Focus (mm)              | 12.25                      |        |        | 750                  | 0.033X                | 264.6 198.1        |           |
| Filter Size                  | M30.5×0.5                  |        |        | 700                  | 0.036X                | 247.0 184.9        |           |
| Front/Rear Effective Dia.    | Front Ø22.7mm Rear Ø12.6mm |        |        | 650                  | 0.039X                | 229.4 171.6        |           |
| Mount                        | C-Mount                    |        |        | 600                  | 0.042X                | 211.8 158.4        |           |
| Temperature Range            | -10~+50° C                 |        |        | 550                  | 0.046X                | 194.1 145.2        |           |
| Storage Temperature Range    | -20~+60° C                 |        |        | 500                  | 0.050X                | 176.5 132.0        |           |
| Image Size (inch)            | 2/3"                       | 1/2"   | 1/3"   | 450                  | 0.056X                | 158.9 118.8        |           |
| H                            | 20°                        | 14.6°  | 11°    | 400                  | 0.063X                | 141.2 105.6        |           |
| V                            | 15°                        | 11°    | 8.2°   | 350                  | 0.072X                | 123.6 92.4         |           |
| D                            | 24.6°                      | 18.2°  | 13.7°  | 300                  | 0.084X                | 108.0 82.0         |           |
| Object Dimension at WD.100mm | H                          | 108mm  | 79.4mm | 59.4mm               | 250                   | 0.100X             | 88.3 66.0 |
| V                            | 82mm                       | 59.4mm | 44.4mm | 200                  | 0.126X                | 70.7 52.7          |           |
| D                            | 136mm                      | 99.4mm | 74.4mm | 150                  | 0.168X                | 53.0 39.5          |           |
| Distortion(TV)               | < 0.2%                     |        |        | 100                  | 0.253X                | 35.3 26.3          |           |

## VT-LEMAF3514-MP10



| EFL (mm)                     | 35                         |        |         | Working distance(mm) | Optical Magnification | Field of View(H/V) |           |
|------------------------------|----------------------------|--------|---------|----------------------|-----------------------|--------------------|-----------|
| Aperture, F/#                | F1.4~F16                   |        |         | 900                  | 0.037X                | 236.2 176.9        |           |
| M.O.D.                       | 0.15m                      |        |         | 850                  | 0.040X                | 223.2 167.2        |           |
| FBL (mm)                     | 17.526                     |        |         | 800                  | 0.042X                | 210.3 157.5        |           |
| Back Focus (mm)              | 8.7                        |        |         | 750                  | 0.045X                | 197.3 147.8        |           |
| Filter Size                  | M37×0.5                    |        |         | 700                  | 0.048X                | 184.3 138.1        |           |
| Front/Rear Effective Dia.    | Front Ø24.8mm Rear Ø13.6mm |        |         | 650                  | 0.052X                | 171.4 128.4        |           |
| Mount                        | C-Mount                    |        |         | 600                  | 0.056X                | 158.4 118.6        |           |
| Temperature Range            | -10~+50° C                 |        |         | 550                  | 0.061X                | 145.5 108.9        |           |
| Storage Temperature Range    | -20~+60° C                 |        |         | 500                  | 0.067X                | 132.5 99.2         |           |
| Image Size (inch)            | 2/3"                       | 1/2"   | 1/3"    | 450                  | 0.074X                | 119.6 89.5         |           |
| H                            | 13.9°                      | 10.1°  | 7.6°    | 400                  | 0.083X                | 106.6 79.8         |           |
| V                            | 10.4°                      | 7.6°   | 5.2°    | 350                  | 0.094X                | 93.7 70.1          |           |
| D                            | 17.3°                      | 12.6°  | 9.1°    | 300                  | 0.110X                | 80.7 60.4          |           |
| Object Dimension at WD.100mm | H                          | 81mm   | 60mm    | 46.8mm               | 250                   | 0.131X             | 67.7 50.6 |
| V                            | 60mm                       | 46.8mm | 35.08mm | 35.08mm              | 200                   | 0.162X             | 54.7 40.9 |
| D                            | 100mm                      | 74.4mm | 58.54mm | 58.54mm              | 150                   | 0.213X             | 41.8 31.2 |
| Distortion(TV)               | -0.8%                      |        |         | -                    | -                     | -                  |           |

## VT-LEMAF5014-MP10



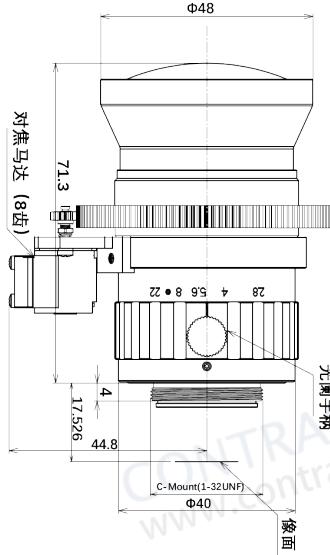
| EFL (mm)                     | 50                        |        |         | Working distance(mm) | Optical Magnification | Field of View(H/V) |           |
|------------------------------|---------------------------|--------|---------|----------------------|-----------------------|--------------------|-----------|
| Aperture, F/#                | F1.4~Close                |        |         | 2000                 | 0.025X                | 352.0 264.0        |           |
| M.O.D.                       | 0.3m                      |        |         | 1000                 | 0.051X                | 172.5 129.4        |           |
| FBL (mm)                     | 17.526                    |        |         | 900                  | 0.057X                | 154.4 115.8        |           |
| Back Focus (mm)              | 12.4                      |        |         | 850                  | 0.06X                 | 146.7 110.0        |           |
| Filter Size                  | M37×0.5                   |        |         | 800                  | 0.064X                | 137.5 103.1        |           |
| Front/Rear Effective Dia.    | Front Ø24mm Rear Ø11.78mm |        |         | 750                  | 0.068X                | 129.4 97.1         |           |
| Mount                        | C-Mount                   |        |         | 700                  | 0.073X                | 120.5 90.4         |           |
| Temperature Range            | -10~+50° C                |        |         | 650                  | 0.079X                | 111.4 83.5         |           |
| Storage Temperature Range    | -20~+60° C                |        |         | 600                  | 0.0858X               | 102.6 76.9         |           |
| Image Size (inch)            | 2/3"                      | 1/2"   | 1/3"    | 550                  | 0.094X                | 93.6 70.2          |           |
| H                            | 10.46°                    | 7.6°   | 5.2°    | 500                  | 0.104X                | 84.6 63.5          |           |
| V                            | 7.86°                     | 5.27°  | 3.5°    | 450                  | 0.116X                | 75.9 56.9          |           |
| D                            | 13.04°                    | 9.52°  | 6.5°    | 400                  | 0.131X                | 67.2 50.4          |           |
| Object Dimension at WD.100mm | H                         | 46.8mm | 35.08mm | 35.08mm              | 350                   | 0.15X              | 58.7 44.0 |
| V                            | 35.08mm                   | 28.2mm | 20.5mm  | 20.5mm               | 300                   | 0.177X             | 49.7 37.3 |
| D                            | 58.54mm                   | 46.8mm | 35.08mm | 35.08mm              | 150                   | -                  | -         |
| Distortion(TV)               | -0.8%                     |        |         | -                    | -                     | -                  |           |

## 1.1" Motor Focus Lenses

- 1.Ultra-high imaging quality
- 2.Focus range from 0.1m to infinity
- 3.Compatible with 1" sensor
- 4.Distortion < 0.1%

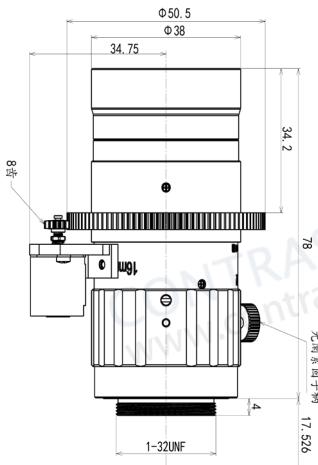


**VT-LEMAF1228-MP20-H1.1**



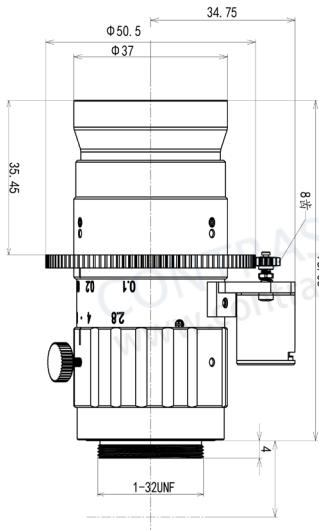
|                              | EFL (mm)                   | Working distance(mm) | Optical Magnification | Field of View(H/V)     |
|------------------------------|----------------------------|----------------------|-----------------------|------------------------|
| Aperture, F/#                | F2.8~F22                   | 5000                 | 0.002X                | 5727 4295.3            |
| M.O.D.                       | 0.1m                       | 2000                 | 0.006X                | 2307 1730.2            |
| FBL (mm)                     | 17.526                     | 1000                 | 0.012X                | 1166.9 875.2           |
| Back Focus (mm)              | 10.6                       | 900                  | 0.013X                | 1052.9 789.7           |
| Filter Size                  | -                          | 800                  | 0.015X                | 938.9 704.2            |
| Front/Rear Effective Dia.    | Front Ø42.9mm Rear Ø20.5mm | 700                  | 0.017X                | 824.9 618.5            |
| Mount                        | C-Mount                    | 600                  | 0.02X                 | 710.9 533.2            |
| Temperature Range            | -10~+50° C                 | 550                  | 0.022X                | 653.9 490.4            |
| Storage Temperature Range    | -20~+60° C                 | 500                  | 0.024X                | 596.9 447.7            |
| Image Size (inch)            | 1.1"                       | 1"                   | 2/3"                  | 450 0.026X 539.9 405   |
| Angle of View                | H                          | 57°                  | 54.8°                 | 400 0.029X 482.9 362.2 |
|                              | V                          | 45°                  | 42.3°                 | 350 0.033X 425.9 319.4 |
|                              | D                          | 66.7°                | 66.1°                 | 300 0.038X 368.9 276.6 |
| Object Dimension at WD.100mm | H                          | 254.9mm              | 240.0mm               | 250 0.045X 312 233.9   |
|                              | V                          | 191.1mm              | 179.2mm               | 200 0.056X 254.9 191.1 |
|                              | D                          | 318.6mm              | 298.7mm               | 150 0.072X 197.2 148.4 |
| Distortion(TV)               | < 1.5%                     | < 1.5%               | < 1%                  | 100 0.103X 141 105     |

**VT-LEMAF1628-MP20-H1.1**



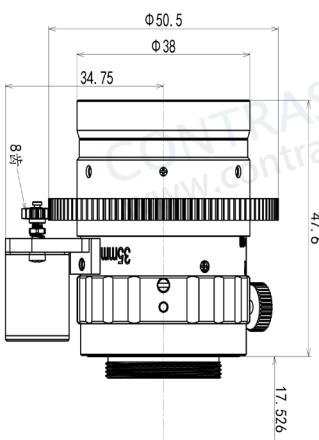
|                              | EFL (mm)                   | Working distance(mm) | Optical Magnification | Field of View(H/V)      |
|------------------------------|----------------------------|----------------------|-----------------------|-------------------------|
| Aperture, F/#                | F2.8~F22                   | 5000                 | 0.0032X               | 4473.2 3361             |
| M.O.D.                       | 0.1m                       | 2000                 | 0.0079X               | 1793.5 1347.4           |
| FBL (mm)                     | 17.526                     | 1000                 | 0.0158X               | 900.6 676.4             |
| Back Focus (mm)              | 22.4                       | 900                  | 0.0176X               | 811.3 609.4             |
| Filter Size                  | M35.5×0.5                  | 800                  | 0.0197X               | 722.4 542.6             |
| Front/Rear Effective Dia.    | Front Ø26.7mm Rear Ø19.2mm | 700                  | 0.0225X               | 632.9 475.4             |
| Mount                        | C-Mount                    | 600                  | 0.0262X               | 543.6 408.3             |
| Temperature Range            | -10~+50° C                 | 550                  | 0.0286X               | 498.7 374.6             |
| Storage Temperature Range    | -20~+60° C                 | 500                  | 0.0314X               | 454.2 341               |
| Image Size (inch)            | 1.1"                       | 1"                   | 2/3"                  | 450 0.0348X 409.5 307.6 |
| Angle of View                | H                          | 46.3°                | 43.6°                 | 400 0.0391X 364.9 274   |
|                              | V                          | 36°                  | 33.4°                 | 350 0.0445X 320.2 240.3 |
|                              | D                          | 55.4°                | 53.1°                 | 300 0.0518X 275.4 206.8 |
| Object Dimension at WD.100mm | H                          | 186mm                | 168.4mm               | 250 0.0618X 230.8 173.2 |
|                              | V                          | 139.6mm              | 125.9mm               | 200 0.0767X 186 139.6   |
|                              | D                          | 232.1mm              | 210.9mm               | 150 0.101X 141.3 106    |
| Distortion(TV)               | < 0.5%                     | < 0.5%               | < 0.3%                | 100 0.148X 96.5 72.4    |

## VT-LEMAF2528-MP20-H1.1



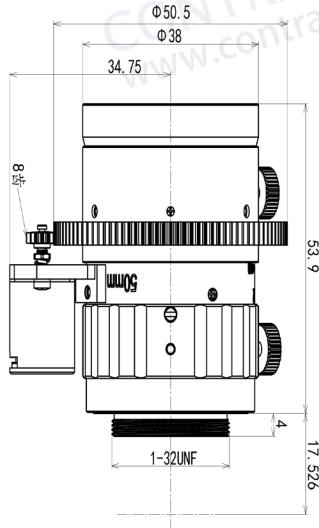
| EFL (mm)                     | 25.0                     |         |         | Working distance(mm) | Optical Magnification | Field of View(H/V) |
|------------------------------|--------------------------|---------|---------|----------------------|-----------------------|--------------------|
| Aperture, F/#                | F2.8~F22                 |         |         | 5000                 | 0.005X                | 2820 2120          |
| M.O.D.                       | 0.1m                     |         |         | 2000                 | 0.013X                | 1084.6 815.4       |
| FBL (mm)                     | 17.526                   |         |         | 1000                 | 0.025X                | 564 424            |
| Back Focus (mm)              | 29.6                     |         |         | 900                  | 0.028X                | 503.6 378.6        |
| Filter Size                  | M35.5×0.5                |         |         | 800                  | 0.031X                | 454.8 341.9        |
| Front/Rear Effective Dia.    | Front Ø20mm Rear Ø19.2mm |         |         | 700                  | 0.036X                | 391.7 294.4        |
| Mount                        | C-Mount                  |         |         | 600                  | 0.042X                | 335.7 252.4        |
| Temperature Range            | -10~+50°C                |         |         | 550                  | 0.045X                | 313.3 235.5        |
| Storage Temperature Range    | -20~+60°C                |         |         | 500                  | 0.050X                | 282 212            |
| Image Size (inch)            | 1.1"                     | 1"      | 2/3"    | 450                  | 0.055X                | 256.4 192.7        |
| Angle of View                | H                        | 30.4°   | 27.6°   | 400                  | 0.061X                | 231.1 173.8        |
|                              | V                        | 23°     | 20.9°   | 350                  | 0.070X                | 207.4 151.4        |
|                              | D                        | 37.6°   | 34.2°   | 300                  | 0.081X                | 174.1 130.9        |
| Object Dimension at WD.100mm | H                        | 119.4mm | 108.5mm | 74.6mm               | 0.096X                | 146.9 110.4        |
|                              | V                        | 89.5mm  | 81.4mm  | 74.6mm               | 0.118X                | 119.4 89.5         |
|                              | D                        | 186.5mm | 135.6mm | 93.2mm               | 0.154X                | 91.6 68.8          |
| Distortion(TV)               | < 0.1%                   | < 0.1%  | < 0.03% | 100                  | 0.221X                | 63.8 48            |

## VT-LEMAF3528-MP20-H1.1



| EFL (mm)                     | 35.0                     |         |         | Working distance(mm) | Optical Magnification | Field of View(H/V) |
|------------------------------|--------------------------|---------|---------|----------------------|-----------------------|--------------------|
| Aperture, F/#                | F2.8~F22                 |         |         | 5000                 | 0.0069X               | 2029 1528.2        |
| M.O.D.                       | 0.2m                     |         |         | 2000                 | 0.0174X               | 809.4 609.6        |
| FBL (mm)                     | 17.526                   |         |         | 1000                 | 0.0349X               | 503 303.5          |
| Back Focus (mm)              | 22.9                     |         |         | 900                  | 0.0388X               | 362.6 273          |
| Filter Size                  | M35.5×0.5                |         |         | 800                  | 0.0437X               | 322 242.4          |
| Front/Rear Effective Dia.    | Front Ø23mm Rear Ø19.1mm |         |         | 700                  | 0.05X                 | 281.4 211.8        |
| Mount                        | C-Mount                  |         |         | 600                  | 0.0585X               | 240.8 181.2        |
| Temperature Range            | -10~+50°C                |         |         | 550                  | 0.0639X               | 220.5 165.9        |
| Storage Temperature Range    | -20~+60°C                |         |         | 500                  | 0.0703X               | 200.3 187.6        |
| Image Size (inch)            | 1.1"                     | 1"      | 2/3"    | 450                  | 0.0783X               | 180 135.5          |
| Angle of View                | H                        | 22.6°   | 20.6°   | 400                  | 0.0882X               | 199.5 120.2        |
|                              | V                        | 17°     | 15.45°  | 350                  | 0.101X                | 174.5 140          |
|                              | D                        | 28.3°   | 25.75°  | 300                  | 0.1181X               | 115.9 89.9         |
| Object Dimension at WD.100mm | H                        | 78.2mm  | 71mm    | 48.8mm               | 0.1421X               | 99.4 74.7          |
|                              | V                        | 58.7mm  | 53.3mm  | 36.6mm               | 0.1805X               | 78.2 58.7          |
|                              | D                        | 97.68mm | 88.8mm  | 61mm                 | -                     | -                  |
| Distortion(TV)               | < 0.02%                  | < 0.02% | < 0.01% | -                    | -                     | -                  |

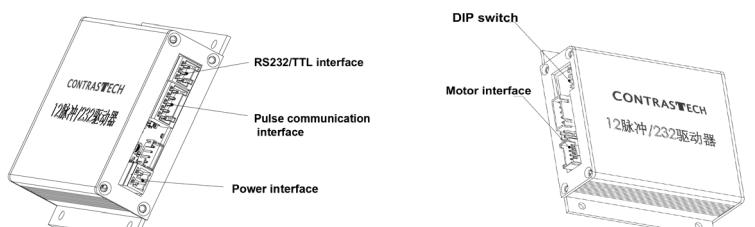
## VT-LEMAF5028-MP20-H1.1



| EFL (mm)                     | 50.0                     |         |         | Working distance(mm) | Optical Magnification | Field of View(H/V) |
|------------------------------|--------------------------|---------|---------|----------------------|-----------------------|--------------------|
| Aperture, F/#                | F2.8~F22                 |         |         | 5000                 | 0.01X                 | 1379 1035.5        |
| M.O.D.                       | 0.3m                     |         |         | 2000                 | 0.026X                | 547.1 410.7        |
| FBL (mm)                     | 17.526                   |         |         | 1000                 | 0.052X                | 273.5 205.3        |
| Back Focus (mm)              | 21.1                     |         |         | 900                  | 0.057X                | 245.6 184.3        |
| Filter Size                  | M35.5×0.5                |         |         | 800                  | 0.065X                | 218.3 163.8        |
| Front/Rear Effective Dia.    | Front Ø24mm Rear Ø21.7mm |         |         | 750                  | 0.069X                | 204.5 153.4        |
| Mount                        | C-Mount                  |         |         | 700                  | 0.074X                | 190.6 143          |
| Temperature Range            | -10~+50°C                |         |         | 600                  | 0.08X                 | 176.7 132.5        |
| Storage Temperature Range    | -20~+60°C                |         |         | 650                  | 0.087X                | 162.8 122.1        |
| Image Size (inch)            | 1.1"                     | 1"      | 2/3"    | 550                  | 0.095X                | 148.9 111.7        |
| Angle of View                | H                        | 15.9°   | 14.6°   | 500                  | 0.105X                | 134.9 99           |
|                              | V                        | 11.9°   | 10.9°   | 450                  | 0.117X                | 121 90.7           |
|                              | D                        | 19.9°   | 18.2°   | 400                  | 0.132X                | 107 80.2           |
| Object Dimension at WD.100mm | H                        | 79mm    | 71.6mm  | 49.3mm               | 0.152X                | 92.9 69.7          |
|                              | V                        | 59.3mm  | 53.8mm  | 37mm                 | 0.179X                | 79 59.3            |
|                              | D                        | 98.9mm  | 89.7mm  | 61.6mm               | -                     | -                  |
| Distortion(TV)               | < 0.04%                  | < 0.04% | < 0.02% | -                    | -                     | -                  |

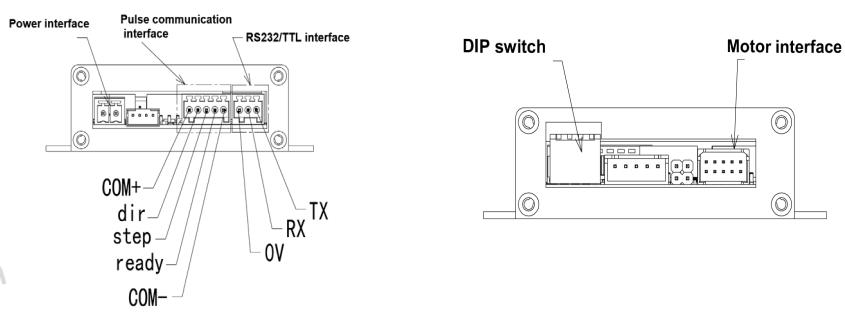
## Motor Parameters

|                                |                         |
|--------------------------------|-------------------------|
| Voltage (v)                    | 24v                     |
| Power (w)                      | 5w                      |
| Range of speed (RPM)           | 0-400RPM                |
| Rated speed (RPM)              | 150RPM                  |
| Response time                  | <1ms                    |
| Maximum output torque          | 0.08N·M                 |
| Self-locking torque            | 0.12N·M                 |
| Motion precision/accuracy      | ±0.001°                 |
| Operating temperature/humidity | -40°C - 105°C, RH0%-90% |
| Rotate direction               | CW, CCW                 |



## Drive Interface Definition

| Communication mode                | Interface definition  |
|-----------------------------------|---|
| Pulse communication interface     | COM+ open collector(NPN (OC-NPN)), voltage range 5v-24v   |
|                                   | Dir Motor rotation direction during pulse signal  |
|                                   | Step Pulse signal   |
|                                   | Ready Response signal (low level means the motor is running, high level means the motor is stopped) |
|                                   | COM- grounding  |
|                                   | OV grounding  |
| RS232/TTL Communication Interface | RX data reception   |
|                                   | TX data transmission  |



## Telecentric Lenses



**BTL Series: High Precision Bi-telecentric Lenses**



**BTLM Series: High Performance Bi-telecentric Lenses**



**CLW2-10MP Series: High Resolution Telecentric Lenses**



**CLW2-MP Series: Large Object Distance Telecentric Lenses**



**CLW3-ST Series: Standard Resolution Telecentric Lenses**



**BTLP Series: 360 Multi-Angle Imaging Device**

For more telecentric lens product information,  
please contact your sales engineer for confirmation.

# CONTRASTECH

Machine Vision Expert



**1 Million**  
FPS Camera

Imaging Solutions

OEM/ODM



**Infrared Camera**

0.3-14 $\mu$ m

NIR/SWIR/MWIR/LWIR



**Kepler Pro**

**Software**

No Need  
Programming



CONTRASTECH

Hangzhou Contrastechnology Co., Ltd.

No. 8 Xiyuan 9th Road, West Lake District

Hangzhou Zhejiang 310030 China

Tel: 86-571-86888309

[www.contrastech.com](http://www.contrastech.com)



Ver.25.05