STEREO MICROSCOPES

BOECO ZOOM STEREO MICROSCOPE MODEL BSZ-405

Specification BSZ-405:

Optical system:	Binocular head inclined at 45°
	Interpupillary Distance 55 - 75 mm
	Eyepiece dioptric adjustment range ± 5D
Working distance:	97 mm
Field of View:	20,0 to 4.4 mm diam.
Eyepiece:	EWF 10X/20 mm eyepieces
Zoom Optics:	1X to 4,5X , Zoom ratio 1:4,5
Illumination:	2-way illumination
	LED 1,2W Reflected (upper) illumination
	LED 0,7W Transmitted (lower) illumination
Stage Plate:	Frosted glass stage plate 9 cm
Base:	Stable 262 x 185 mm base, fitted with anti-skid rubber feet
	Main Body 360° rotatable
Power:	100-240V, 50-60Hz
Dimensions:	185 (W) x 262 (L) x 315 (H) mm, Net weight 4,5/4,8 kgs

BSZ-405 TRINOCULAR WITH DIGITAL MICROSCOPE CAMERA B-CAM10

Code	Description	Head	Plug
BOE 4050.000	BSZ-405	Binocular	Euro
BOE 4050.001	BSZ-405	Binocular	US
BOE 4050.300	BSZ-405/T	Trinocular	Euro
BOE 4050.301	BSZ-405/T	Trinocular	US

optional

Code	Description
BOE 3460.020	Wide Field Eyepiece WF 20x/12 with diopter adjustment
BOE 4050.002	Auxiliary Objective 2x, for BSZ-405 and BS-80
BOE 4050.007	Auxiliary Objective 0,75x, for BSZ-405 and BS-80

BOECO ZOOM STEREO MICROSCOPE MODEL BST-606

Specification BST-606:

Optical system:	Binocular head inclined at 45°
	Interpupillary distance 55 - 75 mm
	Eyepiece dioptric adjustment range ± 5D
Working distance:	115 mm
Field of View:	28,0 to 4.5 mm diam.
Eyepiece:	EWF 10X/22 mm eyepieces with eyeshadow
Zoom Optics:	0,8X to 5X, Zoom ratio 6,3:1
Illumination:	2-way illumination switch allows upper and lower illumination
	Transmitted (lower) LED light source
	Incident (upper) LED light source
Stage Plate:	100 mm ø frosted glass stage plate and black/white reversible stage plate
Base:	Stable 300x225 mm base, fitted with anti-skid rubber feet-
	Main Body 360° rotatable
Power:	100-240V, 50-60Hz
Dimensions:	300 (W) x 225 (L) x 300 (H) mm, Net weight 5,2/5,4 kgs

Code	Description	Head	Plug
BOE 6060.000	BST-606	Binocular	EURO
BOE 6060.001	BST-606	Binocular	US
BOE 6060.300	BST-606/T	Trinocular	Euro
BOE 6060.301	BST-606/T	Trinocular	US

optional

BOE 3460.020	Wide Field Eyepiece WF 20x/12 w/ diopter adjustment
BOE 6060.002	Auxiliary Objective 2x, for BST-606
BOE 6060.005	Auxiliary Objective 0,5x, for BST-606

BOECO STEREO MICROSCOPE
MODEL BS-80

Specification BS-80:

Optical system:	Binocular head inclined at 45°
	Interpupillary Distance 55 - 75 mm
	Eyepiece dioptric adjustment range ± 5D
Working distance:	100 mm
Eyepiece:	WF10X/23 mm eyepieces
Stereo Optics:	Objectives 2x & 4X in revolving nosepiece
Illumination:	2-way LED transmission and reflecting illumination
	Upper Illuminator 1W, lower Illuminator 0,5W
Stage Plate:	Frosted glass stage plate and black/white reversible stage plate
Base:	Stable 262 x 185 mm base, fitted with anti-skid rubber feet
Dimensions:	262 (W) x 262 (L) x 315 (H) mm, net weight 4,8 kgs
Packing:	380 x 340 x 410 mm, Grossweight 6,40 kg

Code	Description
BOE 3800.000	BS-80, AC 110-240V, 50-60Hz, EURO Plug
BOE 3800.001	BS-80, AC 110-240V, 50-60HZ, US Plug

optional

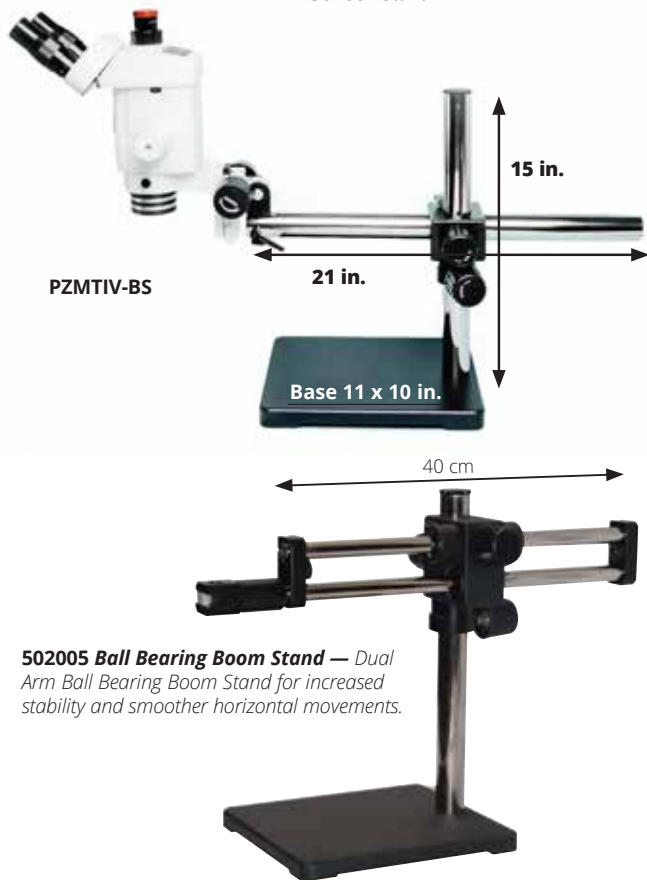| Code	Description
BOE 3460.020	Wide Field Eyepiece WF 20x/12 with diopter adjustment
BOE 4050.002	Auxiliary Objective 2x, for BS-80 and BSZ-405
BOE 4050.007	Auxiliary Objective 0,75x, for BS-80 and BSZ-405

B-CAM16

B-CAM10
B-CAM3

B-CAM2

Specifications:

Model:	B-CAM16	B-CAM10	B-CAM3	B-CAM2
Code	BOE 1900.16000	BOE 1900.10000	BOE 1900.03100	BOE 1900.02000
Camera	Color CMOS 16 MP	Color CMOS 10 MP	Color CMOS 3 MP	Color CMOS 2 MP
Application software	B-View on disk (12 cm)	B-View on disk (12 cm)	B-View on disk (12 cm)	B-View on disk (8 cm)
Lens adapter	0.50x manual focusable	0.50x manual focusable	0.50x manual focusable	N/A
Eye tube adapter ring	23.2 mm to 30.0mm	23.2 mm to 30.0mm	23.2 mm to 30.0mm	23.2 mm to 30.0mm
Calibration slide	1mm/100 Div.x 0,01mm	1mm/100 Div.x 0,01mm	1mm/100 Div.x 0,01mm	N/A
Spectral Range (IR filter)	380-650nm	380-650nm	380-650nm	380-650nm
Sensor Size (mm)	1/2.33"(6.18x4.67)	1/2.3"(5,98x4.58)	1/2"(6.55x4.92)	1/3.2" (4.48x3.36)
Pixel Size (µm)	1.335x1.335	1.67x1.67	3.2x3.2	2.8x2.8
FPS/Resolution	16@4632x3488	7.2@3584x2746	11.5@2048x1536	5@1600x1200
	30@2320x1740	24.5@1792x1372	32@1024x768	7.5@1280x1024
	27@1536x1160		45@680x510	20@800x600
				22@640x480
USB Interface	USB 3.0 (USB 2.0)	USB 3.0 (USB 2.0)	USB 2.0 (USB 3.0)	USB 2.0 (USB 3.0)
Binning	1x1, 2x2, 3x3	1x1, 2x2, 4x4	1x1, 2x2, 3x3	N/A
Exposure Mode	ROI Auto & Manual input	ROI Auto & Manual input	ROI Auto & Manual input	Auto & Manual
Exposure Time	0.2~2000ms	0.1~2000ms	0.244~2000ms	0.122~250ms
White Balance	ROI White Balance/ Manual Temp Tint Adjustment			N/A
Color Rendering Tech:	Ultra FineTM Color Engine			N/A
Recording System	Still Picture and Movie			
Operating System	Microsoft® Windows® XP / Vista / 7 / 8 / 10 (32 & 64 bit), OSx (Mac OS X) Linux			
Capture/Control API	Native C/C++, C#, DirectShow, Twain and Labview			
PC Requirements:	CPU equal to Intel Core2 2.8GHz or higher, 2GB Ram Memory or more. USB 3.0 High speed port, 17" Display or larger			

B-View is a professional application software integrated with camera control, image capture & process, image browse, image measurement and analysis

PZMIV

502002 *Stand*

PZMTIV-BS

15 in.

21 in.

Base 11 x 10 in.

40 cm

502005 Ball Bearing Boom Stand — *Dual Arm Ball Bearing Boom Stand for increased stability and smoother horizontal movements.*

ORDERING INFORMATION

PZMIV	Precision Stereo Zoom Binocular Microscope (Model IV), on Track Stand
PZMIV-BS	PZMIV Microscope on Boom Stand
PZMTIV	Precision Stereo Zoom Trinocular Microscope (Model IV), on Track Stand
PZMTIV-BS	PZMTIV Microscope on Boom Stand
PZMTIV-DIG50	PZMTIV Microscope System, including PZMTIV, USBCAM50 USB Computer Camera, 0.5× CCD Camera Coupler, Z-LITE Optical Illuminator, Bifurcated Optical Fiber Light Guide
PZMTIV-BS-DIG50	PZMTIV Microscope System, including PZMTIV, USBCAM50 USB Computer Camera, 0.5× CCD Camera Coupler, Z-LITE Optical Illuminator, Bifurcated Optical Fiber Light Guide, Boom Stand
PZMTIV-BS-LWD-DIG50	PZMTIV Microscope System, including PZMTIV, USBCAM50 USB Computer Camera, 0.5× CCD Camera Coupler, Z-LITE Optical Illuminator, Bifurcated Optical Fiber Light Guide, Boom Stand, 0.5× Objective, 20× Eyepieces for Long Working Distance Viewing

See web site for complete configurations.

OPTIONAL ACCESSORIES/REPLACEMENT PARTS

502000	PZMIV Binocular Body With 10X Eyepieces, 1× Objective, Eye guards
502001	PZMTIV Trinocular Body With 10X Eyepieces, 1× Objective, Eye guards
502002	76mm Rectanglular Track Stand
502004	Boom Stand (Heavy) W/O Focus Mount *(requires 502009 Focus Mount for PZMIV)*
502005	Ball Bearing Boom Stand (Heavy) W/O Focus Mount *(requires 502009 Focus Mount for PZMIV)*
502006	Boom Clamp Stand (Heavy) *(requires 502009 Focus Mount for PZMIV)*
504123	Extension for Heavy Clamp Stand
502009	Universal Focus Mount for 76 mm PZMIV *(Required for BS, AAC, BBS, and BCS) (5/8" pin)*
502010	10× Wide Field Eyepiece for PZMIV (pair)
502011	16× Wide Field Eyepiece for PZMIV (pair)
502012*	20× Wide Field Eyepiece for PZMIV (pair)
502013	25× Wide Field Eyepiece for PZMIV (pair)
500264	10× Eyepiece with Reticle (matches 10× eyepiece #502010)
500266	20× Eyepiece with Reticle (matches 20× eyepiece #502012)
502015	Ring Light Adapter for PZMIV *(For R-8-8-WPI01 Ring Light Guide)*
502016	0.32×, Planachromatic Objective (Distortion-free) (278 mm WD)
502017*	0.50×, Planachromatic Objective (Distortion-free) (174 mm WD)
502018	0.63×, Planachromatic Objective (Distortion-free) (138 mm WD)
502019	1.0×, Planachromatic Objective (Distortion-free) (73mm WD)
500261	0.35× CCD Camera Coupler, C-Mount (Use with USBCAM33)
500262	0.5× CCD Camera Coupler, C-Mount (Use with COLCAM, USBCAM50)
500028	1× CCD Camera Coupler
502163	Wall Mount Plate for Articulated Arm System
Z-LITE	Z-Lite Fiber Optic Illuminator
500186	Bifurcated Light Guide with Lenses
R-8-8-WPI01	Ring Light Guide
Z-LITE-186	Z-Lite Fiber Optic Illuminator with Bifurcated Light Guide and Lenses

*Long working distance (LWD) option with the 502012 and 502017 on a trinocular microscope shows nearly the same scene on the screen as the viewer sees in the eyepieces.

PZMIV SPECIFICATIONS

EYEPIECES	WFH 10×
AUXILIARY LENSES	1×
ZOOM RANGE	0.62× - 5×
TOTAL MAGNIFICATION	6.2× - 50×
ZOOM RATIO	8 : 1
FIELD OF VIEW	Ø33.9- Ø4.2 mm
WORKING DISTANCE	80 mm
BINOCULAR TUBE	Inclined 45°
INTERPUPILARY DISTANCE	50 – 75 mm
DIOPTER ADJUSTMENT	± 5 Diopter
MICROSCOPE BODY	Rotatable 360°
OPTIONAL ACCESSORIES	
Eyepieces	16×, 20×, 25×
Auxiliary lenses	0.32×, 0.5×, 0.63×
Total Magnification	1.9× - 125×
Field of view	Ø106 - Ø1.8 mm
Working Distance	80 – 296 mm
SHIPPING WEIGHT	23 lb.

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ORDER TOLL-FREE: (866) 606-1974 *(U.S. only)* · **Tel:** (941) 371-1003 · **Fax:** (941) 377-5428 · **E-mail:** sales@wpiinc.com   49

Precision Stereo Zoom Microscope

Quality and precision to improve your vision

Features

- Stereo viewing with ample working distance when used with the long working distance (LWD) option
- Affordably priced

Benefits

- Advanced optics
- Trinocular version available
- Perfect for a boom stand or articulating arm

Applications

- Tissue Dissection
- Cell injection
- Specimen manipulation
- Electrode inspection

WPI's third-generation stereo microscope, **PZMIII**, is an ideal tool for tissue dissection, cell injection, specimen manipulation, electrode inspection, and many other applications that require a magnified, stereo viewing and ample working distance. It offers the leading brand's quality and performance at an affordable price. Advanced optics provide the sharpest image that can only be found among the best of this class. It is superior to many stereo microscopes costing almost twice as much. Zooming is achieved by a spring-loaded knob that is smooth and effortless. The compact size and light weight make it more stable and easily manipulated on the boom stand. A specially designed photo/video module is used in the trinocular version of the microscope (**PZMTIII**) for photo, video, or digital imaging. In addition, an extensive list of optional accessories is available that can make the PZMIII suitable for almost any bio-research applications requiring a stereo microscope. See next page for options.

The PZMTIII trinocular version of this microscope offers a true trinocular view. Both eyepieces and the trinocular ports are active all the time. There is no need for the right eye piece to switch off. The left eye piece dims slightly, and the right eye piece is 50/50.

Z-LITE fiber optic illuminator now included with systems below differs from unit in photo.

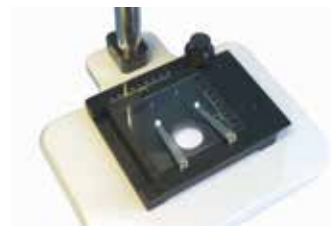**PZMTIII-BS-DIG50** *includes Boom Stand and USB Digital Camera (computer and display not included)*

504134 *LED Ringlight*

See page 52.

PZMIII

503102 *Stand*

502007
Articulated Arm

Max. clamp opening: 40 mm

503051 Manual Stage — *Mounts in the circular opening in the PZMIII base. XY travel distance: 75 x 56 mm. Glass size: 116 x 96 mm. Active diameter: 37.6 mm. Dimensions: 180 x 155 x 27 mm.* **Fits 503102 base only.**

WORLD PRECISION INSTRUMENTS

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Brazil: 011 55 13 40629703 · info@brazil.wpiinc.com · **www.wpiinc.com**   **China:** +86 21 6888 5517 · chinasales@china.wpiinc.com · **www.wpiinc.cn**

50

502163 *Wall-Mount Plate — Mount the microscope on the wall for convenient storage when space is tight.*

PZMIII Eyepieces and Objectives

Objective	10× Eyepiece Mag.	10× Eyepiece Field (mm) (Video Field)†	15× Eyepiece Mag.	15× Eyepiece Field (mm) (Video Field)†	20× Eyepiece Mag.	20× Eyepiece Field (mm) (Video Field)†	25× Eyepiece Mag.	25× Eyepiece Field (mm) (Video Field)†	Working Distance (mm)
0.3×	2× - 13.5×	114 - 17 (53.6 - 8)	3× - 20.3×	84 -13 (53.6 - 8)	4× -27×	69 - 10.3 (53.6 - 8)	5× - 33.8×	44.8 - 6.7 (53.6 - 8)	287 mm
0.5×	3.4× - 22.5×	69 - 10 (32.4 - 4.7)	5× - 33.8×	51 - 7 (32.4 - 4.7)	6.7× - 45×*	42 - 6.2 (32.4 - 4.7)	8.4× - 56.3×	26.9 - 4.0 (32.4 - 4.7)	177 mm*
0.75×	5× - 33.8×	45 - 7 (21.1 - 3.3)	7.5× - 50.6×	34 - 5 (21.1 - 3.3)	10× - 67.5×	28 - 4.2 (21.1 - 3.3)	12.6× - 84.4×	17.9 - 2.7 (21.1 - 3.3)	117 mm
1.0×	6.7× - 45×	34 - 5 (16 - 4.7)	10× - 67.5×	25 - 3.7 (16 - 4.7)	13.4× - 90×	21 - 3.1 (16 - 4.7)	16.8×-112.5×	13.4 - 2.0 (16 - 4.7)	100 mm
1.5×	10× - 67.5×	23 - 3.4 (10.8 - 1.6)	15× - 101.3×	17 - 2.5 (10.8 - 1.6)	20.1×-135×	14 - 2.1 (10.8 - 1.6)	25.1×-168.8×	9.0 - 1.3 (10.8 - 1.6)	47 mm
2.0×	13.4× - 90×	12 - 2.5 (5.6 - 1.17)	20.1× - 135×	13 - 1.8 (5.6 - 1.17)	26.8×-180×	10 - 1.5 (5.6 - 1.17)	33.5× - 225×	6.7 - 1.0 (5.6 - 1.17)	26 mm

† The video field of view is based on a 1/2-inch (8 mm diagonal) CCD camera and a 0.5× camera adapter.

*Long working distance (LWD) configuration

502006 Boom Clamp Stand — *Combines the stability of a boom stand with the versatility of an articulated arm.*

PZMIII-BS

ORDERING INFORMATION

PZMIII	Precision Stereo Zoom Microscope (Model III), on Post Stand
PZMIII-BS	PZMIII Microscope on Boom Stand
PZMIII-AAC	PZMIII Microscope on Articulated Arm with Table Clamp
PZMTIII	Precision Stereo Zoom Trinocular Microscope (Model III)
PZMTIII-DIG50	PZMTIII Microscope System
	Including PZMTIII, USBCAM50 Computer Camera, 0.5X CCD Camera Coupler, Z-LITE Optical Illuminator, Bifurcated Optical Fiber Light Guide
PZMTIII-BS-DIG50	PZMTIII Microscope System
	Including PZMTIII, USBCAM50 Computer Camera, 0.5X CCD Camera Coupler, Z-LITE Optical Illuminator, Bifurcated Optical Fiber Light Guide, Boom Stand
PZMTIII-BS-LWD-DIG50	PZMTIII Microscope System
	Including PZMTIII, USBCAM50 Computer Camera, 0.5X CCD Camera Coupler, Z-LITE Optical Illuminator, Bifurcated Optical Fiber Light Guide, 0.5× Objective, 20× Eyepieces for Long Working Distance Viewing
PZMTIII-BS	PZMTIII Microscope on Boom Stand
PZMTIII-AAC	PZMTIII Microscope on Articulated Arm with Table Clamp

All PZMIII and PZMTIII microscopes come with 10x eyepieces and built-in 1x auxiliary lens.

OPTIONAL ACCESSORIES/REPLACEMENT PARTS

501352	PZMIII Binocular Body, 10x eyepieces (pair), eye guards *13338 Ring Light Adapter NOT included*
501353	Fan Post Stand with 76mm Focus Mount
502009	Universal Focus Mount, 76 mm ID for PZMIII Body
502004	Boom Stand (Heavy) without Focus Mount
502005	Ball Bearing Boom Stand (Heavy) without Focus Mount
504123	Post Extension for Heavy Boom Stand
502006	Boom Clamp Stand (Heavy) *(requires 502009 Focus Mount for PZMIV)*
502007	Articulated Arm with Table Clamp, without Focus Mount (40 cm clamp)
502163	Wall-Mount Plate, 6" × 6" (or 15.24 cm × 15.24 cm)
501369	Wide Field 10× Eyepieces (pair)
501370	Wide Field 15× Eyepieces (pair)
501371*	Wide Field 20× Eyepieces (pair)
501372	Wide Field 25× Eyepieces (pair)
504128	10× Eyepiece with Reticle (matches 10× eyepiece on PZMIII)
504129	20× Eyepiece with Reticle (matches 20× eyepiece 501371)
501373	0.3× Long Working Distance Objective Lens
501375*	0.5× Long Working Distance Objective Lens
501376	0.75× Long Working Distance Objective Lens
501377	1.5× Long Working Distance Objective Lens
501378	2.0× Long Working Distance Objective Lens
501379	PZMTIII Trinocular Body, pair of 10× eyepieces and eye guards, true trinocular view *13338 Ring Light Adapter NOT included*
501381	0.5× C-Mount CCD Camera Coupler
13338	Ring Light Adapter for PZMIII Series *(included with all microscope configurations on previous page)*
503051	Manual Stage for PZMIII
503102	76mm Rectangular Base Post Stand for PZMIII
504596	76mm Halogen-Halogen Dual Illuminated Track Stand
504597	Replacement Lamp for 504596

*Long working distance (LWD) option with the 501371 and 501375 on a trinocular microscope shows nearly the same scene on the screen as the viewer sees in the eyepieces.

PZMIII SPECIFICATIONS

EYEPIECES	WFH 10×
ZOOM RANGE	0.67× - 4.5×
TOTAL MAGNIFICATION	6.77× - 45×
FIELD OF VIEW	Ø 34 mm - Ø 5 mm
WORKING DISTANCE	100 mm
BINOCULAR TUBE	Inclined 45°
INTERPUPILLARY DISTANCE	Adjustable 47-70 mm
DIOPTER ADJUSTMENT	±5 Diopter (both eyepieces)
MICROSCOPE BODY	Rotatable 360°
AUXILIARY LENSES	Total magnification 2× - 225×
	Biggest Field of View Ø 110 mm
	Working Distance 26-287 mm
SHIPPING WEIGHT	23 lb.

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High Intensity Fiber Optic Illumination Source

Uninterrupted, directed light for microscopes and other applications

Features

- Reliable, uninterrupted high-intensity light
- Use with microscopes
- Intensity controlled by rotary knob
- Use with ring light, or single/bifurcated guides, sold separately

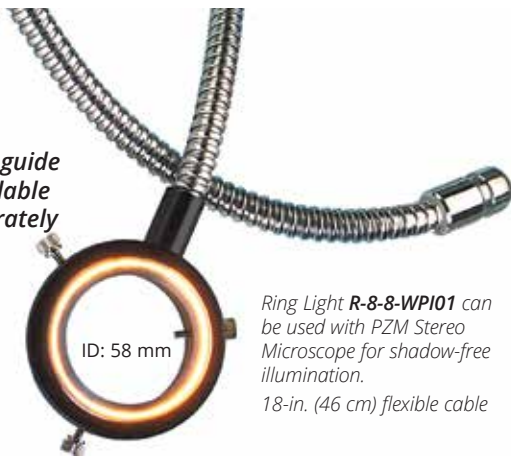### Benefits

- Contains full spectrum of visible light

Applications

- General laboratory use
- Microscopy illumination

The **Z-LITE** Fiber Optic Illuminator provides reliable, uninterrupted high-intensity light for microscopes. **Z-LITE** allows a continuous range of subdued or concentrated lighting controlled by a rotary dimmer on the front panel. **Z-LITE** may be used with a ring light and single or bifurcated flexible fiber bundles, enabling the light beam to be placed exactly where it is needed. Forced air cooling prolongs the lamp life. Lamp color temperature is 3350°K. An interlock switch automatically cuts off power when front panel is opened to replace bulb.

21" (53 cm)

*Shown with Bifurcated Light Guide **500186***

Z-LITE

Light guide available separately

ID: 58 mm

*Ring Light **R-8-8-WPI01** can be used with PZM Stereo Microscope for shadow-free illumination.*

18-in. (46 cm) flexible cable

Z-LITE SPECIFICATIONS	
LAMP	150 W quartz halogen (EKE lamp)
SIZE	30.5×25×25 cm (12×10×10 in.)
POWER	115 VAC, 50/60 Hz, 3 A
WEIGHT	5.9 kg (13 lb.)

ORDERING INFORMATION

Z-LITE-186	Z-Lite & Bifurcated Light Guide (115 V, 60 Hz, beige case)
Z-LITE-Z186	Z-Lite & Bifurcated Light Guide (230 V, 50 Hz, black case)
Z-LITE	Z-Lite Fiber Optic Illuminator (115 V, 60 Hz, beige case)
Z-LITE-Z	Z-Lite Fiber Optic Illuminator (230 V, 50 Hz, black case)

OPTIONAL ACCESSORIES/REPLACEMENT PARTS

500186	Bifurcated Light Guide (with lenses)
504930	Flexible Light Guide with Focusing Lens, 18" (46cm)
504931	Flexible Light Guide with Focusing Lens, 24" (61cm)
R-8-8-WPI01	Ring Light Guide for PZM and PZMIII Series*
13338	Ring Light Adapter (48 mm Ø) for PZM, PZMII, PZMIII
502015	Ring Light Adapter for PZMIV
EJA	Replacement Halogen Lamp, 150W, 3350°K, 40-hour
EKE	Replacement Lamp, 150W, 3250°K, 200-hour

*Ring Light Guide requires adapter #13338 for use with PZM, PZMII and PZMIII, included with each PZMIII and PZMIV microscope system.

LED Ring Light

For PZMIII & PZMIV stereo microscopes

504134

Features

- "White" light illumination — 72 LED bulbs
- Maximum opening 61 mm
- Ring light is divided into four areas and each area is turned on and off separately
- Brightness adjustable
- ESD safe
- Power supply AC 90-264V, 50/60 Hz, US plug only

Benefits

- Direct top illumination plus four zones for shadows
- Low cost
- Less bulky than Halogen
- Cold light with no heat

Applications

- Stereo microscope use

ORDERING INFORMATION

504134	LED Ring Light

WORLD PRECISION INSTRUMENTS

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Digital Microscope Cameras
Photograph or share your research images

USBCAM133/USBCAM152/USBCAM202

Features
- Ultra-Compact USB cameras with color CCD

Benefits
- Rear mini-USB connector
- Hardware & Software Trigger

Applications
- Image capturing from a microscope

Options

USBCAM133

USBCAM133 with a 1/3-inch color CCD, 6mm diagonal.
USBCAM152 with a 1/2-inch color CCD, 8mm diagonal.
USBCAM202 with a 1/1.8-inch color CCD, 8.9 mm diagonal.

All three cameras are cased models with a rear mini-USB connector, hardware and software triggering image capture, digital zoom and a feature-rich, user based menu setup and control. Sentech USB cameras include a SDK, DirectX, Twain and Linux driver, as well as the Sentech Viewing Software.

USBCAM33/USBCAM50

Features
- Auto and manual controls
- C/CS mount

Benefits
- Connect via USB

Applications
- Image capturing from a microscope

USBCAM33

Record images directly to your computer. These digital microscope cameras offer flexibility, with a range of configurations for image capture, a choice of mount option (C or CS) and file output alternatives. Since both cameras connect via the USB port, installing the image capture software is simple. Either camera can be used on WPI's stereo microscopes **PZMTIV**, **PZMTIII**, compound microscopes **W30ST** and **GPL-T** and also the **PSMT5** Surgical Microscope. Choose from the one third-inch CCD with 1024×768 resolution and 30 frames per second (**USBCAM33**) or one half-inch CCD with 1280×960 resolution and 15 frames per second (**USBCAM50**).

These cameras include **IC Imaging Control** software that has:

- Real-time video preview
- Text and graphics can be drawn on a live video stream
- Scroll and Zoom
- Acquisition of single frames
- Capture pause, for intermittent image capture
- Timestamps

SPECIFICATIONS			
	USBCAM133	**USBCAM152**	**USBCAM202**
IMAGE SENSOR	1/3" Interline SXVGA color progressive CCD	1/2" Interline SXGA color progressive CCD	1/1.8" Interline UXGA color progressive CCD
CELL SIZE	3.75 (H) x 3.75 (V) μm, 6mm diagonal	4.65 (H) x 4.65 (V) μm, 8mm diagonal	4.40 (H) x 4.40 (V) μm, 8.9 mm diagonal
SCANNING SYSTEM	Progressive	Progressive	Progressive
RESOLUTION	1280 (H) x 960 (V)	1360 (H) x 1024 (V)	1600 (H) x 1200 (V)
MIN. SCENE ILLUMINATION	11 Lux at F1.2	18 Lux at F1.2	7.7 Lux at F1.2
SPEED	22.4 Frames per Second	19.26 Frames per Second	15.3 Frames per Second
ELECTRONIC SHUTTER	Auto/Manual (software selectable)	Auto/Manual (software selectable)	Auto/Manual (software selectable)
GAIN	Auto/Manual (software selectable)	Auto/Manual (software selectable)	Auto/Manual (software selectable)
GAMMA	Manual (software selectable)	Manual (software selectable)	Manual (software selectable)
WHITE BALANCE	Auto/Manual/One shot (software selectable)	Auto/Manual/One shot (software selectable)	Auto/Manual/One shot (software selectable)
INPUT/OUTPUT	USB 2.0 High Speed	USB 2.0 High Speed	USB 2.0 High Speed
POWER	+5 VDC through USB connector, < 300 mA	+5 VDC through USB connector, < 420 mA	+5 VDC through USB connector, < 450 mA
DIMENSIONS	28 (W) x 28 (H) x 37 (D) mm (excluding connector)	28 (W) x 28 (H) x 42 (D) mm (excluding connector)	28 (W) x 28 (H) x 42 (D) mm (excluding connector)
LENS MOUNT	CS mount	C mount	C mount
WEIGHT	Approximately 45 g	Approximately 45 g	Approximately 45 g
INTERFACE CONNECTOR	USB: mini-B USB connector IO signal: 6-pin connector (HR10A-7R-6PB or equivalent)	USB: mini-B USB connector IO signal: 6-pin connector (HR10A-7R-6PB or equivalent)	USB: mini-B USB connector IO signal: 6-pin connector (HR10A-7R-6PB or equivalent)
RoHS	RoHS Compliant	RoHS Compliant	RoHS Compliant

SPECIFICATIONS		
	USBCAM33	**USBCAM50**
IMAGE SENSOR	1/3" Sony CCD, progressive scan	1/2" Sony CCD, progressive scan
MAX RESOLUTION	1024 x 768	1280 x 960
SIZE	4.65 μm x 4.65 μm, 6 mm diameter	4.65 μm x 4.65 μm, 8 mm diameter
SPEED (PC DEPENDENT)	30 fps, 15 fps, 7.5 fps or 3.75 fps	15 fps, 7.5 fps or 3.75 fps
SENSITIVITY	0.5 lux @ 1/15 s	0.5 lux @ 1/7.5 s
EXPOSURE, SHUTTER CONTROL, WHITE BALANCE	Automatic/Manual	Automatic/Manual
INTERFACE	USB 2.0 cable	USB 2.0 cable
SYSTEM REQUIREMENT	Windows Vista (32 & 64 bit) or Windows 7 (32 & 64 bit)	Windows Vista (32 & 64 bit) or Windows 7 (32 & 64 bit)
SOFTWARE	IC Imaging Control Software	IC Imaging Control Software
LENS MOUNT	C/CS-Mount	C/CS-Mount
CAMERA BODY	50.6 x 50.6 x 50 mm	50.6 x 50.6 x 50 mm
WEIGHT	265 g (9.5 oz.)	265 g (9.5 oz.)

ORDERING INFORMATION

USBCAM33	Digital Microscope Camera, 1/3-in. CCD
USBCAM50	Digital Microscope Camera, 1/2-in. CCD
503536	Cable, USB Extension (male-female)

ORDERING INFORMATION

USBCAM133	Digital Microscope Camera
USBCAM152	Digital Microscope Camera
USBCAM202	Digital Microscope Camera
504570	Replacement USB Cable, 3 m (10 ft.)

Color CCD Video Cameras for Microscopy

Record live video images

COLCAM-HD/COLCAM-HD1080P

Features

- 16:9 Aspect Ratio, 1:1, no scaling
- DVI signal output via HDMI cable
- Improved design of COLCAM-HD with better low light sensitivity
- Low cost alternative to existing HD and 3 CCD cameras, with outstanding image quality

COLCAM-HD

Benefits

- Directly connect to HDTV, no PC required and no software to load

Applications

- Microscopy video output to HDTV

The **COLCAM-HD** is a CCD-based camera that outputs a true HD 720P at 60fps in the 16x9 format. The **COLCAM-HD1080P** is a CMOS-based camera that outputs a true HD 1080P or 720P image at 60fps in the 16x9 format. Both models feature the capability to program individual DSP profiles accessed via remote hand held controller.

If still image or HDTV recording is required, contact WPI.

C-MOUNT EYEPIECE ADAPTERS

503097

Camera not included.

For 1/3-inch (6 mm diagonal) and 1/2-inch (8mm diagonal) video cameras and eyepiece camera conversion, this lens and its accessories make it possible to connect a typical video or C-mount camera to almost any microscope on the market. The lens fits right into the ocular socket of standard 23.2mm microscopes and the 30 mm adapter allows for use on the typical stereo zoom microscope. If you already have a trinocular microscope you can add the included C-Adapter to the top of an existing 1X C-mount (no lens) adapter.

ORDERING INFORMATION

503097	C-Mount to Eyepiece Adapter Kit, 0.45X for 1/3-in. and 1/2-in. video cameras, 30 mm Stereo adapter, 1X C-mount adapter

COLCAM SPECIFICATIONS		
	COLCAM-HD	**COLCAM-HD1080P**
IMAGER	1/3" Interline SXGA CCD: ICX445AQA	1/2.33" 14 Mp CMOS Progressive
HD ACTIVE PICTURE ELEMENT	1280 (H) x 720 (V)	1920 (H) x 1080 (V)
CHIP SIZE	6mm diagonal	7.8 mm diagonal
MINIMUM SCENE ILLUMINATION	4 Lux at F1.2	650 mV/Lux-sec
SYNC SYSTEM	Internal	Internal
VIDEO OUTPUT	DVI 1.0 compliant; 720P	DVI 1.0 conformity 1080P
	RGB, 1280 H x 720 V 60/50/30 Hz	RGB, 1920 H x 1080 V 60/50/30 Hz
GAIN	AGC *	AGC *
SHUTTER SPEED	Auto *	Auto *
GAIN	AGC or Fixed gain *	AGC or Fixed gain *
GAMMA	presets or manual gamma *	presets or manual gamma *
WHITE BALANCE	Auto/Manual/Push-to-set *	Auto/Manual/Push-to-set *
POWER	12V power jack; 5.5x2.1 mm	12V power jack; 5.5x2.1 mm
DIMENSIONS	40 (W) x 40 (H) x 45.8 (D) mm	40 (W) x 45 (H) x 41.1 (D) mm
OPTICAL FILTER	IR cut filter included	IR cut filter included
LENS MOUNT	C/CS mount	C/CS mount
VIDEO OUTPUT	HDMI connector	HDMI connector
WEIGHT	Approximately 120 g	88 g
ROHS	RoHS compliant	RoHS compliant

* Selectable via the UART communication

ORDERING INFORMATION

COLCAM-HD	Color Video Camera Includes 3m DV cable, power supply, C/CS mount.
COLCAM-HD1080P	Color Video Camera Includes 3m DV cable, power supply, C/CS mount.
504136	3 meter HDMI cable
504137	C/CS Adaptor

SLR DIGITAL CAMERA-TO-MICROSCOPE EYEPIECE ADAPTER

503099

This adapter connects T-mount SLR digital cameras to almost any microscope on the market. The adapter is built to 23.2mm ocular tubes that are found on most high magnification (upright, inverted, standard) microscopes. The 30 mm adapter allows mounting on most stereo zoom microscopes that use 30 mm oculars. If you already have a trincocular microscope, you can add this adapter to the top of an existing 1X C-mount adapter.

The 2X magnification of this microscope adapter yields an approximate 65% field of view from the visual field as measured on a Canon 80D Digital camera. (CCD Sensor size = 22.7 x 15.1 mm). 35 mm film reference size is 24 x 36mm.

Please contact your camera dealer for a suitable T-mount to bayonet adapter for your camera.

ORDERING INFORMATION

503099	C-Mount to Eyepiece Adapter Kit, 2.0X for SLR digital Cameras (includes 30 mm Stereo adapter, 1X C-mount adapter)

WORLD PRECISION INSTRUMENTS

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