

Monocular Microscopes

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1. BS-1002 Monocular Video Microscope



BS-1002

Introduction

BS-1002 Monocular Video Microscopes is designed for the applications in the fields of machine vision, industrial inspection and scientific research. Modularization product portfolio and excellent optical performance make them a better choice in these areas.

Features

1. Zoom ratio

Zoom ratio 1:6.4, zoom range 0.7x-4.5x, standard working distance 80mm, can meet the requirement of machine vision conventional imaging.

2. Compact design

Compact design, so that all functions are concentrated in a tube, it is very suitable for the small installation space in modern equipment.

3. Economical and practical

Cost-effective. There are also different stands for option.

Application

BS-1002 series Monocular Video Microscope are widely used in educational demonstration, agriculture research, industrial material, semi-conductor, integrated circuit board inspection area and so on. Widely used in electric equipment, semi-conductor, LCD and LED, for digital image observation, inspection and measurement.

Specification

Item	Specification	BS-1002
Zoom Lens	Optical zoom magnification: 0.7X-4.5X	●
Zoom ratio	1:6.4	●
Mounting Size	Φ50mm	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-480B LCD digital camera with HDMI2.0, USB2.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
C-mount Adapter	0.3X C-mount adapter	○
	0.5X C-mount adapter	●
	1.0X C-mount adapter	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○

	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	●
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○

	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-1002
Zoom body	0.7-4.5X
C-mount adapter	0.5X
Optical Magnification	0.35X-2.25X
FOV	13.7mm*10.3mm-2.1mm*1.6mm
Working Distance	80mm
Mount	Standard C mount

Accessories



C-mount adapter

2. BS-1002LCD1 Digital LCD Video Microscope



BS-1002LCD1

Introduction

BS-1002LCD1 Digital LCD Video Microscope is economical and practical, easy to operate. Digital camera with LCD screen, all-in-one design, can take photo, video, loop recording, multiple shots and play back. BS-1002LCD1 provides high-definition images. This microscope is designed for the applications in the fields of machine vision, industrial inspection and scientific research. Modularization product portfolio and excellent optical performance make them a better choice in these areas.

Features

1. Zoom ratio

Infinity optical system. Zoom ratio 1:6.4, zoom range 0.7x-4.5x, standard working distance 80mm. Keeping the center position consistent after focusing, there is a clear image at each magnification. The field of view at the minimum magnification can fill the field of view of the camera without black edges, with high resolution and large depth of field.

2. Digital LCD screen

Digital LCD screen, all-in-one design, with HDMI output. There is a 12 mega-pixel camera to take photo, video, loop recording, multiple shots and play back. Economical and practical, easy to operate.

Application

BS-1002LCD1 Digital LCD Video Microscope is widely used in industrial testing, semiconductor, microelectronics, precision hardware, animal and plant morphology, criminal detection and identification and other industries.

Product Details



Specification

Item	Specification	BS-1002LCD1
Zoom Lens	Optical zoom magnification: 0.7X-4.5X	●
Zoom ratio	1:6.4	●
Mounting Size	Φ50mm	●
Camera	Camera, 1/2" sensor, 12 mega-pixels	●
Monitor	9-inch LCD with arm stand, resolution: 1024*600, storage: TF card	●
C-mount Adapter	0.3X C-mount adapter	○
	0.5X C-mount adapter	●
	1.0X C-mount adapter	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	●
	BAL-52AP LED polarizing ring light, brightness adjustable	○

	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm,	○

	horizontal column length: 340mm, Φ 32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ 25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	●
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-1002LCD1
Zoom body	0.7-4.5X
C-mount adapter	0.5X
FOV	16.3*9.2mm-2.8*1.6mm
Working Distance	80mm
Mount	Standard C mount
Digital LCD Screen	
Resolution	1024*600
Photo Pixel	12 mega-pixels
Interface	USB 2.0 to connect to PC
Storage	TF card
Function	Take photo, video, loop recording, multiple shots and play back

3. BS-1008 Series Monocular Microscope



BS-1008

Introduction

BS-1008 adopts semi-apochromatic parallel optical imaging system, and uses advanced multi-layer coating technology, which perfectly correct the imaging on the edge of field of view, get high-resolution and high contrast images, and naturally restore the true colors of observed objects.

For applications that require different magnification, [Auxiliary Lens](#) or infinity objectives with different magnification can be attached to the front end of the [Middle Zoom Module](#).

For application that require different sensor size, [TV Lens](#) with different magnification can be attached to the back end of the [Middle Zoom Module](#).

The basic module of BS-1008 is BS-1008A (without click stop) and BS-1008B (with click stop at main magnifications), it has 0.7X to 5.6X zoom range and 1:8 zoom ratio. It is a high-quality precision [Monocular Zoom Objective](#) that provides high resolution and large depth of field.

Features

The main features are shown below:

1. Provide basic zoom objective BS-1008A with 0.7X~5.6X zoom range.
2. Large optical zoom ratio: 1:8.
3. Larger NA: 0.018-0.092 (When using 1X Auxiliary Lens).
4. Higher resolution: 18.6 μ m-3.65 μ m (When using 1X Auxiliary Lens).
5. Larger field of view: 0.99mm-31.74mm (Object plane).
6. Larger sensor size: 2/3" (When using 1x TV Lens).
7. Working distance: 37.5mm-160mm.
8. Parfocal in zoom range.
9. Compatible with infinity objectives (both biological and metallographic).
10. Compact size: 150 mm (length) $\times$ 40 mm (diameter) .

11. Auxiliary Lens with 0.50x, 0.75x, 1.00x, 1.50x and 2.00x magnification (Optional).
12. TV Lens with 0.50x, 0.75x, 1.00x, 1.50x and 2.00x magnification (Optional).
13. Intensity adjustable LED Direct Ring Light (Optional).
14. Intensity adjustable LED Direct Ring Polarization Light (Optional).
15. Intensity adjustable LED coaxial illumination (Optional).
16. 50mm Bracket Adapter (Optional).

Accessories

1. How to Configure BS-1008 Monocular Zoom Objective

- (1) Confirm the possible range of 1) FOV and 2) Working Distance in the object space to choose the Auxiliary Lens.
- (2) Choose the M26x0.705 to M20x0.705 Objective Adapter, if the M20x0.705 infinity objective is used.
- (3) Confirm the camera Image Area Size, it can be 1) Sensor Size (1/x in inch), 2) Image Diagonal Length, 3) Image Width or 4) Image Height to choose the TV Lens.
- (4) Choose the 50 mm adapter according to the diameter of the hole in the bracket.
- (5) Choose the LED Direct Ring Light Module for the reflective illumination.
- (6) Choose the Coaxial Light Module if coaxial illumination is required.
- (7) Choose the Transmitted Light Module if Transmitted illumination is required.
- (8) Choose the Camera Module.

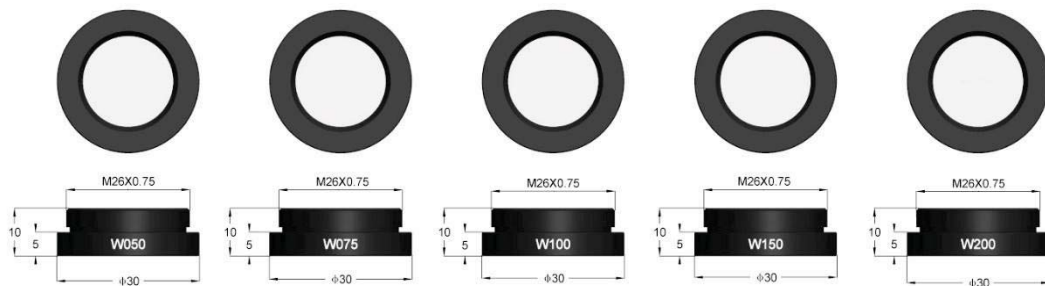
2. Configuration of BS-1008

The available components are listed in Table 1, user can choose any part from the table.

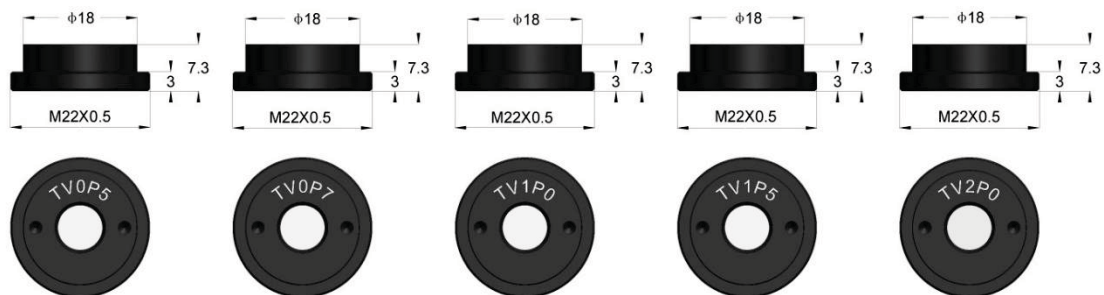
Table 1 BS-1008's Accessories and Its Functions

Module	Order Number	Description
Auxiliary Lens Module	W050	0.50x Object Lens
	W075	0.75x Object Lens
	W100	1.0x Object Lens
	W150	1.5x Object Lens
	W200	2.0x Object Lens
	ON-XX	Biological Objective
	ON-YY	Metallographic Objective
	Objective Adapter	M26x0.706 to M20x0.706
Middle Zoom Module	BS-1008	The main body of BS-1008
TV Lens Module	TV050	0.5XTV Lens
	TV075	0.75X TV Lens
	TV100	1.0XTV Lens
	TV150	1.5X TV Lens
	TV200	2.0XTV Lens
Coaxial Light Module	BCL-1A	Coaxial Light Adapter + LED Spot Light
LED Direct Ring Light Module	BAL3-48A/BAL3-60A	LED Direct Ring Light
	BAL3-48AP	LED Direct Ring Polarization Light
Transmitted Light Module	BTL-37A	LED Transmitted Light

Bracket Adapter		50mm Bracket Adapter (mounting adapter)
Power of light source		POWER-U-12V1A, Power Adapter American Standard
		POWER-E-12V1A, Power Adapter European standard



Auxiliary Lens Module



TV Lens Module

The **BS-1008** main body consists of **Auxiliary Lens Module**, **Middle Zoom Module** and **TV Lens Module**.

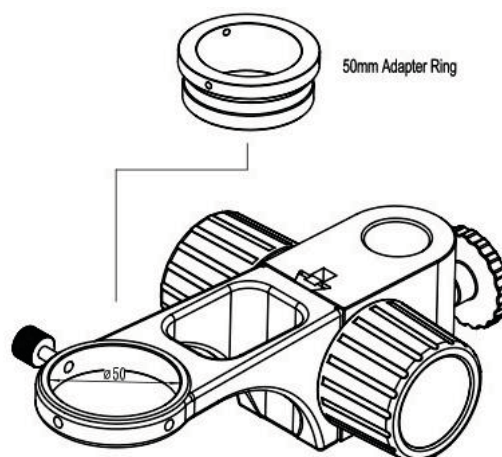
These 3 modules comprise the main **Monocular Zoom Objective**. User can choose different **Auxiliary Lens** and **TV Lens** to satisfy the specific requirement.

To get good illumination and ensure the image quality, **LED Direct Ring Light Module** (Optional) or **Coaxial Light Module** (Optional) should be chosen according to the application.

To get good and stable support, the **Bracket Adapter Module** should be carefully chosen.

Finally, to form the **Video Monocular Zoom Objective**, **Camera Module** (Optional) should be chosen.

The **Adapter Rings** and their relationship with the **Bracket** are shown following.



BS-1008 Adapter Ring for the Bracket

The Direct Ring Light, Direct Ring Polarization Light and the Coaxial Light are shown in following figures respectively.



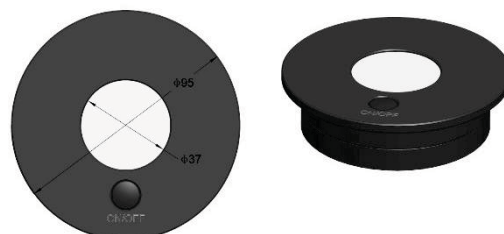
BAL3-48A/BAL3-60A, LED Direct Ring Light. Its interface matches with BS-1008



BAL3-48AP, LED Direct Ring Polarization Light. Its interface matches with BS-1008



BCL-1A: Coaxial Light Adapter + LED Spot Light



BTL-37A, LED Transmitted Light

Specifications

The specifications of BS-1008 with different [Auxiliary Lens](#) and [TV Lens](#) are shown in [错误!未找到引用源。](#). [Auxiliary Lens](#) and [TV Lens](#) with 1.0x are listed in the left-up cell. Its data is the basis of the other parameters in the whole table.

Table 1 BS-1008A/B and Its Extensions

Auxiliary Lens	Specs	TV Lens									
		1.0X(For 2/3" Sensors) TV100		0.5X(For 1/3" Sensors) TV050		0.75X(For 1/1.8" Sensors) TV075		1.5X(For 1" Sensors) TV150		2.0X(For 4/3" Sensors) TV200	
		Low	High	Low	High	Low	High	Low	High	Low	High
1.0X (80mm WD) W100	PMAG	0.70X~5.60X		0.35X~2.80X		0.53X~4.20X		1.05X~8.40X		1.40X~11.20X	
	FOV	15.8m m	1.96m m	15.8m m	1.96m m	15.8m m	1.96m m	15.8m m	1.96m m	15.8m m	1.96m m
	NA	0.018	0.092	0.018	0.092	0.018	0.092	0.018	0.092	0.018	0.092
0.5X (160mm WD) W050	PMAG	0.35X~2.80X		0.18X~1.40X		0.26X~2.10X		0.53X~4.20X		0.70X~5.60X	
	FOV	31.74 mm	3.93m m	31.74 mm	3.93m m	31.74 mm	3.93m m	31.74 mm	3.93m m	31.74 mm	3.93m m
	NA	0.009	0.046	0.009	0.046	0.009	0.046	0.009	0.046	0.009	0.046
0.75X (105mm WD) W075	PMAG	0.53X~4.20X		0.26X~2.10X		0.40X~3.15X		0.79X~6.30X		1.05X~8.40X	
	FOV	20.99 mm	2.61m m	20.99 mm	2.61m m	20.99 mm	2.61m m	20.99 mm	2.61m m	20.99 mm	2.61m m
	NA	0.013	0.069	0.013	0.069	0.013	0.069	0.013	0.069	0.013	0.069
1.5X (51.5mm WD) W150	PMAG	1.05X~8.40X		0.53X~4.20X		0.79X~6.30X		1.58X~12.60X		2.10X~16.80X	
	FOV	10.46 mm	1.31m m	10.46 mm	1.31m m	10.46 mm	1.31m m	10.46 mm	1.31m m	10.46 mm	1.31m m
	NA	0.026	0.138	0.026	0.138	0.026	0.138	0.026	0.138	0.026	0.138
2.0X (37.5mm WD) W200	PMAG	1.40X~11.20X		0.70X~5.60X		1.05X~8.40X		2.10X~16.80X		2.80X~22.40X	
	FOV	7.90m m	1.00m m	7.90m m	0.99m m	7.90m m	0.99m m	7.90m m	0.99m m	7.90m m	0.99m m
	NA	0.035	0.182	0.035	0.182	0.035	0.182	0.035	0.182	0.035	0.182
Remarks	When using coaxial lighting, low magnification may produce vignetting. When using infinity objectives as Auxiliary Lens Module (adapter available), the PMAG, FOV and NA of the BS-1008 depends on the parameters of the objectives.										

WD: Working Distance.

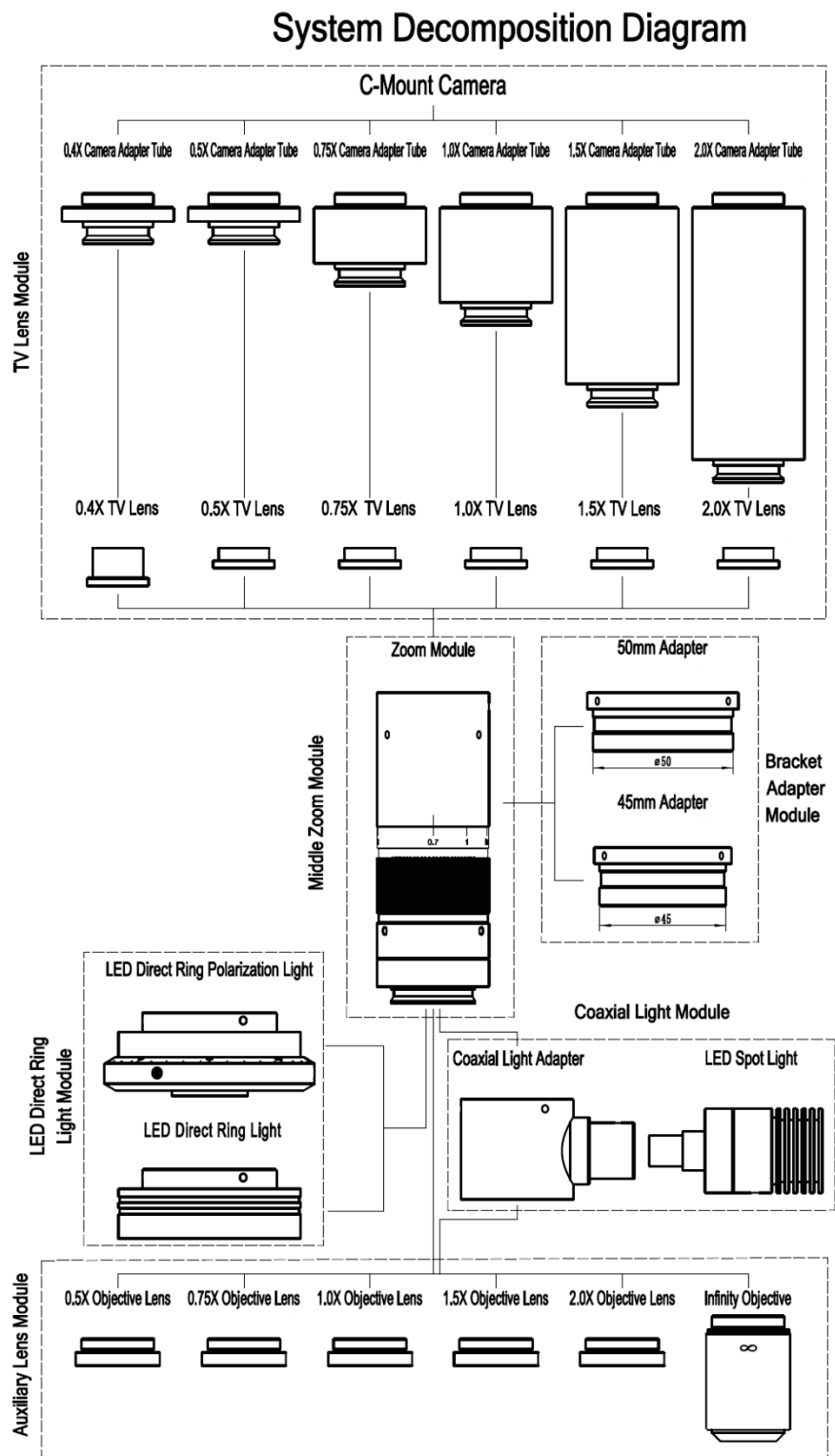
PMAG: Primary Magnification.

FOV: Field of View in the Object side.

NA: Numerical Aperture.

Note: Infinity corrected objectives limit system's usable zoom range due to uneven illumination. Max sensor format is 2/3".

System Diagram



The Basic and Optional Modules of the Monocular Zoom Objective

Application

BS-1008 is an ideal choice for most applications that require multiple magnifications or for those that prohibit continual manual refocusing. The applications of the BS-1008 are machine vision, small details inspection, industrial inspection especially electronic components, scientific research, medical industry and education industry.



BS-1008A+BAL3-48A (LED Direct Ring Light Module) +HDMI Camera + Stand



BS-1008A+BAL3-48A (LED Direct Ring Polarization Light) +HDMI Camera + Stand



BS-1008A+BCL-1A (Coaxial Light Module) +HDMI Camera + Stand



BS-1008A+BAL3-48A (LED Direct Ring Light) +USB CMOS Camera + Stand



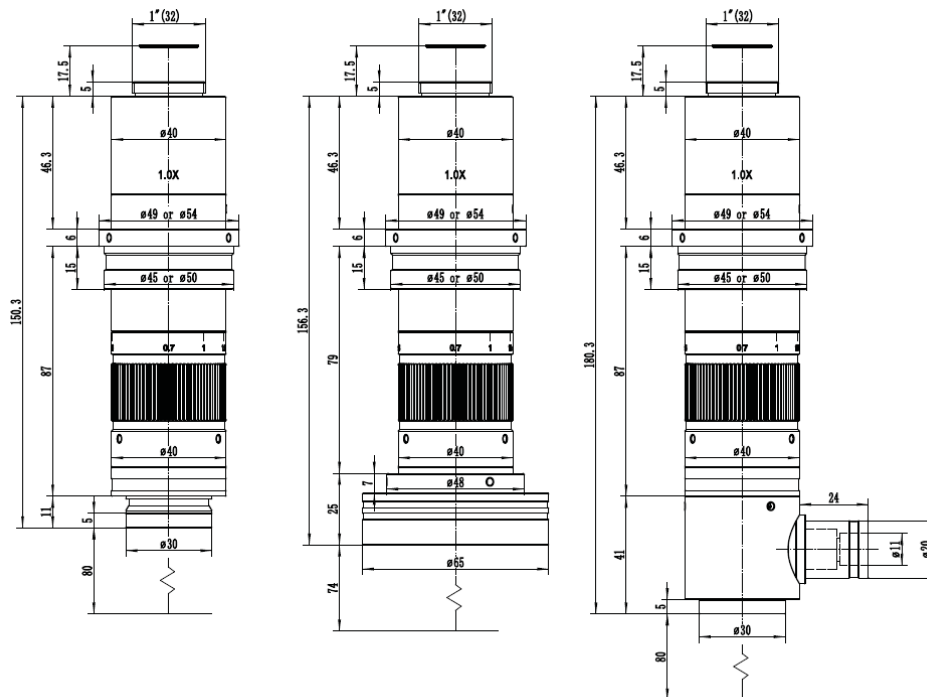
BS-1008A+ BAL3-48AP (LED Direct Ring Polarization Light) +USB CMOS Camera + Stand



BS-1008A+BCL-1A (Coaxial Light Module) +USB CMOS Camera + Stand

Dimension

The dimensions of BS-1008A with different light a) BS-1008A without light module; b) BS-1008A equipped with Direct Ring Light Module, c) BS-1008A equipped with Coaxial Light Module are shown as follows. The length of BS-1008A is 150.3mm. It is much shorter than most of the Monocular Zoom Objective in the market.



Dimensions of BS-1008A with different light

Packing List

The package information of BS-1008 is as follows:



BS-1008 Main Body, including Auxiliary Lens Module, Middle Zoom Module, TV Lens, Camera Adapter Tube and Bracket Adapter

The package information of [BAL3-48A/BAL3-60A](#) is as follows:



BAL3-48A/BAL3-60A, including LED Direct Ring Light and Power Adapter

The package information of [BAL3-48AP](#) is as follows:



BAL3-48AP, including LED Direct Ring Polarization Light and Power Adapter

The package information of [Coaxial Light Module](#) is as follows:



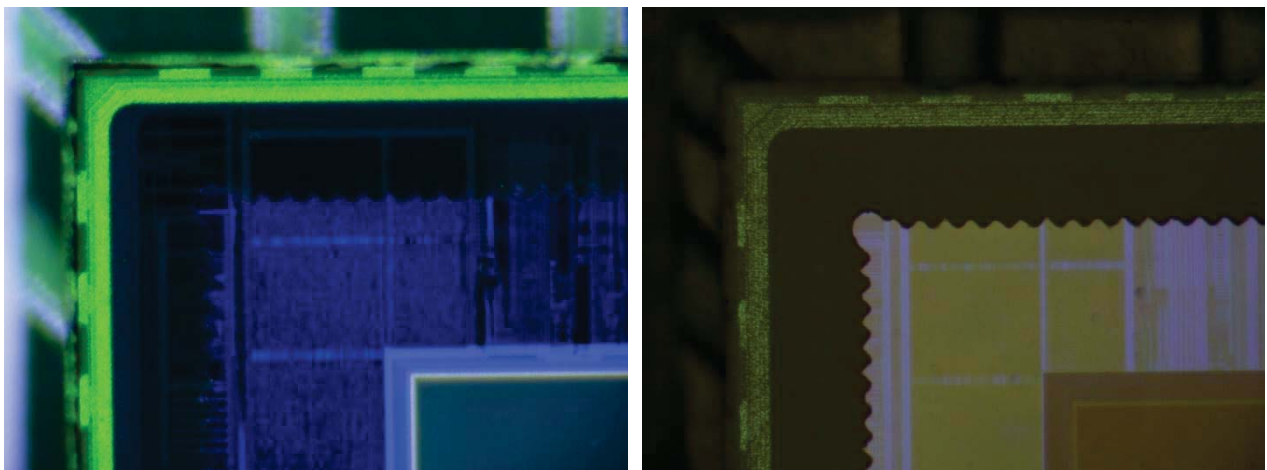
BS-1008 Coaxial Light Module BCL-1A, including Coaxial Light Adapter,
LED Spot Light and Power Adapter

Sample Images

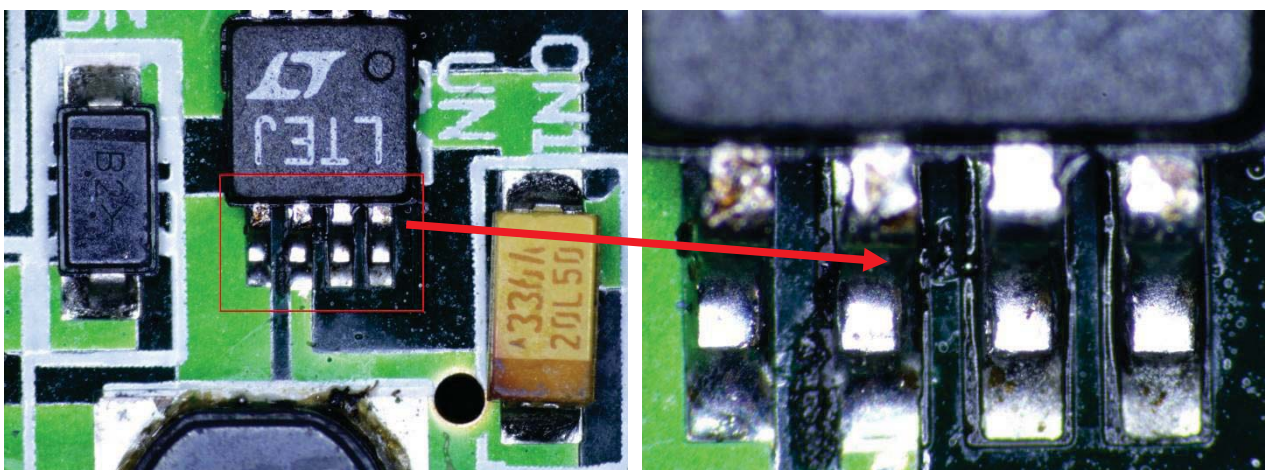
Below pictures of coins taken by BS-1008 with W100 & TV05 with different illumination. From left to right, left: LED Direct Ring Light Illumination; middle: LED Direct Ring Polarization Light Illumination; right: Coaxial Light Illumination.



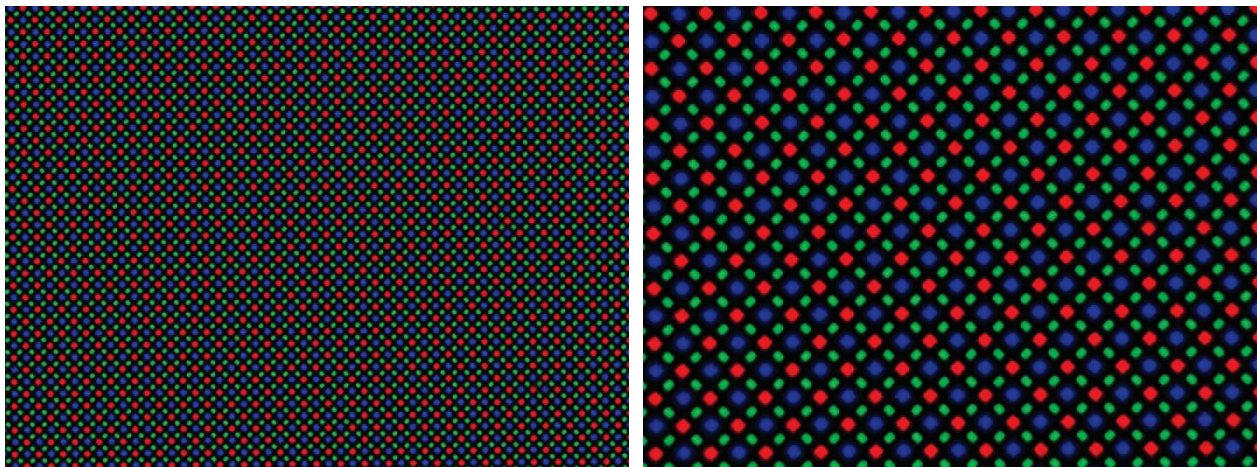
Pictures of CMOS image sensor taken with BS-1008 under LED Direct Ring Light Illumination and Coaxial Light Illumination (5.6X PMAG)



Pictures of circuit board taken by BS-1008 with LED Direct Ring Light Illumination, when shooting the left picture, the magnification of BS-1008 is 0.7X, when shooting the right picture, the magnification of BS-1008 is 2.5X.



Mobile phone pixels taken by BS-1008, under 2.5X PMAG and 5.6X PMAG



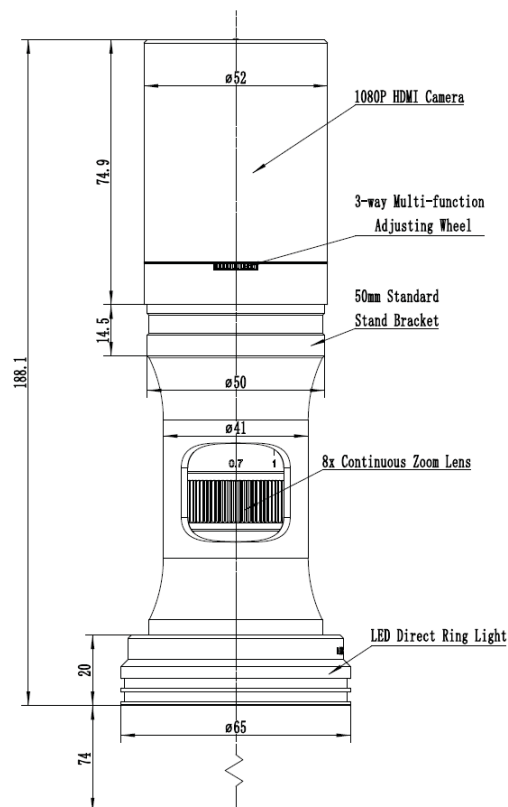
4. BS-1008D Series HDMI Digital Zoom Microscope



Introduction

BS-1008D series all-in-one zoom digital microscope is shown as follows. It has 8x continuous zoom lens BS-1008-WXXX-TV050, 1080p HDMI camera H1080PA and LED ring light source.

The H1080PA module can directly complete the video and image acquisition without a computer, and the LED ring light source module is directly connected to the H1080PA module through the main body of the optical continuous zoom lens with no need of the external power supply.



The main body of BS-1008D

Specification

The main parameters of BS-1008D are as follows:

Optical Parameters	
Zoom Lens	BS-1008-W100-TV050 zoom lens, 0.7X-5.6X zoom range
Working Distance	37.5mm-160mm (Determined by the auxiliary objective)
NA	0.018-0.092 (With W100, 1x auxiliary objective)
Resolution	18.6um-3.65um (With W100, 1x auxiliary objective)
Field	0.99mm-34.28mm
Optional Objective	0.50x, 0.75x, 1.00x, 1.50x, 2.00x (Optional)
Other Optional Objective	Infinite microscope objective (Both biological microscope objective and metallographic microscope objective can be used)
Dimensions	188mm x 52mm
Bracket Interface	Standard 50mm
HDMI Digital Camera Module	
HDMI 1080P Camera	H1080PA, Integrated with zoom lens
Sensor	Sony IMX307(C), 1/2.8"(5.57x3.13), Pixel size 2.9x2.9um
G Sensitivity /Dark Signal/ Dynamic Range /SNR	1300mv with 1/30s/NA/NA/NA
FPS/Resolution	60@1920*1080(HDMI)
Exposure	0.01~1000ms
Output Mode	HDMI output
Image Saving	Use SD card to save the captured image or video
Software	Use the built-in XCamView software to control the camera
ISP	Having powerful ISP and other related processing functions
Lighting Module	
LED Ring Light	LED direct ring light with adjustable brightness (No power cable) (BS-1008DRL-NPC)
LED Ring Polarization Light	LED direct ring polarization light with adjustable brightness (No power cable), (BS-1008DRPL-NPC)
Coaxial Light Module	LED Coaxial Light Module with adjustable brightness (No power cable), (BS-1008CL_NPC)
Power Supply	Integrated power supply, no power cable winding trouble, sample observation more freely
Installation Method	Express second-level suction type installation, convenient and simple
Brightness Control	Through the 3-way multi-function adjusting wheel or software GUI, both the hardware and software can adjust the light intensity synchronously with no hassle

Optical Specification



The BS-1080D and LED ring light source

Auxiliary Objective	Specification	TV Lens TV050 for 1/3" Sensor	
		Low	High
W100, 1.0X(80mm WD)	PMAG	0.35X~2.80X	
	FOV	17.14mm	2.14mm
	NA	0.018	0.092
W050, 0.5X(160mm WD)	PMAG	0.18X~1.40X	
	FOV	34.28mm	4.28mm
	NA	0.009	0.046
W075, 0.75X(105mm WD)	PMAG	0.26X~2.10X	
	FOV	20.81mm	2.86mm
	NA	0.013	0.069
W150, 1.5X(51.5mm WD)	PMAG	0.53X~4.20X	
	FOV	11.43mm	1.43mm
	NA	0.026	0.138
W200, 2.0X(37.5mm WD)	PMAG	0.70X~5.60X	
	FOV	8.57mm	1.07mm
	NA	0.035	0.182
Remarks	When using coaxial lighting, low magnification may produce vignetting. When using infinity objectives as Auxiliary Lens Module (adapter available), the PMAG, FOV and NA of the BS-1008 depends on the parameters of the objectives.		

[WD](#): Working Distance.

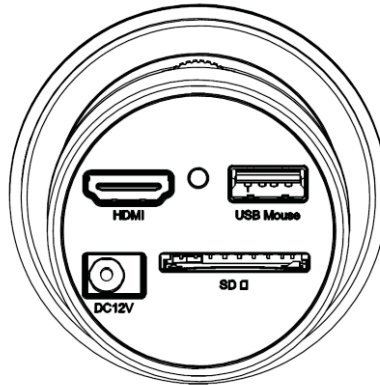
[PMAG](#): Primary Magnification.

[FOV](#): Field of View in the object side.

[NA](#): Numerical Aperture.

[Note](#): Infinity corrected objectives limit system's usable zoom range due to uneven illumination. The maximum sensor format is 2/3".

Available Ports on the Back of the Camera Body



The top panel of BS-1008D

Interface	Function Description
USB Mouse	Connect USB mouse for easy operation with embedded XCamView software
HDMI	Comply with HDMI1.4 standard. 1080P format video output for standard FHD monitor
SD	Comply with SDIO3.0 standard and SD card could be inserted for video and images storage
DC12V	Power adapter connection (12V/1A)
LED	LED status indicator

BS-1008D's Camera H1080PA Function

Video Output

Video Output Interface	Function Description
HDMI Interface	Comply with HDMI1.4 standard; 60fps@1080P

Image Capture and Video Saving in SD card

Function Name	Function Description
Video Saving	Video format: 2M(1920*1080) H264 encoded MP4 file; Video saving frame rate: 50~60fps (related with SD card performance);
Image Capture	2M (1920*1080) JPEG image in SD card
Measurement Saving	Measurement information saved in different layer with image content; Measurement information is saved together with image content in burn in mode.

ISP Function

Function Name	Function Description
Exposure / Gain	Automatic / Manual Exposure
White Balance	Manual / Automatic / ROI Mode
Sharpening	Supported

3D Denoise	Supported
Saturation Adjustment	Supported
Contrast Adjustment	Supported
Brightness Adjustment	Supported
Gamma Adjustment	Supported
50HZ/60HZ Anti-flicker Function	Supported

Image Operation Function

Function Name	Function Description
Zoom In/Zoom Out	Up to 10X
Mirror/Flip	Supported
Freeze	Supported
Cross Line	Supported
Embedded Files Browser	Supported
Video Playback	Supported
Measurement Function	Supported

Other Functions

Function Name	Function Description
Restore Factory Settings	Supported
Multiple Language Support	English / Simplified Chinese / Traditional Chinese / Korean / Thai / French / German / Japanese / Italian / Russian

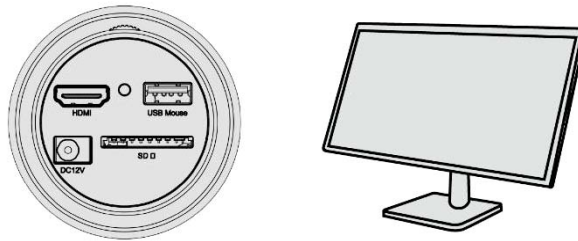
Installation Procedure of BS-1008D

Apart from the BS-1008D, you only need an HDMI monitor, the supplied HDMI cable, USB mouse, SD card and power adapter(12V/1A). The steps to start the BS-1008D are listed as below:

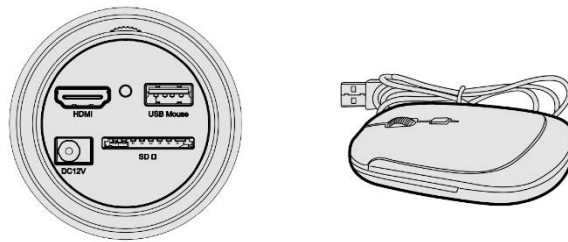


BS-1008D and other accessories

- Connect the camera to a HDMI monitor using the HDMI cable;



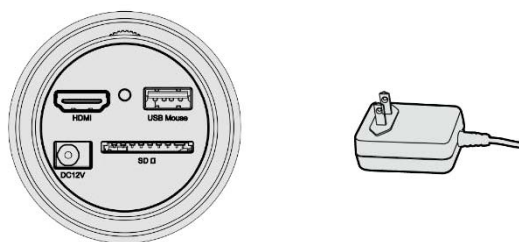
- Insert the supplied USB mouse to the camera's USB port;



- Insert the supplied SD card into the HDMI camera SD card;



- Connect the camera to the power adapter(12V/1A) and switch it on;



- Turn on the monitor and view the video in the [XCamView](#) software. Move the mouse to the left, top or bottom of the [XCamView](#) UI, different control panel or UI will pop up and users could operate with the mouse at ease.

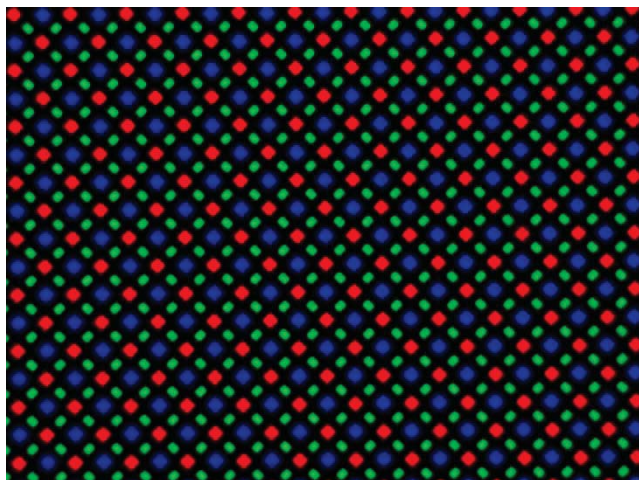
Packing Information



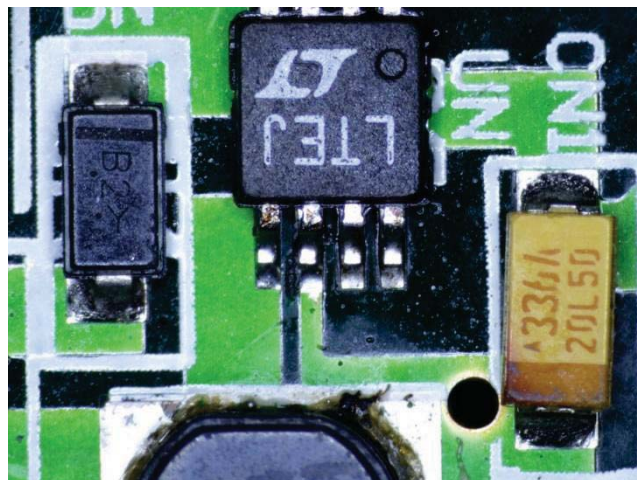
BS-1008D's packing Information

Standard Packing List		
A	Gift box: L:17.5cm W:17.5cm H:8.5cm (1pcs, 0.85kg/ box)	
B	The BS-1008D main body	
C	HDMI cable	
D	Power adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 12V 1A	American standard: Model: POWER-U-12V1A(MSA-C1000IC12.0-12W-US): UL/CE/FCC EMI standard: FCC Part 15 Subpart B EMS standard: EN61000-4-2,3,4,5,6
		European standard: Model: POWER-E-12V1A(MSA-C10001C12.0-12W-DE): UL/CE/FCC EMI standard: FCC Part 15 Subpart B EMS standard: EN61000-4-2,3,4,5,6
E	USB mouse/USB wireless mouse	
Optional Accessory		
F	SD card (16G)	
G	Coaxial light module	
H	The other auxiliary lens (not shown)	
I	The other LED light source (shown)	

Sample Images



LCD pixel array captured with BS-1008D



Circuit board captured with BS-1008D

5. BS-1035 Monocular Zoom Microscope



BS-1035B

Introduction

BS-1035 Series Monocular Zoom microscopes provide high resolution and sharp stereoscopic images. This series microscopes are designed for the applications in the fields of machine vision, industrial inspection and scientific research. Modularization product portfolio and excellent optical performance make them a better choice in these areas.

Features

1. Zoom ratio

Zoom ratio 1:7.1, zoom range 0.7X-5X, standard working distance 86mm, can meet the requirement of machine vision conventional imaging.

2. Compact design

Compact design, so that all functions are concentrated in a tube, it is very suitable for the small installation space in modern equipment.

3. Diverse accessories

Adopt modular design, various additional accessories are optional to make the microscope a powerful device for your jobs. There are a variety of auxiliary lens and C-mount eyepiece adapter for option. There are also ring light or coaxial light source to meet different sample observation needs.

Application

BS-1035 series Monocular Zoom Microscope are widely used in educational demonstration, agriculture research, industrial material, semi-conductor, integrated circuit board inspection area and so on. Widely used in electric equipment, semi-conductor, LCD and LED, for digital image observation, inspection and measurement.

Specification

BS-1035A, BS-1035B, BS-1035C

Item	Specification	BS-1035A	BS-1035B	BS-1035C
Optical System	Infinite apochromatic parallel optical system	●	●	●
Zoom Lens	Optical zoom magnification: 0.7X-5.0X (without click stop)	●	●	●
	Optical zoom magnification: 0.7X-5.0X (with click stop)			
Zoom ratio	1:7.1	●	●	●
Viewing head	Monocular tube with 10X/18mm eyepiece	○	○	○
Objective Angle Device	Objective angle device 90°, inverted image	○	○	○
	Objective angle device 90°, erect image	○	○	○
Mounting Size	Φ50mm	●	●	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○
	BLC-480B LCD digital camera with HDMI2.0, USB2.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○
C-mount Adapter	0.3X C-mount adapter	○	○	●
	0.5X C-mount adapter	○	●	○
	1.0X C-mount adapter	●	○	○
Auxiliary Lens	1.0X Auxiliary Objective	●	●	●
	0.3X Auxiliary Objective	○	○	○
	0.4X Auxiliary Objective	○	○	○
	0.5X Auxiliary Objective	○	○	○
	0.6X Auxiliary Objective	○	○	○

	0.75X Auxiliary Objective	○	○	○
	1.5X Auxiliary Objective	○	○	○
	2.0X Auxiliary Objective	○	○	○
Infinite LWD Plan Achromatic Metallurgical Objective (MA200A)	5X/ NA=0.12, WD=26.1mm	○	○	○
	10X/ NA=0.25, WD=20.2mm	○	○	○
	20X/ NA=0.4, WD=8.8mm	○	○	○
	40X/ NA=0.6, WD=3.98mm	○	○	○
	50X/ NA=0.7, WD=3.68mm	○	○	○
	60X/ NA=0.75, WD=1.22mm	○	○	○
	60X/ NA=0.75, WD=3.18mm	○	○	○
	80X/ NA=0.8, WD=1.25mm	○	○	○
	100X/ NA=0.85, WD=0.4mm	○	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200A)	2X/ NA=0.055, WD=34.6mm	○	○	○
	3.5X/ NA=0.1, WD=40.93mm	○	○	○
	5X/ NA=0.13, WD=44.5mm	○	○	○
	10X/ NA=0.28, WD=34mm	○	○	○
	20X/ NA=0.29, WD=31mm	○	○	○
	50X/ NA=0.42, WD=20.1mm	○	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200B)	2X/ NA=0.075, WD=50mm	○	○	○
	4X/ NA=0.15, WD=36mm	○	○	○
	4.5X/ NA=0.18, WD=38mm	○	○	○
	20X/ NA=0.35, WD=29mm	○	○	○
Coaxial light Device	Coaxial device, does not include light source	○	○	○
	Polarized coaxial device, does not include light source	○	○	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○	○	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○	○	○
	BAL-52ASL LED side ring light, brightness adjustable	○	○	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○	○	○
	BAL-228AG LED four-zone ring light with frosted glass	○	○	○
	BAL-16P LED polarizing ring light, brightness adjustable	○	○	○
	BAL-52A LED Ring light, brightness adjustable	○	○	○
Back Light	BTL-60A LED back light	○	○	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○	○	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○	○	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○	○	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○	○	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○	○	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○	○	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○	○	○
Stage	BMS-302 X-Y moving stage	○	○	○

	BMS-303 X-Y moving stage	○	○	○
	BMS-311 X-Y measuring stage	○	○	○
	BMS-316A X-Y measuring stage	○	○	○
	BMS-316B X-Y measuring stage	○	○	○
	BMS-400A large working stage	○	○	○
	BMS-260A XY working stage	○	○	○
Connecting Ring	Metallurgical objective adapter (used to connect metallurgical objectives onto the zoom body)	○	○	○
Nosepiece	3 holes nosepiece, 20.3mm thread	○	○	○
	4 holes nosepiece, 20.3mm thread	○	○	○
	4 holes nosepiece, 26mm thread	○	○	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○	○	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○	○	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○	○	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○	○	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○	○	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○	○	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○	○	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○	○	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○	○	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○	○	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○	○	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○
	BA13 Round type column large plain stand with coarse focus arm.	○	○	○

	Column height: 320mm, Φ 25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.			
	BFA-1 coarse focus arm. Stroke: 50mm.	○	○	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○	○	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○	○	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○	○	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○	○	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○

Note: ●Standard Outfit, ○Optional

BS-1035D, BS-1035E, BS-1035F

Item	Specification	BS-1035D	BS-1035E	BS-1035F
Optical System	Infinite apochromatic parallel optical system	●	●	●
Zoom Lens	Optical zoom magnification: 0.7X-5.0X (without click stop)			
	Optical zoom magnification: 0.7X-5.0X (with click stop)	●	●	●
Zoom ratio	1:7.1	●	●	●
Viewing head	Monocular tube with 10X/18mm eyepiece	○	○	○
Objective Angle Device	Objective angle device 90°, inverted image	○	○	○
	Objective angle device 90°, erect image	○	○	○
Mounting Size	Φ 50mm	●	●	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○
	BLC-480B LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○

C-mount Adapter	0.3X C-mount adapter	○	○	●
	0.5X C-mount adapter	○	●	○
	1.0X C-mount adapter	●	○	○
Auxiliary Lens	1.0X Auxiliary Objective	●	●	●
	0.3X Auxiliary Objective	○	○	○
	0.4X Auxiliary Objective	○	○	○
	0.5X Auxiliary Objective	○	○	○
	0.6X Auxiliary Objective	○	○	○
	0.75X Auxiliary Objective	○	○	○
	1.5X Auxiliary Objective	○	○	○
	2.0X Auxiliary Objective	○	○	○
Infinite LWD Plan Achromatic Metallurgical Objective (MA200A)	5X/ NA=0.12, WD=26.1mm	○	○	○
	10X/ NA=0.25, WD=20.2mm	○	○	○
	20X/ NA=0.4, WD=8.8mm	○	○	○
	40X/ NA=0.6, WD=3.98mm	○	○	○
	50X/ NA=0.7, WD=3.68mm	○	○	○
	60X/ NA=0.75, WD=1.22mm	○	○	○
	60X/ NA=0.75, WD=3.18mm	○	○	○
	80X/ NA=0.8, WD=1.25mm	○	○	○
	100X/ NA=0.85, WD=0.4mm	○	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200A)	2X/ NA=0.055, WD=34.6mm	○	○	○
	3.5X/ NA=0.1, WD=40.93mm	○	○	○
	5X/ NA=0.13, WD=44.5mm	○	○	○
	10X/ NA=0.28, WD=34mm	○	○	○
	20X/ NA=0.29, WD=31mm	○	○	○
	50X/ NA=0.42, WD=20.1mm	○	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200B)	2X/ NA=0.075, WD=50mm	○	○	○
	4X/ NA=0.15, WD=36mm	○	○	○
	4.5X/ NA=0.18, WD=38mm	○	○	○
	20X/ NA=0.35, WD=29mm	○	○	○
Coaxial light Device	Coaxial device, does not include light source	○	○	○
	Polarized coaxial device, does not include light source	○	○	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○	○	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○	○	○
	BAL-52ASL LED side ring light, brightness adjustable	○	○	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○	○	○
	BAL-228AG LED four-zone ring light with frosted glass	○	○	○
	BAL-16P LED polarizing ring light, brightness adjustable	○	○	○
	BAL-52A LED Ring light, brightness adjustable	○	○	○
Back Light	BTL-60A LED back light	○	○	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○	○	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○	○	○

	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○	○	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○	○	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○	○	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○	○	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○	○	○
Stage	BMS-302 X-Y moving stage	○	○	○
	BMS-303 X-Y moving stage	○	○	○
	BMS-311 X-Y measuring stage	○	○	○
	BMS-316A X-Y measuring stage	○	○	○
	BMS-316B X-Y measuring stage	○	○	○
	BMS-400A large working stage	○	○	○
	BMS-260A XY working stage	○	○	○
Connecting Ring	Metallurgical objective adapter (used to connect metallurgical objectives onto the zoom body)	○	○	○
Nosepiece	3 holes nosepiece, 20.3mm thread	○	○	○
	4 holes nosepiece, 20.3mm thread	○	○	○
	4 holes nosepiece, 26mm thread	○	○	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○	○	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○	○	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○	○	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○	○	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○	○	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○	○	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○	○	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○	○	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○	○	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○	○	○

BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ 32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○	○	○
BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ 32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○
BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ 25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○	○	○
BFA-1 coarse focus arm. Stroke: 50mm.	○	○	○
BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○
BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○	○	○
BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○	○	○
BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○	○	○
BFA-6 N interface coarse focus arm. Stroke: 50mm.	○	○	○
BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○

Note: ●Standard Outfit, ○Optional

Accessories



C-mount adapter



Auxiliary objectives



Coaxial device



Polarized coaxial device



3 holes nosepiece



4 holes nosepiece(20.3mm thread)



4 holes nosepiece(26mm thread)



Objective angle device 90°(inverted image)



Objective angle device 90°(erect image)



Monocular tube eyepiece



two output C-mount



BS-1035 with different C-mount



BS-1035B with coaxial device

6. BS-1055 Monocular Video Microscope



BS-1055A/B

Introduction

BS-1055 Series Monocular Video Microscopes provide high resolution and sharp stereoscopic images. This series microscopes are designed for the applications in the fields of machine vision, industrial inspection and scientific research. Modularization product portfolio and excellent optical performance make them a better choice in these areas.

Features

1. Zoom ratio

Zoom ratio 1:7.1, zoom range 0.7X-5X, standard working distance 85mm, can meet the requirement of machine vision conventional imaging.

2. Compact design

Compact design, so that all functions are concentrated in a tube, it is very suitable for the small installation space in modern equipment.

3. Diverse accessories

Adopt modular design, various additional accessories are optional to make the microscope a powerful device for your jobs. There are a variety of auxiliary lens and C-mount eyepiece adapter for option. There are also coaxial light source and metallurgical objectives to meet different sample observation needs.

Application

BS-1055 series Monocular Video Microscope are widely used in educational demonstration, agriculture research, industrial material, semi-conductor, integrated circuit board inspection area and so on. Widely used in electric equipment, semi-conductor, LCD and LED, for digital image observation, inspection and measurement.

Specification

Item	Specification	BS-1055A	BS-1055B	BS-1055C	BS-1055D
Optical System	Infinite apochromatic parallel optical system	●	●	●	●
Zoom Lens	Optical zoom magnification: 0.7X-5.0X (without click stop)	●		●	
	Optical zoom magnification: 0.7X-5.0X (with click stop)		●		●
Zoom ratio	1:7.1	●	●	●	●
Viewing head	Monocular tube with 10X/18mm eyepiece	○	○	○	○
Objective Angle Device	Objective angle device 90°, inverted image	○	○	○	○
	Objective angle device 90°, erect image	○	○	○	○
Mounting Size	Φ50mm	●	●	●	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○	○
	BLC-480B LCD digital camera with HDMI2.0, USB2.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○	○
C-mount Adapter	0.3X C-mount adapter	○	○	○	○
	0.5X C-mount adapter	●	●	●	●
	1.0X C-mount adapter	○	○	○	○
Auxiliary Lens	1.0X Auxiliary Objective	●	●	●	●
	0.3X Auxiliary Objective	○	○	○	○

	0.4X Auxiliary Objective	○	○	○	○
	0.5X Auxiliary Objective	○	○	○	○
	0.6X Auxiliary Objective	○	○	○	○
	0.75X Auxiliary Objective	○	○	○	○
	1.5X Auxiliary Objective	○	○	○	○
	2.0X Auxiliary Objective	○	○	○	○
Infinite LWD Plan Achromatic Metallurgical Objective (MA200A)	5X/ NA=0.12, WD=26.1mm	○	○	○	○
	10X/ NA=0.25, WD=20.2mm	○	○	○	○
	20X/ NA=0.4, WD=8.8mm	○	○	○	○
	40X/ NA=0.6, WD=3.98mm	○	○	○	○
	50X/ NA=0.7, WD=3.68mm	○	○	○	○
	60X/ NA=0.75, WD=1.22mm	○	○	○	○
	60X/ NA=0.75, WD=3.18mm	○	○	○	○
	80X/ NA=0.8, WD=1.25mm	○	○	○	○
	100X/ NA=0.85, WD=0.4mm	○	○	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200A)	2X/ NA=0.055, WD=34.6mm	○	○	○	○
	3.5X/ NA=0.1, WD=40.93mm	○	○	○	○
	5X/ NA=0.13, WD=44.5mm	○	○	○	○
	10X/ NA=0.28, WD=34mm	○	○	○	○
	20X/ NA=0.29, WD=31mm	○	○	○	○
	50X/ NA=0.42, WD=20.1mm	○	○	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200B)	2X/ NA=0.075, WD=50mm	○	○	○	○
	4X/ NA=0.15, WD=36mm	○	○	○	○
	4.5X/ NA=0.18, WD=38mm	○	○	○	○
	20X/ NA=0.35, WD=29mm	○	○	○	○
Coaxial light Device	Coaxial device, does not include light source	○	○	●	●
	Polarized coaxial device, does not include light source	○	○	○	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○	○	○	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○	○	○	○
	BAL-52ASL LED side ring light, brightness adjustable	○	○	○	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○	○	○	○
	BAL-228AG LED four-zone ring light with frosted glass	○	○	○	○
	BAL-16P LED polarizing ring light, brightness adjustable	○	○	○	○
	BAL-52A LED Ring light, brightness adjustable	○	○	○	○
Back Light	BTL-60A LED back light	○	○	○	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○	○	●	●
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○	○	○	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○	○	○	○

Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○	○	○	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○	○	○	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○	○	○	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○	○	○	○
Stage	BMS-302 X-Y moving stage	○	○	○	○
	BMS-303 X-Y moving stage	○	○	○	○
	BMS-311 X-Y measuring stage	○	○	○	○
	BMS-316A X-Y measuring stage	○	○	○	○
	BMS-316B X-Y measuring stage	○	○	○	○
	BMS-400A large working stage	○	○	○	○
	BMS-260A XY working stage	○	○	○	○
Connecting Ring	Metallurgical objective adapter (used to connect metallurgical objectives onto the zoom body)	○	○	○	○
Nosepiece	3 holes nosepiece, 20.3mm thread	○	○	○	○
	4 holes nosepiece, 20.3mm thread	○	○	○	○
	4 holes nosepiece, 26mm thread	○	○	○	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○	○	○	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○	○	○	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○	○	○	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○	○	○	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○	○	○	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○	○	○	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○	○	○	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○	○	○	○
	BA9 multi-angle column plain stand with coarse focus	○	○	○	○

	arm. Stroke: 60mm.				
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○	○	○	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, $\Phi 32$ mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○	○	○	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, $\Phi 32$ mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, $\Phi 25$ mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	●	●	●	●
	BFA-1 coarse focus arm. Stroke: 50mm.	○	○	○	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○	○	○	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○	○	○	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○	○	○	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○	○	○	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○	○

Note: ●Standard Outfit, ○Optional

Accessories



C-mount adapter



Auxiliary objectives



Coaxial device



Polarized coaxial device



3 holes nosepiece



4 holes nosepiece(20.3mm thread)



4 holes nosepiece(26mm thread)



Objective angle device 90°(inverted image)



Objective angle device 90°(erect image)



Monocular tube eyepiece



two output C-mount



BS-1055A/B with 1.0X C-mount adapter and coaxial device



BS-1055C/D with 1.0X C-mount adapter

7. BS-1055LCD1 All-in-One Video Microscope



BS-1055LCD1

Introduction

BS-1055LCD1 All-in-One Video Microscope adapts unique all-in-one design, simple and convenient to install and use. No need to install software, connected to HDMI monitor directly. BS-1055LCD1 provides high-definition images. This microscope is designed for the applications in the fields of machine vision, industrial inspection and scientific research. Modularization product portfolio and excellent optical performance make them a better choice in these areas.

Features

1. Zoom ratio

Zoom ratio 1:7.1, zoom range 0.7X-5X, standard working distance 86mm, can meet the requirement of machine vision conventional imaging.

2. All-in-one design

Unique all-in-one machine design, simple and convenient to install and use. No need to install software, connected HDMI monitor directly. 11.6-inch 1080P LCD monitor with arm stand, angle adjustable.

3. Excellent Imaging

BS-1055LCD1 adopts zoom optical system, high definition and excellent focus alignment. 1920*1080 full HDMI image output with excellent color reduction. Equipped with 5W LED ring light, 0-100% brightness adjustable.

Application

BS-1055LCD1 All-in-One Video Microscope is widely used in educational demonstration, agriculture research, industrial material, semi-conductor, integrated circuit board inspection area and so on. Widely used in electric equipment, semi-conductor, LCD and LED, for digital image observation, inspection and measurement.

Product Details



Operation buttons



Menu: Open Menu/Confirm

UP: Up button

Down: Down button

+: Add button

-: Reduce button

Basic functions

Auto White balance

Auto exposure

	P	AE	WB
Contrast	☉		11
Saturability	S		49
Red gain	R		41
Green gain	G		20
Blue gain	B		52
Brightness	☀		10
Wide dynamic	HDR	★★★★★	1
Crosshair/grid lines		+ #	
Seting the lines	#	1	■ ↕
Sharpness			SE 3

Specification

Item	Specification	BS-1055LCD1
Zoom Lens	0.7X-5.0X zoom lens with 0.5X C-mount	•
Zoom ratio	1:7.1	•
Mounting Size	Φ50mm	•
Built-in Camera	1/2" SONY CMOS with HDMI output, 2.0 mega-pixels, resolution: 1920*1080, pixel size: 3.75μm*3.75μm.	•

Monitor	11.6-inch LCD with arm stand, NTSC/PAL compatible, resolution: 1920*1080, brightness: 400cd	●
Auxiliary Lens	1.0X Auxiliary Objective	●
	0.3X Auxiliary Objective	○
	0.4X Auxiliary Objective	○
	0.5X Auxiliary Objective	○
	0.6X Auxiliary Objective	○
	0.75X Auxiliary Objective	○
	1.5X Auxiliary Objective	○
	2.0X Auxiliary Objective	○
Coaxial light Device	Coaxial device, does not include light source	○
	Polarized coaxial device, does not include light source	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	●
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○

	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, $\Phi 32$ mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, $\Phi 32$ mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, $\Phi 25$ mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	●
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Accessories



Auxiliary objectives



Coaxial device



Polarized coaxial device

8. BS-1080 Monocular Zoom Microscope



BS-1080A/B



BS-1080C/D

Introduction

BS-1080 Series Monocular Zoom microscopes adopt apochromatic parallel optical imaging system and provide high resolution and sharp stereoscopic images. This series microscopes are designed for the applications in the fields of machine vision, industrial inspection and scientific research. Modularization product portfolio and excellent optical performance make them a better choice in these areas.

Features

1. Apochromatic parallel optical system

Adopt apochromatic parallel optical imaging system, use advanced multi-layer coating technology, excellently correct the imaging on the edge of field of view. Get high-resolution and high contrast images, naturally restore the true colors of observed objects. High repeat positioning accuracy.

2. Compact design

Compact design, so that all functions are concentrated in a tube, it is very suitable for the small installation space in modern equipment. High hardness wear-resistant aluminum alloy materials, anode oxidation surface treatment, and long service life.

3. Zoom ratio

Zoom ratio 1:8.3, zoom range 0.6×-5×, standard working distance 88mm, can meet the requirement of machine vision conventional imaging.

4. Diverse accessories

There are a variety of auxiliary lens and C-mount eyepiece adapter for option, make the system's optical magnification range 0.054x-1500x, working distance 2mm-270mm, object field of view 0.004mm-20mm. Adopt modular design, various additional accessories are optional to make the microscope a powerful device for your jobs.

5. Illumination

LED Ring light, polarizing illumination, coaxial illumination system are optional. Coaxial illumination adopts single high brightness 3W LED, color temperature 5500K, uniform lighting, suitable for high reflectivity surface precision detection and limited exterior lighting occasions. Available to observe different objects by using LED illumination or fiber optic illumination to meet different required.

Application

BS-1080 series Monocular Zoom Microscope are widely used in educational demonstration, agriculture research, industrial material, semi-conductor, integrated circuit board inspection area and so on. Widely used in electric equipment, semi-conductor, LCD and LED, for digital image observation, inspection and measurement.

Specification

Item	Specification	BS-1080A	BS-1080B	BS-1080C	BS-1080D
Optical System	Infinite apochromatic parallel optical system	●	●	●	●
Zoom Lens	Optical zoom magnification: 0.6X-5.0X (without click stop)	●		●	
	Optical zoom magnification: 0.6X-5.0X (with click stop)		●		●
Zoom ratio	1:8.3	●	●	●	●
Viewing head	Monocular tube with 10X/18mm eyepiece	○	○	○	○
Objective Angle Device	Objective angle device 90°, inverted image	○	○	○	○
	Objective angle device 90°, erect image	○	○	○	○
Mounting Size	Φ40mm	●	●	●	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○	○
	BLC-480B LCD digital camera with HDMI2.0, USB2.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI	○	○	○	○

	multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.				
C-mount Adapter	0.3X C-mount adapter	○	○	○	○
	0.45X C-mount adapter	○	○	○	○
	0.5X C-mount adapter	○	○	○	○
	0.67X C-mount adapter	○	○	○	○
	0.75X C-mount adapter	○	○	○	○
	1.0X C-mount adapter	●	●	●	●
	1.5X C-mount adapter	○	○	○	○
	2X C-mount adapter	○	○	○	○
	3X C-mount adapter	○	○	○	○
	0.5X C-mount adapter with iris	○	○	○	○
	1.0X C-mount adapter with iris	○	○	○	○
Auxiliary Lens	1.0X Auxiliary Objective	●	●	●	●
	0.3X Auxiliary Objective	○	○	○	○
	0.4X Auxiliary Objective	○	○	○	○
	0.5X Auxiliary Objective	○	○	○	○
	0.6X Auxiliary Objective	○	○	○	○
	0.75X Auxiliary Objective	○	○	○	○
	1.5X Auxiliary Objective	○	○	○	○
	2.0X Auxiliary Objective	○	○	○	○
Infinite LWD Plan Achromatic Metallurgical Objective (MA200A)	5X/ NA=0.12, WD=26.1mm	○	○	○	○
	10X/ NA=0.25, WD=20.2mm	○	○	○	○
	20X/ NA=0.4, WD=8.8mm	○	○	○	○
	40X/ NA=0.6, WD=3.98mm	○	○	○	○
	50X/ NA=0.7, WD=3.68mm	○	○	○	○
	60X/ NA=0.75, WD=1.22mm	○	○	○	○
	60X/ NA=0.75, WD=3.18mm	○	○	○	○
	80X/ NA=0.8, WD=1.25mm	○	○	○	○
	100X/ NA=0.85, WD=0.4mm	○	○	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200A)	2X/ NA=0.055, WD=34.6mm	○	○	○	○
	3.5X/ NA=0.1, WD=40.93mm	○	○	○	○
	5X/ NA=0.13, WD=44.5mm	○	○	○	○
	10X/ NA=0.28, WD=34mm	○	○	○	○
	20X/ NA=0.29, WD=31mm	○	○	○	○
	50X/ NA=0.42, WD=20.1mm	○	○	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200B)	2X/ NA=0.075, WD=50mm	○	○	○	○
	4X/ NA=0.15, WD=36mm	○	○	○	○
	4.5X/ NA=0.18, WD=38mm	○	○	○	○
	20X/ NA=0.35, WD=29mm	○	○	○	○

Coaxial light	Coaxial device, does not include light source	○	○	●	●
Device	Polarized coaxial device, does not include light source	○	○	○	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○	○	○	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○	○	○	○
	BAL-52ASL LED side ring light, brightness adjustable	○	○	○	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○	○	○	○
	BAL-228AG LED four-zone ring light with frosted glass	○	○	○	○
	BAL-16P LED polarizing ring light, brightness adjustable	○	○	○	○
	BAL-52A LED Ring light, brightness adjustable	○	○	○	○
Back Light	BTL-60A LED back light	○	○	○	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○	○	●	●
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○	○	○	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○	○	○	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○	○	○	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○	○	○	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○	○	○	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○	○	○	○
Stage	BMS-302 X-Y moving stage	○	○	○	○
	BMS-303 X-Y moving stage	○	○	○	○
	BMS-311 X-Y measuring stage	○	○	○	○
	BMS-316A X-Y measuring stage	○	○	○	○
	BMS-316B X-Y measuring stage	○	○	○	○
	BMS-400A large working stage	○	○	○	○
	BMS-260A XY working stage	○	○	○	○
Connecting Ring	Mounting Adapter (39.6 to 45mm), used to connect the BS-1080A to 45mm focus arm	○	○	○	○
	Mounting Adapter (39.6 to 50mm), used to connect the BS-1080A to 50mm focus arm	○	○	○	○
	Metallurgical objective adapter (used to connect metallurgical objectives onto the zoom body)	○	○	○	○
Nosepiece	3 holes nosepiece, 20.3mm thread	○	○	○	○
	4 holes nosepiece, 20.3mm thread	○	○	○	○
	4 holes nosepiece, 26mm thread	○	○	○	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○	○	○	○
	BA2 Round type column plain stand with coarse focus arm,	○	○	○	○

	transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.				
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○	○	○	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○	○	○	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○	○	○	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○	○	○	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○	○	○	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○	○	○	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○	○	○	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○	○	○	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○	○	○	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○	○	○	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○	○	○	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○	○	○	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○	○	○	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○	○	○	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○	○	○	○

	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○	○
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Note: ●Standard Outfit, ○Optional

Optical Parameter

Auxiliary Objectives	CCD C-mount Adapter							
		0.3X	0.45X	0.5X	1.0X (Standard)	1.5X	2.0X	3.0X
1.0X WD:86mm	Total Mag.	0.18-1.5X	0.27-2.25X	0.3-2.5X	0.6-5.0X	0.9-7.5X	1.2-10X	1.8-15X
	FOV (mm)	40*22.5- 4.8*2.7	26.7*15- 3.2*1.8	24*13.5- 2.8*1.6	12*6.7- 1.4*0.8	8*4.5- 0.9*0.5	6*3.3- 0.7*0.4	4*2.2- 0.4*0.2
0.3X WD:270mm	Total Mag.	0.05-0.45X	0.08-0.67X	0.09-0.75X	0.18-1.5X	0.27-2.25X	0.36-3X	0.54-4.5x
	FOV (mm)	144*81- 16*9	90*50.6- 10.7*6	80*45- 9.6*5.4	40*22.5- 4.8*2.7	26.6*15- 3.2*1.8	20*11.2- 2.4*1.3	13.3*7.5- 1.6*0.9
0.4X WD:195mm	Total Mag.	0.07-0.57X	0.1-0.85X	0.11-0.95X	0.22-1.9X	0.34-2.85X	0.45-3.8X	0.68-5.7X
	FOV (mm)	102.8*57.8- 12.6*7.1	72*40.5- 8.5*4.7	65.4*36.8- 7.5*4.2	32.7*18.4- 3.7*2.1	21.2*11.9- 2.5*1.4	16*9- 1.8*1.1	10.5*5.9- 1.2*0.7
0.5X WD:160mm	Total Mag.	0.09-0.75X	0.13-1.12X	0.15-1.25X	0.3-2.5X	0.45-3.75X	0.6-5.0X	0.9-7.5X
	FOV (mm)	80*45- 9.6*5.4	55.3*31.1- 6.4*3.6	48*27- 5.73.2	24*13.5- 2.8*1.6	16*9- 1.9*1.1	12*6.7- 1.4*0.8	8*4.5- 0.9*0.5
0.6X WD:130mm	Total Mag.	0.1-0.9X	0.16-1.35X	0.18-1.5X	0.36-3X	0.54-4.5X	0.72-6X	1.08-9X
	FOV (mm)	72*40.5- 8*4.5	45*25.3- 5.3*3	40*22.5- 4.8*2.7	20*11.2- 2.4*1.3	13.3*7.5- 1.6*0.9	10*5.6- 1.2*0.6	6.6*3.7- 0.8*0.45
0.75X WD:105mm	Total Mag.	0.13-1.12X	0.2-1.68X	0.22-1.88X	0.45-3.75X	0.68-5.6X	0.9*7.5X	0.68-11.2X
	FOV (mm)	55.3*31.1- 6.4*3.6	36*20.2- 4.2*2.4	32.7*18.4- 3.8*2.1	16*9- 1.9*1.1	10.6*5.9- 1.3*0.7	8*4.5- 0.9*0.5	10.6*5.9- 0.6*0.3
1.5X WD:50mm	Total Mag.	0.27-2.25X	0.4-3.37X	0.45*3.75X	0.9-7.5X	1.35-11.25X	1.8-15X	2.7-22.5X
	FOV (mm)	26.6*15 3.2*1.8	18*10.1- 2.1*1.2	16*9- 1.9*1.1	8*4.5- 0.9*0.5	5.3*3- 0.6*0.3	4*2.2- 0.4*0.2	2.6*1.5- 0.3*0.1
2.0X WD:39mm	Total Mag.	0.36-3X	0.54-4.5X	0.6-5.0X	1.2-10X	1.8-15X	2.4-20X	3.6-30X
	FOV (mm)	21.6*11.2-	13.3*7.5-	12*6.7-	6*3.3-	4*2.2-	3*1.6-	2*1.1-

	2.4*1.3	1.6*0.9	1.4*0.8	0.7*0.4	0.4*0.2	0.3*0.2	0.2*0.1
Remark: Total magnification of lens = Magnification of zoom body × CCD adapter magnification × Objective magnification, the range of Field of View is based on 1/2"7.2x4.05mm Sensor Camera, FOV= the size of camera sensor / total Optical Magnification.							

Accessories



C-mount adapter



C-mount adapter with iris



Auxiliary objectives



Coaxial device



Polarized coaxial device



3 holes nosepiece



4 holes nosepiece(20.3mm thread)



4 holes nosepiece(26mm thread)



Objective angle device 90°(inverted image)



Objective angle device 90°(erect image)



Monocular tube eyepiece



two output C-mount



BS-1080A with coaxial device



BS-1080A with coaxial device and APO objective



BS-1080A with coaxial device and triple nosepiece



BS-1080A with objective angle device 90° (inverted image)



BS-1080A with objective angle device 90° (erect image)



BS-1080A with two output C-mount



BS-1080A with monocular tube eyepiece



BS-1080LCD1/2/3/4



BS-1080A with BAL-52A, BA1 and LCD screen holder



LCD screen holder



BS-1080A with BAL-52A and BA1 stand

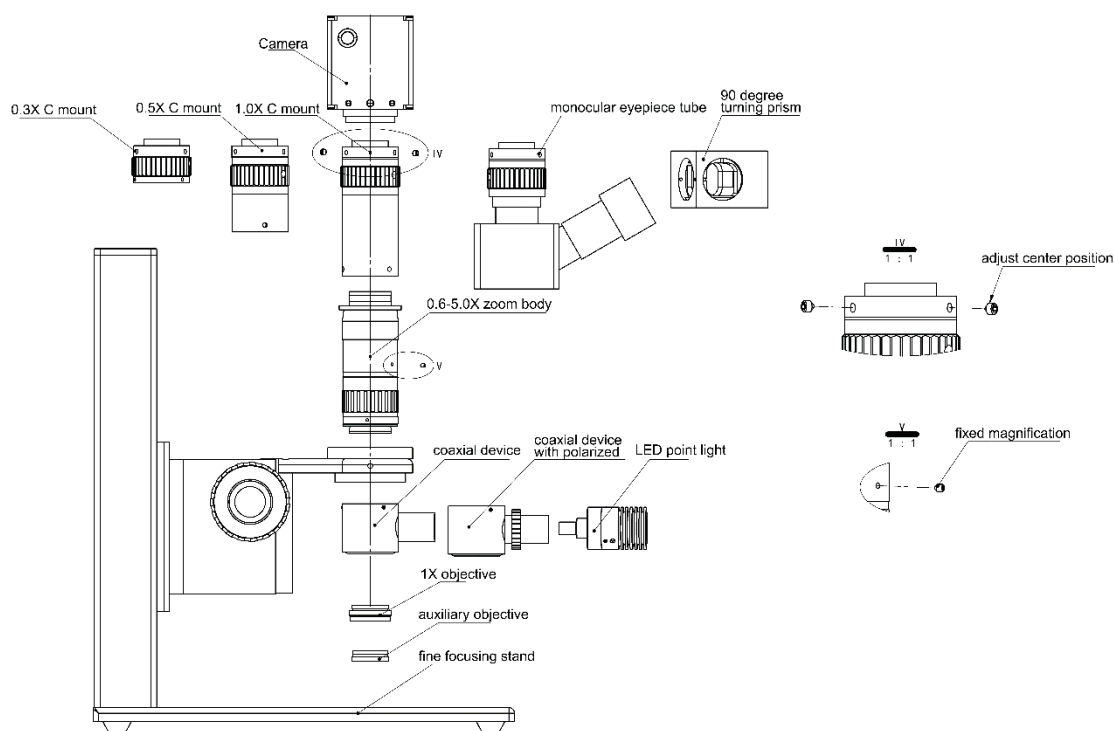


BS-1080A with BAL-52A and BA3 stand

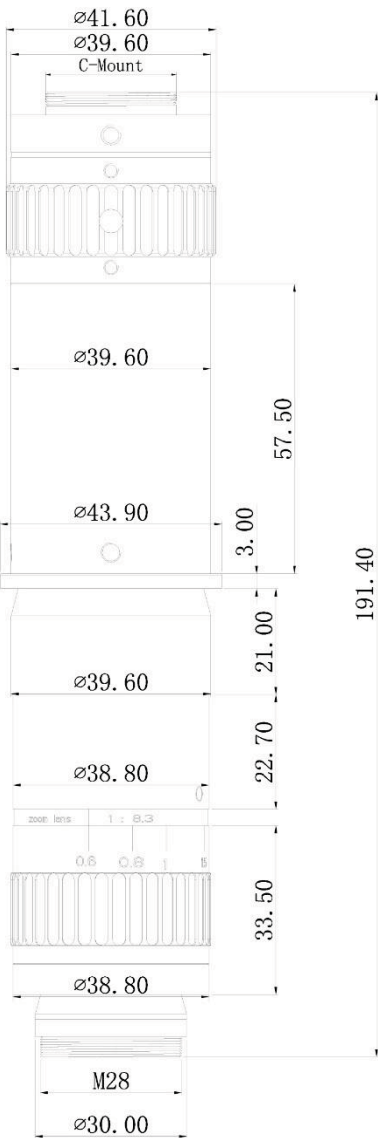


BS-1080A with BA11 stand

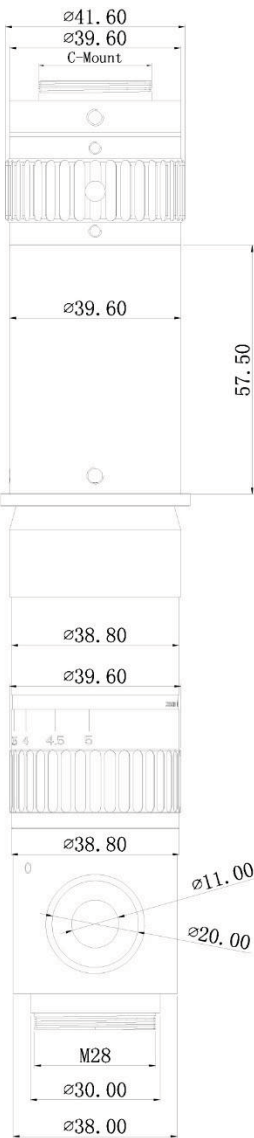
System Diagram



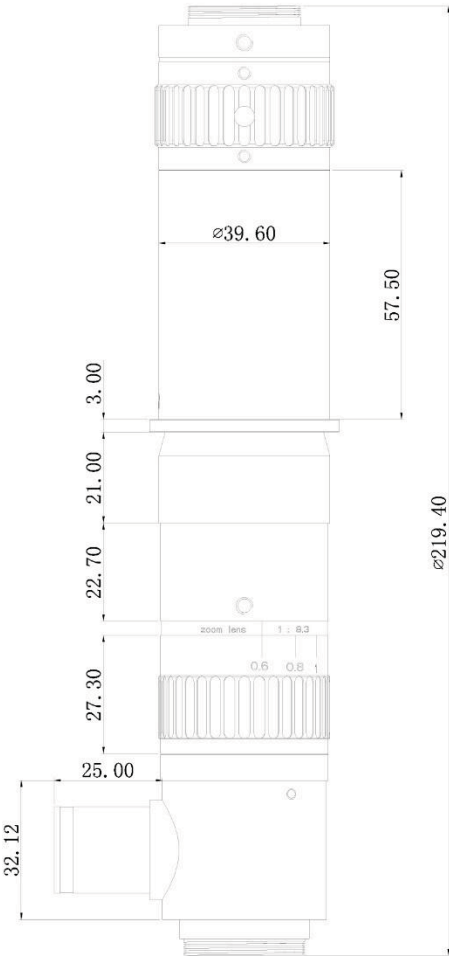
Dimension



BS-1080A



BS-1080A with coaxial device Dimension



Unit: mm

9. BS-1080LCD5M All-in-One Measuring Video Microscope



BS-1080LCD5M

Introduction

BS-1080LCD5M All-in-One Measuring Video Microscope adapts unique all-in-one design, simple and convenient to install and use. No need to install software, connected to HDMI monitor directly. This microscope is designed for the applications in the fields of machine vision, industrial inspection and scientific research. Modularization product portfolio and excellent optical performance make them a better choice in these areas.

Features

1. All-in-one design

0.6-5X zoom magnification, working distance is 86mm. 1920*1080 full HDMI image with excellent color reduction. Unique all-in-one machine design, simple and convenient to install and use.

2. No need for PC

With built-in smart measuring software, there is no need for PC, connected to monitor directly. Support taking photos and video to U disk. And the users can browse the photo directly.

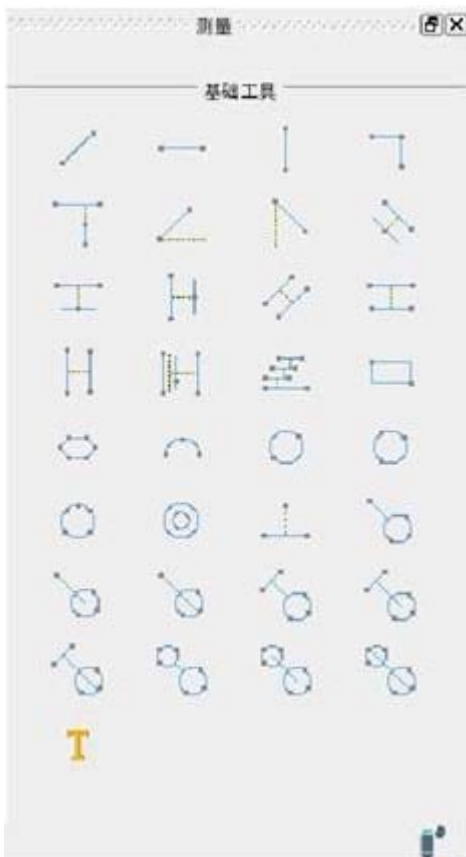
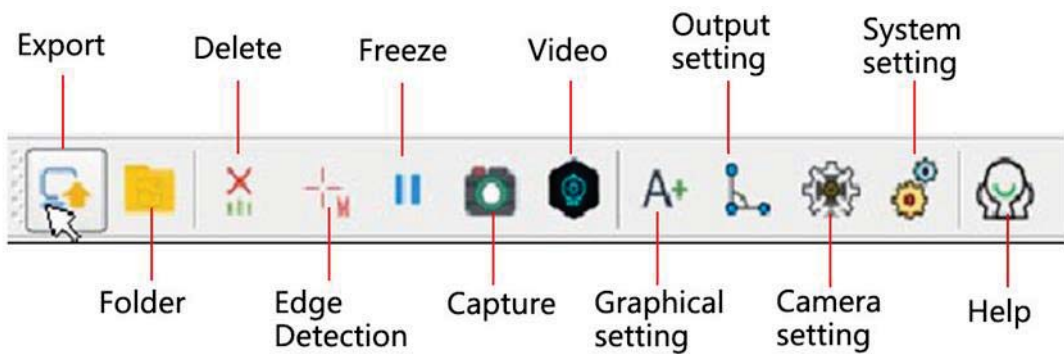
Application

BS-1080LCD5M All-in-One Measuring Video Microscope is widely used in industrial inspection, auto system, electronic communication, semiconductor, biomedical and scientific research, etc.

Product Details



Basic Function



Support two-point line, point to line, angle between two lines, parallel lines, rectangles, polygons, radians, circles, center of circles, line to circle, center distance, concentric circles and other measurements.

Specification

Item	Specification	BS-1080LCD5M
Zoom Lens	0.6X-5.0X zoom lens with 0.5X C-mount	•
Zoom method	Auto zoom	•
Zoom ratio	1:8.3	•
Built-in Camera	Digital camera with HDMI output, resolution: 1920*1080, frame: 60fps, sensor: 1/3", pixel size: 2.75μm *2.75μm. Support measuring of point, line, parallel lines, circle, arc, angle, rectangle, polygon etc. Take photo and video to U disk.	•
Monitor	11.6-inch LCD with arm stand, NTSC/PAL compatible, resolution: 1920*1080, brightness: 400cd	•

Auxiliary Lens	1.0X Auxiliary Objective	●
	0.3X Auxiliary Objective	○
	0.4X Auxiliary Objective	○
	0.5X Auxiliary Objective	○
	0.6X Auxiliary Objective	○
	0.75X Auxiliary Objective	○
	1.5X Auxiliary Objective	○
	2.0X Auxiliary Objective	○
	20X/ NA=0.35, WD=29mm	○
Coaxial light Device	Coaxial device, does not include light source	○
	Polarized coaxial device, does not include light source	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	●
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○

	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	●
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-1080LCD5M	
Microscope Body	Optical magnification	0.6-5.0X with 0.5X C-mount adapter
	Total magnification	14-120X
	FOV	17.6mm*9.9mm-2.1mm*1.2mm
	Working distance	86mm
	Resolution	1920*1080
	Frame	60fps
	Pixel	2.0MP

	Chip structure	HIS+ARM
	Operation system	LINUX 3.10
	Kernel structure	Dual-kernel Cortex-A9
	Sensor	1/3"
	Pixel size	2.75μm *2.75μm
	Output	HDMI
Monitor	Size	11.6 inch, with arm stand, angle adjustable
	Resolution	1920*1080
	Brightness	400cd

Accessories



Auxiliary objectives

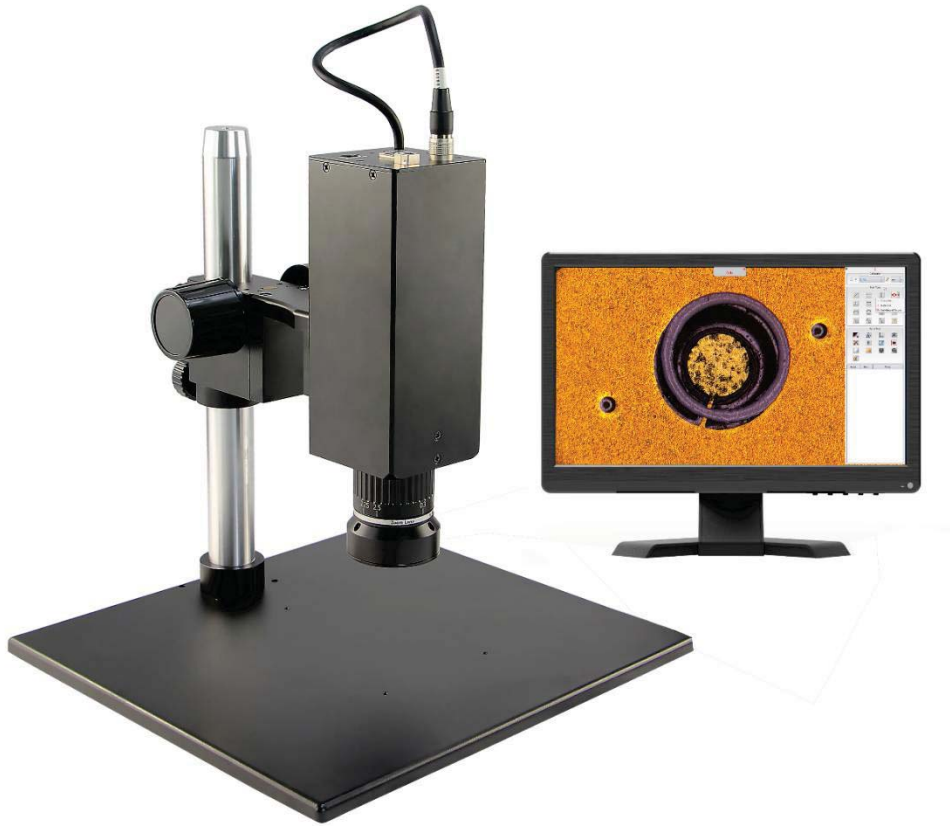


Coaxial device



Polarized coaxial device

10. BS-1080FCA2/FCB2 Measuring Video Microscope



BS-1080FCA2/FCB2 with monitor

Features

1. Parallel path optical system

Two optical magnification zoom body options: 0.3-2.5X and 0.6-5.0X. Parallel path optical system, high definition and high contrast imaging.

2. All-in-one design

All in one design, easy to install and can be paired with different stands. 1920*1080 high resolution imaging, 60fps, support capture and save photos.

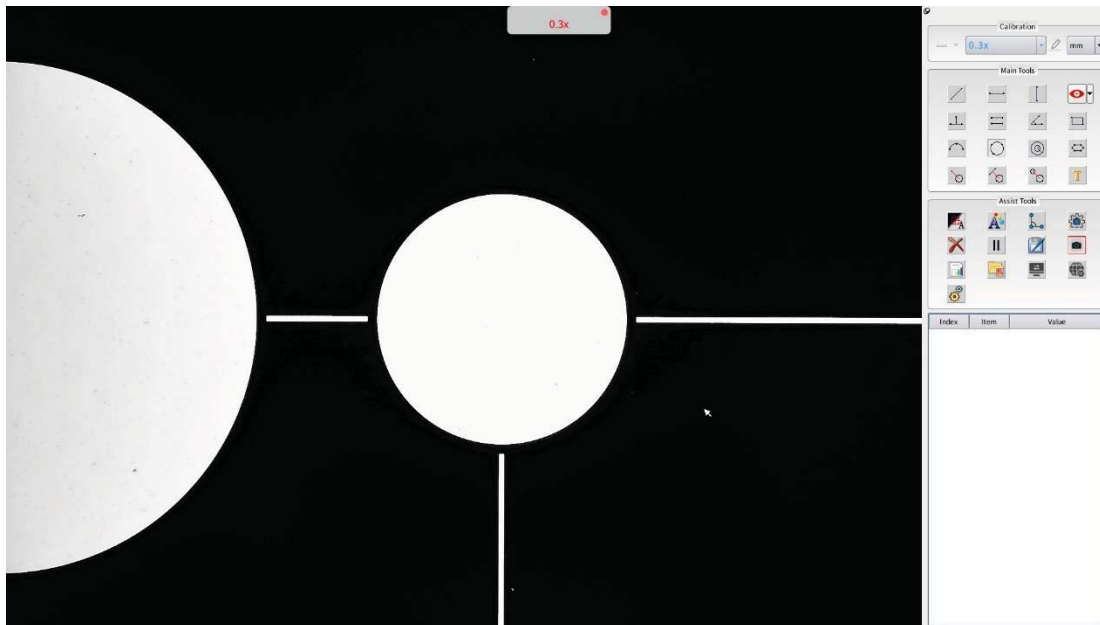
3. Measuring function

The entire software combines both measurement and overlay functions, making it simple and easy to understand. It can display or close function windows according to user needs. Support the measurement of lines, circles, sectors, concentric circles, center-to-center distance, angle, arbitrary polygon, etc. Measuring data can be kept in photo or export with excel sheet.

4. Calibration free

The optical magnification and image magnification are displayed in real time. The users don't need to calibrate again, measuring directly.

Operation windows

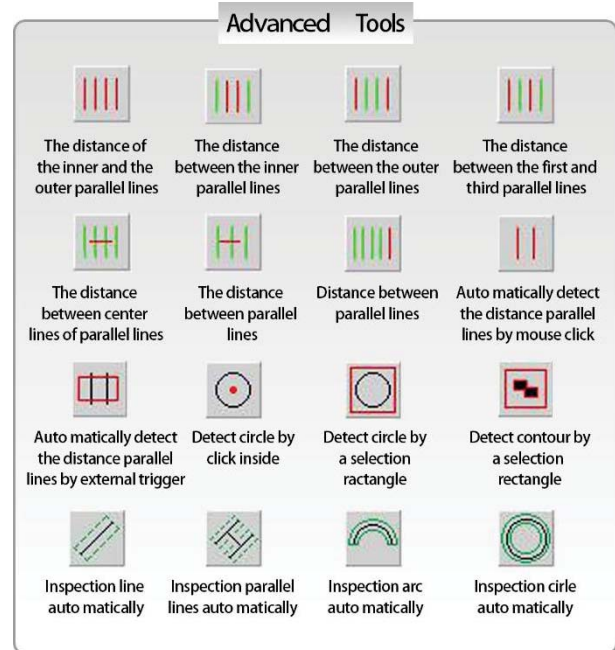
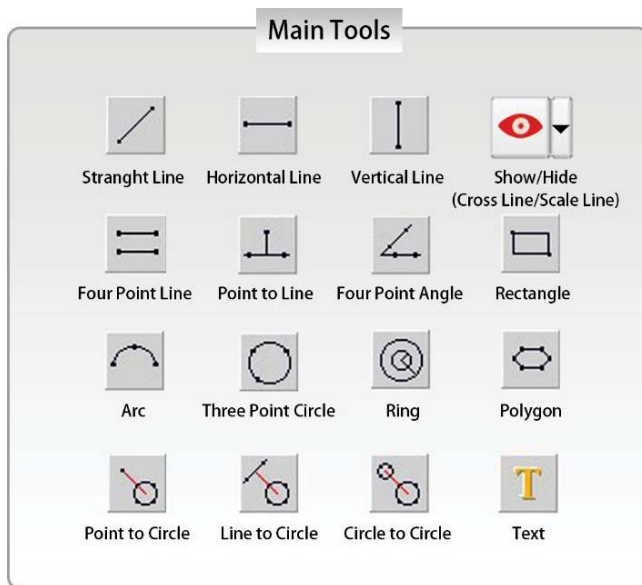


Assist Tools

Edge Detection, Graphics Setting, Output setting, Camera setting, Freeze, Capture, Network Settings, System setting etc.

Measuring function

Support measuring such as line distance, circular, concentric circles, center-to-center distance, angle, polygon, etc. Measuring data can be kept in photo or export with excel sheet.



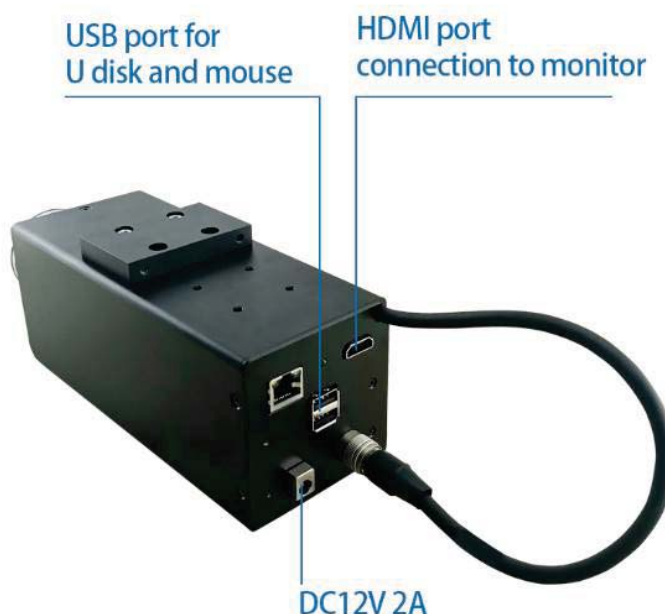
Application

BS-1080FCA2/FCB2 Measuring Video Microscopes are widely used in industrial inspection, auto system, electronic communication, semiconductor, biomedical and scientific research, etc.

Product Details



Integrated body design, built-in measurement program with mouse operation. Images can be saved to USB disk, can also be directly transferred to the computer through the network port.



Specification

Item	Specification	BS-1080FCA2	BS-1080FCB2
Optical System	Parallel optical system	●	●
Zoom Lens	0.6X-5.0X zoom body with 0.5X C-mount adapter	●	
	0.6X-5.0X zoom body		●
Zoom ratio	1:8.3	●	●
Built-in Camera	Digital camera with high resolution HDIM output, resolution: 1920*1080, frame: 60fps, sensor: 1/2", pixel size: 3.75μm *3.75μm. Support measuring of point, line, parallel lines, circle, arc, angle, rectangle, polygon etc. Take photo and video to USB disk or transferred to PC by network interface.	●	●
Auxiliary Lens	1.0X Auxiliary Objective	●	●
	0.3X Auxiliary Objective	○	○
	0.4X Auxiliary Objective	○	○
	0.5X Auxiliary Objective	○	○
	0.6X Auxiliary Objective	○	○
	0.75X Auxiliary Objective	○	○
	1.5X Auxiliary Objective	○	○
	2.0X Auxiliary Objective	○	○
Infinite LWD Plan Achromatic	5X/ NA=0.12, WD=26.1mm	○	○
	10X/ NA=0.25, WD=20.2mm	○	○
	20X/ NA=0.4, WD=8.8mm	○	○

Metallurgical Objective (MA200A)	40X/ NA=0.6, WD=3.98mm	○	○
	50X/ NA=0.7, WD=3.68mm	○	○
	60X/ NA=0.75, WD=1.22mm	○	○
	60X/ NA=0.75, WD=3.18mm	○	○
	80X/ NA=0.8, WD=1.25mm	○	○
	100X/ NA=0.85, WD=0.4mm	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200A)	2X/ NA=0.055, WD=34.6mm	○	○
	3.5X/ NA=0.1, WD=40.93mm	○	○
	5X/ NA=0.13, WD=44.5mm	○	○
	10X/ NA=0.28, WD=34mm	○	○
	20X/ NA=0.29, WD=31mm	○	○
	50X/ NA=0.42, WD=20.1mm	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200B)	2X/ NA=0.075, WD=50mm	○	○
	4X/ NA=0.15, WD=36mm	○	○
	4.5X/ NA=0.18, WD=38mm	○	○
	20X/ NA=0.35, WD=29mm	○	○
Coaxial light Device	Coaxial device, does not include light source	○	○
	Polarized coaxial device, does not include light source	○	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	●	●
	BAL-52AP LED polarizing ring light, brightness adjustable	○	○
	BAL-52ASL LED side ring light, brightness adjustable	○	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○	○
	BAL-228AG LED four-zone ring light with frosted glass	○	○
	BAL-16P LED polarizing ring light, brightness adjustable	○	○
	BAL-52A LED Ring light, brightness adjustable	○	○
Back Light	BTL-60A LED back light	○	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○	○
Stage	BMS-302 X-Y moving stage	○	○
	BMS-303 X-Y moving stage	○	○
	BMS-311 X-Y measuring stage	○	○
	BMS-316A X-Y measuring stage	○	○
	BMS-316B X-Y measuring stage	○	○
	BMS-400A large working stage	○	○
	BMS-260A XY working stage	○	○

Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	•	•
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○	○

	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○
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Note: ●Standard Outfit, ○Optional

Optical Parameter

Model		BS-1080FCA2	BS-1080FCB2
Lens	Optical Magnification	0.3-2.5X	0.6-5.0X
	FOV	24mm*13.5mm-2.88mm*1.62mm	12mm*6.8mm-1.44mm*0.81mm
	Zoom Ratio	1:8.3	
	Working Distance	86mm	
Camera	Chip Structure	HIS+ARM	
	Resolution	1920*1080	
	Frame	60fps	
	Sensor	1/2"	
	Pixel Size	3.75μm *3.75μm	
	Output	High resolution HDMI output	
	Measuring	Line segment, circular, sector, concentric circles, center distance, angle, arbitrary polygon, etc.	
	Storage	Take photos to USB disk or directly transferred to PC with network interface	

Accessories



Auxiliary objectives



Coaxial device



Polarized coaxial device



BS-1080FCA2/FCB2



BS-1080FCA2/FCB2 with BA2 stand



BS-1080FCA2/FCB2 with BA5 stand



BS-1080FCA2/FCB2 with BA6 stand



BS-1080FCA2/FCB2 with BA7 stand



BS-1080FCA2/FCB2 with coaxial device with
BPL-3A LED point light, APO objective and BA7 stand

11. BS-1080FCM Motor Zoom Measuring Video Microscope



BS-1080FCM

Features

1. High precision optical system

0.6-5.0X automatic electric zoom, smart cruise setting. High precision optical system design, continuous cruise keeps the center same. Repeated precision can reach 0.001 μ m.

2. No need for PC and software

High precision electronic feedback system, no need for PC. Connect HDMI monitor directly, no need to install software. There is built-in smart measuring software, one key to save high-definition images and measurement data. Operate directly with a mouse, easy and convenient.

3. Calibration free

The optical magnification and image magnification are displayed in real time. The users don't need to calibrate again, measuring directly.

4. Modular design

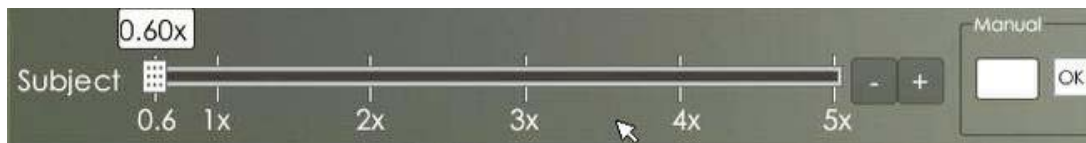
Modular design, various magnification CCD mount and auxiliary objective are optional. There are also different function modules, such as coaxial device, polarized coaxial device, fine focus objective device, DIC element etc.

5. Durable and sturdy

High hardness aluminum alloy material, anodic oxidation treatment, more durable in use.

Operation windows

0.6X-5.0X electric stepless zoom: You can adjust and magnification from 0.6X-5.0X.



Real time display optical magnification and imaging magnification.



Basic function: automatic white balance, auto exposure, taking photo and video to U disk, preview image online, camera setting, etc.



Measuring function: support point, line distance, parallel lines, circle, arc, rectangle, polygon, etc.



Built-in high precision electronic feedback system, smart cruise scanning setting.

Application

BS-1080FCM Motor Zoom Measuring Video Microscope is widely used in industrial inspection, auto system , electronic communication, semiconductor , biomedical and scientific research ,etc.

Product Details



Specification

Item	Specification	BS-1080FCM
Optical System	Infinite apochromatic parallel optical system	●
Zoom Lens	Optical zoom magnification: 0.6X-5.0X	●
Zoom method	Auto zoom	●
Zoom ratio	1:8.3	●
Camera	Digital camera with high resolution HDIM output, resolution: 1920*1080, frame: 60fps, sensor: 1/2", pixel size: 3.75um*3.75um. Support measuring of point, line, parallel lines, circle, arc, angle, rectangle, polygon etc. Take photo and video to U disk.	●
C-mount Adapter	0.3X C-mount adapter	○
	0.45X C-mount adapter	○
	0.5X C-mount adapter	○
	0.67X C-mount adapter	○
	0.75X C-mount adapter	○
	1.0X C-mount adapter	●
	1.5X C-mount adapter	○
	2X C-mount adapter	○
	3X C-mount adapter	○
	0.5X C-mount adapter with iris	○
	1.0X C-mount adapter with iris	○
Auxiliary Lens	1.0X Auxiliary Objective	●
	0.3X Auxiliary Objective	○
	0.4X Auxiliary Objective	○
	0.5X Auxiliary Objective	○
	0.6X Auxiliary Objective	○
	0.75X Auxiliary Objective	○
	1.5X Auxiliary Objective	○
	2.0X Auxiliary Objective	○
Infinite LWD Plan Achromatic Metallurgical Objective (MA200A)	5X/ NA=0.12, WD=26.1mm	○
	10X/ NA=0.25, WD=20.2mm	○
	20X/ NA=0.4, WD=8.8mm	○
	40X/ NA=0.6, WD=3.98mm	○
	50X/ NA=0.7, WD=3.68mm	○
	60X/ NA=0.75, WD=1.22mm	○
	60X/ NA=0.75, WD=3.18mm	○
	80X/ NA=0.8, WD=1.25mm	○
	100X/ NA=0.85, WD=0.4mm	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200A)	2X/ NA=0.055, WD=34.6mm	○
	3.5X/ NA=0.1, WD=40.93mm	○
	5X/ NA=0.13, WD=44.5mm	○
	10X/ NA=0.28, WD=34mm	○
	20X/ NA=0.29, WD=31mm	○

	50X/ NA=0.42, WD=20.1mm	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200B)	2X/ NA=0.075, WD=50mm	○
	4X/ NA=0.15, WD=36mm	○
	4.5X/ NA=0.18, WD=38mm	○
	20X/ NA=0.35, WD=29mm	○
Coaxial light Device	Coaxial device, does not include light source	○
	Polarized coaxial device, does not include light source	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	●
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	●
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○

	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-1080FCM	
Lens	Optical Magnification	0.6-5.0X
	Zoom method	Auto zoom
	FOV	12x6.75-1.44x0.81mm
	Total Magnification	28-240X(based on 15.6 inch monitor)
	Working Distance	86mm
Camera	Resolution	1920*1080
	Frame	60fps
	Sensor	1/2"
	Pixel Size	3.75x3.75μm
	Output	High resolution HDMI output
	Measuring function	Support measuring of point, line, parallel lines, circle, arc, angle, rectangle, polygon etc.

	Save function	Take photo and video to U disk
Stand	Base size	330*300mm
	Height of post	318mm
	Focus	Coarse focus
Light	Ring light	12V 13W all in one LED ring light with 4 zones control 228PCS LED quantity
	Transmitted light	12V 5W transmitted light

Magnification	Working distance	FOV	Depth of Field	NA	Resolution	Magnification	Working distance	FOV
0.6X	85.6mm	12x6.75mm	3.12mm	0.021mm	0.016mm	0.6X	85.6mm	12x6.75mm
0.8X	85.6mm	9x5.06mm	2.04mm	0.025mm	0.014mm	0.8X	85.6mm	9x5.06mm
1.0X	85.6mm	7.2x4.05mm	1.21mm	0.033mm	0.010mm	1.0X	85.6mm	7.2x4.05mm
2.0X	85.6mm	3.6x2.03mm	0.38mm	0.053mm	0.006mm	2.0X	85.6mm	3.6x2.03mm
3.0X	85.6mm	2.4x1.35mm	0.20mm	0.067mm	0.005mm	3.0X	85.6mm	2.4x1.35mm
4.0X	85.6mm	1.8x1.01mm	0.13mm	0.079mm	0.004mm	4.0X	85.6mm	1.8x1.01mm
5.0X	85.6mm	1.5x0.81mm	0.09mm	0.090mm	0.004mm	5.0X	85.6mm	1.5x0.81mm

Accessories



C-mount adapter



C-mount adapter with iris



Auxiliary objectives



Coaxial device



Polarized coaxial device



3 holes nosepiece



4 holes nosepiece(20.3mm thread)



4 holes nosepiece(26mm thread)



Objective angle device 90°(inverted image)



Objective angle device 90°(erect image)



Monocular tube eyepiece



two output C-mount



BS-1080FCM



BS1080FCM with BA2 Stand



BS-1080FCM with BA3 Stand



BS1080FCM with BA4 Stand



BS-1080FCM with BA5 Stand



BS-1080FCM with BA6 Stand



BS-1080FCM with BA7 Stand



BS-1080FCM with BA8 Stand



BS-1080FCM with BA8 Stand and monitor

12. BS-1080AM Motor Zoom Monocular Microscope



BS-1080AM

Introduction

BS-1080AM Motor Zoom Monocular Microscope adopt high precision optical system and provide high resolution and sharp stereoscopic images. This series microscopes are designed for the applications in the fields of machine vision, industrial inspection and scientific research. Modularization product portfolio and excellent optical performance make them a better choice in these areas.

Features

1. High precision optical system

0.6-5.0X motor zoom magnification. High precision optical system design, repeated precision can reach 0.001 μ m.

2. Precise electronic feedback system

Precise electronic feedback system, set up intelligent and scan continuous.

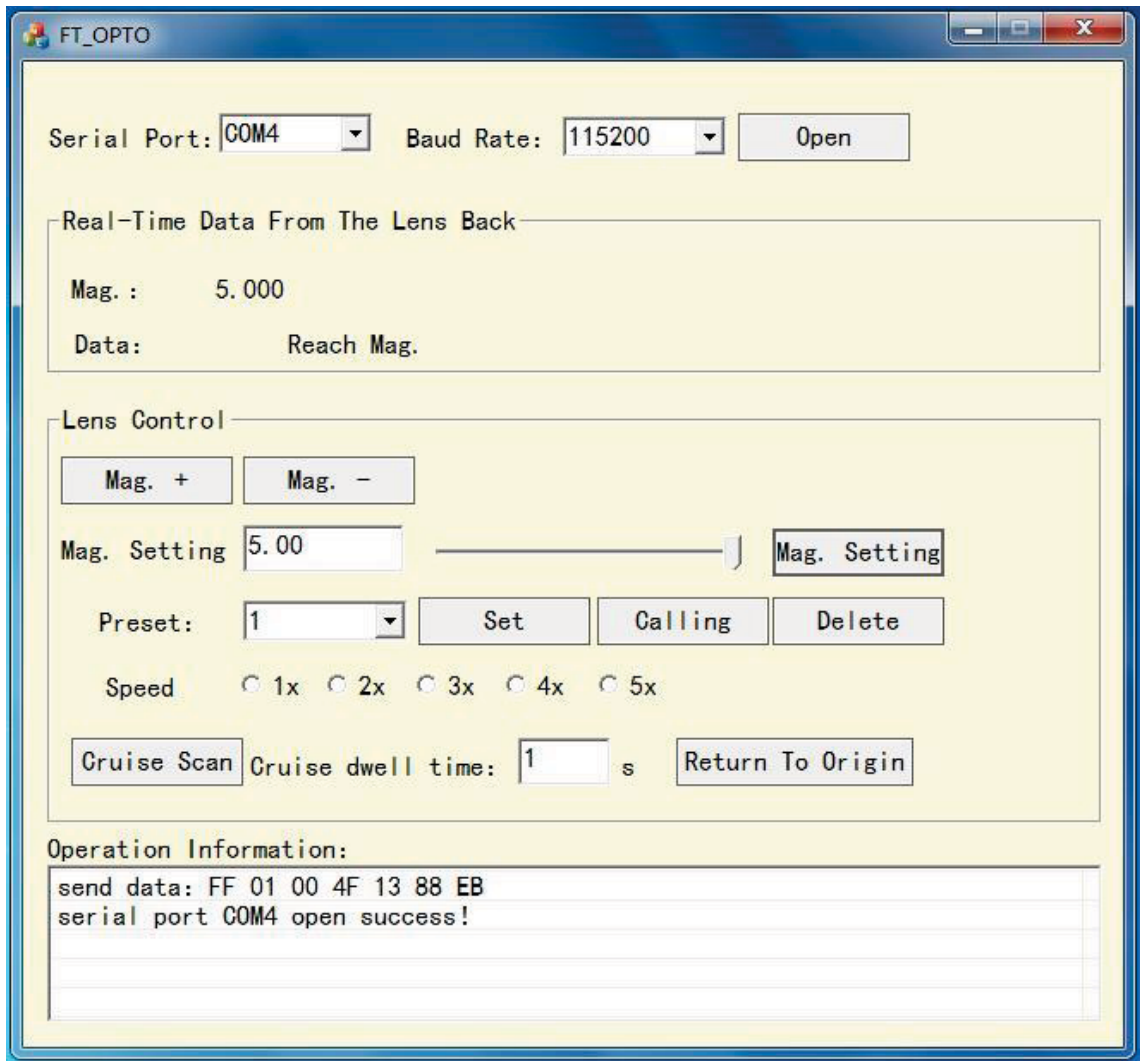
3. Modular design

Intelligent modular design, users can choose different magnification CTV mount and auxiliary objective to meet your needs. There are coaxial light sources, ring light sources and optical fiber for optional to test different samples.

4. Secondary development

Provide secondary development modules.

Software Window



Application

BS-1080AM Motor Zoom Monocular Microscope are widely used in educational demonstration, agriculture research, industrial material, semi-conductor, integrated circuit board inspection area and so on. Widely used in electric equipment, semi-conductor, LCD and LED, for digital image observation, inspection and measurement.

Specification

Item	Specification	BS-1080AM
Optical System	Infinite apochromatic parallel optical system	●
Zoom Lens	Optical zoom magnification: 0.6X-5.0X	●
Zoom method	Auto zoom	●
Zoom ratio	1:8.3	●
Viewing head	Monocular tube with 10X/18mm eyepiece	○
Objective Angle Device	Objective angle device 90°, inverted image	○

	Objective angle device 90°, erect image	○
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-480B LCD digital camera with HDMI2.0, USB2.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
C-mount Adapter	0.3X C-mount adapter	○
	0.45X C-mount adapter	○
	0.5X C-mount adapter	○
	0.67X C-mount adapter	○
	0.75X C-mount adapter	○
	1.0X C-mount adapter	●
	1.5X C-mount adapter	○
	2X C-mount adapter	○
	3X C-mount adapter	○
	0.5X C-mount adapter with iris	○
	1.0X C-mount adapter with iris	○
Auxiliary Lens	1.0X Auxiliary Objective	●
	0.3X Auxiliary Objective	○
	0.4X Auxiliary Objective	○
	0.5X Auxiliary Objective	○
	0.6X Auxiliary Objective	○
	0.75X Auxiliary Objective	○
	1.5X Auxiliary Objective	○
	2.0X Auxiliary Objective	○
Infinite LWD Plan Achromatic Metallurgical Objective (MA200A)	5X/ NA=0.12, WD=26.1mm	○
	10X/ NA=0.25, WD=20.2mm	○
	20X/ NA=0.4, WD=8.8mm	○
	40X/ NA=0.6, WD=3.98mm	○
	50X/ NA=0.7, WD=3.68mm	○
	60X/ NA=0.75, WD=1.22mm	○
	60X/ NA=0.75, WD=3.18mm	○
	80X/ NA=0.8, WD=1.25mm	○
	100X/ NA=0.85, WD=0.4mm	○
Infinite LWD Plan	2X/ NA=0.055, WD=34.6mm	○

Apochromatic Objectives (LWD M APO200A)	3.5X/ NA=0.1, WD=40.93mm	☐
	5X/ NA=0.13, WD=44.5mm	☐
	10X/ NA=0.28, WD=34mm	☐
	20X/ NA=0.29, WD=31mm	☐
	50X/ NA=0.42, WD=20.1mm	☐
Infinite LWD Plan Apochromatic Objectives (LWD M APO200B)	2X/ NA=0.075, WD=50mm	☐
	4X/ NA=0.15, WD=36mm	☐
	4.5X/ NA=0.18, WD=38mm	☐
	20X/ NA=0.35, WD=29mm	☐
Coaxial light Device	Coaxial device, does not include light source	☐
	Polarized coaxial device, does not include light source	☐
Ring Light	BAL-80A LED Ring light, brightness adjustable	☐
	BAL-52AP LED polarizing ring light, brightness adjustable	☐
	BAL-52ASL LED side ring light, brightness adjustable	☐
	BAL-228A Four-zone lighting control separately big area LED ring light	☐
	BAL-228AG LED four-zone ring light with frosted glass	☐
	BAL-16P LED polarizing ring light, brightness adjustable	☐
	BAL-52A LED Ring light, brightness adjustable	☐
Back Light	BTL-60A LED back light	☐
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	☐
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	☐
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	☐
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	☐
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	☐
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	☐
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	☐
Stage	BMS-302 X-Y moving stage	☐
	BMS-303 X-Y moving stage	☐
	BMS-311 X-Y measuring stage	☐
	BMS-316A X-Y measuring stage	☐
	BMS-316B X-Y measuring stage	☐
	BMS-400A large working stage	☐
	BMS-260A XY working stage	☐
Connecting Ring	Mounting Adapter (39.6 to 45mm), used to connect the BS-1080 to 45mm focus arm	☐
	Mounting Adapter (39.6 to 50mm), used to connect the BS-1080 to 50mm focus arm	☐
	Metallurgical objective adapter (used to connect metallurgical objectives onto the zoom body)	☐
Nosepiece	3 holes nosepiece, 20.3mm thread	☐
	4 holes nosepiece, 20.3mm thread	☐
	4 holes nosepiece, 26mm thread	☐
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	☐

	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-1080AM				
Zoom body	0.6-5.0X				
Lens mount	Standard C mount				
Working distance	86mm				
Zoom method	Motor zoom				
Connect port	RS232 and USB				
Power	DC12V 2A				
Magnification	WD	Depth of view	NA	Resolution	CCD
0.6X	86mm	3.12mm	0.021mm	0.016mm	2/3"
0.8X	86mm	2.04mm	0.025mm	0.014mm	2/3"
1.0X	86mm	1.21mm	0.033mm	0.010mm	2/3"
2.0X	86mm	0.38mm	0.053mm	0.006mm	2/3"
3.0X	86mm	0.20mm	0.067mm	0.005mm	2/3"
4.0X	86mm	0.13mm	0.079mm	0.004mm	2/3"
5.0X	86mm	0.09mm	0.090mm	0.004mm	2/3"

Accessories



C-mount adapter



C-mount adapter with iris



Auxiliary objectives



Coaxial device



Polarized coaxial device



3 holes nosepiece



4 holes nosepiece(20.3mm thread)



4 holes nosepiece(26mm thread)



Objective angle device 90°(inverted image)



Objective angle device 90°(erect image)



Monocular tube eyepiece



two output C-mount



BS-1080AM with coaxial light

13. BS-10803D 2D/3D Monocular Video Microscope



BS-10803D with BA1 stand

Introduction

BS-10803D 2D/3D Monocular Video Microscope supports two observation method: 2D or 3D side view 360° rotation observation.

BS-10803D is widely used in circuit board, microelectronics, precision electronics, precision hardware, deep hole wall, life science, animal and plant morphology.

Features

1. 2D/3D observation

Infinity optical system. 0.6-5.0X optical zoom body. Support two observation method: 2D or 3D side view 360° rotation observation.

2. 45° objective viewing angle

Working distance and center position always maintain same when you switch 2D to 3D observation, no need to adjust the focus again. Adjust to any magnification and get a best image without adjustable.

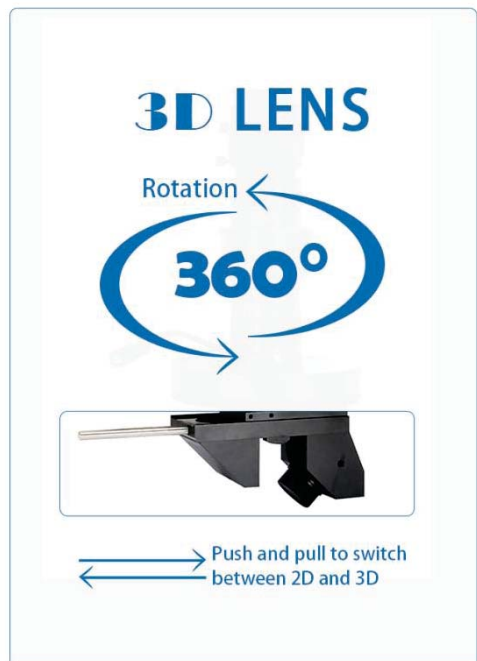
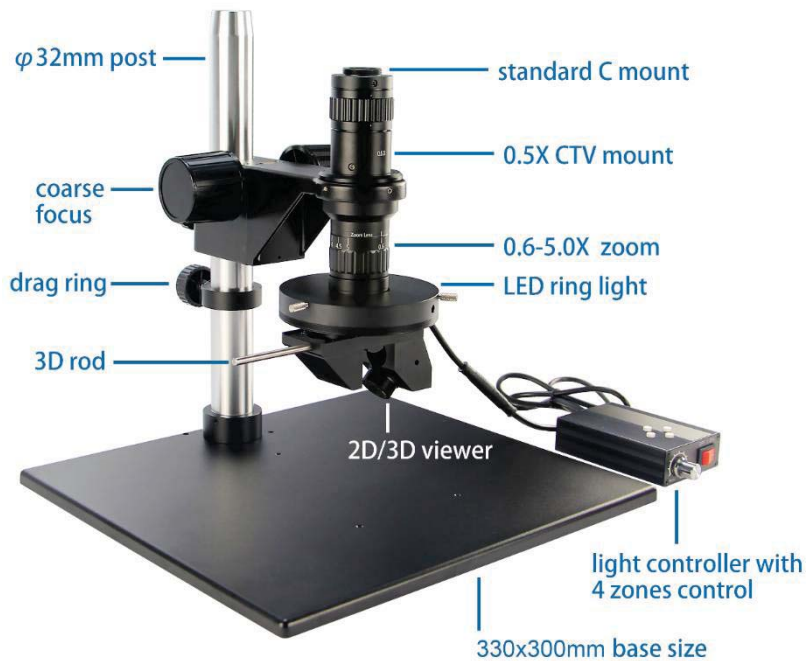
3. Standard C mount

0.5X standard CTV mount, 0.3X, 0.75X, 1X, 1.5X CTV mount for optional.

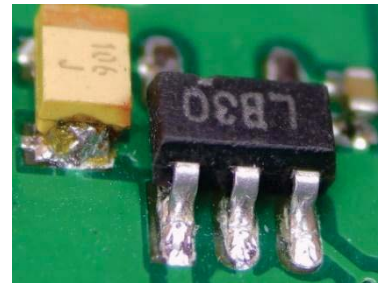
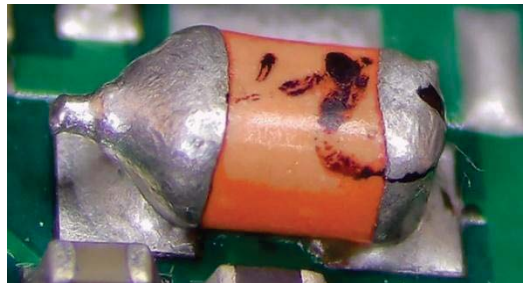
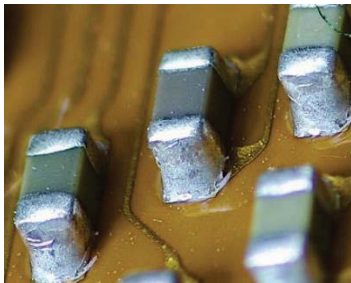
4. Large FOV

Large depth of view. Equipped with 1/2" sensor camera, the field of view is full image without dark edge image at minimum magnification.

Product Details



Application



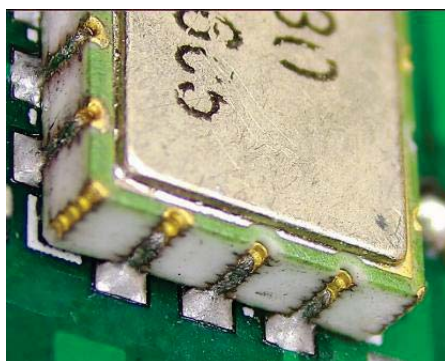
PCB inspection



Hardware



Deep hole



Precision electronics



Morphology

Specification

Item	Specification	BS-10803D
Optical System	Infinite apochromatic parallel optical system	●
Zoom Lens	Optical zoom magnification: 0.6X-5.0X	●
Zoom ratio	1:8.3	●
Mounting Size	Φ50mm	●
Optical Magnification	0.3X-2.5X (with 0.5X C-mount adapter)	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-480B LCD digital camera with HDMI2.0, USB2.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
C-mount Adapter	0.3X C-mount adapter	○
	0.5X C-mount adapter	●
	0.75X C-mount adapter	○
	1.0X C-mount adapter	○
	1.5X C-mount adapter	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	●
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○

	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-10803D	
Optical Parameter	0.3-2.5X (0.6-5.0X zoom body with 0.5X C mount)	
Working distance	2D: 86mm	3D: 50mm
FOV	24*13.5-2.88*1.62mm (base on 1/2" 7.2*4.05mm camera)	
Mount	Standard C mount	
Observation mode	2D observation 360° rotation 3D side view observation	
3D viewer angle	45°	

Accessories



BS-10803D with BA1 stand



BS-10803D with BA13 stand

14. BS-10803DL 2D/3D Monocular Video Microscope with Side Light



BS-10803DL with BA1 stand

Introduction

BS-10803DL 2D/3D Monocular Video Microscope with Side Light supports two observation method: 2D or 3D side view 360° rotation observation. Paired with the LED ring light with four-zone control, adding an integrated LED side light, following the 360° rotation of the 3D observation head, perfectly solving the problem of light source dark angle.

BS-10803DL is widely used in circuit board, microelectronics, precision electronics, precision hardware, deep hole wall, life science, animal and plant morphology.

Features

1. 2D/3D observation

Infinity optical system. 0.6-5.0X optical zoom body. Support two observation method: 2D or 3D side view 360° rotation observation.

2. 45° objective viewing angle

Working distance and center position always maintain same when you switch 2D to 3D observation, no need to adjust the focus again. Adjust to any magnification and get a best image without adjustable.

3. Standard C mount

0.5X standard CTV mount, 0.3X, 0.75X, 1X, 1.5X CTV mount for optional.

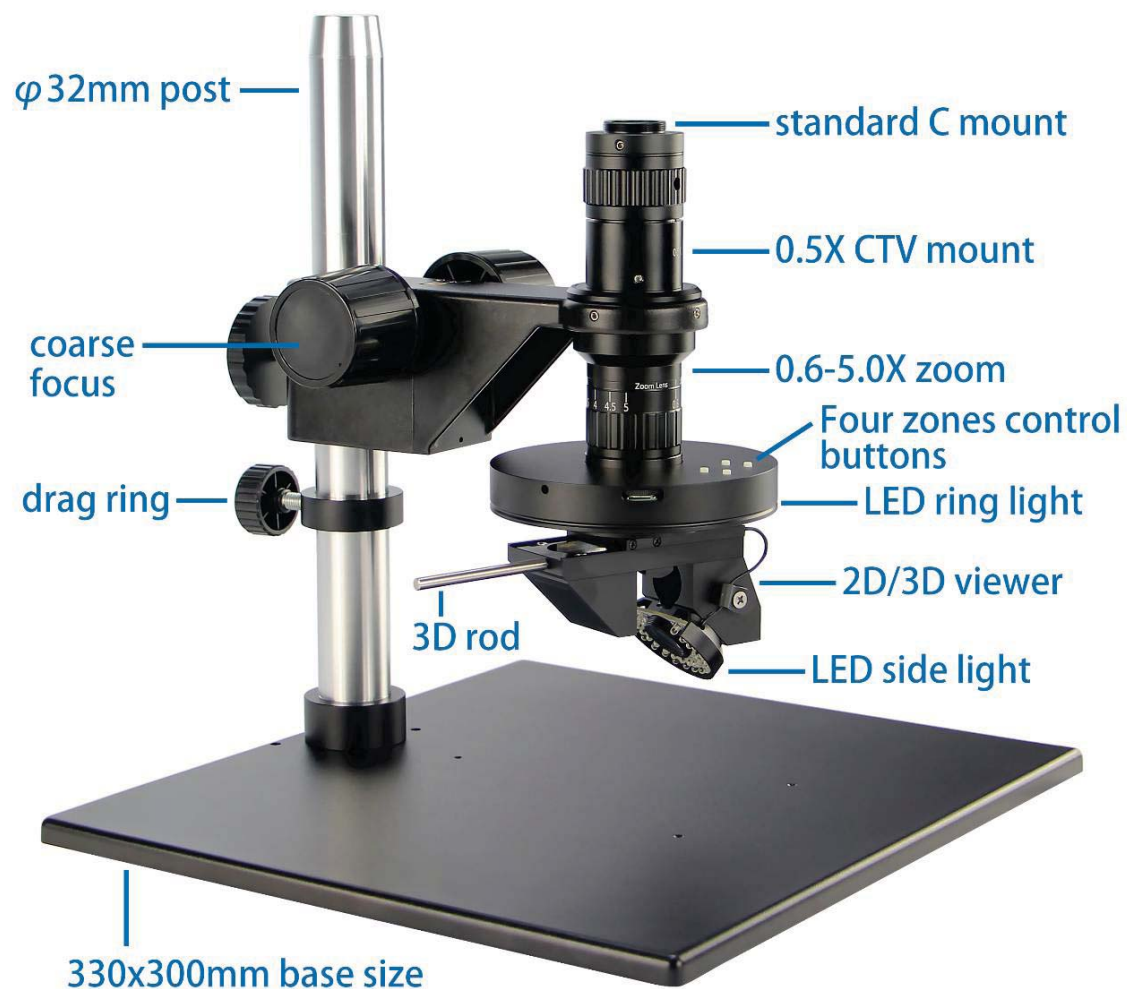
4. Large FOV

Large depth of view. Equipped with 1/2" sensor camera, the field of view is full image without dark edge image at minimum magnification.

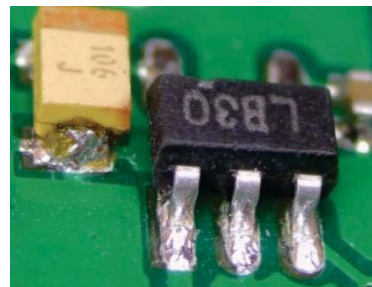
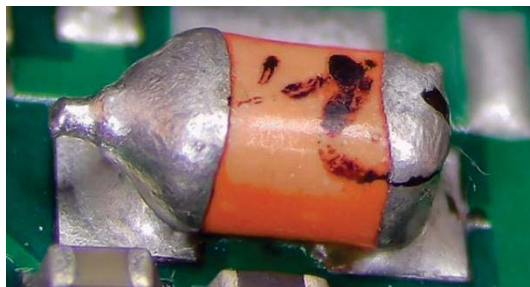
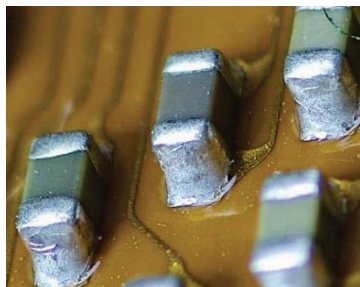
5. Illumination

LED ring light with four-zone control and an integrated side light. The side light follows 360° rotation of the 3D viewer, perfectly solving the problem of light dark angle.

Product Details



Application



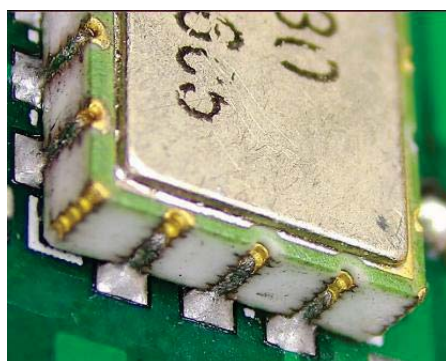
PCB inspection



Hardware



Deep hole



Precision electronics



Morphology

Specification

Item	Specification	BS-10803DL
Optical System	Infinite apochromatic parallel optical system	●
Zoom Lens	Optical zoom magnification: 0.6X-5.0X	●
Zoom ratio	1:8.3	●
Mounting Size	Φ50mm	●
Illumination	Ring light: 267 PCS LED, color temperature 6000K, brightness 0-100% adjustable	●
	Side light: 31 PCS LED, color temperature 6000K, brightness 0-100% adjustable	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-480B LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 30fps@4K or	○

	60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
C-mount Adapter	0.3X C-mount adapter	○
	0.5X C-mount adapter	●
	0.75X C-mount adapter	○
	1.0X C-mount adapter	○
	1.5X C-mount adapter	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○

	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-10803DL	
Zoom body	0.6-5.0X	
C mount	0.5X	
Working distance	2D:86mm	3D:50mm
Field of view	24mm*13.5mm-2.88mm*1.62mm (base on 1/2" sensor camera)	
Lens mount	Standard C-mount	
Observe mode	2D observation 360° rotation 3D side view observation	
Front light	267 PCS LED, color temperature 6000K, brightness 0-100% adjustable	
Side light	31 PCS LED, color temperature 6000K, brightness 0-100% adjustable	

Accessories



BS-10803DL with BA1 stand



BS-10803DL with BA13 stand

15. BS-10803DWF 2D/3D Monocular Video Microscope with Large FOV



BS-10803DWF with BA1 stand

Introduction

BS-10803DWF 2D/3D Monocular Video Microscope with Large FOV supports two observation method: 2D or 3D side view 360° rotation observation. The FOV of 3D observation can reach 70mm.

BS-10803DWF is widely used in circuit board, microelectronics, precision electronics, precision hardware, deep hole wall, life science, animal and plant morphology.

Features

1. 2D/3D observation

Infinity optical system. 0.6-5.0X optical zoom body. Support two observation method: 2D or 3D side view 360° rotation observation.

2. 45° objective viewing angle

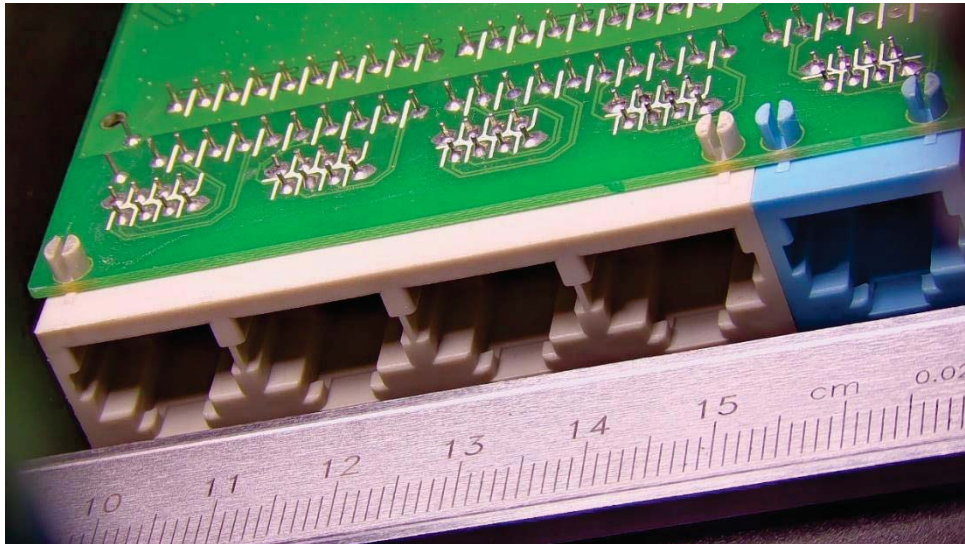
Working distance and center position always maintain same when you switch 2D to 3D observation, no need to adjust the focus again. Adjust to any magnification and get a best image without adjustable.

3. Standard C mount

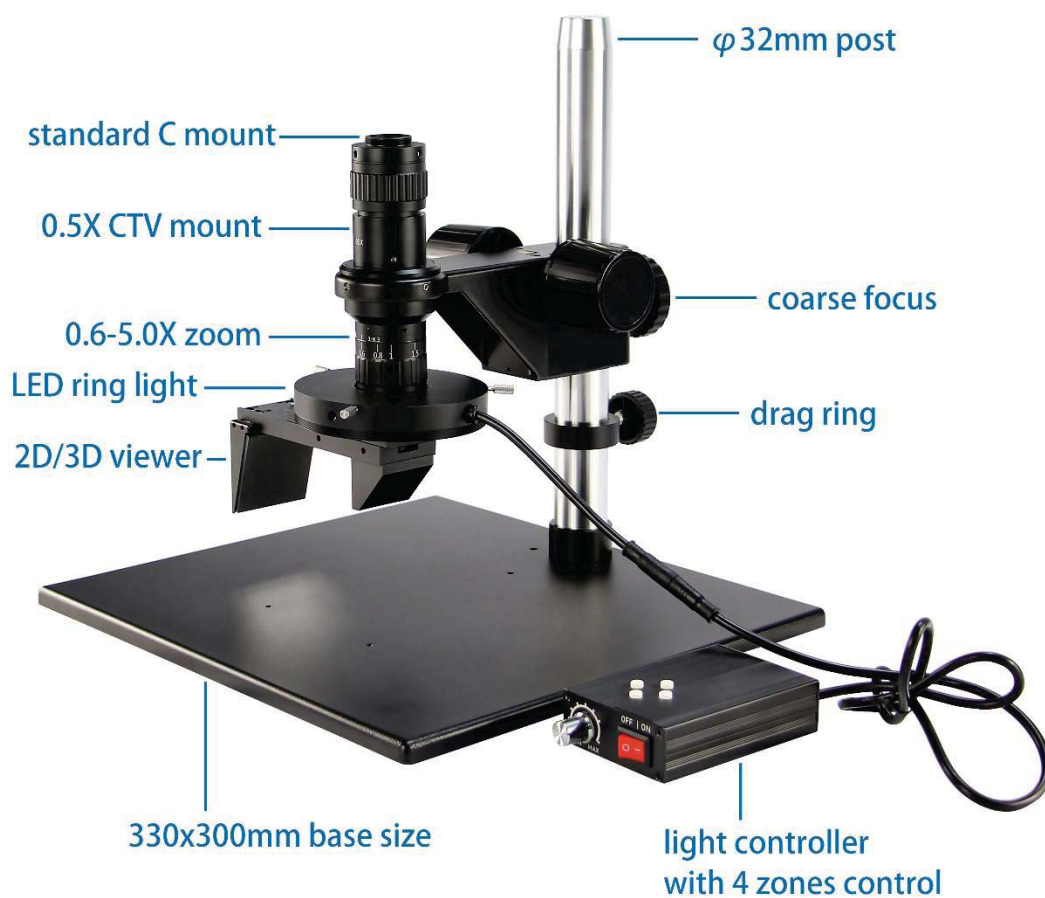
0.5X standard CTV mount, 0.3X, 0.75X, 1X, 1.5X CTV mount for optional.

4. Large FOV

The FOV of 3D observation can reach 70mm. Equipped with 1/2" sensor camera, the field of view is full image without dark edge image at minimum magnification.



Product Details



Specification

Item	Specification	BS-10803DWF
Optical System	Infinite apochromatic parallel optical system	●
Zoom Lens	Optical zoom magnification: 0.6X-5.0X	●
Zoom ratio	1:8.3	●
Mounting Size	Φ50mm	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-480B LCD digital camera with HDMI2.0, USB2.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
C-mount Adapter	0.3X C-mount adapter	○
	0.5X C-mount adapter	●
	0.75X C-mount adapter	○
	1.0X C-mount adapter	○
	1.5X C-mount adapter	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	●
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○

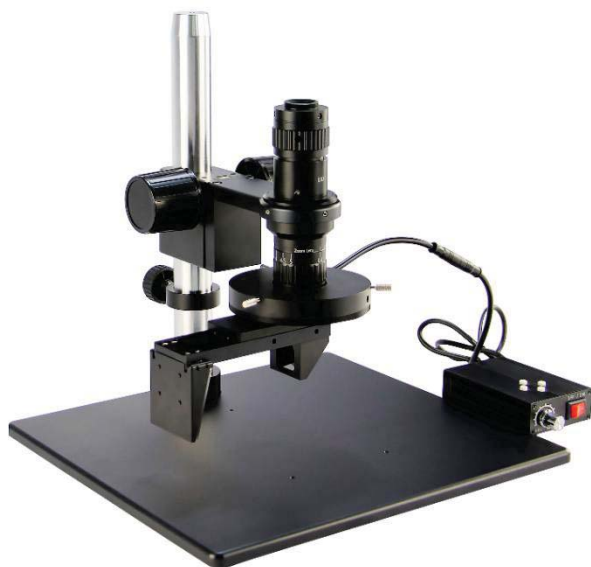
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-10803DWF	
Optical magnification	2D: 0.23X-1.88X	3D: 0.09X-0.75X
Zoom body	0.6-5.0X	
C mount	0.5X	
Objective	2D: 0.75X	3D: 0.3X
Working distance	2D: 105mm	3D: 50mm
FOV	2D: 30*17mm-3.7*2mm	3D: 70*45mm-9*5mm
Lens mount	Standard C mount	
Observation mode	2D or 3D observation	
3D viewer angle	45°	

Accessories

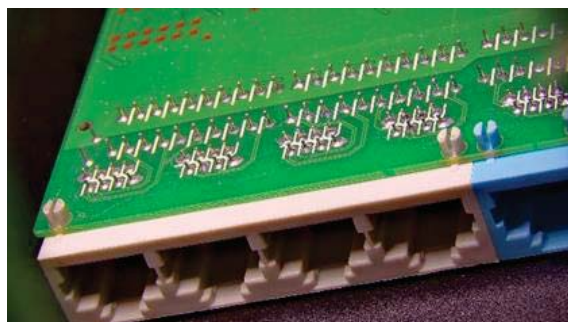
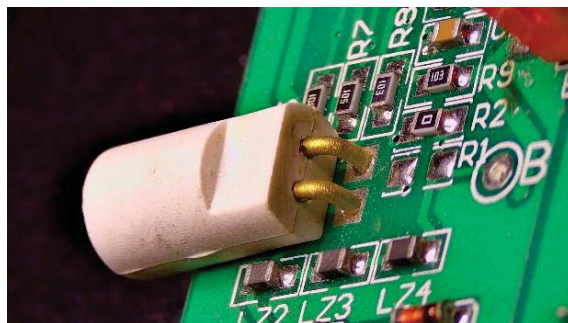
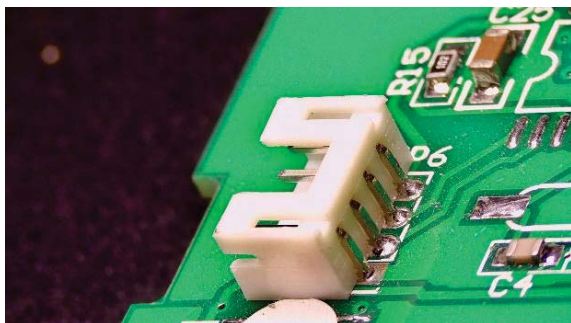


BS-10803DWF with BA1 stand



BS-10803DWF with BA13 stand

Sample Image



16. BS-10803DAM 2D/Motor 3D Monocular Video Microscope



BS-10803DAM with BA1 stand

Introduction

BS-10803DAM 2D/Motor 3D Monocular Video Microscope supports two observation method: 2D or motor 3D side view 360° rotation observation. Multi-functional integrated controller with digital LCD screen, easy to operate.

BS-10803DAM is widely used in circuit board, microelectronics, precision electronics, precision hardware, deep hole wall, life science, animal and plant morphology.

Features

1. 2D/Motor 3D observation

Infinity optical system. 0.6-5.0X optical zoom body. Support two observation method: 2D or motor 3D side view 360° rotation observation. Multi-functional integrated controller with digital LCD screen, easy to operate.

2. 45° objective viewing angle

Working distance and center position always maintain same when you switch 2D to 3D observation, no need to adjust the focus again.

3. Standard C mount

0.5X standard CTV mount, 0.3X, 0.75X, 1X, 1.5X CTV mount for optional.

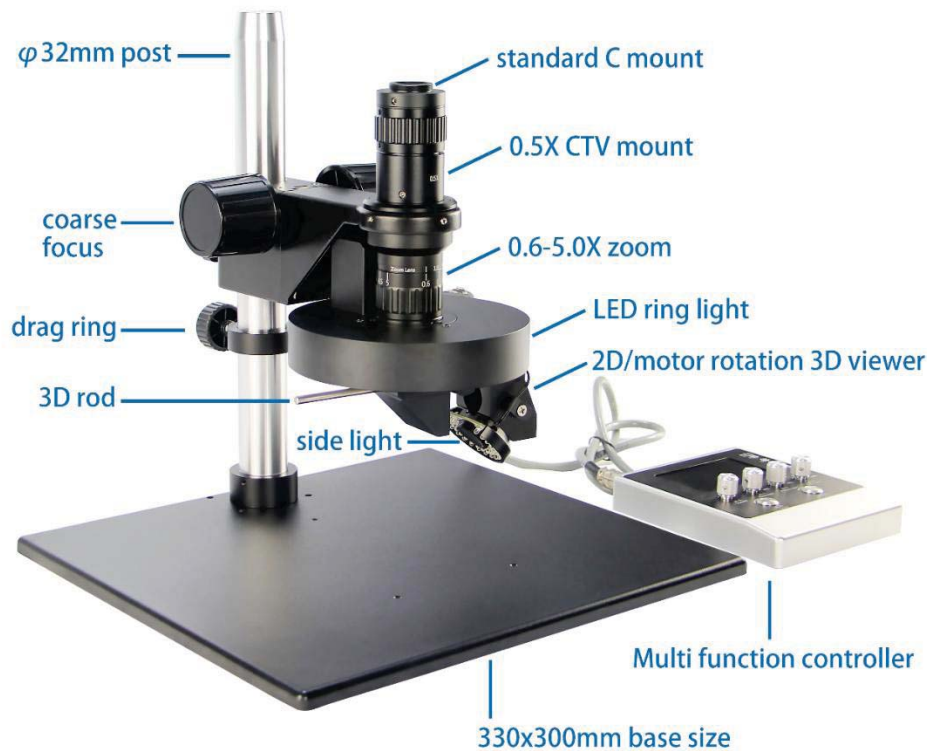
4. Large FOV

Large depth of view. Equipped with 1/2" sensor camera, the field of view is full image without dark edge image at minimum magnification.

5. Illumination

LED ring light with four-zone control and an integrated side light. The side light follows 360° rotation of the 3D viewer, perfectly solving the problem of light dark angle.

Product Details



Specification

Item	Specification	BS-10803DAM
Optical System	Infinite apochromatic parallel optical system	●
Zoom Lens	Optical zoom magnification: 0.6X-5.0X	●
Zoom ratio	1:8.3	●
Mounting Size	Φ50mm	●
Illumination	Ring light: 267 PCS LED, color temperature 6000K, brightness 0-100% adjustable	●
	Side light: 31 PCS LED, color temperature 6000K, brightness 0-100% adjustable	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-480B LCD digital camera with HDMI2.0, USB2.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
C-mount Adapter	0.3X C-mount adapter	○
	0.5X C-mount adapter	●
	0.75X C-mount adapter	○
	1.0X C-mount adapter	○
	1.5X C-mount adapter	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○

	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-10803DAM	
Zoom body	0.6-5.0X	
C mount	0.5X	
Working distance	2D: 86mm	3D: 50mm
FOV	24mm*13.5mm-2.88mm*1.62mm (base on 1/2" 7.2*4.05mm camera)	
Mount	Standard C mount	
Observation mode	2D observation Motor 360° rotation 3D side view observation	
Front light	267 PCS LED, color temperature 6000K, brightness 0-100% adjustable	
Side light	31 PCS LED, color temperature 6000K, brightness 0-100% adjustable	

Accessories

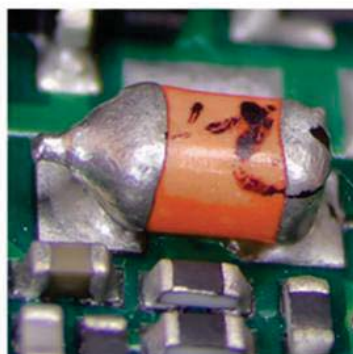
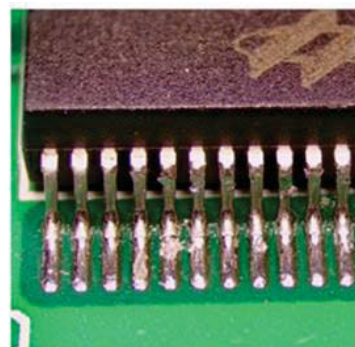
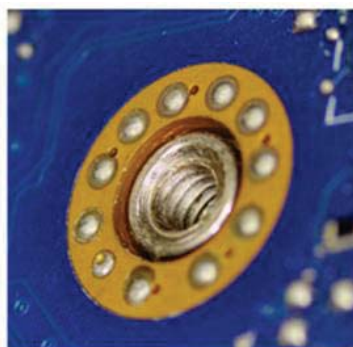
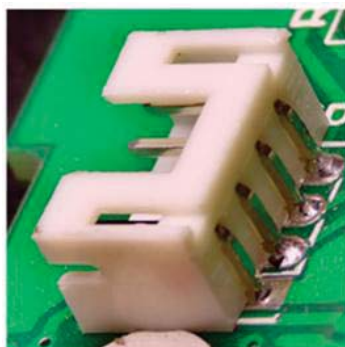


BS-10803DAM with BA1 stand



BS-10803DAM with BA13 stand

Sample Images



17. BS-10803DAML Motor Zoom 2D/Motor 3D Monocular Video Microscope

Microscope



BS-10803DAML with monitor

Introduction

BS-10803DAML Motor Zoom 2D/Motor 3D Monocular Video Microscope supports two observation method: 2D or motor 3D side view 360° rotation observation. 0.6X-5X motor stepless zoom, with smart cruise setting. The optical magnification and image magnification are displayed in real time. The users don't need to calibrate again, measuring directly.

BS-10803DAML is widely used in industrial inspection, auto system, electronic communication, semiconductor, biomedical and scientific research, etc.

Features

1. 2D/Motor 3D observation

0.6X-5X motor stepless zoom, with smart cruise setting. High precision optical system design, continuous cruise keeps the center same. Repeated precision can reach 0.001 μ m. Support two observation method: 2D or motor 3D side view 360° rotation observation.

2. No need for PC and software

High precision electronic feedback system, no need for PC. Connect HDMI monitor directly, no need to install software. There is built-in smart measuring software, one key to save high-definition images and measurement data. Operate directly with a mouse, easy and convenient.

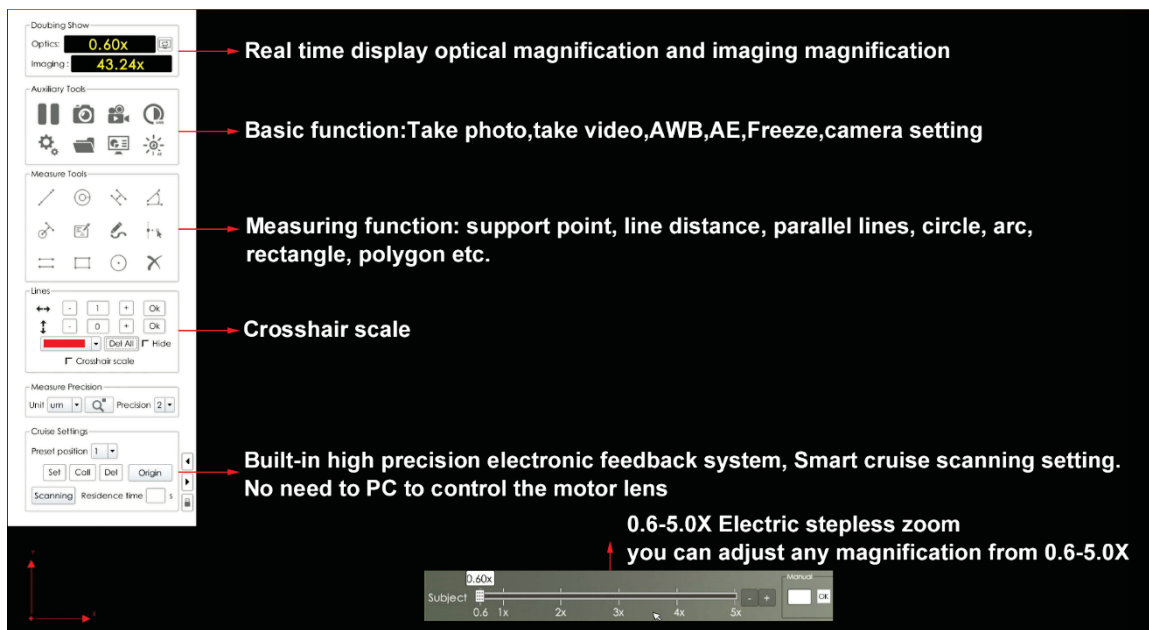
3. Calibration free

The optical magnification and image magnification are displayed in real time. The users don't need to calibrate again, measuring directly.

4. Durable and sturdy

High hardness aluminum alloy material, anodic oxidation treatment, more durable in use.

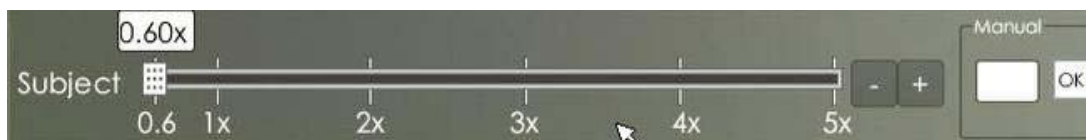
Software Window



The screenshot shows the software interface with several key features highlighted by red arrows and text:

- Real time display optical magnification and imaging magnification:** Points to the 'Doubling Show' section where 'Optics' is 0.60x and 'Imaging' is 43.24x.
- Basic function: Take photo, take video, AWB, AE, Freeze, camera setting:** Points to the 'Auxiliary Tools' section containing icons for these functions.
- Measuring function: support point, line distance, parallel lines, circle, arc, rectangle, polygon etc.:** Points to the 'Measure Tools' section containing various measurement icons.
- Crosshair scale:** Points to the 'Lines' section which includes a crosshair scale and 'Dot All'/'Hide' options.
- Built-in high precision electronic feedback system, Smart cruise scanning setting. No need to PC to control the motor lens:** Points to the 'Measure Precision' and 'Cruise Settings' sections.
- 0.6-5.0X Electric stepless zoom you can adjust any magnification from 0.6-5.0X:** Points to the zoom slider at the bottom.

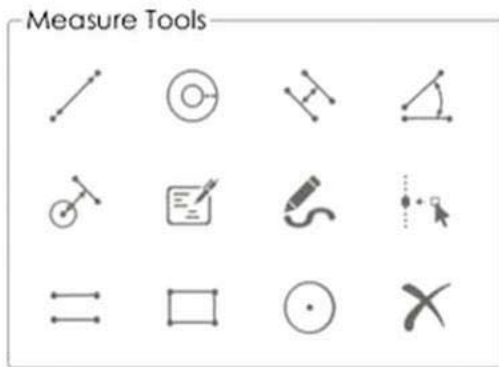
0.6X-5.0X electric stepless zoom: You can adjust and magnification from 0.6X-5.0X.



Optical magnification and imaging magnification display in real time.

Auxiliary Tools

Automatic white balance, auto exposure, taking photo and video to USB disk, preview images online, camera setting, etc.



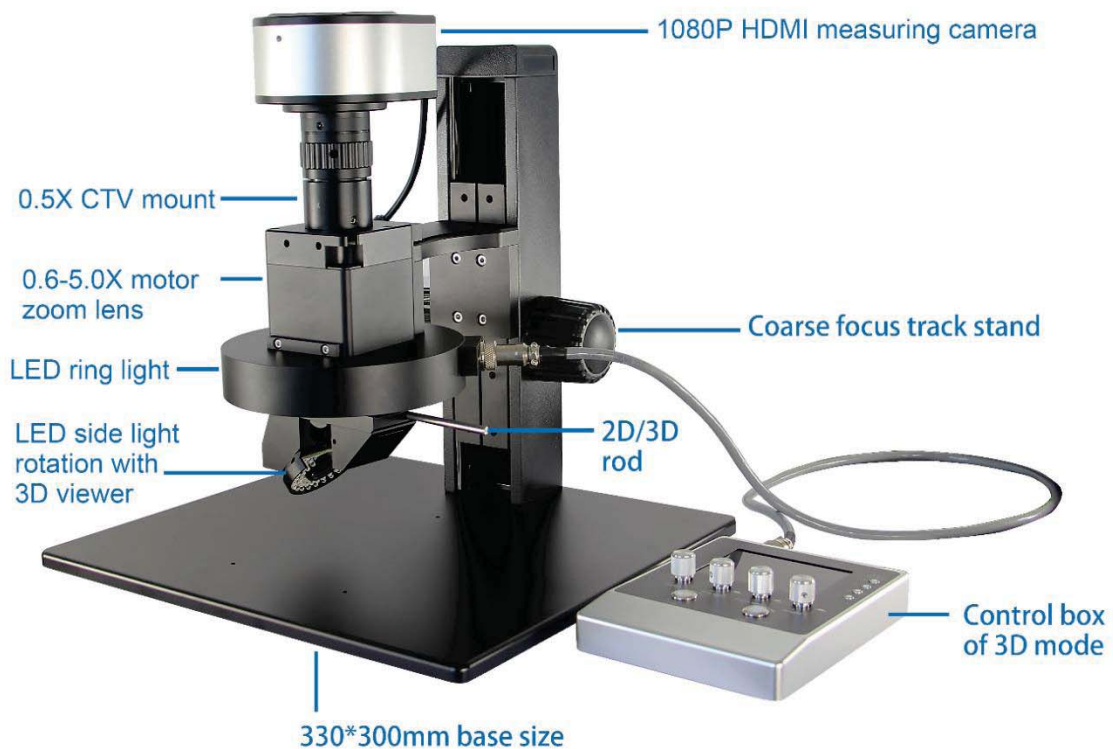
Measuring function

Support measurement of points, line distance, parallel lines, circle, arc, rectangle, polygon, etc.



Built-in high precision electronic feedback system, smart cruise scanning setting.

Product Details





Specification

Item	Specification	BS-10803DAML
Optical System	High precision optical system	•
Zoom Lens	Optical zoom magnification: 0.6X-5.0X	•
Zoom ratio	1:8.3	•
Illumination	Ring light: 267 PCS LED, color temperature 6000K, brightness 0-100% adjustable	•
	Side light: 31 PCS LED, color temperature 6000K, brightness 0-100% adjustable	•

Camera	Camera with HDMI output, 1/2" sensor, resolution: 1920*1080, pixel size: 3.75μm*3.75μm, 60fps. Support measuring of point, line, parallel lines, circle, arc, angle, rectangle, polygon etc. Take photo and video to U disk.	●
C-mount Adapter	0.3X C-mount adapter	○
	0.45X C-mount adapter	○
	0.5X C-mount adapter	●
	0.75X C-mount adapter	○
	1.0X C-mount adapter	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	●
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○

	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

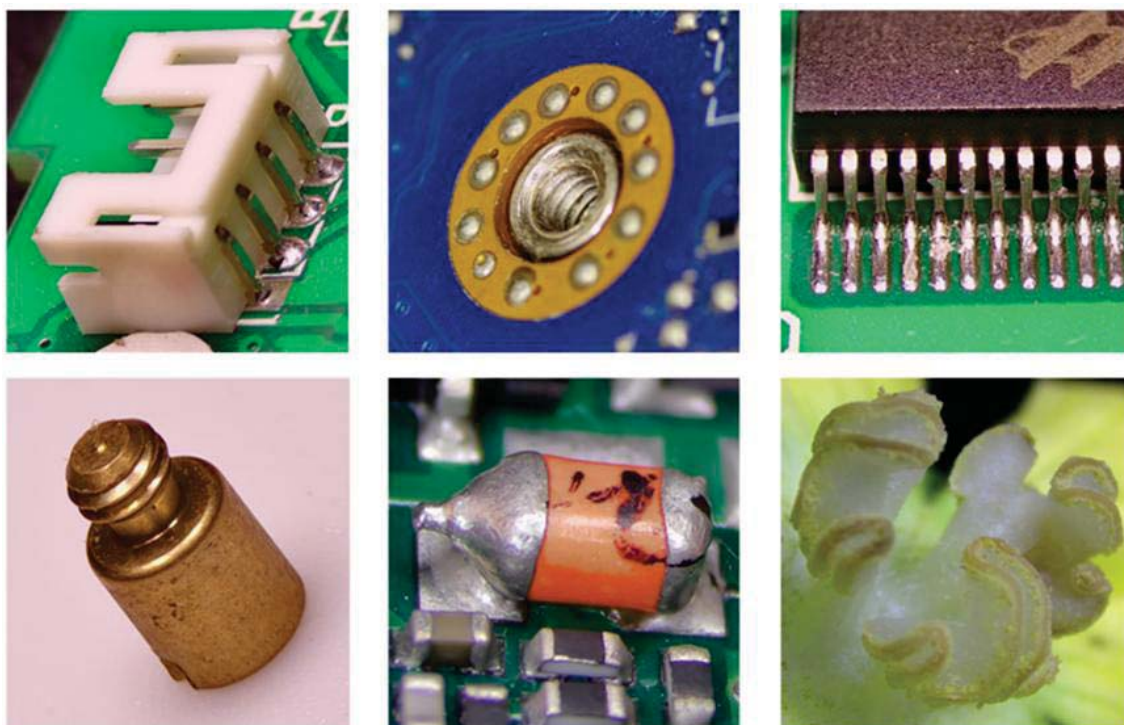
Note: ●Standard Outfit, ○Optional

Optical Parameter

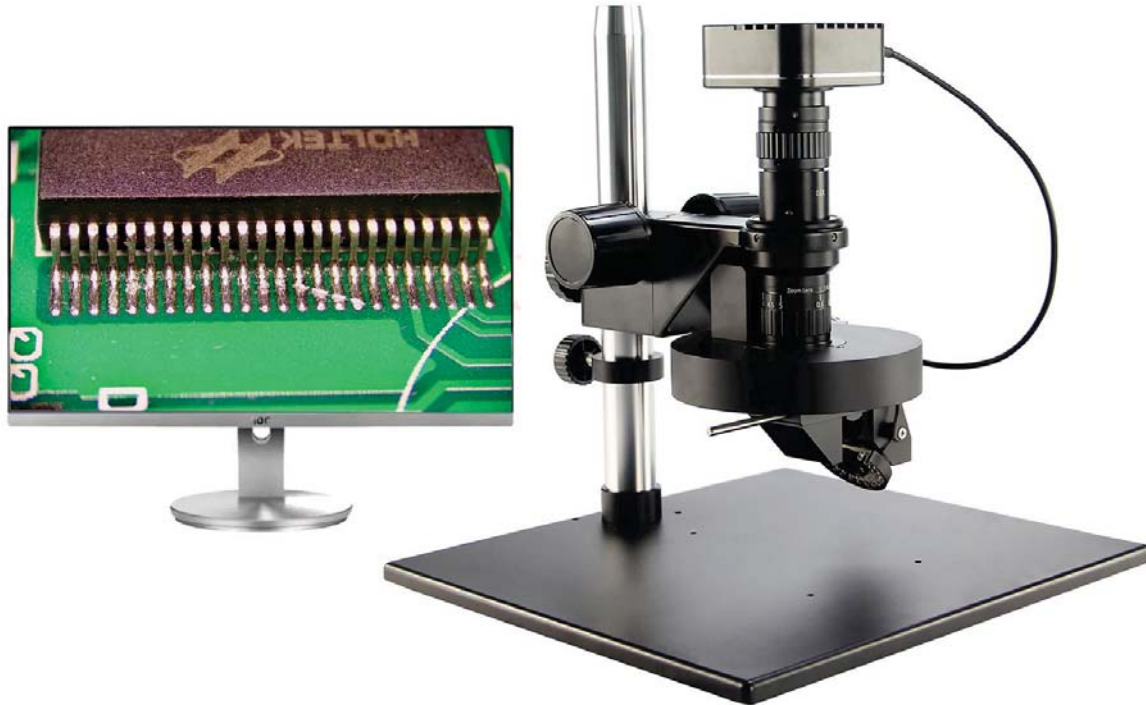
Model	BS-10803DAML	
Zoom body	0.6-5.0X	
C mount	0.5X	
Working distance	2D: 86mm	3D: 50mm
FOV	24mm*13.5mm-2.88mm*1.62mm	
Mount	Standard C mount	
Observation mode	2D observation Motor 360° rotation 3D side view observation	
Front light	267 PCS LED, color temperature 6000K, brightness 0-100% adjustable	
Side light	31 PCS LED, color temperature 6000K, brightness 0-100% adjustable	
Camera		

Resolution	1920*1080
Frame	60fps
Sensor	1/2"
Pixel Size	3.75μm *3.75μm
Output	High resolution HDMI output
Measuring function	Support measuring of point, line, parallel lines, circle, arc, angle, rectangle, polygon etc.
Save function	Take photo and video to U disk

Sample Images



18. BS-10803DAMR 2D/Motor 3D Monocular Video Microscope with Camera



BS-10803DAMR with BA1 stand and screen

Introduction

BS-10803DAMR 2D/Motor 3D Monocular Video Microscope supports two observation method: 2D or motor 3D side view 360° rotation observation. Equipped with 1/1.8" 1920*1080 HDMI camera, support take photo and video. The built-in software of the camera can control 3D rotation and lights, operated by mouse.

BS-10803DAMR is widely used in circuit board, microelectronics, precision electronics, precision hardware, deep hole wall, life science, animal and plant morphology.

Features

1. 2D/Motor 3D observation

Infinity optical system. 0.6-5.0X optical zoom body. Support two observation method: 2D or motor 3D side view 360° rotation observation.

2. 45° objective viewing angle

Working distance and center position always maintain same when you switch 2D to 3D observation, no need to adjust the focus again.

3. Standard C mount

0.5X standard CTV mount, 0.3X, 0.75X, 1X, 1.5X CTV mount for optional.

4. Large FOV

Large depth of view. Equipped with 1/1.8" sensor camera, the field of view is full image without dark edge image at minimum magnification.

5. Illumination

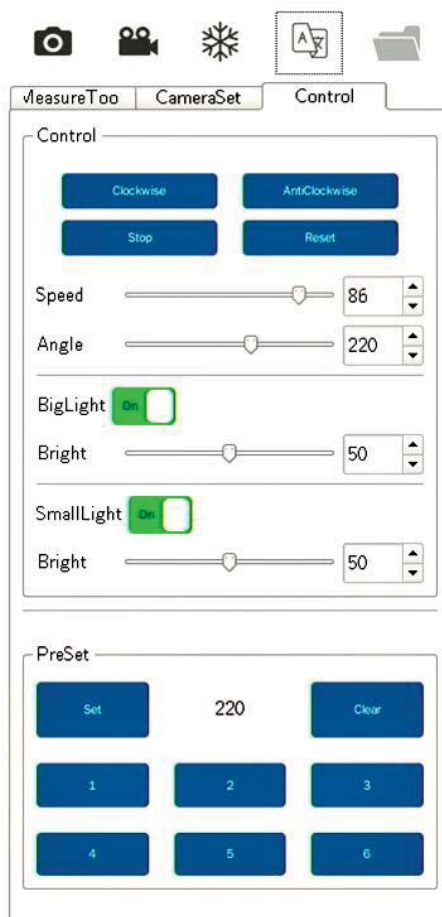
LED ring light with four-zone control and an integrated side light. The side light follows 360° rotation of the 3D viewer, perfectly solving the problem of light dark angle.

6. Camera

Equipped with 1/1.8" 1920*1080 HDMI camera, support take photo and video. The built-in software of the camera can control 3D rotation and lights, operated by mouse. It's easy and convenient.

Operation windows

Microscope with 1/1.8" 4K HDMI camera and built-in control program.



Automatic 3D rotation is driven by the camera. Operated by mouse, which is more convenient

Rotation direction:

Clockwise and anticlockwise

Stop: Stop rotation

Reset: Reset to original position

Speed: Adjust rotation speed

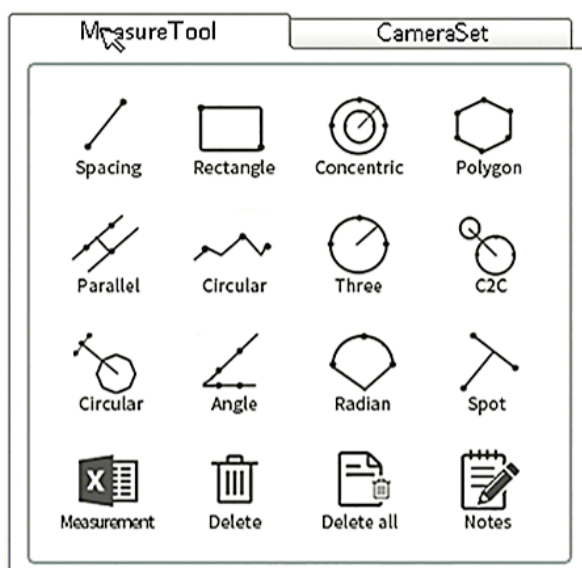
Angle: Set observation angle

Big light: Adjust brightness, Turn on and off

Small light: Adjust brightness, Turn on and off

PreSet: 6 preset positions of observation angle can be set as required

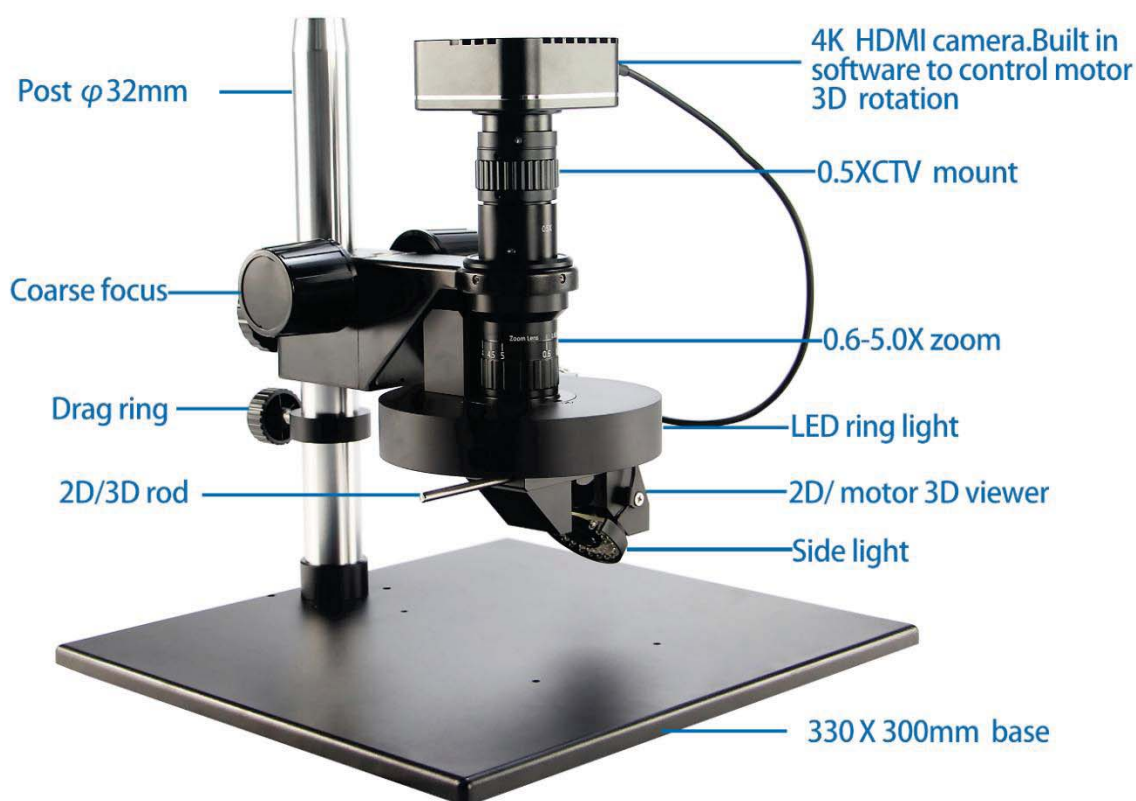
With built-in measurement software, we can measure dimensions under 2D observation.



Support line distance, circle, Angle, polygon etc. measurement

Measurement data can be saved with pictures

Product Details



Specification

Item	Specification	BS-10803DAMR
Optical System	Infinite apochromatic parallel optical system	•

Zoom Lens	Optical zoom magnification: 0.6X-5.0X	●
Zoom ratio	1:8.3	●
Mounting Size	Φ50mm	●
Illumination	Ring light: 267 PCS LED, color temperature 6000K, brightness 0-100% adjustable	●
	Side light: 31 PCS LED, color temperature 6000K, brightness 0-100% adjustable	●
Camera	Camera with HDMI output, 1/1.8" SONY CMOS, 8.3 mega-pixel, resolution: 3840*2160, frame: 60FPS, pixels size: 2.0μm*2.0μm. Built-in software controlling 3D rotation and light.	●
C-mount Adapter	0.3X C-mount adapter	○
	0.5X C-mount adapter	●
	0.75X C-mount adapter	○
	1.0X C-mount adapter	○
	1.5X C-mount adapter	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○

	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-10803DAMR	
Zoom body	0.6-5.0X	
C mount	0.5X	
Working distance	2D: 86mm	3D: 50mm
FOV	25.6mm*14.4mm-3.0mm*1.7mm	
Mount	Standard C mount	
Observation mode	2D observation Motor 360° rotation 3D side view observation	
Front light	267 PCS LED, color temperature 6000K, brightness 0-100% adjustable	

Side light	31 PCS LED, color temperature 6000K, brightness 0-100% adjustable
Sensor	1/1.8" SONY CMOS
Resolution	3840x2160
Pixel	8.3MP
Frame	60 FPS
Pixel size	2.0μm*2.0μm
Output	HDMI output
Memory function	Take photo and video to U disk
Measuring function	Support measuring of line, angle, circle, radian, rectangle, polygon etc.

Accessories

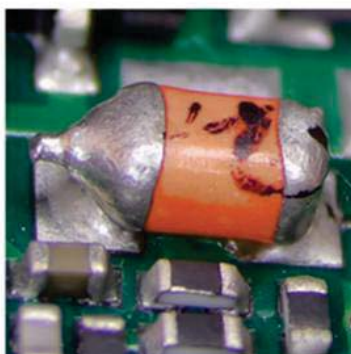
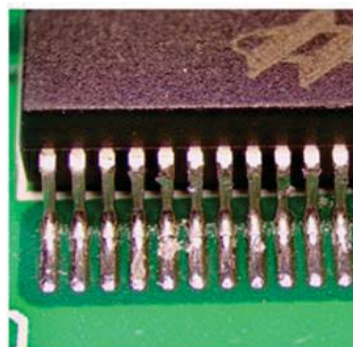
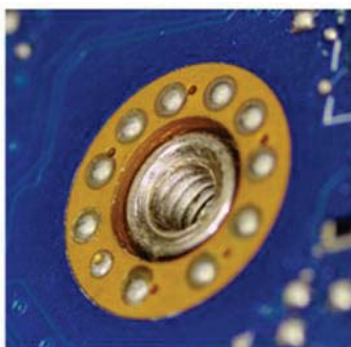
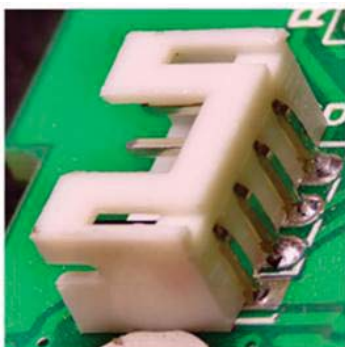


BS-10803DAMR with BA1 stand

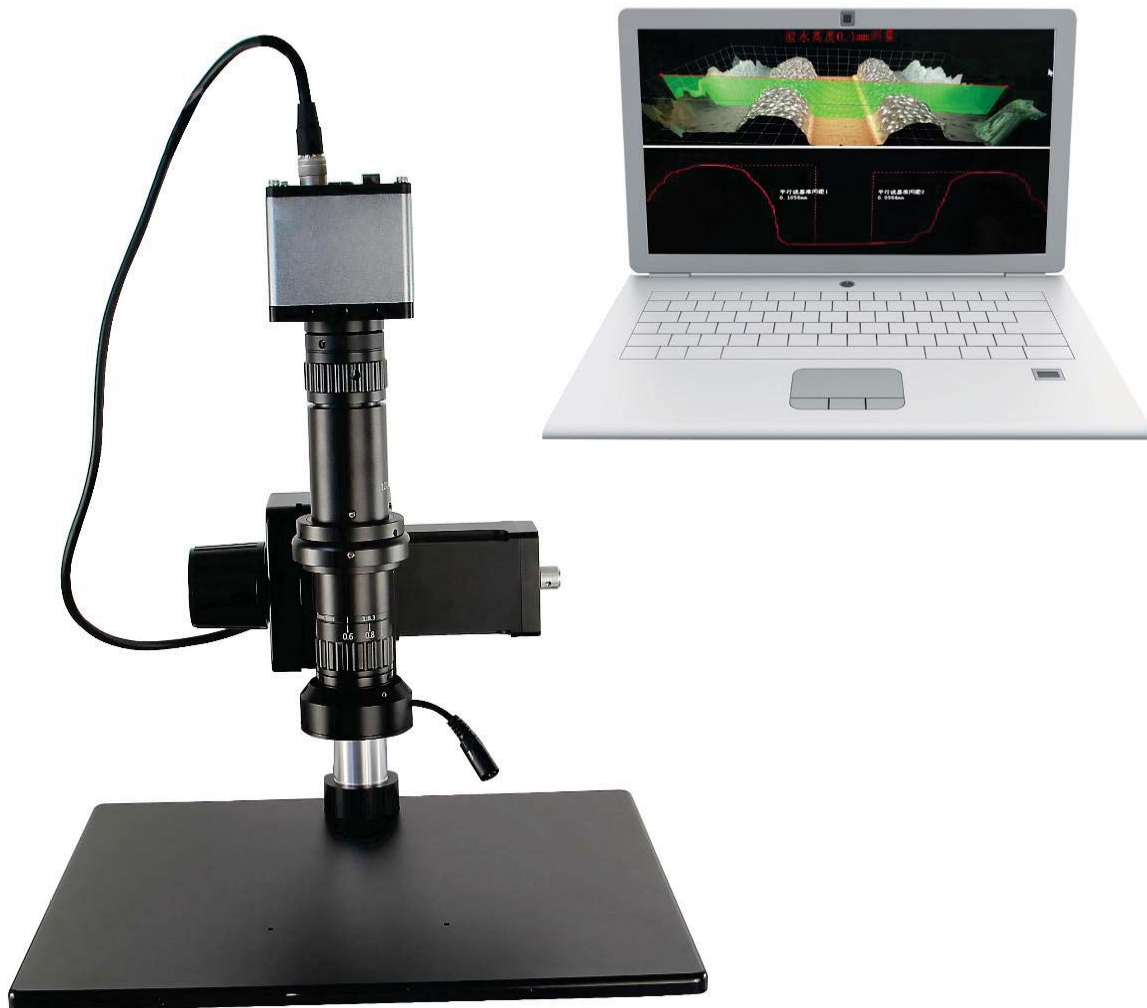


BS-10803DAMR with BA13 stand

Sample Images



19. BS-1080M3D 3D Ultra Depth of Field Microscope



BS-1080M3D with PC

Introduction

BS-1080M3D 3D Ultra Depth of Field Microscope can measure height by 3D modeling. Set the highest and lowest positions, and the software can automatically synthesize images of different height into a clear image, and automatically generate a 3D model. The height can be measured in 3D model, and plane size can be measured in synthesis image.

Features

1. 2D/3D observation

0.6-5.0X zoom body with automatic focusing, working distance is 86mm, with 1/1.2" large sensor camera. 1080P high resolution images. Infinity optical system. 0.6-5.0X optical zoom body. Support two observation method: 2D or 3D side view 360° rotation observation.

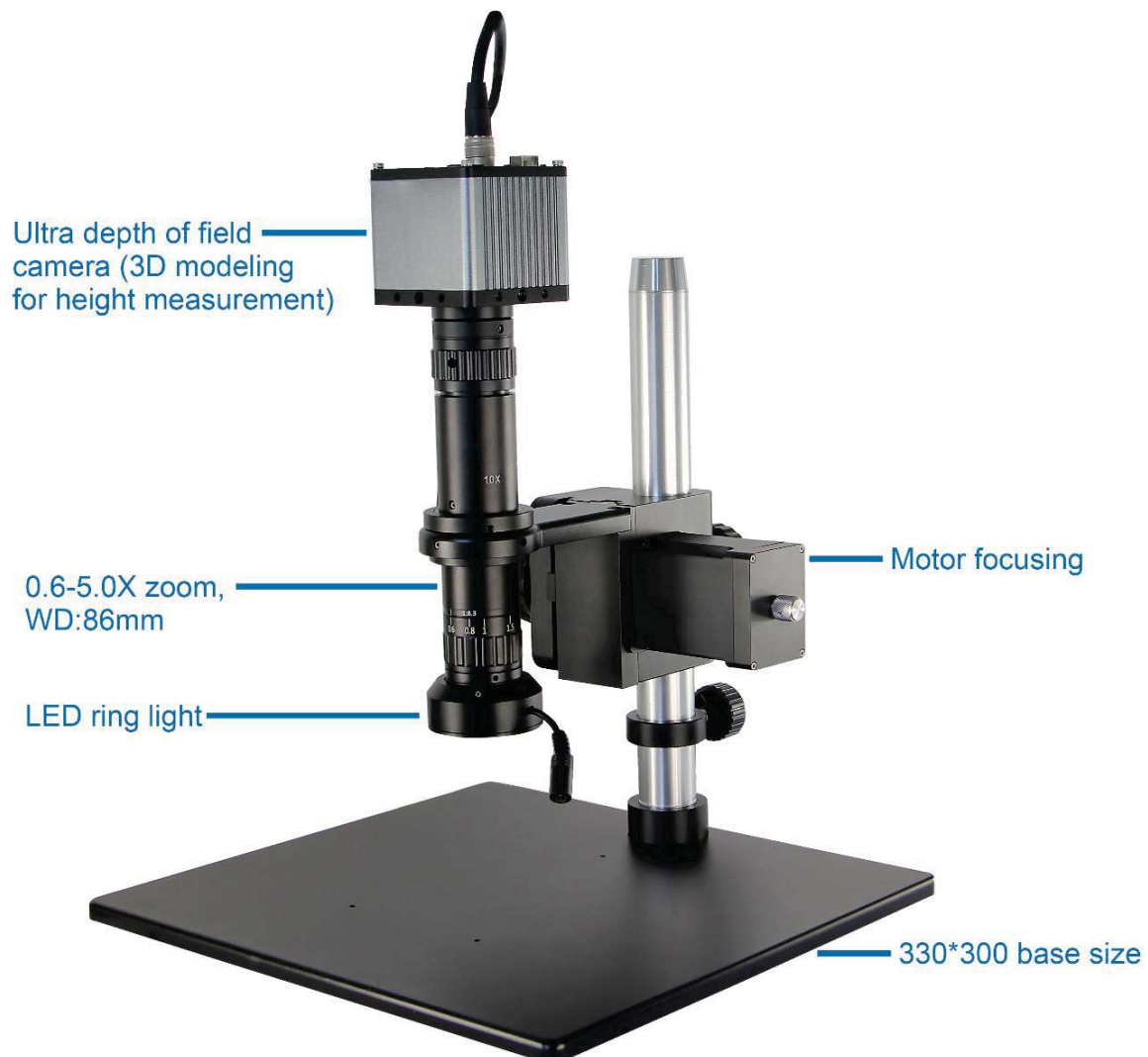
2. Easy and convenient

Gigabit network data transmission and PC software control operation. With 3D modeling and measurement function, report charts can be generated.

3. Diverse accessories

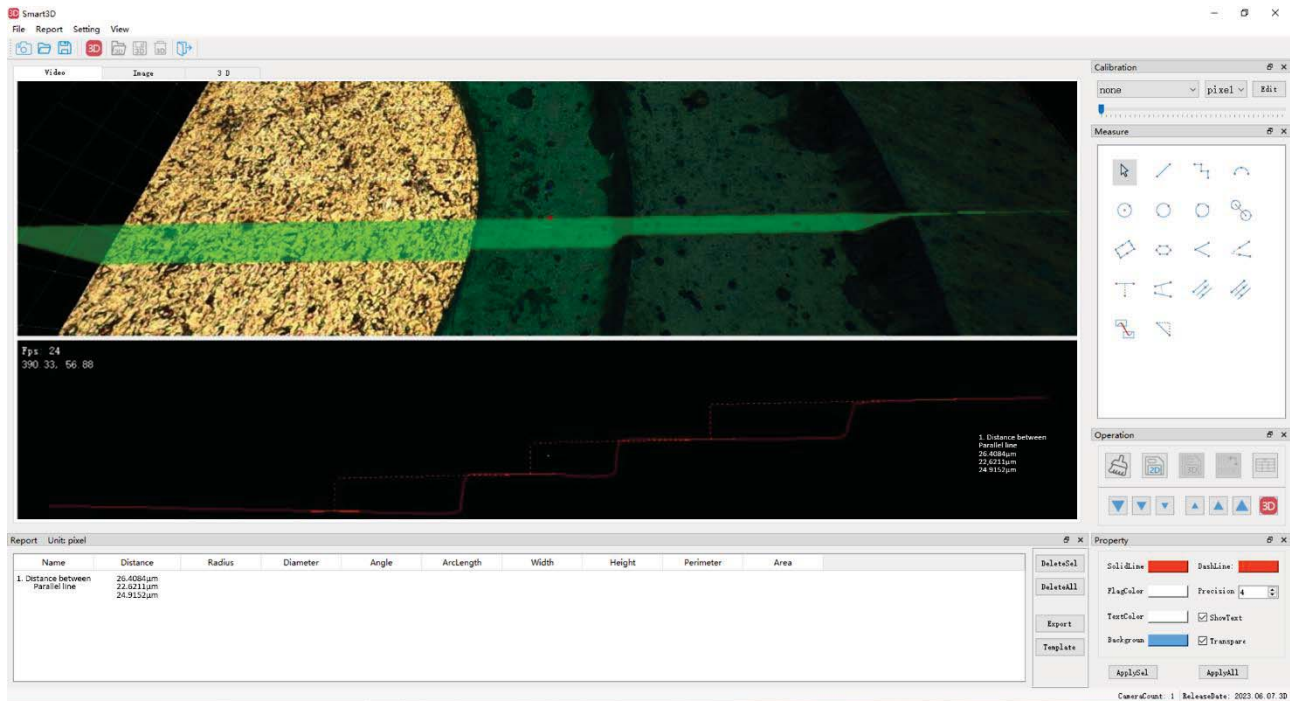
Various additional accessories are optional to meet different needs. There are a variety of auxiliary lens and C-mount adapter for option. There are also ring lights, coaxial lights and fiber light optional.

Product Details

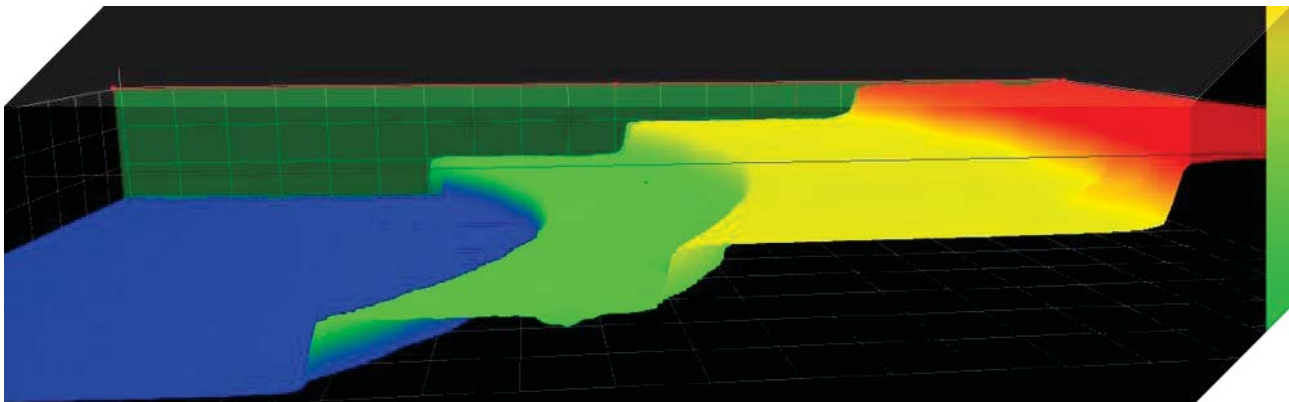


Main Function

3D models can be generated by depth of field synthesis technology. The model can be dragged and rotated at 720 degrees for viewing. The cutting line can be adjusted at any angle and position to generate a profile and measure the height.



The chromatogram height chart is easy for the users to see the 3D height difference clearly. The chromatogram height chart can also be dragged and viewed at 720 degrees.



3D Sample Parameters			
SetTop	-25715.02 μm	       	
SetBottom	-23184.81 μm		
Gap Z:	2530.21 μm		
Position:	-25715.15 μm		
Numbers:	30		
Step:	87.25 μm		
MoveDir:	Down2Up		
SmothSz1:	15		
SmothSz2:	15		
Show:	DOF Image		
Calibration name		Unit	
1x-0.5x		mm	

Ultra-high precision image sampling settings

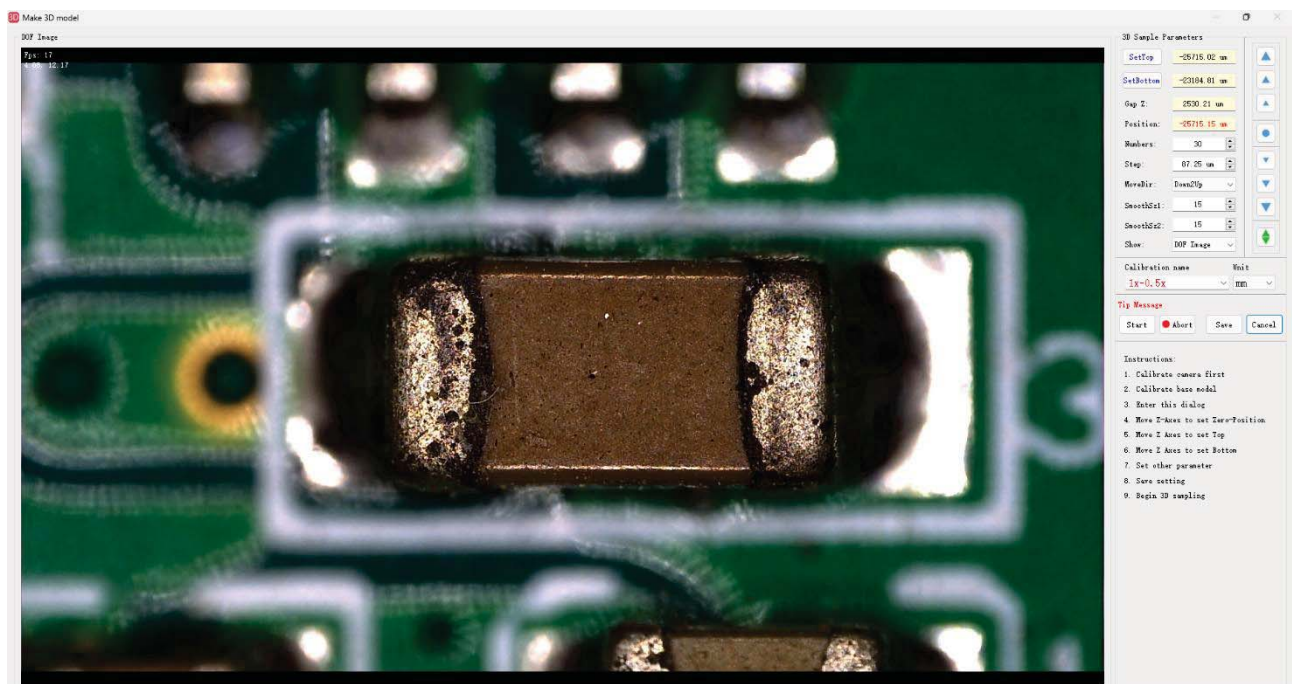
Maximum sampling of 200 images.

Minimum sampling interval 0.1um.

Filtering of interference noise optional.

Fast speed of sampling.

Motor Z-axis provides six speeds of up and down.



The system exports measurement data, 3D graphics, and profile images into the same Excel file for easy observation, analysis, and comparison

Name	Distance	Radius	Diameter	Angle	Arclength	Width	Height	Perimeter	Area
1.Distance between Parallel line	26.4084μm 22.6211μm 24.9152μm								

Figure 1. Vertical View

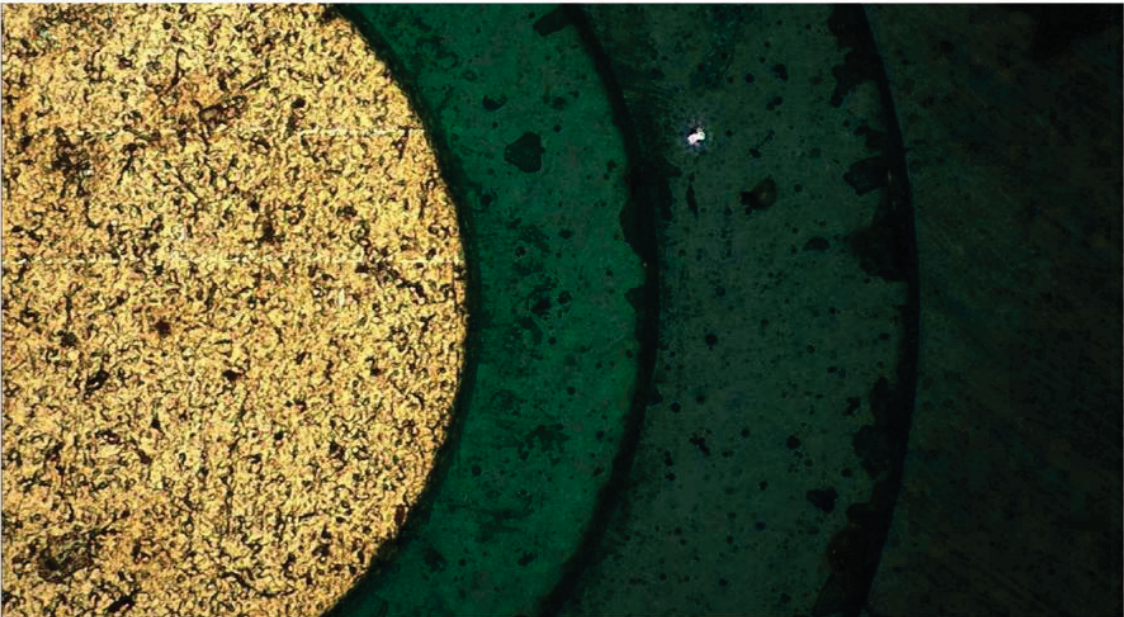


Figure 2. 3D diagram

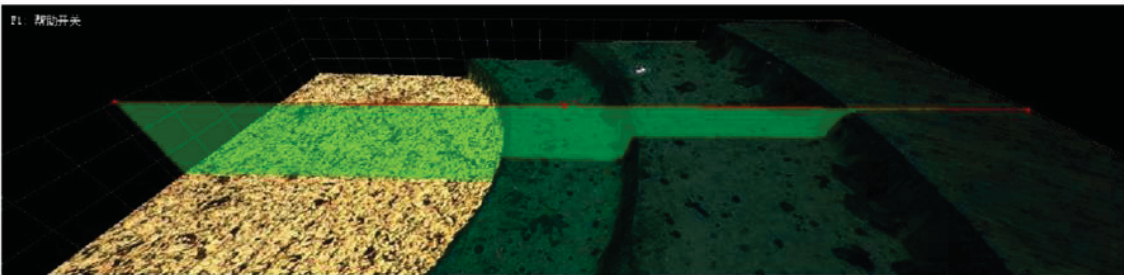
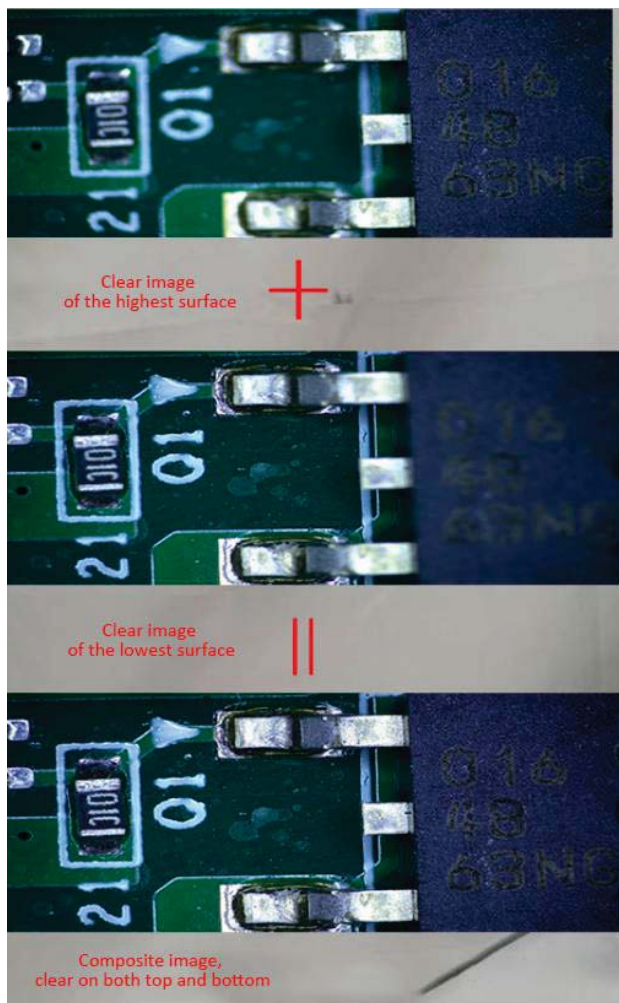


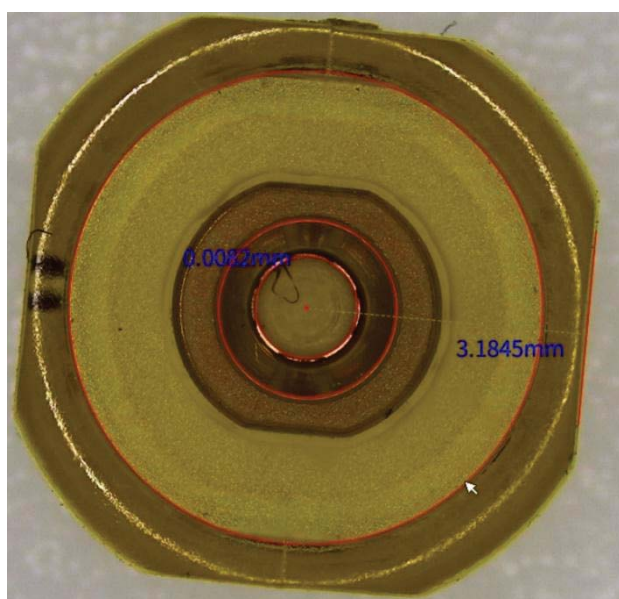
Figure 3. Profile





Depth of field fusion

Clear images from different heights in one image.

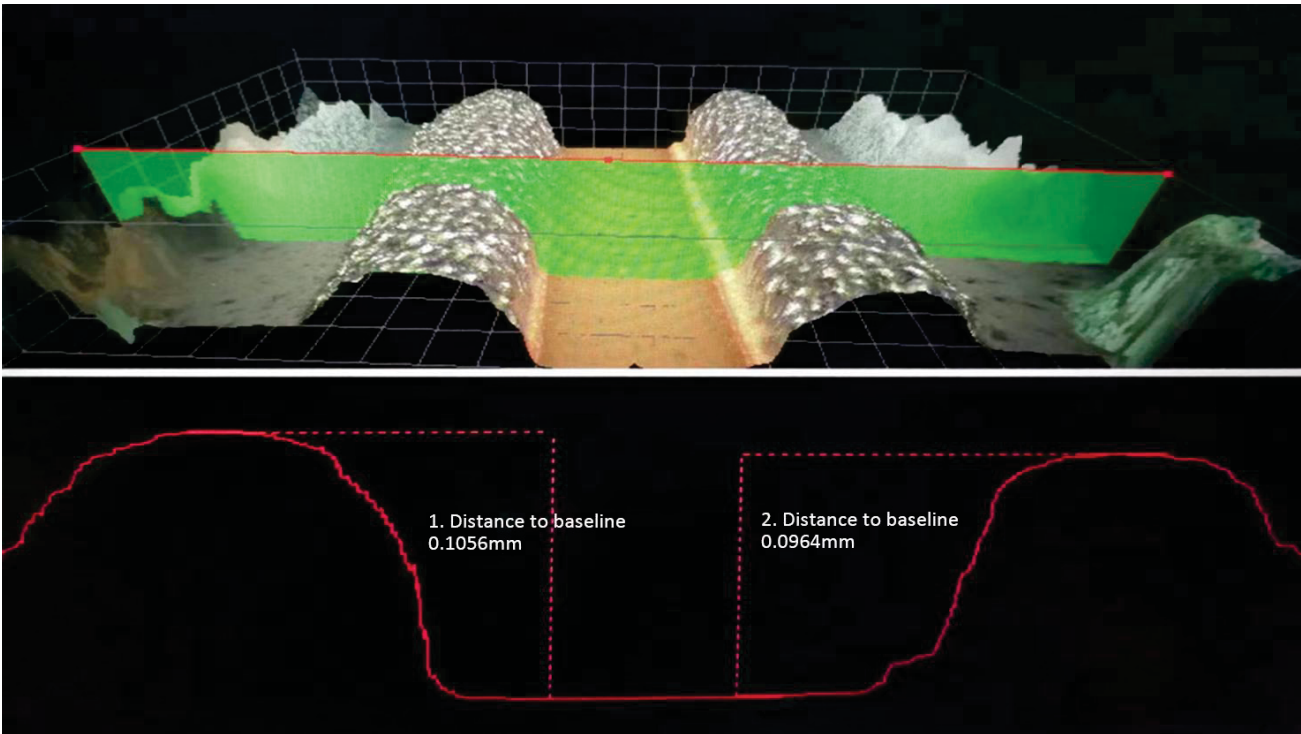


Measurement

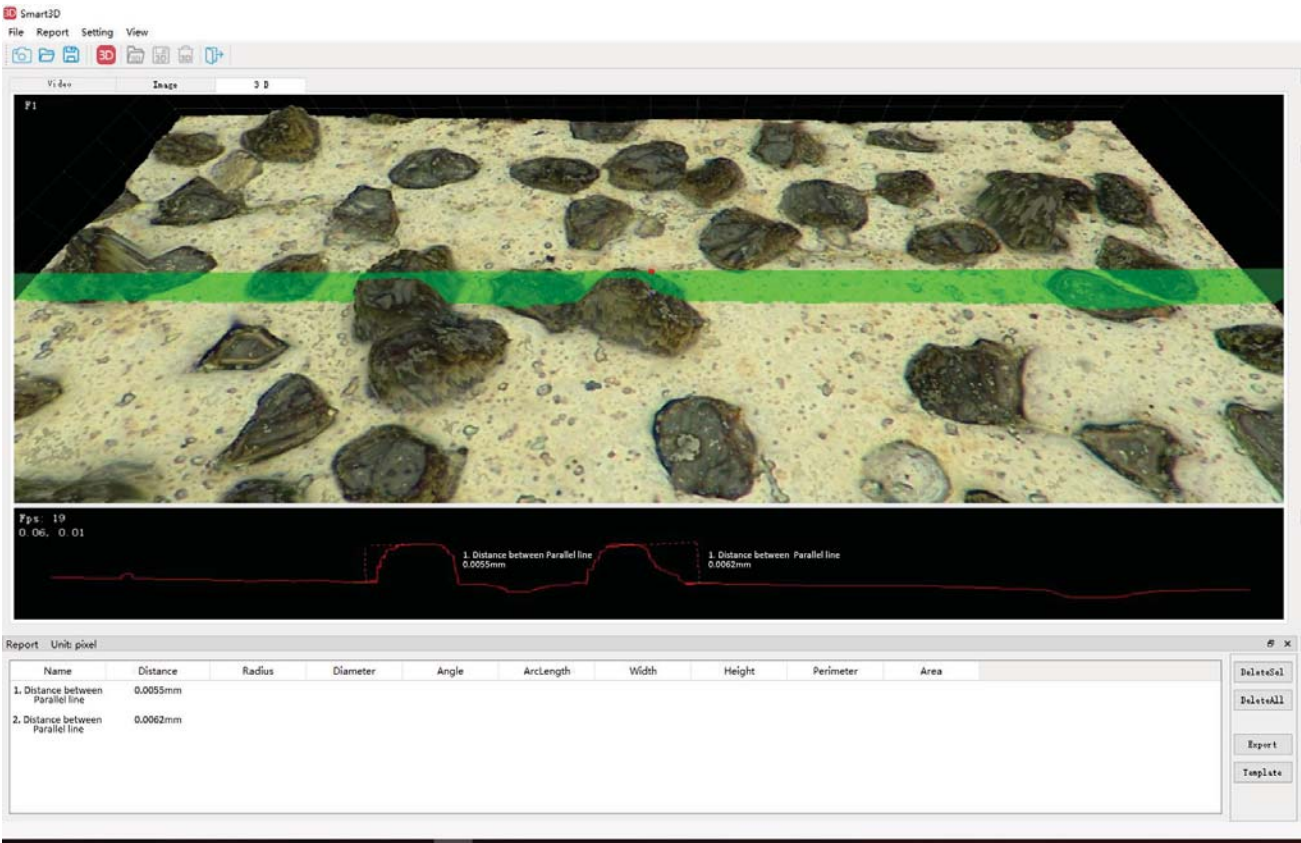
The synthesized image can be used for feature correlation size measurement of different height planes.

Application

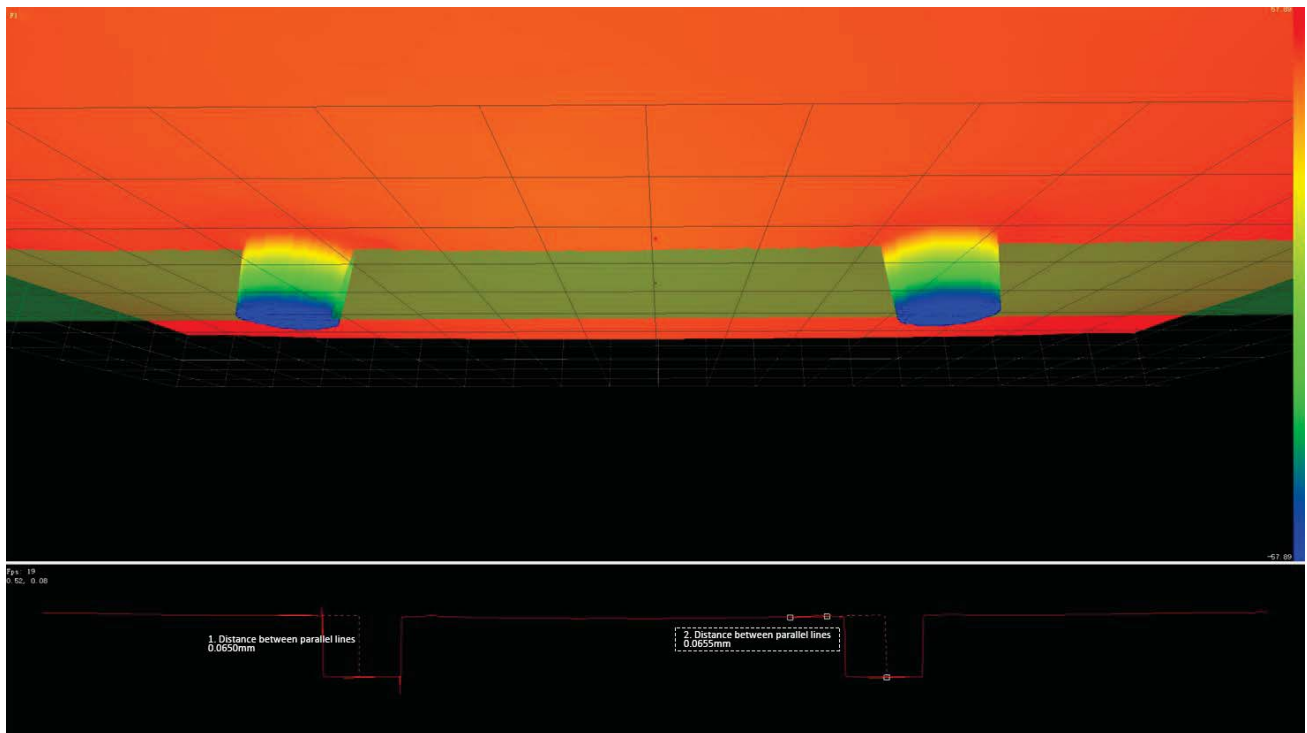
Height measurement of glue



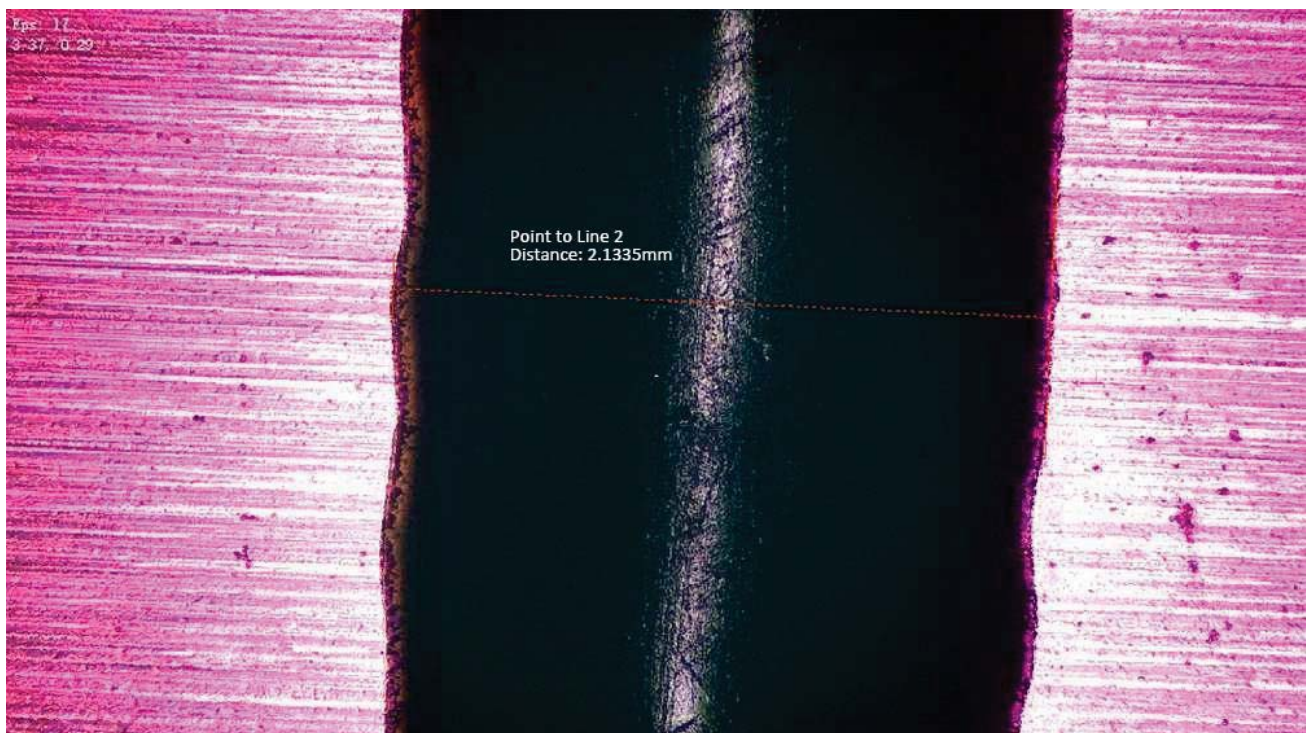
Height measurement of emery grit



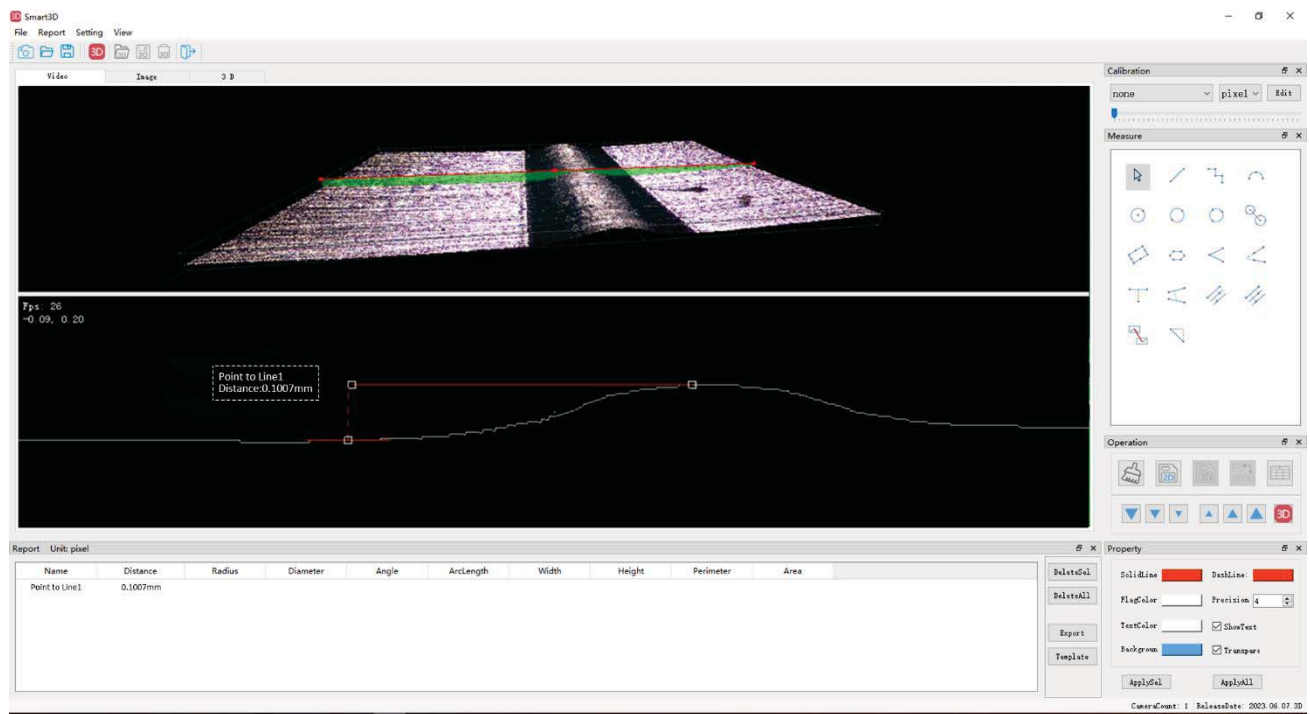
The chromatogram height chart - height measurement of laser blind hole



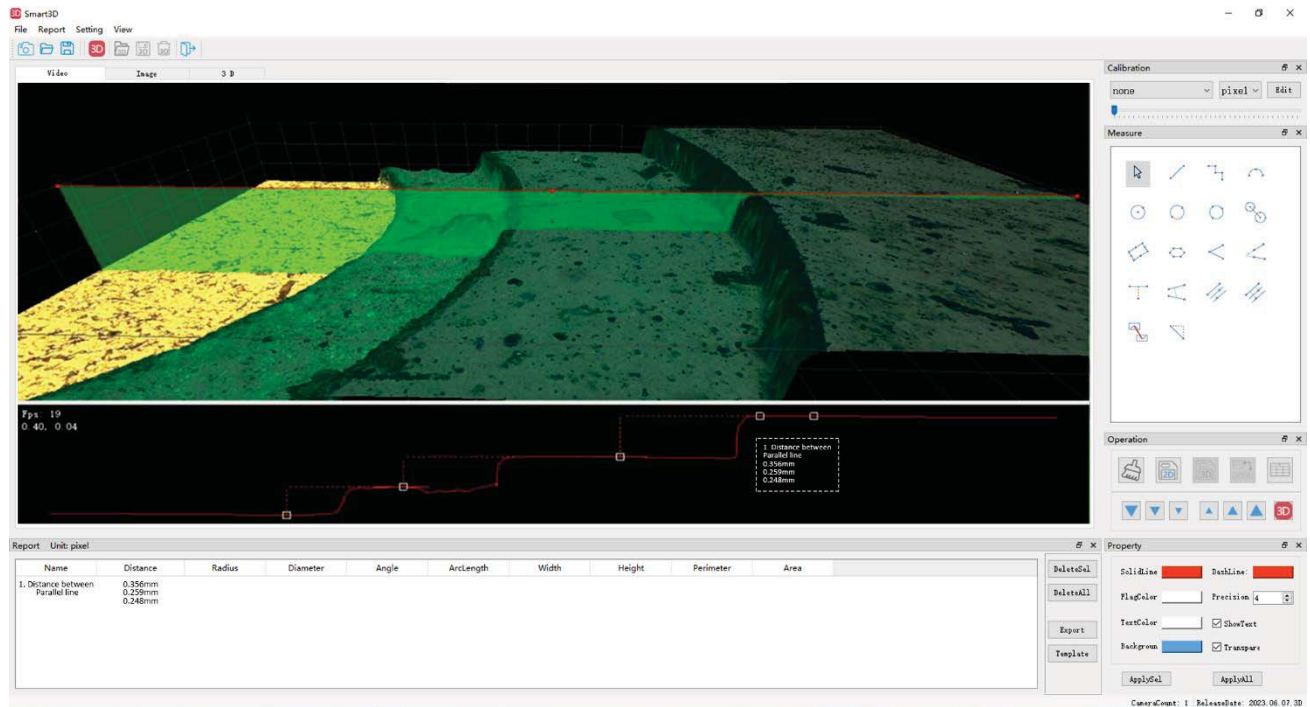
2D measurement after depth of field fusion – width measurement of black glue



Measurement after 3D synthesis – height measurement of adhesive



Measurement after 3D synthesis – height measurement of solder pad



Specification

Item	Specification	BS-10803D
Zoom Lens	Optical zoom magnification: 0.6X-5.0X	●
Zoom ratio	1:8.3	●
Camera	Ultra depth of field camera with HDMI output, 1/1.2" CMOS, resolution: 1920*1080, pixel size: 3.75μm*3.75μm, Frame rate: 60fps	●
C-mount Adapter	1.0X C-mount adapter	●
Ring Light	BAL-80A LED Ring light, brightness adjustable	●
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	Round type column plain stand with motor focus arm. Stroke: 40mm	●
	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine	○

	precision: 0.002mm.	
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-1080M3D
Zoom magnification	0.6-5.0X
Working distance	86mm
FOV	19mm*11.5mm-2.5mm*1.5mm
Camera parameter	
Sensor size	1/1.2" CMOS
Pixel	2 mega-pixels
Resolution	1920*1080
Pixel size	3.75μm*3.75μm
Frame rate	60fps
Output	HDMI

Interface	2 pcs USB (for mouse and U disk)
Chip	FPGA+ARM
Operation system	LINUX3.10
Frequency rate	1Ghz
Suppress strong light	Continuously adjustable
Edge enhancement	Adjustable
Kernel structure	Dual-Cortex-A9
Stand parameter	
Focusing mode	Motor drive
Center distance	145mm
Height of post	318mm
Diameter of post	32mm
Base size	330mm*300mm
Travel distance	40mm
Precision	0.002mm
Adjusting Resolution	0.25μm

Zoom Body Magnification	Field of view
0.6X	19mm*11.5mm
0.8X	14.5mm*8.5mm
1X	11.6mm*6.6mm
1.5X	7.8mm*4.5mm
2X	6mm*3.5mm
2.5X	4.7mm*2.7mm
3X	4mm*2.4mm
3.5X	3.5mm*2mm
4X	3mm*1.8mm
4.5X	2.7mm*1.6mm

20. BS-1082 4K Monocular Zoom Microscope



BS-1082

Introduction

BS-1082 4K Monocular Zoom Microscope adopt apochromatic high quality optical system and provide high resolution and sharp stereoscopic images. This microscope is designed for the applications in the fields of machine vision, industrial inspection and scientific research.

Features

1. High quality optical system

High quality optical system, better effect image with 4K camera.

2. Durable and sturdy

Adopt high hardness wear-resisting material, long use life.

3. Zoom ratio

0.3-2.5X zoom magnification, 8.3:1 big ratio. Different magnification auxiliary objective for optional: 0.3X, 0.4X, 0.5X, 0.6X, 1.5X, 2X. To meet different multiplier requirements.

Application

BS-1082 series Monocular Zoom Microscope are widely used in educational demonstration, agriculture research, industrial material, semi-conductor, integrated circuit board inspection area and so on. Widely used in electric equipment, semi-conductor, LCD and LED, for digital image observation, inspection and measurement.

Specification

Item	Specification	BS-1082
Optical System	High quality optical system	●
Zoom Lens	Optical zoom magnification: 0.3-2.5X	●
Zoom ratio	1:8.3	●
Mounting Size	Φ50mm	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-480B LCD digital camera with HDMI2.0, USB2.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
Auxiliary Lens	1.0X Auxiliary Objective	●
	0.3X Auxiliary Objective	○
	0.4X Auxiliary Objective	○
	0.5X Auxiliary Objective	○
	0.6X Auxiliary Objective	○
	0.75X Auxiliary Objective	○
	1.5X Auxiliary Objective	○
	2.0X Auxiliary Objective	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
	BAL-52A LED Ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light,	○

	brightness adjustable	
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○
	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Stand and focus Arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has	○

	5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-1082
Magnification	0.3-2.5X
Working distance	86mm
FOV	25.6x14.4-3.07x1.72mm (Base on 7.68x4.32mm sensor 4K camera)
NA	0.021-0.090mm
Resolution	0.004-0.016mm
Depth of field	0.018-6.24mm
Mount	Standard C mount
Install diameter	50mm

Accessories



Auxiliary objectives

21. BS-1085 4K Apochromatic Monocular Zoom Microscope



BS-1085A Monocular Zoom microscope lens



BS-1085A with L-type coaxial illuminator

BS-1085A with straight type coaxial illuminator

Introduction

BS-1085 series 0.3-3.0X ultra high resolution 4K apochromatic monocular zoom microscope Lenses have adopted apochromatic optical system. Work with 4K or higher solution cameras, they can capture ultra HD 4K images and videos. They can greatly improve the analysis and automated intelligent computing inspections.

BS-1085A comes with standard 0.3-3.0X zoom body, support Max. sensor size of camera is 2/3 inch.

BS-1085 zoom body with 1.67X or above C-mount lenses can support 1inch or bigger sensor cameras.

BS-1085 series microscopes can be used in the fields of machine vision, industrial inspection and scientific research. They can be widely used in food, silicon chips, wafer, chips, electronic components, biology and other fields of inspection and research.

Features

1. Apochromatic optical system

Apochromatic optical system. Greatly improve the analysis and automated intelligent computing judgment. Using the principle of apochromatic system, the image is perfectly clear without refocusing in different wavelength lighting situations.

2. Ultra 4K image

Compared to regular lenses, 4K lenses have clearer and sharper details, Higher color reproduction, no blue or purple edges at high magnification. Compared to ordinary lenses, equipped with a 1/1.8 " camera, add coaxial light, at minimum magnification of 0.3X. 4K lens images almost no dark angles, bigger field of view.

3. Modular design

Modular design. It can be equipped with functional components such as coaxial lighting, APO objective and objective nosepiece etc.

4. Different magnification

1:10 zoom ratio. 0.3X-3.0X standard zoom body. Standard C mount, install diameter is $\phi 50\text{mm}$. Max sensor size supported: 2/3 inch, 0.5-5.0X and above magnification supports 1 inch camera. Different magnification CTV mount and objective optional. Expanding magnification range by 0.15X-20X.

5. Large FOV

Compared to traditional lenses, the field of view at the same magnification is increased by more than 1.5X.

6. Mounting

BS-1085A has 2 types of mounting method, one is traditional mounting, another one has 2 holders for clamping, which is more stable.



BS-1085A with BA7 stand (Install dia. $\phi 50\text{mm}$)



BS-1085A with double holding structure

Specification

Item	Specification	BS-1085A	BS-1085B	BS-1085C	BS-1085D
Optical System	Infinite ultra-high resolution 4K apochromatic parallel optical system	●	●	●	●
Zoom Lens	Optical zoom magnification: 0.3X-3.0X (without click stop)	●	●	○	○
	Optical zoom magnification: 0.3X-3.0X (with click stop)	○	○	●	●
Zoom ratio	1:10	●	●	●	●
Mounting Size	Φ50mm	●	●	●	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○	○
	BLC-480B LCD digital camera with HDMI2.0, USB2.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○	○	○	○
C-mount Adapter	1X C-mount adapter	●	○	●	○
	1.33X C-mount adapter	○	○	○	○
	1.67X C-mount adapter	○	●	○	●
	2X C-mount adapter	○	○	○	○
	2.33X C-mount adapter	○	○	○	○
	2.67X C-mount adapter	○	○	○	○

	3X C-mount adapter	○	○	○	○
	3.33X C-mount adapter	○	○	○	○
Optical Magnification	0.3X-3.0X (with 1X C-mount adapter)	●	○	●	○
	0.4X-4.0X (with 1.33X C-mount adapter)	○	○	○	○
	0.5X-5.0X (with 1.67X C-mount adapter)	○	●	○	●
	0.6X-6.0X (with 2X C-mount adapter)	○	○	○	○
	0.7X-7.0X (with 2.33X C-mount adapter)	○	○	○	○
	0.8X-8.0X (with 2.67X C-mount adapter)	○	○	○	○
	0.9X-9.0X (with 3X C-mount adapter)	○	○	○	○
	1.0X-10.0X (with 3.33X C-mount adapter)	○	○	○	○
Auxiliary Lens	0.5X / WD: 180mm	○	○	○	○
	1X / WD: 100mm	●	●	●	●
	2X / WD: 38mm	○	○	○	○
Infinite LWD Plan Achromatic Metallurgical Objective Lens (MA200A)	5X/ NA=0.12, WD=26.1mm	○	○	○	○
	10X/ NA=0.25, WD=20.2mm	○	○	○	○
	20X/ NA=0.4, WD=8.8mm	○	○	○	○
	40X/ NA=0.6, WD=3.98mm	○	○	○	○
	50X/ NA=0.7, WD=3.68mm	○	○	○	○
	60X/ NA=0.75, WD=1.22mm	○	○	○	○
	60X/ NA=0.75, WD=3.18mm	○	○	○	○
	80X/ NA=0.8, WD=1.25mm	○	○	○	○
	100X/ NA=0.85, WD=0.4mm	○	○	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200A)	2X/ NA=0.055, WD=34.6mm	○	○	○	○
	3.5X/ NA=0.1, WD=40.93mm	○	○	○	○
	5X/ NA=0.13, WD=44.5mm	○	○	○	○
	10X/ NA=0.28, WD=34mm	○	○	○	○
	20X/ NA=0.29, WD=31mm	○	○	○	○
	50X/ NA=0.42, WD=20.1mm	○	○	○	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200B)	2X/ NA=0.075, WD=50mm	○	○	○	○
	4X/ NA=0.15, WD=36mm	○	○	○	○
	4.5X/ NA=0.18, WD=38mm	○	○	○	○
	20X/ NA=0.35, WD=29mm	○	○	○	○
Coaxial light	Straight Type Coaxial Device, light input port Φ16mm	○	○	○	○

Device	(does not include light source, can be used for all the C-mount adapters)				
	Coaxial point light source for Straight Type Coaxial Device: Φ16mm, 3W LED, 5500K, brightness adjustable	○	○	○	○
	L-Type Coaxial Device with iris diaphragm, light input port Φ11mm (does not include light source, used for 1.67× C-mount adapters and above)	○	○	○	○
	Coaxial point light source for L-Type Coaxial Device: Φ11mm, 3W LED, 5500K, brightness adjustable	○	○	○	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○	○	○	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○	○	○	○
	BAL-52ASL LED side ring light, brightness adjustable	○	○	○	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○	○	○	○
	BAL-228AG LED four-zone ring light with frosted glass	○	○	○	○
	BAL-16P LED polarizing ring light, brightness adjustable	○	○	○	○
Back Light	BTL-60A LED back light	○	○	○	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○	○	○	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○	○	○	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○	○	○	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○	○	○	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○	○	○	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○	○	○	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○	○	○	○
Stage	BMS-302 X-Y moving stage	○	○	○	○
	BMS-303 X-Y moving stage	○	○	○	○
	BMS-311 X-Y measuring stage	○	○	○	○
	BMS-316A X-Y measuring stage	○	○	○	○
	BMS-316B X-Y measuring stage	○	○	○	○

	BMS-400A large working stage	○	○	○	○
	BMS-260A XY working stage	○	○	○	○
Other Accessories	Metallurgical objective adapter (used to connect metallurgical objectives onto the zoom body)	○	○	○	○
	Quadruple Nosepiece for metallurgical objectives (RMS: 20.32mm x 0.706mm)	○	○	○	○
	Quadruple Nosepiece for APO metallurgical objectives (M26*0.705mm)	○	○	○	○
	Double holding bracket	○	○	○	○
Stand and focusing arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○	○	○	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○	○	○	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○	○	○	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○	○	○	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○	○	○	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○	○	○	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○	○	○	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○	○	○	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○	○	○	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○	○	○	○

BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ 32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○	○	○	○
BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ 32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○	○
BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ 25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○	○	○	○
BFA-1 coarse focus arm. Stroke: 50mm.	○	○	○	○
BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○	○
BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○	○	○	○
BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○	○	○	○
BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○	○	○	○
BFA-6 N interface coarse focus arm. Stroke: 50mm.	○	○	○	○
BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○	○	○	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

BS-1085A 0.3-3.0X Ultra Resolution 4K Zoom Lens (with 1× C-mount adapter)

Model	BS-1085A with 1× C-mount adapter				
Magnification	0.3X	0.5X	1.0X	2.0X	3.0X
Focus distance(mm)	27	45	90	180	270
Working distance(mm)	100	100	100	100	100
Depth of field (mm)	5.80	2.16	0.63	0.22	0.12
NA(mm)	0.023	0.037	0.063	0.090	0.107

Resolution(mm)	0.015	0.009	0.005	0.004	0.003
F/#	6.5	6.8	7.9	11.1	14.0
Dist%	3.90%	1.90%	0.55%	-0.04%	-0.23%
CCD	2/3"	2/3"	2/3"	2/3"	2/3"
Mount	C	C	C	C	C
Reversal F/#	21.7	13.5	7.9	5.6	4.7

BS-1085A 0.5-5.0X Ultra Resolution 4K Zoom Lens (with 1.67× C-mount adapter)

Model	BS-1085A with 1.67× C-mount adapter					
Magnification	0.5X	1.0X	2.0X	3.0X	4.0X	5.0X
Focus distance(mm)	45	90	180	270	360	450
Working distance(mm)	100	100	100	100	100	100
Depth of field (mm)	3.48	0.93	0.29	0.16	0.10	0.07
NA(mm)	0.023	0.043	0.070	0.085	0.097	0.107
Resolution(mm)	0.015	0.008	0.005	0.004	0.003	0.003
F/#	10.9	11.6	14.3	17.6	20.6	23.4
Dist%	2.97%	1.10%	0.20%	-0.03%	0.13%	0.20%
CCD	1"	1"	1"	1"	1"	1"
Mount	C	C	C	C	C	C
Reversal F/#	21.7	11.6	7.1	5.9	5.2	4.7

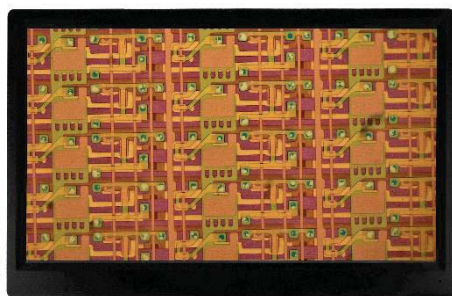
Product pictures



BS-1085A with 1X C-mount adapter



BS-1085B with 1.67X C-mount adapter



LCD digital camera(front)



LCD digital camera(back)



0.5X/1X/2X Objective



4 holes nosepiece
M20.3 thread size



4 holes nosepiece
M26 thread size



Infinity Plan semi-APO achromatic objective



95mm plan APO objective



CTV mount



4K objective



Coaxial device with iris



High brightness coaxial device



BS-1085A with L-type coaxial illuminator



BS-1085A with straight type coaxial illuminator



BS-1085A with L-type coaxial illuminator
and APO objective lens



BS-1085A with straight type coaxial illuminator
and APO objective lens



BS-1085A with coaxial illuminator and nosepiece



Double holding bracket

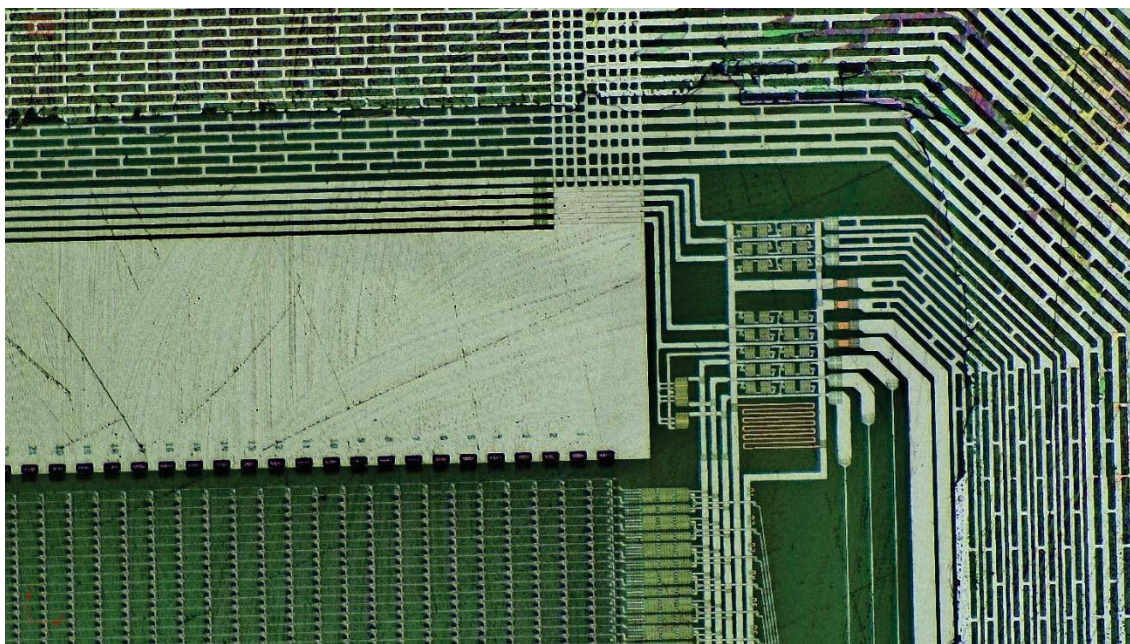


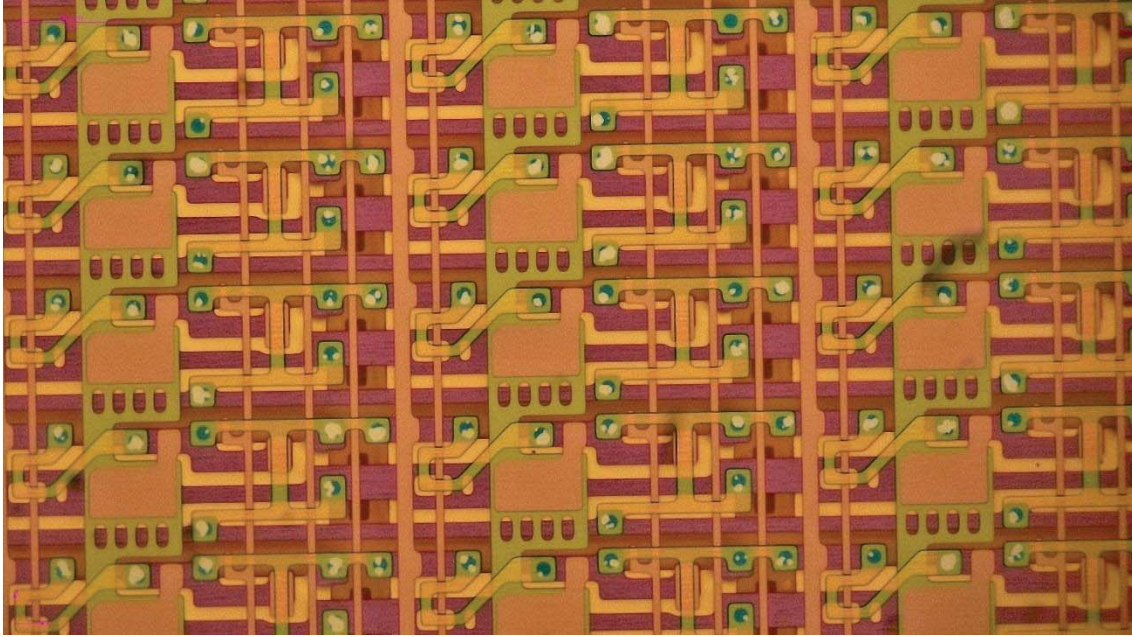
BS-1085A with straight type coaxial illuminator
with nosepiece and APO objective lens



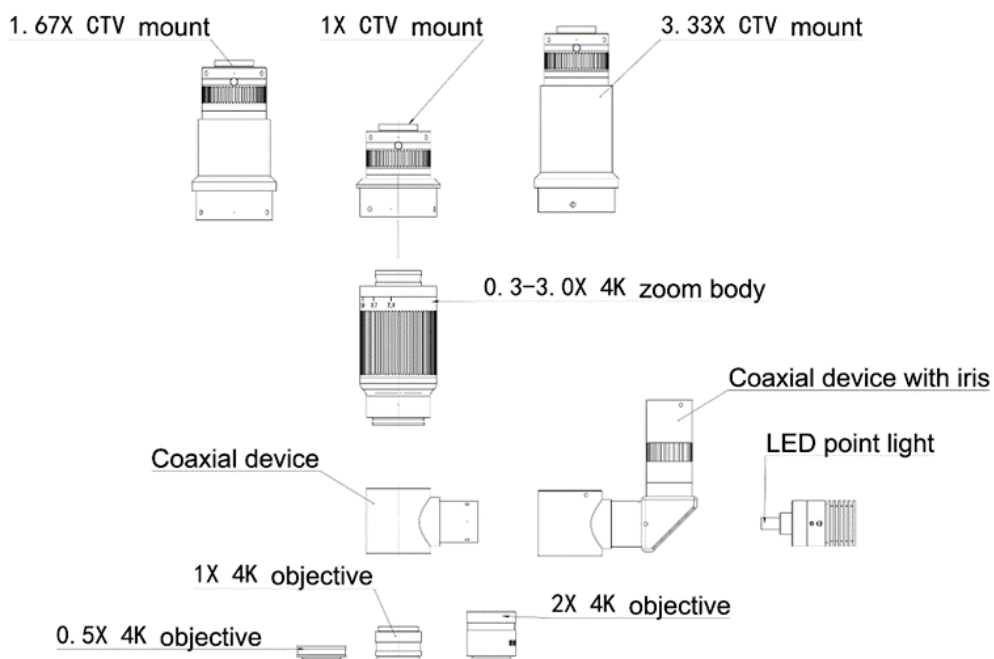
BS-1085A with L-type coaxial illuminator
with nosepiece and APO objective lens

Sample Images

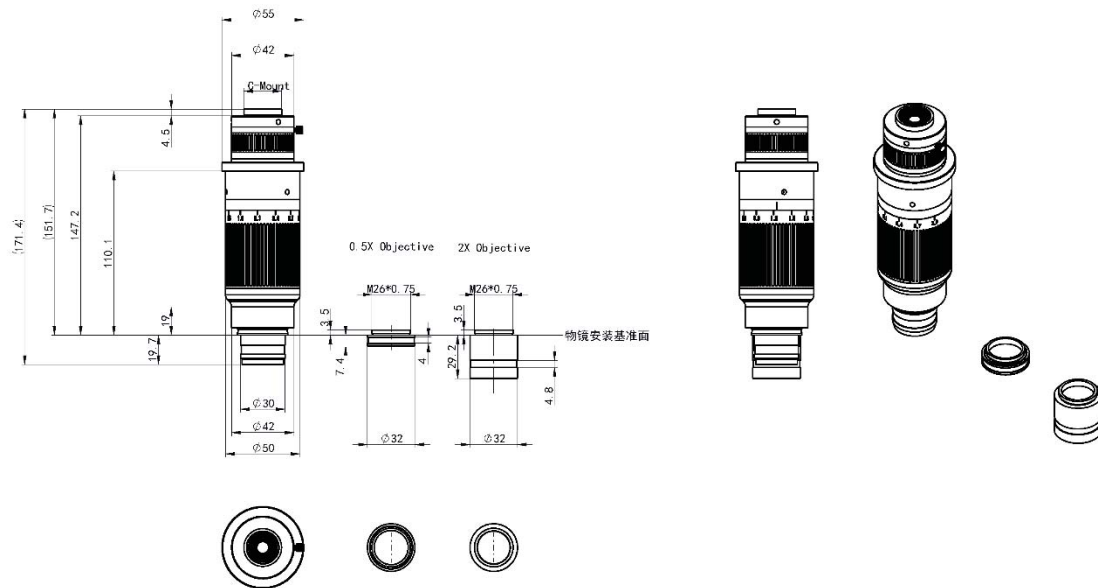




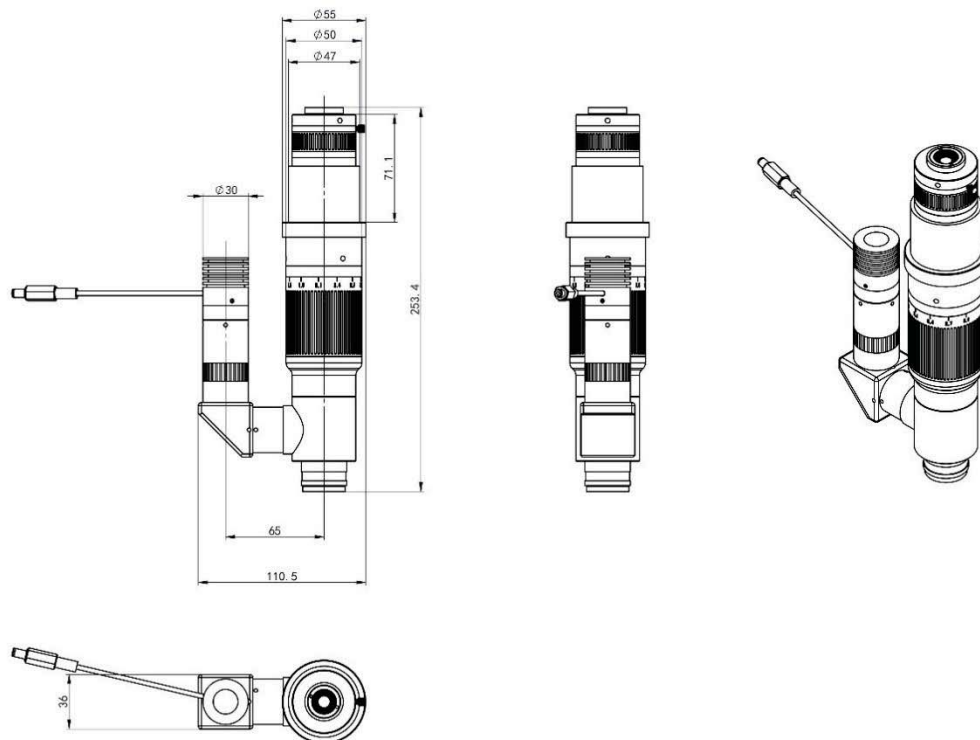
System Diagram



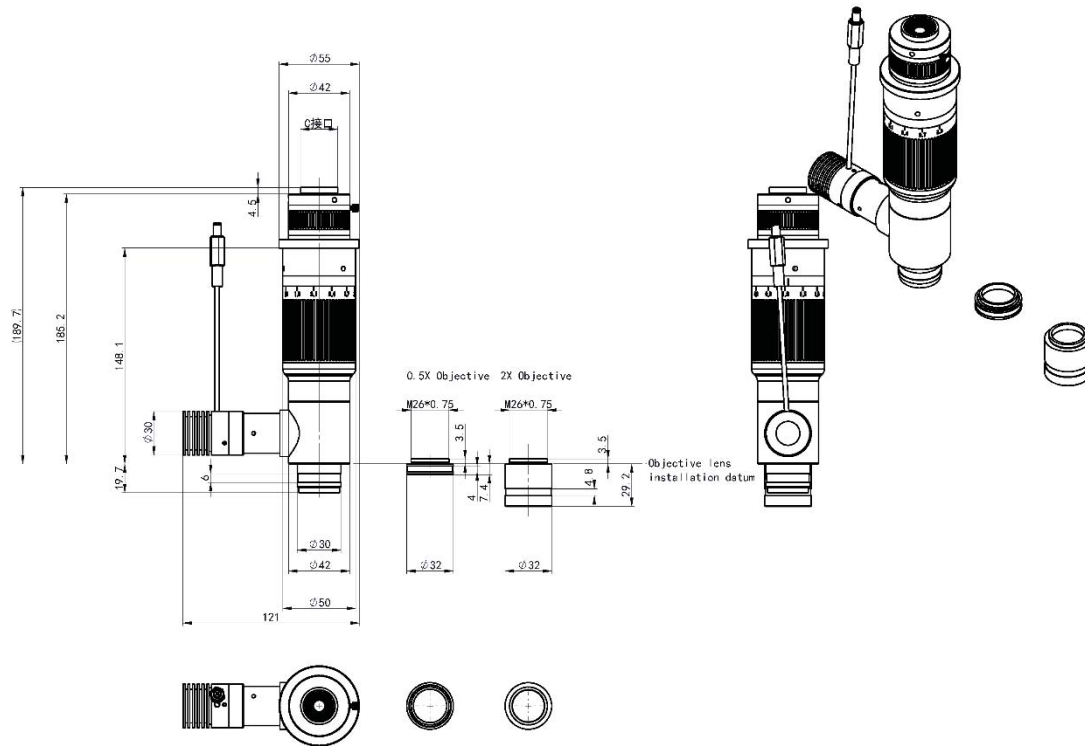
Dimension



BS-1085A and objective



BS-1085A with 1.67X C-mount adapter and L-type coaxial illuminator



BS-1085A with 1X C-mount adapter and straight type coaxial illuminator

22. BS-1085AM 4K Motor Zoom Monocular Microscope



BS-1085AM

Introduction

BS-1085AM 0.3-3.0X ultra high resolution 4K apochromatic motor zoom monocular microscope has adopted apochromatic optical system. Work with 4K or higher solution cameras, they can capture ultra-HD 4K images and videos. They can greatly improve the analysis and automated intelligent computing inspections.

BS-1085AM microscope can be used in the fields of machine vision, industrial inspection and scientific research. They can be widely used in food, silicon chips, wafer, chips, electronic components, biology and other fields of inspection and research.

Features

1. Apochromatic optical system

0.3-3.0X motor zoom, 10:1 super zoom ratio. Apochromatic optical system, 4K ultra high-definition imaging. High precision electric zoom lens, repetition accuracy 0.001mm.

2. Ultra 4K image

Compared to regular lenses, 4K lenses have clearer and sharper details, Higher color reproduction, no blue or purple edges at high magnification.

3. Large FOV

Supports maximum chip size: 2/3 inches, 0.5-5.0X and above magnification zoom supports 1-inch cameras, which increase the field of view by more than 1.5X compared to traditional lenses at the same magnification.

4. Precise electronic feedback system

Accurate electronic feedback system, intelligent setting for continuous cruise scanning.

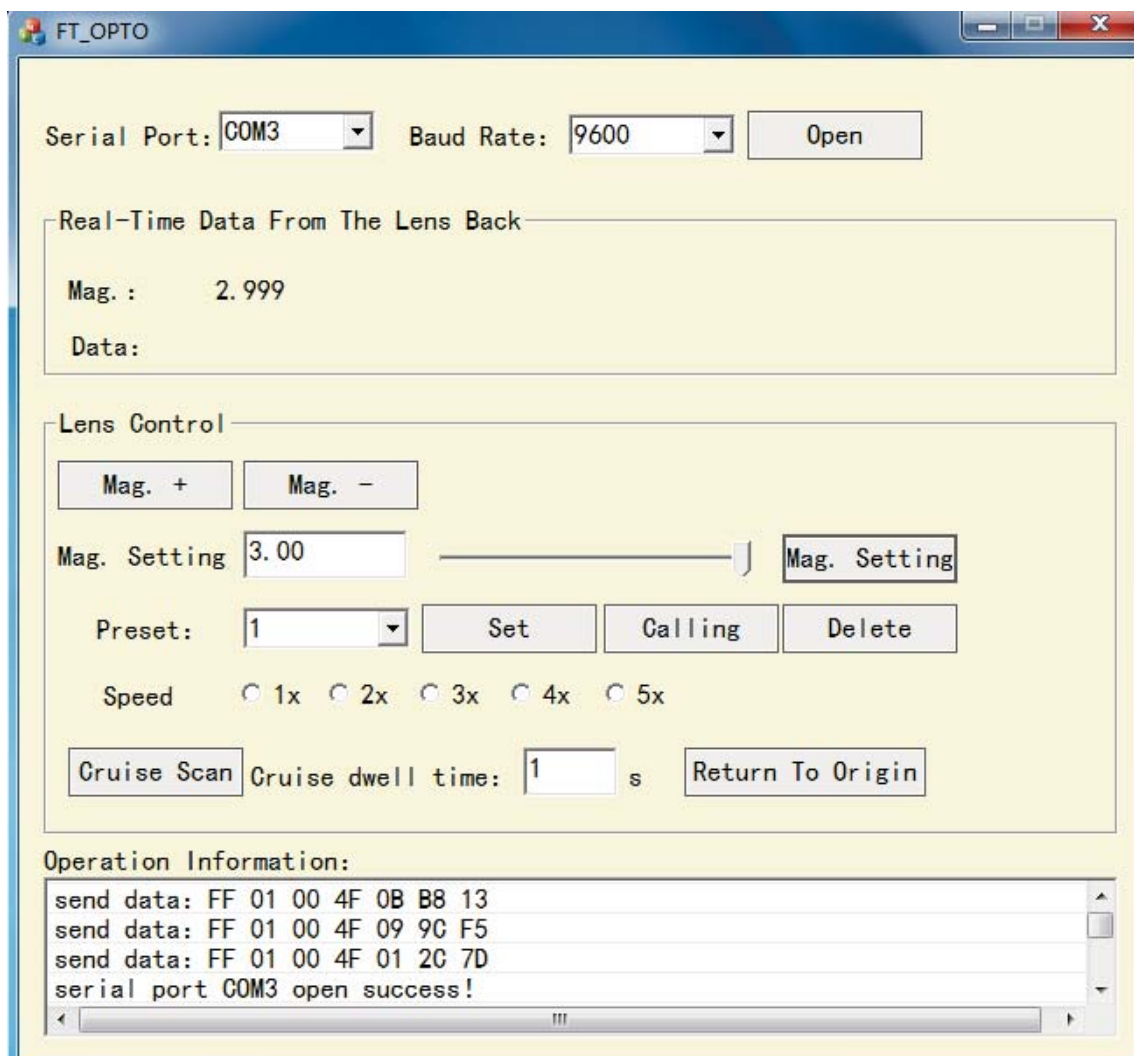
5. Modular design

Intelligent modular design, it can be equipped with different magnification CTV mount and objective, expanding the magnification range by 0.15X-20X. There are coaxial light sources, high-power apochromatic objectives and nosepieces for optional.

6. Secondary development

Provide secondary development modules.

Software Window



Specification

Item	Specification	BS-1085AM
Optical System	Infinite ultra-high resolution 4K apochromatic parallel optical system	●
Zoom Lens	Optical zoom magnification: 0.3X-3.0X	●
Zoom method	Auto zoom	●
Zoom ratio	1:10	●
LCD Digital Camera	BLC-480A LCD digital camera with HDMI2.0, USB3.0 and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-480B LCD digital camera with HDMI2.0, USB2.0 and WIFI multi output, 30fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580A LCD digital camera with HDMI2.0, USB, LAN and WIFI multi output, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
	BLC-580AF LCD digital camera with HDMI2.0, USB and WIFI multi output, with built-in Auto Focus system, 60fps@4K or 60fps@1080P, can capture 8M (3840*2160) pictures, 4K videos and do measurement, control with mouse. With 13.3 inch LCD screen, resolution 1920*1080.	○
C-mount Adapter	1X C-mount adapter	●
	1.33X C-mount adapter	○
	1.67X C-mount adapter	○
	2X C-mount adapter	○
	2.33X C-mount adapter	○
	2.67X C-mount adapter	○
	3X C-mount adapter	○
	3.33X C-mount adapter	○
Auxiliary Lens	0.5X / WD: 180mm	○
	1X / WD: 100mm	●
	2X / WD: 38mm	○
Infinite LWD Plan Achromatic Metallurgical Objective Lens (MA200A)	5X/ NA=0.12, WD=26.1mm	○
	10X/ NA=0.25, WD=20.2mm	○
	20X/ NA=0.4, WD=8.8mm	○
	40X/ NA=0.6, WD=3.98mm	○
	50X/ NA=0.7, WD=3.68mm	○
	60X/ NA=0.75, WD=1.22mm	○
	60X/ NA=0.75, WD=3.18mm	○

	80X/ NA=0.8, WD=1.25mm	○
	100X/ NA=0.85, WD=0.4mm	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200A)	2X/ NA=0.055, WD=34.6mm	○
	3.5X/ NA=0.1, WD=40.93mm	○
	5X/ NA=0.13, WD=44.5mm	○
	10X/ NA=0.28, WD=34mm	○
	20X/ NA=0.29, WD=31mm	○
	50X/ NA=0.42, WD=20.1mm	○
Infinite LWD Plan Apochromatic Objectives (LWD M APO200B)	2X/ NA=0.075, WD=50mm	○
	4X/ NA=0.15, WD=36mm	○
	4.5X/ NA=0.18, WD=38mm	○
	20X/ NA=0.35, WD=29mm	○
Coaxial light Device	Straight Type Coaxial Device, light input port Φ 16mm (does not include light source, can be used for all the C-mount adapters)	○
	Coaxial point light source for Straight Type Coaxial Device: Φ 16mm, 3W LED, 5500K, brightness adjustable	○
	L-Type Coaxial Device with iris diaphragm, light input port Φ 11mm (does not include light source, used for 1.67× C-mount adapters and above)	○
	Coaxial point light source for L-Type Coaxial Device: Φ 11mm, 3W LED, 5500K, brightness adjustable	○
Ring Light	BAL-80A LED Ring light, brightness adjustable	○
	BAL-52AP LED polarizing ring light, brightness adjustable	○
	BAL-52ASL LED side ring light, brightness adjustable	○
	BAL-228A Four-zone lighting control separately big area LED ring light	○
	BAL-228AG LED four-zone ring light with frosted glass	○
	BAL-16P LED polarizing ring light, brightness adjustable	○
Back Light	BTL-60A LED back light	○
Point Light	BPL-3A LED point light, 3W, brightness adjustable.	○
	BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable	○
	BPL-4A LED point light with numerically adjustable light adapter, 4W, brightness adjustable	○
Bar Light	BBL-5A bar LED illuminator, 60 LED, 12V/5W	○
Cold Light Source	BSL-3B LED light source with dual goose neck light guide, 6.5W	○
	BSL-15A-2 Cold LED light source with Dual Light Guide, 15W LED lamp	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 21V/150W Halogen lamp	○
Stage	BMS-302 X-Y moving stage	○

	BMS-303 X-Y moving stage	○
	BMS-311 X-Y measuring stage	○
	BMS-316A X-Y measuring stage	○
	BMS-316B X-Y measuring stage	○
	BMS-400A large working stage	○
	BMS-260A XY working stage	○
Other Accessories	Metallurgical objective adapter (used to connect metallurgical objectives onto the zoom body)	○
	Quadruple Nosepiece for metallurgical objectives (RMS: 20.32mm x 0.706mm)	○
	Quadruple Nosepiece for APO metallurgical objectives (M26*0.705mm)	○
	Double holding bracket	○
Stand and focusing arm	BA1 Round type column plain stand with coarse focus arm. Stroke: 50mm.	○
	BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 50mm.	○
	BA3 Round type column plain stand with coarse and fine focus arm. Stroke: 67mm, fine precision: 0.002mm.	○
	BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 67mm, fine precision: 0.002mm.	○
	BA5 Square type column plain stand with coarse focus arm. Stroke: 150mm.	○
	BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 150mm.	○
	BA7 Square type column plain stand with coarse and fine focus arm. Stroke: 260mm, fine precision: 0.002mm.	○
	BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Stroke: 260mm, fine precision: 0.002mm.	○
	BA9 multi-angle column plain stand with coarse focus arm. Stroke: 60mm.	○
	BA10 multi-angle column plain stand with coarse and fine focus arm. Stroke: 60mm, fine precision: 0.002mm.	○
	BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.	○
	BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, Φ32mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.	○
	BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, Φ25mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.	○
	BFA-1 coarse focus arm. Stroke: 50mm.	○
	BFA-2 coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○
	BFA-3 multi-angle coarse focus arm, angle adjustable. Stroke: 50mm.	○
	BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Stroke: 60mm, fine precision: 0.002mm.	○

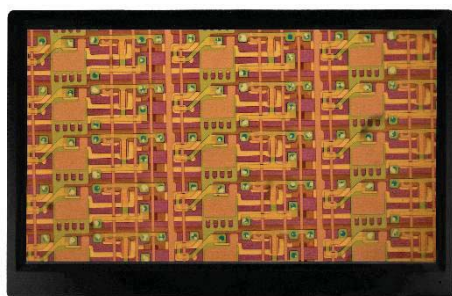
	BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Stroke: 65mm, fine precision: 0.005mm.	○
	BFA-6 N interface coarse focus arm. Stroke: 50mm.	○
	BFA-7 N interface coarse and fine focus arm. Stroke: 65mm, fine precision: 0.002mm.	○

Note: ●Standard Outfit, ○Optional

Optical Parameter

Model	BS-1085AM				
Zoom body	0.3-3.0X				
Lens mount	Standard C mount				
Working distance	100mm				
Zoom method	Motor zoom				
Power supply	DC12V 2A				
Connect port	Standard USB port, RS232 9 pins serial port optional				
Max sensor	2/3"				
Magnification	0.3X	0.5X	1.0X	2.0X	3.0X
WD (mm)	100	100	100	100	100
Depth of view (mm)	5.80	2.16	0.63	0.22	0.12
NA (mm)	0.023	0.037	0.063	0.090	0.107
Resolution(mm)	0.015	0.009	0.005	0.004	0.003
F/#	6.5	6.8	7.9	11.1	14.0
Dist%	3.90%	1.90%	0.55%	-0.04%	-0.23%

Accessories



LCD digital camera(front)



LCD digital camera(back)



0.5X/1X/2X Objective



4 holes nosepiece
M20.3 thread size



4 holes nosepiece
M26 thread size



Infinity Plan semi-APO achromatic objective



95mm plan APO objective



CTV mount



4K objective



Coaxial device with iris



High brightness coaxial device



BS-1085AM with straight type coaxial device



BS-1085AM with L-type coaxial device



BS-1085AM with straight type coaxial illuminator
and APO objective lens



BS-1085AM with L-type coaxial illuminator
and APO objective lens



BS-1085AM



BS-1085AM with BA3 Stand

23. BS-1108 Series Monocular Microscope



BS-1108

Introduction

BS-1108 series Monocular Zoom Microscope is an ideal choice for machine vision, industrial inspection, scientific research and education. The design is based on the bilateral parallel light path principle and the modular design concept, with superior optical performance and strong compatibility.

The basic module of BS-1108 is BS-1108A (without click stop) and BS-1108B (with click stop at main magnifications), it has 0.15X to 1.20X zoom range and 1:8 zoom ratio. It is a high-quality precision Monocular Zoom Objective that provides high resolution and large depth of field.

Features

The main features are shown below:

1. Provide basic zoom objective BS-1108A with 0.15X~1.20X zoom range.
2. Large optical zoom ratio: 1:8.
3. Larger NA: 0.008-0.046 (When using 1.00x Auxiliary Lens).
4. Higher resolution: 33.1um-5.9um (When using 1.0X Auxiliary Lens).
5. Larger sensor size: 2/3" (When using 1X TV Lens).
6. Working distance:130mm (When using 1.0X Auxiliary Lens).
7. With adjustable BFL, parfocal in zoom range.
8. With adjustable center, the image center remains unchanged from 1.20x to 0.15x.
9. Compatible with infinity objectives (both biological and metallographic).
10. Compact size: 164 mm (length)*40 mm (diameter).
11. Auxiliary Lens with 1.00X magnification (Customizable).
12. TV Lens with 1.00X magnification (Customizable).
13. Brightness adjustable LED Direct Ring Light (Optional).
14. LED Transmissive Light (Optional).
15. 50mm Bracket Adapter (Optional).

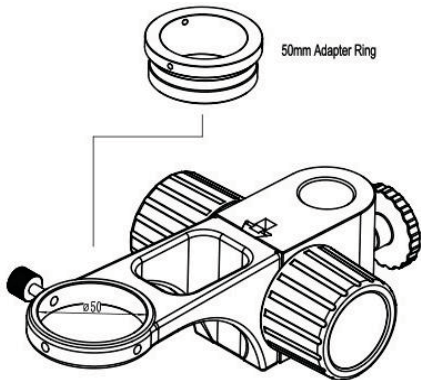
Accessories

The available components are listed in Table 1, user can choose any part from the table.

Table 1 BS-1108’s Accessories and Its Functions

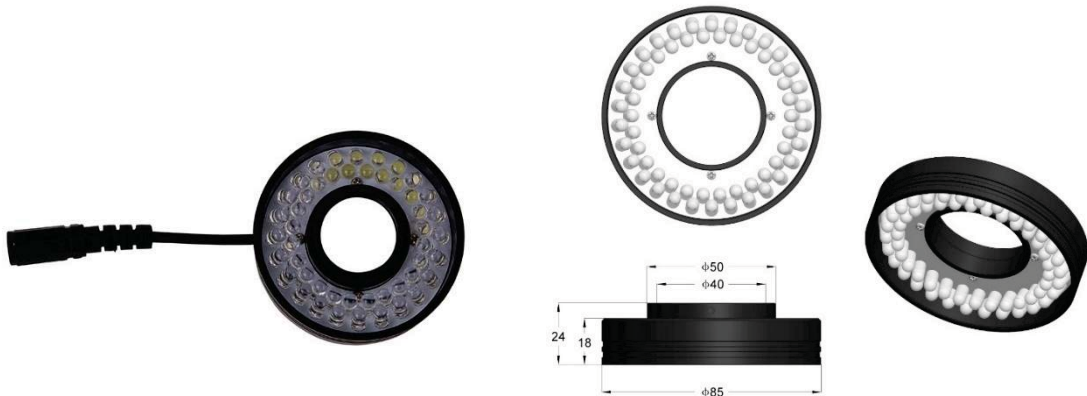
Module	Order Number	Description
Auxiliary Lens Module	W4100	1.0X Object Lens
Middle Zoom Module	BS-1108	The main body of BS-1108
TV Lens Module	TV4100	1.0XTV Lens
LED Direct Ring Light Module	BAL3-60A	LED Direct Ring Light
Transmitted Light Module	BTL-37A	LED Transmitted Light
Bracket Adapter		50mm Bracket Adapter (mounting adapter)
Power of light source		POWER-U-12V1A, Power Adapter American Standard
		POWER-E-12V1A, Power Adapter European standard

The BS-1108 main body consists of Auxiliary Lens Module, Middle Zoom Module and TV Lens Module. These 3 modules comprise the main Monocular Zoom Objective. To get good illumination and ensure the image quality, LED Direct Ring Light Module (Optional). To get good and stable support, the Bracket Adapter Module should be carefully chosen. Finally, to form the Video Monocular Zoom Objective, Camera Module (Optional) should be chosen. The Adapter Rings and their relationship with the Bracket are shown following.

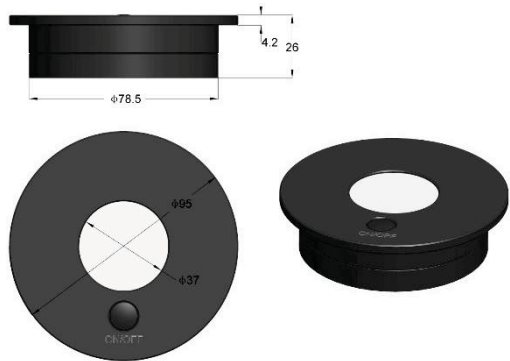


BS-1108 Adapter Ring for the Bracket

The Direct Ring Light, Direct Ring Polarization Light and the Coaxial Light are shown in following figures respectively.



BAL3-60A, LED Direct Ring Light.



BTL-37A, LED Transmitted Light

Specifications

The specifications of BS-1108 are shown below.

Model	WD	PMAG	NA	Camera Size	FOV (mm)	Resolution (um)
BS-1108A/B	130mm	0.15-1.20X	0.008-0.046	1/3"	5.0-40.0	33.1-5.9
				1/2"	6.7-53.3	33.1-5.9
				2/3"	9.2-73.0	33.1-5.9

WD: Working Distance;

PMAG: Primary Magnification;

FOV: Field of View in the Object side;

NA: Numerical Aperture;

Application

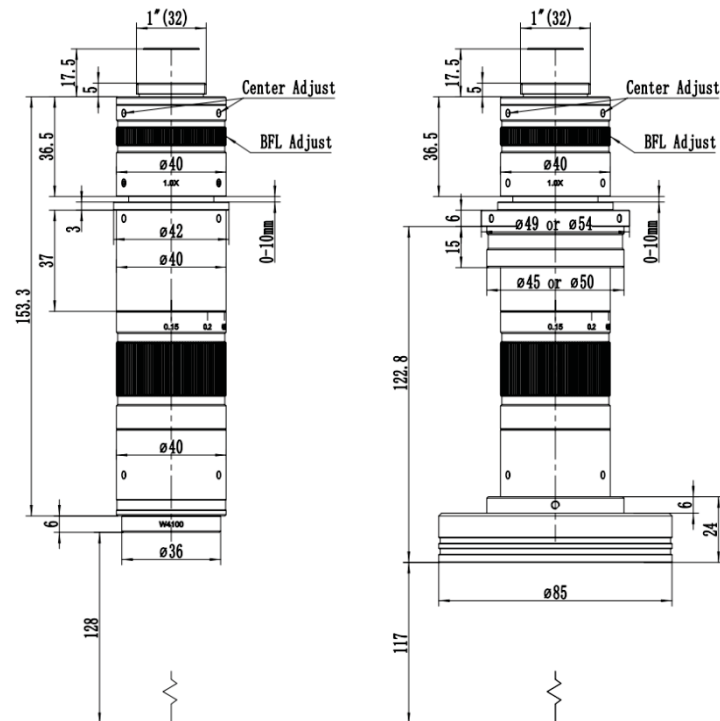
BS-1108 is an ideal choice for most applications that require multiple magnifications or for those that prohibit continual manual refocusing. The applications of the BS-1108 are machine vision, small details inspection, industrial inspection especially electronic components, scientific research, medical industry and education industry.



BS-1108A+BAL3-60A +HDMI Camera+ Screen + BS-210A

Dimension

The dimensions of BS-1108A with different light a) BS-1108A without light module; b) BS-1108A equipped with Direct Ring Light Module.



Dimensions of BS-1108A with different light

Packing List

The package information of BS-1108 is as follows:



BS-1108 Main Body, including Auxiliary Lens Module, Middle Zoom Module, TV Lens, Camera Adapter Tube and Bracket Adapter

The package information of BAL3-60A is as follows:

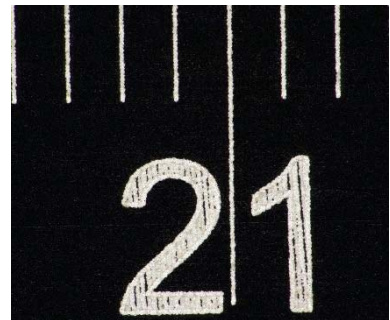
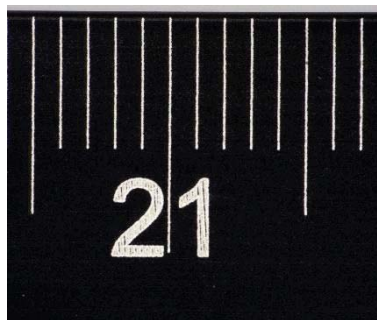
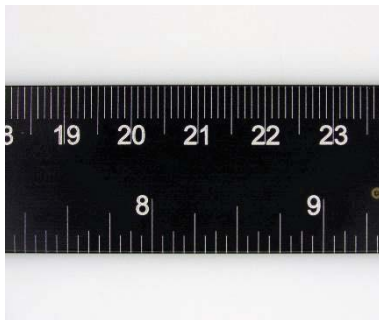


BAL3-60A, including LED Direct Ring Light and Power Adapter

Sample Images

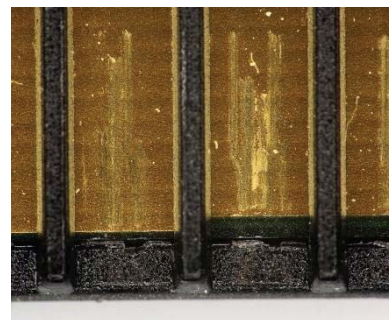
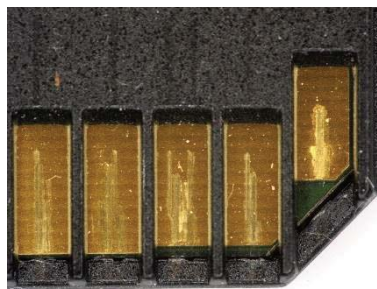
Pictures of ruler taken with BS-1108A under LED Direct Ring Light illumination.

Left: 0.15X, middle: 0.6X, right: 1.2X



Pictures of SD card taken with BS-1108A.

Left: 0.15X, middle: 0.6X, right: 1.2X



24. BS-1110 Series Monocular Microscope



BS-1110

Introduction

BS-1110 series Monocular Zoom Microscope is an ideal choice for machine vision, industrial inspection, scientific research and education. The design is based on the bilateral parallel light path principle and the modular design concept, with superior optical performance and strong compatibility.

For applications that require different magnification, [Auxiliary Lens](#) or infinity objectives with different magnification can be attached to the front end of the [Middle Zoom Module](#).

For application that require different sensor size, [TV Lens](#) with different magnification can be attached to the back end of the [Middle Zoom Module](#).

The basic module of BS-1110 is BS-1110A (without click stop) and BS-1110B (with click stop at main magnifications), it has 0.4X to 4.0X zoom range and 1:10 zoom ratio. It is a high-quality precision [Monocular Zoom Objective](#) that provides high resolution and large depth of field.

Features

The main features are shown below:

1. Provide basic zoom objective BS-1110A with 0.4X~4.0X zoom range.
2. Large optical zoom ratio: 1:10.
3. Larger NA: 0.01-0.07 (When using 1.00x Auxiliary Lens).
4. Higher resolution: 27.5um-4.1um (When using 1.0X Auxiliary Lens).
5. Larger field of view: 2.0mm-85.71mm (Object plane).
6. Larger sensor size: 2/3" (When using 1X TV Lens).
7. Working distance: 56mm-248mm.
8. With adjustable BFL, parfocal in zoom range.
9. With adjustable center, the image center remains unchanged from 4.0x to 0.4x.

10. Compatible with infinity objectives (both biological and metallographic).
11. Compact size: 194 mm (length)*40 mm (diameter).
12. Auxiliary Lens with 0.35X, 0.50X, 0.75X, 1.00X, 1.50X magnification (Optional).
13. TV Lens with 0.50X, 0.75X, 1.00X magnification (Optional).
14. Brightness adjustable LED Direct Ring Light (Optional).
15. Brightness adjustable LED Direct Ring Polarization Light (Optional).
16. Brightness adjustable LED coaxial illumination (Optional).
17. LED Transmissive Light (Optional).
18. 50mm Bracket Adapter (Optional).

Accessories

1. How to Configure BS-1110 Monocular Zoom Objective

- (1) Confirm the possible range of 1) FOV and 2) Working Distance in the object space to choose the Auxiliary Lens.
- (2) Choose the M26x0.705 to M20x0.705 Objective Adapter, if the M20x0.705 infinity objective is used.
- (3) Confirm the camera Image Area Size, it can be 1) Sensor Size (1/x in inch), 2) Image Diagonal Length, 3) Image Width or 4) Image Height to choose the TV Lens.
- (4) Choose the 50 mm adapter according to the diameter of the hole in the bracket.
- (5) Choose the LED Direct Ring Light Module for the reflective illumination.
- (6) Choose the Coaxial Light Module if coaxial illumination is required.
- (7) Choose the Transmitted Light Module if Transmitted illumination is required.
- (8) Choose the Camera Module.

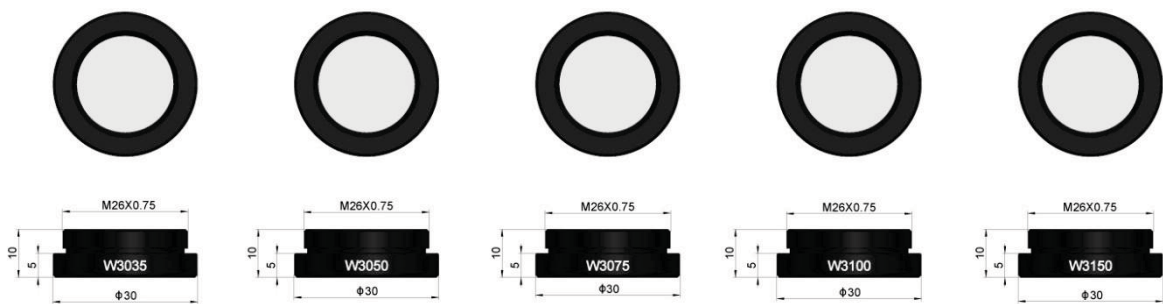
2. Configuration of BS-1110

The available components are listed in Table 1, user can choose any part from the table.

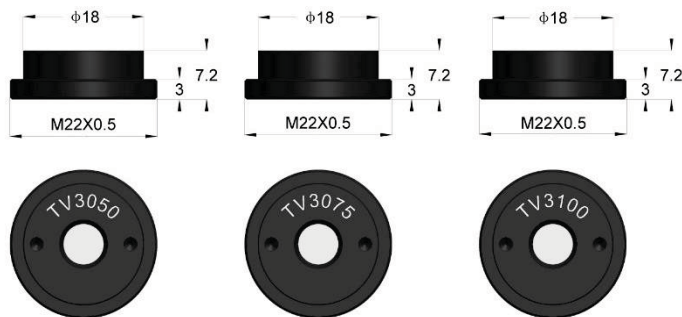
Table 1 BS-1110's Accessories and Its Functions

Module	Order Number	Description
Auxiliary Lens Module	W3035	0.35X Object Lens
	W3050	0.50X Object Lens
	W3075	0.75X Object Lens
	W3100	1.0X Object Lens
	W3150	1.50X Object Lens
	ON-XX	Biological Objective
	ON-YY	Metallographic Objective
	Objective Adapter	M26x0.706 to M20x0.706
Middle Zoom Module	BS-1110	The main body of BS-1110
TV Lens Module	TV3050	0.5XTV Lens
	TV3075	0.75X TV Lens
	TV3100	1.0XTV Lens
Coaxial Light Module	BCL-1A	Coaxial Light Adapter + LED Spot Light
LED Direct Ring Light Module	BAL3-48A	LED Direct Ring Light (65mm outer light)
	BAL3-60A	LED Direct Ring Light (85mm outer light)
	BAL3-48AP	LED Direct Ring Polarization Light
Transmitted Light Module	BTL-37A	LED Transmitted Light

Bracket Adapter		50mm Bracket Adapter (mounting adapter)
Power of light source		POWER-U-12V1A, Power Adapter American Standard
		POWER-E-12V1A, Power Adapter European standard



Auxiliary Lens Module



TV Lens Module

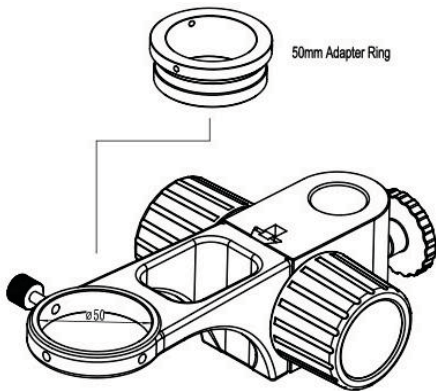
The **BS-1110** main body consists of **Auxiliary Lens Module**, **Middle Zoom Module** and **TV Lens Module**. These 3 modules comprise the main **Monocular Zoom Objective**. User can choose different **Auxiliary Lens** and **TV Lens** to satisfy the specific requirement.

To get good illumination and ensure the image quality, **LED Direct Ring Light Module** (Optional) or **Coaxial Light Module** (Optional) should be chosen according to the application.

To get good and stable support, the **Bracket Adapter Module** should be carefully chosen.

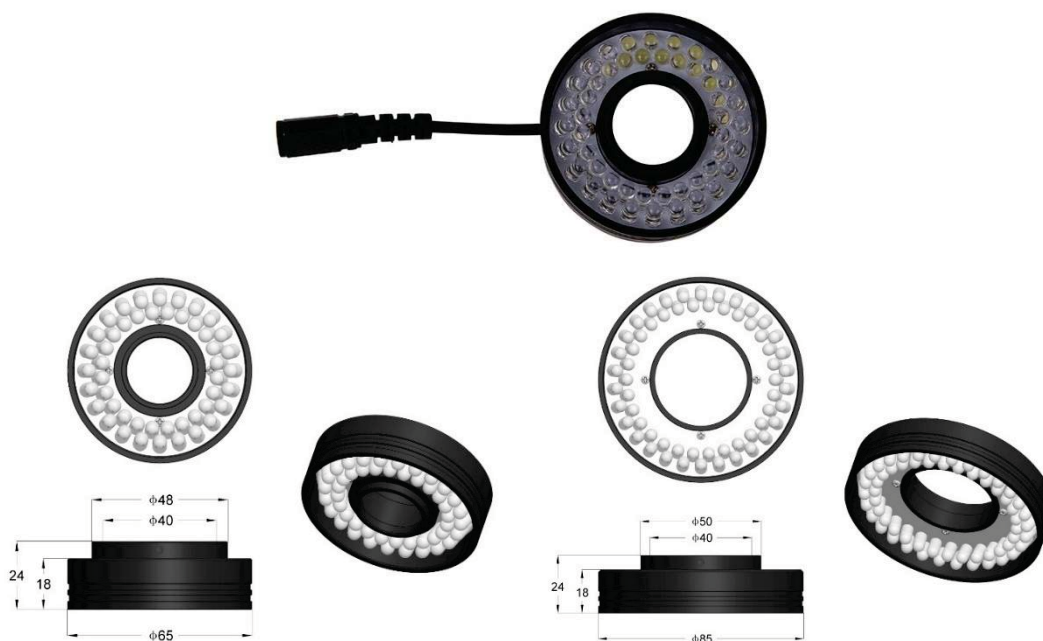
Finally, to form the **Video Monocular Zoom Objective**, **Camera Module** (Optional) should be chosen.

The **Adapter Rings** and their relationship with the **Bracket** are shown following.



BS-1110 Adapter Ring for the Bracket

The Direct Ring Light, Direct Ring Polarization Light and the Coaxial Light are shown in following figures respectively.

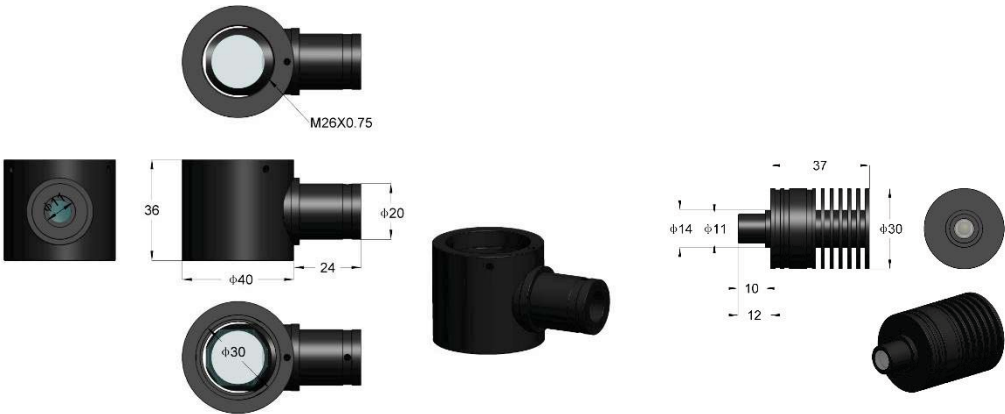


BAL3-48A, BAL3-60A, LED Direct Ring Light.

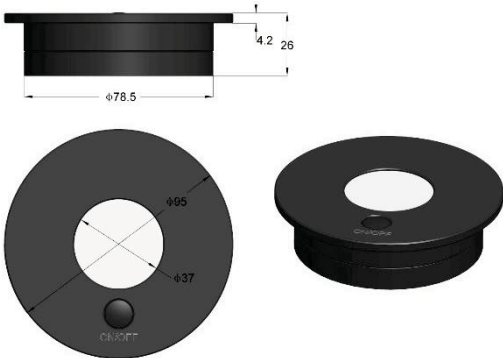


BAL3-48AP, LED Direct Ring Polarization Light





BCL-1A: Coaxial Light Adapter + LED Spot Light



BTL-37A, LED Transmitted Light

Specifications

The specifications of BS-1110 with different [Auxiliary Lens](#) and [TV Lens](#) are shown in [错误!未找到引用源。](#). [Auxiliary Lens](#) and [TV Lens](#) with 1.0x are listed in the left-up cell. Its data is the basis of the other parameters in the whole table.

Table 2 BS-1110A/B and Its Extensions

Auxiliary Lens	Specs	TV Lens					
		1.0X(For 2/3" Sensors) TV100		0.5X(For 1/3" Sensors) TV050		0.75X(For 1/1.8" Sensors) TV075	
		Low	High	Low	High	Low	High
1.0X (86mm WD) W3100	PMAG	0.40X~4.00X		0.20X~2.00X		0.30X~3.00X	
	FOV	27.50mm	2.75mm	30.0mm	3.00mm	26.67mm	2.67mm
	NA	0.010	0.067	0.010	0.067	0.010	0.067
0.35X (248mm WD) W3035	PMAG	0.14X~1.40X		0.07X~0.70X		0.11~1.05X	
	FOV	78.57mm	7.86mm	86.71mm	8.57mm	76.19mm	7.62mm
	NA	0.004	0.023	0.004	0.023	0.004	0.023
0.5X (174mm WD) W3050	PMAG	0.20X~2.00X		0.10X~1.00X		0.15X~1.50X	
	FOV	55.00mm	5.50mm	60.00mm	6.00mm	53.33mm	5.33mm
	NA	0.005	0.033	0.005	0.033	0.005	0.033
0.75X (115mm WD)	PMAG	0.30X~3.00X		0.15X~1.50X		0.23X~2.25X	
	FOV	36.67mm	3.67mm	40.00mm	4.00mm	35.56mm	3.56mm

W3075	NA	0.008	0.050	0.008	0.050	0.008	0.050
1.50X (56mm WD) W3150	PMAG	0.60X~6.00X		0.30X~3.00X		0.45X~4.50X	
	FOV	18.33mm	1.83mm	20.00mm	2.00mm	17.78mm	1.78mm
	NA	0.015	0.101	0.015	0.101	0.015	0.101
Remarks	When using coaxial lighting, low magnification may produce vignetting. When using infinity objectives as Auxiliary Lens Module (adapter available), the PMAG, FOV and NA of the BS-1110 depends on the parameters of the objectives.						

WD: Working Distance;

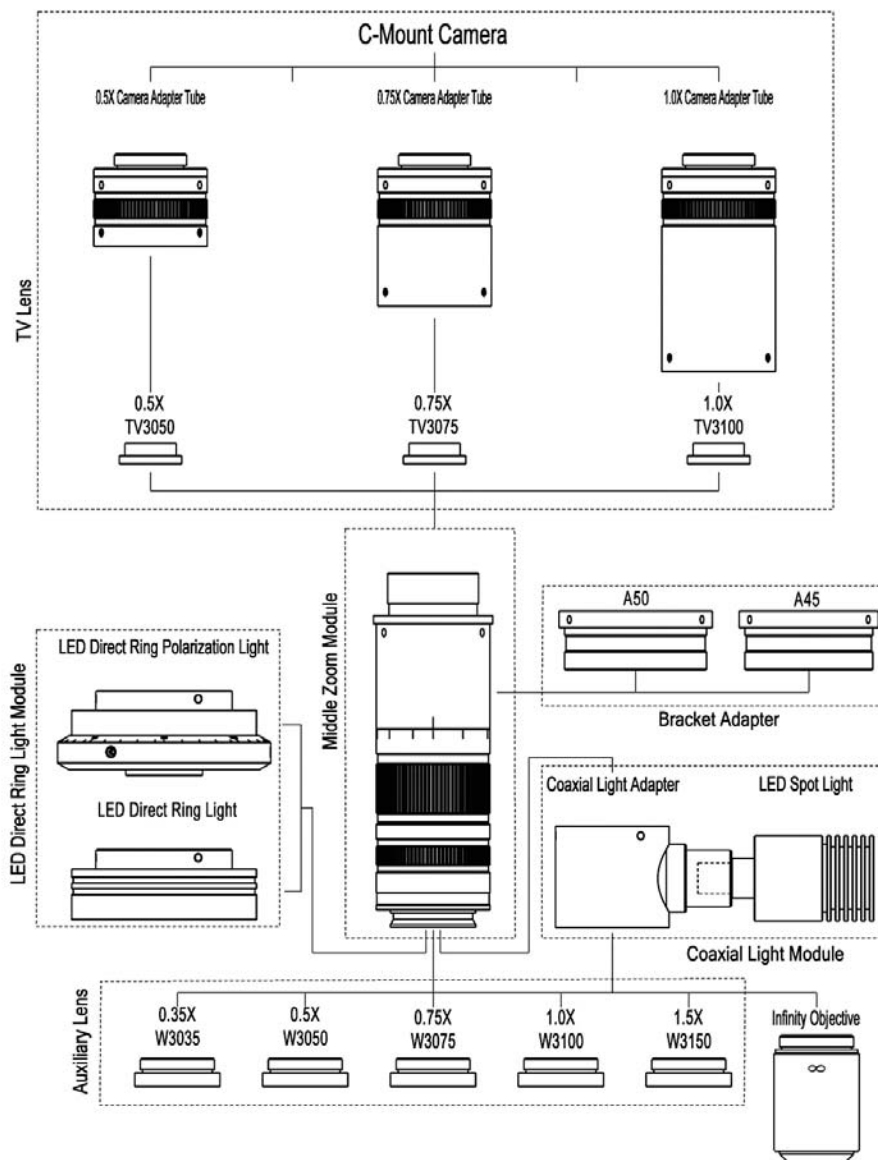
PMAG: Primary Magnification;

FOV: Field of View in the Object side;

NA: Numerical Aperture;

Note: Infinity corrected objectives limit system's usable zoom range due to uneven illumination.

System Diagram



Application

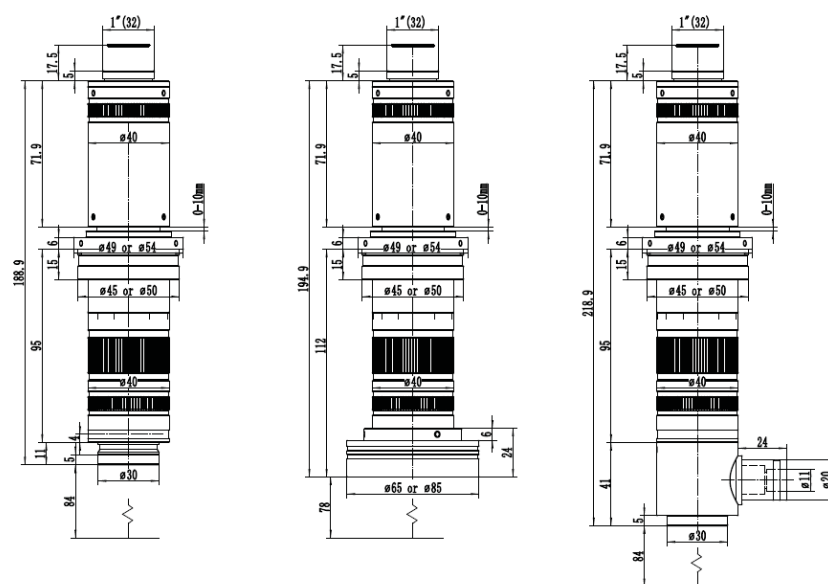
BS-1110 is an ideal choice for most applications that require multiple magnifications or for those that prohibit continual manual refocusing. The applications of the BS-1110 are machine vision, small details inspection, industrial inspection especially electronic components, scientific research, medical industry and education industry.



BS-1110A+BAL3-48A (LED Direct Ring Light Module) +HDMI Camera+ Screen + Stand

Dimension

The dimensions of BS-1110A with different light a) BS-1110A without light module; b) BS-1110A equipped with Direct Ring Light Module, c) BS-1110A equipped with Coaxial Light Module are shown as follows. The length of BS-1110A is 194mm.



Dimensions of BS-1110A with different light

Packing List

The package information of [BS-1110](#) is as follows:



BS-1110 Main Body, including Auxiliary Lens Module, Middle Zoom Module, TV Lens, Camera Adapter Tube and Bracket Adapter

The package information of [BAL3-48A/BAL3-60A](#) is as follows:



BAL3-48A/BAL3-60A, including LED Direct Ring Light and Power Adapter

The package information of [BAL3-48AP](#) is as follows:



BAL3-48AP, including LED Direct Ring Polarization Light and Power Adapter

The package information of [Coaxial Light Module](#) is as follows:

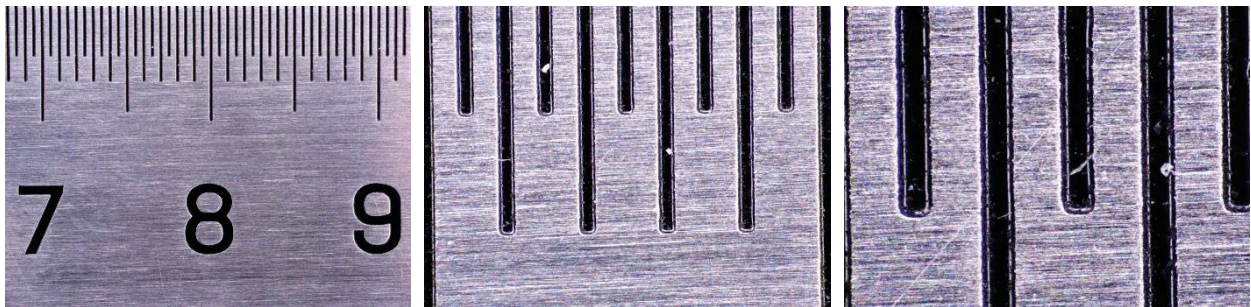


Coaxial Light Module BCL-1A, including Coaxial Light Adapter, LED Spot Light and Power Adapter

Sample Images

Pictures of steel ruler taken with BS-1110A under LED Direct Ring Light illumination.

Left: 0.4X, middle: 2.0X, right: 4.0X



Pictures of mask taken with BS-1110A.

Left: 0.4X, middle: 2.0X, right: 4.0X



25. BS-1115 Series Monocular Microscope



BS-1115

Introduction

BS-1115 series Monocular Zoom Microscope is an ideal choice for machine vision, industrial inspection, scientific research and education. The design is based on the bilateral parallel light path principle and the modular design concept, with superior optical performance and strong compatibility.

For applications that require different magnification, [Auxiliary Lens](#) or infinity objectives with different magnification can be attached to the front end of the [Middle Zoom Module](#).

For application that require different sensor size, [TV Lens](#) with different magnification can be attached to the back end of the [Middle Zoom Module](#).

The basic module of BS-1115 is BS-1115A (without click stop) and BS-1115B (with click stop at main magnifications), it has 0.4X to 6.0X zoom range and 1:15 zoom ratio. It is a high-quality precision [Monocular Zoom Objective](#) that provides high resolution and large depth of field.

Features

The main features are shown below:

1. Provide basic zoom objective BS-1115A with 0.4X~6.0X zoom range.
2. Large optical zoom ratio: 1:15.
3. Larger NA: 0.01-0.09 (When using 1.00x Auxiliary Lens).
4. Higher resolution: 27.5um-3.1um (When using 1.0X Auxiliary Lens).
5. Larger field of view: 1.19mm-85.71mm (Object plane).
6. Larger sensor size: 2/3" (When using 1X TV Lens).
7. Working distance: 56mm-248mm.
8. With adjustable BFL, parfocal in zoom range.
9. With adjustable center, the image center remains unchanged from 6.0x to 0.4x.

10. Compatible with infinity objectives (both biological and metallographic).
11. Compact size: 194 mm (length)*40 mm (diameter).
12. Auxiliary Lens with 0.35X, 0.50X, 0.75X, 1.00X, 1.50X magnification (Optional).
13. TV Lens with 0.50X, 0.75X, 1.00X magnification (Optional).
14. Brightness adjustable LED Direct Ring Light (Optional).
15. Brightness adjustable LED Direct Ring Polarization Light (Optional).
16. Brightness adjustable LED coaxial illumination (Optional).
17. LED Transmissive Light (Optional).
18. 50mm Bracket Adapter (Optional).

Accessories

1. How to Configure BS-1115 Monocular Zoom Objective

- (1) Confirm the possible range of 1) FOV and 2) Working Distance in the object space to choose the Auxiliary Lens.
- (2) Choose the M26x0.705 to M20x0.705 Objective Adapter, if the M20x0.705 infinity objective is used.
- (3) Confirm the camera Image Area Size, it can be 1) Sensor Size (1/x in inch), 2) Image Diagonal Length, 3) Image Width or 4) Image Height to choose the TV Lens.
- (4) Choose the 50 mm adapter according to the diameter of the hole in the bracket.
- (5) Choose the LED Direct Ring Light Module for the reflective illumination.
- (6) Choose the Coaxial Light Module if coaxial illumination is required.
- (7) Choose the Transmitted Light Module if Transmitted illumination is required.
- (8) Choose the Camera Module.

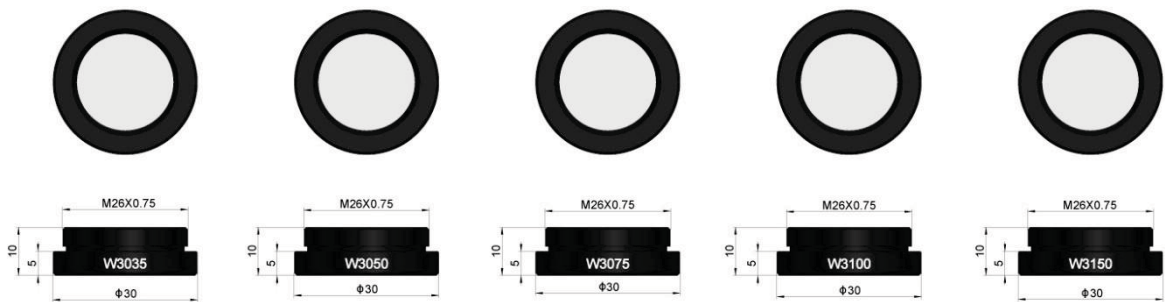
2. Configuration of BS-1115

The available components are listed in Table 1, user can choose any part from the table.

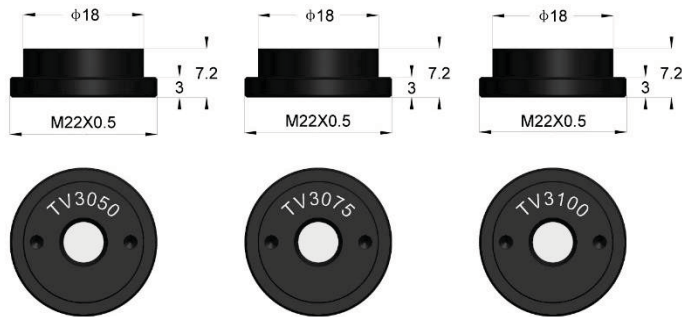
Table 1 BS-1115's Accessories and Its Functions

Module	Order Number	Description
Auxiliary Lens Module	W3035	0.35X Object Lens
	W3050	0.50X Object Lens
	W3075	0.75X Object Lens
	W3100	1.0X Object Lens
	W3150	1.50X Object Lens
	ON-XX	Biological Objective
	ON-YY	Metallographic Objective
	Objective Adapter	M26x0.706 to M20x0.706
Middle Zoom Module	BS-1115	The main body of BS-1115
TV Lens Module	TV3050	0.5XTV Lens
	TV3075	0.75X TV Lens
	TV3100	1.0XTV Lens
Coaxial Light Module	BCL-1A	Coaxial Light Adapter + LED Spot Light
LED Direct Ring Light Module	BAL3-48A	LED Direct Ring Light (65mm outer light)
	BAL3-60A	LED Direct Ring Light (85mm outer light)
	BAL3-48AP	LED Direct Ring Polarization Light
Transmitted Light Module	BTL-37A	LED Transmitted Light

Bracket Adapter		50mm Bracket Adapter (mounting adapter)
Power of light source		POWER-U-12V1A, Power Adapter American Standard
		POWER-E-12V1A, Power Adapter European standard



Auxiliary Lens Module



TV Lens Module

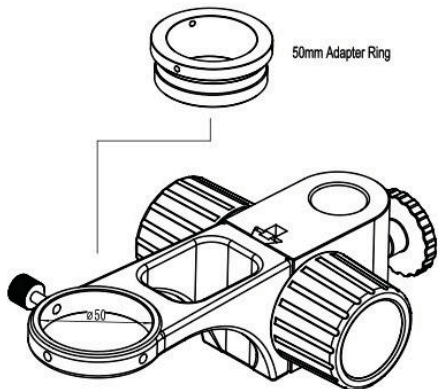
The [BS-1115](#) main body consists of [Auxiliary Lens Module](#), [Middle Zoom Module](#) and [TV Lens Module](#). These 3 modules comprise the main [Monocular Zoom Objective](#). User can choose different [Auxiliary Lens](#) and [TV Lens](#) to satisfy the specific requirement.

To get good illumination and ensure the image quality, [LED Direct Ring Light Module](#) (Optional) or [Coaxial Light Module](#) (Optional) should be chosen according to the application.

To get good and stable support, the [Bracket Adapter Module](#) should be carefully chosen.

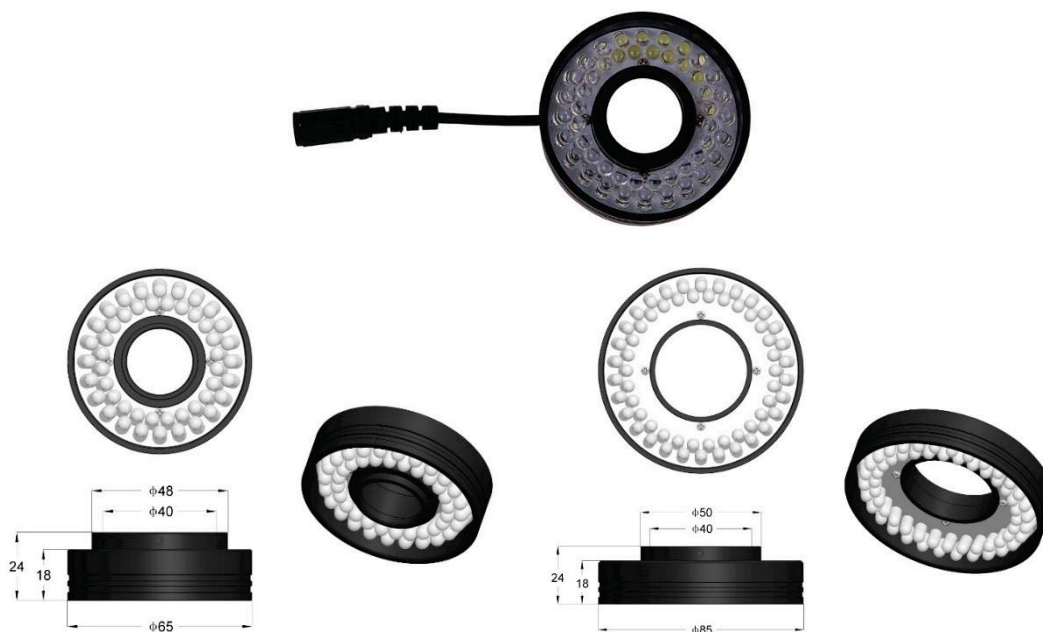
Finally, to form the [Video Monocular Zoom Objective](#), [Camera Module](#) (Optional) should be chosen.

The [Adapter Rings](#) and their relationship with the [Bracket](#) are shown following.



BS-1115 Adapter Ring for the Bracket

The Direct Ring Light, Direct Ring Polarization Light and the Coaxial Light are shown in following figures respectively.

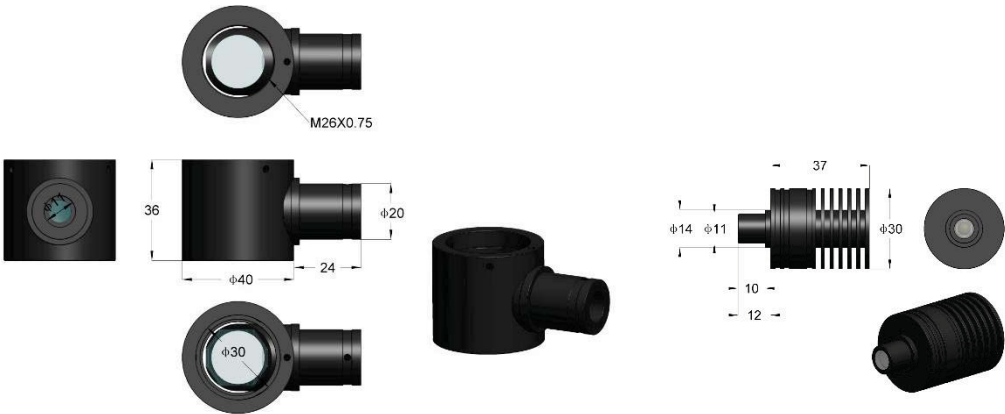


BAL3-48A, BAL3-60A, LED Direct Ring Light.

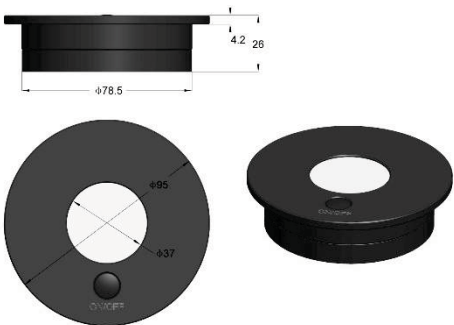


BAL3-48AP, LED Direct Ring Polarization Light





BCL-1A: Coaxial Light Adapter + LED Spot Light



BTL-37A, LED Transmitted Light

Specifications

The specifications of BS-1115 with different Auxiliary Lens and TV Lens are shown in 错误!未找到引用源。 . Auxiliary Lens and TV Lens with 1.0x are listed in the left-up cell. Its data is the basis of the other parameters in the whole table.

Table 3 BS-1115A/B and Its Extensions

Auxiliary Lens	Specs	TV Lens					
		1.0X(For 2/3" Sensors) TV100		0.5X(For 1/3" Sensors) TV050		0.75X(For 1/1.8" Sensors) TV075	
		Low	High	Low	High	Low	High
1.0X (86mm WD) W3100	PMAG	0.40X~6.00X		0.20X~3.00X		0.30X~4.50X	
	FOV	27.50mm	1.83mm	30.0mm	2.00mm	26.67mm	1.78mm
	NA	0.010	0.090	0.010	0.090	0.010	0.090
0.35X (248mm WD) W3035	PMAG	0.14X~2.10X		0.07X~1.05X		0.11~1.58X	
	FOV	78.57mm	5.24mm	86.71mm	5.71mm	76.19mm	5.08mm
	NA	0.004	0.032	0.004	0.032	0.004	0.032
0.5X (174mm WD) W3050	PMAG	0.20X~3.00X		0.10X~1.50X		0.15X~2.25X	
	FOV	55.00mm	3.67mm	60.00mm	4.00mm	53.33mm	3.56mm
	NA	0.005	0.045	0.005	0.045	0.005	0.045
0.75X (115mm WD)	PMAG	0.30X~4.50X		0.15X~2.25X		0.23X~3.38X	
	FOV	36.67mm	2.44mm	40.00mm	2.67mm	35.56mm	2.37mm

W3075	NA	0.008	0.068	0.008	0.068	0.008	0.068
1.50X (56mm WD) W3150	PMAG	0.60X~9.00X		0.30X~4.50X		0.45X~6.75X	
	FOV	18.33mm	1.22mm	20.00mm	1.33mm	17.78mm	1.19mm
	NA	0.015	0.135	0.015	0.135	0.015	0.135
Remarks	When using coaxial lighting, low magnification may produce vignetting. When using infinity objectives as Auxiliary Lens Module (adapter available), the PMAG, FOV and NA of the BS-1115 depends on the parameters of the objectives.						

WD: Working Distance;

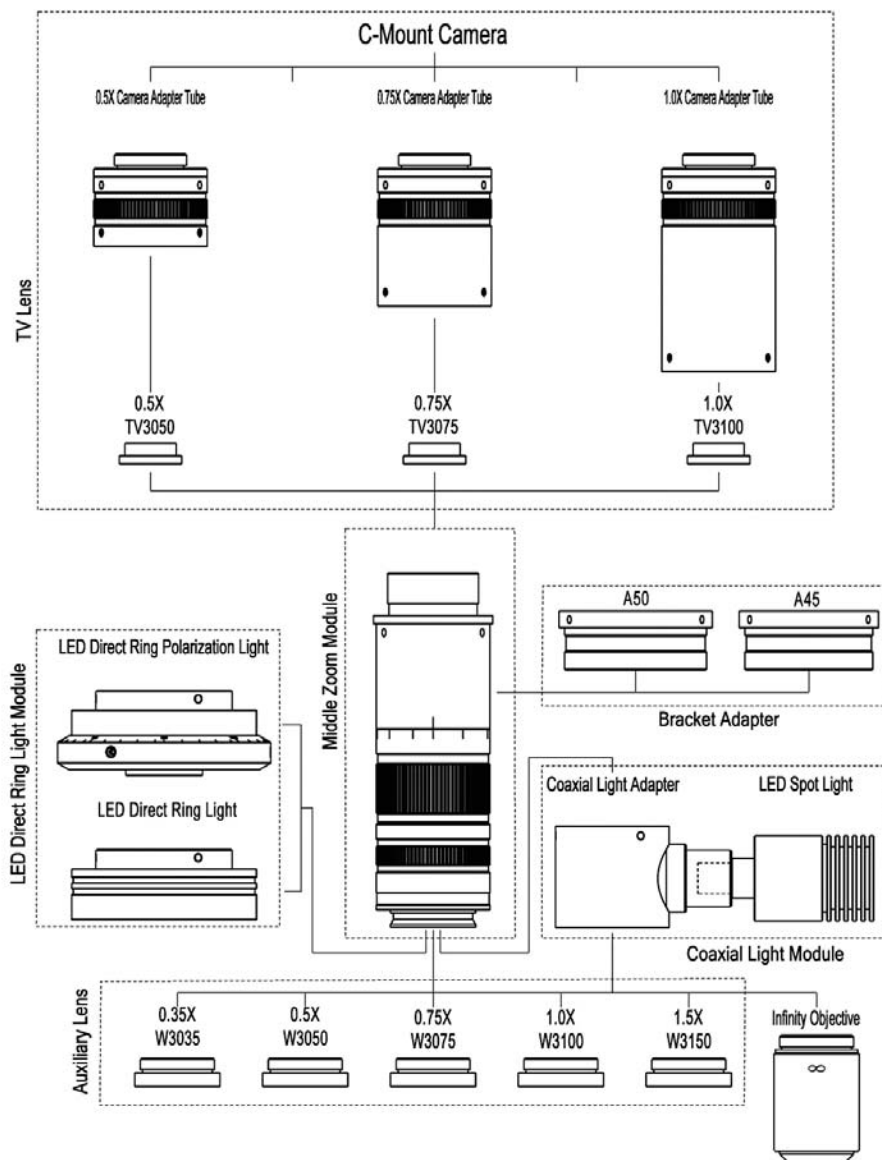
PMAG: Primary Magnification;

FOV: Field of View in the Object side;

NA: Numerical Aperture;

Note: Infinity corrected objectives limit system's usable zoom range due to uneven illumination.

System Diagram



Application

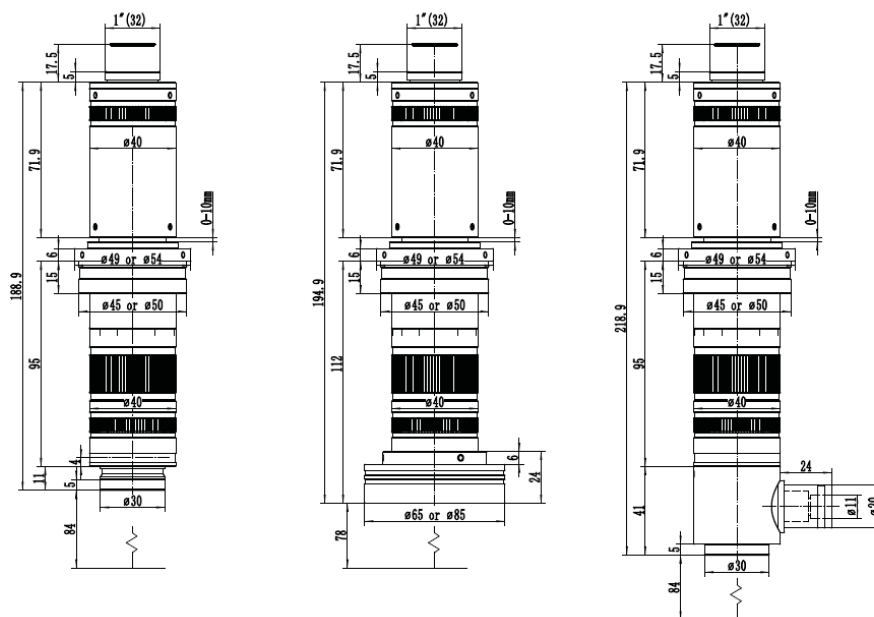
BS-1115 is an ideal choice for most applications that require multiple magnifications or for those that prohibit continual manual refocusing. The applications of the BS-1115 are machine vision, small details inspection, industrial inspection especially electronic components, scientific research, medical industry and education industry.



BS-1115A+BAL3-48A (LED Direct Ring Light Module) +HDMI Camera+ Screen + Stand

Dimension

The dimensions of BS-1115A with different light a) BS-1115A without light module; b) BS-1115A equipped with Direct Ring Light Module, c) BS-1115A equipped with Coaxial Light Module are shown as follows. The length of BS-1115A is 194mm.



Packing List

The package information of [BS-1115](#) is as follows:



BS-1115 Main Body, including Auxiliary Lens Module, Middle Zoom Module, TV Lens, Camera Adapter Tube and Bracket Adapter

The package information of [BAL3-48A/BAL3-60A](#) is as follows:



BAL3-48A/BAL3-60A, including LED Direct Ring Light and Power Adapter

The package information of [BAL3-48AP](#) is as follows:



BAL3-48AP, including LED Direct Ring Polarization Light and Power Adapter

The package information of [Coaxial Light Module](#) is as follows:

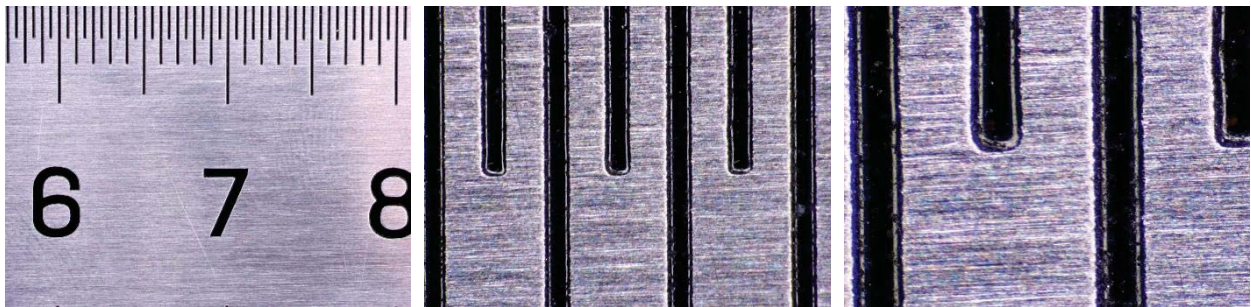


Coaxial Light Module BCL-1A, including Coaxial Light Adapter, LED Spot Light and Power Adapter

Sample Images

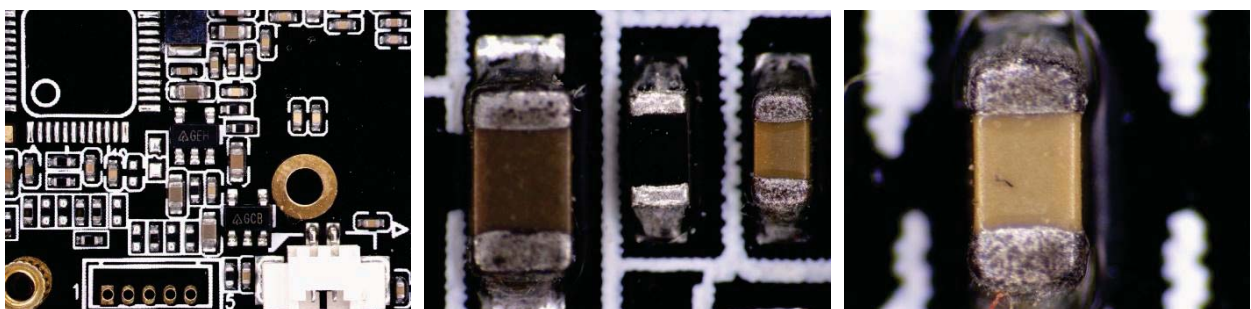
Pictures of steel ruler taken with BS-1115A under LED Direct Ring Light illumination.

Left: 0.4X, middle: 3.0X, right: 6.0X



Pictures of circuit board taken with BS-1115A.

Left: 0.4X, middle: 3.0X, right: 6.0X



26. BS-1120 Series Monocular Microscope



BS-1120

Introduction

BS-1120 series Monocular Zoom Microscope is an ideal choice for machine vision, industrial inspection, scientific research and education. The design is based on the bilateral parallel light path principle and the modular design concept, with superior optical performance and strong compatibility.

For applications that require different magnification, [Auxiliary Lens](#) or infinity objectives with different magnification can be attached to the front end of the [Middle Zoom Module](#).

For application that require different sensor size, [TV Lens](#) with different magnification can be attached to the back end of the [Middle Zoom Module](#).

The basic module of BS-1120 is BS-1120A (without click stop) and BS-1120B (with click stop at main magnifications), it has 0.4X to 8.0X zoom range and 1:20 zoom ratio. It is a high-quality precision [Monocular Zoom Objective](#) that provides high resolution and large depth of field.

Features

The main features are shown below:

1. Provide basic zoom objective BS-1120A with 0.4X~8.0X zoom range.
2. Large optical zoom ratio: 1:20.
3. Larger NA: 0.01-0.12 (When using 1.00x Auxiliary Lens).
4. Higher resolution: 27.5um-2.3um (When using 1.0X Auxiliary Lens).
5. Larger field of view: 1.5mm-60mm (Object plane).
6. Larger sensor size: 2/3" (When using 1X TV Lens).
7. Working distance: 86mm-174mm.
8. With adjustable BFL, parfocal in zoom range.

9. With adjustable center, the image center remains unchanged from 8.0x to 0.4x.
10. Compatible with infinity objectives (both biological and metallographic).
11. Compact size: 194 mm (length)*40 mm (diameter).
12. Auxiliary Lens with 0.50X, 0.75X, 1.00X magnification (Optional).
13. TV Lens with 0.50X, 0.75X, 1.00X magnification (Optional).
14. Brightness adjustable LED Direct Ring Light (Optional).
15. Brightness adjustable LED Direct Ring Polarization Light (Optional).
16. Brightness adjustable LED coaxial illumination (Optional).
17. LED Transmissive Light (Optional).
18. 50mm Bracket Adapter (Optional).

Accessories

1. How to Configure BS-1120 Monocular Zoom Objective

- (1) Confirm the possible range of 1) FOV and 2) Working Distance in the object space to choose the Auxiliary Lens.
- (2) Choose the M26x0.705 to M20x0.705 Objective Adapter, if the M20x0.705 infinity objective is used.
- (3) Confirm the camera Image Area Size, it can be 1) Sensor Size (1/x in inch), 2) Image Diagonal Length, 3) Image Width or 4) Image Height to choose the TV Lens.
- (4) Choose the 50 mm adapter according to the diameter of the hole in the bracket.
- (5) Choose the LED Direct Ring Light Module for the reflective illumination.
- (6) Choose the Coaxial Light Module if coaxial illumination is required.
- (7) Choose the Transmitted Light Module if Transmitted illumination is required.
- (8) Choose the Camera Module.

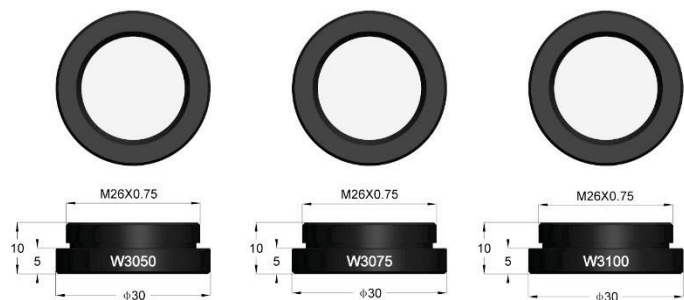
2. Configuration of BS-1120

The available components are listed in Table 1, user can choose any part from the table.

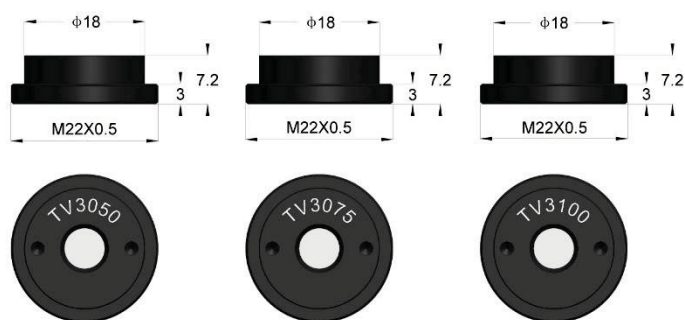
Table 1 BS-1120's Accessories and Its Functions

Module	Order Number	Description
Auxiliary Lens Module	W3050	0.50X Object Lens
	W3075	0.75X Object Lens
	W3100	1.0X Object Lens
	ON-XX	Biological Objective
	ON-YY	Metallographic Objective
	Objective Adapter	M26x0.706 to M20x0.706
Middle Zoom Module	BS-1120	The main body of BS-1120
TV Lens Module	TV3050	0.5XTV Lens
	TV3075	0.75X TV Lens
	TV3100	1.0XTV Lens
Coaxial Light Module	BCL-1A	Coaxial Light Adapter + LED Spot Light
LED Direct Ring Light Module	BAL3-48A	LED Direct Ring Light (65mm outer light)
	BAL3-60A	LED Direct Ring Light (85mm outer light)
	BAL3-48AP	LED Direct Ring Polarization Light
Transmitted Light Module	BTL-37A	LED Transmitted Light
Bracket Adapter		50mm Bracket Adapter (mounting adapter)

Power of light source		POWER-U-12V1A, Power Adapter American Standard
		POWER-E-12V1A, Power Adapter European standard



Auxiliary Lens Module



TV Lens Module

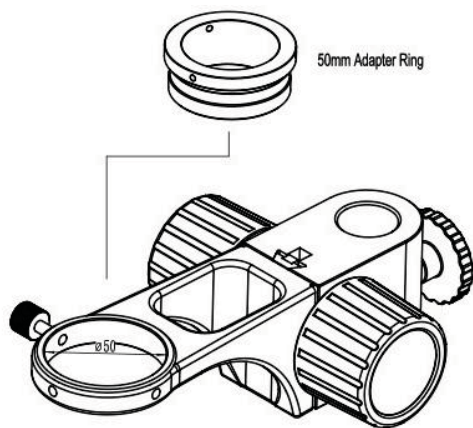
The **BS-1120** main body consists of **Auxiliary Lens Module**, **Middle Zoom Module** and **TV Lens Module**. These 3 modules comprise the main **Monocular Zoom Objective**. User can choose different **Auxiliary Lens** and **TV Lens** to satisfy the specific requirement.

To get good illumination and ensure the image quality, **LED Direct Ring Light Module** (Optional) or **Coaxial Light Module** (Optional) should be chosen according to the application.

To get good and stable support, the **Bracket Adapter Module** should be carefully chosen.

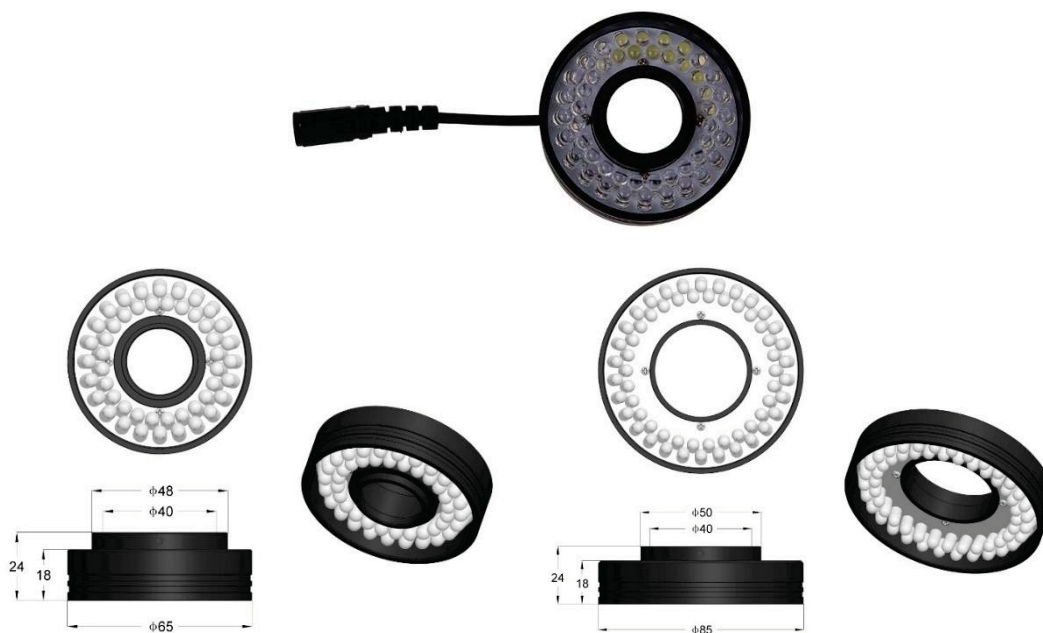
Finally, to form the **Video Monocular Zoom Objective**, **Camera Module** (Optional) should be chosen.

The **Adapter Rings** and their relationship with the **Bracket** are shown following.



BS-1120 Adapter Ring for the Bracket

The **Direct Ring Light**, **Direct Ring Polarization Light** and the **Coaxial Light** are shown in following figures respectively.

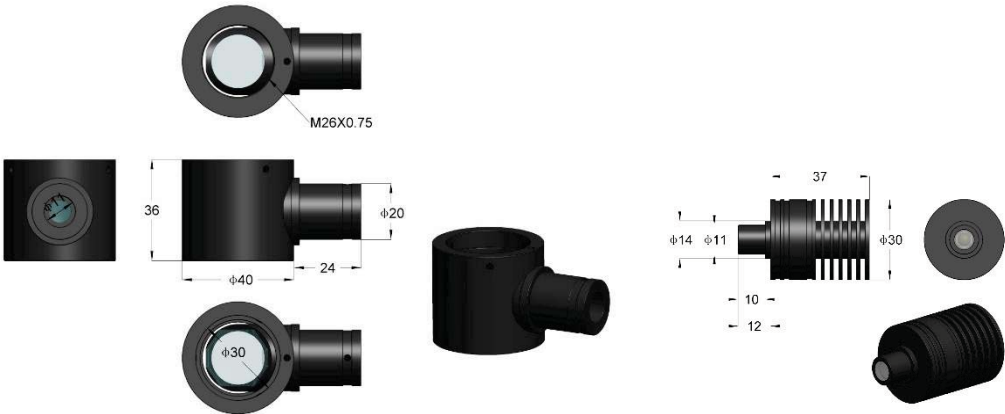


BAL3-48A, BAL3-60A, LED Direct Ring Light.

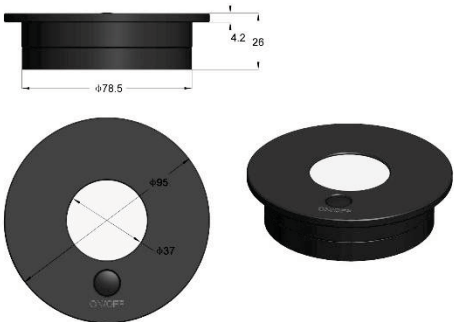


BAL3-48AP, LED Direct Ring Polarization Light





BCL-1A: Coaxial Light Adapter + LED Spot Light



BTL-37A, LED Transmitted Light

Specifications

The specifications of BS-1120 with different Auxiliary Lens and TV Lens are shown in 错误!未找到引用源。 . Auxiliary Lens and TV Lens with 1.0x are listed in the left-up cell. Its data is the basis of the other parameters in the whole table.

Table 4 BS-1120A/B and Its Extensions

Auxiliary Lens	Specs	TV Lens					
		1.0X(For 2/3" Sensors)		0.5X(For 1/3" Sensors)		0.75X(For 1/1.8" Sensors)	
		TV100		TV050		TV075	
		Low	High	Low	High	Low	High
1.0X (86mm WD) W3100	PMAG	0.40X~8.00X		0.20X~4.00X		0.30X~6.00X	
	FOV	27.50mm	1.38mm	30.0mm	1.50mm	26.67mm	1.33mm
	NA	0.010	0.112	0.010	0.112	0.010	0.112
0.5X (174mm WD) W3050	PMAG	0.20X~4.00X		0.10X~2.00X		0.15X~3.00X	
	FOV	55.00mm	2.75mm	60.00mm	3.00mm	53.33mm	2.67mm
	NA	0.005	0.056	0.005	0.056	0.005	0.056
0.75X (115mm WD) W3075	PMAG	0.30X~6.00X		0.15X~3.00X		0.23X~4.50X	
	FOV	36.67mm	1.83mm	40.00mm	2.00mm	35.56mm	1.78mm
	NA	0.008	0.084	0.008	0.084	0.008	0.084

Remarks	When using coaxial lighting, low magnification may produce vignetting. When using infinity objectives as Auxiliary Lens Module (adapter available), the PMAG, FOV and NA of the BS-1120 depends on the parameters of the objectives.
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WD: Working Distance;

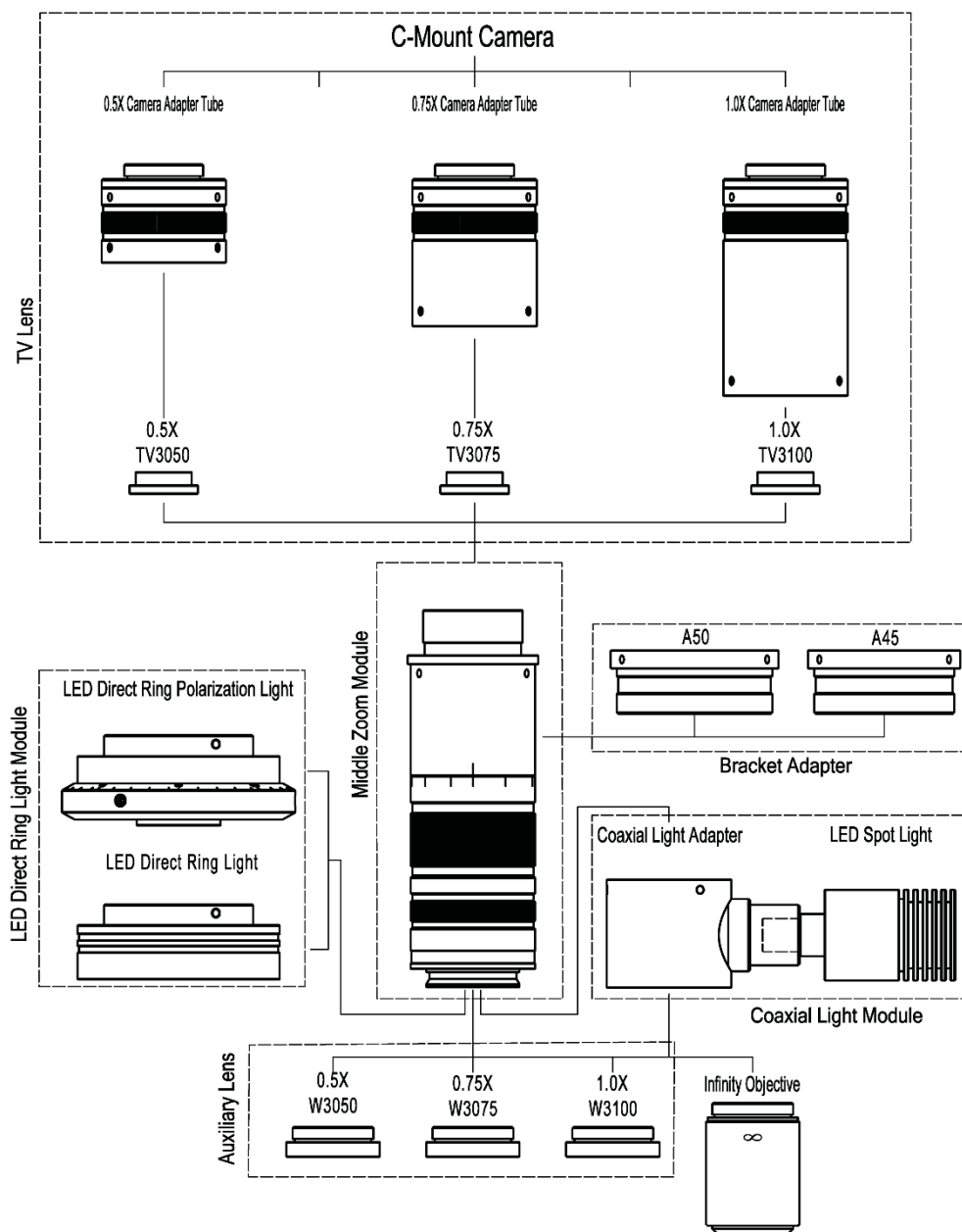
PMAG: Primary Magnification;

FOV: Field of View in the Object side;

NA: Numerical Aperture;

Note: Infinity corrected objectives limit system's usable zoom range due to uneven illumination.

System Diagram



The Basic and Optional Modules of the Monocular Zoom Objective

Application

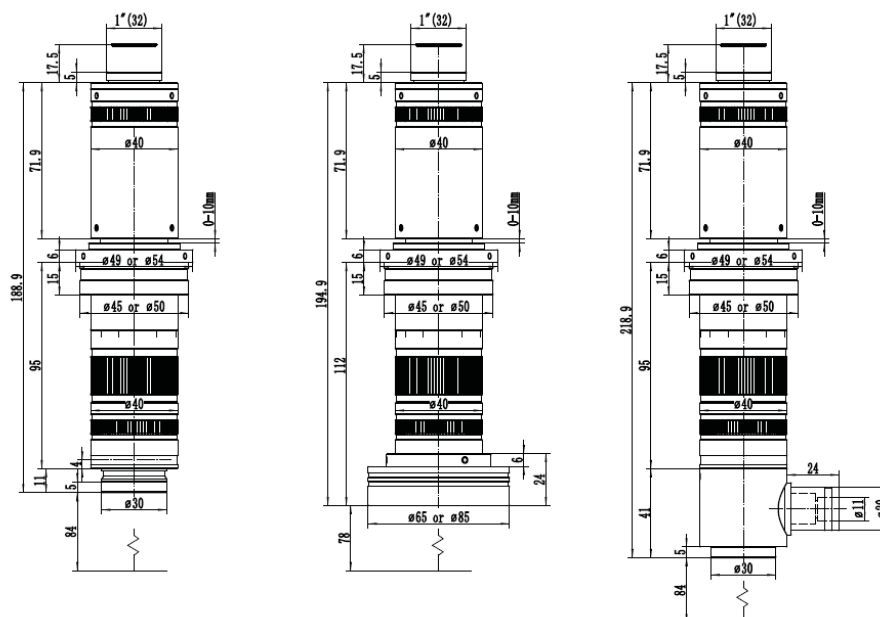
BS-1120 is an ideal choice for most applications that require multiple magnifications or for those that prohibit continual manual refocusing. The applications of the BS-1120 are machine vision, small details inspection, industrial inspection especially electronic components, scientific research, medical industry and education industry.



BS-1120A+BAL3-48A (LED Direct Ring Light Module) +HDMI Camera+ Screen + Stand

Dimension

The dimensions of BS-1120A with different light a) BS-1120A without light module; b) BS-1120A equipped with Direct Ring Light Module, c) BS-1120A equipped with Coaxial Light Module are showed as follows. The length of BS-1120A is 194mm.



Dimensions of BS-1120A with different light

Packing List

The package information of [BS-1120](#) is as follows:



BS-1120 Main Body, including Auxiliary Lens Module, Middle Zoom Module, TV Lens, Camera Adapter Tube and Bracket Adapter

The package information of [BAL3-48A/BAL3-60A](#) is as follows:



BAL3-48A/BAL3-60A, including LED Direct Ring Light and Power Adapter

The package information of [BAL3-48AP](#) is as follows:



BAL3-48AP, including LED Direct Ring Polarization Light and Power Adapter

The package information of [Coaxial Light Module](#) is as follows:

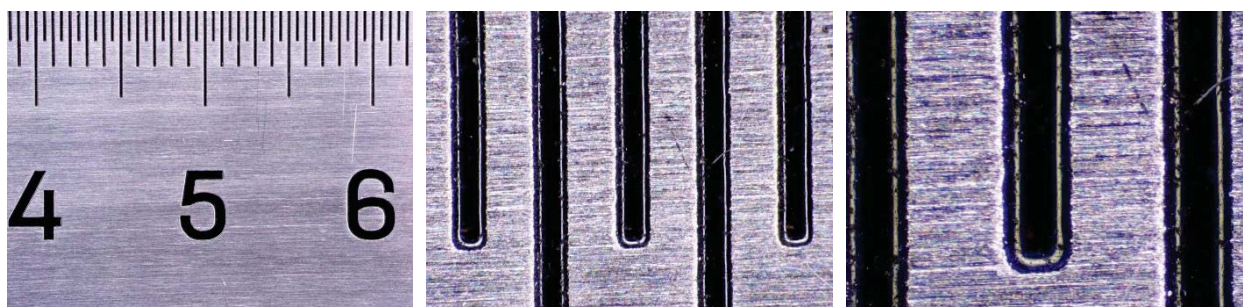


Coaxial Light Module BCL-1A, including Coaxial Light Adapter, LED Spot Light and Power Adapter

Sample Images

Pictures of steel ruler taken with BS-1120A under LED Direct Ring Light illumination.

Left: 0.4X, middle: 4.0X, right: 8.0X



Pictures of Circuit board taken with BS-1120A.

Left: 0.4X, middle: 4.0X, right: 8.0X



27. BS-1210 Series Monocular Microscope



BS-1210

Introduction

BS-1210 series Monocular Zoom Microscope is an ideal choice for machine vision, industrial inspection, scientific research and education. The design is based on the bilateral parallel light path principle and the modular design concept, with superior optical performance and strong compatibility.

For applications that require different magnification, [Auxiliary Lens](#) or infinity objectives with different magnification can be attached to the front end of the [Middle Zoom Module](#).

For application that require different sensor size, [TV Lens](#) with different magnification can be attached to the back end of the [Middle Zoom Module](#).

The basic module of BS-1210 is BS-1210A (without click stop) and BS-1210B (with click stop at main magnifications), it has 0.6X to 6.0X zoom range and 1:10 zoom ratio. It is a high-quality precision [Monocular Zoom Objective](#) that provides high resolution and large depth of field.

Features

The main features are shown below:

1. Provide basic zoom objective BS-1210A with 0.6X~6.0X zoom range.
2. Large optical zoom ratio: 1:10.
3. Larger NA: 0.015-0.09 (When using 1.00x Auxiliary Lens).
4. Higher resolution: 18.3um-3.1um (When using 1.0X Auxiliary Lens).
5. Larger field of view: 1.19mm-57.14mm (Object plane).
6. Larger sensor size: 2/3" (When using 1X TV Lens).
7. Working distance: 56mm-248mm.
8. With adjustable BFL, parfocal in zoom range.
9. With adjustable center, the image center remains unchanged from 6.0x to 0.6x.

10. Compatible with infinity objectives (both biological and metallographic).
11. Compact size: 194 mm (length)*40 mm (diameter).
12. Auxiliary Lens with 0.35X, 0.50X, 0.75X, 1.00X, 1.50X magnification (Optional).
13. TV Lens with 0.50X, 0.75X, 1.00X magnification (Optional).
14. Brightness adjustable LED Direct Ring Light (Optional).
15. Brightness adjustable LED Direct Ring Polarization Light (Optional).
16. Brightness adjustable LED coaxial illumination (Optional).
17. LED Transmissive Light (Optional).
18. 50mm Bracket Adapter (Optional).

Accessories

1. How to Configure BS-1210 Monocular Zoom Objective

- (1) Confirm the possible range of 1) FOV and 2) Working Distance in the object space to choose the Auxiliary Lens.
- (2) Choose the M26x0.705 to M20x0.705 Objective Adapter, if the M20x0.705 infinity objective is used.
- (3) Confirm the camera Image Area Size, it can be 1) Sensor Size (1/x in inch), 2) Image Diagonal Length, 3) Image Width or 4) Image Height to choose the TV Lens.
- (4) Choose the 50 mm adapter according to the diameter of the hole in the bracket.
- (5) Choose the LED Direct Ring Light Module for the reflective illumination.
- (6) Choose the Coaxial Light Module if coaxial illumination is required.
- (7) Choose the Transmitted Light Module if Transmitted illumination is required.
- (8) Choose the Camera Module.

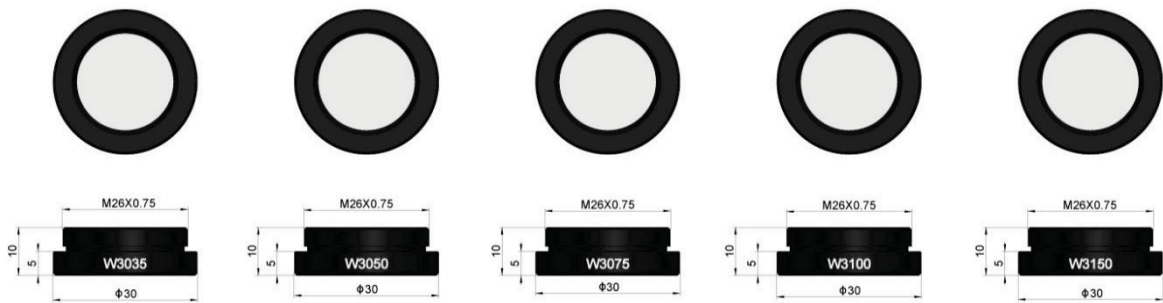
2. Configuration of BS-1210

The available components are listed in Table 1, user can choose any part from the table.

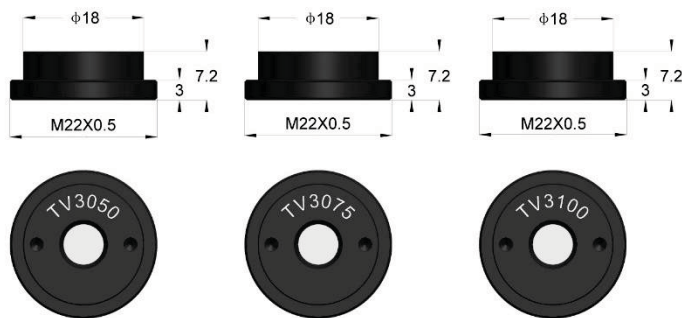
Table 1 BS-1210's Accessories and Its Functions

Module	Order Number	Description
Auxiliary Lens Module	W3035	0.35X Object Lens
	W3050	0.50X Object Lens
	W3075	0.75X Object Lens
	W3100	1.0X Object Lens
	W3150	1.50X Object Lens
	ON-XX	Biological Objective
	ON-YY	Metallographic Objective
	Objective Adapter	M26x0.706 to M20x0.706
Middle Zoom Module	BS-1210	The main body of BS-1210
TV Lens Module	TV3050	0.5XTV Lens
	TV3075	0.75X TV Lens
	TV3100	1.0XTV Lens
Coaxial Light Module	BCL-1A	Coaxial Light Adapter + LED Spot Light
LED Direct Ring Light Module	BAL3-48A	LED Direct Ring Light (65mm outer light)
	BAL3-60A	LED Direct Ring Light (85mm outer light)
	BAL3-48AP	LED Direct Ring Polarization Light
Transmitted Light Module	BTL-37A	LED Transmitted Light

Bracket Adapter		50mm Bracket Adapter (mounting adapter)
Power of light source		POWER-U-12V1A, Power Adapter American Standard
		POWER-E-12V1A, Power Adapter European standard

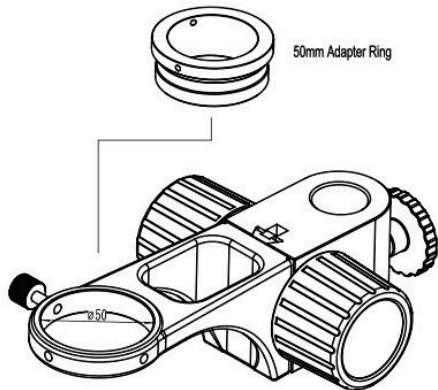


Auxiliary Lens Module



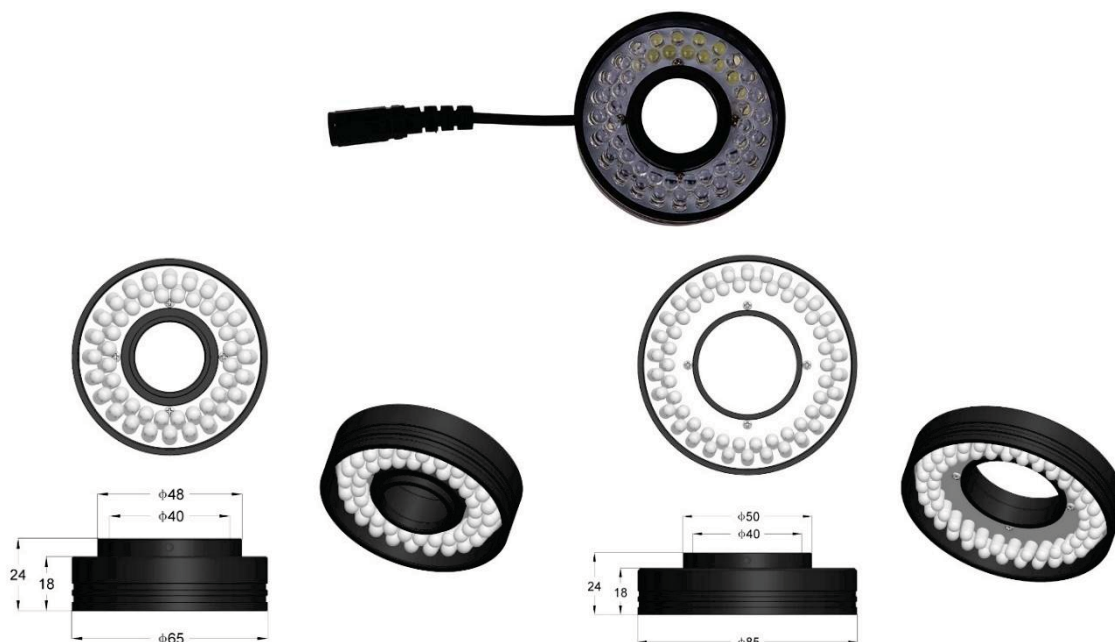
TV Lens Module

The [BS-1210](#) main body consists of [Auxiliary Lens Module](#), [Middle Zoom Module](#) and [TV Lens Module](#). These 3 modules comprise the main [Monocular Zoom Objective](#). User can choose different [Auxiliary Lens](#) and [TV Lens](#) to satisfy the specific requirement. To get good illumination and ensure the image quality, [LED Direct Ring Light Module](#) (Optional) or [Coaxial Light Module](#) (Optional) should be chosen according to the application. To get good and stable support, the [Bracket Adapter Module](#) should be carefully chosen. Finally, to form the [Video Monocular Zoom Objective](#), [Camera Module](#) (Optional) should be chosen. The [Adapter Rings](#) and their relationship with the [Bracket](#) are shown following.



BS-1210 Adapter Ring for the Bracket

The [Direct Ring Light](#), [Direct Ring Polarization Light](#) and the [Coaxial Light](#) are shown in following figures respectively.

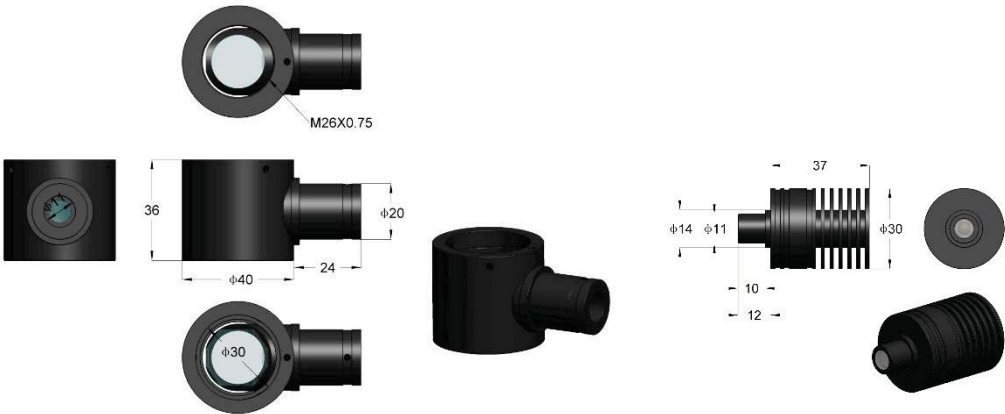


BAL3-48A, BAL3-60A, LED Direct Ring Light.

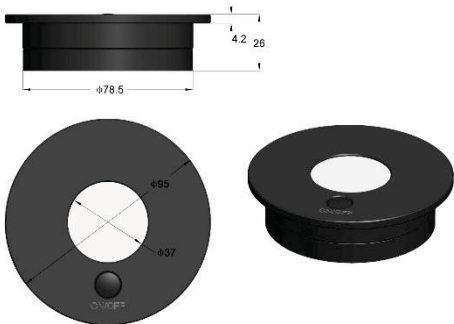


BAL3-48AP, LED Direct Ring Polarization Light





BCL-1A: Coaxial Light Adapter + LED Spot Light



BTL-37A, LED Transmitted Light

Specifications

The specifications of BS-1210 with different [Auxiliary Lens](#) and [TV Lens](#) are shown in [错误!未找到引用源。](#). [Auxiliary Lens](#) and [TV Lens](#) with 1.0x are listed in the left-up cell. Its data is the basis of the other parameters in the whole table.

Table 5 BS-1210A/B and Its Extensions

Auxiliary Lens	Specs	TV Lens					
		1.0X(For 2/3" Sensors) TV100		0.5X(For 1/3" Sensors) TV050		0.75X(For 1/1.8" Sensors) TV075	
		Low	High	Low	High	Low	High
1.0X (86mm WD) W3100	PMAG	0.60X~6.00X		0.30X~3.00X		0.45X~4.50X	
	FOV	18.33mm	1.83mm	20.0mm	2.00mm	17.78mm	1.78mm
	NA	0.015	0.090	0.015	0.090	0.015	0.090
0.35X (248mm WD) W3035	PMAG	0.21X~2.10X		0.11X~1.05X		0.16~1.58X	
	FOV	52.38mm	5.24mm	57.14mm	5.71mm	50.79mm	5.08mm
	NA	0.005	0.032	0.005	0.032	0.005	0.032
0.5X (174mm WD) W3050	PMAG	0.30X~3.00X		0.15X~1.50X		0.23X~2.25X	
	FOV	36.67mm	3.67mm	40.00mm	4.00mm	35.56mm	3.56mm
	NA	0.007	0.045	0.007	0.045	0.007	0.045
0.75X (115mm WD)	PMAG	0.45X~4.50X		0.23X~2.25X		0.34X~3.38X	
	FOV	24.44mm	2.44mm	26.67mm	2.67mm	23.70mm	2.37mm

W3075	NA	0.011	0.068	0.011	0.068	0.011	0.068
1.50X (56mm WD) W3150	PMAG	0.90X~9.00X		0.45X~4.50X		0.68X~6.75X	
	FOV	12.22mm	1.22mm	13.33mm	1.33mm	11.85mm	1.19mm
	NA	0.022	0.135	0.022	0.135	0.022	0.135
Remarks	When using coaxial lighting, low magnification may produce vignetting. When using infinity objectives as Auxiliary Lens Module (adapter available), the PMAG, FOV and NA of the BS-1210 depends on the parameters of the objectives.						

WD: Working Distance;

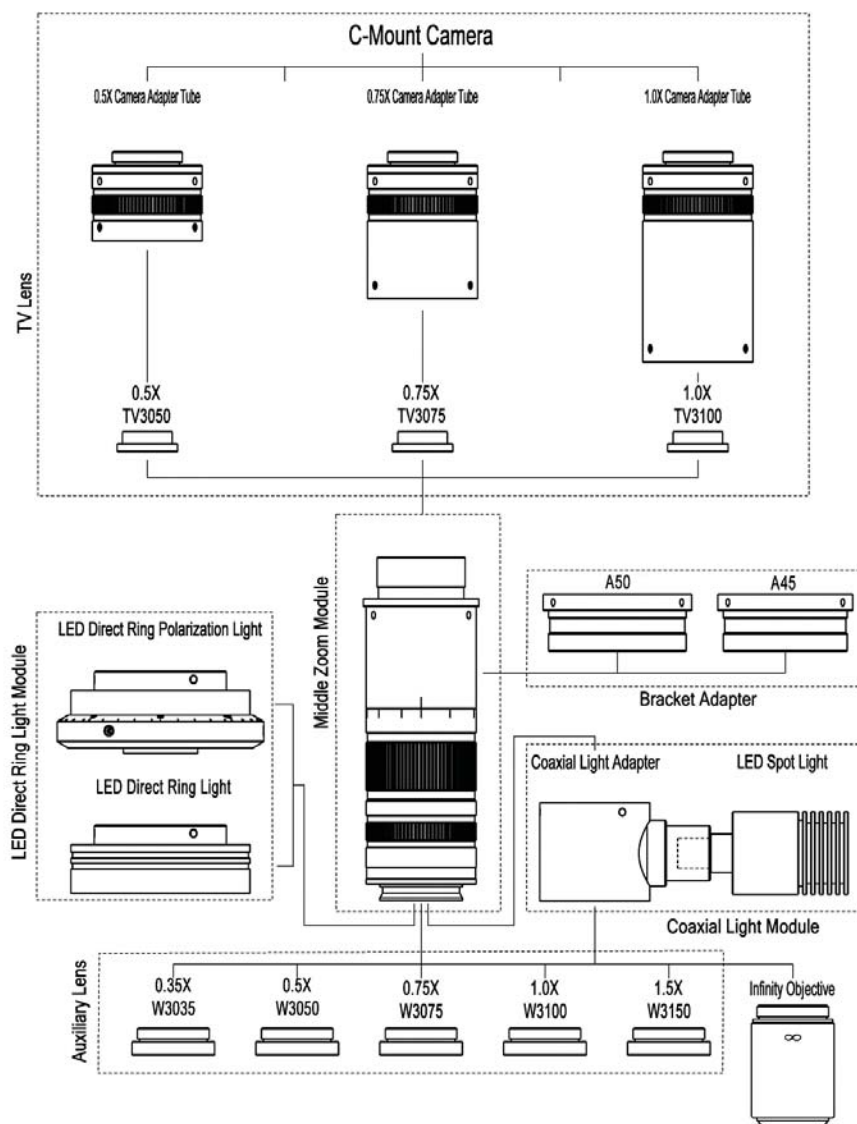
PMAG: Primary Magnification;

FOV: Field of View in the Object side;

NA: Numerical Aperture;

Note: Infinity corrected objectives limit system's usable zoom range due to uneven illumination.

System Diagram



The Basic and Optional Modules of the Monocular Zoom Objective

Application

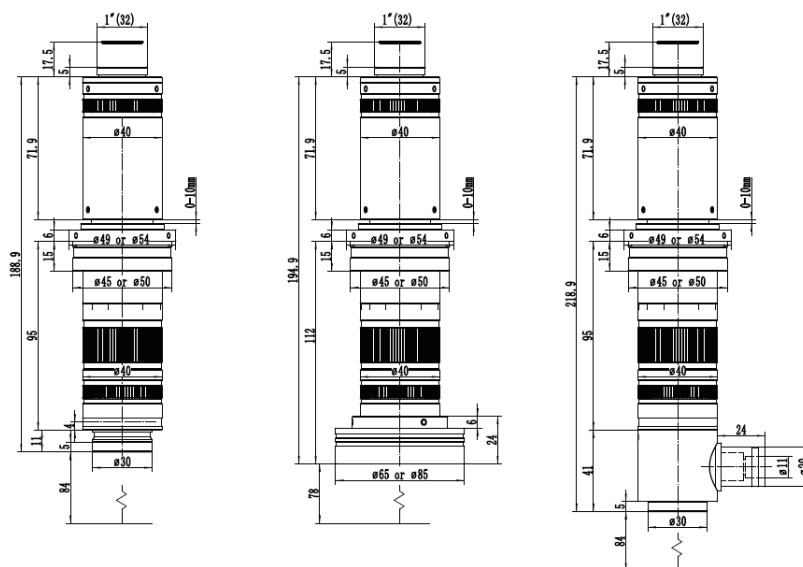
BS-1210 is an ideal choice for most applications that require multiple magnifications or for those that prohibit continual manual refocusing. The applications of the BS-1210 are machine vision, small details inspection, industrial inspection especially electronic components, scientific research, medical industry and education industry.



BS-1210A+BAL3-48A (LED Direct Ring Light Module) +HDMI Camera+ Screen + Stand

Dimension

The dimensions of BS-1210A with different light a) BS-1210A without light module; b) BS-1210A equipped with Direct Ring Light Module, c) BS-1210A equipped with Coaxial Light Module are shown as follows. The length of BS-1210A is 194mm.



Dimensions of BS-1210A with different light

Packing List

The package information of [BS-1210](#) is as follows:



BS-1210 Main Body, including Auxiliary Lens Module, Middle Zoom Module, TV Lens, Camera Adapter Tube and Bracket Adapter

The package information of [BAL3-48A/BAL3-60A](#) is as follows:



BAL3-48A/BAL3-60A, including LED Direct Ring Light and Power Adapter

The package information of [BAL3-48AP](#) is as follows:



BAL3-48AP, including LED Direct Ring Polarization Light and Power Adapter

The package information of [Coaxial Light Module](#) is as follows:

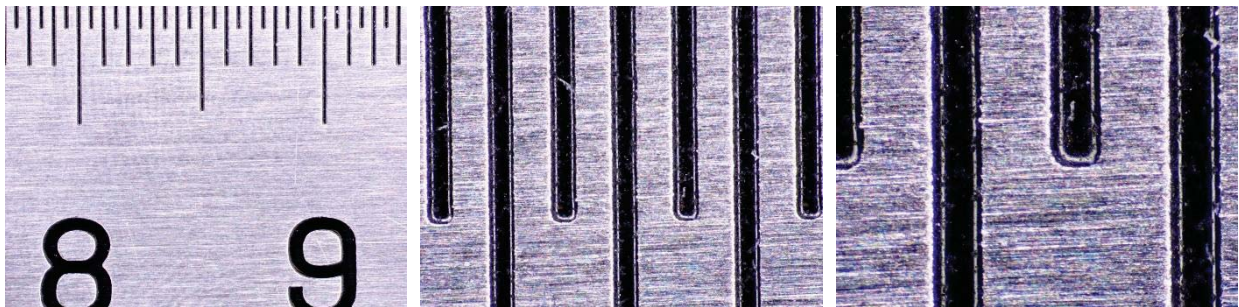


Coaxial Light Module BCL-1A, including Coaxial Light Adapter, LED Spot Light and Power Adapter

Sample Images

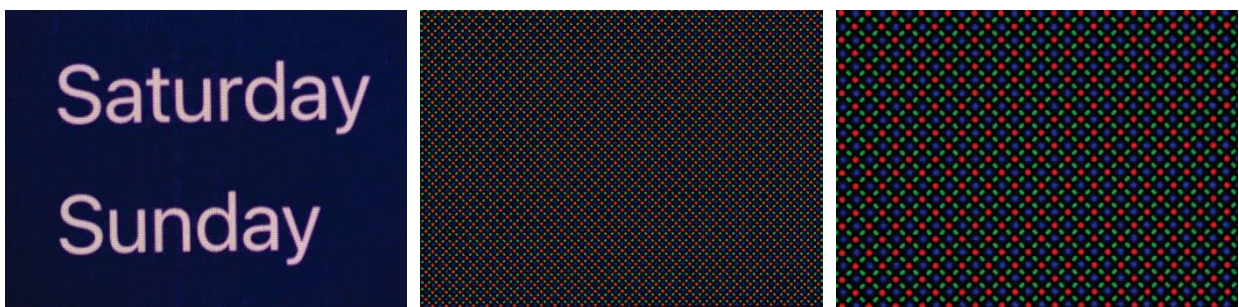
Pictures of steel ruler taken with BS-1210A under LED Direct Ring Light illumination.

Left: 0.6X, middle: 3.0X, right: 6.0X



Pictures of iPhone screen taken with BS-1210A.

Left: 0.6X, middle: 3.0X, right: 6.0X



28. BS-1310 Series Monocular Microscope



BS-1310

Introduction

BS-1310 series Monocular Zoom Microscope is an ideal choice for machine vision, industrial inspection, scientific research and education. The design is based on the bilateral parallel light path principle and the modular design concept, with superior optical performance and strong compatibility.

For applications that require different magnification, [Auxiliary Lens](#) or infinity objectives with different magnification can be attached to the front end of the [Middle Zoom Module](#).

For application that require different sensor size, [TV Lens](#) with different magnification can be attached to the back end of the [Middle Zoom Module](#).

The basic module of BS-1310 is BS-1310A (without click stop) and BS-1310B (with click stop at main magnifications), it has 0.8X to 8.0X zoom range and 1:10 zoom ratio. It is a high-quality precision [Monocular Zoom Objective](#) that provides high resolution and large depth of field.

Features

The main features are shown below:

1. Provide basic zoom objective BS-1310A with 0.8X~8.0X zoom range.
2. Large optical zoom ratio: 1:10.
3. Larger NA: 0.02-0.11 (When using 1.00x Auxiliary Lens).
4. Higher resolution: 15.3um-2.45um (When using 1.0X Auxiliary Lens).
5. Larger field of view: 0.89mm-42.86mm (Object plane).
6. Larger sensor size: 2/3" (When using 1X TV Lens).
7. Working distance: 56mm-248mm.
8. With adjustable BFL, parfocal in zoom range.
9. With adjustable center, the image center remains unchanged from 8.0x to 0.8x.
10. Compatible with infinity objectives (both biological and metallographic).

11. Compact size: 194 mm (length)*40 mm (diameter).
12. Auxiliary Lens with 0.35X, 0.50X, 0.75X, 1.00X, 1.50X magnification (Optional).
13. TV Lens with 0.50X, 0.75X, 1.00X magnification (Optional).
14. Brightness adjustable LED Direct Ring Light (Optional).
15. Brightness adjustable LED Direct Ring Polarization Light (Optional).
16. Brightness adjustable LED coaxial illumination (Optional).
17. LED Transmissive Light (Optional).
18. 50mm Bracket Adapter (Optional).

Accessories

1. How to Configure BS-1310 Monocular Zoom Objective

- (1) Confirm the possible range of 1) FOV and 2) Working Distance in the object space to choose the Auxiliary Lens.
- (2) Choose the M26x0.705 to M20x0.705 Objective Adapter, if the M20x0.705 infinity objective is used.
- (3) Confirm the camera Image Area Size, it can be 1) Sensor Size (1/x in inch), 2) Image Diagonal Length, 3) Image Width or 4) Image Height to choose the TV Lens.
- (4) Choose the 50 mm adapter according to the diameter of the hole in the bracket.
- (5) Choose the LED Direct Ring Light Module for the reflective illumination.
- (6) Choose the Coaxial Light Module if coaxial illumination is required.
- (7) Choose the Transmitted Light Module if Transmitted illumination is required.
- (8) Choose the Camera Module.

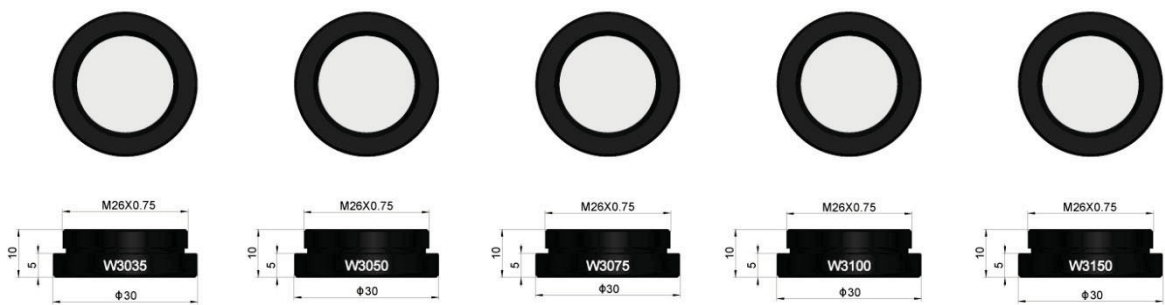
2. Configuration of BS-1310

The available components are listed in Table 1, user can choose any part from the table.

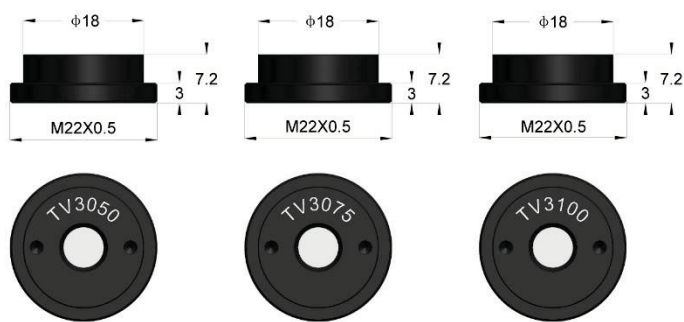
Table 1 BS-1310's Accessories and Its Functions

Module	Order Number	Description
Auxiliary Lens Module	W3035	0.35X Object Lens
	W3050	0.50X Object Lens
	W3075	0.75X Object Lens
	W3100	1.0X Object Lens
	W3150	1.50X Object Lens
	ON-XX	Biological Objective
	ON-YY	Metallographic Objective
	Objective Adapter	M26x0.706 to M20x0.706
Middle Zoom Module	BS-1310	The main body of BS-1310
TV Lens Module	TV3050	0.5XTV Lens
	TV3075	0.75X TV Lens
	TV3100	1.0XTV Lens
Coaxial Light Module	BCL-1A	Coaxial Light Adapter + LED Spot Light
LED Direct Ring Light Module	BAL3-48A	LED Direct Ring Light (65mm outer light)
	BAL3-60A	LED Direct Ring Light (85mm outer light)
	BAL3-48AP	LED Direct Ring Polarization Light
Transmitted Light Module	BTL-37A	LED Transmitted Light
Bracket Adapter		50mm Bracket Adapter (mounting adapter)

Power of light source		POWER-U-12V1A, Power Adapter American Standard
		POWER-E-12V1A, Power Adapter European standard

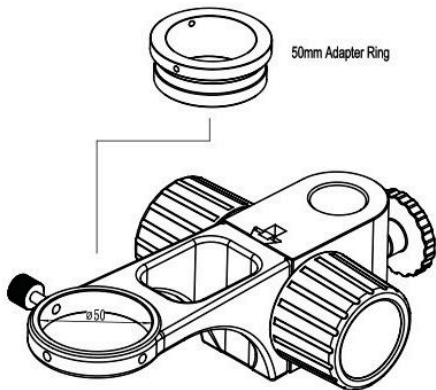


Auxiliary Lens Module



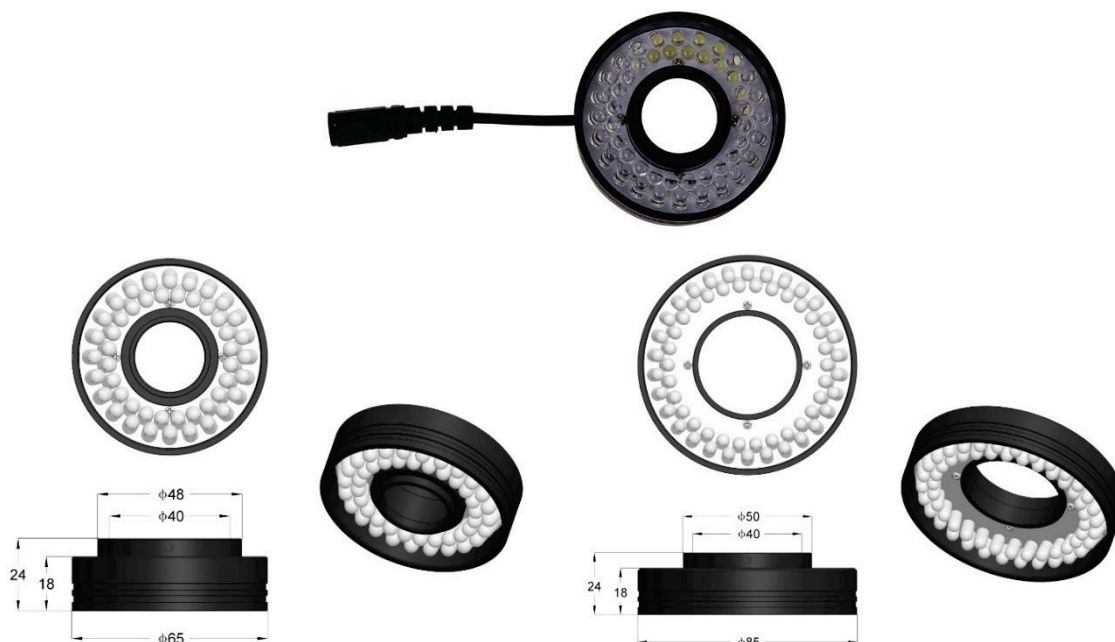
TV Lens Module

The BS-1310 main body consists of [Auxiliary Lens Module](#), [Middle Zoom Module](#) and [TV Lens Module](#). These 3 modules comprise the main [Monocular Zoom Objective](#). User can choose different [Auxiliary Lens](#) and [TV Lens](#) to satisfy the specific requirement. To get good illumination and ensure the image quality, [LED Direct Ring Light Module](#) (Optional) or [Coaxial Light Module](#) (Optional) should be chosen according to the application. To get good and stable support, the [Bracket Adapter Module](#) should be carefully chosen. Finally, to form the [Video Monocular Zoom Objective](#), [Camera Module](#) (Optional) should be chosen. The [Adapter Rings](#) and their relationship with the [Bracket](#) are shown following.



BS-1310 Adapter Ring for the Bracket

The [Direct Ring Light](#), [Direct Ring Polarization Light](#) and the [Coaxial Light](#) are shown in following figures respectively.

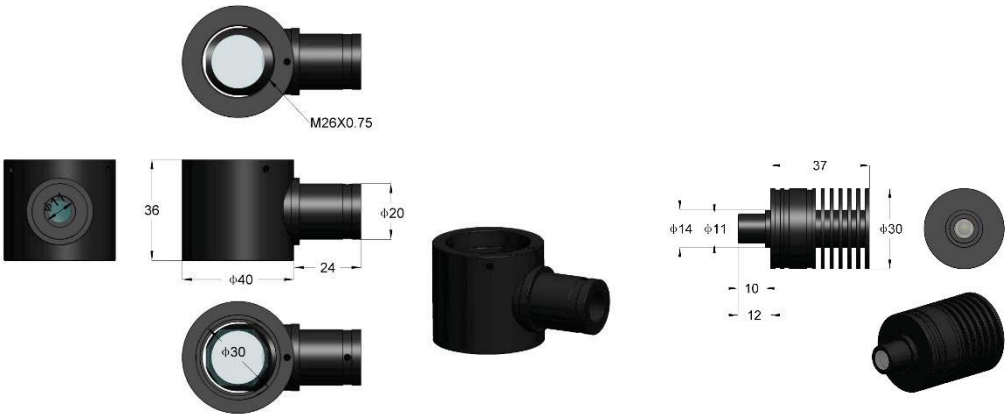


BAL3-48A, BAL3-60A, LED Direct Ring Light.

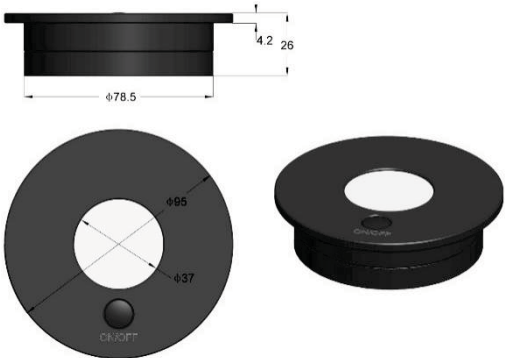


BAL3-48AP, LED Direct Ring Polarization Light





BCL-1A: Coaxial Light Adapter + LED Spot Light



BTL-37A, LED Transmitted Light

Specifications

The specifications of BS-1310 with different [Auxiliary Lens](#) and [TV Lens](#) are shown in [错误!未找到引用源。](#). [Auxiliary Lens](#) and [TV Lens](#) with 1.0x are listed in the left-up cell. Its data is the basis of the other parameters in the whole table.

Table 6 BS-1310A/B and Its Extensions

Auxiliary Lens	Specs	TV Lens					
		1.0X(For 2/3" Sensors) TV100		0.5X(For 1/3" Sensors) TV050		0.75X(For 1/1.8" Sensors) TV075	
		Low	High	Low	High	Low	High
1.0X (86mm WD) W3100	PMAG	0.80X~8.00X		0.40X~4.00X		0.60X~6.00X	
	FOV	13.75mm	1.38mm	15.0mm	1.50mm	13.33mm	1.33mm
	NA	0.018	0.112	0.018	0.112	0.018	0.112
0.35X (248mm WD) W3035	PMAG	0.28X~2.80X		0.14X~1.40X		0.21~2.10X	
	FOV	39.29mm	3.93mm	42.86mm	4.29mm	38.10mm	3.81mm
	NA	0.006	0.039	0.006	0.039	0.006	0.039
0.5X (174mm WD) W3050	PMAG	0.40X~4.00X		0.20X~2.00X		0.30X~3.00X	
	FOV	27.50mm	2.75mm	30.00mm	3.00mm	26.67mm	2.67mm
	NA	0.009	0.056	0.009	0.056	0.009	0.056
0.75X (115mm WD)	PMAG	0.60X~6.00X		0.30X~3.00X		0.45X~4.50X	
	FOV	18.33mm	1.83mm	20.00mm	2.00mm	17.78mm	1.78mm

W3075	NA	0.014	0.084	0.014	0.084	0.014	0.084
1.50X (56mm WD) W3150	PMAG	1..20X~12.00X		0.60X~6.00X		0.9X~9.00X	
	FOV	9.17mm	0.92mm	10.00mm	1.00mm	8.89mm	0.89mm
	NA	0.027	0.168	0.027	0.168	0.027	0.168
Remarks	When using coaxial lighting, low magnification may produce vignetting. When using infinity objectives as Auxiliary Lens Module (adapter available), the PMAG, FOV and NA of the BS-1310 depends on the parameters of the objectives.						

WD: Working Distance;

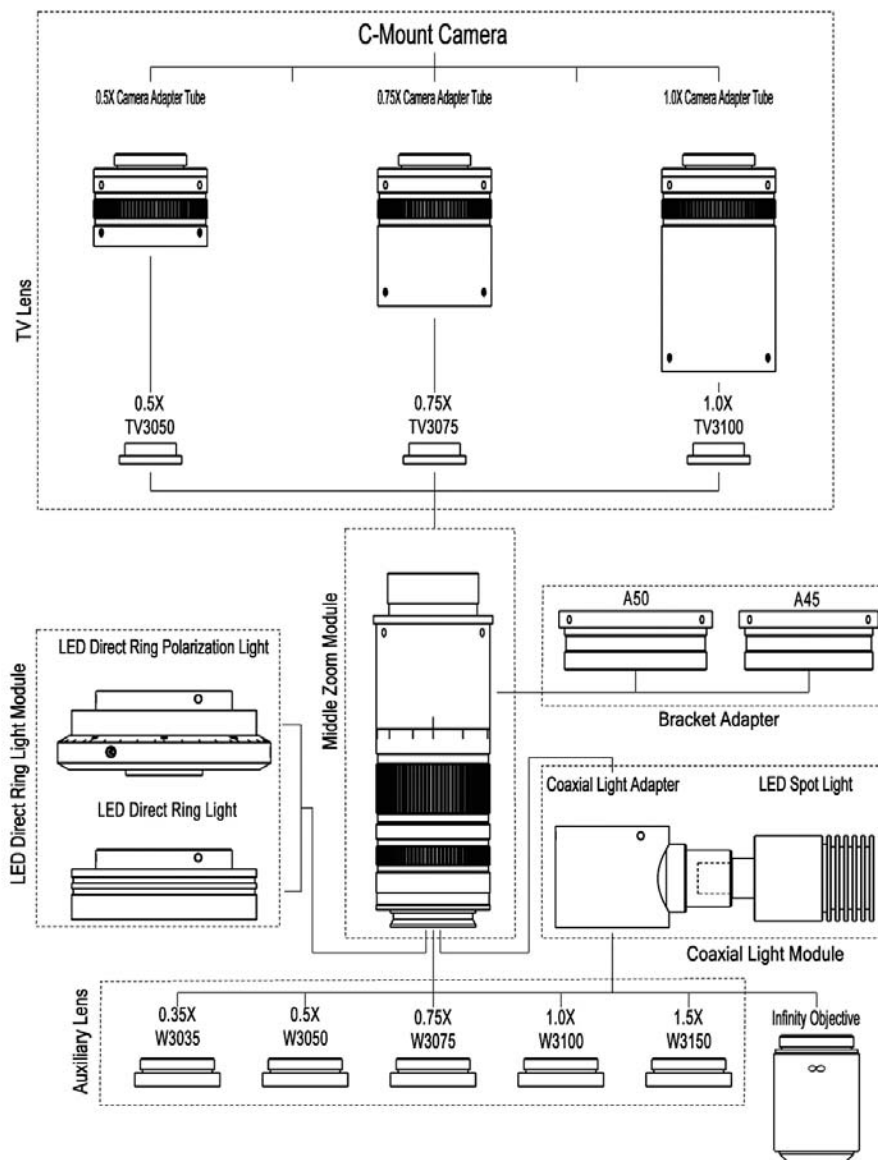
PMAG: Primary Magnification;

FOV: Field of View in the Object side;

NA: Numerical Aperture;

Note: Infinity corrected objectives limit system's usable zoom range due to uneven illumination.

System Diagram



Application

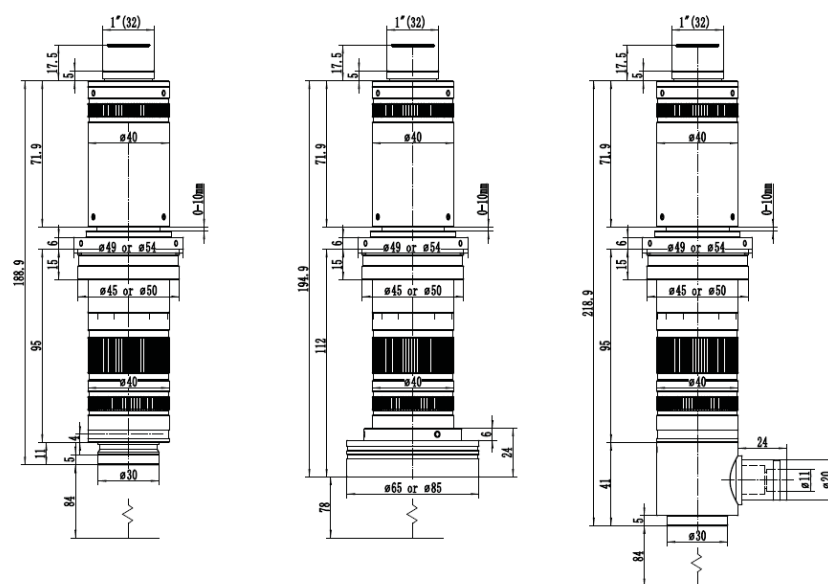
BS-1310 is an ideal choice for most applications that require multiple magnifications or for those that prohibit continual manual refocusing. The applications of the BS-1310 are machine vision, small details inspection, industrial inspection especially electronic components, scientific research, medical industry and education industry.



BS-1310A+BAL3-48A (LED Direct Ring Light Module) +HDMI Camera+ Screen + Stand

Dimension

The dimensions of BS-1310A with different light a) BS-1310A without light module; b) BS-1310A equipped with Direct Ring Light Module, c) BS-1310A equipped with Coaxial Light Module are showed as follows. The length of BS-1310A is 194mm.



Dimensions of BS-1310A with different light

Packing List

The package information of [BS-1310](#) is as follows:



BS-1310 Main Body, including Auxiliary Lens Module, Middle Zoom Module, TV Lens, Camera Adapter Tube and Bracket Adapter

The package information of [BAL3-48A/BAL3-60A](#) is as follows:



BAL3-48A/BAL3-60A, including LED Direct Ring Light and Power Adapter

The package information of [BAL3-48AP](#) is as follows:



BAL3-48AP, including LED Direct Ring Polarization Light and Power Adapter

The package information of [Coaxial Light Module](#) is as follows:

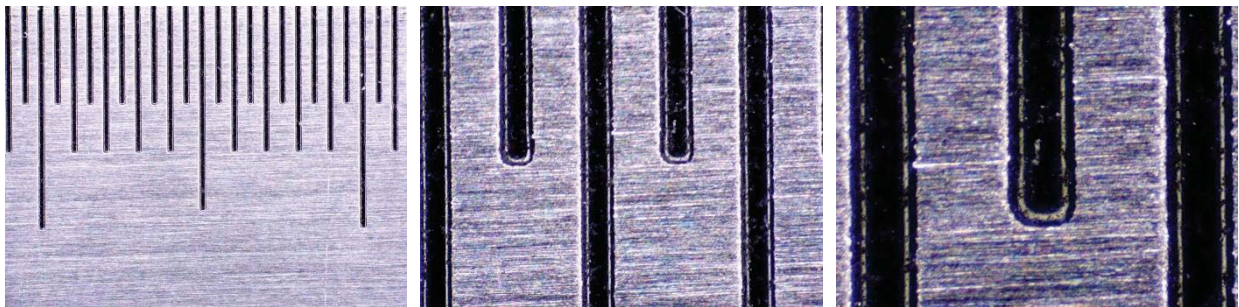


Coaxial Light Module BCL-1A, including Coaxial Light Adapter, LED Spot Light and Power Adapter

Sample Images

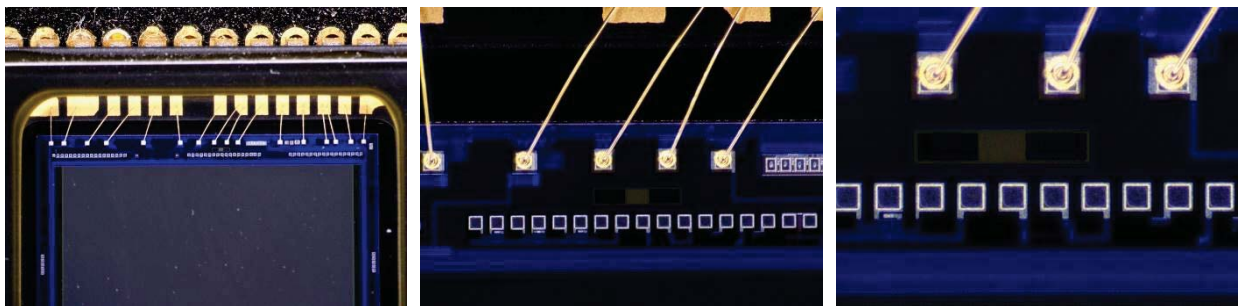
Pictures of steel ruler taken with BS-1310A under LED Direct Ring Light illumination.

Left: 0.8X, middle: 4.0X, right: 8.0X



Pictures of CCD taken with BS-1310A.

Left: 0.8X, middle: 4.0X, right: 8.0X



Accessories of Monocular Microscopes

Introduction

There are different accessories, including stands & bases, focus holders, stage, illuminators and objectives, for the customers to choose, meeting different monocular microscopes and application. Innovative configurations and diverse combinations provide you with more choices.

Stand & Base

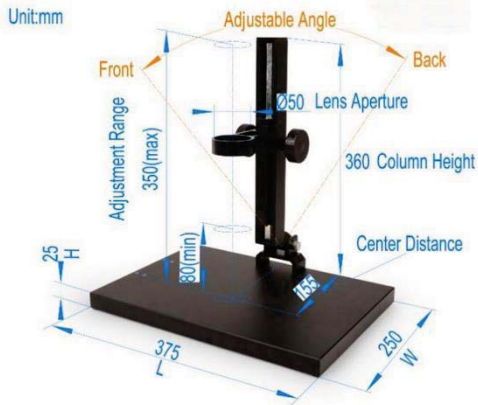
Code	Photo	Description
BA1		BA1 Round type column plain stand with coarse focus arm. Column height: 318mm, Φ 32mm, stroke: 50mm, center to center distance: 143mm, base size: 330mm*300mm.
BA2		BA2 Round type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Column height: 318mm, Φ 32mm, stroke: 50mm, center to center distance: 143mm, base size: 330mm*300mm.

BA3		BA3 Round type column plain stand with coarse and fine focus arm. Column height: 318mm, stroke: 67mm, fine precision: 0.002mm, center to center distance: 143mm, base size: 330mm*300mm.
BA4		BA4 Round type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Column height: 314mm, stroke: 67mm, fine precision: 0.002mm, center to center distance: 143mm, base size: 330mm*300mm.
BA5		BA5 Square type column plain stand with coarse focus arm. Column height: 325mm, stroke: 150mm, base size: 330mm*300mm.

BA6		BA6 Square type column plain stand with coarse focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Column height: 325mm, stroke: 150mm, base size: 330mm*300mm.
BA7		BA7 Square type column plain stand with coarse and fine focus arm. Column height: 318mm, stroke: 260mm, fine precision: 0.002mm, base size: 330mm*300mm.
BA8		BA8 Square type column plain stand with coarse and fine focus arm, transmitted 12V/5W LED illumination, brightness adjustable. Column height: 314mm, stroke: 260mm, fine precision: 0.002mm, base size: 330mm*300mm.

BA9		BA9 Multi-angle column plain stand with coarse focus arm. Column height: 318mm, $\Phi 32$mm, stroke: 60mm, center to center distance: 143mm, base size: 330mm*300mm.
BA10		BA10 Multi-angle column plain stand with coarse and fine focus arm. Column height: 318mm, $\Phi 32$mm, stroke: 60mm, fine precision: 0.002mm, center to center distance: 143mm, base size: 330mm*300mm.
BA11		BA11 universal boom stand with coarse focus arm. Column height: 320mm, horizontal column length: 340mm, $\Phi 32$mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 50mm.

BA12		BA12 universal boom stand with coarse and fine focus arm. Column height: 320mm, horizontal column length: 340mm, $\Phi 32$mm, 360° rotatable. Base size: 330mm*300mm. Stroke: 65mm, fine precision: 0.002mm.
BA13		BA13 Round type column large plain stand with coarse focus arm. Column height: 320mm, $\Phi 25$mm, stroke: 50mm, base size: 380mm*260mm. Gross weight: 1.5kg.
BA14		BA14 Three-arm column large plain stand with coarse focus arm and large working stage. Base size: 500mm*400mm Fixed stage size: 400mm*350mm*10mm Stage size: 330mm*300mm*36mm Moving range: 220mm(X)*220mm(Y)

BS-210A	 Unit:mm Adjustable Angle Front Back 25 Lens Aperture 360 Column Height Adjustment Range 350(max) Center Distance 150 375 250 30(mm) 25 W	BS-210A Square type column plain stand with coarse focus arm. Column height: 360mm, stoke: 350mm, base size: 375mm*250mm.
BS-600A		BS-600A Square type column plain stand with fine and coarse focus arm. Base size: 380mm*250mm.
BS-600AG		BS-600AG Square type column plain stand with fine and coarse focus arm and cross bar. Base size: 380mm*250mm.
BS-600AMF		BS-600AMF Square type column plain stand with fine and coarse focus arm with multi-functional fixed hole. Base size: 380mm*250mm.

BS-600AMFG		BS-600AMFG Square type column plain stand with fine and coarse focus arm with multi-functional fixed hole and cross bar. Base size: 380mm*250mm.
BS-600B		BS-600B Square type column plain stand with fine and coarse focus arm. Base size: 160mm*250mm.

Focus Holder

Code	Photo	Description
BFA-1		BFA-1 coarse focus arm. Column diameter $\Phi 32\text{mm}$, stroke: 50mm, center to center distance: 143mm.

BFA-2		BFA-2 coarse and fine focus arm. Column diameter $\Phi 32\text{mm}$, stroke: 65mm, fine precision: 0.002mm, center to center distance: 145mm.
BFA-3		BFA-3 multi-angle coarse focus arm, angle adjustable. Column height: $\Phi 32\text{mm}$, stroke: 50mm, center to center distance: 145mm.
BFA-4		BFA-4 multi-angle coarse and fine focus arm, angle adjustable. Column height: $\Phi 32\text{mm}$, stroke: 60mm, fine precision: 0.002mm, center to center distance: 145mm.

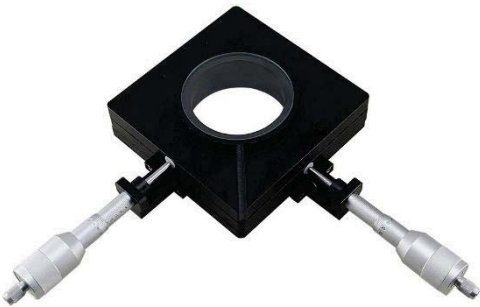
BFA-5		BFA-5 electric coarse and fine focus arm, supporting manual focusing and electric focusing. It has 5 preset positions, paired with 5 different magnification objectives. Column height: $\Phi 32\text{mm}$, stroke: 65mm, fine precision: 0.005mm, center to center distance: 145mm.
BFA-6		BFA-6 N interface coarse focus arm. Column diameter $\Phi 32\text{mm}$, stroke: 50mm, center to center distance: 145mm.
BFA-7		BFA-7 N interface coarse and fine focus arm. Column diameter $\Phi 32\text{mm}$, stroke: 65mm, fine precision: 0.002mm, center to center distance: 145mm.

Display

Code	Photo	Description
HD1080P116A		11.6inch TFT LCD display with cross bar Maximum resolution: 1920*1080 Maximum brightness: 400cd/m² Power input: DC 12V Interface: HDMI Size: 282mm (W)*181mm (H)*8mm (T)

Stage

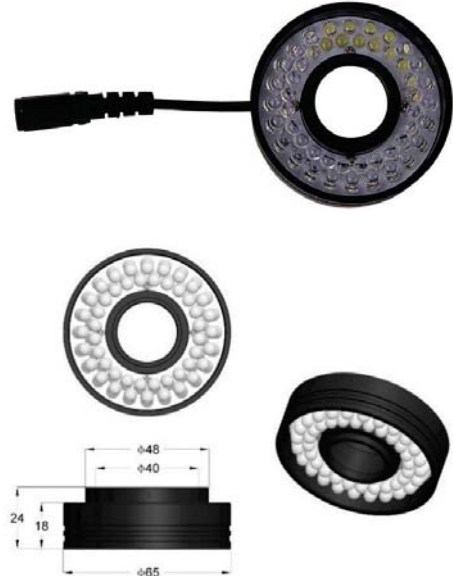
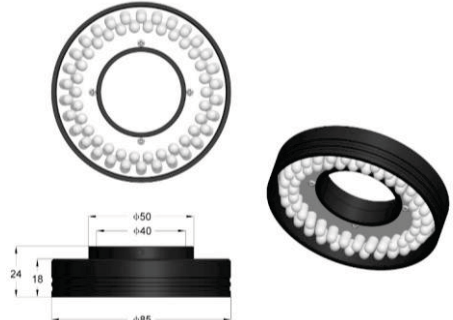
Code	Photo	Description
BMS-302		BMS-302 X-Y stage Stage size: 180mm*155mm*26mm Moving range: 75mm(X)*55mm(Y) Round glass stage diameter: Φ95mm
BMS-303		BMS-303 X-Y stage Stage size: 180mm*155mm*26mm Moving range: 75mm(X)*55mm(Y) Round glass stage diameter: Φ95mm (360° rotatable)

BMS-311		BMS-311 Measurement stage Stage size: 140mm*140mm*36mm Connecting size: Φ95mm Glass stage: Φ95mm Moving range: 75mm*55mm Precision resolution: 0.001mm
BMS-316A		BMS-316A Measurement stage Stage size: 160mm*160mm*42mm Glass stage: Φ95mm Moving range: 50mm*50mm.
BS-316B		BMS-316B Measurement stage Stage size: 160mm*160mm*50mm Glass stage: Φ95mm, 360° rotatable Moving range: 50mm*50mm.

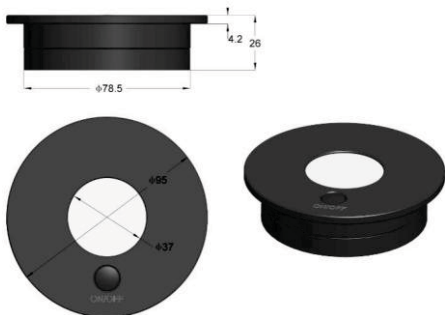
BMS-400A		BMS-400A large working stage Fixed stage size: 400mm*350mm*10mm Stage size: 330mm*300mm*36mm Moving range: 220mm(X)*220mm(Y)
BMS-260A		BMS-260A XY working stage Stage size: 260mm*180mm*32mm Moving range: 110mm(X)*102mm(Y) The size of glass: 145mm*115mm

Illuminator

Code	Photo	Description
BAL-80A		BAL-80A LED ring light, brightness continuously adjustable, white color (color temperature: 6000-6500K), 80 LED arranged in three rows. Illuminance: 8000-9000mcd, input voltage: AC 110-240V, output voltage: 12V. Working distance: 35-110mm, inner diameter Φ28mm, outer diameter Φ68mm, height 24mm.

BAL3-48A	 Technical drawing of the BAL3-48A ring light showing dimensions: inner diameter $\phi 40$, outer diameter $\phi 65$, height 24mm, and LED array diameter $\phi 48$.	BAL3-48A ring light, 48 LED arranged in two rows. Inner diameter $\phi 40$ mm, outer diameter $\phi 65$ mm, height 24mm.
BAL3-60A	 Technical drawing of the BAL3-60A ring light showing dimensions: inner diameter $\phi 40$, outer diameter $\phi 85$, height 24mm, and LED array diameter $\phi 50$.	BAL3-60A ring light, 60 LED arranged in two rows. Inner diameter $\phi 40$ mm, outer diameter $\phi 85$ mm, height 24mm.
BAL3-48AP		BAL3-48AP LED polarizing ring light, 48 LED arranged in two rows. Inner diameter $\phi 40$ mm, outer diameter $\phi 65$ mm, height 28mm.
BAL-52AP		BAL-52AP LED polarizing ring light, brightness continuously adjustable, white color (red, yellow, blue, green and infrared 850nm/950nm for optional), 52 LED arranged in double rows. Illuminance: 8000-9000mcd, wavelength: 455-457.5nm, input voltage: AC 110-240V, output voltage: 12V, output power: 3-5W. Working distance: 35-110mm, inner diameter $\phi 32$ mm, outer diameter $\phi 58$ mm, height 32mm.

BAL-52ASL		BAL-52ASL LED side ring light, brightness continuously adjustable, white color (red, yellow, blue, green and infrared 850nm/950nm for optional), 52 LED arranged in double rows. Illuminance: 8000-9000mcd, wavelength: 455-457.5nm, input voltage: AC 110-240V, output voltage: 12V, output power: 3-5W. Working distance: 35-110mm, inner diameter $\Phi 32$ mm, outer diameter $\Phi 58$ mm, height 25mm, applicable to $\Phi 32$ mm column.
BAL-228A		BAL-228A LED four-zone ring light, 228 LED. White color, color temperature: 6000-7000K, wavelength: 450-465nm. Input voltage: 12V/2A, output power: 13W. Working distance: 35-110mm, outer diameter $\Phi 118$ mm, inner diameter $\Phi 40.1$ mm, height: 19mm.
BAL-228AG		BAL-228AG LED four-zone ring light with frosted glass, 228 LED. White color, color temperature: 6000-7000K, wavelength: 450-465nm. Input voltage: 12V/2A, output power: 13W. Working distance: 35-110mm, outer diameter $\Phi 138$ mm, inner diameter $\Phi 40.1$ mm, height: 22mm.

BAL-16P		BAL-16P LED polarizing ring light, 16 LED, white color, brightness adjustable. Input voltage: DC24V/220mA. Working distance: 40-120mm, outer diameter $\Phi 66$, inner diameter $\Phi 35$.
BTL-37A		BTL-37A LED transmitted light, the diameter of the lighting area is 37mm. Outer diameter $\Phi 95$, height 26mm.
BTL-60A		BTL-60A LED back light, 60 LED, white color. Illuminance: 30000Lux, wavelength: 455-457.5nm. Output voltage: 12V/24V(optional), output power: 3.5-5W. Working distance: 50-80mm, size: 73mm*61mm*16mm.
BCL-1A		BCL-1A coaxial light. Point light with coaxial light adapter. Power supply 12V/1A.

BPL-3A		BPL-3A LED point light, 3W, white color (red, blue, green, purple for optional), brightness adjustable. Input voltage: 95-240V/AC 50/60Hz, output: 3.0-4.3V DC. Clear aperture: Φ8mm, Φ9mm, Φ10mm and Φ11mm(standard) for optional.
BPL-3MC		BPL-3MC LED multi color point light, 3W, white, purple, blue, yellow, red, green and mixed light, brightness adjustable. Input voltage: 95-240V/AC 50/60Hz, output: 3.0-4.3V DC. Clear aperture: Φ8mm, Φ9mm, Φ10mm and Φ11mm(standard) for optional.
BPL-4A		BPL-4A LED point light with numerically adjustable light adapter, 4W, white color (red, blue, green, purple for optional), brightness adjustable. Input voltage: DC 12V/1A. Clear aperture: Φ8mm, Φ9mm, Φ10mm and Φ11mm(standard) for optional.

BBL-5A		BBL-5A bar LED illuminator, 60 LED, 12V/5W, applicable to $\Phi 32$mm column. Wide field of view lighting, suitable for low magnification.
BSL-3B		BSL-3B goose neck LED illuminator, 2 LED lamps, brightness adjustable. Easy change detachable goose neck light guide, angle can be adjusted. Color temperature: 6500K. Input voltage: AC 110-240V/50-60Hz, power consumption: 6.5W, Goose neck length: 400mm(standard), 500mm for optional.
BSL-15A		BSL-15A LED light source, brightness adjustable. Color temperature: 6000K. 15W LED lamp. Input voltage: 100V-240V/50-60Hz. Single Rigid Fiber, length 550mm, diameter 8mm, with Condenser, 5/8" Standard Interface. Double Rigid Fiber, length 550mm, diameter 8mm, with Condenser, 5/8" Standard Interface. Ring Flexible Fiber, length 550mm, diameter 8mm, 5/8" Standard Interface, Adapter Ring Size $\Phi 50$mm/ $\Phi 60$mm.

BSL2-150A		BSL2-150A Cold light source, brightness adjustable. Color temperature: 3000K. 21V/150W lamp. Input voltage: 176V-265V, 50Hz (110V is optional). Filter holder is available to change the color temperature from 3000K to 5000K. Single Rigid Fiber, length 550mm, diameter 8mm, with Condenser, 5/8" Standard Interface. Double Rigid Fiber, length 550mm, diameter 8mm, with Condenser, 5/8" Standard Interface. Ring Flexible Fiber, length 550mm, diameter 8mm, 5/8" Standard Interface, Adapter Ring Size $\Phi 50\text{mm}/\Phi 60\text{mm}$.
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Objectives

Model	Photo	Code	Description
Infinity Long Working Distance Plan Apochromatic Objectives		LWD M APO200A-2X	2X/ NA=0.055, WD=34.6mm
		LWD M APO200A-3.5X	3.5X/ NA=0.1, WD=40.93mm
		LWD M APO200A-5X	5X/ NA=0.13, WD=44.5mm
		LWD M APO200A-10X	10X/ NA=0.28, WD=34mm
		LWD M APO200A-20X	20X/ NA=0.29, WD=31mm
		LWD M APO200A-50X	50X/ NA=0.42, WD=20.1mm
Infinity Long Working Distance Plan Apochromatic Objectives		LWD M APO200B-2X	2X/ NA=0.075, WD=50mm
		LWD M APO200B-4X	4X/ NA=0.15, WD=36mm
		LWD M APO200B-4.5X	4.5X/ NA=0.18, WD=38mm
		LWD M APO200B-20X	20X/ NA=0.35, WD=29mm

Infinity Plan Achromatic Objectives (No Coverslip)		MA200A-2.5X	2.5X/ NA=0.07, WD=11mm
		MA200A-5X	5X/ NA=0.12, WD=26.1mm
		MA200A-10X	10X/ NA=0.25, WD=20.2mm
		MA200A-20X	20X/ NA=0.4, WD=8.8mm
		MA200A-40X	40X/ NA=0.6, WD=3.98mm
		MA200A-50X	50X/ NA=0.7, WD=3.68mm
		MA200A-60XA	60X/ NA=0.75, WD=1.22mm
		MA200A-60XB	60X/ NA=0.75, WD=3.18mm
		MA200A-80X	80X/ NA=0.8, WD=1.25mm
		MA200A-100X	100X/ NA=0.85, WD=0.4mm