

## BS-1080 Monocular Zoom Microscope



BS-1080A



BS-1080B



BS-1080C

### 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. 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.
2. Compact design, so that all functions are concentrated in a tube, it is very suitable for the small installation space in modern equipment.
3. Zoom ratio 1:8.3, zoom range 0.6×-5×, standard working distance 88mm, can meet the requirement of machine vision conventional imaging.
4. There are a variety of auxiliary lens and C-mount eyepiece adapter for option, make the system's optical magnification range 0.054×-1500×, working distance 2mm-270mm, object field of view 0.004mm-20mm.
5. 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.
6. Adopt modular design, various additional accessories are optional to make the microscope a powerful device for your jobs.

### 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.

### Specification

Item	Specification	BS-1080A	BS-1080B	BS-1080C
Optical System	Infinite apochromatic parallel optical system	●	●	●

Zoom Lens	Optical zoom magnification: 0.6x-5.0x	●	●	●
Zoom ratio	1:8.3	●	●	●
Viewing head	Monocular Viewing head with 10x/18mm, 15x/12mm, 20x/11mm eyepiece, Φ23.2mm	○	○	○
90° Prism	Used to turn the angle of camera or objective, so as to short the size	○	○	○
Mounting Size	Φ40mm	●	●	●
Mounting Adapter	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	○	○	○
LCD Digital Camera	BLC-520 digital camera with HDMI and WIFI output, can capture 2.0MP pictures, videos and do measurement, control with mouse; 11.6 inch LCD screen, resolution 1920*1080	○	○	○
	BLC-520AF Auto focus digital camera with HDMI and WIFI output, can capture 2.0MP pictures, videos and do measurement, control with mouse; 11.6 inch LCD screen, resolution 1920*1080	○	○	○
	BLC-550 digital camera with HDMI and WIFI output, can capture 5.0MP pictures, videos and do measurement, control with mouse; 11.6 inch LCD screen, resolution 1920*1080.	○	○	○
	BLC-550AF Auto focus digital camera with HDMI and WIFI output, can capture 5.0MP pictures, videos and do measurement, control with mouse; 11.6 inch LCD screen, resolution 1920*1080.	○	○	○
C-mount Adapter	0.3x C-mount adapter	○	○	○
	0.4x C-mount adapter	○	○	○
	0.5x C-mount adapter	●	●	●
	0.67x C-mount adapter	○	○	○
	1x C-mount adapter	○	○	○
	1.5x C-mount adapter	○	○	○
	2x C-mount adapter	○	○	○
Auxiliary Lens	0.3x /WD: 270mm	○	○	○
	0.5x / WD: 160mm	○	○	○
	0.6x / WD: 130mm	○	○	○
	1x / WD: 88mm	●	●	●
	1.5x / WD: 52mm	○	○	○
	2x / WD: 39mm	○	○	○
Infinite LWD Plan Achromatic Metallurgical Objective Lens	5x, NA: 0.12, WD: 26.1mm	○	○	○
	10x, NA: 0.25, WD: 20.2mm	○	○	○
	20x, NA: 0.40, WD: 8.8mm	○	○	○
	40x, NA: 0.6, WD: 3.98mm	○	○	○
	50x, NA: 0.70, WD: 3.68mm	○	○	○
	60x, NA: 0.75, WD: 1.22mm	○	○	○
	80x, NA: 0.80, WD: 1.25mm	○	○	○

	100x, NA: 0.85, WD: 0.4mm	○	○	○
Infinite LWD Plan	5x, NA: 0.13, WD: 44.5mm	○	○	○
Apochromatic	10x, NA: 0.28, WD: 34mm	○	○	○
Metallurgical	20x, NA: 0.29, WD: 31mm	○	○	○
Objective	50x, NA: 0.42, WD: 20.1mm	○	○	○
Coaxial light Device	Coaxial Device, light input port Φ11mm (does not include light source)	○	○	○
	Coaxial point light source: 3W LED, 5500K, brightness adjustable	○	○	○
	Polarized Coaxial Device, light input port Φ11mm (does not include light source)	○	○	○
Ring Light	BAL-48A LED Ring light, brightness adjustable	○	●	●
	Polarized LED Ring light, brightness adjustable	○	○	○
Other Accessories	Metallurgical objective adapter (used to connect metallurgical objectives onto the zoom body)	○	○	○
	Triple Nosepiece for metallurgical objectives	○	○	○
	Quadruple Nosepiece for metallurgical objectives	○	○	○
	BSL-3B LED light source with dual goose neck light guide, 6.5W	○	○	○
	BMS-302 X-Y moving stage	○	○	○
	BSL2-150A-1 Cold light source with Single Light Guide, 150W	○	○	○
	BSL2-150A-2 Cold light source with Dual Light Guide, 150W	○	○	○
Stand and focus arm	BSL2-150A-O Cold light source with Annular Ring Light Guide, 150W	○	○	○
	BA1 Pillar type column plain stand with coarse focus arm	○	●	○
	BA2 Pillar type column plain stand with coarse and fine focus arm	○	○	●
	BA3 Square type column plain stand with coarse and fine focus arm	○	○	○
	BA4 Square type column plain stand with coarse and fine focus arm, transmitted 10W LED illumination	○	○	○
	BA5 multi-angle column plain stand with coarse focus arm	○	○	○

Note: ●Standard Outfit, ○Optional

### Optical Parameter

Auxiliary Objectives	CCD C-mount Adapter								
		0.3x	0.4x	0.5x	0.67x	1.0x	1.5x	2.0x	3.0x
Standard 1.0x/ WD:86mm	Total Mag.	0.18x-1.5x	0.24x-2.0x	0.3x-2.5x	0.4x-3.35x	0.6-5.0x	0.9x-7.5x	1.2x -10.0x	1.8x-15x
	FOV (mm)	26x20-3x2.0	20x15-2x1.8	16x12-1.9x1.4	12x9-1.43x1.07	8x6-0.9x0.7	5x4-0.6x0.5	4x3-0.5x0.36	2.6x2-0.3x0.2
0.3x/ WD:270mm	Total Mag.	0.05x-0.45x	0.07x-0.6x	0.09x-0.75x	0.12x-1.0x	0.18x-1.5x	0.27x-2.25x	0.36x-3x	0.54x-4.5x
	FOV (mm)	96x72-10.6x8	68x51-8x6	53x40-6.4x4.8	40x30-4.8x3.6	26x20-3.2x2.4	18x13-2x1.6	13x10-1.6x1.2	9x6.6-1.1x0.8
0.5x /WD:160mm	Total Mag.	0.09x-0.75x	0.12x-1x	0.15x-1.25x	0.201x-1.68x	0.3x-2.5x	0.45x-3.75x	0.6x-5x	0.9x-7.5x
	FOV (mm)	53x40-6.4x4.8	40x30-4.8x3.6	32x24-3.8x2.8	23.88x17.9-9	16x12-1.9x1.4	11x8-1.3x0.9	8x6-0.9x0.7	5x4-0.6x0.5

					2.85×2.14				
0.6×/ WD:130mm	Total Mag.	0.22×-0.9×	0.144×-1.2×	0.18×-1.5×	0.24×-2.0×	0.36×-3×	0.54×-4.5×	0.72×-6×	1.08×-9×
	FOV (mm)	22×16- .3 ×4	33×25- 4×3	26×20- 3×2	20×15- 2.4×1.8	13×10- 1.6×1.2	9×6.6- 1.1×0.8	6.6×51- 0.8×0.6	4.4×3- 0.5×0.4
1.5×/ WD:50mm	Total Mag.	0.27×-2.25×	0.36×-3×	0.45×-3.75×	0.6×-5.0×	0.9×-7.5×	1.35×-11.25×	1.8×-15×	2.7×-22.5×
	FOV (mm)	18×13- 2×1.6	13×10- 1.6×1.2	11×8- 1.3×0.9	8×6- 0.9×0.7	5×4- 0.6×0.5	3.5×2.6- 0.4×0.3	2.6×2- 0.3×0.24	1.7×1.3- 0.2×0.1
2.0×/ WD:39mm	Total Mag.	0.36×-3×	0.48×-4×	0.6×-5.0×	0.8×-6.7×	1.2×-10×	1.8×-15×	2.4×-20×	3.6×-30×
	FOV (mm)	13×10- 1.6×1.2	10×7.5- 1.2×0.9	8×6- 0.9×0.7	6×4.5- 0.7×0.54	4×3- 0.5×0.36	2.6×2- 0.3×0.2	2×1.5- 0.2×0.18	1.3×1- 0.16×0.12

**Remark:** Total magnification of lens = Magnification of zoom body × CCD adaptor magnification × Objective magnification, The range of Field of View is based on 1/3"CCD Camera (Sensor Width 4.8mm, Height 3.6mm), FOV= the size of camera sensor / total Optical Magnification.

### Accessories

#### System diagram





CCD C-mount adapter



BS-1080A with coaxial device and triple nosepiece



Eyepiece head



90° Prism



BS-1080A with coaxial device



BS-1080LCD1/2/3/4



Auxiliary Objective



BAL-48A LED ring light



Polarized LED ring light(back)



Polarized LED ring light



Polarized Coaxial Device



Coaxial Device



LED point light for Coaxial Device



BMS-302 X-Y stage



BS-1080B with LCD screen holder



LCD screen holder



90° Prism on C-mount



90° Prism on objective



Focus arm with camera holder(Up)



Focus arm with camera holder(Down)



BSL-3B



BSL2-150A





Double Rigid Fiber



Single Rigid Fiber



Ring Flexible Fiber



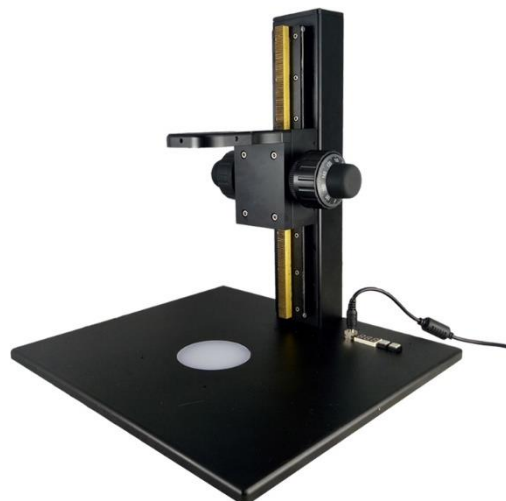
BA1 Stand



BA2 Stand



BA3 Stand



BA4 Stand





BA5 Stand(left)

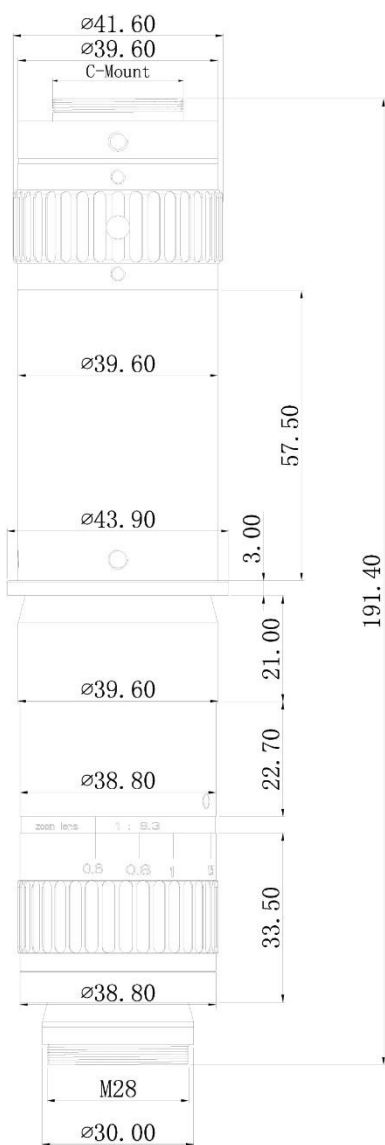


BA5 Stand(horizontal)

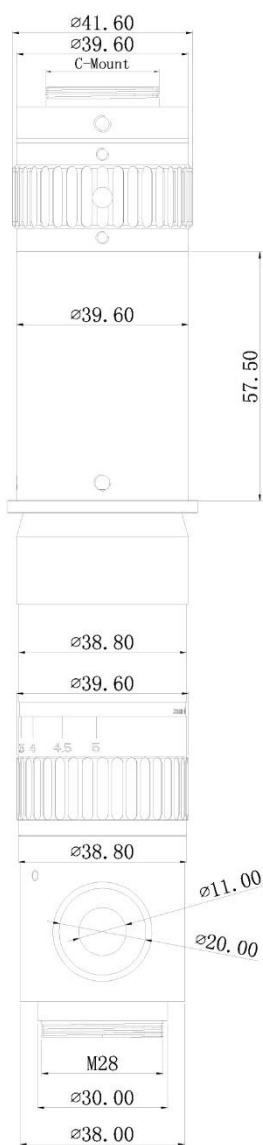


BA5 Stand(right)

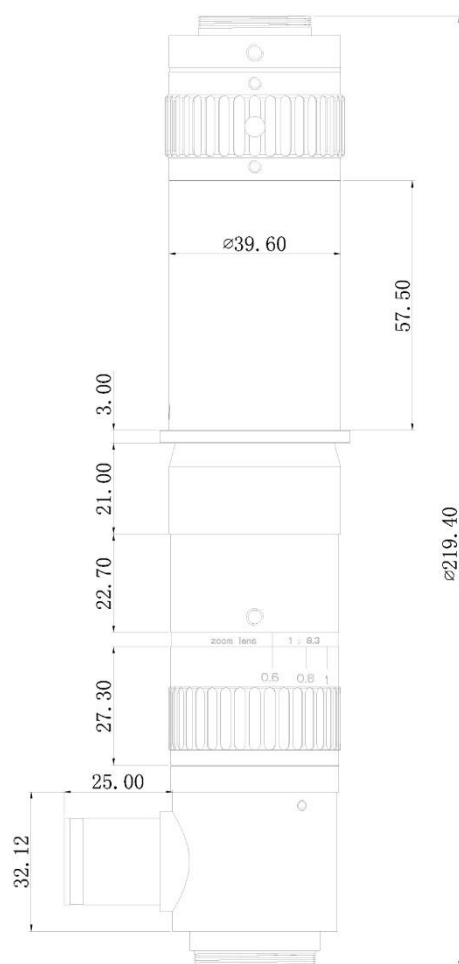
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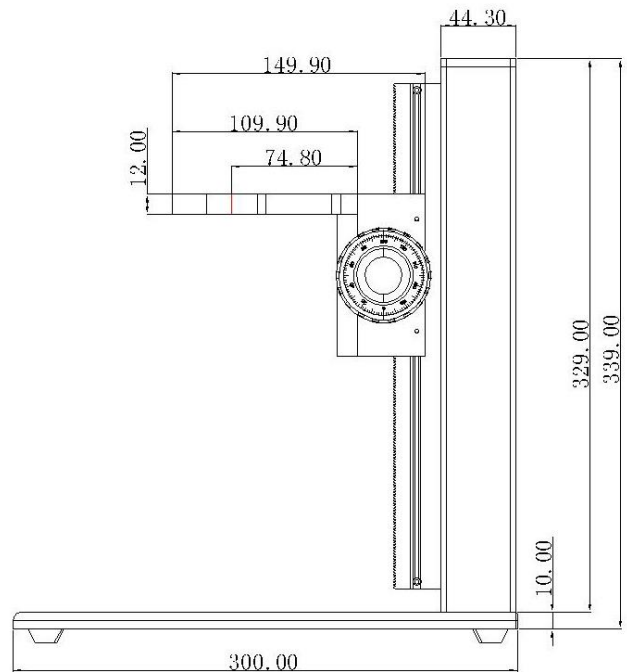
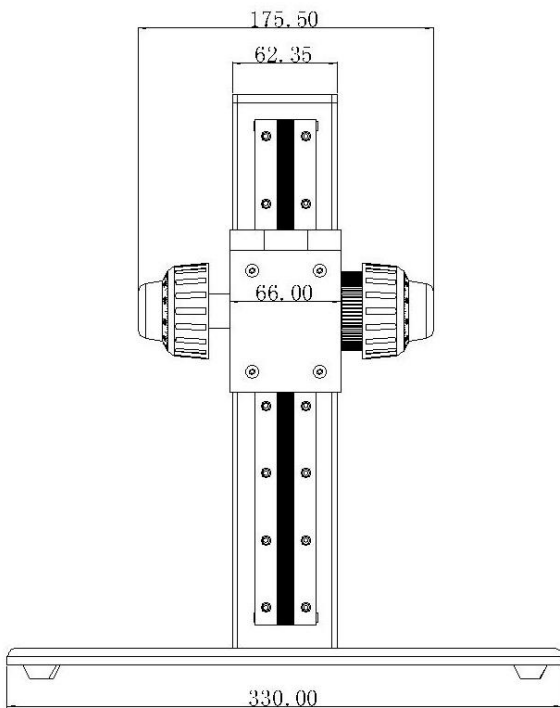
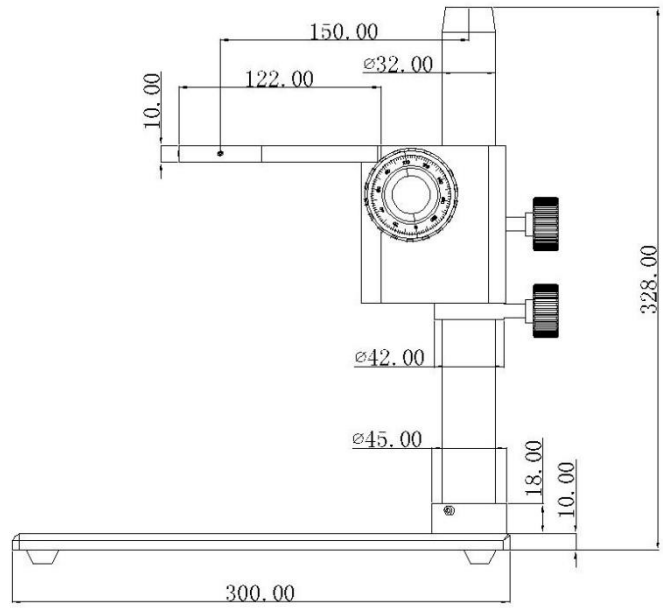
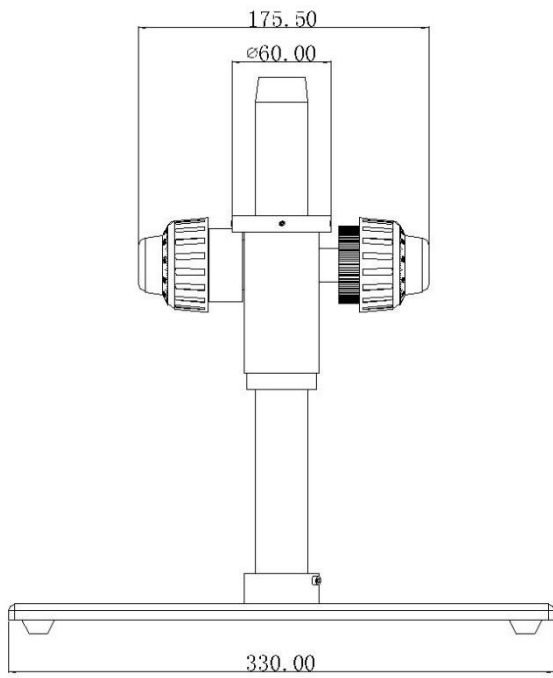


BS-1080A Dimension



BS-1080A with coaxial device Dimension





Unit: mm