



4K Big Fov Zoom Lens



2024 V1

For customized projects please Contact us:

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Simtrum's **4K big FOV high-resolution zoom lens** not only has excellent performance in zooming, but also has big FOV and higher speed. It's an ideal choice for high speed detection and accurate application.

Compared with the traditional zoom system, the field of vision is improved by more than 1.45X.

Feature

- Support 1" sensor camera, which expands the FOV by more than 1.45X compared with the traditional lens at the same magnification.
- Designed with higher resolution requirements, the horizontal resolution with a 1 inch camera can reach 4K level.
- The magnification is 0.68X-5X, which is suitable for most testing applications.
- Modular design, multiple magnification TV tube and lens attachment are optional, modules with other functions are additionally provided for selection.

Application

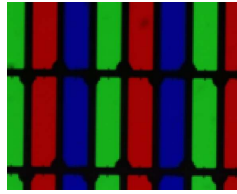
- Biology
- Electronics
- Semiconductor
- Machine Vision
- High-precision Industries



Specification

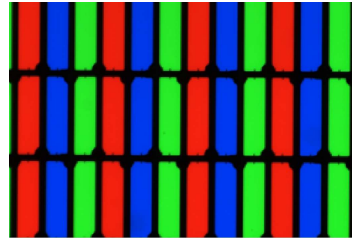
Magnification Range	0.68X-5.0X						
Working Distance (mm)	80						
Magnification	0.68X	1.0X	2.0X	3.0X	4.0X	5.0X	
DOF (mm)	1.78	0.89	0.25	0.12	0.08	0.07	
N.A.	0.033	0.045	0.08	0.11	0.12	0.12	
FNo.	10.3	11	12.4	13.5	16.5	20.6	
Resolution (um)	10.17	7.46	4.19	3.05	2.8	2.8	
TV Distortion	< 0.02%						
FOV (mm)	1"	23.53x18.82x14.12	16.0x12.8x9.6	8.0x6.4x4.8	5.33x4.27x3.2	4.0x3.2x2.4	3.2x2.56x1.92
	2/3"	16.18x12.94x9.71	11.0x8.8x6.6	5.5x4.4x3	3.67x2.93x2.2	2.75x2.2x1.65	2.2x1.76x1.32
	1/2"	11.76x9.41x7.06	8.0x6.4x4.8	4.0x3.2x2.4	2.67x2.13x1.6	2.0x1.6x1.2	1.6x1.28x0.96
	1/3"	8.82x7.06x5.29	6.0x4.8x3.6	3.0x2.4x1.8	2.0x1.6x1.2	1.5x1.2x0.9	1.2x0.96x0.72
Max. Sensor Size	1"						
Total Length (mm)	328						
Zooming Method	Manual/Motorized						
Mount	C-Mount						

1-Inch CCD Compatibility, Larger Sensor Size, Better Light Passage

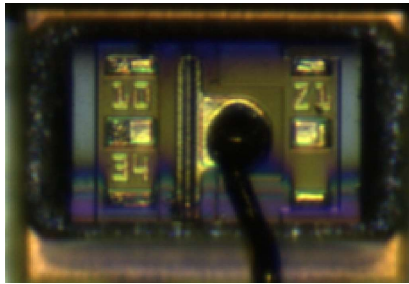


Traditional Image Lens

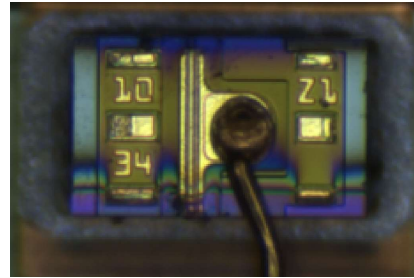
Better Sharpness



4k Zoom Lens

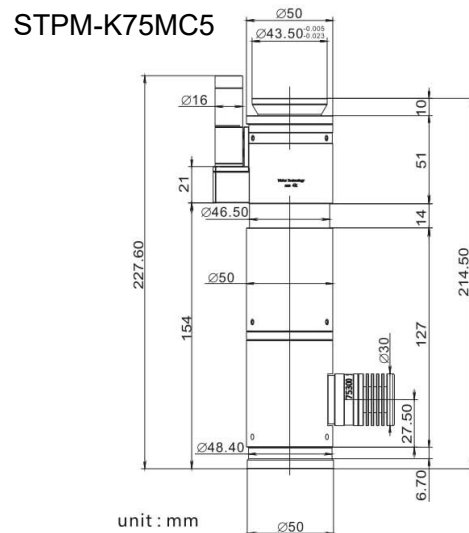
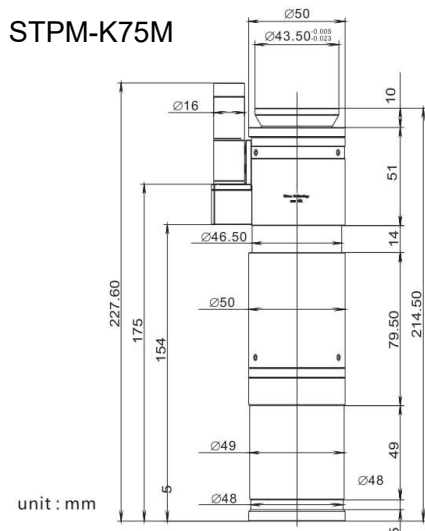
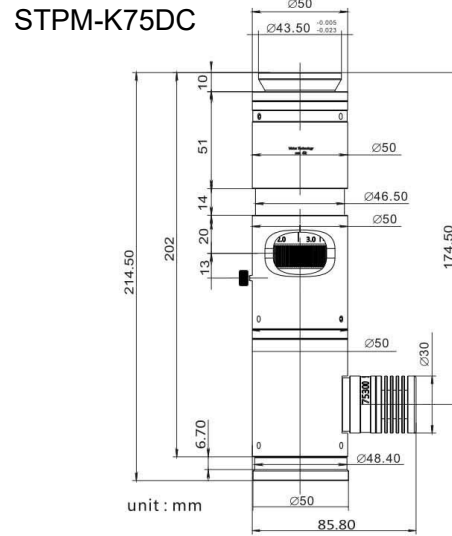
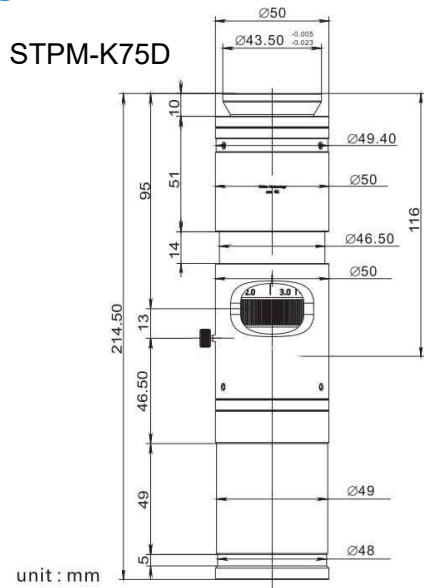


Traditional Image Lens



4k Zoom Lens

Drawings



4K Zoom Lens Fov Table

Lens Attachment		0.25X							0.5X						
WD (mm)		240							135						
N.A.	Low Magnification	0.0083							0.0165						
	High Magnification	0.03							0.06						
Object Resolution (μm)	Low Magnification	40.67							20.33						
	High Magnification	11.18							5.59						
Tube Mag.	—	Magnification	Depth of field(mm)	Camera Sensor (D"H"V) (mm)					Magnification	Depth of field(mm)	Camera Sensor (D"H"V) (mm)				
	1/2"			2/3"	1"	4/3"	32mm	1/2"			2/3"	1"	4/3"	32mm	
0.7X	Low Magnification	0.119X	40.74	67.2x53.8x40.3	92.4x73.9x55.5	—	—	—	0.238X	10.19	33.6x26.9x20.2	46.2x37.0x27.7	—	—	—
	High Magnification	0.857X	1.52	9.1x7.3x5.5	12.6x10.1x7.5	—	—	—	1.75X	0.38	4.6x3.7x2.7	6.3x5.0x3.8	—	—	—
1X	Low Magnification	0.17X	28.52	47.1x37.6x28.2	64.7x51.8x38.8	94.1x75.3x56.5	—	—	0.34X	7.13	23.5x18.8x14.1	32.4x25.9x19.4	47.1x37.6x28.2	—	—
	High Magnification	1.25X	1.07	6.4x5.1x3.8	8.8x7.0x5.3	12.8x10.2x7.7	—	—	2.5X	0.27	3.2x2.6x1.9	4.4x3.5x2.6	6.4x3.5x2.6	—	—
1.5X	Low Magnification	0.255X	19.01	31.4x25.1x18.8	43.1x34.5x25.9	62.7x50.2x37.6	84.7x67.8x50.8	—	0.51X	4.75	15.7x12.5x9.4	21.6x17.3x12.9	31.4x25.1x18.8	42.4x33.9x24.4	—
	High Magnification	1.875X	0.71	4.3x3.4x2.6	5.9x4.7x3.5	8.5x6.8x5.1	11.5x9.2x6.9	—	3.75X	0.18	2.1x1.7x1.3	2.9x2.3x1.8	4.3x3.4x2.6	5.8x4.6x3.5	—
2X	Low Magnification	0.34X	14.26	23.5x18.8x14.1	32.4x25.9x19.4	47.1x37.6x28.8	63.5x50.8x38.1	94.1x75.3x56.5	0.68X	3.57	11.8x9.4x7.1	16.2x12.9x9.7	23.5x18.8x14.1	31.8x25.4x19.1	47.1x37.6x28.2
	High Magnification	2.5X	0.53	3.2x2.6x1.9	4.4x3.5x2.6	6.4x5.1x3.8	8.6x6.9x5.2	12.8x10.2x7.7	5X	0.13	1.6x1.3x1.0	2.2x1.8x1.3	3.2x2.6x1.9	4.3x3.5x2.6	6.4x5.1x3.8

Lens Attachment		0.75X							1X						
WD (mm)		111							80						
N.A.	Low Magnification	0.025							0.033						
	High Magnification	0.09							0.12						
Object Resolution (μm)	Low Magnification	13.56							10.17						
	High Magnification	3.73							2.8						
Tube Mag.	—	Magnification	Depth of field(mm)	Camera Sensor (D"H"V) (mm)					Magnification	Depth of field(mm)	Camera Sensor (D"H"V) (mm)				
	1/2"			2/3"	1"	4/3"	32mm	1/2"			2/3"	1"	4/3"	32mm	
0.7X	Low Magnification	0.375X	4.53	22.4x17.9x13.4	30.8x24.6x18.5	—	—	—	0.476X	2.55	16.8x13.4x10.1	23.1x18.5x13.9	—	—	—
	High Magnification	2.625X	0.17	3.0x2.4x1.8	4.2x3.4x2.5	—	—	—	3.5X	0.1	2.3x1.8x1.4	3.1x2.5x1.9	—	—	—
1X	Low Magnification	0.51X	3.17	15.7x12.5x9.4	21.6x17.3x12.9	31.4x25.1x18.8	—	—	0.68X	1.78	11.8x9.4x7.1	16.2x12.9x9.7	23.5x18.8x14.1	—	—
	High Magnification	3.75X	0.12	2.1x1.7x1.3	2.9x2.3x1.8	4.3x3.4x2.6	—	—	5X	0.07	1.6x1.3x1.0	2.2x1.8x1.3	3.2x2.6x1.9	—	—
1.5X	Low Magnification	0.765X	2.11	10.5x8.4x6.3	14.4x11.5x8.6	20.9x16.7x12.5	28.2x22.6x16.9	—	1.02X	1.19	7.8x6.3x4.7	10.8x8.6x6.5	15.7x12.5x9.4	21.2x16.9x12.7	—
	High Magnification	5.625X	0.08	1.4x1.1x0.9	2.0x1.6x1.2	2.8x2.3x1.7	3.8x3.1x2.3	—	7.5X	0.04	1.1x0.9x0.6	1.5x1.2x0.9	2.1x1.7x1.3	2.9x2.3x1.7	—
2X	Low Magnification	1.02X	1.58	7.8x6.3x4.7	10.8x8.6x6.5	15.7x12.5x9.4	21.2x16.9x12.7	31.4x25.1x18.8	1.36X	0.89	5.9x4.7x3.5	8.1x6.5x4.9	11.8x9.4x7.1	15.9x12.7x9.5	23.5x18.8x14.1
	High Magnification	7.5X	0.06	1.1x0.9x0.6	1.5x1.2x0.9	2.1x1.7x1.3	2.9x2.3x1.7	4.3x3.4x2.6	10X	0.03	0.8x0.6x0.5	1.1x0.9x0.7	1.6x1.3x1.0	2.2x1.7x1.3	3.2x2.6x1.9

Lens Attachment		1.5X							2X						
WD (mm)		45							27						
N.A.	Low Magnification	0.0495							0.066						
	High Magnification	0.18							0.24						
Object Resolution (μm)	Low Magnification	6.78							5.08						
	High Magnification	1.86							1.4						
Tube Mag.	—	Magnification	Depth of field(mm)	Camera Sensor (D"H"V) (mm)					Magnification	Depth of field(mm)	Camera Sensor (D"H"V) (mm)				
	1/2"			2/3"	1"	4/3"	32mm	1/2"			2/3"	1"	4/3"	32mm	
0.7X	Low Magnification	0.714X	1.13	11.2x9.0x6.7	15.4x12.3x9.2	—	—	—	0.952X	0.64	8.4x6.7x5.0	11.6x9.2x6.9	—	—	—
	High Magnification	5.25X	0.04	1.5x1.2x0.9	2.1x1.7x1.3	—	—	—	7X	0.02	1.1x0.9x0.7	1.6x1.3x0.9	—	—	—
1X	Low Magnification	1.02X	0.79	7.8x6.3x4.7	10.8x8.6x6.5	15.7x12.5x9.4	—	—	1.36X	0.45	5.9x4.7x3.5	8.1x6.5x4.9	11.8x9.4x7.1	—	—
	High Magnification	7.5X	0.03	1.1x0.9x0.6	1.5x1.2x0.9	2.1x1.7x1.3	—	—	10X	0.02	0.8x0.6x0.5	1.1x0.9x0.7	1.6x1.3x1.0	—	—
1.5X	Low Magnification	1.53X	0.53	5.2x4.2x3.1	7.2x5.8x4.3	10.5x8.4x6.3	14.1x11.3x8.5	—	2.04X	0.3	3.9x3.1x2.4	5.4x4.3x3.2	7.8x6.3x4.7	10.6x8.5x6.4	—
	High Magnification	11.25X	0.02	0.7x0.6x0.4	1.0x0.8x0.6	1.4x1.1x0.9	1.9x1.5x1.2	—	15X	0.01	0.5x0.4x0.3	0.7x0.6x0.4	1.1x0.9x0.6	1.4x1.2x0.9	—
2X	Low Magnification	2.04X	0.4	3.9x3.1x2.4	5.4x4.3x3.2	7.8x6.3x4.7	10.6x8.5x6.4	15.7x12.5x9.4	2.72X	0.22	2.9x2.4x1.8	4.0x3.2x2.4	5.9x4.7x3.5	7.9x6.4x4.8	11.8x9.4x7.1
	High Magnification	15X	0.01	0.5x0.4x0.3	0.7x0.6x0.4	1.1x0.9x0.6	1.4x1.2x0.9	2.1x1.7x1.3	20X	0.01	0.4x0.3x0.2	0.6x0.4x0.3	0.8x0.6x0.5	1.1x0.9x0.6	1.6x1.3x1.0

4K Zoom Lens Selection Diagram

