

OPTICAL

- **CMS METROLOGY** CONTROL MEASUREMENT SYSTEMS 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 Microscope Head

|  | Model No. | Description |
|---|---|---|
|  | OP-FM12 | 10X/20X Double-eyepiece, adjustable fix magnification; |
| | OP-FM13 | 10X/30X Double-eyepiece, adjustable fix magnification; |
| | OP-FM14 | 10X/40X Double-eyepiece, adjustable fix magnification; |
| | OP-FM24 | 20X/40X Double-eyepiece, adjustable fix magnification; |
| | Field diameter: 20mm~5mm, Working distance: 110mm | |
|  | OP-ZM | Big type double-eyepiece, zoom adjustable no-step continuous magnification 7X~45X. Field diameter: 28mm~4mm. Working distance: 90mm |
|  | OP-X | No-eyepiece, zoom adjustable no-step continuous magnification 7X~45X, CCD connect unit. Working distance: 90mm. |
|  | OP-S | Single-eyepiece, zoom adjustable no-step continuous magnification 7X~45X, CCD connect unit. Field diameter: 28mm~4mm. Working distance: 90mm. |
|  | OP-M | Double-eyepiece, zoom adjustable no-step continuous magnification 7.5X~34X, CCD connect unit. Field diameter: 27mm~6mm. Working distance: 90mm. |
|  | OP-L | Big type double-eyepiece, zoom adjustable no-step continuous magnification 7X~45X. CCD connect unit. Field diameter: 28mm~4mm. Working distance: 90mm. |
|  | OP-Z | No-eyepiece, zoom adjustable no-step continuous magnification 0.84X~8.4X. CCD connect unit. Working distance: 150mm. |
|  | OP-I | No-eyepiece, zoom adjustable no-step continuous & fix magnification 7X~45X. CCD connect unit. Working distance: 150mm. Connectable coaxial illumination and metallurgical lens. |

■ Module Base

| | Model No. | Description |
|---|-----------|---|
|  | 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 |
|  | 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 |
|  | OP-9 | ϕ 90 , No illumination base, L: 200x150mm linear slide column height: 300mm. Adjustable focus: 100mm |
|  | OP-9L | ϕ 90 , LED base illumination L: 200x150mm linear slide column height: 300mm, Adjustable focus: 100mm |

■ **Binocular Stereo Microscope (Fix Magnification)**

- $\Phi 90$ black and white stage, none illumination cast iron base
- Column height 250mm, fine adjustment focus 45mm
- Dual eyepiece, adjustable fix magnification, field diameter: 20mm-5mm, working distance: 110mm



| Model No. | Magnification |
|-----------|---------------|
| OP-FM121 | 10X/20X |
| OP-FM131 | 10X/30X |
| OP-FM141 | 10X/40X |
| OP-FM241 | 20X/40X |

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

■ **Binocular Stereo Microscope (Fix Magnification)**

- Single adjustable illumination, cast iron base, and square column height: 150mm, fine adjustment focus 70mm.
- Dual eyepiece, adjustable fix magnification, field diameter: 20mm-5mm, working distance: 110mm



| Model No. | Magnification |
|-----------|---------------|
| OP-FM122 | 10X/20X |
| OP-FM132 | 10X/30X |
| OP-FM142 | 10X/40X |
| OP-FM242 | 20X/40X |

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

■ **Binocular Stereo Microscope (Fix Magnification)**

- Dual adjustable illumination, cast iron base, and square column height: 150mm, fine adjustment focus 70mm.
- Dual eyepiece, adjustable fix magnification, field diameter: 20mm-5mm, working distance: 110mm



| Model No. | Magnification |
|-----------|---------------|
| OP-FM123 | 10X/20X |
| OP-FM133 | 10X/30X |
| OP-FM143 | 10X/40X |
| OP-FM243 | 20X/40X |

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

■ **Binocular Stereo Microscope (Zoom Continuous Magnification)**

- Φ90 black and white stage, none illumination, cast iron base, column height: 250 mm, fine adjustment focus: 45mm
- Large dual eyepiece, adjustable zoom, 7X-45X, field diameter: 28mm-4mm, working distance: 90mm



| Model No. | Magnification |
|-----------|---------------|
| OP-ZM1 | 7X-45X |

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

■ **Binocular Stereo Microscope (Zoom Continuous Magnification)**

- Single adjustable illumination, cast iron base, square column height: 150mm, fine adjustment focus: 90mm
- Large dual eyepiece, adjustable zoom, 7X-45X, field diameter: 28mm-4mm, working distance: 90mm



| Model No. | Magnification |
|-----------|---------------|
| OP-ZM2 | 7X-45X |

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

■ **Binocular Stereo Microscope (Zoom Continuous Magnification)**

- Dual adjustable illumination, cast iron base, square column height: 150mm, fine adjustment focus: 90mm
- Large dual eyepiece, adjustable zoom, 7X-45X, field diameter: 28mm-4mm, working distance: 90mm



| Model No. | Magnification |
|-----------|---------------|
| OP-ZM3 | 7X-45X |

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

■ **Binocular Stereo Microscope (Zoom Continuous Magnification)**

- Non-illumination, large cast iron base
L:380*250mm, column height: 250mm,
fine adjustment focus: 45mm
- Large dual eyepiece, adjustable zoom,
7X-45X, field diameter: 28mm-4mm,
working distance: 90mm

| Model No. | Magnification |
|-----------|---------------|
| OP-ZM4 | 7X-45X |

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



■ **Binocular Stereo Microscope (Zoom Continuous Magnification)**

- Non-illumination, large arm cast iron base L:250*200mm, column height: 500mm, fine adjustment focus: 45mm
- Large eyepiece lens, adjustable zoom, 7X-45X, field diameter: 28mm-4mm, working distance: 90mm



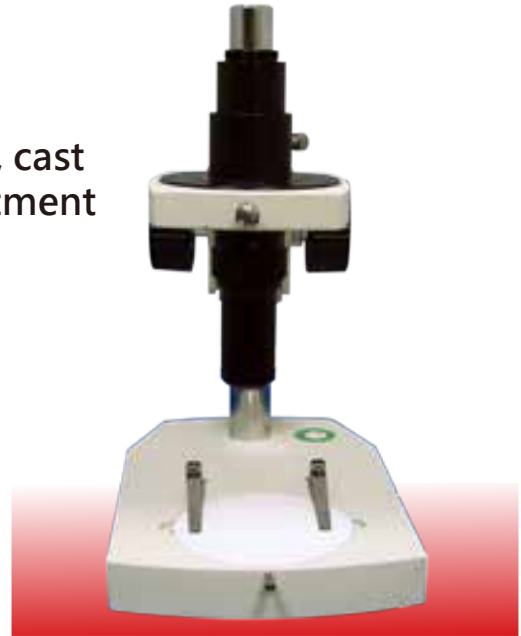
| Model No. | Magnification |
|-----------|---------------|
| OP-ZM5 | 7X-45X |

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



■ **Trinocular Image Stereo Microscope
(Zoom Continuous Magnification)**

- $\Phi 90$ black and white stage, none illumination, cast iron base, column height: 250 mm, fine adjustment focus: 45mm
- No eyepiece, adjustable zoom, 7X-45X, 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.

■ **Trinocular Image Stereo Microscope
(Zoom Continuous Magnification)**

- $\Phi 90$ black and white stage, none illumination, cast iron base, column height: 250 mm, fine adjustment focus: 45mm
- Single eyepiece, adjustable zoom, 7X-45X, CCD Camera port, field diameter: 28mm-4mm, working distance: 90mm



| Model No. | Magnification |
|-----------|---------------|
| OP-ZTS1 | 7X-45X |

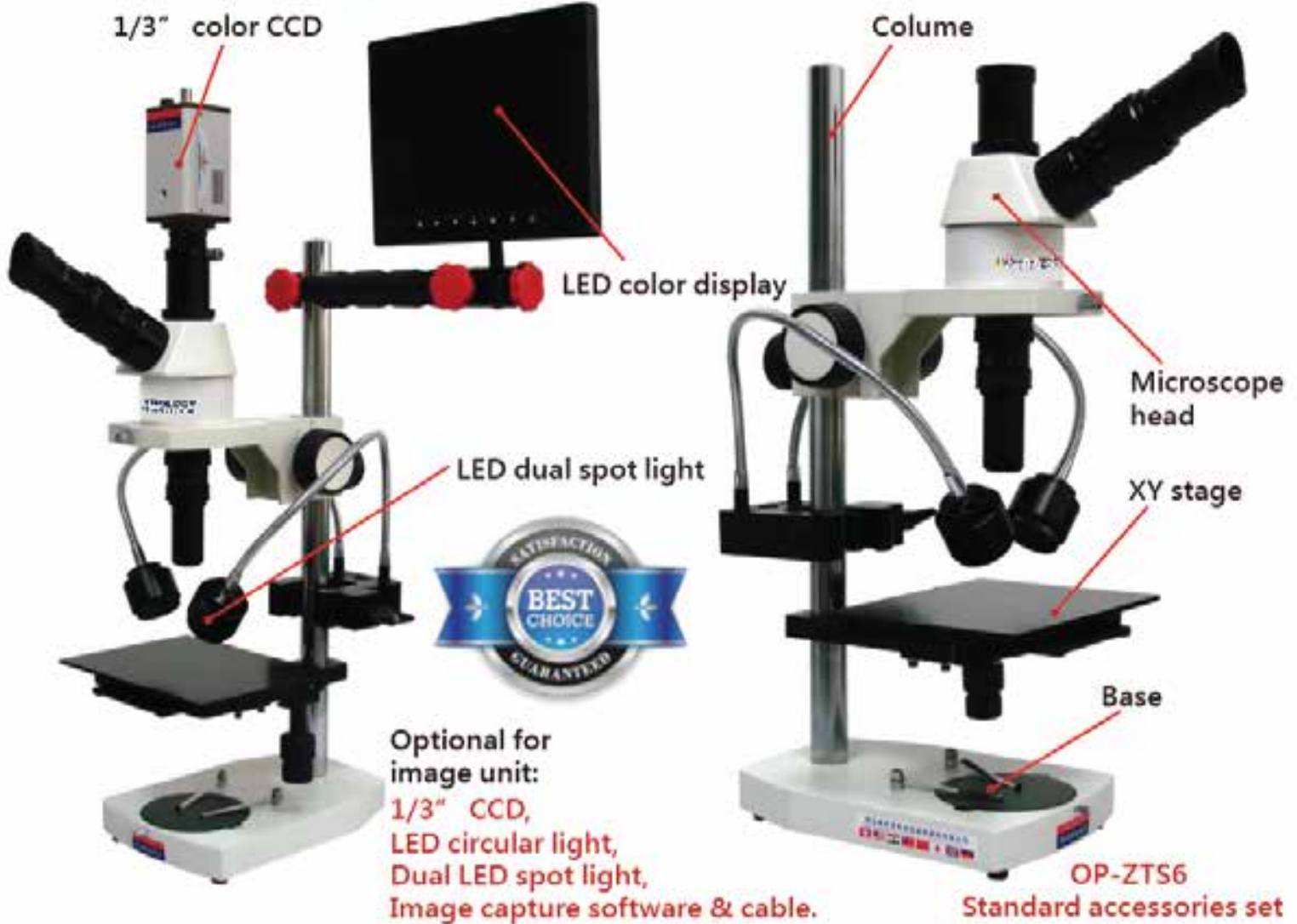
*Changeable eyepiece for higher magnification



Optional for image unit:
1/3" CCD,
LED circular light.
Image capture software & cable.

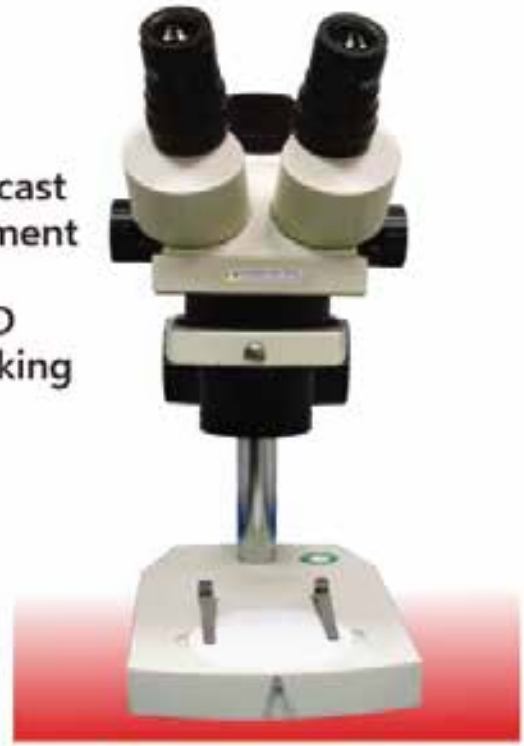
■ **Trinocular Stereo Microscope (Zoom Continuous Magnification)**

- Non-illumination, cast iron base, column height: 600mm, adjustment focus: 45mm
- Single eyepiece, adjustable zoom, 7X-45X, CCD camera port, field diameter: 28mm-4mm, working distance: 90mm



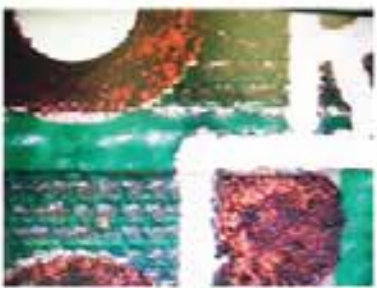
■ **Trinocular Image Stereo Microscope
(Zoom Continuous Magnification)**

- $\Phi 90$ black and white stage, none illumination, cast iron base, column height: 250 mm, fine adjustment focus: 45mm
- Dual eyepiece, adjustable zoom, 7.5X-34X, CCD Camera port, field diameter: 27mm-6mm, working distance: 90mm.



| Model No. | Magnification |
|-----------|---------------|
| OP-ZTM1 | 7.5X-34X |

*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.

- **Trinocular Image Stereo Microscope (Zoom Continuous Magnification)**
- Single adjustable illumination, case iron base, square column height: 150mm, fine adjustment focus: 70mm
- Dual eyepiece, adjustable zoom, 7.5X-34X, CCD Camera port, field diameter: 27mm-6mm, working distance: 90mm.



| Model No. | Magnification |
|-----------|---------------|
| OP-ZTM2 | 7.5X-34X |

*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.

■ **Trinocular Image Stereo Microscope
(Zoom Continuous Magnification)**

- Dual adjustable illumination, case iron base, square column height: 150mm, fine adjustment focus: 70mm
- Dual eyepiece, adjustable zoom, 7.5X-34X, CCD Camera port, field diameter: 27mm-6mm, working distance: 90mm.



| Model No. | Magnification |
|-----------|---------------|
| OP-ZTM3 | 7.5X-34X |

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

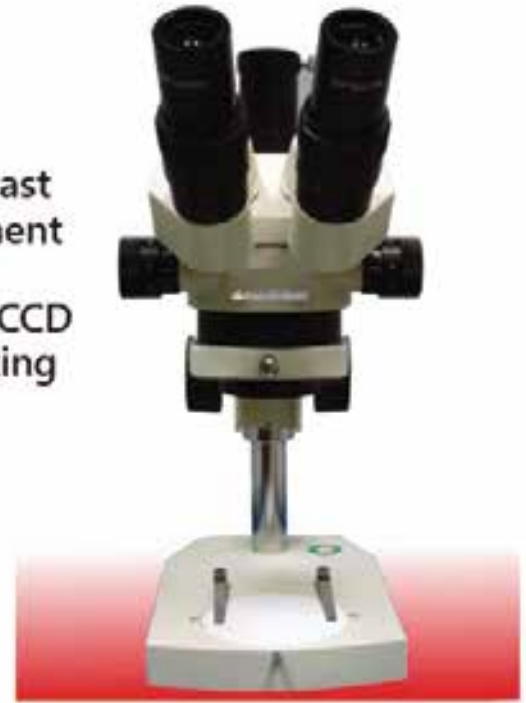


Optional for image unit:

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

■ **Trinocular Image Stereo Microscope
(Zoom Continuous Magnification)**

- $\Phi 90$ black and white stage, none illumination, cast iron base, column height: 250 mm, fine adjustment focus: 45mm
- Large dual eyepiece, adjustable zoom, 7X-45X, CCD Camera port, field diameter: 28mm-4mm, working distance: 90mm.



| Model No. | Magnification |
|-----------|---------------|
| OP-ZTL1 | 7X-45X |

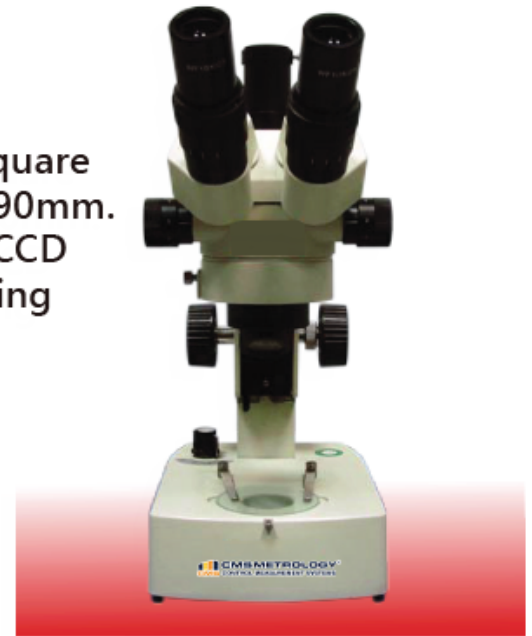
*Changeable eyepiece or combine with objective lenses for higher or lower magnification



Optional for image unit:
1/3" CCD,
LED circular light.
Image capture software & cable.

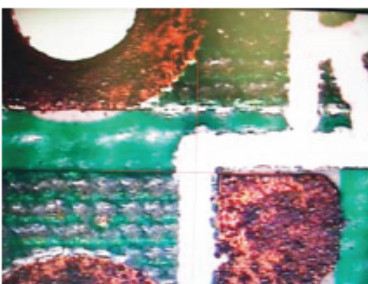
■ **Trinocular Image Stereo Microscope
(Zoom Continuous Magnification)**

- Single adjustable illumination, case iron base, square column height: 150mm, fine adjustment focus: 90mm. Large dual eyepiece, adjustable zoom, 7X-45X, CCD
- Camera port, field diameter: 28mm-4mm, working distance: 90mm.



| Model No. | Magnification |
|-----------|---------------|
| OP-ZTL2 | 7X~45X |

*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.

- Trinocular Image Stereo Microscope (Zoom Continuous Magnification)
- Dual adjustable illumination, case iron base, square column height: 150mm, fine adjustment focus: 90mm
- Large dual eyepiece, adjustable zoom, 7X-45X, CCD Camera port, field diameter: 28mm-4mm, working distance: 90mm.



| Model No. | Magnification |
|-----------|---------------|
| OP-ZTL3 | 7X-45X |

*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.

■ **Trinocular Image Stereo Microscope
(Zoom Continuous Magnification)**

- None illumination, cast iron base L380*250mm, column height: 250mm, fine adjustment focus: 45mm
- Large dual eyepiece, adjustable zoom, 7X-45X, CCD Camera port, field diameter: 28mm-4mm, working distance: 90mm.



| Model No. | Magnification |
|-----------|---------------|
| OP-ZTL4 | 7X-45X |

*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.

■ **Trinocular Image Stereo Microscope
(Zoom Continuous Magnification)**

- Non-illumination, large arm cast iron base L:250*200mm, column height: 500mm, fine adjustment focus: 45mm
- Large dual eyepiece, adjustable zoom, 7X-45X, CCD Camera port, field diameter: 28mm-4mm, working distance: 90mm.



Optional for image unit:

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

| Model No. | Magnification |
|-----------|---------------|
| OP-ZTL5 | 7X-45X |

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

■ Stereo Image Microscope (Zoom)



OP-SM9000



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

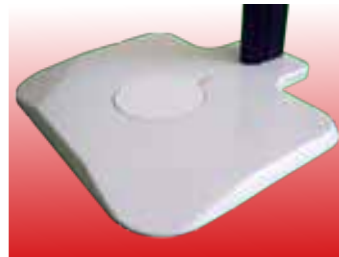
Φ90 non-illumination track slide base, track slide column height: 330mm, fine adjustable focus: 200mm.



■ Stereo Image Microscope (Zoom)



OP-SM9000



Base



Focus adjustment wheel



Stereo reflecting mirror



Laser positioner



Objective lens



Optical lens and circular LED light



8" LCD display



Image device



OP-SM9000

■ Portable Trinocular Metallurgical Microscope



Optional for image unit:
1/3" CCD,
Image capture software & cable.



X-axis dual roller movement unit



Y-axis slide guide



4 convertible objective lens units



Filter lens & illumination

Standard Module

- 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-Z cross moveable slide unit
- 6V 20W halogen light intensity adjustable illumination unit
- Focusing coaxial coarse and fine adjustment unit
- X-axis double roller unit, moveable range: no limit, fine adjustment range: 30mm; Y-axis moveable range: 49mm;
- Z-axis focus moveable range: 70mm, fine adjustment range: 1mm.



| Model No. | Microscope Magnification | X-Y Travel Range | Objective Lens |
|-----------|--------------------------|------------------|----------------|
| OP-PM9000 | 50X/100X/200X/500X | No limit | 5X/10X/20X/50X |

■ Trinocular Metallurgical Microscope



Optional for image unit:
1/3" CCD,
Image capture
software & cable.



Eyeiece



3 convertible objective lens units



X, Y-axis slide guide



Coarse & fine adjustment knob.

Standard Module

- 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: 185*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-MM9001 | 100X/200X/400X | 75X50mm | 10X/20X/40X |



Coarse & fine adjustment knob.

- 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: 185*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-MM9001 | 100X/200X/400X | 75X50mm | 10X/20X/40X |



■ 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.**

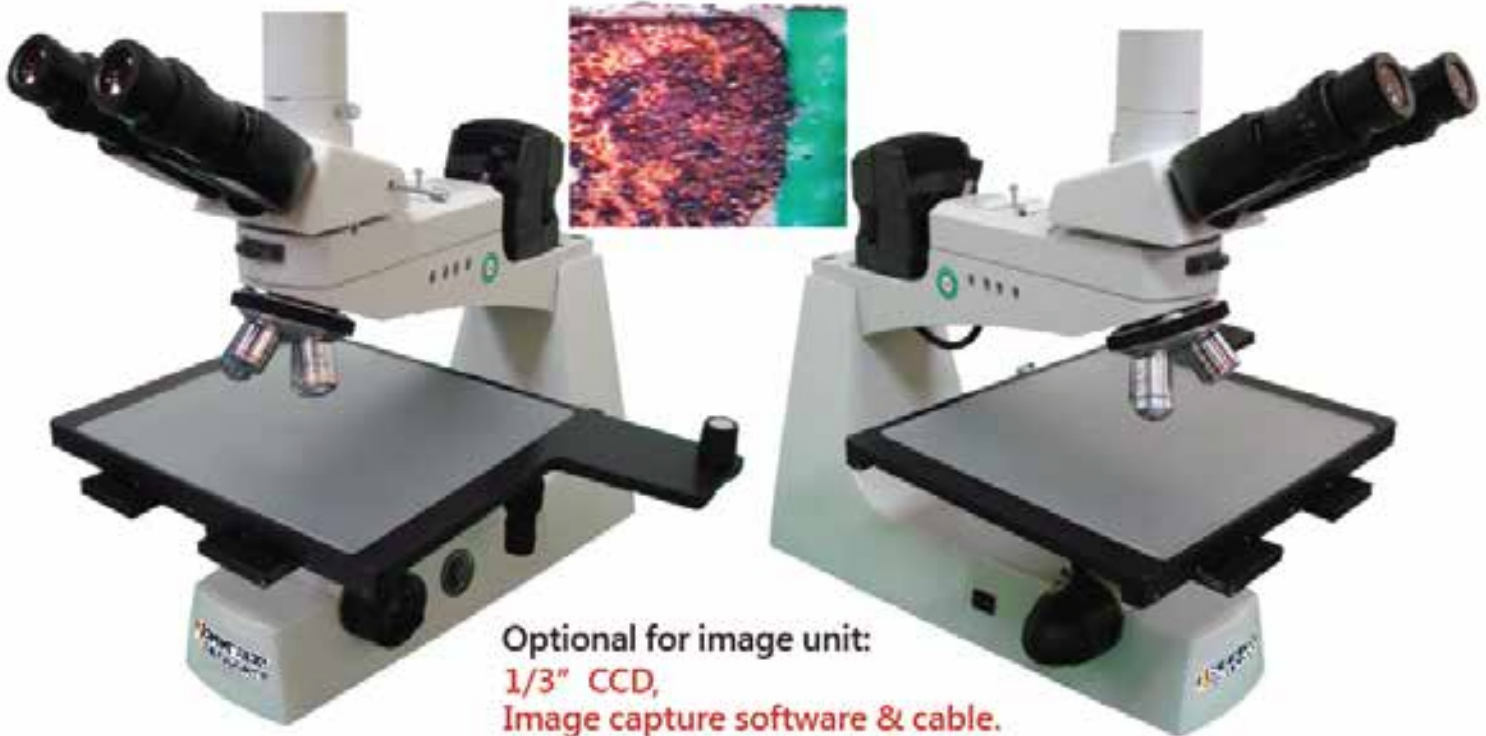
Standard Module

- 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



Optional for image unit:
1/3" CCD,
Image capture software & cable.



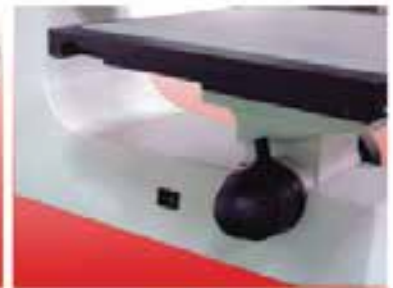
Eyepiece



Filter & illumination



X, Y-axis slide guide



Coarse & fine
adjustment knob.

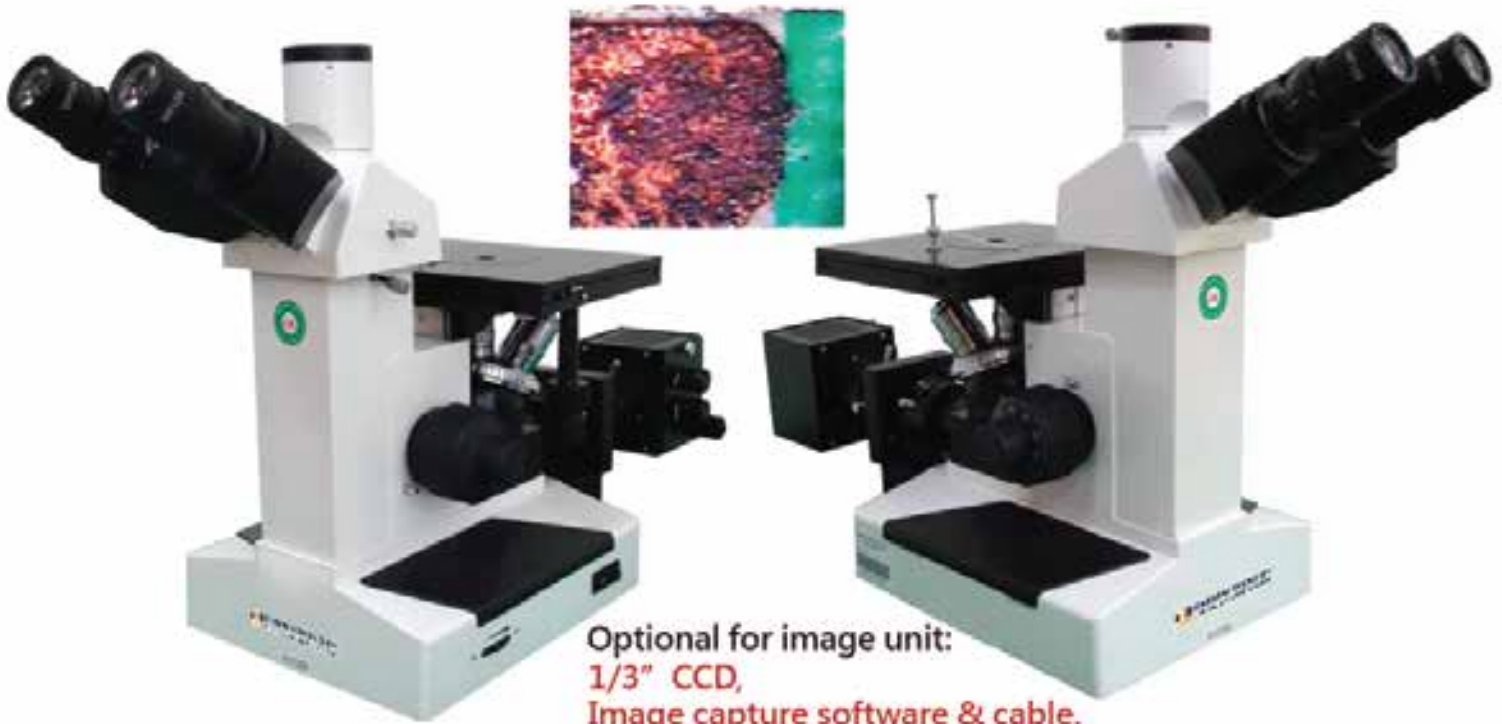
Standard Module

- 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



Standard Module

| 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



Field adjustable unit



Filter & illumination



X, Y-axis slide guide



4 convertible objective lens units



Coarse & fine adjustment knob

■ Tool Microscopes



Dual eyepiece & CCD port



Zoom adjustable magnification knob



Adjustable focus knob



X-Y measuring table and micrometer head.

Standard Module

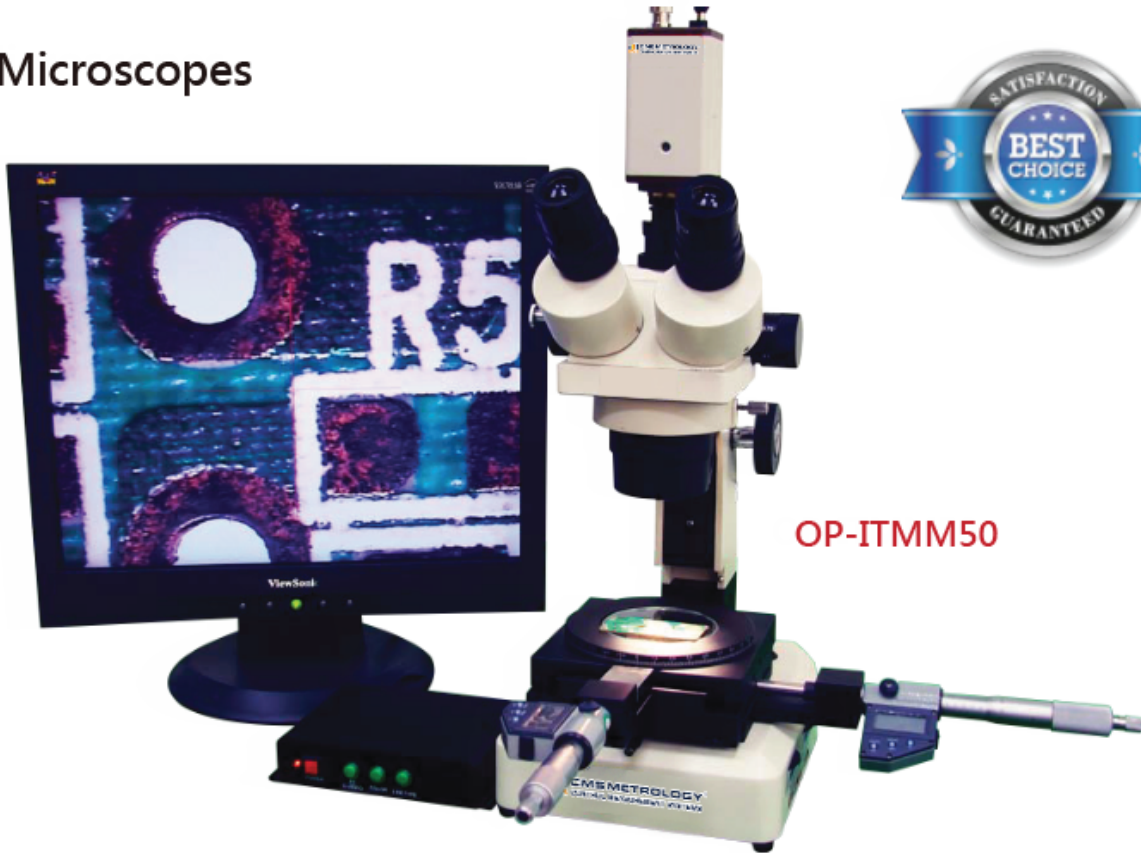
- Base
- Microscope head
- X-Y measuring stage (included rotary table)
- X-Y digital micrometer head
- 10X Cross-line eyepiece & CCD port

| Model No. | Microscope Mag. | Measuring Range |
|-----------|-----------------|-----------------|
| OP-TMM25 | 7.5X-34X | 25*25mm |
| OP-TMM50 | | 50*50mm |
| OP-TML25 | 7X-45X | 25*25mm |
| OP-TML50 | | 50*50mm |

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



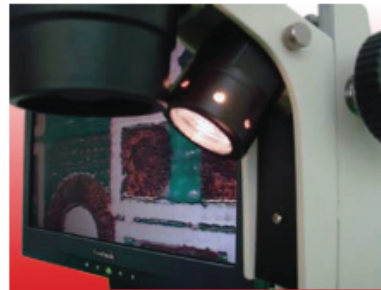
■ Tool Microscopes



OP-ITMM50



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

Standard Module

- Base
- Microscope head
- X-Y measuring stage (included rotary table)
- X-Y digital micrometer head
- 10X cross-line eyepiece & CCD port
- 1/3" color CCD
- 19" LCD color display

| Model No. | Microscope Mag. | Measuring Range |
|-----------|-----------------|-----------------|
| OP-ITMM25 | 7.5X~34X | 25*25mm |
| OP-ITMM50 | | 50*50mm |
| OP-ITML25 | 6.5X~60X | 25*25mm |
| OP-ITML50 | | 50*50mm |

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

Optical accessories

■ 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 |

■ CCD eyepiece



| Model No. | Description |
|--------------|------------------------|
| OP-CE0.5L | 0.5X CCD (For L/S/X) |
| OP-CE0.5S | 0.5X CCD (For HM/M) |
| OP-CE0.7 | 0.7X CCD |
| OP-CE1.0 | 1.0X CCD |
| OP-CE2.0 | 2.0X CCD |
| OP-CE2.0 (Z) | 2.0X CCD (For Z only) |

■ 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) |

■ Camera eyepiece



| Model No. | Description |
|-----------|-----------------|
| OP-CM2.5 | 2.5X |
| OP-CM5 | 5X |
| OP-EM | Eyepieces mount |

Optical accessories

■ Color CCD

| 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 |



■ Measuring table

| Model. No | Measuring Range |
|-----------|-----------------|
| OP-XY11 | 25*25mm |
| OP-XY22 | 50*50mm |



Optical accessories

■ 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 |
|-----------|--------------------------------------|
| OP-CG2 | 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 |



■ Rotary table

| Model No. | Description |
|-----------|-------------|
| OP-RT4 | Φ100mm |
| OP-RT6 | Φ150mm |
| OP-RT8 | Φ200mm |
| OP-RT10 | Φ250mm |
| OP-RT12 | Φ300mm |



Optical accessories

■ Small vise

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



■ V-clamp

| Model No. | Description |
|-----------|------------------------|
| OP-VC | Clamp dia. : max.Φ18mm |



■ Color filter lens

| Model No. | Color |
|-----------|--------|
| OP-GF | Green |
| OP-OF | Orange |
| OP-YF | Yellow |
| OP-BF | Blue |
| OP-RF | Red |



■ Parts

| Model No. | Description |
|-----------|-----------------------------|
| OP- CM1L | 1X CCD C-mount (For L only) |
| OP- CM1S | 1X CCD C-mount (For M/HM) |
| OP-CABLE | CCD cable |
| OP-FUSE | 1A Fuse |



Optical accessories

■ 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



OP-LEDGF



OP-LEDB

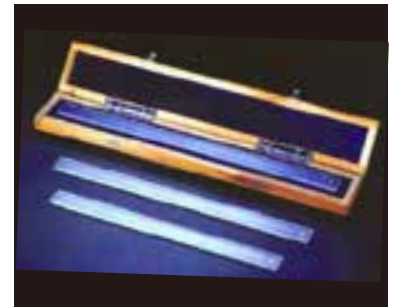


OP-LED

| 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 : $(0.2+1.5/1000*L)\mu\text{m}$
- Glass expansion co-efficients : $7.2*10^{-6}(-60^{\circ}\text{C}\sim+20^{\circ}\text{C})$ $7.6*10^{-6}(20^{\circ}\text{C}\sim120^{\circ}\text{C})$



| Model No. | Range | Graduation | Accuracy | Size (LxWxT) | Model No. | Range | Graduation | Accuracy | Size (LxWxT) |
|-----------|-------|------------|----------------------|--------------|-----------|--------|------------|----------------------|--------------|
| OP-SS4 | 100mm | 0.5mm | $\pm 1.7\mu\text{m}$ | 130x36x5mm | OP-SS24 | 600mm | 1mm | $\pm 2.7\mu\text{m}$ | 630 x36x5mm |
| OP-SS6 | 150mm | | $\pm 1.8\mu\text{m}$ | 180x36x5mm | OP-SS28 | 700mm | | $\pm 2.9\mu\text{m}$ | 730 x36x5mm |
| OP-SS8 | 200mm | | $\pm 1.9\mu\text{m}$ | 230 x36x5mm | OP-SS32 | 800mm | | $\pm 3.1\mu\text{m}$ | 830 x36x5mm |
| OP-SS10 | 250mm | | $\pm 2.0\mu\text{m}$ | 280 x36x5mm | OP-SS36 | 900mm | | $\pm 3.3\mu\text{m}$ | 930 x36x5mm |
| OP-SS12 | 300mm | | $\pm 2.1\mu\text{m}$ | 330 x36x5mm | OP-SS40 | 1000mm | | $\pm 3.5\mu\text{m}$ | 1030 x36x5mm |
| OP-SS16 | 400mm | | $\pm 2.3\mu\text{m}$ | 430 x36x5mm | | | | | |
| OP-SS20 | 500mm | | $\pm 2.5\mu\text{m}$ | 530 x36x5mm | | | | | |

Reading glass scale

| Model No. | Range | Graduation | Accuracy | Size (LxWxT) |
|-----------|-------|------------|---------------------|--------------|
| OP-RS310 | 310mm | 0.5mm | $\pm 20\mu\text{m}$ | 340x28x4.5 |
| OP-RS360 | 360mm | | | 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 | 4 μm | 170x100x5mm |

High magnification calibration glass scale



OP-HCM

| Model No. | Range | Graduation | Size (LxWxT) |
|-----------|--------------|----------------|--------------|
| OP-HC1 | 1mm | 0.01mm | 75x25x1.8mm |
| OP-HC10 | 1mm | 0.01mm | |
| | 10mm | 0.05mm & 0.1mm | |
| OP-HC50 | 1mm/50mm | 0.01mm / 0.1mm | 42x42x1.8mm |
| OP-HCM | Length: 15mm | 0.01mm | |
| | Angle: 90° | 1° | |
| | Square | - | |
| | Circle | - | |



OP-HC1



OP-HC10



OP-HC50

Optical accessories



■ 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 or 0.001mm 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
point



Print