OPTICAL MICROSCOPE

- > METR OLOGY Optical Microscopes come with new innovative design in structural quality, functionality, and accuracy, a total upgrade to satisfy your upmost demand.
- High resolution, sharp image, wide-view eyepiece with adjustable focus. Easy to observe, and operate.
- Multiple modules configuration, can be configured with varies accessories for special requirements, such as data transfer, file editing, geometric element measuring.
- Image data can be imported to computer for saving file, editing, transfer, and calculations.
 End result can be printed.



- Applications: Inspection & Analysis Zoology, Phytology, Entomology, Histology, Mineralogy, Archaeology, Geology, Biochemistry, Biology, Agriculture, Forestry, Medical service, Hospital, School education, Eyeglass, Textile, Chemical, Jewelry, Electronics, Metal & non-metal, Industry product, Authenticating documents, Currencies, Jewelries and etc.
- Assembling & Measuring IC electronic, Lead frame, Semiconductor, PC board, Film, Screen printing, Wire-cut EDM, Rubber, Plastic, Precise mold, Dies, Press, Spring, Screw, Tool, Valve, Camera, Bicycle, Motor.

Module Base

1	Model No.	Description
1	OP-1	ϕ 90 , No illumination cast-iron plain base, Cylinder column height: 250mm. Adjustable focus: 45mm
	OP-2	Single adjustable illumination cast-iron base. Square column height: 150mm. Adjustable focus: 70mm(FM) 90mm(ZM)
	OP-3	Double adjustable illumination cast-iron base. Square column height: 150mm. Adjustable focus: 70mm(FM) 90mm(ZM)
*	OP-4	No illumination big plain cast-iron base L: 380*250mm, Cylinder column height: 250mm. Adjustable focus: 45mm
*	OP-5	No illumination long arm universal stand cast-iron base L: 500mm, Cylinder column height: 500mm. Adjustable focus: 45mm
1	OP-6	No illumination X-Y stage. Range: 75*50mm. Cylinder column height: 400mm. Adjustable focus: 45mm
	OP-7	ϕ 90 ,No illumination base, track slide column height: 330mm. Adjustable focus: 200mm
	OP-8	ϕ 90 ,No illumination base, track slide column height: 330mm. Adjustable focus: 200mm, with full travel fine adjustment unit
1	OP-9	ϕ 90 , No illumination base, L: 200x150mm linear slide column height: 300mm. Adjustable focus: 100mm
1	OP-9L	ϕ 90 , LED base illumination L: 200x150mm linear slide column height: 300mm, Adjustable focus: 100mm



- Stereo Microscope (Zoom Continuous Magnification)
 - Φ90 black and white stage, none illumination, cast iron base, cylinder column height: 250 mm, fine adjustment focus: 45mm
 - 10X large dual eyepiece, adjustable zoom, 0.7X-4.5X, field diameter: 28mm-4mm, working distance: 100mm



Model No.	Magnification	Description
OP-ZM1	7X~45X	Binocular
OP-ZT1	/A~43A	Trinocular CCD device

*Changeable eyepiece or combine with objective lenses for higher or lower magnification

*Optional accessories : high brightness adjustable LED ring light





Optional for image unit:

1/3" CCD. LED circular light. Image capture software & cable.



- Stereo Microscope (Zoom Continuous Magnification)
 - Dual adjustable illumination, cast iron base, cylinder column height: 250mm, fine adjustment focus: 45mm
 - 10X large dual eyepiece, adjustable zoom, 0.7X-4.5X, field diameter: 28mm-4mm, working distance: 100mm



Model No.	Magnification	Description
OP-ZM3	7V 45V	Binocular
OP-ZT3	7X~45X	Trinocular CCD device

*Changeable eyepiece or combine with objective lenses for higher or lower magnification





Optional for image unit:

1/3" CCD. LED circular light. Image capture software & cable.



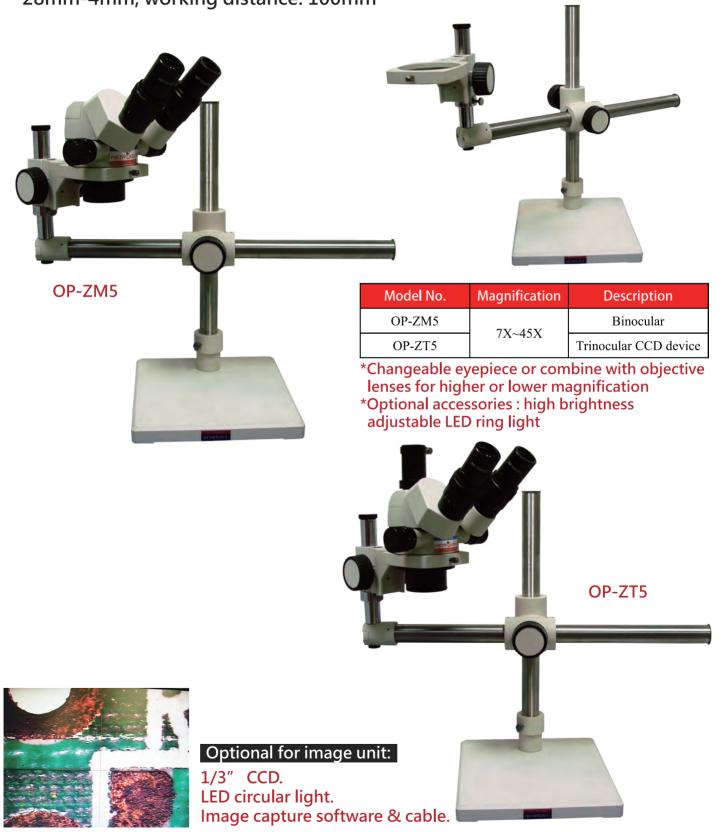
- Stereo Microscope (Zoom Continuous Magnification)
 - Non-illumination, large aluminum base L:380*250mm, cylinder column height: 250mm, fine adjustment focus: 45mm

■ 10X large dual eyepiece, adjustable zoom, 0.7X-4.5X, field diameter:





- Stereo Microscope (Zoom Continuous Magnification)
 - Non-illumination, large arm cast iron base L:250*200mm, cylinder column height: 500mm, fine adjustment focus: 45mm
 - 10X large eyepiece lens, adjustable zoom, 0.7X-4.5X, field diameter:
 28mm-4mm, working distance: 100mm





- No-eyepiece Image Stereo Microscope (Zoom Continuous Magnification)
 - Φ90 black and white stage, none illumination, cast iron base, cylinder column height: 250 mm, fine adjustment focus: 45mm
 - No eyepiece, adjustable zoom, 0.7X-4.5X, CCD Camera port, working distance: 90mm



Model No.	Magnification
OP-ZTX1	7X~45X





Optional for image unit:

1/3" CCD. LED circular light. Image capture software & cable.

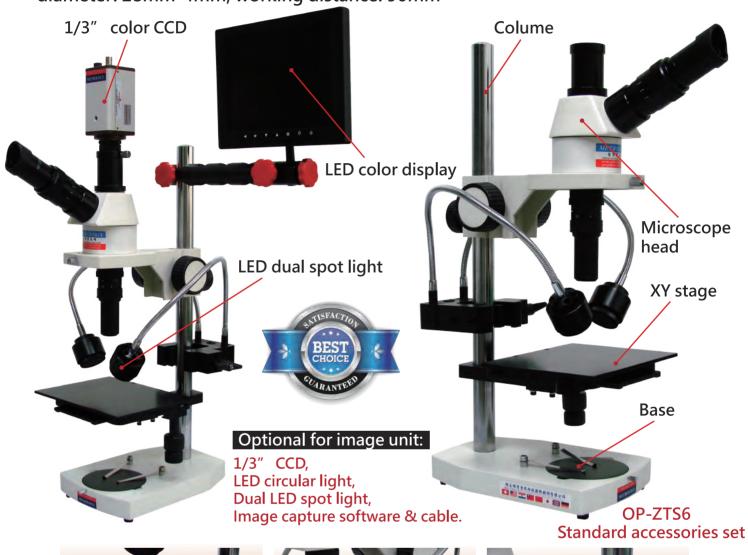


- Sigle-eyepiece Image Stereo Microscope (Zoom Continuous Magnification)
 - Φ90 black and white stage, none illumination, cast iron base, cylinder column height: 250 mm, fine adjustment focus: 45mm
 - 10X single eyepiece, adjustable zoom, 0.7X-4.5X, CCD Camera port, field diameter: 28mm-4mm, working distance: 90mm





- Sigle-eyepiece Stereo Microscope (Zoom Continuous Magnification)
 - Non-illumination, cast iron base, cylinder column height: 600mm, adjustment focus: 45mm
 - 10X single eyepiece, adjustable zoom, 0.7X-4.5X, CCD camera port, field diameter: 28mm-4mm, working distance: 90mm















3D Stereo Image Microscope (Zoom)



Technical specifications

Optical system

Total magnification: 3.3X-147X, Zoom body with detents: 0.7X-4.5X, Ratio: 1:6.5, stereo optic observation unit: 35° view angle attachment with 0.75X objective lens, internal LED ring light and laser position indicator. Optional objective lens: 0.3X, 0.5X, 0.75X, 1X, 1.5X, 2X.

8" LCD display

Resolution: 800*600, max: 1024*768, contrast: 300:1, visible angle: 150°, reaction time: ≤25ms, brightness: 250cd/m² with BNC/S-video output

Modular Base

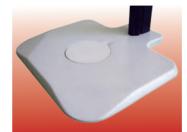
Φ90 non-illumination track slide base, track slide column height: 330mm, fine adjustable focus: 200mm.





3D Stereo Image Microscope (Zoom)







Base

Focus adjustment wheel





3D Stereo reflecting mirror Laser positioner





Objective lens



Optical lens and circular LED light



8" LCD display



Image device



OP-SM9000

■ HDMI Digital Microscope



OP-HDMI300





Adjustment knob **LCD** monitor

Zoom continuous magnification & focus lens

LED dual spot light

Observation workpiece

Stage

OP-HDMI300H

Specifications:

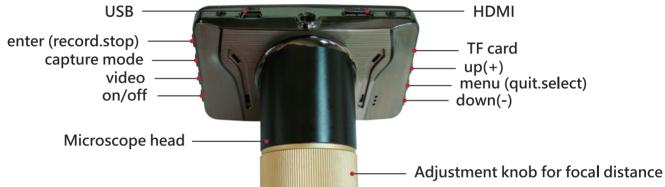
Model No	OP-HDMI300	ОР-НДМІЗООН	
Image Sensor	Real 3.0M Pixels		
LCD Display	3"		
Still Image	12M/10M/8M/5M/3M/2M/1.3M/VGA	4	
Video	1920X1080 (1080P), 1280X720 (7	20P) · 848X480 (WVGA) · 640X480 (VGA)	
Focusing Range	30mm-500mm manual focusing		
Max. Height	150mm	350mm (with 50mm fine adjustment)	
Working Base	145*79mm	220*150mm stage with Φ90mm black & white board	
Video Format	MOV		
Image Format	JEPG		
Magnification	10X-300X		
Frame Rate	30fps		
Video Output	HDMI · USB · TF card		
TF Card	Supporting Max. 32G		
Light Source	Double goose neck high brightness LED lights		
Power	100-240V 5V DC		
Interface to PC	USB2.0		
OSD Language	Chinese, English, German, Spanish, French, Russian, Japanese, Korean, Italian, etc		
Operation System	Windows XP/Win7/Win8/Win10		



■ HDMI Digital Microscope

- HDMI digital microscope is the latest generation of optical microscope that combines traditional optical microscope and video lens.
- With functions such as taking photos and videos, it can be connected to an HDMI monitor to make the image clearer and more convenient for multiple people to watch. It can also store files through an SD card, and USB connects to a computer for image file editing and management.
- Application range: inspection, analysis, development and design of production line components in various industries, printing outlets, textile fabric inspection, biological observation, jewelry identification, antiquities determination, skin quality inspection, etc.

Key function



Operation function

- 1. Normal mode: directly use 3" LCD monitor to view
- 2. TF card storage function: insert a micro-SD card to store or replay image data on the 3" LCD monitor, or connect to a computer through a USB data cable to view the file content of the SD card. The maximum support capacity of the SD card is 32G
- 3. HDMI output mode: connect the HDMI interface of the microscope to the monitor with HDMI device, the maximum image quality resolution is 1920*1080
- 4. USB 2.0 output mode: connect the USB interface of the microscope to a desktop or laptop computer, and install special image editing software, which can capture picture, save, edit, and manage files









■ Biological Microscope





Eyepiece



4 convertible objective lens units



X, Y-axis slide guide & coaxial knob



Coarse & fine adjustment focus knob.



Table & light adjustment knob.



ABBE condenser & IRIS diaphragm



Adjustment Kohler illumination



Up & down adjustment knob for condenser



Biological Microscope

Product Description:

- Excellent optic performance and stable ergonomic mechanical construction, high efficient, high quality and cost-effective biological microscope.
- OP-BM9001 Biological Microscope, 30° Binocular head, WF10X/20mm Eyepiece, Infinity
 PLAN achromatic objectives: 4X, 10X, 40X,100X. 3W high brightness LED light
- OP-BM9002 Biological Microscope, 30° Trinocular head, WF10X/20mm Eyepiece, 0.5X Video Coupler, Infinity PLAN achromatic objectives: 4X,10X,40X,100X. 3W high brightness LED light

Product Parameters

- Optical System: Infinity independent achromatic optical design
- Observation Tube: 30° inclined, interpupillary distance 48-75mm, 360° rotatable. Trinocular light is split 20/80 by a high quality coated prism
- Eyepieces: 10X, high-eyepoint, field of view Φ20mm
- Nosepieces: Inward, four positions, Plan 4X/0.10 WD12.31 \ 10X/0.25 WD5.03 \ 40X/0.65 \ WD0.72 \ 100X/1.25 WD0.17(OIL)
- Focusing System: Working distance 60mm, coarse: 14mm per-rotation, fine: 0.1mm per rotation, minimum reading: 1 micron
- Mechanical Stage: 142mmx135mm platform with X-Y travel of 76mmx52mm, with scale mark and specimen-slide clip

 Illumination: Built-in 3W high brightness LED bulb, with field diaphragm provides Kohler type illumination, operated life:60000 hours

• Electric : CE approved of electrical parts

Condensers : ABBE condenser NA 1.25 with iris diaphragm

- Wide field 10X lens observation tube
- Infinity PLAN achromatic objectives: 4X,10X,40X,100X
- X, Y-axis slide guide & coaxial knob
- ABBE condenser & IRIS diaphragm
- Adjustment Kohler illumination
- Coaxial coarse & fine adjustment focus knob.
- Optional accessories: dark field \(\) phase difference \(\) polarized light \(\) CCD \(\) measuring software
- Optional lens: objectives: 20X/0.40 WD2.71 60X/0.80 WD0.69 Eyepieces: WF16X/14mm

Model No.	Objectives lens	Magnification	Туре
OP-BM9001	4X/10X/40X/100X	40X/100X/400X/1000X	Binocular
OP-BM9002	4X/10X/40X/100X	40X/100X/400X/1000X	Trinocular



■ Trinocular Metallurgical Microscope





Optional for image unit:

1/3" CCD. Image capture software & cable.





Eyepiece



4 convertible objective lens units



X, Y-axis slide guide



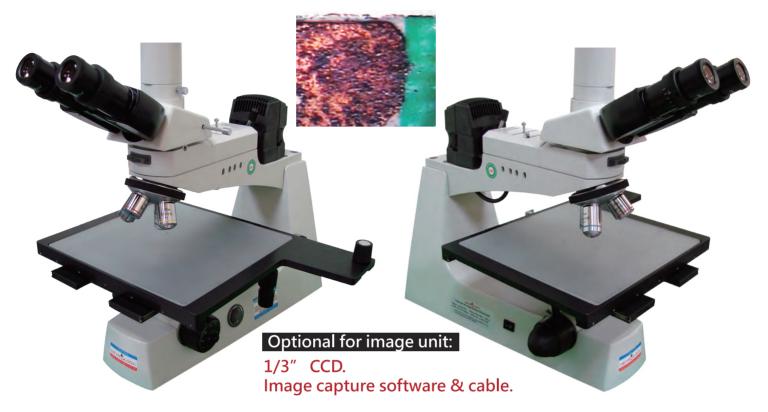
Coarse & fine adjustment knob.

- Trinocular microscope head with WF 10X/18 eyepiece
- Coaxial illumination cast iron base.
- Infinity plain achromatic convertible objective lens unit.
- CCD connect unit (CCD optional)
- X-Y cross table, stage size: 150*140mm
- 6V 20W halogen light intensity adjustable illumination unit
- Focusing coaxial coarse and fine adjustment unit, fine division: 0.002mm

Model No.	Microscope Magnification	X-Y Travel Range	Objective Lens
OP-MM9002	40X/100X/200X/400X	75X50mm	4X/10X/20X/40X



■ Trinocular Metallurgical Microscope











Eyepiece

Filter & illumination

X, Y-axis slide guide

Coarse & fine adjustment knob.

- Extra wide field trinocular microscope head with WF 10X/22 eyepiece
- Coaxial illumination cast iron base.
- Infinity plain achromatic convertible objective lens unit.
- CCD connect unit (CCD optional)
- X-Y cross table, stage size: 300*270mm
- 6V 20W halogen light intensity adjustable illumination unit
- Focusing coaxial coarse and fine adjustment unit, fine division: 0.002mm



Model No.	Microscope Magnification	X-Y Travel Range	Objective Lens
OP-MM9003	40X/100X/200X/400X	250X250mm	4X/10X/20X/40X

■ Inverted Trinocular Metallurgical Microscope

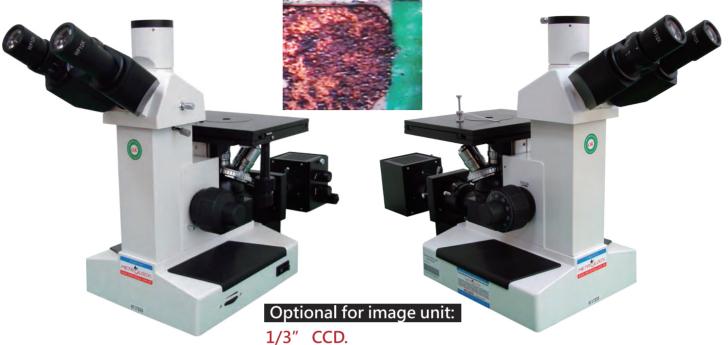


Image capture software & cable.

Model No.	Microscope Magnification	X-Y Travel Range	Objective Lens
OP-IM9000	100X/250X/400X/1000X	15X15mm	10X/25X/40X/100X

- Trinocular microscope head with WF 10X/18 eyepiece
- Coaxial illumination cast iron base.
- Plain achromatic convertible objective lens unit.
- CCD connect unit (CCD optional)
- X-Y cross table, stage size: 180*150mm
- 6V 20W halogen light intensity adjustable illumination unit
- Focusing coaxial coarse and fine adjustment unit, fine division: 0.002mm



Eyepiece



X, Y-axis slide guide



Field adjustable unit



4 convertible objective lens units



Filter & illumination



Coarse & fine adjustment knob

Tool Microscopes





Dual eyepiece & CCD port



Zoom adjustable magnification knob



Adjustable focus knob



X-Y measuring table and micrometer head.

- Base with LED illumination
- Microscope head
- X-Y measuring stage (included rotary table)
- X-Y digital micrometer head resolusion:0.001mm/0.00005"
- ■10X Cross-line eyepiece & CCD port

Model No.	Microscope Mag.	Measuring Range
OP-TMZ25	7X~45X	25*25mm
OP-TMZ50	/A~43A	50*50mm

^{*}Changeable eyepiece or combine with objective lenses for higher or lower magnification



OP-TMZ50

^{*}Above pictures are for reference only, the products are mainly based on real products







Dual eyepiece & CCD port



Upper halogen light



Zoom adjustable magnification knob



Adjustable focus knob



X-Y measuring table and micrometer head



X-Y cross-line generator

- Base with LED illumination
- Microscope head
- X-Y measuring stage (included rotary table)
- X-Y digital micrometer head resolusion:0.001mm/0.00005"
- Cross-line generator (No. OP-CG2)
- ■10X cross-line eyepiece & CCD port
- •1/3" color CCD & 19" LCD color display

Model No.	Microscope Mag.	Measuring Range
OP-ITMZ25	7X~45X	25*25 mm
OP-ITMZ50	/A~43X	50*50 mm

^{*}Changeable eyepiece or combine with objective lenses for higher or lower magnification

^{*}Above pictures are for reference only, the products are mainly based on real products

Eyepiece



Model No.	Description
OP-EL10S	10X Small type
OP -EL10L	10X Large type
OP -EL10G1	10X Cross line
OP -EL10G2	10X Cross line with 10mm scale
OP -EL10G3	10X Cross line with angle & radius scale
OP -EL15	15X
OP -EL15 (HM)	15X (for HM only)
OP -EL20	20X

Small vise



Model No.	Description
OP-VS	Clamp length: max.18mm

■ V-clamp



Model No.	Description
OP-VC	Clamp dia.∶max.Φ18mm

Objective lens



Model No.	Description
OP-OL0.3	0.3X (For FM/ZM/M/L)
OP-OL0.5	0.5X (For FM/ZM/M/L)
OP-OL0.6	0.6X (For X/S)
OP-OL1.5	1.5X (For FM/ZM/M/L)
OP-OL2.0	2.0X (For FM/ZM/M/L)



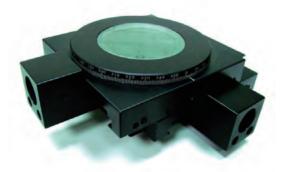
Model No.	Description
OP-CCDH	1/3" High resolution color CCD Pixels: 811(H)*508(V) 0.41M
OP-CCDS	1/3" Super high resolution color CCD Pixels: 1280(H)*1024(V) 1.3M

■ Image capture units



Model No.	Description
OP-IC	With cable & software

XY axis-measuring table



Model. No	Measuring Range
OP-XY22	50*50mm

*With rotary table 360°

Micrometer head



Model No.	Description
OP-MH25	25*25 / 0.01mm
OP-MH50	50*50 / 0.01mm
OP-30F	25*25 / 0.001mm / 0.00005"
OP-31F	50*50 / 0.001mm / 0.00005"

Cross-line generator



Model No.	Description
L OP-CG2 I	Multi-line style & color,
	auto-edge.

X-Y stage



Model No.	Description
OP-STAGE1	75*50mm Flat plate
OP-STAGE2	75*50mm Light unit
OP-STAGE3	300*250mm Flat plate
OP-STAGE4	300*250mm Light unit

*With XY coaxial adjustment knob

Rotary table



Model No.	Description
OP-RT4	Ф100mm
OP-RT6	Ф150mm
OP-RT8	Ф200mm
OP-RT10	Ф250mm
OP-RT12	Ф300mm

*With base plate



Lamp



Model No.	Description
OP-5WBF	5W Fluorescent bulb (Base)
OP-8WCF	5W Fluorescent bulb (Circular)
OP-15WBT	15W Tungsten bulb (Base)
OP-15WTC	15W Tungsten bulb (Cup)

Illuminators







OP-8W

OP-150WD

OP-LEDDS







EDB OP-LED

Model No.	Description
OP-8W	8W Circular fluorescent light
OP-150WD	150W Double optical fiber
OP-150WC	150W Circular optical fiber
OP-LED	LED circular light
OP-LED4	Four -zone LED circular light
OP-LEDGF	LED ground glass filter (for OP-LED only)
OP-LEDB	2"x2" LED back light
OP-LEDDS	24V DC4W LED dual spot light



Standard glass scale

- High quality optical glass
- Laser calibration/system uncertainty : (0.2+1.5/1000*L)µm
- Glass expansion co-effcients : $7.2*10^{-6}(-60^{\circ}\text{C} \sim +20^{\circ}\text{C}) \ 7.6*10^{-6}(20^{\circ}\text{C} \sim 120^{\circ}\text{C})$





Model No.	Range	Graduation	Accuracy	Size (LxWxT)
OP-SS4	100mm	0.5mm or 1mm	±1.7um	130x36x5mm
OP-SS6	150mm		±1.8um	180x36x5mm
OP-SS8	200mm		±1.9um	230 x36x5mm
OP-SS10	250mm		±2.0um	280 x36x5mm
OP-SS12	300mm		±2.1um	330 x36x5mm
OP-SS16	400mm		±2.3um	430 x36x5mm
OP-SS20	500mm		±2.5um	530 x36x5mm

Model No.	Range	Graduation	Accuracy	Size (LxWxT)
OP-SS24	600mm		±2.7um	630 x36x5mm
OP-SS28	700mm		±2.9um	730 x36x5mm
OP-SS32	800mm	1mm	±3.1um	830 x36x5mm
OP-SS36	900mm		±3.3um	930 x36x5mm
OP-SS40	1000mm		±3.5um	1030 x36x5mm

Reading glass scale

 Specially designed with a standard scale to calibrate the lens magnification accuracy of optical projector

Model No.	Range	Graduation	Accuracy	Size (LxWxT)
OP-RS310	310mm		±20um	340x28x4.5
OP-RS360	360mm	0.5mm		390x28x4.5
OP-RS410	410mm			440x28x4.5

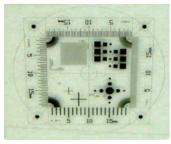
Standard glass checker

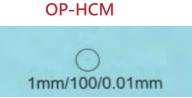


Model No.	Range	Graduation	Accuracy	Size (LxWxT)
OP-CP814	X: 140mm/6" Y: 80mm/3"	1mm	4um	170x100x5mm

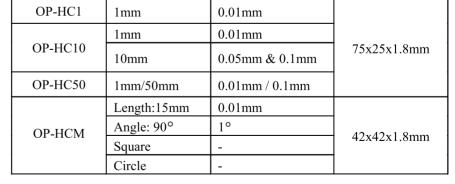
Graduation

High magnification calibration glass scale





OP-HC1



Range



Model No.



Size (LxWxT)

OP-HC10 OP-HC50



Linear scale





Model No.	Range (mm)	Model No.	Range (mm)	Model No.	Range (mm)
OP-LS50	50	OP-LS300	300	OP-LS800	800
OP-LS100	100	OP-LS400	400	OP-LS900	900
OP-LS150	150	OP-LS500	500	OP-LS1000	1000
OP-LS200	200	OP-LS600	600	OP-LS1500	1500
OP-LS250	250	OP-LS700	700	OP-LS2000	2000

^{*}Resolution: 0.005mm \ 0.001mm \ 0.0005mm \ 0.0001mm by requirement

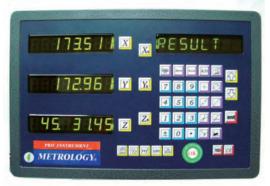
2D Microprocessor digital readout



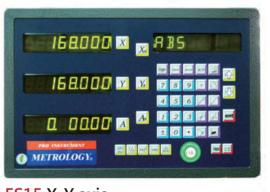
OP-ES2 Simple X-Y axis digital display **OP-ES3** Simple X-Y-Z axis digital display



OP-ES92 X-Y axis 2D geometric measuring function



OP-ES93 X-Y-Z axis 2D geometric measuring function



OP-ES15 X-Y axis 2D geometric measuring function (for projectors)















Circle

Line

Point

Distance

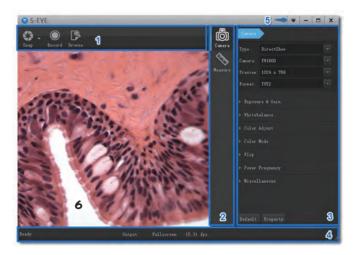
Angle

Intersection Perpendicular Print

HDMI Measuring Camera



OP-HMC309M



Software Interface:

- 2. Camera and measurement 1. Toolbar
- 3. Control panel 4. Status bar
- 5. Main menu 6. Image window

Camera Application:

Scientific research, education teaching · demonstration · academic exchanges, digital laboratory, medical research, Industrial visual, PCB examination, IC quality control, medical treatment, pathological observation, food microbial colony observation and counting, Aerospace, military high sophisticated weapons

Camera Features:

SONY imx335 sensor, Sensor size:1/2.8", Pixel size: 2um*2um Video resolution: 1080p (1920x1080) Photo resolution: 5Mp (2560x1920) Max preview & recording frame rate: 60fps Mouse control, Real time measurement Support USB drive storage and external SD card storage HDMI output Picture and video can be replay on the monitor without computer Power in: DC-12V/1A Dimensions: 50*50*58mm Net weight: 0.3kg

Camera function:

Exposure, Gain, Contrast, Saturation, Brightness, Sharpness, White balance, Color temperature adjustable, Zoom in & out, Image flip, Mono image, Freeze, Gridlines, Image comparison, Strong measuring functions

Measuring software function:













Line

Break line

Rectangle

Polygon

Circle

Two Points circle















Three points circle

Arc

Angel Perpendicular Delete

Delete all

Export