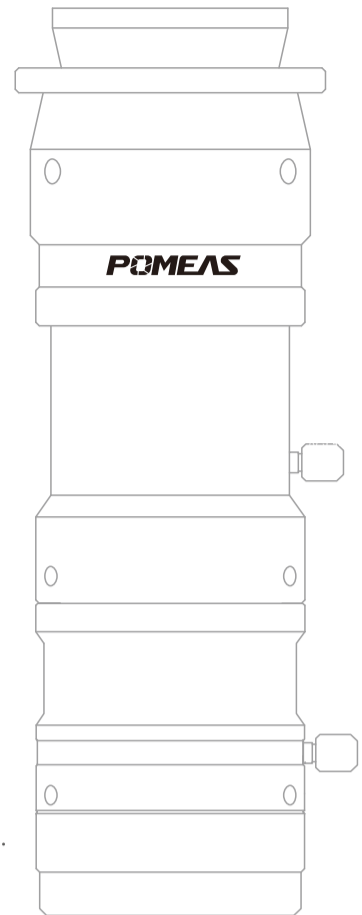


ZOOM LENS SERIES

Based on years of experience in optical design and auto-control technology, POMEAS optical zoom lens auto-control system is developed to meet the requirements of quick accurate inspection. Widely used in industry inspection, automation, electronic communication, semiconductor, scientific research, etc.

PRODUCT ADVANTAGES

1. Precise optical path design, high resolution, low distortion, excellent optical properties.
2. Super long working distance, wide FOV range.
3. Multi Codinedond, reduce the stray light and ghost, offer high quality image.
4. Anodized metal part, more durable.
5. Compact and reliable structure.



PRODUCT FEATURES



Coaxial Illumination

1. Infinity parallel incident light, achieve shadow-free lighting.
2. Coaxial illumination structure can make the incident light irradiation more uniform.



Motorized Zoom

1. High speed in zoom and focus and high accuracy in repetitive positioning; Imported DC servo motor, closed loop control.
2. Single or double motor control system via 9-PIN Rs232.
3. Stable quality performance even in the strong vibration environment.



Detented Zoom Lens

1. Detented structure, high accuracy in zoom and repetitive positioning.
2. 15-divided points for mechanical positioning.
3. High hardness alloy material, for a long lifespan; precision mechanical structure.



Fine-Focus Device

1. Used in narrow space, adjust fine-focus part for focusing on different height surface of parts, no need to change WD.
 2. Fine focus range: 3mm-12mm.
- Manual and electric control fine tuning is available

05.



Support 1" sensor, 4k Big Fov Zoom Lens

The 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.

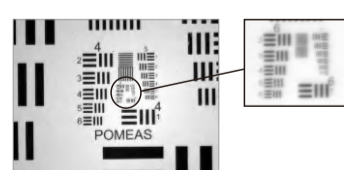
PRODUCT ADVANTAGES

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

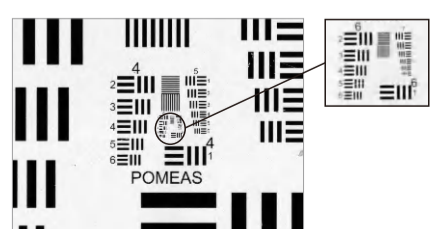
APPLICATION FIELDS

Widely used in biology, electronics, semiconductor, machine vision and other high-precision industries.

ACTUAL IMAGE



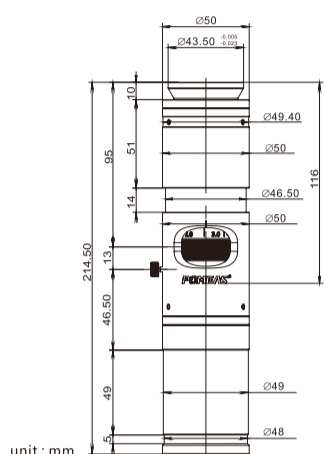
Ordinary zoom lens 5x resolution board



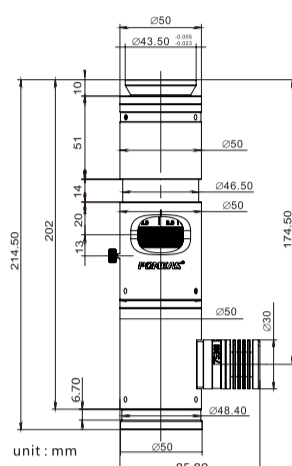
4K high resolution zoom lens 5X resolution board

Magnification Range	0.68X-5.0X						
Working Distance (mm)	80						
Magnification	0.68X	1.0X	2.0X	3.0X	4.0X	5.0X	
DOF	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	
F.No.	10.3	11.0	12.4	13.5	16.5	20.6	
Resolution (μm)	10.17	7.46	4.19	3.05	2.8	2.8	
TV Distortion	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%	
FOV (mm)	1"	23.53×18.82×14.12	16.0×12.8×9.6	8.0×6.4×4.8	5.33×4.27×3.2	4.0×3.2×2.4	3.2×2.56×1.92
	2/3"	16.18×12.94×9.71	11.0×8.8×6.6	5.5×4.4×3.3	3.67×2.93×2.2	2.75×2.2×1.65	2.2×1.76×1.32
	1/2"	11.76×9.41×7.06	8.0×6.4×4.8	4.0×3.2×2.4	2.67×2.13×1.6	2.0×1.6×1.2	1.6×1.28×0.96
	1/3"	8.82×7.06×5.29	6.0×4.8×3.6	3.0×2.4×1.8	2.0×1.6×1.2	1.5×1.2×0.9	1.2×0.96×0.72
Max. Sensor Size	1"						
Total Length(mm)	328						
Zooming Method	Manual/Motorized						
Mount	C-Mount						

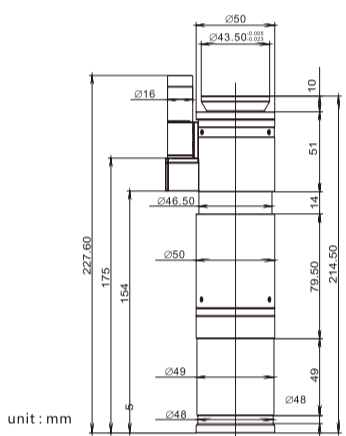
PMS-K75D



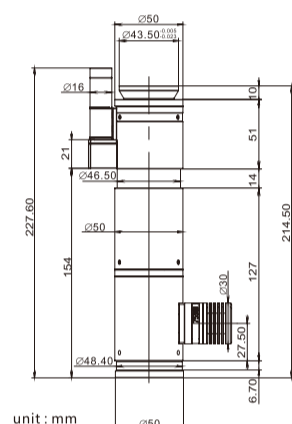
PMS-K75D-C



PMS-K75M

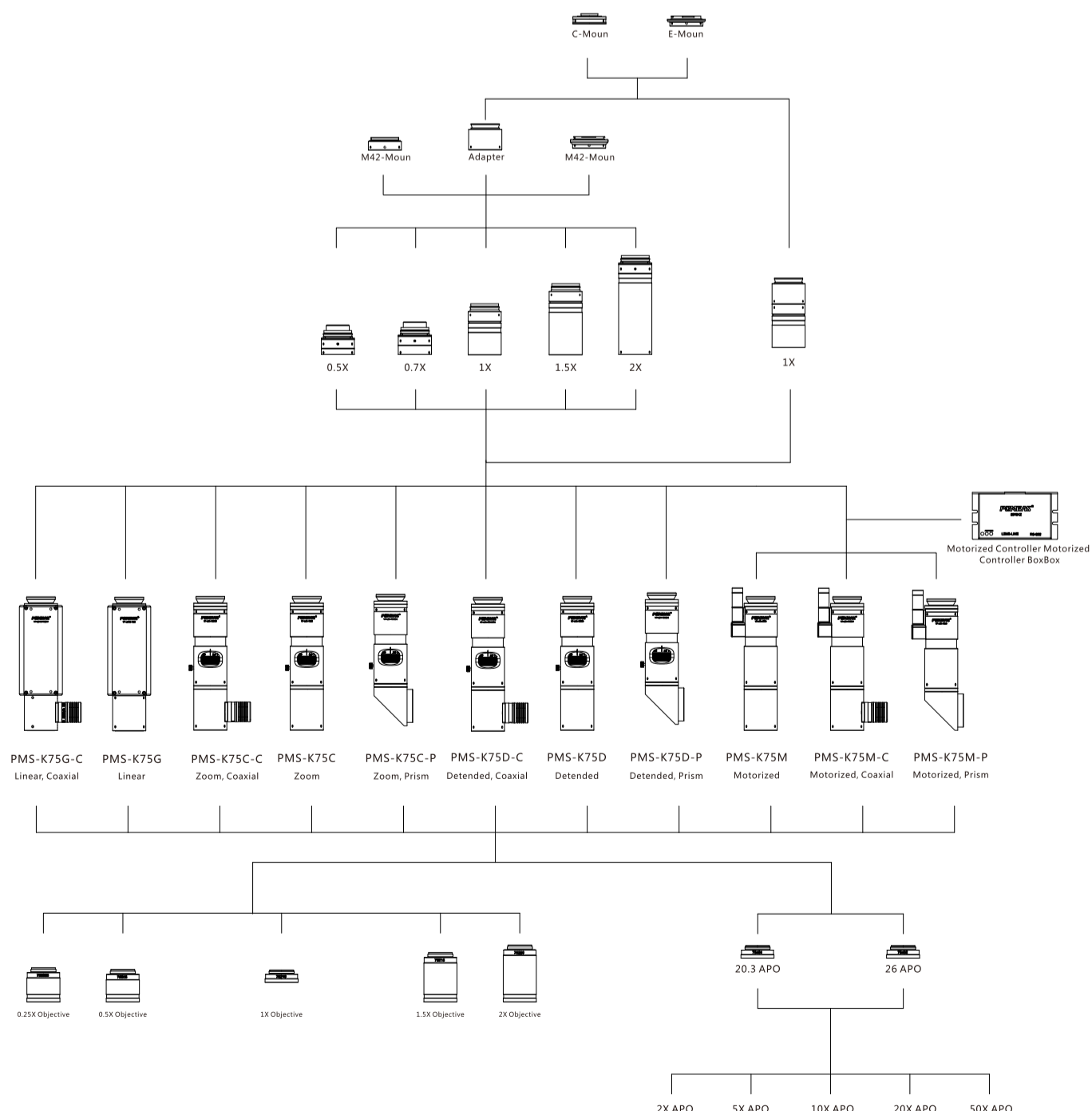


PMS-K75M-C



07.

4k Zoom lens selection diagram



08.

4K Zoom lens Fov Table

Lens Attachment		0.5X Tv Adapter(75105)		0.75X Tv Adapter(751075)		1.0X Tv Adapter(75110)		1.5X Tv Adapter(75115)		2.0X Tv Adapter(75120)		
		Low Magnification	High Magnification	Low Magnification	High Magnification	Low Magnification	High Magnification	Low Magnification	High Magnification	Low Magnification	High Magnification	
0.25X 246mm	Magnification	0.09	0.63	0.12	0.88	0.17	1.25	0.26	1.88	0.34	2.50	
	Camera Sensor	1/2"	94.1×75.3×56.5	12.8×10.2×7.7	67.2×53.8×40.3	9.1×7.3×5.5	47.1×37.6×28.2	6.4×5.1×3.8	31.4×25.1×18.8	4.3×3.4×2.6	23.5×18.8×14.1	3.2×2.6×1.9
		2/3"	-	-	92.4×73.9×55.5	12.6×10.1×7.5	64.7×51.8×38.8	8.8×7.0×5.3	43.1×34.5×25.9	5.9×4.7×3.5	32.4×25.9×19.4	4.4×3.5×2.6
		1"	-	-	-	-	94.1×75.3×56.5	12.8×10.2×7.7	62.7×50.2×37.6	8.5×6.8×5.1	47.1×37.6×28.2	6.4×5.1×3.8
		4/3"	-	-	-	-	-	-	86.3×69.0×51.8	11.7×9.4×7.0	64.7×51.8×38.8	8.8×7.0×5.3
		32mm	-	-	-	-	-	-	-	-	94.1×75.3×56.5	12.8×10.2×7.7
0.5X 135mm	Magnification	0.17	1.25	0.24	1.75	0.34	2.50	0.51	3.75	0.68	5.00	
Camera Sensor	1/2"	47.1×37.6×28.2	6.4×5.1×3.8	33.6×26.9×20.2	4.6×3.7×2.7	23.5×18.8×14.1	3.2×2.6×1.9	15.7×12.5×9.4	2.1×1.7×1.3	11.8×9.4×7.1	1.6×1.3×1.0	
	2/3"	-	-	46.2×37.0×27.7	6.3×5.0×3.8	32.4×25.9×19.4	4.4×3.5×2.6	21.6×17.3×12.9	2.9×2.3×1.8	16.2×12.9×9.7	2.2×1.8×1.3	
	1"	-	-	-	-	47.1×37.6×28.2	6.4×5.1×3.8	31.4×25.1×18.8	4.3×3.4×2.6	23.5×18.8×14.1	3.2×2.6×1.9	
	4/3"	-	-	-	-	-	-	41.8×33.5×25.1	5.7×4.6×3.4	31.4×25.1×18.8	4.3×3.4×2.6	
	32mm	-	-	-	-	-	-	-	-	47.1×37.6×28.2	6.4×5.1×3.8	
1.0X 80mm	Magnification	0.34	2.50	0.48	3.50	0.68	5.00	1.02	7.50	1.36	10.0	
	Camera Sensor	1/2"	23.5×18.8×14.1	3.2×2.6×1.9	16.8×13.4×10.1	2.3×1.8×1.4	11.8×9.4×7.1	1.6×1.3×1.0	7.8×6.3×4.7	1.1×0.9×0.6	5.9×4.7×3.5	0.8×0.6×0.5
		2/3"	-	-	23.1×18.5×13.9	3.1×2.5×1.9	16.2×12.9×9.7	2.2×1.8×1.3	10.8×8.6×6.5	1.5×1.2×0.9	8.1×6.5×4.9	1.1×0.9×0.7
		1"	-	-	-	-	23.5×18.8×14.1	3.2×2.6×1.9	15.7×12.5×9.4	2.1×1.7×1.3	11.8×9.4×7.1	1.6×1.3×1.0
		4/3"	-	-	-	-	-	-	21.6×17.3×12.9	2.9×2.3×1.8	16.2×12.9×9.7	2.2×1.8×1.3
		32mm	-	-	-	-	-	-	-	-	23.5×18.8×14.1	3.2×2.6×1.9
1.5X 45mm	Magnification	0.51	3.75	0.71	5.25	1.02	7.50	1.53	11.25	2.04	15.0	
	Camera Sensor	1/2"	15.7×12.5×9.4	2.1×1.7×1.3	11.2×9.0×6.7	1.5×1.2×0.9	7.8×6.3×4.7	1.1×0.9×0.6	5.2×4.2×3.1	0.7×0.6×0.4	3.9×3.1×2.4	0.5×0.4×0.3
		2/3"	-	-	15.4×12.3×9.2	2.1×1.7×1.3	10.8×8.6×6.5	1.5×1.2×0.9	7.2×5.8×4.3	1.0×0.8×0.6	5.4×4.3×3.2	0.7×0.6×0.4
		1"	-	-	-	-	15.7×12.5×9.4	2.1×1.7×1.3	10.5×8.4×6.3	1.4×1.1×0.9	7.8×6.3×4.7	1.1×0.9×0.6
		4/3"	-	-	-	-	-	-	14.4×11.5×8.6	2.0×1.6×1.2	10.8×8.6×6.5	1.5×1.2×0.9
		32mm	-	-	-	-	-	-	-	-	15.7×12.5×9.4	2.1×1.7×1.3
2.0X 27mm	Magnification	0.68	5.00	0.95	7.00	1.36	10.0	2.04	15.0	2.72	20.0	
	Camera Sensor	1/2"	11.8×9.4×7.1	1.6×1.3×1.0	8.4×6.7×5.0	1.1×0.9×0.7	5.9×4.7×3.5	0.8×0.6×0.5	3.9×3.1×2.4	0.5×0.4×0.3	2.9×2.4×1.8	0.4×0.3×0.2
		2/3"	-	-	11.6×9.2×6.9	1.6×1.3×0.9	8.1×6.5×4.9	1.1×0.9×0.7	5.4×4.3×3.2	0.7×0.6×0.4	4.0×3.2×2.4	0.6×0.4×0.3
		1"	-	-	-	-	11.8×9.4×7.1	1.6×1.3×1.0	7.8×6.3×4.7	1.1×0.9×0.6	5.9×4.7×3.5	0.8×0.6×0.5
		4/3"	-	-	-	-	-	-	10.8×8.6×6.5	1.5×1.2×0.9	8.1×6.5×4.9	1.1×0.9×0.7
		32mm	-	-	-	-	-	-	-	-	11.8×9.4×7.1	1.6×1.3×1.0

09.



Support 2/3" Sensor, Variable Iris And Working Distance, Macro Zoom

The product has excellent imaging quality, not only has telecentric optical path design, ultra-low distortion imaging, but also is a high resolution telecentric lens with variable working distance, compact structure and flexible and convenient use.

PRODUCT ADVANTAGES

1. Ultra-low distortion imaging based on telecentric optical path design;
2. High resolution, superior to other zoom lenses at the same magnification.
3. The aperture is adjustable, and the depth of field and resolution can be adjusted flexibly according to the requirements of use.
4. The working distance can be adjusted. The working distance can be adjusted according to the need when the visual field is allowed. It is flexible and convenient to use.
5. The front end of the lens is equipped with a universal filter interface to facilitate the installation of filters.
6. Compact structure .

APPLICATION FIELDS

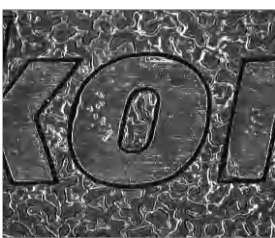
It can be used in semiconductor, automation, electronic communication and other industries.



ACTUAL IMAGE



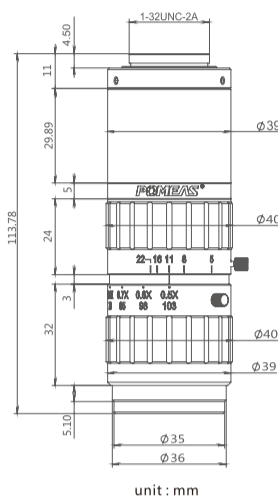
Actual rendering display
0.5X-Digital Camera Cover Logo



1.0X-Digital Camera Cover Logo

DIMENSIONS

PMS-LZME501M



unit : mm

PMS-LZME-0510M parameter table

Magnification Range	0.5X-1.0X						
Working Distance (mm)	106	96	88	83	78	75	
Magnification	0.5X	0.6X	0.7X	0.8X	0.9X	1.0X	
DOF	1.6	1.11	0.82	0.63	0.49	0.40	
N.A.	0.05	0.06	0.07	0.08	0.09	0.10	
F.No.	5	5	5	5	5	5	
Resolution (μm)	6.71	5.59	4.79	4.19	3.73	3.36	
TV Distortion	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%	<0.02%	
FOV (mm)	2/3"	22.0x17.6x13.2	18.33x14.67x11.0	15.71x12.57x9.43	13.75x11.0x8.25	12.22x9.78x7.33	11.0x8.8x6.6
	1/2"	16.0x12.8x9.6	13.33x10.67x8.0	11.43x9.14x6.86	10.0x8.0x6.0	8.89x7.11x5.33	8.0x6.4x4.8
	1/3"	12.0x9.6x7.2	10.0x8.0x6.0	8.57x6.86x5.14	7.5x6.0x4.5	6.67x5.33x4.0	6.0x4.8x3.6
Max. Sensor Size	2/3"						
Mount	C-Mount						
Zooming Method	Manual						

11.



POMEAS
PROFESSIONAL MANUFACTURER
OF VISION SYSTEM



Linear Zoom Lens

Compared with the traditional electric zoom lens, the latest 12.5X electric zoom lens has built-in double guide rail structure. It has a linear guide motion system with high precision, high efficiency and smaller friction coefficient, which greatly improves the optical performance, accuracy, stability and service life of the lens.

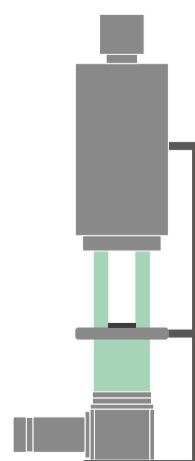
PRODUCT ADVANTAGES

1. High ratio of variation, up to 12.5x;
2. Use the guide rail structure to eliminate the restriction of the times of zooming.
3. High contrast. Core-adjusting method is used to solve the influence of optical element center deviation on image contrast.
4. Quick and accurate zooming;

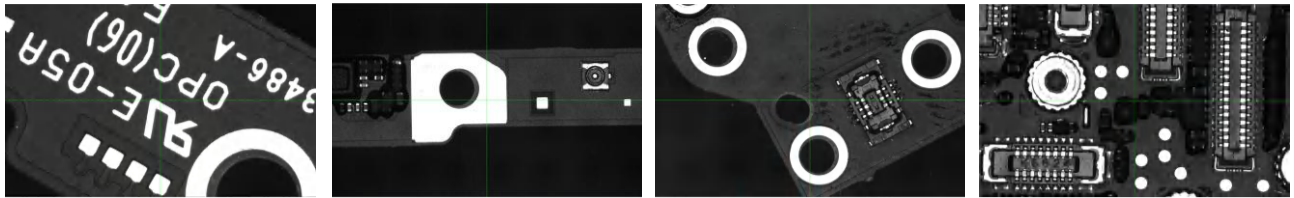
APPLICATION FIELDS

Widely used in biology, electronics, semiconductor, machine vision and other high-precision industries.

EXAMPLES OF APPLICATION



ACTUAL IMAGE



12.5X Linear Zoom Lens Parameter

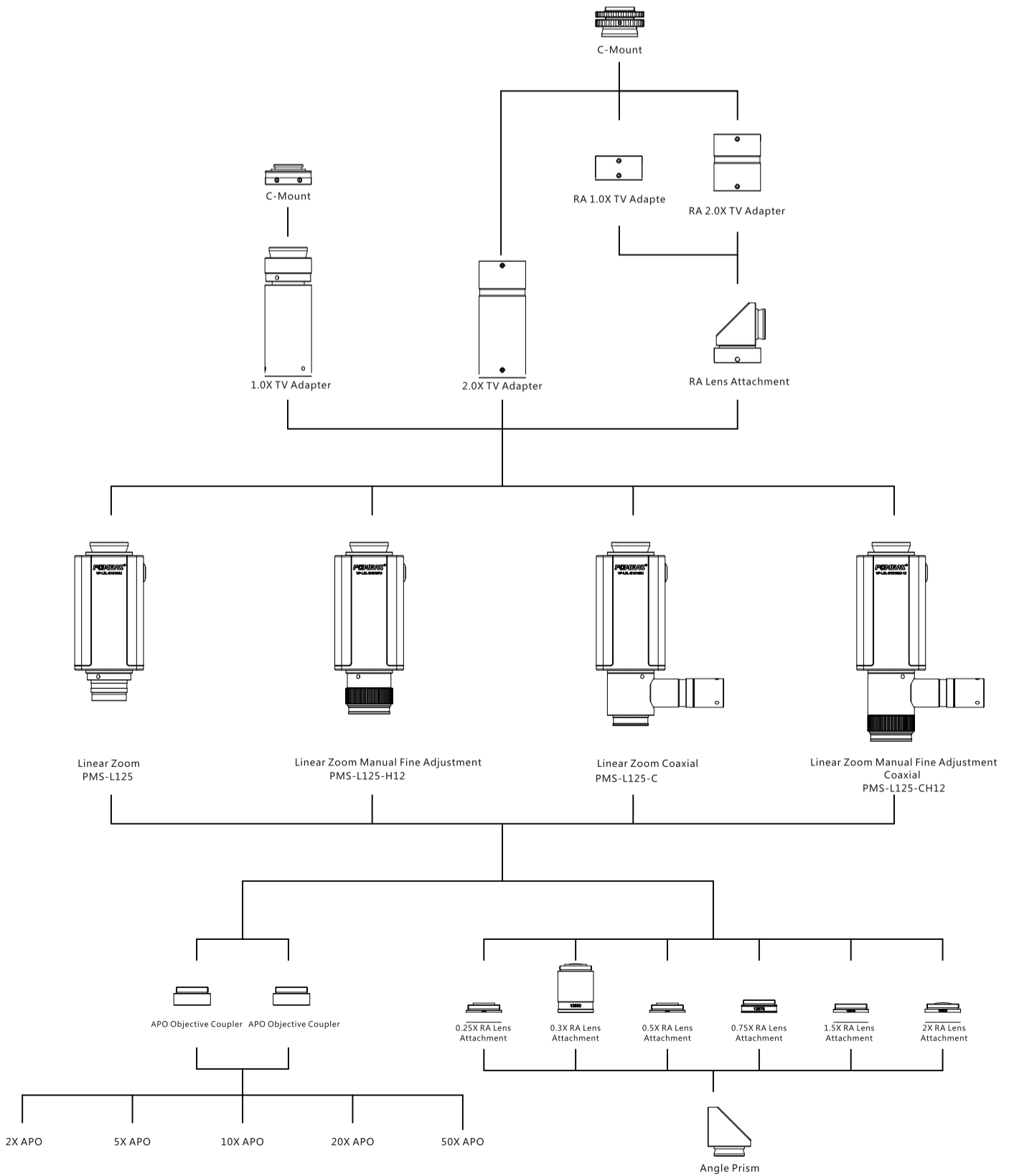
Magnification Range	0.58X-7.5X																
Working Distance (mm)	77.4±2mm																
Magnification	0.58X	0.6X	1X	1.5X	2X	2.5X	3X	3.5X	4X	4.5X	5X	5.5X	6X	6.5X	7X	7.5X	
DOF	2.75	2.67	0.95	0.43	0.27	0.2	0.15	0.12	0.1	0.081	0.073	0.066	0.061	0.056	0.052	0.05	
N.A.	0.025	0.025	0.043	0.063	0.074	0.082	0.09	0.097	0.1	0.11	0.11	0.11	0.11	0.11	0.11	0.11	
F.No.	12.5	12.5	11.85	11.95	13.65	15.3	16.5	18.4	19.9	20.4	22.45	22.7	26.8	29.4	31.7	33.9	
Resolution (μm)	13	13	7.8	5.3	4.53	4.09	3.73	3.46	3.36	3.05	3.05	3.05	3.05	3.05	3.05	3.05	
TV Distortion	0.050%	0.050%	0.002%	0.010%	0.020%	0.003%	0.020%	0.020%	0.018%	0.020%	0.010%	0.010%	0.001%	0.010%	0.005%	0.005%	
2/3" FOV (mm)	Diagonal	18.97	18.33	11	7.33	5.5	4.4	3.67	3.14	2.75	2.44	2.2	2	1.83	1.69	1.57	1.47
	Horizontal	15.17	14.67	8.8	5.87	4.4	3.52	2.93	2.51	2.2	1.96	1.76	1.6	1.47	1.35	1.26	1.17
	Vertical	11.38	11	6.6	4.4	3.3	2.64	2.2	1.89	1.65	1.47	1.32	1.2	1.1	1.02	0.94	0.88
Max. Sensor Size	2/3"																
Mount	C-Mount																

6.5X Linear Zoom Lens Parameter

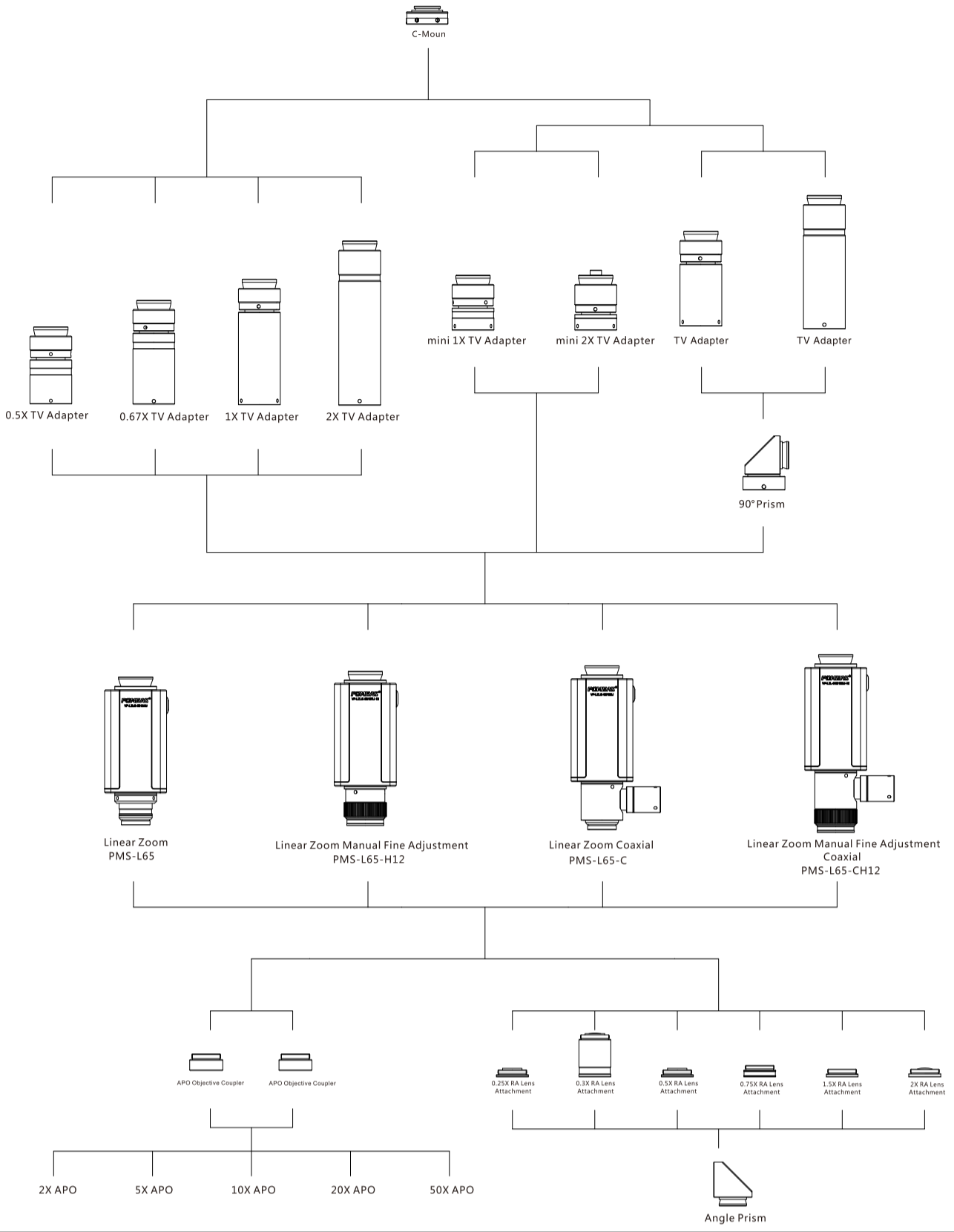
Magnification Range	0.7X-4.5X									
Working Distance (mm)	87±2mm									
Magnification	0.7X	1.0X	1.5X	2.0X	2.5X	3.0X	3.5X	4.0X	4.5X	
DOF	1.9	0.952	0.44	0.29	0.23	0.16	0.13	0.12	0.1	
N.A.	0.03	0.042	0.06	0.07	0.07	0.085	0.085	0.085	0.085	
F.No.	11.6	12.1	12.5	14.2	17.8	17.6	20.5	23.5	26.5	
Resolution (μm)	11.18	7.99	5.59	4.79	4.79	3.95	3.95	3.95	3.95	
TV Distortion	0.019%	0.035%	0.002%	0.003%	0.004%	0.001%	0.001%	0.002%	0.002%	
FOV (mm)	2/3"	15.71x12.57x9.43	11.00x8.80x6.60	7.33x5.87x4.40	5.50x4.40x3.30	4.40x3.52x2.64	3.67x2.93x2.20	3.14x2.21x1.89	2.75x2.20x1.65	2.44x1.96x1.47
	1/2"	11.43x9.14x6.86	8.00x6.40x4.80	5.33x4.27x3.20	4.00x3.20x2.40	3.20x2.56x1.92	2.67x2.13x1.60	2.29x1.83x1.37	2.00x1.60x1.20	1.78x1.42x1.07
	1/3"	8.57x6.86x5.14	6.00x4.80x3.60	4.00x3.20x2.40	3.00x2.40x1.80	2.40x1.92x1.44	2.00x1.60x1.20	1.71x1.37x1.03	1.50x1.20x0.90	1.33x1.07x0.80
Max. Sensor Size	2/3"									
Mount	C-Mount									

13.

12.5X Linear Zoom Lens Selection Diagram

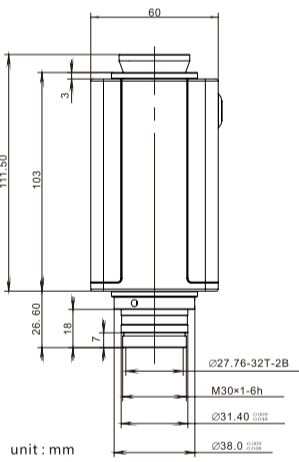


6.5x Linear Motorized Zoom Lens Selection Diagram

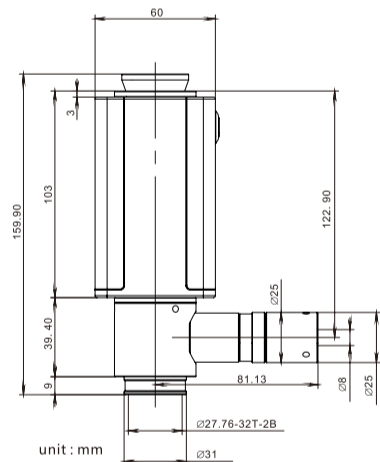


15.

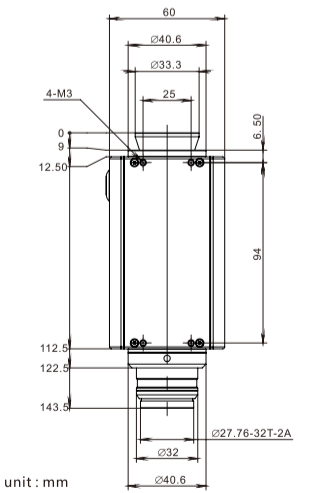
PMS-L125



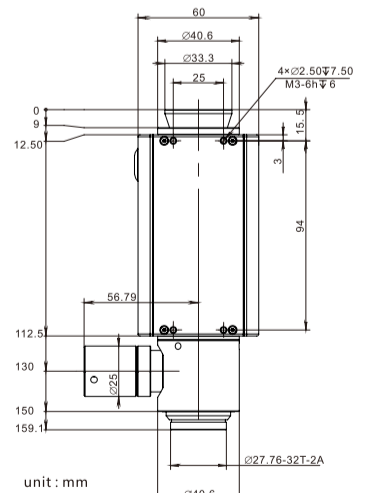
PMS-L125-C



PMS-L65



PMS-L65-C





Telecentric Zoom Lens

Telecentric zoom lens is the most advanced solution for image and measurement field, combined with the flexibility of zoom lens and high efficiency of high FOV lens.

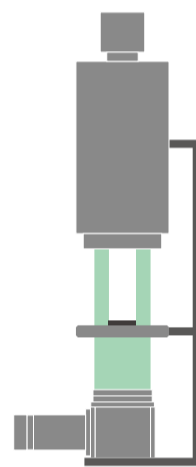
PRODUCT ADVANTAGES

1. Objective side telecentric design, no distortion within the DOF.
2. No need to change working distance when zooming.
3. High magnification ratio 10X.
4. Continuous zooming, meet different measurement requirements.
5. Support 10MP 1" camera, Max. FOV 60.6X45.5mm.

APPLICATION FIELDS

Quick measurement for big FOV.

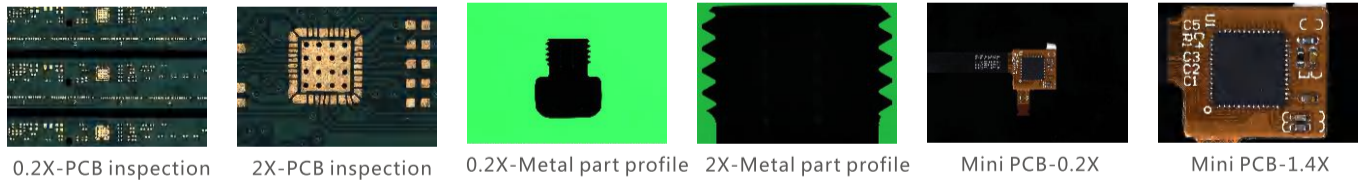
EXAMPLES OF APPLICATION



17.



ACTUAL IMAGE



Note: When taking image, the lens can change the FOV according the the inspection requirements, while changing the magnification.

Telecentric Zoom Lens Parameter

Coed	PMS-TZ0220																			
Item	#610-220																			
Magnification	0.21X	0.3X	0.4X	0.5X	0.6X	0.7X	0.8X	0.9X	1.0X	1.1X	1.2X	1.3X	1.4X	1.5X	1.6X	1.7X	1.8X	1.9X	1.97X	
Working Distance	86±2mm																			
Resolution(μm)	26.91	18.35	12.89	10.64	8.86	7.29	6.25	5.56	5.21	4.89	4.85	4.63	4.64	4.57	4.53	4.46	4.41	4.32	4.30	
DOF(mm)	6.99	3.43	1.84	1.18	0.85	0.65	0.52	0.44	0.37	0.32	0.29	0.26	0.23	0.21	0.19	0.17	0.16	0.15	0.14	
N.A.	0.014	0.019	0.027	0.034	0.039	0.044	0.048	0.051	0.054	0.056	0.058	0.060	0.062	0.064	0.065	0.067	0.069	0.071	0.072	
F No.	7.81	7.71	7.35	7.40	7.64	7.96	8.35	8.82	9.34	9.92	10.42	10.86	11.33	11.83	12.23	12.69	13.06	13.43	13.69	
TV Distortion	-0.04%	0.05%	0.07%	0.06%	0.05%	0.03%	0.02%	0.01%	0.00%	-0.01%	-0.01%	-0.02%	-0.03%	-0.03%	-0.03%	-0.04%	-0.04%	-0.04%	-0.05%	
Object Size Telcentricity(°)	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.07	0.12	0.18	0.23	0.27	0.31	0.34	0.36	0.39	0.41	0.43	0.44	
Object Dimension (mm)	1/3"	22.7x17.0	16.0x12.0	12.0x9.0	9.6x7.2	8.0x6.0	6.9x5.1	6.0x4.5	5.3x4.0	4.8x3.6	4.4x3.3	4.0x3.0	3.7x2.8	3.4x2.6	3.2x2.4	3.0x2.3	2.8x2.1	2.7x2.0	2.5x1.9	2.4x1.8
	1/2"	30.3x22.7	21.4x16.0	16.0x12.0	12.8x9.6	10.7x8.0	9.1x6.9	8.0x6.0	7.1x5.3	6.4x4.8	5.8x4.4	5.3x4.0	4.9x3.7	4.6x3.4	4.3x3.2	4.0x3.0	3.8x2.8	3.6x2.7	3.4x2.5	3.3x2.4
	1/1.8"	33.8x25.4	23.9x17.9	17.9x13.4	14.3x10.7	11.9x8.9	10.2x7.7	8.9x6.7	7.9x6.0	7.1x5.4	6.5x4.9	6.0x4.5	5.5x4.1	5.1x3.8	4.8x3.6	4.5x3.4	4.2x3.2	4.0x3.0	3.8x2.8	3.6x2.7
	2/3"	41.7x31.3	29.4x22.0	22.0x16.5	17.6x13.2	14.7x11.0	12.6x9.4	11.0x8.3	9.8x7.3	8.8x6.6	8.0x6.0	7.3x5.5	6.8x5.1	6.3x4.7	5.9x4.4	5.5x4.1	5.2x3.9	4.9x3.7	4.6x3.5	4.5x3.4
	1"	60.6x45.5	42.7x32.1	32.0x24.0	25.6x19.2	21.3x16.0	18.3x13.7	16.0x12.0	14.2x10.7	12.8x9.6	11.6x8.7	10.7x8.0	9.8x7.4	9.1x6.9	8.5x6.4	8.0x6.0	7.5x5.6	7.1x5.3	6.7x5.1	6.5x4.9
Max. Sensor Size	1"																			
Illumination	-																			
Mount	C-Mount																			
Working Temperature	-10°C ~ +50°C																			



0.7x-4.5x Zoom Lens

With the perfect combination of high resolution and big magnification ratio, the most universal zoom lens is widely used in various industry applications.

PRODUCT ADVANTAGES

1. Professional optical design, optical magnification 0.7x-4.5x, magnification ratio 6.5:1.
2. Big FOV application, based on 2/3" camera.
3. Compact structure, easily for assembly and installation.

APPLICATION FIELDS

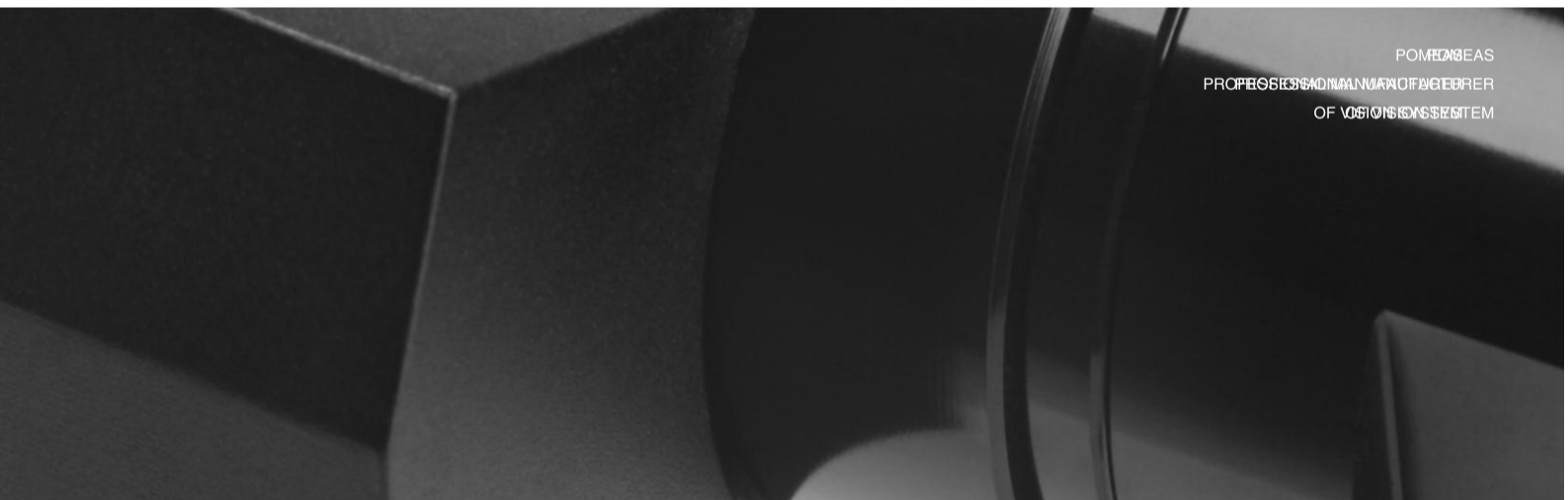
It can be used in semiconductor, automation, electronic communication and other industries.

CONTROLLER BOX

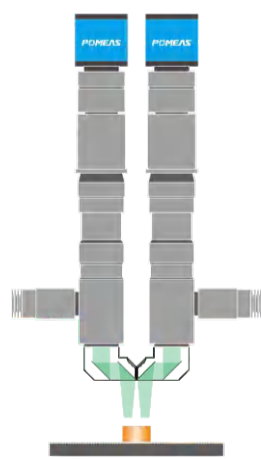
The integrated motorized control system is suitable for all the POMEAS zoom lenses. Motorized controlling system can control single or dual shafts via RS212 or USB. The underlying software code for the OEM platform will also be provided.



19.

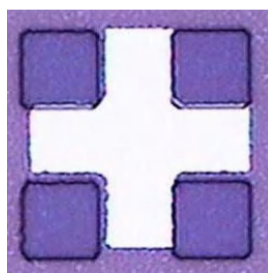


EXAMPLES OF APPLICATION

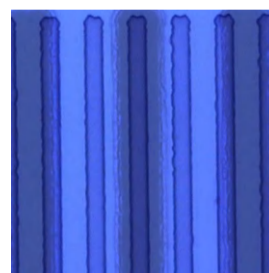


Bonding Machine

ACTUAL IMAGE



Silicone cover metal aligner

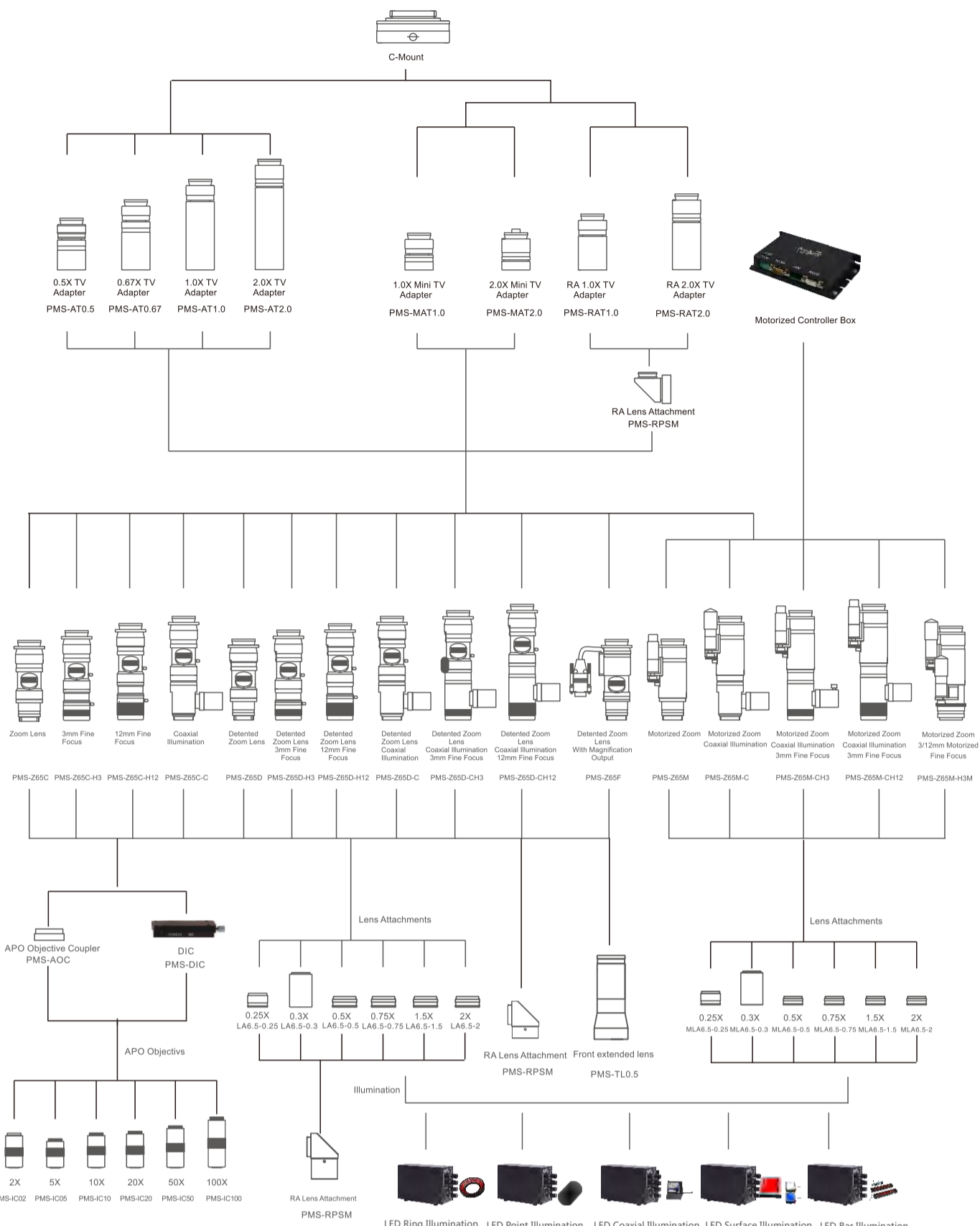


3um mask aligner silicone cover

Parameter

Optical Magnification Range		0.7X-4.5X								
Working Distance		87±2mm								
Optical Magnification		0.7X	1.0X	1.5X	2.0X	2.5X	3.0X	3.5X	4.0X	4.5X
DOF(mm)		1.9	0.952	0.44	0.29	0.23	0.16	0.13	0.12	0.1
N.A.		0.03	0.042	0.06	0.07	0.07	0.085	0.085	0.085	0.085
F.No.		11.6	12.1	12.5	14.2	17.8	17.6	20.5	23.5	26.5
Resolution(μm)		11.18	7.99	5.59	4.79	4.79	3.95	3.95	3.95	3.95
TV Distortion		0.019%	0.035%	0.002%	0.003%	0.004%	0.001%	0.001%	0.002%	0.002%
FOV (mm) DxHxV	2/3"	15.71x12.57x9.43	11.00x8.80x6.60	7.33x5.87x4.40	5.50x4.40x3.30	4.40x3.52x2.64	3.67x2.93x2.20	3.14x2.21x1.89	2.75x2.20x1.65	2.44x1.96x1.47
	1/2"	11.43x9.14x6.86	8.00x6.40x4.80	5.33x4.27x3.20	4.00x3.20x2.40	3.20x2.56x1.92	2.67x2.13x1.60	2.29x1.83x1.37	2.00x1.60x1.20	1.78x1.42x1.07
	1/3"	8.57x6.86x5.14	6.00x4.80x3.60	4.00x3.20x2.40	3.00x2.40x1.80	2.40x1.92x1.44	2.00x1.60x1.20	1.71x1.37x1.03	1.50x1.20x0.90	1.33x1.07x0.80
Max. Sensor Size		2/3"								
Mount		C型								

20.



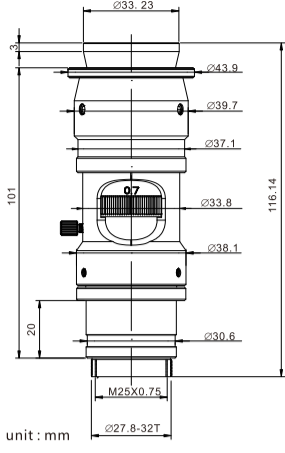
21.



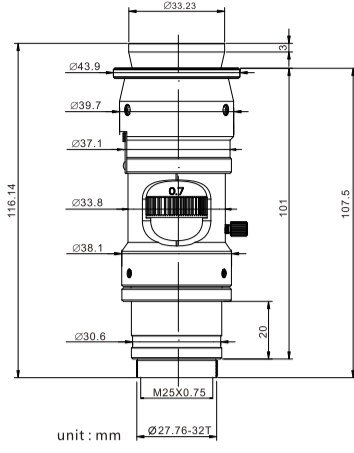
6.5X Zoom Lens Field of View Table

Lens Attachment		0.5X Adapter Tube(PMS-AT0.5)						1.0X Adapter Tube(PMS-AT1.0)						2.0X Adapter Tube(PMS-AT2.0)						
		Low Magnification			High Magnification			Low Magnification			High Magnification			Low Magnification			High Magnification			
		Length (mm)	Width (mm)	Diagonal (mm)	Length (mm)	Width (mm)	Diagonal (mm)	Length (mm)	Width (mm)	Diagonal (mm)	Length (mm)	Width (mm)	Diagonal (mm)	Length (mm)	Width (mm)	Diagonal (mm)	Length (mm)	Width (mm)	Diagonal (mm)	
0.25X (PMS-Z65-LA025) WD:318mm	Magnification	0.09X-0.56X						0.18X-1.13X						0.35X-2.25X						
	Camera FOV	2/3"	100.6	75.4	(125.7)	15.6	11.7	19.6	50.3	37.7	62.9	7.8	5.9	9.8	25.1	18.9	(31.4)	3.9	2.9	4.9
		1/2"	73.1	54.9	(91.4)	11.4	8.5	14.2	36.6	27.4	45.7	5.7	4.3	7.1	18.3	13.7	22.9	2.8	2.1	3.6
		1/3"	54.9	41.1	68.6	8.5	6.4	10.7	27.4	20.6	34.3	4.3	3.2	5.3	13.7	10.3	17.1	2.1	1.6	2.7
0.3X (PMS-Z65-LA03) WD:126mm	Magnification	0.11X-0.68X						0.21X-1.35X						0.42X-2.70X						
	Camera FOV	2/3"	83.8	62.9	(104.8)	13.0	9.8	16.3	41.9	31.4	52.4	6.5	4.9	8.2	21.0	15.7	(26.2)	3.3	2.4	4.1
		1/2"	61.0	45.7	(76.2)	9.5	7.1	11.9	30.5	22.9	38.1	4.7	3.6	5.9	15.2	11.4	19.1	2.4	1.8	3.0
		1/3"	45.7	34.3	57.1	7.1	5.3	8.9	22.9	17.1	28.6	3.6	2.7	4.4	11.4	8.6	14.3	1.8	1.3	2.2
0.5X (PMS-Z65-LA05) WD:163mm	Magnification	0.18X-1.13X						0.35X-2.25X						0.70X-4.50X						
	Camera FOV	2/3"	50.3	37.7	(62.9)	7.8	5.9	9.8	25.1	18.9	31.4	3.9	2.9	4.9	12.6	9.4	(15.7)	2.0	1.5	2.4
		1/2"	36.6	27.4	(45.7)	5.7	4.3	7.1	18.3	13.7	22.9	2.8	2.1	3.6	9.1	6.9	11.4	1.4	1.1	1.8
		1/3"	27.4	20.6	34.3	4.3	3.2	5.3	13.7	10.3	17.1	2.1	1.6	2.7	6.9	5.1	8.6	1.1	0.8	1.3
0.75X (PMS-Z65-LA075) WD:104mm	Magnification	0.26X-1.69X						0.53X-3.38X						1.05X-6.75X						
	Camera FOV	2/3"	33.5	25.1	(41.9)	5.2	3.9	6.5	16.8	12.6	21.0	2.6	2.0	3.3	8.4	6.3	(10.5)	1.3	1.0	1.6
		1/2"	24.4	18.3	(30.5)	3.8	2.8	4.7	12.2	9.1	15.2	1.9	1.4	2.4	6.1	4.6	7.6	1.0	0.7	1.2
		1/3"	18.3	13.7	22.9	2.8	2.1	3.6	9.1	6.9	11.4	1.4	1.1	1.8	4.6	3.4	5.7	0.7	0.5	0.9
1.0X (PMS-Z65-LA1.0) WD:87mm	Magnification	0.35X-2.25X						0.70X-4.50X						1.40X-9.00X						
	Camera FOV	2/3"	25.1	18.9	31.4	3.9	2.9	4.9	12.6	9.4	15.7	2.0	1.5	2.4	6.3	4.7	(7.9)	1.0	0.7	1.2
		1/2"	18.3	13.7	22.9	2.8	2.1	3.6	9.1	6.9	11.4	1.4	1.1	1.8	4.6	3.4	5.7	0.7	0.5	0.9
		1/3"	13.7	10.3	17.1	2.1	1.6	2.7	6.9	5.1	8.6	1.1	0.8	1.3	3.4	2.6	4.3	0.5	0.4	0.7
1.5X (PMS-Z65-LA1.5) WD:50mm	Magnification	0.53X-3.38X						1.05X-6.75X						2.10X-13.50X						
	Camera FOV	2/3"	16.8	12.6	(21.0)	2.6	2.0	3.3	8.4	6.3	10.5	1.3	1.0	1.6	4.2	3.1	5.2	0.7	0.5	0.8
		1/2"	12.2	9.1	(15.2)	1.9	1.4	2.4	6.1	4.6	7.6	1.0	0.7	1.2	3.1	2.3	3.8	0.5	0.4	0.6
		1/3"	9.1	6.9	11.4	1.4	1.1	1.8	4.6	3.4	5.7	0.7	0.5	0.9	2.3	1.7	2.9	0.4	0.3	0.4
2.0X (PMS-Z65-LA2.0) WD:35mm	Magnification	0.70X-4.50X						1.40X-9.00X						2.80X-18.00X						
	Camera FOV	2/3"	12.6	9.4	(15.7)	2.0	1.5	2.4	6.3	4.7	7.9	1.0	0.7	1.2	3.1	2.4	(3.9)	0.5	0.4	0.6
		1/2"	9.1	6.9	(11.4)	1.4	1.1	1.8	4.6	3.4	5.7	0.7	0.5	0.9	2.3	1.7	2.9	0.4	0.3	0.4
		1/3"	6.9	5.1	8.6	1.1	0.8	1.3	3.4	2.6	4.3	0.5	0.4	0.7	1.7	1.3	2.1	0.3	0.2	0.3

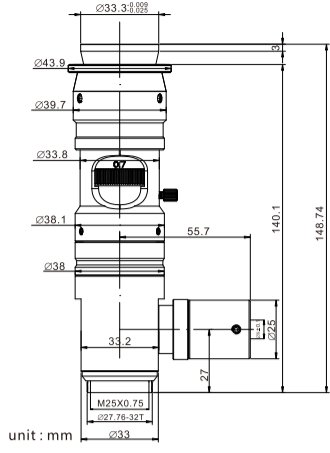
PMS-Z65C



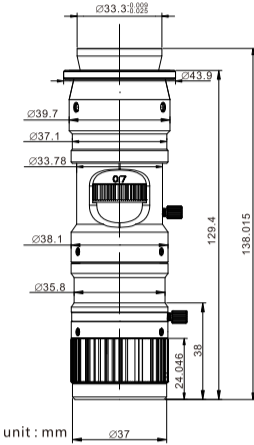
PMS-Z65D



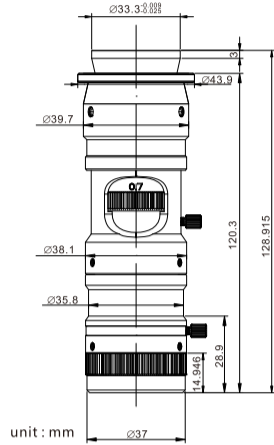
PMS-Z65C-C



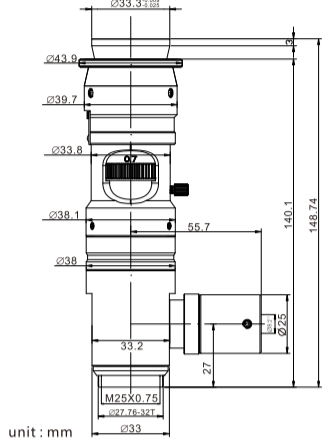
PMS-Z65C-H12



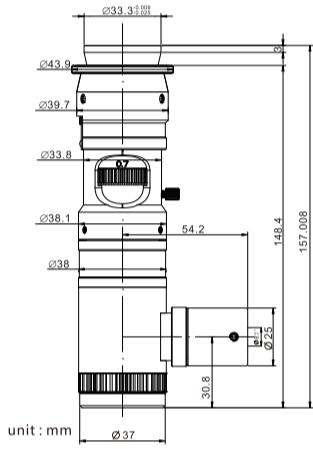
PMS-Z65C-H3



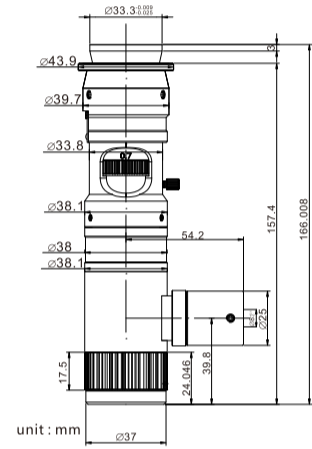
PMS-Z65D-C



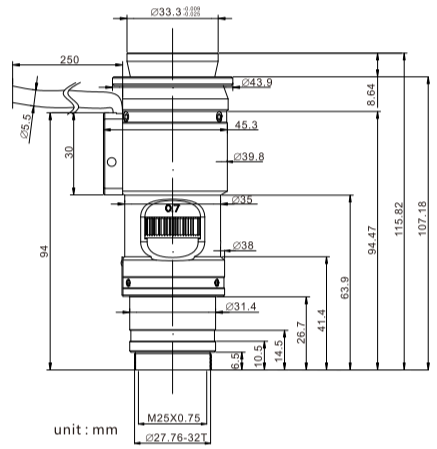
PMS-Z65C-CH3



PMS-Z65C-CH12

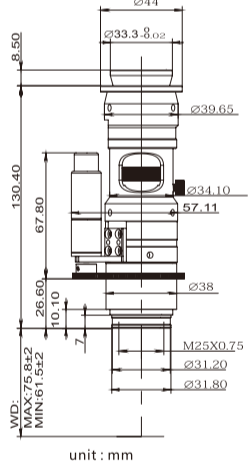


PMS-Z65F-RS

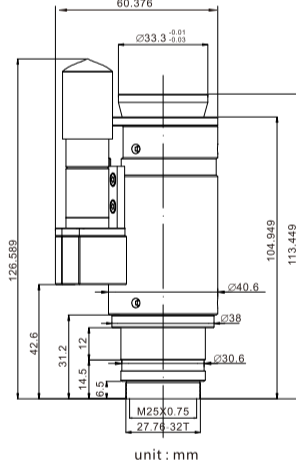


23.

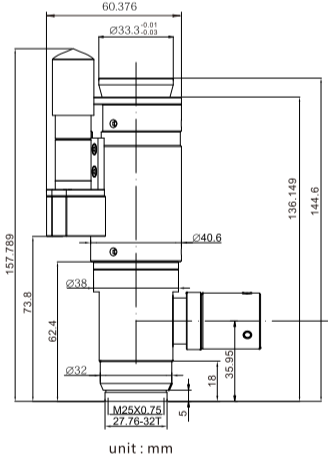
PMS-Z65F(A)



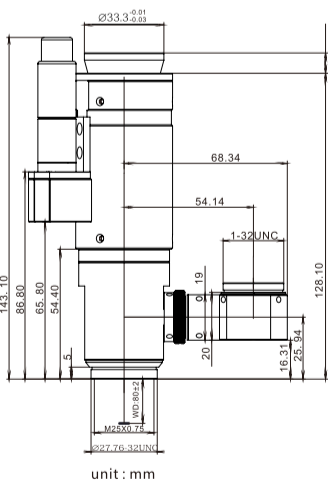
PMS-Z65M



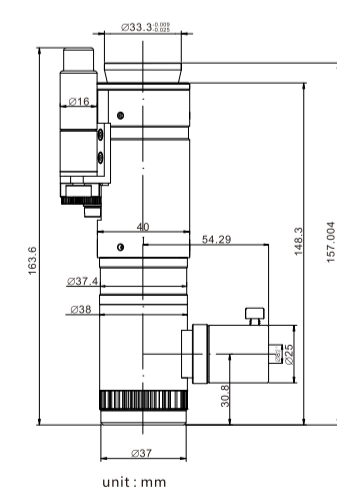
PMS-Z65M-C



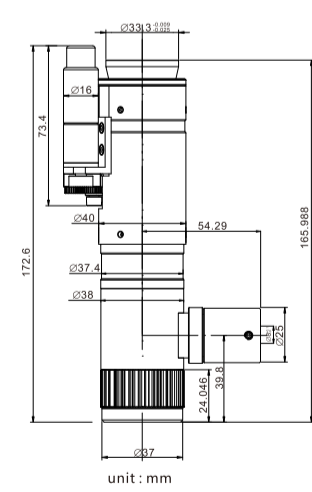
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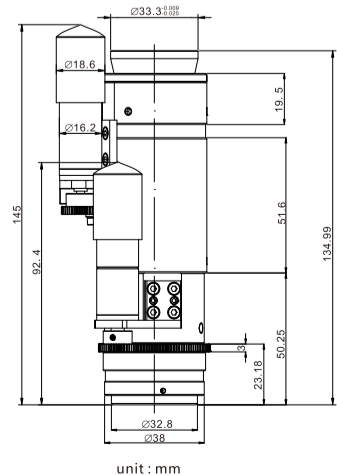
PMS-Z65M-CH3



PMS-Z65M-CH12



PMS-Z65M-H3M



24.



Zoom Lens Series 0.58x-7.5x Zoom Lens

Super high magnification ratio and excellent optical performance, suitable for inspecting various kinds of parts.

PRODUCT ADVANTAGES

1. Professional optical design, optical magnification 0.58X-7.5X, magnification ratio 12:5:1.
2. Excellent optical performance, high resolution, low distortion, super high N.A

APPLICATION FIELDS

Widely used in biology, electronics, semiconductor, machine vision and other high-precision industries.

CONTROLLER BOX

The integrated motorized control system is suitable for all the POMEAS zoom lenses. Motorized controlling system can control single or dual shafts via RS232 or USB. The underlying software code for the OEM platform will also be provided.



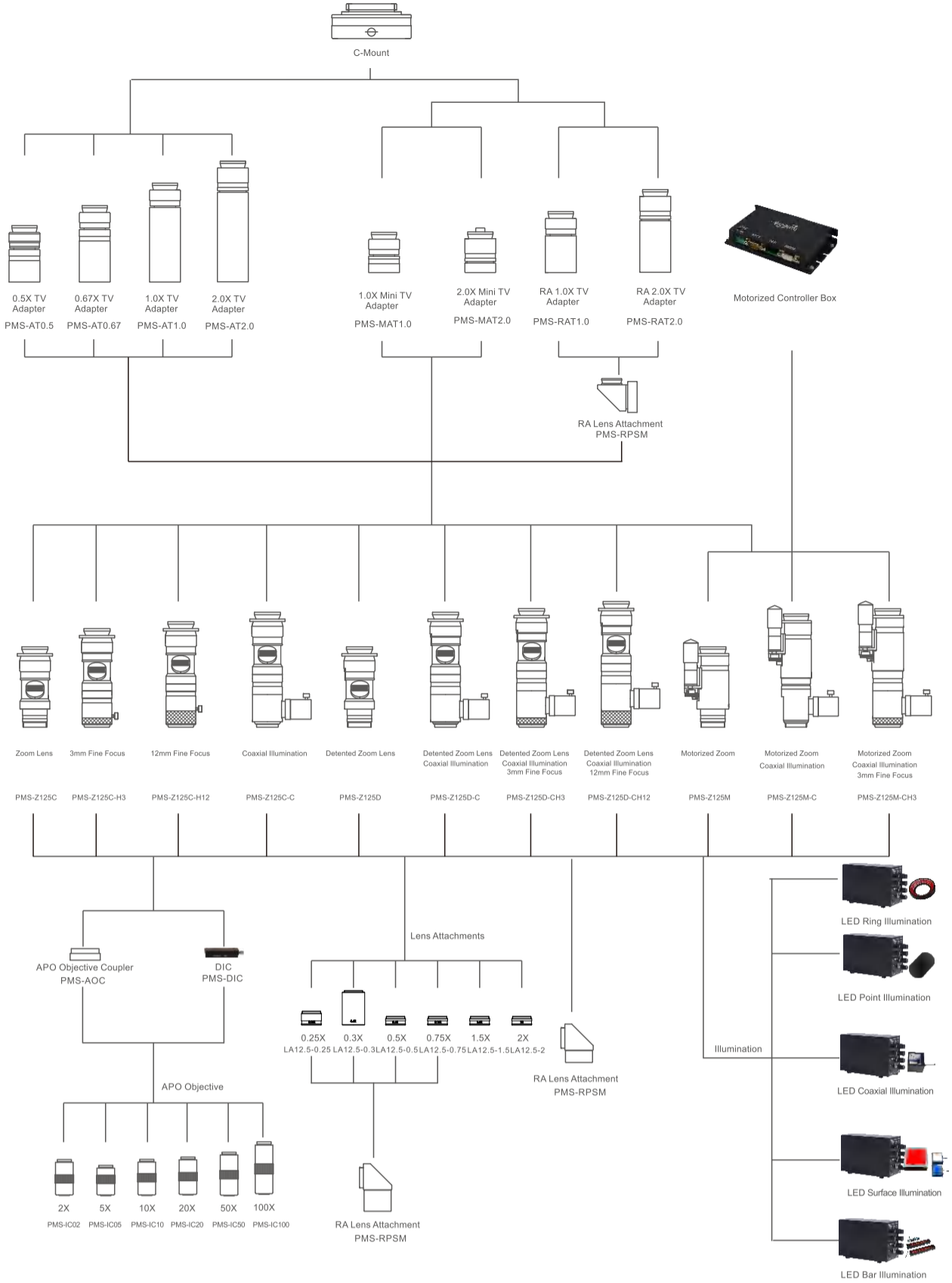
12.5X Zoom Lens Parameter

Optical Magnification Range		0.58X-7.5X															
Working Distance		77.4±2mm															
Optical Magnification		0.58X	0.6X	1X	1.5X	2X	2.5X	3X	3.5X	4X	4.5X	5X	5.5X	6X	6.5X	7X	7.5X
DOF(mm)		2.75	2.67	0.95	0.43	0.27	0.2	0.15	0.12	0.1	0.081	0.073	0.066	0.061	0.056	0.052	0.05
N.A.		0.025	0.025	0.043	0.063	0.074	0.082	0.09	0.097	0.1	0.11	0.11	0.11	0.11	0.11	0.11	0.11
F.No.		12.5	12.5	11.85	11.95	13.65	15.3	16.5	18.4	19.9	20.4	22.45	22.7	26.8	29.4	31.7	33.9
Resolution(μm)		13	13	7.8	5.3	4.53	4.09	3.73	3.46	3.36	3.05	3.05	3.05	3.05	3.05	3.05	3.05
TV Distortion		0.050%	0.050%	0.002%	0.010%	0.020%	0.003%	0.020%	0.020%	0.018%	0.020%	0.010%	0.010%	0.001%	0.010%	0.005%	0.005%
2/3" FOV (mm)	Diagonal	18.97	18.33	11	7.33	5.5	4.4	3.67	3.14	2.75	2.44	2.2	2	1.83	1.69	1.57	1.47
	Horizontal	15.17	14.67	8.8	5.87	4.4	3.52	2.93	2.51	2.2	1.96	1.76	1.6	1.47	1.35	1.26	1.17
	vertical	11.38	11	6.6	4.4	3.3	2.64	2.2	1.89	1.65	1.47	1.32	1.2	1.1	1.02	0.94	0.88
Max.Sensor Size		2/3"															
Mount		C-Mount															

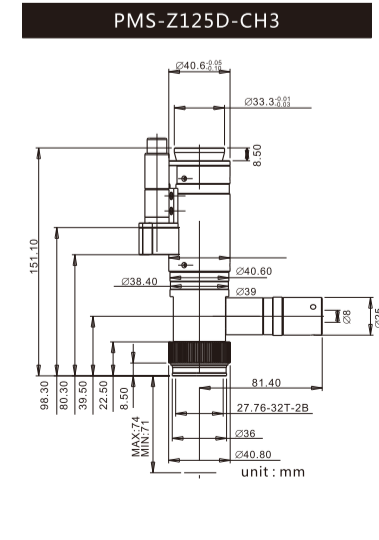
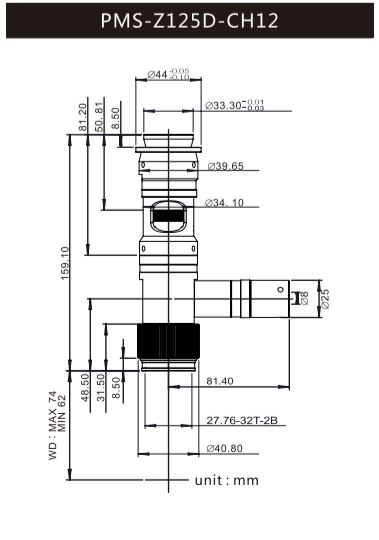
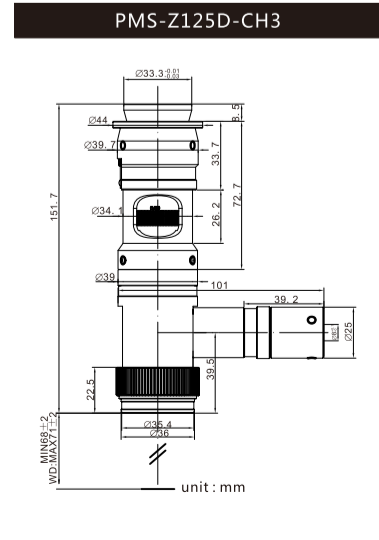
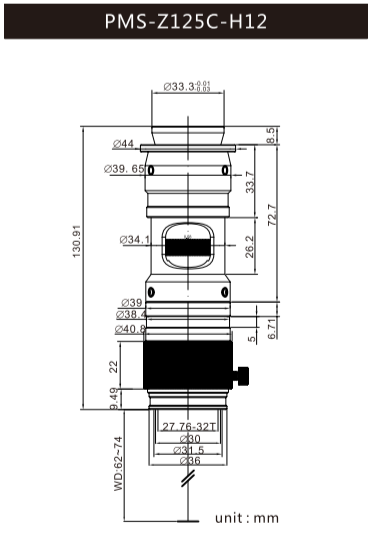
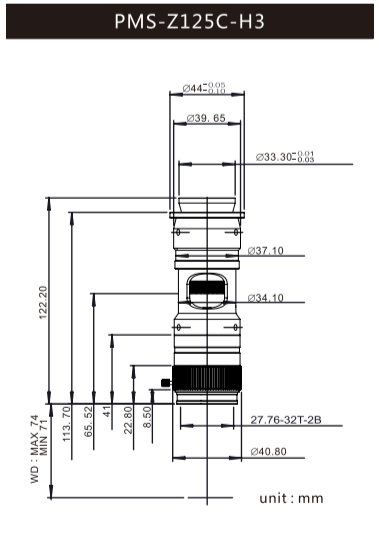
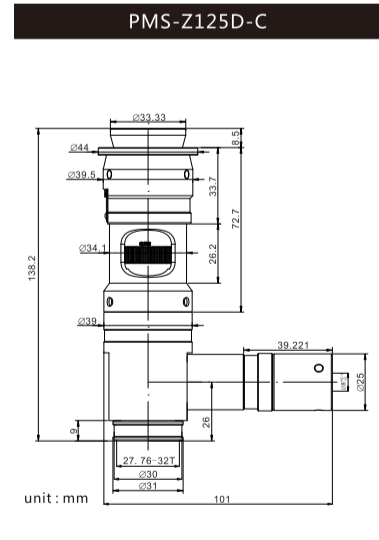
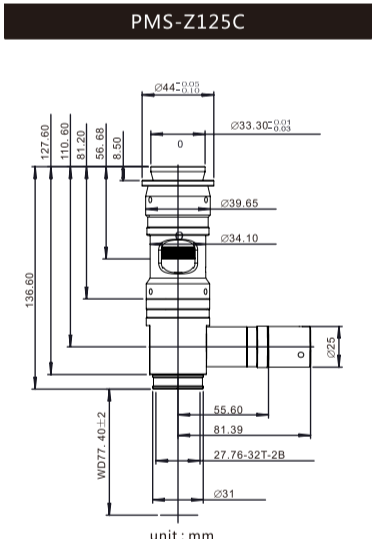
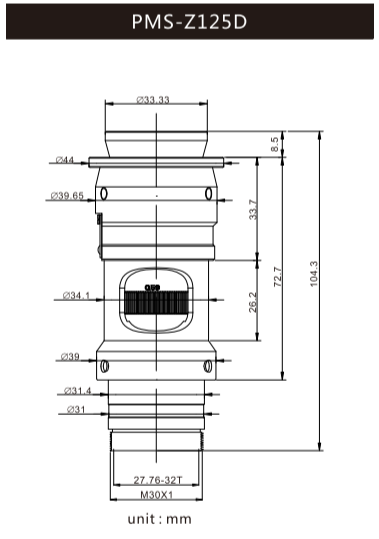
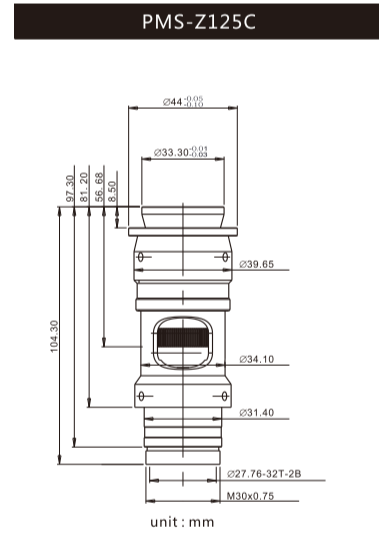
12.5X Zoom Lens Field of View Table

Lens Attachment		0.5X Adapter Tube(PMS-AT0.5)						1.0X Adapter Tube(PMS-AT1.0)						2.0X Adapter Tube(PMS-AT2.0)						
		Low Magnification			High Magnification			Low Magnification			High Magnification			Low Magnification			High Magnification			
		Length (mm)	Width (mm)	Diagonal (mm)	Length (mm)	Width (mm)	Diagonal (mm)	Length (mm)	Width (mm)	Diagonal (mm)	Length (mm)	Width (mm)	Diagonal (mm)	Length (mm)	Width (mm)	Diagonal (mm)	Length (mm)	Width (mm)	Diagonal (mm)	
0.25X PMS-Z125-LA025 WD:297mm	Magnification	0.07X-0.94X						0.15X-1.87X						0.30X-3.75X						
	Camera FOV	2/3"	121.4	91.0	(151.7)	9.4	7.0	11.7	60.7	45.5	75.9	4.7	3.5	5.9	30.3	22.8	(37.9)	2.4	1.8	2.9
		1/2"	88.3	66.2	(110.3)	6.8	5.1	8.5	44.1	33.1	55.2	3.4	2.6	4.3	22.1	16.6	27.6	1.7	1.3	2.1
1/3"	66.2	49.7	82.8	5.1	3.8	6.4	33.1	24.8	41.4	2.6	1.9	3.2	16.6	12.4	20.7	1.3	1.0	1.6		
0.3X PMS-Z125-LA03 WD:120mm	Magnification	0.09X-1.12X						0.17X-2.25X						0.35X-4.50X						
	Camera FOV	2/3"	101.2	75.9	(126.4)	7.8	5.9	9.8	50.6	37.9	63.2	3.9	2.9	4.9	25.3	19.0	31.6	2.0	1.5	2.4
		1/2"	73.6	55.1	(92.0)	5.7	4.3	7.1	36.8	27.6	46.0	2.8	2.1	3.6	18.4	13.8	23.0	1.4	1.1	1.8
1/3"	55.2	41.4	69.0	4.3	3.2	5.3	27.6	20.7	34.5	2.1	1.6	2.7	13.8	10.3	17.2	1.1	0.8	1.3		
0.5X PMS-Z125-LA05 WD:155mm	Magnification	0.14X-1.87X						0.29X-3.75X						0.58X-7.50X						
	Camera FOV	2/3"	60.7	45.5	(75.9)	4.7	3.5	5.9	30.3	22.8	38.0	2.4	1.8	2.9	15.2	11.4	19.0	1.2	0.9	1.5
		1/2"	44.1	33.1	55.2	3.4	2.6	4.3	20.1	16.6	27.6	1.7	1.3	2.1	11.0	8.3	13.8	0.9	0.6	1.0
1/3"	33.1	24.8	41.4	2.6	1.9	3.2	16.6	12.4	20.7	1.3	1.0	1.6	8.3	6.2	10.3	0.6	0.5	0.8		
0.75X PMS-Z125-LA075 WD:93mm	Magnification	0.22X-2.81X						0.43X-5.62X						0.87X-11.25X						
	Camera FOV	2/3"	40.5	30.3	(50.6)	3.1	2.4	3.9	20.2	15.2	25.3	1.6	1.2	2.0	10.1	7.6	12.6	0.8	0.6	1.0
		1/2"	29.4	22.1	36.8	2.3	1.7	2.8	14.7	11.0	18.4	1.1	0.9	1.4	7.4	5.5	9.2	0.6	0.4	0.7
1/3"	22.1	16.6	27.6	1.7	1.3	2.1	11.0	8.3	13.8	0.9	0.6	1.1	5.5	4.1	6.9	0.3	0.3	0.5		
1.0X PMS-Z125-LA1.0 WD:77.4mm	Magnification	0.29X-3.75X						0.58X-7.50X						1.16X-15.00X						
	Camera FOV	2/3"	30.3	22.8	(37.9)	2.4	1.8	2.9	15.2	11.4	19.0	1.2	0.9	1.5	7.6	5.7	9.5	0.6	0.4	0.7
		1/2"	22.1	16.6	(27.6)	1.7	1.3	2.1	11.0	8.3	13.8	0.9	0.6	1.1	5.5	4.1	6.9	0.4	0.3	0.5
1/3"	16.6	12.4	20.7	1.3	1.0	1.6	8.3	6.2	10.3	0.6	0.5	0.8	4.1	3.1	5.2	0.3	0.2	0.4		
1.5X PMS-Z125-LA1.5 WD:48mm	Magnification	0.43X-5.62X						0.87X-11.25X						1.74X-22.50X						
	Camera FOV	2/3"	20.2	15.2	(25.3)	1.6	1.2	2.0	10.1	7.6	12.6	0.8	0.6	1.0	5.1	3.8	6.3	0.4	0.3	0.5
		1/2"	14.7	11.0	18.4	1.4	0.9	1.4	7.4	5.5	9.2	0.6	0.4	0.7	3.7	2.8	4.6	0.3	0.2	0.4
1/3"	11.0	8.3	13.8	0.9	0.6	1.1	5.5	4.1	6.9	0.4	0.3	0.5	2.8	2.1	3.5	0.2	0.2	0.3		
2.0X PMS-Z125-LA2.0 WD:34.5mm	Magnification	0.58X-7.50X						1.16X-15.00X						2.32X-30.00X						
	Camera FOV	2/3"	15.2	11.4	(19.0)	1.2	0.9	1.5	7.6	5.7	9.5	0.6	0.4	0.7	3.8	2.8	4.7	0.3	0.2	0.4
		1/2"	11.0	8.3	(13.8)	0.9	0.6	1.0	5.5	4.1	6.9	0.4	0.3	0.5	2.8	2.1	3.5	0.2	0.2	0.3
1/3"	8.3	6.2	10.3	0.6	0.5	0.8	4.1	3.1	5.2	0.3	0.2	0.4	2.1	1.6	2.6	0.2	0.1	0.2		

All the value is theoretical ones, the image will have dark color, if the value is in brackets.

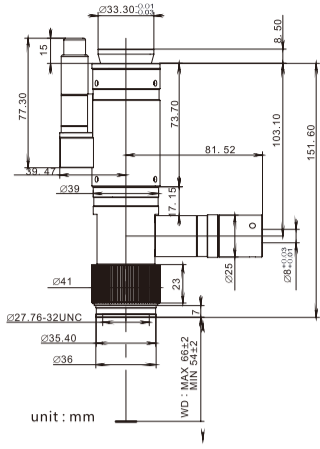


27.

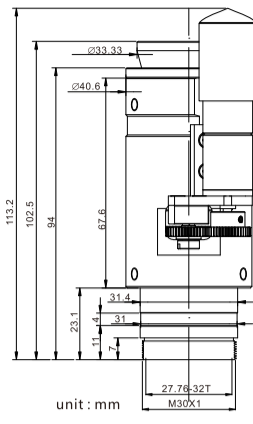


28.

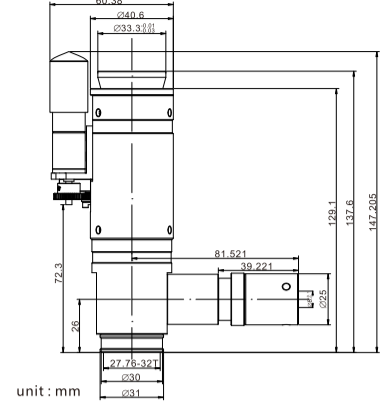
PMS-Z125M-CH12



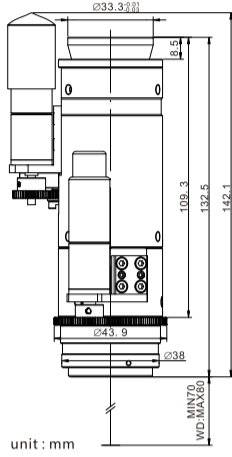
PMS-Z125M



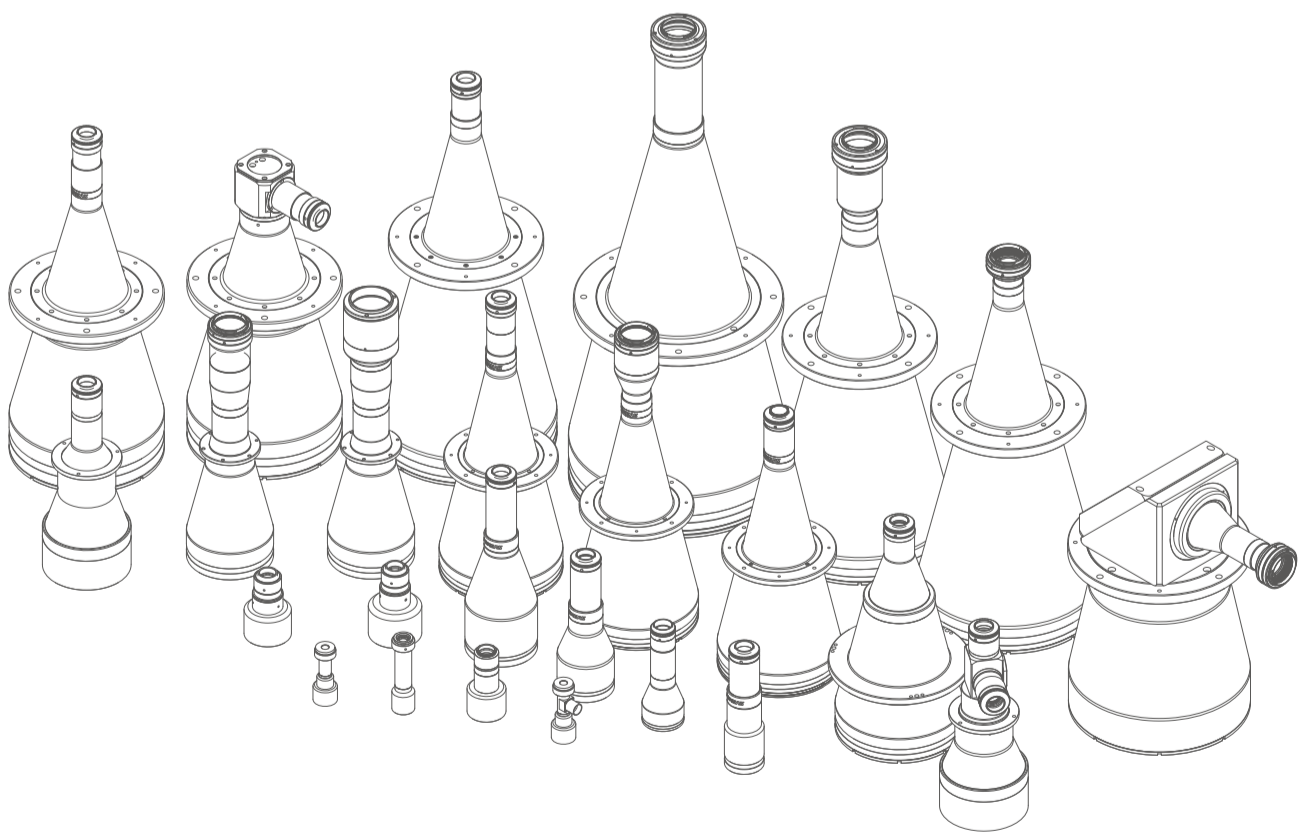
PMS-Z125M-C



PMS-Z125M-CH12M



TELECENTRIC LENS SERIES



Full range products all use special optical material, and have excellent image quality.

. FOV range up to 250mm, to meet different FOV requirement

. Support C mount 1/3" -4/3" camera sensor, F or M mount 4/3" -35mm camera sensor

. Full range telecentric lens, widely used for all application field

.High resolution, low distortion image, good quality image, meet different system requirements

.Accurate calibrated, and offer full testing report



High Resolution Telecentric Lens

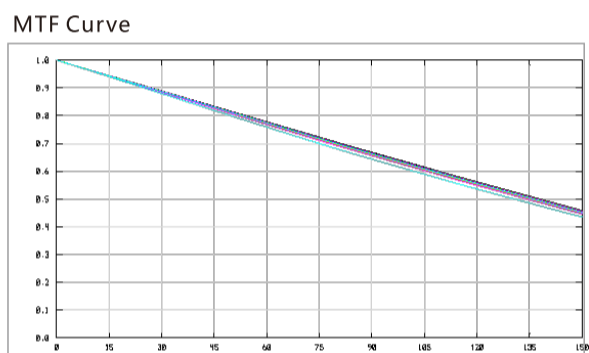
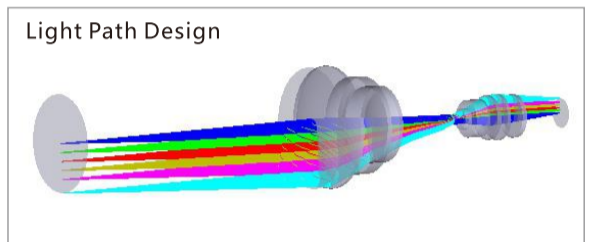
Telecentric optical design, super low distortion, high telecentricity and deep DOF, which is suitable for deflection inspection and auto inspection in-line.

PRODUCT ADVANTAGES

- 1.Supports 5MP camera with 2/3" sensor;
- 2.DOF can be expanded properly according to customer' s requirement,the maximum DOF can be up to 10mm;
3. Coaxial function is optional, coaxial light is even. During the DOF,magnification and objective dimension keep same;
4. Reasonable design of connector dimension, many options of ring shadowless light for different environment.

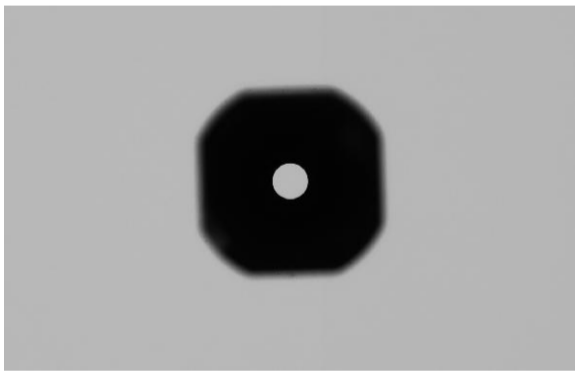
APPLICATION FIELDS

can be used in automation industry and machine vision industry.

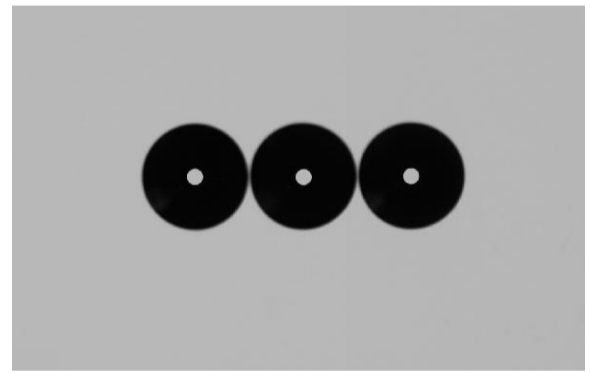


41.

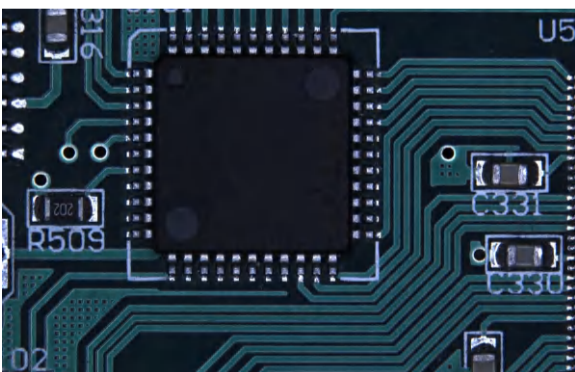
ACTUAL IMAGE



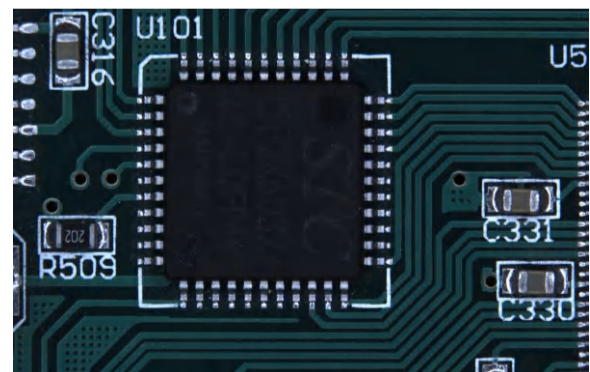
Φ30 Parallel bottom light—large bore inspection



Φ30 parallel bottom light---multiple small bore inspection



Ring light with high angle---- PCB assembly



Ring shadowless light—PCB assembly



Camera Module With Fixed Magnification Telecentric Lens

Consist of fixed magnification telecentric lens and industry analog camera, connect display via BNV connector to get imag.

PRODUCT ADVANTAGES

1. Good Image
2. Low Cost
3. Convenient to use

APPLICATION FIELDS

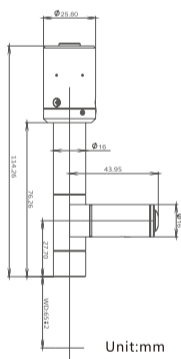
Widely used for image inspection, positioning field etc..

Code	PMS-CLNC-2065CB	PMS-CLNC-20150CB	PMS-CLNC-1065CB	PMS-CLNC-0690-OP	PMS-CLNC-05110	PMS-CLNC-05110CB	PMS-CLNC-20110-OP	PMS-CLNC-20110CB
Magnification	2.0X	2.0X	1.0X	0.6X	0.5X			2.0X
Working Distance (MM)	65	150	65	90	110			110
Resolution	640*480	640*480	640*480	640*480	640*480			640*480
Pixel Size(μm)	5.16	13.42	10.0	12.5	15.0			8.0
DOF(MM)	0.31	0.80	1.10	2.47	2.96			0.50
Tv Distortion	0.02%	0.03%	0.01%	0.01%	0.01%			0.01%
FOV	2.4*1.8	2.4*1.8	4.8*3.6	8.0*6.0	9.6*7.2			2.4*1.8
Sensor Size	1/3"	1/3"	1/3"	1/3"	1/3"			1/3"
Lighting	Coaxial (Blue)	Coaxial (Blue)	Coaxial (Blue)	Coaxial (Blue)	Non-coaxial	Coaxial (Blue)	Non-coaxial	Coaxial (Blue)
VIDEO Connector	BNC	BNC	BNC	BNC	BNC			BNC
Input Voltage	12V	12V	12V	12V	12V			12V
Working Temperature	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C	-10°C~+50°C			-10°C~+50°C

*1 : Theoretical value (Diffused diameter φ0.04mm). It is better that only use 1/2 of the theoretical range for better application.

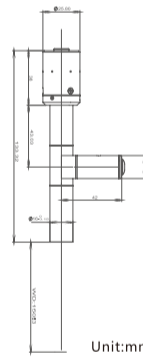
55.

PMS-CLNC-2065CB



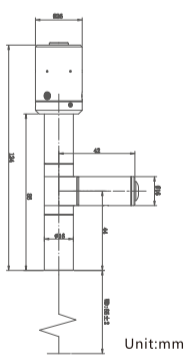
Magnification : 2.0x
Working distance : 65
Resolution : 640*480
Pixel size (μm) : 5.16
Dof : 0.31
Tv distortion : 0.02%
Fov : 2.4*1.8
Sensor size : 1/3"
Lighting : coaxial (blue)
Video connector : bnc
Input voltage : 12v
Working temperature : -10°C~+50°

PMS-CLNC-20150CB



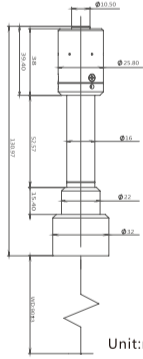
Magnification : 2.0x
Working distance : 150
Resolution : 640*480
Pixel size (μm) : 13.42
Dof : 0.80
Tv distortion : 0.03%
Fov : 2.4*1.8
Sensor size : 1/3"
Lighting : coaxial (blue)
Video connector : bnc
Input voltage : 12v
Working temperature : -10°C~+50°

PMS-CLNC-1065CB



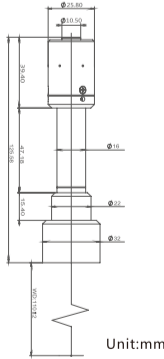
Magnification : 1.0x
Working distance : 65
Resolution : 640*480
Pixel size (μm) : 10.0
Dof : 1.10
Tv distortion : 0.01%
Fov : 4.8*3.6
Sensor size : 1/3"
Lighting : coaxial (blue)
Video connector : bnc
Input voltage : 12v
Working temperature : -10°C~+50°

PMS-CLNC-0690-OP



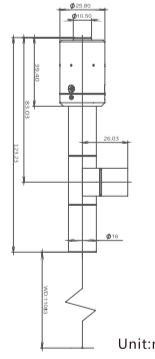
Magnification : 0.6x
Working distance : 90
Resolution : 640*480
Pixel size (μm) : 12.5
Dof : 2.47
Tv distortion : 0.01%
Fov : 8.0*6.0
Sensor size : 1/3"
Lighting : coaxial (blue)
Video connector : bnc
Input voltage : 12v
Working temperature : -10°C~+50°

PMS-CLNC-05110



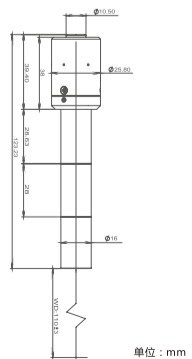
Magnification : 0.5x
Working distance : 110
Resolution : 640*480
Pixel size (μm) : 15.0
Dof : 2.96
Tv distortion : 0.01%
Fov : 9.6*7.2
Sensor size : 1/3"
Lighting : ---/
Video connector : bnc
Input voltage : 12v
Working temperature : -10°C~+50°

PMS-CLNC-05110CB



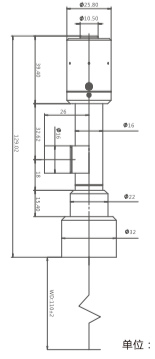
Magnification : 0.5x
Working distance : 110
Resolution : 640*480
Pixel size (μm) : 15.0
Dof : 2.96
Tv distortion : 0.01%
Fov : 9.6*7.2
Sensor size : 1/3"
Lighting : coaxial (blue)
Video connector : bnc
Input voltage : 12v
Working temperature : -10°C~+50°

PMS-CLNC-20110-OP



Magnification : 2.0x
Working distance : 110
Resolution : 640*480
Pixel size (μm) : 8.0
Dof : 0.50
Tv distortion : 0.01%
Fov : 2.4*1.8
Sensor size : 1/3"
Lighting : ---/
Video connector : bnc
Input voltage : 12v
Working temperature : -10°C~+50°

PMS-CLNC-20110CB



Magnification : 2.0x
Working distance : 110
Resolution : 640*480
Pixel size (μm) : 8.0
Dof : 0.50
Tv distortion : 0.01%
Fov : 2.4*1.8
Sensor size : 1/3"
Lighting : coaxial (blue)
Video connector : bnc
Input voltage : 12v
Working temperature : -10°C~+50°

56.

Ring Illumination



PRODUCT ADVANTAGE

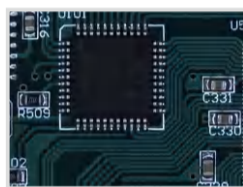
1. Color is optional, to meet different requirements
2. Offering different irradiation angle, different size for light
3. Optimized LED array structure, high brightness, compact size
4. No shadow, proving high quality image

APPLICATION FIELDS

PCB inspection and measurement, crack inspection, surface inspection, defect detection

Ring Light Parameter

Code	Item	Diameter (mm)	Angle (°)	Color	Voltage/Power Red	Voltage/Power white/green/blue
PMS-RL32-75R/G/B/W	#910-375	32	75	● ● ● ● ○	24V/0.8W	24V/1.5W
PMS-RL42-65R/G/B/W	#910-465	42	65	● ● ● ● ●	24V/1.04W	24V/1.7W
PMS-RL50-60R/G/B/W	#910-560	50	60	● ● ● ● ●	24V/1.3W	24V/2W
PMS-RL60-60R/G/B/W	#910-660	60	60	● ● ● ● ●	24V/0.8W	24V/2W
PMS-RL70-90R/G/B/W	#910-709	70	90	● ● ● ● ●	24V/2.34W	24V/3.6W
PMS-RL90-70R/G/B/W	#910-907	90	70	● ● ● ● ●	24V/4.03W	24V/7.2W
PMS-PI90-80R/G/B/W	#910-980	90	80	● ● ● ● ●	24V/3.5W	24V/7.2W
PMS-RL120-60R/G/B/W	#910-120	120	60	● ● ● ● ●	24V/9.1W	24V/14W
PMS-RL146-0R/G/B/W	#910-146	146	0	● ● ● ● ●	24V/1.82W	24V/2.9W
PMS-RL170-20R/G/B/W	#910-170	170	20	● ● ● ● ●	24V/9.1W	24V/11W
PMS-RL180-30R/G/B/W	#910-180	180	30	● ● ● ● ●	24V/9.62W	24V/14.9W
PMS-RL208-20R/G/B/W	#910-208	208	20	● ● ● ● ●	24V/7.54W	24V/11.5W
PMS-RL213-0R/G/B/W	#910-213	213	0	● ● ● ● ●	24V/3.38W	24V/5.3W
PMS-RL350-30R/G/B/W	#910-350	350	30	● ● ● ● ●	24V/16.8W	24V/27.84W

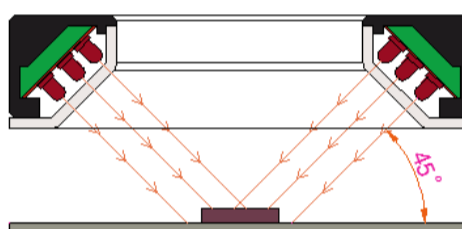


PCB inspection



Metal defect inspection

Example



73.

Point Illumination

PRODUCT ADVANTAGES

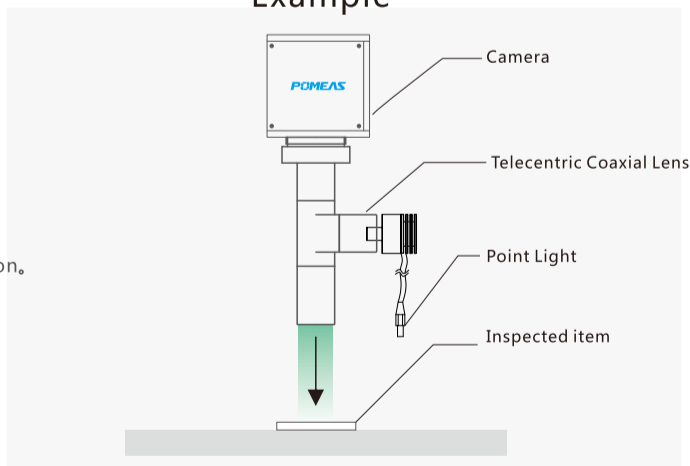
1. Large Power LED, small size, high bright light;
2. High efficiency heat dissipation device, improved light lifetime;
3. Compact size, easily for assembly;
4. Halogen's replacement, especially suitable for lenses' coaxial light.



APPLICATION FIELDS

1. Suitable for coaxial light ;
2. Used to measure high reflective or mirror surface ;
3. For LED circuit board, scratched line, surface crack inspection.

Example

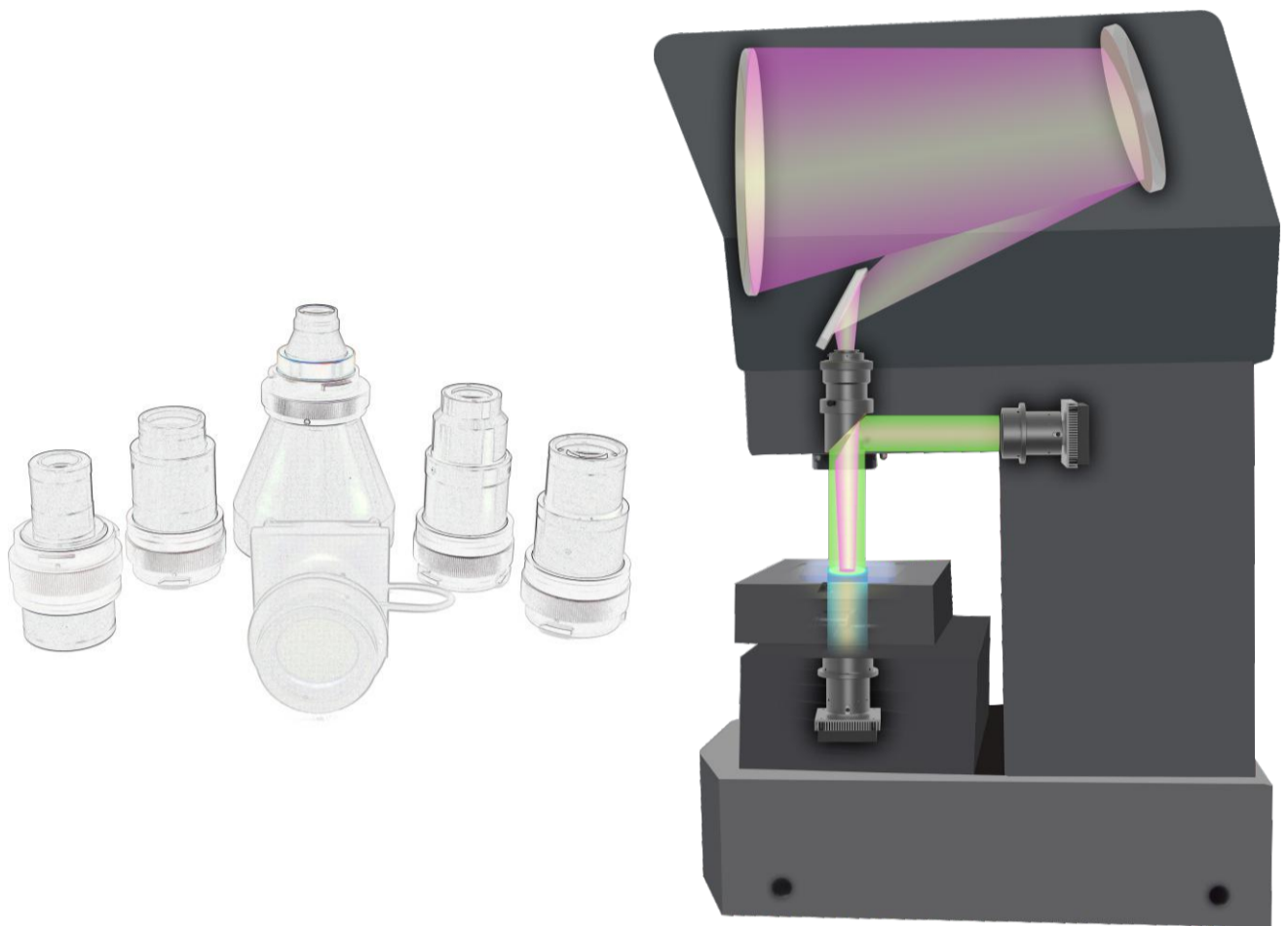


Point Light Parameter

Code	Item	Diameter (mm)	Current (mA)	Power (W)	Color Temperature	Environment	Life time	Color
PMS-PL350-6-R/G/B/Y/W	#915-350	6	350	1	5700-6300K	Temperature: 0°C~40°C Humidity: 20~85% non-Condensing	50000h (Not guaranteed value)	● ● ● ● ● ○
PMS-PL350-8-R/G/B/Y/W	#915-351	8	350	1	5700-6300K			
PMS-PL350-10-R/G/B/Y/W	#915-352	10	350	1	5700-6300K			
PMS-PL850-6-R/G/B/Y/W	#915-353	6	850	1	5700-6300K			
PMS-PL850-8-R/G/B/Y/W	#915-354	8	850	1	5700-6300K			
PMS-PL850-10-R/G/B/Y/W	#915-355	10	850	1	5700-6300K			

74.

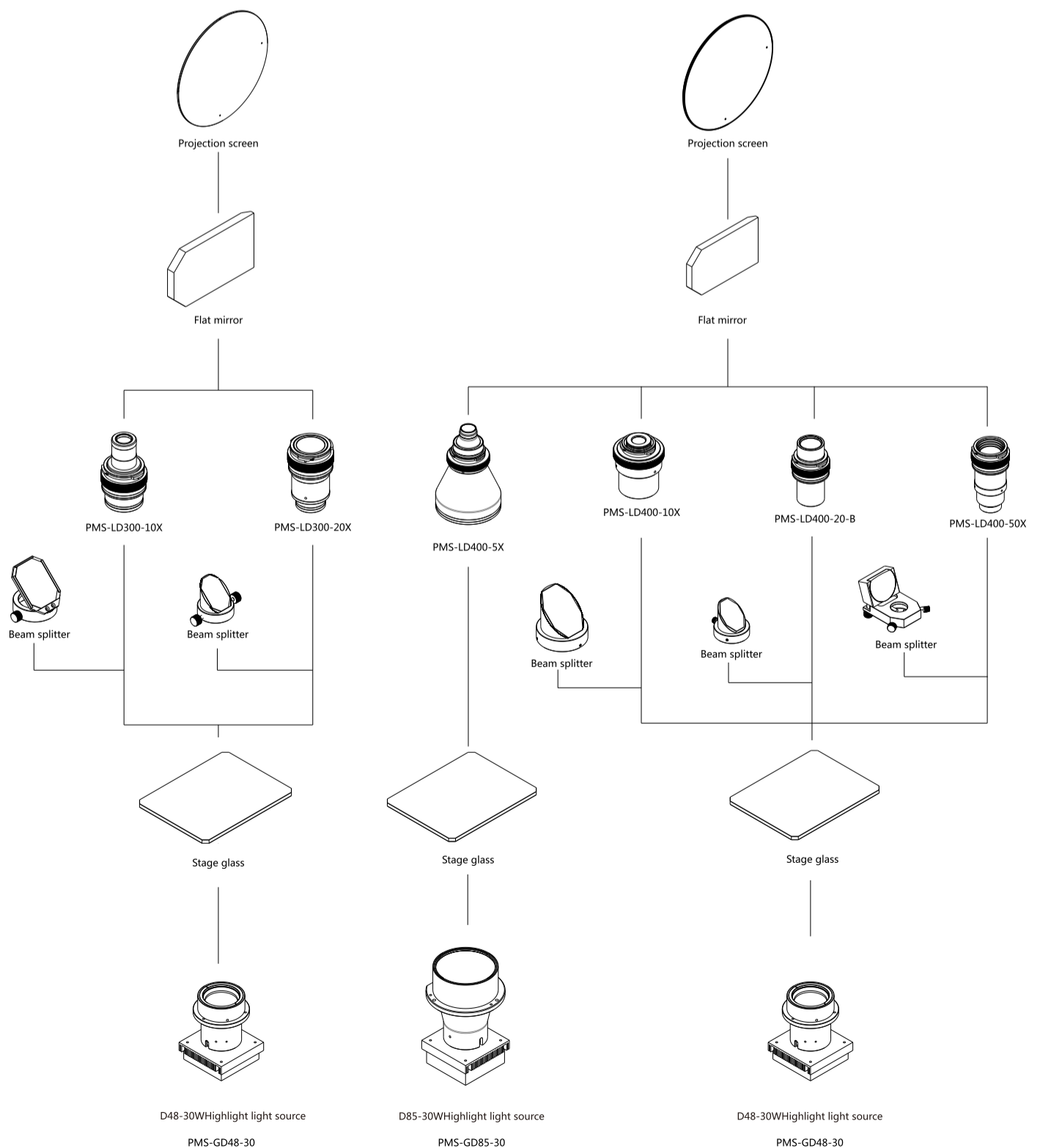
MEASUREMENT PROFILE PROJECTOR PARTS SERIES



81.

D300series

D400series



82.

Support D300, D400, 5x-50x Projection Objective Lens



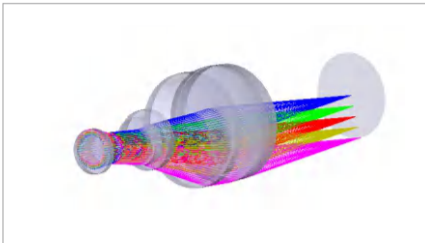
PRODUCT ADVANTAGES

- High resolution design
- Ultra-low distortion
- Telecentric
- Adjustable magnification
- Equipped with coaxial optical module

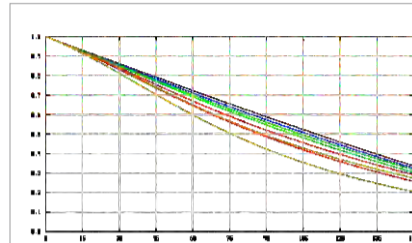
Projection lens D300 series

Code	Product Code	Magnification	Object resolution (lp/mm)	Telecentricity (°)	distortion	Object distance (mm)	Object field of view(mm)	Field of view(mm)	I/O distance (mm)
PMS-PLD300-10X	#510-310	10X	Center/Peripheral : 125/63	<0.02	<0.01%	80	φ30	φ300	1087
PMS-PLD300-20X	#510-320	20X	Center/Peripheral : 160/80	<0.02	<0.01%	67.7	φ15	φ300	1087

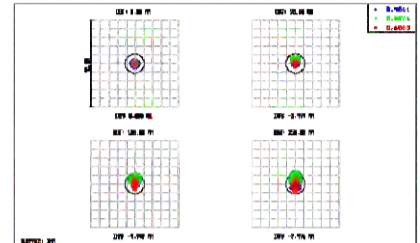
Light path diagram



MTF graph



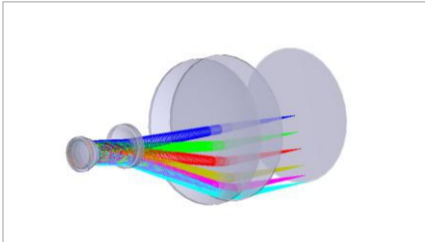
Spot



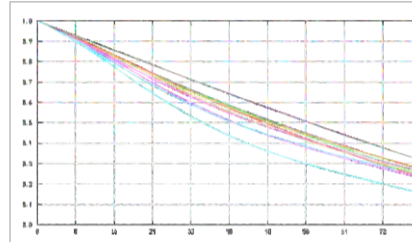
Projection lens D400 series

Model	Article number	Magnification	Object resolution (lp/mm)	Telecentricity (°)	Code	Product Code (mm)	Object field of view (mm)	Field of view(mm)	I/O distance(mm)
PMS-PLD400-5X	#510-405	5X	Center/Peripheral : 80/50	<0.02	<0.01%	58.3	φ80	φ400	1234
PMS-PLD400-10X	#510-410	10X	Center/Peripheral : 125/63	<0.02	<0.01%	79	φ40	φ400	1234
PMS-PLD400-200-B	#510-420	20X	Center/Peripheral : 160/80	<0.02	<0.01%	81.5	φ20	φ400	1234
PMS-PLD400-50X	#510-450	50X	Center/Peripheral : 160/125	<0.02	<0.01%	52	φ8	φ400	1234

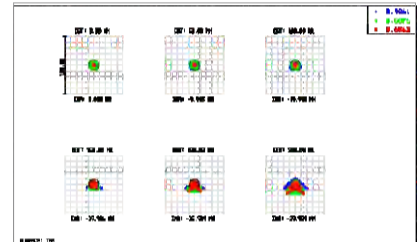
Light path diagram



MTF graph



Spot



83.

Projection screen with uniform surface frosted density and low dispersion loss.



PRODUCT ADVANTAGES

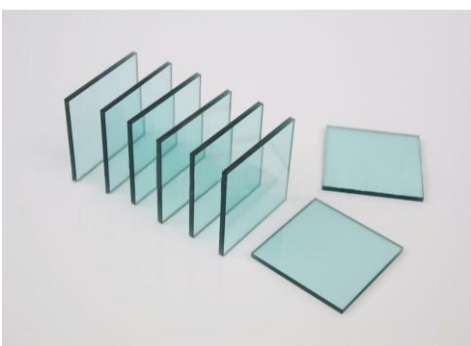
- Low dispersion loss reduces light energy loss.
- Surface matte density is uniform, can form a uniform diffusion.
- Precision scale, clear and sharp lines.

Parameters Table

Code	Product Code	Diameter / length and width mm	Thickness mm
PMS-PA-320	#520-320	φ320	6
PMS-PA-368	#520-368	φ368	5
PMS-PA-392	#520-392	φ392	6
PMS-PA-380	#520-380	φ380	6
PMS-PA-312	#520-312	φ312	6

The above can be customized other specifications

Stage glass with visible light transmittance > 95% and flatness < 0.01mm



PRODUCT ADVANTAGES

1. Material selection of ultra-white high-quality float glass.
2. Visible light transmittance > 95%.
3. Flatness < 0.01mm
4. The refractive index is 1.51

Parameters Table

Code	Product Code	Diameter / length and width mm	Thickness mm
PMS-PG-200/120	#530-120	200*120	30
PMS-PG-155/155	#530-155	155*155	6
PMS-PG-126/100	#530-100	126*100	8
PMS-PG-200/130	#530-130	200*130	6

The above can be customized other specifications

84.



Automatical Focus Video Microscope

Video microscope can inspect the samples in the display from the new perspective, without eyepieces. It can show and save high quality color static image, dynamic high resolution video. PMS-XHD -AF series video microscope is with all in one mechanical structure, full self-developed optical system, light switch function, continuous zooming in/out, auto focusing function. It will help you improve the quality control career.

Product Advantages

01

Help you accelerate your work process

Without eyepiece, big screen for better inspection;
Real time focusing, save time, compare with manual focusing type;
Continuous zooming, quick change the magnification.

02

Help you to find more details

Special HDR function can improve edge profile, the image will be clearer;
Electronic magnification 180X, see more details;
2MP high resolution camera, 60fps high photo speed.

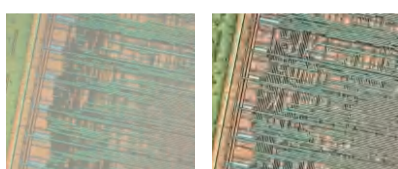
03

Bring you more convenient

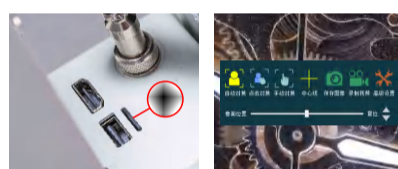
Portable TF card, can save image and dynamic video;
Simple human-computer interface improves the operation efficiency;
Varies of lights are optional, can be selected according to customers' demands.



Move the inspected parts to the focusing area, the clear image will be gotten.



Common inspection (1C 180x) HDR inspection (1C 180x)

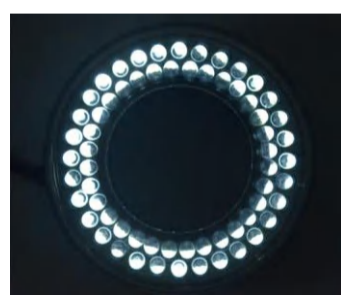


TF card can save the image and dynamic video
Simple and easy human-computer operation interface

89.

Original Illumination Control Mode

Select illumination based on sample features which could provide perfect observation and inspection effects.



Ring light



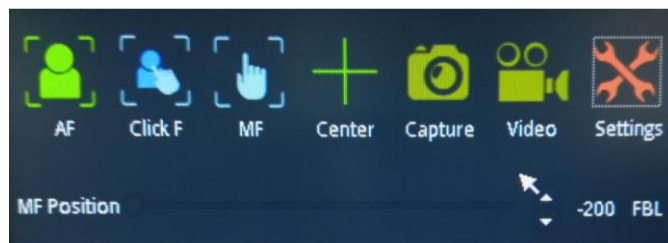
Back Light(optional)



Side Light (optional)

Easy To Control With Man-machine Interface

- 1.Easy to control;
- 2.Switchable from auto focus and manual focus;
- 3.USB interface and USB 2.0 high-speed storage flash disk enable to storage HD videos.



All-parameter Adjustment

Parameter adjustment supports better inspection and image effects;

Basic parameter includes brightness/white balance adjustment, contrast ratio and sharpness adjustment, image flips, and storage pictures and videos etc;

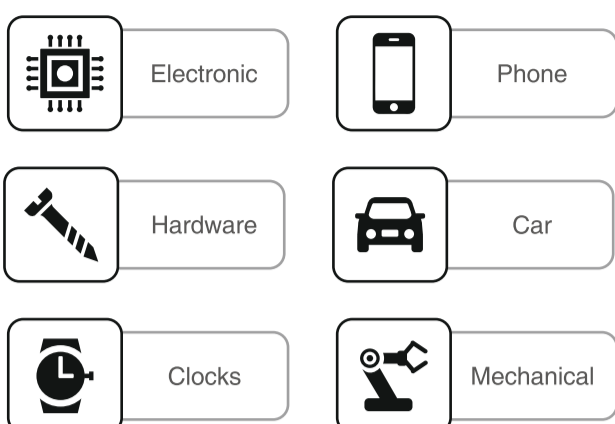
Support Chinese/English operation languages;

Auxiliary functions include focus mode switch, color/black & white mode switch, reticle display and reticle ruler display etc.



90.

APPLICATION FIELDS

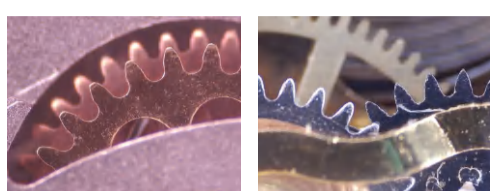


Type	Parameter	Value
Specifications	Code	PMS-XHD-AF
	Item	#980-511
	Dimension	320*308.5*417.5mm
	Tested item	Height MAX:50mm
Optical parameter	System magnification (1-6X)	Min.29.92-179.5X
		Max.192.34-1154X
	Optical magnification	0.35-2.25X
	Display	21.5 inches
	Resolution	Min. < 8.77μm Max. < 3.94μm
	WD	88±2mm
Camera parameter	FOV (D*H*V) mm	Min. 18.3*15.9*8.95 Max. 2.84*2.47*1.39
	Image Sensor	CMOS Color
	Effective Pixel	200W (1920*1080)
	Sensor	1/2.8"
	Menu	POMEAS Software
	Operation Manual	USB Mouse/Controller
	Output mode	HDMI
	WB	Manual/Auto/One Click
	Exposure	Manual/Auto
	frame rate	1080P@60FPS
	Scanning Mode	Line by line
	Electronic shutter speed	1/50S(1/60S~1/10000S)
	Working temperature	0°C~50°C
	Electronic magnify	Support
storage function	support TF card storage	
Instrument	Optional light	Ring light/Side lights/Bottom lights Outside coaxial light
	Optional Lens	Without/With magnification output

Clock And Watch Application

01

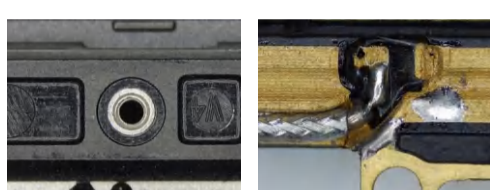
Clock movement is high precision parts. It is very small and it is difficult to inspect the failed parts by eyes. It takes a lot of time to inspect with traditional microscope. XHD -AFvideo microscope can quickly find and focus the inspected parts, with its zooming and focusing function.



Mobile Industry Application

02

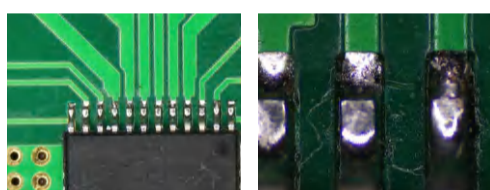
As there are many screws with different size and height in mobile cover. Working distance is needed to adjust frequently for better focusing, if using traditional microscope. XHD -AFvideo microscope can quickly find and focus the inspected parts, with its zooming and focusing function.



Electronic Industry Application

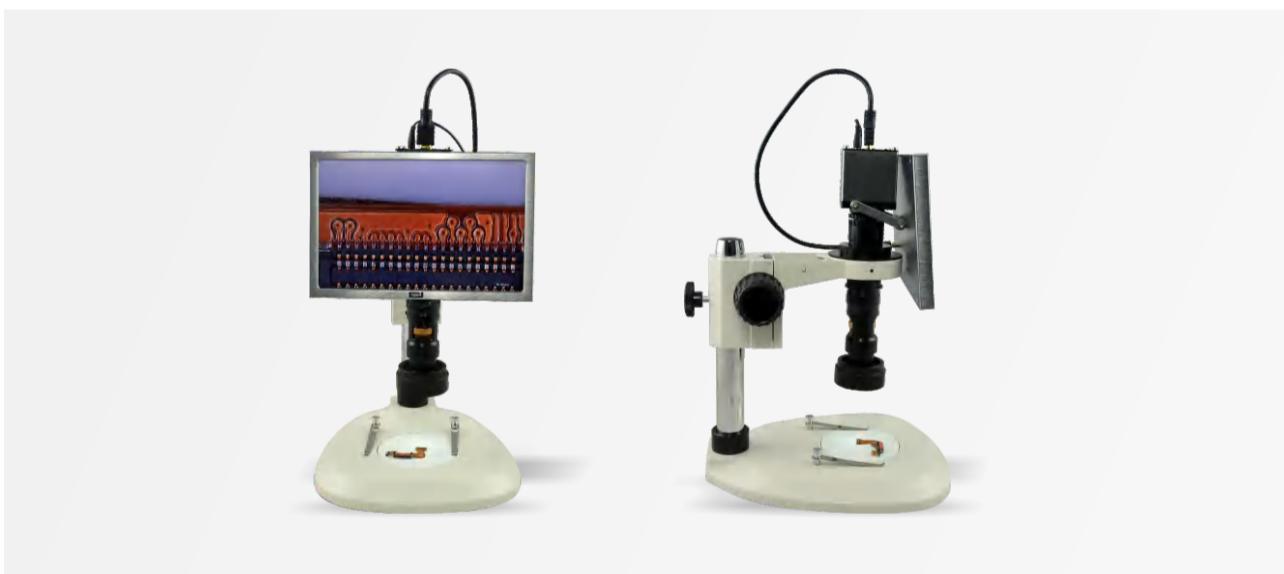
03

As there are many parts with different size and height on PCB board. Working distance is needed to adjust frequently for better focusing, if using traditional microscope. XHD -AFvideo microscope can quickly find and focus the inspected parts, with its zooming and focusing function.



91.

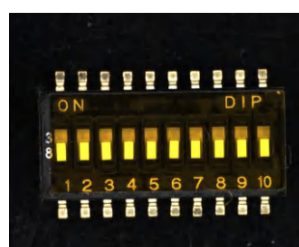
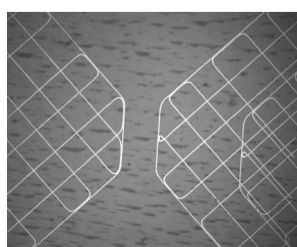
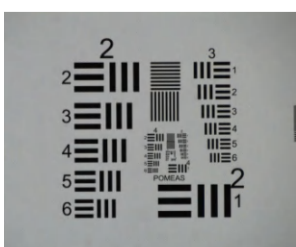
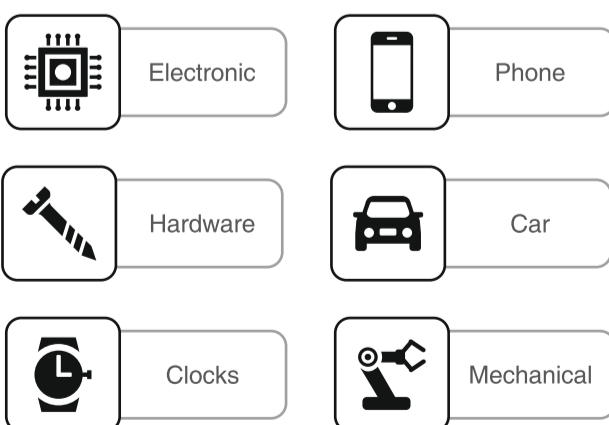
All-in-one Video Microscope



PRODUCT ADVANTAGES

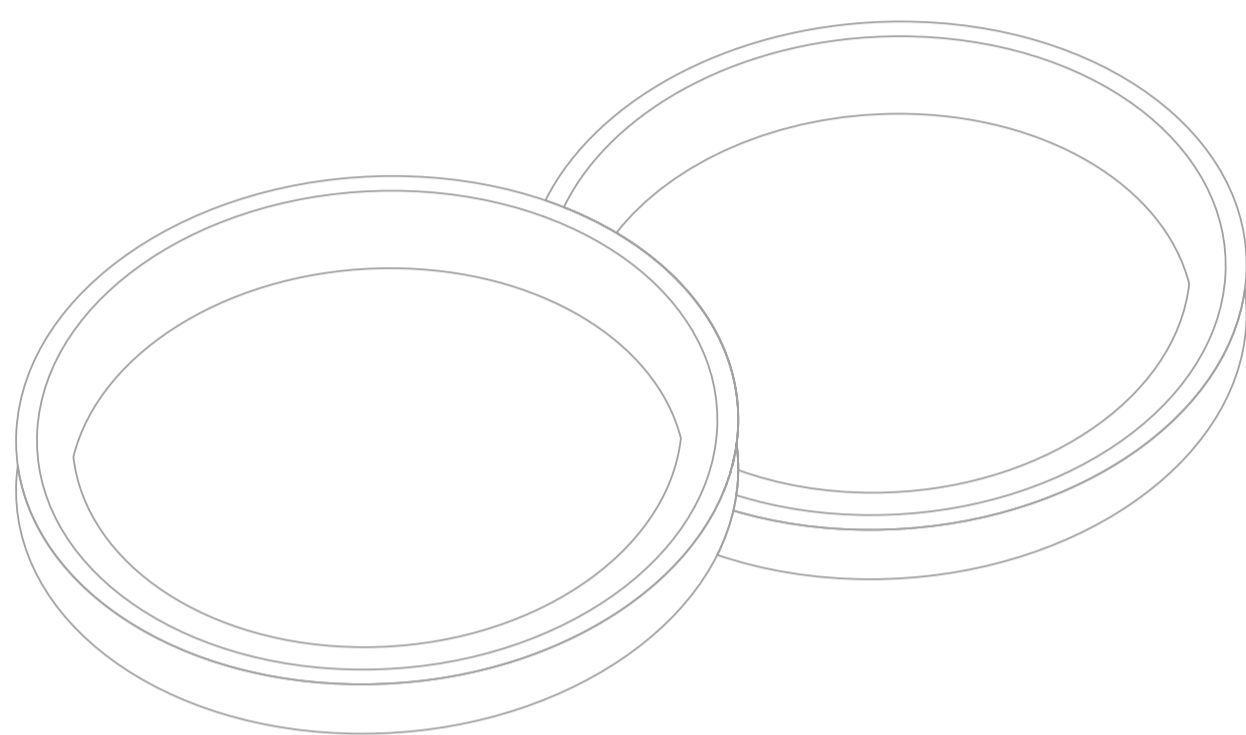
1. Integrated integrated design, easy to use, small and beautiful;
2. Real-time storage of SD card images to improve quality analysis and judgment;
3. Original suppression of reflection, enhanced depth of field, and better imaging effect;
4. Telecentric optical path design lens, excellent optical performance, low distortion, clear imaging;
5. Full-view metal brushed LCD 10-inch display with a resolution of 1280*800, high-definition imaging, durable wear-resistant;
6. HDMI high-definition digital signal camera, 60 frames per second frequency, handle-type button adjustment, high-speed image transmission, no attenuation, delicate and realistic colors

APPLICATION FIELDS



92.

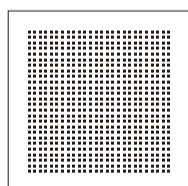
ACCESSARY SERIES



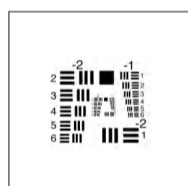
97.

■ Testing Board Series

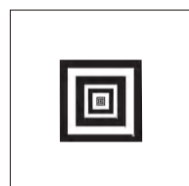
Testing board is used to test resolution、contrast、MTF、DOF、distortion、telecentricity and so on for the machine vision system . It can estimate imaging system performance .Choosing a suitable testing method can assess the imaging system is good or not , setting up a estimating standard can help solve the quality issues .



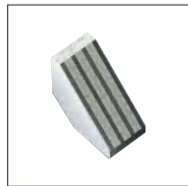
Distortion test board



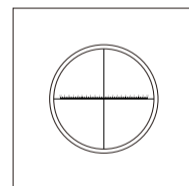
Resolution test board



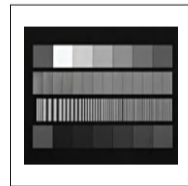
Concentric square test board



DOF test board



Contact pavition board



Contrast test board

■ Grid Calibration Board

Grid calibration board is used to modify vision system and microscope stage , it provide repeatable parallel lines of XY

- Test and modify distortion of vision machine system .
- Modify microscope stage perspective error .
- Measure vision field .

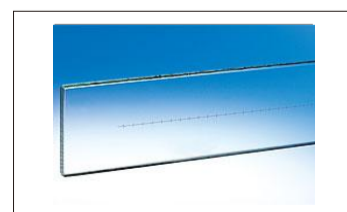
Grid size	Thickness	Photolithography base material	Minium line width	Contact hole	CD tolerance	Uniform	Alignment Accuracy	Flaw size	Flaw density
550x450mm	4.8mm	Quartz	1.0um	1.5x1.5um	+/-0.1um	0.12um	0.12um	0.8um	0.6DPSI
540x420mm	3.0mm	Soda Lime	1.0um	1.5x1.5um	+/-0.1um	0.12um	0.12um	0.8um	0.6DPSI



■ Glass Ruler Series

Standard glass ruler is a widely application for research institutes and workshops , it can modify the accuracy of measuring tools and equipment . it is a measuring component of vision measuring machine measuring microscope and profile projector , the allowable tolerance is $\pm 0.2\mu\text{m}$

1. Specification : 100mm , 200mm , vernier grid reading : 1mm (national standard : class two)
2. Specification : 300mm , 400mm , 500mm , 600mm , 700mm , 800mm , 900mm , 1000mm , vernier grid reading :0.1mm (corporation standard)

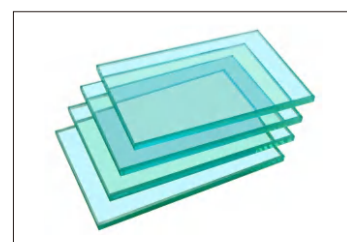


■ Testing Board Series

1. Flatness less than 0.01mm
2. Refractive index 1.51
3. The transmittance of visible light is over 95%
4. Absorbing ultraviolet ray below 280nm

Specification:

1. 200mm X 100mm
2. 300mm X 200mm
3. 700mm X 600mm
4. 1200mmX 800mm
5. The maximum is 3-meter (as per the drawing)



98.

High Glass Filter



PRODUCT ADVANTAGES

1. Adopt multilayer films coating technology for dual surface of glass, reduce reflected light of surface.
2. Adopt high precision grinding technology, high surface smoothness.
3. Excellent aluminum with black frame, reduce reflected ray effectively.
4. Super thin filter frame, avoid vignetting effectively.
5. Embossing design for the frame, anti-skidding, easy assembly and more convenient usage.

High Glass Filter Parameter



Code	Item	Spectral Specification			Aperture	Screw Dimension
		Central wavelength	Transmission band (Transmissivity>95% avg)	Blocked band(Transmissivity<1%avg)		
PMS-F850-355	#970-355	850nm	830nm-870nm	350nm-80nm&900nm-1000nm	32.3mm	M35.5x0.5
PMS-F850-305	#970-305	850nm	830nm-870nm	350nm-800nm&900nm-1000nm	26mm	M30.5x0.5
PMS-F465-305	#970-465	465nm	445nm-485nm	350nm-415nm&515nm-1200nm	26mm	M30.5x0.5
PMS-FTBR-375	#970-375	460nm&650nm	440nm-480nm&630nm-670nm	350nm-410nm&510nm-600nm&700nm-1000nm	34.3mm	M37.5x0.5
PMS-FTBR-305	#970-405	460nm&650nm	440nm-480nm&630nm-671nm	350nm-410nm&510nm-600nm&700nm-1000nm	26mm	M30.5x0.5
PMS-F405-305	#970-325	405nm	385nm-425nm	350nm-475nm&455nm-1000nm	26mm	M30.5x0.5
PMS-F405-375	#970-386	405nm	385nm-426nm	350nm-475nm&455nm-1000nm	34.3mm	M37.5x0.5
PMS-FTHW-305	#970-387	—	400nm-665nm	350nm-385nm&675nm-1000nm	26mm	M30.5x0.5

Optical Polarizer

PRODUCT ADVANTAGES

1. Adopt multilayer films coating technology for dual surface of glass, to achieve a high transmittance;
2. Adopt high precision grinding technology, high surface smoothness.
3. Excellent aluminum with black frame, reduce reflected ray effectively. Super thin filter frame, avoid vignetting effectively
4. Embossing design for the frame, anti-skidding, easy assembly and more convenient usage.



Optical Polarizer Parameter

Code	Item	Specification	Aperture	Screw dimension
PMS-CPL-305	#960-305	Polarizing filter Rotatable structure	26mm	M30.5x0.5
PMS-CPL-355	#960-355	Polarizing filter Rotatable structure	32.3mm	M35.5x0.5
PMS-CPL-405	#960-405	Polarizing filter Rotatable structure	35.7mm	M40.5x0.5
PMS-CPL-375	#960-375	Polarizing filter Rotatable structure	34.4mm	M37.5x0.5

99.

Pomeas Optical Technology / Optical Terms

OPTICAL TERMS

■ FOCAL LENGTH

The distance over which initially collimated rays are brought to a focus.

■ DEPTH OF FIELD (DOF)

The distance between the nearest and farthest objects in a scene that appear acceptably sharp in an image without refocusing.

■ FIELD OF VIEW (FOV)

The area that is visible through a lens or lens system at a particular position, and it is most often expressed as the angular size of the view cone.

■ OPTICAL MAGNIFICATION

The ratio between the apparent size of object image and its true size.

■ WORKING DISTANCE (W.D.)

The distance between the objective and lowest objective lens.

■ Numerical Aperture (N.A.)

The largest cone or number of light rays that enter a lens system.

■ DISTORTION

A deviation from rectilinear projection across the field of view.

■ F-NUMBER

It is the ratio of the lens's focal length to the diameter of the entrance pupil.

■ Telecentric Optical System Definition

The telecentric system is a compound system which has its entrance or exit pupil at infinity; in the prior case, this produces an orthographic view of the subject. This means that the chief rays are parallel to the optical axis in front of or behind the system, respectively. The simplest way to make a lens telecentric is to put the aperture stop at one of the lens's focal points.

