



viewworks

# Viewworks Machine Vision Lenses

High Resolution Telecentric Lens for 5 Megapixels CCD  
High Resolution Lens Optimized for Flat Panel Inspection



## VL-T040C/VL-T050C

VL-T040C/T050C lenses are designed and optimized to work with 2/3 inch format, 5 megapixel CCD cameras. VL-T040C/T050C, object-sided telecentric lenses, can prove extremely useful in the inspection of 3D objects or scenes where image size and shape accuracy are crucial. Its compact size makes the best choice for machine vision applications involving significant space limitations.

## VL-N027F

VL-N027F lens is designed and optimized to work with 29 megapixel CCD cameras and sets a new standard for lens performance in high resolution metrology applications. It prevents degradation of sensitivity and brightness on the CCD equipped with a microlens. Specially, its MTF performance curves show that each R, G and B curve converges on similar results. With these unique characteristics, inspectors do not need to adjust the focusing accuracy every time the color of panel changed during inspecting defects in the flat panels.

## Main Features

### VL-T040C/VL-T050C

- \* High resolving power: Enabling 5 megapixels camera (Optical format: 2/3 inch, pixel size: 3.45  $\mu\text{m}$ ) to realize the maximum performance
- \* Compact design: Easy to assemble for small devices
- \* Variable iris: Enabling to configure optimized shooting conditions
- \* Optical distortion: Less than 0.02%

### VL-N027F

- \* High resolving power: Compatible with 29 megapixels area scan cameras
- \* High relative illumination over 90%
- \* High sensitivity
- \* No shading on the sensor with a micro lens

[machinevision.viewworks.com](http://machinevision.viewworks.com)



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## Specifications

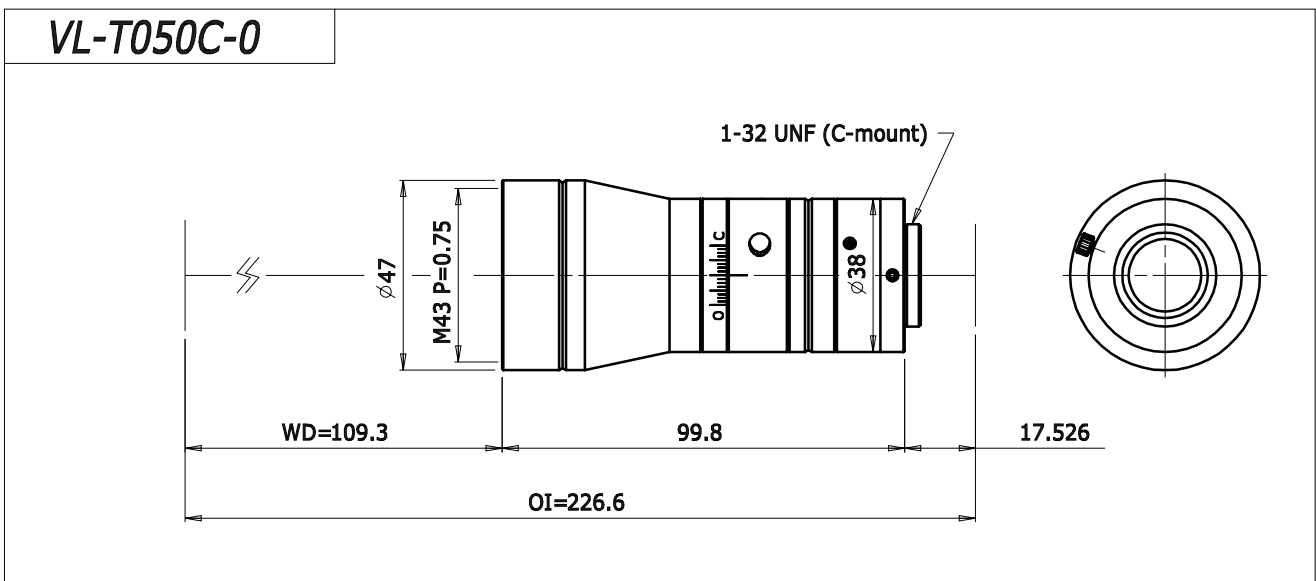
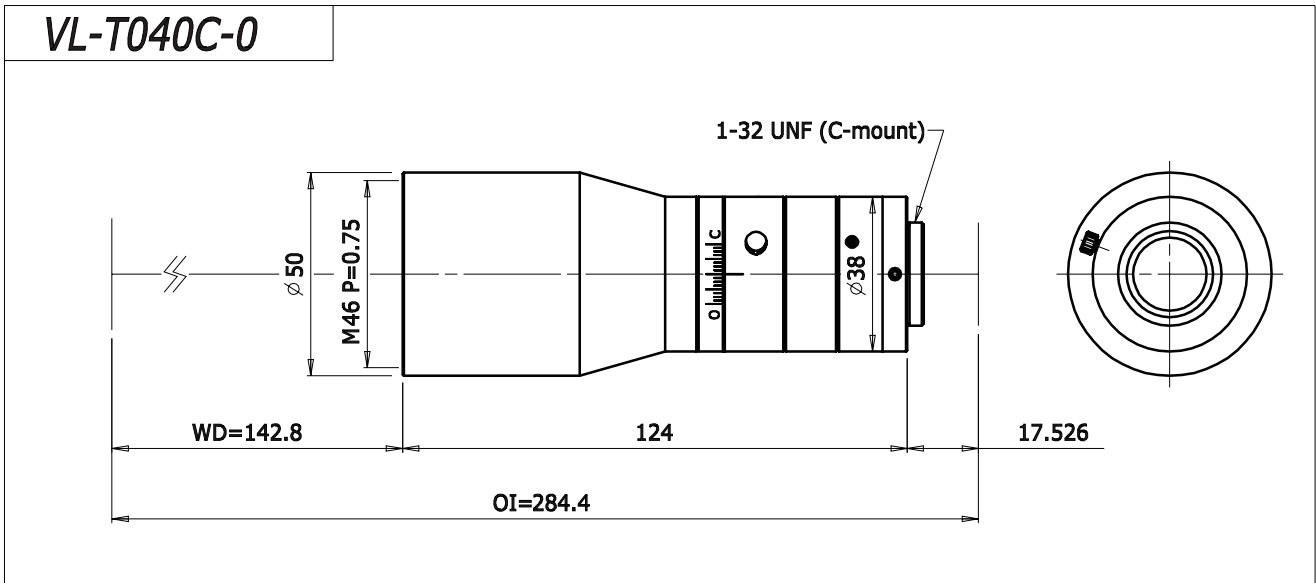
Model	VL-T040C-0	VL-T050C-0	VL-N027F-0
Magnifying power	×0.4	×0.5	×0.21 ~ ×0.33
F number	5.0	5.0	7.0
Focal length	-	-	112.4 mm
Image circle	11 mm	11 mm	44 mm
Working distance	142.8 mm	109.3 mm	365 ~ 560 mm
OI	284.4 mm	226.6 mm	563 ~ 745 mm
Depth of field <sup>†</sup>	0.43 mm	0.27 mm	3.5 mm (×0.21), 1.4 mm (×0.33)
Field of view (mm <sup>2</sup> )	22.0 × 16.5	17.6 × 13.2	171 × 114 ~ 109 × 72
Relative illumination	> 90%	> 90%	96%
Resolving power <sup>‡</sup>	8.4 μm	6.7 μm	17 ~ 26 μm
Optical distortion	0.02%	0.02%	0.45%
Sensor optical format	2/3	2/3	35 mm
Dimension	Φ50 × 124 mm	Φ47 × 100 mm	Φ60.4 × 156 mm
Weight	336 g	290 g	284 g (510 g including focusing tube)
External appearance			
Mount	C-mount	C-mount	F-mount

<sup>†</sup> When the minimum permissible circle of confusion is twice as large as the pitch of a pixel

<sup>‡</sup> Theoretical resolving power in 550 nm wavelength

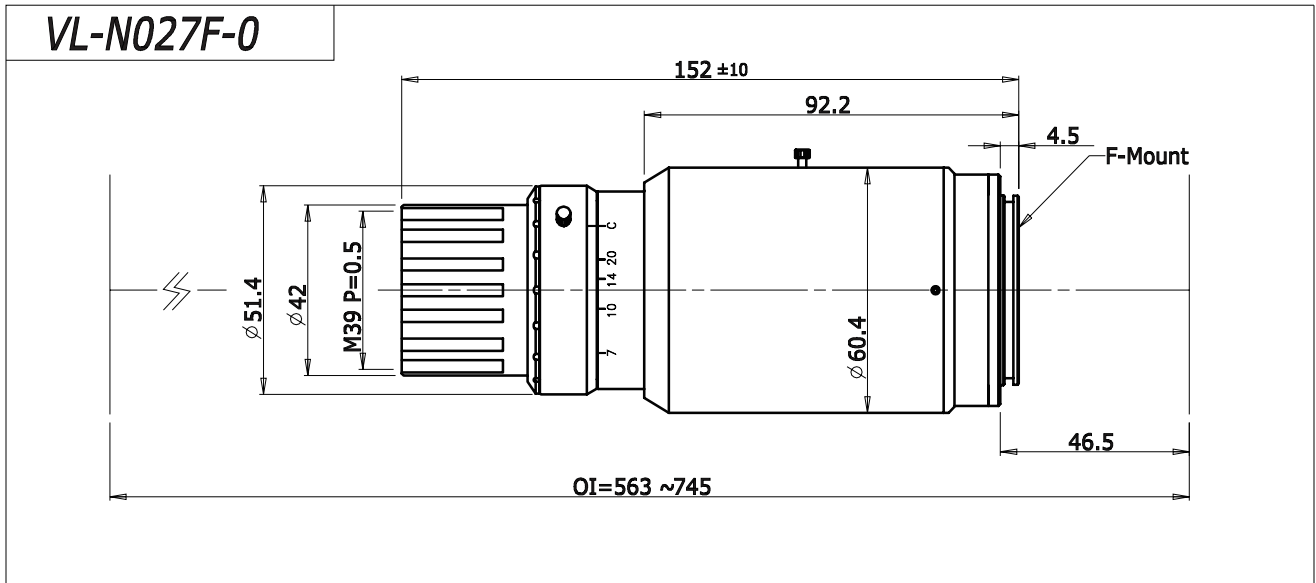
# Mechanical Dimensions

Unit : mm

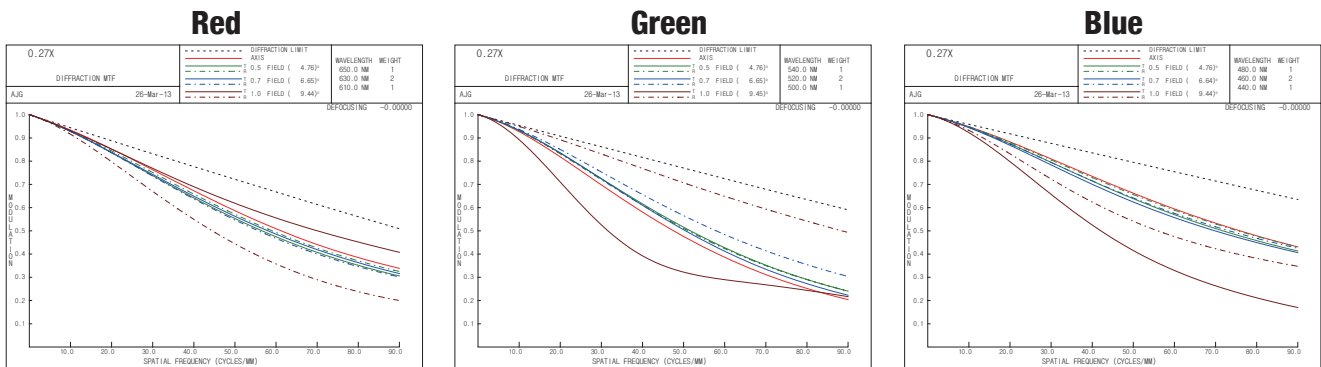


# Mechanical Dimensions

Unit : mm



## VL-N027F-0 MTF Curves at ×0.27



For more information please contact local distributor or visit our website at <http://machinevision.viewworks.com>

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RA11-128-004



ISO-9001, ISO-13485

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