

Microscopes

Introduction / Compact

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Cole-Parmer® Shop Microscopes

Take anywhere on the job— ideal for lab, field, or shop work

Small size and rugged carrying case make it easy to take these shop microscopes anywhere! The cast aluminum frame with gray enamel finish measures only 9"H. Wide-field 10x eyepiece features a direct-reading reticle with both inch and metric scales. Simply turn the eyepiece to bring the reticle into sharp focus—no calibration is needed. Dual knobs with rack and pinion focusing let you quickly refine the image. Penlight illuminator is fully adjustable in all directions by means of a ball joint; remove it for use elsewhere. Microscopes come with plastic carrying case, dust cover, and two AA batteries.



Easy-to-read inch and metric scales

Wide-Field Microscopes

Easily convert into a telescope

Use these versatile wide-field microscopes for microscopic or telescopic applications—just unscrew the micro lens and it becomes a telescope. Adjustable focus provides clear viewing in either mode.

Model 03100-10 features a built-in scale reference. Choose this model for visual confirmation of accuracy in critical in-process applications.

Sturdy rack and pinion stand with swivel base can be used at any angle. Height is adjustable. Units are made of aluminum and plastic. Microscopes measure 8⁷/₁₆"H x 2³/₁₆"W.



Available with or without scale reference

Specifications & Ordering Information

5 year warranty

Catalog number	KH-03890-10	KH-03890-20	KH-03890-30	KH-03890-40
Magnification	20x	40x	60x	100x
Inch scale (x100)	0.003"	0.0015"	0.001"	0.0005"
Metric scale (x100)	0.06 mm	0.03 mm	0.02 mm	0.01 mm
Working distance	23 mm	23 mm	23 mm	6.6 mm
Field of view	9.0 mm	4.5 mm	3.0 mm	1.8 mm
Price				

Accessories and Replacement Parts

KH-03890-55 Eyepiece without reticle, 10x.

Fits all shop microscopes above

KH-03890-91 Replacement penlight illuminator

KH-09376-01 Replacement batteries, AA

Fits microscope	Replacement eyepieces with reticle			Replacement objectives		
	Cat. no.	Mag.	Price	Cat. no.	Mag.	Price
03890-10	KH-03890-51	10x		KH-03890-61	2x	
03890-20	KH-03890-52			KH-03890-62	4x	
03890-30	KH-03890-53			KH-03890-63	6x	
03890-40	KH-03890-54			KH-03890-64	10x	

Specifications & Ordering Information

Catalog number	KH-03100-00	KH-03100-10
Description	With stand only	With stand and scale
As a microscope		
Magnification	35x	45x
Field of view	7.6 mm	4.2 mm
Working distance	69 mm	35 mm
As a telescope		
Magnification		8x
Field of view		6.5°
Focus distance		1.7 m
Field at 1000 m		115 m
Objective lens aperture		50 mm
Exit pupil		6.2 mm
Brightness		38.4
Price		

Mi Microscopes

Depthscope / Specialty

Dual-Purpose Microscope/Telescopes

Versatile—magnify up to 45x or view objects at a distance

Scopes are constructed of durable aluminum and plastic. Lenses come with covers to protect against scratches. Eyepiece has a soft edge for comfort and safety. Models "A" through "H" include a neck strap, a micro lens stand, hard carrying case, and carrying strap. Model 03098-00 ("I") comes with a soft vinyl case; order optional micro lens stand 03098-50 separately below.



Close focus scopes



Monocular, micro lens, and stand unscrew for versatility

A-E Close Focus Microscope/Telescopes

Ideal for industrial applications in quality control and inspection. Easy to use—simply screw the micro lens and stand onto the monocular for close microscopic work. For distant viewing, unscrew the micro lens and stand, then use the monocular as a telescope. Focus is adjustable in both microscope and telescope modes.

F-I Microscope/Telescopes With Built-In Reticles

Ideal for macroscopic quality control and inspection procedures. Select scopes with straight line, square mesh, or cross hair reticle.

For microscopic viewing with models 03097-00, -10 and -30 ("F-H"), screw the micro lens and stand onto the monocular. For distant telescopic viewing, unscrew the micro lens and stand, and use the monocular as a telescope (these scopes are not intended for close range telescopic viewing). Focus is adjustable in both microscope and telescope modes.

Model 03098-00 ("I") has an adjustable focus distance from one foot at 17.5x to infinity at 8x. For increased magnification and close microscopic work, attach optional micro lens stand (sold directly below).

KH-03098-50 Micro lens stand for 03098-00, 35x magnification



To use 03098-00 for close microscopic work, order lens stand 03098-50 separately at left.



Scopes with built-in scale references

Positioning Holders

These versatile holders allow easy positioning for hands-free operation of your scopes.

Standard 1/4-20 screw hole lets you use holder with a standard tripod, or order our camera mount adapter 08024-51 to design your own support system.



KH-03099-60 Positioning holder for 20-mm aperture scopes

KH-03099-62 Positioning holder for 30-mm aperture scopes

KH-08024-51 Camera mount adapter

Scale References



Straight line
1/20-mm scale
03097-00, -10



Square mesh
1/10-mm scale
03097-30



Cross hair reticle
03098-00

Specifications & Ordering Information

Description	Close focus microscope/telescopes					Microscope/telescopes with built-in reticle			
	A	B	C	D	E	F	G	H	I
Key letter	A	B	C	D	E	F	G	H	I
Catalog number	KH-03096-00	KH-03096-10	KH-03096-20	KH-03096-30	KH-03096-40	KH-03097-00	KH-03097-10	KH-03097-30	KH-03098-00
As a microscope									
Magnification	20x	35x	40x	40x	45x	25x	25x	25x	35x†
Field of view	13.0 mm	7.2 mm	5 mm	8.0 mm	6.3 mm	9.0 mm	11.0 mm	9 mm	7.0 mm
Working distance	79 mm	64 mm	64 mm	65 mm	65 mm	75 mm	75 mm	75 mm	64 mm
As a telescope									
Magnification	6x	8x	10x	8x	10x	8x	8x	8x	8x
Field of view	10°	7°	6°	8.5°	6°	6.5°	8.5°	6.5°	6.5°
Magnification (close distance)	11x	19.5x	18.5x	13.5x	15x	—	—	—	17.5x
Focus (close distance)	26 cm	30 cm	40 cm	60 cm	70 cm	—	—	—	30 cm
Field (close distance)	36 mm	25 mm	22 mm	72 mm	60 mm	—	—	—	23 mm
Field at 1000 m	175 m	122 m	105 m	148 m	105 m	115 m	148 m	115 m	115 m
Objective lens aperture	16 mm	20 mm	20 mm	30 mm	30 mm	20 mm	30 mm	20 mm	20 mm
Exit pupil	2.6 mm	2.5 mm	2 mm	3.7 mm	3 mm	2.5 mm	3.7 mm	2.5 mm	2.5 mm
Brightness	6.7	6.2	4	13.6	9	6.2	13.6	6.2	6.2
Dimensions: H* x dia (mm)	155 x 33	172 x 32	196 x 32	213 x 42	233 x 42	180 x 27	222 x 42	180 x 27	191† x 32
Price									

*Height specified is with micro lens and stand attached.

†With micro lens stand (sold separately)

Cole-Parmer Stereozoom Fluorescent Microscopes

Cool-burning light protects temperature-sensitive samples—perfect for biotech, pharmaceutical, and food science applications

Superior optics and workmanship are the hallmarks of these stereozoom fluorescent microscopes designed with temperature sensitivity in mind. The top (incident) circular 9 W fluorescent ring light provides unequalled illumination, eliminating shadows while remaining cool to the touch. Binocular and trinocular head models are available with 10x to 44x zoom magnification or high-power 20x to 70x zoom magnification, using the wide-field 10x eyepiece included. Additional lenses are sold separately below.

The optical body provides 360° of rotation; a 45° inclined eyepiece tube; coarse focusing knobs with a tension control ring; and diopter adjustment on the left eyepiece tube. The 250-mm stand pole provides ample vertical flexibility. Order optional camera and video adapters from accessories listed below.

What's included: 10x eyepiece, rubber eye guards, tension control pin, dust cover, integral cord and a U.S. standard plug (120 VAC models) or a European standard plug (230 VAC models); trinocular models include photo eyepiece with ring.



Stereozoom microscope
48411-10 with
10x to 44x
magnification



High-power
stereozoom
microscope
48411-30 with
20x to 70x
magnification



Specifications & Ordering Information

Catalog number	Total magnification	Working distance	Field of view	Head	Dimensions	Power	Price
Stereozoom fluorescent microscopes							
KH-48411-00 KH-48411-05 KH-48411-10 KH-48411-15	10x to 44x (4.4:1 zoom ratio)	90 mm	23 mm to 5.2 mm	Binocular	220 mm W x 327 mm H x 284 mm D	120 VAC, 60 Hz 230 VAC, 50 Hz	
Trinocular				220 mm W x 353 mm H x 284 mm D	120 VAC, 60 Hz 230 VAC, 50 Hz		
High-power stereozoom fluorescent microscopes							
KH-48411-20 KH-48411-25 KH-48411-35	20x to 70x (3.5:1 zoom ratio)	80 mm	10 mm to 2.8 mm	Binocular	220 mm W x 317 mm H x 284 mm D	120 VAC, 60 Hz 230 VAC, 50 Hz	
Trinocular				220 mm W x 353 mm H x 284 mm D	230 VAC, 50 Hz		

Lenses for Stereozoom Fluorescent Microscopes

Catalog number	Description	Fits model numbers	Power	Price
KH-48411-50 KH-48411-52 KH-48411-54	Lenses for stereozoom fluorescent microscopes	48411-00, -05, -10, and -15	5x 15x 20x	
KH-48411-74	Lenses for high-power stereozoom fluorescent microscopes	48411-20, -25, -30, and -35	5x	
KH-48411-70 KH-48411-72	Lenses for all models	All	0.5x 1.6x	

Accessories

- [KH-48411-56](#) Protective objective cover glass
- [KH-48411-58](#) CCTV adapter, for C-mount CCD camera
- [KH-48411-60](#) T-micro adapter, for 35 mm camera. Requires a T-mount adapter sold below
- [KH-48411-62](#) T-mount adapter, for Nikon®/F
- [KH-48411-64](#) T-mount adapter, for Canon®/F
- [KH-48411-66](#) T-mount adapter, for Canon/EOS
- [KH-48411-68](#) T-mount adapter, for Olympus®/OM

Mi Microscopes

Stereo

Cole-Parmer Stereo and Stereozoom Microscopes



A
03904-03



B
03905-10



C
48920-30

C Full-Size, Dual-Power Stereomicroscopes

- Large size accommodates bigger specimens

These full-size, dual-power stereomicroscopes stand 13" tall and have a working distance of 84 mm. They feature a 45° inclined swivel head that rotates 360° and has adjustable diopter and interpupillary controls. Paired 1x/3x or 2x/4x objectives are mounted in a revolving turret. Change magnification by rotating the turret 90°. Paired 10x widefield eyepieces have a 34-mm OD and accept reticles with 22.8-mm OD.

The specially designed lamp directs light exactly where you want. The incident (top) light source has an adjustable beam and variable intensity control. The transmitted (bottom) light source is fluorescent, giving you optimum light and cool temperatures to prolong the life of a live specimen.

Microscopes are supported by a cast metal frame with gray enamel finish. Each stereomicroscope is supplied with both frosted glass and reversible black-and-white stage plates and a vinyl dust cover. The 115 VAC models include a 6-ft cord with three-prong plug; 230 VAC models include a 6-ft cord with European plug.

Accessories for "C"

[KH-03904-50](#) Eyepieces, 15x magnification

[KH-48920-83](#) Replacement top bulb; 12 V, 15 W

[KH-48920-81](#) Replacement bottom bulb; 110 V, 5 W

[KH-48920-86](#) Ring light illuminator

Specifications & Ordering Information

Catalog number	Total magnification	Head	Illuminator(s)	Power (VAC, Hz)	Price
A Economy stereomicroscopes					
KH-03904-01	20x	Binocular	None	—	
KH-03904-02	20x	Binocular	Top	115, 60	
KH-03904-03	20x	Binocular	Top/bottom	115, 60	
B Economy compact dual-power stereomicroscopes					
KH-03905-10	10x/30x	Binocular	Top/bottom	115, 60	
KH-03905-15				230, 50	
KH-03905-11	20x/40x	Binocular	Top/bottom	115, 60	
KH-03905-16				230, 50	
C Full-size dual-power stereomicroscopes					
KH-48920-30	10x/30x	Binocular	Top/bottom	115, 60	
KH-48920-35				230, 50	
KH-48920-40	20x/40x	Binocular	Top/bottom	115, 60	
KH-48920-45				230, 50	

A Economy Stereomicroscopes

- Deliver clear, upright, three-dimensional images at an economical price

All models feature 2x objective lenses and widefield 10x eyepieces with diopter and interpupillary distance adjustments. Working distance is 80 mm. Eyepieces measure 34-mm OD. Use optional 15x eyepieces for greater magnifying power. Stereomicroscopes are supported by a cast metal frame with gray enamel finish and stand 11½" tall. All models include a vinyl dust cover.

Choose from illuminated and nonilluminated models. Illuminated models are available with incident (top) or incident and transmitted (bottom) lighting. The nonilluminated model uses ambient light for viewing and is the most economical. The 115 VAC illuminated models have an on/off switch and 6-ft cord with three-prong plug; 230 VAC models have a 6-ft cord with European plug.

B Economy Compact Dual-Power Stereomicroscopes

- Won't take up a lot of space on your lab bench

These compact dual-power stereomicroscopes stand 11" tall and have a working distance of 75 mm. They feature a 45° inclined swivel head with adjustable diopter and interpupillary controls. Heads rotate 360° for front position viewing. Paired 1x/3x or 2x/4x objectives are mounted in a revolving turret. Paired 10x widefield eyepieces have a 34-mm OD and accept reticles with 22.8-mm OD. Use optional 15x eyepieces for greater magnifying power. Stereomicroscopes are supported by a cast metal frame with gray enamel finish.

Built-in incident (top) and transmitted (bottom) light sources on all models allow versatile illumination of any sample. Each stereomicroscope is supplied with both frosted glass and reversible black-and-white stage plates and a vinyl dust cover. The 115 VAC models include a 6-ft cord with three-prong plug; 230 VAC models include a 6-ft cord with European plug.

Accessories for "A" and "B"

[KH-03904-50](#) Eyepieces, 15x magnification

[KH-03904-90](#) Replacement lamp bulb, 12 V, 10 W tungsten; for top or bottom. Use with models "A" and "B"

Microscopes **Mi**

Stereo

**E**
48920-20**D**
48920-00

Universal stand gives you versatility when looking at large or bulky samples.

D
48920-10**D**
03905-20

Stereozoom microscopes feature stepless magnification from 10x to 40x.

D-E Stereozoom Microscopes

- Stereozoom optics let you easily focus through different magnification ranges

Stereozoom microscopes feature stepless magnification through zoom control on viewing head. Head rotates 360°; models with standard stand can be raised or lowered for viewing different size objects. Widefield 10x eyepieces feature adjustable diopter and interpupillary distance for comfortable viewing. Models 48920-20 and -25 include a trinocular port for mounting a 35-mm camera or video camera for your photomicroscopy applications. Trinocular microscopes include a video adapter with a 0.4x lens, and an SLR adapter with 2.0x lens; T-mount not included, order separately at right.

Models with fixed-arm and standard stands provide built-in incident (top) and transmitted (bottom) illumination; intensity is adjustable on standard stands through control on side of base. These models also include a reversible black/white stage plate. Model 48920-10 includes a universal stand; a light source is not included, order halogen task lamp 41310-10 at right. The 115 VAC models include a 6-ft cord and three-prong plug; 230 VAC models include a 6-ft cord with European plug.

Accessories for "D" and "E"

KH-03904-50 Eyepieces, 15x magnification

KH-48920-50 Auxiliary objective lens, 0.5x. Reduces magnification by 50% and increases working distance from 80 mm to 135 mm

KH-48920-51 Auxiliary objective lens, 1.5x. Increases magnification by 50% and reduces working distance from 80 mm to 39 mm

KH-03905-50 Replacement top bulb for 03905-20, -30; 12 V, 10 W

KH-48920-83 Replacement top bulb for 48920-00, -05, -20, -25; 12 V, 15 W

KH-48920-81 Replacement bottom bulb; 110 V, 5 W

KH-41310-10 Halogen task lamp for use with microscope 48920-10. Lamp features a 25"L gooseneck and a 3" dia magnetic base. Operates on 120 VAC, 60 Hz

KH-48920-86 Ring light illuminator

T-Mounts for Trinocular Microscopes

Trinocular microscopes 48920-20 and -25 require a T-mount when using the supplied SLR adapter. Select from T-mounts for four common camera brands below.

Catalog number	Camera type	Price
KH-48407-81	Canon®	
KH-48407-82	Canon EOS	
KH-48407-83	Nikon®	
KH-48407-84	Olympus®	

Specifications & Ordering Information

Limited
Lifetime
warranty

Catalog number	Total magnification	Head	Stand type	Illuminator(s)	Power (VAC, Hz)	Price
D Binocular stereozoom microscopes						
KH-03905-20	10x to 30x, zoom	Binocular	Fixed arm	Top/bottom	115, 60	
KH-03905-30	15x to 45x, zoom					
KH-48920-00	10x to 40x, zoom	Binocular	Standard	Top/bottom	115, 60	
KH-48920-05			Universal	None	230, 50	
KH-48920-10				None	None	
E Trinocular stereozoom microscopes						
KH-48920-20	10x to 40x, zoom	Trinocular	Standard	Top/bottom	115, 60	
KH-48920-25						

Mi Microscopes

Stereo

Modular Stereomicroscopes

Custom design your own microscope

Use the components on pages 940–941 to build a microscope that best suits your application. We offer a variety of microscope bodies, stands, eyepieces, and ring lights. Components are interchangeable—mix and match items to design your perfect microscope! Preassembled microscope systems are available on pages 942–943.

Limited
Lifetime
warranty



2
Basic stand
48404-00



1
Body
48402-10

3
Eyepiece
48402-60

GO to page(s) 942–943

See pages 942–943 to order our preassembled microscope systems!

Required System Components

1 Body	940
2 Stand	942
3 Eyepieces	942

Add these options

• Micrometer	943
• Camera adapter	943
• Polarizing filter and plate	943
• Lenses	943
• Ring lights	941

Modular Stereomicroscope Optical Information

Objectives	Supplementary lenses	Eyepieces					
		10x (48402-58)		15x (48402-60)		20x (48402-62)	
		Total mag	Field dia (mm)	Total mag	Field dia (mm)	Total mag	Field dia (mm)
Dual-power microscope bodies 48403-20, -25							
1x, 2x	—	10x, 20x	23.0, 11.5	15x, 30x	15.3, 7.7	20x, 40x	11.5, 5.8
Dual-power microscope bodies 48403-30, -35							
—	—	10x, 30x	23.0, 7.7	15x, 45x	15.3, 5.1	20x, 60x	11.5, 3.8
1x, 3x	0.5x	5x, 15x	46.0, 15.3	7.5x, 22.5x	30.6, 10.2	10x, 30x	23.0, 7.6
—	1.5x	15x, 45x	15.3, 5.1	22.5x, 67.5x	10.2, 3.4	30x, 90x	7.6, 2.5
Stereozoom microscope body 48402-10							
—	—	10x to 30x	23.0 to 7.7	15x to 45x	15.4-5.1	20x to 60x	11.5 to 3.8
1x to 3x	0.5x	5x to 15x	46.0 to 15.3	7.5x to 22.5x	30.6-10.2	10x to 30x	23 to 7.6
—	1.5x	15x to 45x	15.3 to 5.1	22.5x to 67.5x	10.2-3.4	30x to 90x	7.7 to 2.5
Stereozoom microscope bodies 48402-20, -25							
—	—	7x to 45x	32.8 to 5.1	10.5x to 67.5x	22.0-3.4	14x to 90x	16.4 to 2.6
0.7x to 4.5x	0.5x	3.5x to 22.5x	65.6 to 10.2	5.25x to 33.75x	44.0-6.8	7x to 45x	32.8 to 5.2
—	1.5x	10.5x to 67.5x	21.8 to 3.4	15.75x to 101.25x	14.6-2.2	21x to 135x	10.9 to 1.7

1 Microscope Bodies

Get crisp, high-resolution images and excellent stereoscopic effect. The 45° inclined head has adjustable diopter and interpupillary controls for custom comfort and sharp focus. Rotate body a full 360° and lock into any position. The eyepiece diameters on all models are 25 mm ID x 34 mm OD. Models 48403-25, -35, and 48402-25 feature a vertically mounted photo tube for use with a video, 35-mm, or Polaroid® camera that has a C-mount adapter—ideal for documenting, teaching, or recording images.

Choose from two microscope bodies: dual-power or stereozoom. Dual-power models feature paired 1x/2x or 1x/3x objectives mounted in a revolving turret for easy switching between low and high magnification.

Model 48402-10 is the most economical stereozoom unit—perfect for industrial and educational applications where continuous magnification is necessary. Models 48402-20 and -25 have convenient side-mounted zoom controls for increased efficiency.

Catalog number	Objectives	Photo tube included	Price
Dual-power microscope bodies			
KH-48403-20	1x/2x	No	
KH-48403-25		Yes	
KH-48403-30	1x/3x	No	
KH-48403-35		Yes	
Stereozoom microscope bodies			
KH-48402-10	1x to 3x	No	
KH-48402-20	0.7x to 4.5x	No	
KH-48402-25	0.7x to 4.5x	Yes	



Dual-power
48403-20



Stereozoom
48402-20



Dual-power
48403-35



Stereozoom
48402-25

Microscopes M

Stereo

2 Microscope Stands

Basic Microscope Stand 48404-00 (shown on page 940) features a plain base and one 94.5-mm stage plate with one white and one black side. Model 48404-30 has an incident illuminator port mounted on a 15"L x 13"W x ¾"H laminate base.

Standard Microscope Stands 48404-20, and -25 feature both incident (top) and transmitted (bottom) illumination. A transformer with selector switch is built into the base, allowing the lights to be used separately or simultaneously. Stands include two 94.5-mm dia stage plates. One plate is made of transparent glass; the other plate has one white and one black side. Units come with a 6-ft cord. The 115 VAC models include a U.S. standard plug; 220 VAC models include a European plug.

Boom Microscope Stands 48404-40 and -45 are ideal when wide horizontal and vertical viewing are important. Stands have their own focusing slide block and illuminator port, and feature a 20¾"L horizontal pole and a 15¾"L vertical pole. Easily adjust the height on the vertical pole and set it to wherever you need it with the clamp screw. Base measures 10⅞"L x 10⅞"W x 1"H. Model 48404-45 can also be tilted 180° for added flexibility.

Optional illuminators and a 4"L stand extension may be ordered separately, below table.

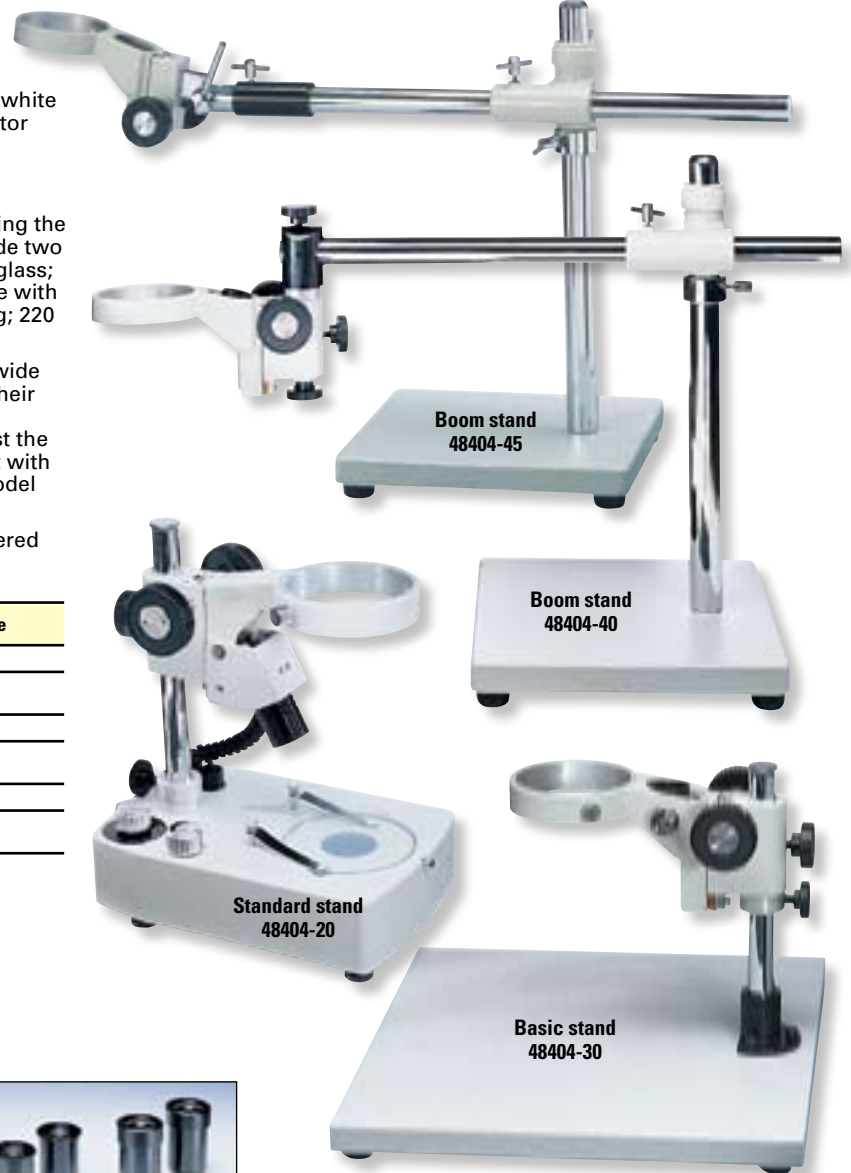
Catalog number	Illuminator(s)	Power (VAC, Hz)	Price
Basic microscope stands			
KH-48404-00 KH-48404-30	None	—	
Standard microscope stands			
KH-48404-20 KH-48404-25	6 V, 10 W halogen bulb	115, 60 220, 50	
Boom microscope stands and holders			
KH-48404-40 KH-48404-45	None	—	

[KH-48404-55](#) Stand extension, 4". For standard stands
[KH-48404-90](#) Optional halogen illuminator, 110 VAC
[KH-48404-95](#) Optional halogen illuminator, 220 VAC

3 Microscope Eyepieces

These paired widefield eyepieces provide bright, sharp images. Reticle mount included. Available in 10x, 15x, and 20x. Eyepiece dia is 25 mm ID x 34 mm OD.

Catalog number	Total magnification	Field of view	Price/pr
KH-48402-58	10x	23 mm	
KH-48402-60	15x	15.4 mm	
KH-48402-62	20x	11.5 mm	



Fluorescent Ring Lights for 48402- and 48403-series Microscope Bodies on page 940

These ring lights provide 360° uniform, shadowless illumination. Choose between white or black light (ultraviolet) models. White light models are perfect for inspection, quality control, biological analysis, and photography. Black light models are excellent for highlighting and detecting contamination and structural stress points.

White light models are available in fixed or variable light intensity. Variable-intensity model lets you control the intensity from 10 to 100%. All fixed-intensity models include a 6-ft power cord with three-prong plug and a bulb. Variable-intensity models include an 8-ft cord (the 115 VAC model comes with a plug).



Fixed-intensity light shown with stereomicroscope



Variable-intensity light shown with stereomicroscope

Specifications & Ordering Information

Catalog number	Description	Lamp intensity at 3"	Lamp color temperature	Power (VAC, Hz)	Price
For 48402-series microscope bodies					
EK-41200-00	White light, fixed	1000 footcandles	7000 K	115, 60	
EK-41210-00	Black light, fixed	1000 footcandles	7000 K	115, 60	
For 48403-series microscope bodies					
EK-41200-10	White light, fixed	1000 footcandles	7000 K	115, 60	
EK-41210-10	Black light, fixed	1000 footcandles	7000 K	115, 60	
EK-41230-10	White light, variable	2100 footcandles	5100 K	115, 60	

Mi Microscopes

Stereo

Preassembled Stereo and Stereozoom Microscope Systems

Convenient, preassembled microscope systems provide superb quality and easy ordering

For your added convenience, we also offer preassembled microscope systems that include a microscope body, stand, and eyepieces. All eyepieces have diameters of 34 mm OD x 25 mm ID. Order accessories to go with your microscope on page 943.

A System 48403-00 includes:

- Dual power body 48403-20
- Standard stand 48404-20
- 10x eyepieces 48402-58

B System 48403-10 includes:

- Dual power body with photo tube 48403-35
- Standard stand 48404-20
- 10x eyepieces 48402-58

C System 48402-00 includes:

- Stereozoom body 48402-25
- Standard stand 48404-20
- 10x eyepieces 48402-58

D System 48403-14 includes:

- Dual power body 48403-30
- Standard stand 48404-00
- 10x eyepieces 48402-58

E System 48402-04 includes:

- Stereozoom body 48402-25
- Standard stand 48404-30
- 10x eyepieces 48402-58



Limited
Lifetime
warranty
48402-00 only

Specifications & Ordering Information

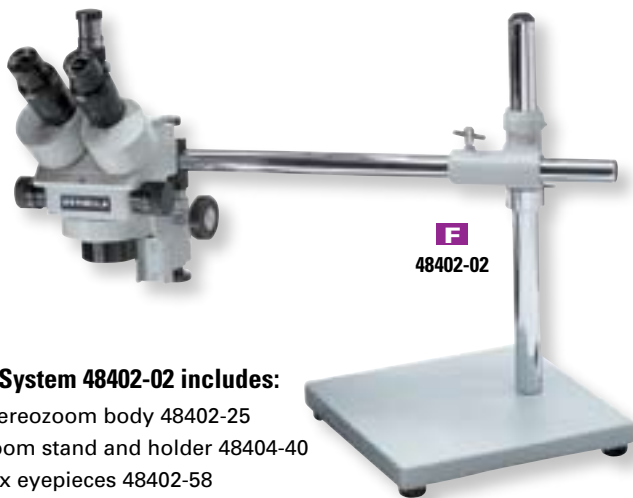
Key	Catalog number	Description	Total magnification	Price
A	KH-48403-00	Dual-power microscope system	10x/30x	
B	KH-48403-10	Dual-power microscope system with photo tube	10x/30x	
C	KH-48402-00	Stereozoom microscope system with photo tube	7x to 45x continuous	
D	KH-48403-14	Dual-power microscope system	10x/30x	
E	KH-48402-04	Stereozoom microscope system with photo tube	7x to 45x continuous	
F	KH-48402-02	Stereozoom microscope system with photo tube, boom stand, and holder	7x to 45x continuous	
G	KH-48402-06			



Microscopes

Mi

Stereo



F
48402-02

F System 48402-02 includes:

- Stereozoom body 48402-25
- Boom stand and holder 48404-40
- 10x eyepieces 48402-58



G
48402-06

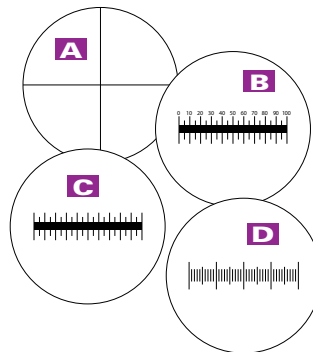
G System 48402-06 includes:

- Stereozoom body 48402-20
- Boom stand and holder 48404-45
- 10x eyepieces 48402-58

Accessories for Stereomicroscopes on pages 940–943

Micrometers

Use these micrometers to make quick and accurate measurements of your specimen. Eyepiece reticles are available with a crosshair scale or a 10-mm scale in 0.1-mm divisions; stage micrometers are available with a 1-mm scale in 0.01-mm divisions or with a 0.04" scale in 0.001" divisions. Use stage micrometers with any microscope.



Specifications & Ordering Information

Key	Catalog number	Type	Scale	Price
A	KH-48404-85	Eyepiece reticles	Crosshair	
B	KH-48404-86	Eyepiece reticles	10 mm/0.1 mm	
C	KH-48404-80	Stage micrometers	1 mm/0.01 mm	
D	KH-48404-81	Stage micrometers	0.04"/0.001"	

Adapters for 35-mm and Video Cameras

Use adapters to attach a 35-mm camera or video camera to the photo tube of your microscope.



48402-72

Specifications & Ordering Information

Catalog number	Camera type	Price
35-mm camera adapters		
KH-48402-81	Canon®	
KH-48402-82	Canon EOS	
KH-48402-83	Nikon®	
KH-48402-84	Olympus®	
Video camera adapter		
KH-48402-72	—	

Polarizing Filter and Plate

Use both filter and plate with stereozoom microscope bodies 48402-10, -20, and -25 to polarize light.



Catalog number	Description	Price
KH-48404-61	Polarizing filter	
KH-48404-62	Polarizing plate; required with filter 48404-61	

Replacement Parts for Modular Stereomicroscopes

Catalog number	Description	Price
KH-48402-50	Bulb for 48404-20, -25; 6 V, 10 W	
KH-48404-51	Glass stage plate	
KH-48404-50	Black and white stage plate	
KH-48402-65	Eyeshields	
KH-48404-70	Stage clips	
KH-48404-60	Blue filter	

Microscope Lenses

Extend magnification range with these 0.5x and 1.5x lenses. The 48402-series lenses attach directly to microscope body; 48403-series lenses require adapter 48403-75 at right.



Specifications & Ordering Information

Catalog number	Magnification	Price
Use with 48402-series microscope bodies		
KH-48402-70	0.5x	
KH-48402-71	1.5x	
Use with 48403-series microscope bodies		
KH-48403-70	0.5x	
KH-48403-71	1.5x	

KH-48403-75 Lens adapter. Required to attach 48403-series lenses

Mi Microscopes

Stereo

Cole-Parmer Stereo and Stereozoom Camera Microscopes

"Plug-and-play" technology is easy to use—perfect for shared inspections on site or at a distance over the Internet!



48923-49

Stereo Camera Microscope

- Objective turret clicks from widefield 10x to 30x
- Software captures and processes images on your computer
- Rugged fixed-arm stand supplies incidental and transmitted light

A built-in camera simply expands the functionality of this superb instrument—a stereo microscope that also operates independently of camera applications. Widefield 10x/20 mm eyepieces with rubber eyeshields are 45° inclined with diopter adjustment on one eyepiece. Use top only, bottom only, or top and bottom illumination. Heavy-duty rack and pinion focusing features a slip clutch to protect focus mechanism. Tension adjustment eliminates focus drift. Frame is constructed of cast aluminum with gray enamel finish.

What's included: two 80-mm dia stage plates (frosted glass and reversible black/white plastic), lock-in stage clips, dustcover, software CD, USB (digital) cable, 2.5 A time delay fuse, and a 120/240 VAC power converter.

Specifications & Ordering Information

Objectives

Model 48923-48: 1x and 3x; parfocaled, parcentered, and achromatic
Model 48923-46: achromatic, color-corrected lenses

Data formats: BMP, JPG, MIG
(for recording)

Data transfer: 7.5 MB/sec

Operating requirements: processor: 1 Ghz or above,
USB 2.0, RAM 256 MB, and video card: 32 MB
(48923-47 and -49 models only)

Catalog number	Stage dimensions (W x D)	Incidental light source	Transmitted light source	Resolution	Cables (supplied)	Power (VAC, Hz)	Price
Stereo camera microscope							
KH-48923-49	115 mm x 197 mm	12 V, 10 W halogen	12 V, 10 W tungsten	1.3 megapixel	USB 2.0	100/240, 50/60	
Stereozoom camera microscopes							
KH-48923-46	165 mm x 220 mm	12 V, 15 W halogen	12 V, 10 W halogen	480 TV lines (analog), 640 x 480 (digital)*	NTSC, USB, RCA	100/240, 50/60	
KH-48923-47				2.0 megapixel	USB 2.0		

*Resolution for live digital is 320 x 240 pixels; becomes 640 x 480 after capture.

New

Model 48923-47 comes with built-in 2.0 megapixel digital camera and software.

E-mail images with your recorded audio comments!



48923-46

Stereozoom Camera Microscopes

- Zooms from widefield 10x to 40x magnification
- Hooks up to a computer and a video monitor
- Transmitted and incidental illumination with directional beam and rheostat control

Clear communication has never been easier! Download images to a computer and a video monitor or projector simultaneously—everything needed to connect is included. Easy-to-use software lets you capture, label, measure, store, and e-mail images. Stereozoom microscope features paired WF 10x eyepieces, dual diopter adjustment, and interpupillary adjustment from 55 to 75 mm. Use top only, bottom only, or top and bottom illumination. Large dual focusing knobs with slip clutch protect focus mechanism. Tension adjustment eliminates drift. Durable all-metal frame construction sports a gray enamel finish.

What's included: two 80-mm dia stage plates (frosted glass and reversible black/white plastic); frosted blue filter; lock-in stage clips; dustcover; software CD; NTSC (analog), USB (digital), and RCA (audio) cables; and a 120/240 VAC power converter.

CE Limited Lifetime warranty

Stereozoom Digital Camera Microscope

Software enables you to count and measure objects

- Software provides seven different measurement functions

A simple USB connection with your PC or Mac lets you put this plug-and-play stereozoom microscope to work. The built-in digital camera features powerful analysis and manipulation software that counts and measures objects. Measure length in metric or English scales, ellipses, rectangles, and irregular shapes. Compute areas of an entire image or portions of it. Combine images, each with a different focus, into one clear image. Enhance saved images with audio narration recordings using MIG format. Software requires a minimum of Windows® 98 or Mac OS® 9.01, 64-MB RAM, and a 4 MB display card (not included).

Zoom continuously through a range of 1x to 4x with incident and/or transmitted illumination—rheostat light control ensures clean image views, and the auto white balance function corrects the color. This stereozoom microscope has widefield 10x eyepieces with dual diopter and interpupillary adjustability from 54 to 76 mm.

What's included: frosted glass plate, a reversible black/white plastic stage plate, a frosted blue filter, a measurement calibration slide, stage clips, and dust cover.



New

Model 48925-40 comes with built-in 2.0 megapixel digital camera and software.

Features incident and/or transmitted illumination with rheostat control for precise lighting



Specifications & Ordering Information

Illuminator(s):

20 W halogen with rheostat

Functions: count, capture, measure, record, or above, USB 2.0, amalgamate, Internet meetings

Stage plate diameter: 80 mm

Output: digital

Data formats: BMP, JPG, MIG

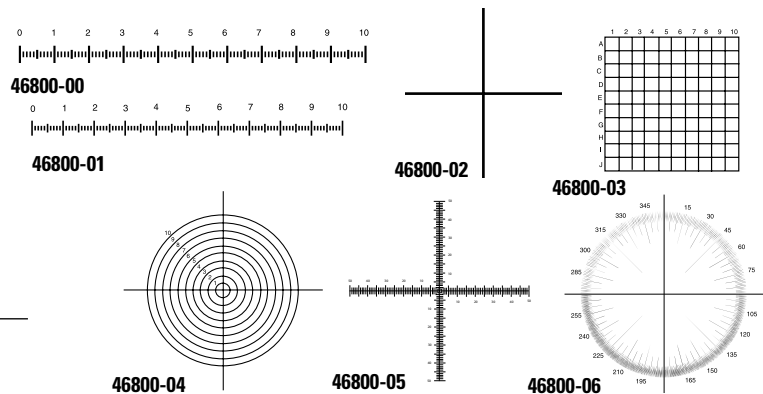
Operating requirements: processor: 1 Ghz or above, USB 2.0, RAM 256 MB, and video card: 32 MB (48923-40 model only)

Catalog number	Imaging sensor	Pixels	Resolution	Cable(s)	Data transfer	Power	Price
KH-48925-30	1/8" CCD	640 x 480 with PCI card (not included)	320 x 240, 480 TV lines	USB, RCA-Video, S-Video	7.5 MB/sec	115 VAC, 60 Hz	
KH-48925-35						230 VAC, 50 Hz	
KH-48925-40	1/2" CMOS	1600 x 1280	1600 x 1280 pixels	USB 2.0	480 MB/sec	111–220 VAC, 60 Hz	

Reticles

Accuracy and precision at your fingertips

Designed to increase the accuracy of your inspections, these clear glass discs are marked with precise scales or patterns. Reticles fit into microscope eyepieces at the intermediate image area of the specimen or object being examined. Both the scale or pattern of the reticle and the object image are superimposed and in focus.



Specifications & Ordering Information

Diameter tolerance: +0.0/–0.1 mm

Overall accuracy: ±5 µm

Thickness: 1.5 mm

Centering: 0.1 mm

Line width: 12 to 15 µm typical

Description	19-mm dia		21-mm dia		22.8-mm dia		25-mm dia	
	Catalog number	Price	Catalog number	Price	Catalog number	Price	Catalog number	Price
Scaled from 0.300"/100 divisions, with 0.001" per div. with 3x objective	KH-46800-00		KH-46800-10		KH-46800-20		KH-46800-30	
Scaled from 10 mm/100 divisions, with each div. = 0.10 mm	KH-46800-01		KH-46800-11		KH-46800-21		KH-46800-31	
Crossline pattern, with line width = 0.0004" to 0.0006"	KH-46800-02		KH-46800-12		KH-46800-22		KH-46800-32	
Grid pattern, 10 mm x 10 mm per side, with 10 x 10 squares = 100 total*	KH-46800-03		KH-46800-13		KH-46800-23		KH-46800-33	
10 Concentric circles with crossline, with 1 mm thru 10 mm dia	KH-46800-04		KH-46800-14		KH-46800-24		KH-46800-34	
Cross scale pattern, 10 mm/100 divisions per axis, with each division = 0.10 mm	KH-46800-05		KH-46800-15		KH-46800-25		KH-46800-35	
Comparator pattern, 360° total, with 180° in 1° increments and 180° in 1/2° increments	KH-46800-06		KH-46800-16		KH-46800-26		KH-46800-36	

*Grid numbered horizontally and lettered vertically.

M_i Microscopes

Compound

Compound Microscopes

New

Work with confidence—microscopes have a limited lifetime warranty!

- Infinity-corrected optical system design for high-image quality, contrast, and flatness of field
- Smooth-operating, ball-bearing quintuple nosepiece provides effortless objective changes
- Wide ceramic-coated stage for smooth exchange of specimens

A Economical Compound Microscopes

These economical microscopes with S. Plan optics are ideal for education and research laboratory applications. Both binocular and trinocular models feature LED or 30 W halogen illumination and comfortable siedentopf viewing heads with 23.2-mm eyetubes, and F.N. 20, KHW10X widefield eyepieces (eyepieces are not interchangeable with "B" models).

What's included: Abbe 1.25 N.A. condenser in dovetail mount, 4x/10x/40x/100x oil objectives ("A" models feature S. Plan objectives and "B" models feature U. Plan objectives), auto-voltage sensing power supply, 6-ft detachable power cord, dust cover, and immersion oil. Order microscopes and accessories on facing page.

B Laboratory Compound Microscopes

These versatile, modular, ergonomic microscopes are ideal for clinical and laboratory applications. Ergonomic placement of controls allows for stress-free operation, increased efficiency, and maximum productivity. Bright crisp images with superior color rendition and flat fields of view with U. plan objective design. Both binocular and trinocular models feature LED or 30W halogen illumination comfortable siedentopf viewing heads with 30.0-mm eyetubes, and F.N. 22, SWH10X widefield eyepieces (eyepieces are not interchangeable with "A" models). Trinocular models 48400-13, -14, and -17 also offer high-resolution photomicroscopy and digital imaging.

What's included: Abbe 1.25 N.A. condenser in dovetail mount, 4x/10x/40x/100x oil objectives, U. Plan objectives, auto-voltage sensing power supply, 6-ft detachable power cord, dust cover, and immersion oil. Order microscopes and accessories on facing page.

C-F Professional Compound Microscopes

- Variable-intensity illuminator lets you adjust light intensity based on sample
- Includes 20-mm widefield eyepieces
- Available with either achromatic or semi-plan objectives

These professional microscopes feature a fully rotatable, 30° inclined binocular head, synchronized interpupillary adjustment from 53 mm to 72 mm, and diopter adjustment for each ocular tube.

Models 48401-00, -05, -10, and -15 feature four color-coded DIN parfocal, parcentered, achromatic objectives: 4x, 10x, 40x, and 100x. The 40x and 100x objectives are flat-field spring retractable.

Models 48401-20, -25, -30, and -35 feature semi-plan 4x, 10x, 40x, and 100x objectives that flatten out your field of view and give you sharper images. Quintuple reverse-angle nosepiece gives you easy access to the specimen and stage. The smooth operating nosepiece has an extra hole to accommodate a supplementary objective.

All models feature paired, compensating wide-field 10x eyepieces. Microscopes have coaxial coarse and fine focus controls; coarse focus has tension adjustment to accommodate for each individual user.

What's included: models 48401-10, -15, -30, and -35 come with a vertical phototube—perfect for photomicrography. For photography use, one of the accessory eyepieces or CCTV adapter must be inserted into the photo tube. A swing-out filter holder and a blue filter. A 6-ft cord with three-prong plug is included. Order microscopes and accessories on facing page.



Microscopes **Mi**

Compound

Limited
Lifetime
warranty

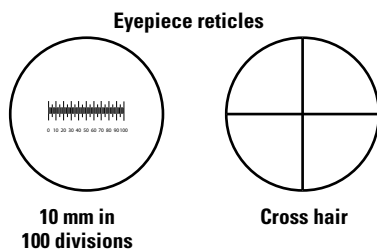
Specifications & Ordering Information

Key	Catalog number	Objectives power	Head	Observation modes	Illuminator(s)	Power (VAC, Hz)	Price
Microscope with semi-plan objectives							
A	KH-48400-01	4x/10x/40x/100x	Binocular	Brightfield	LED illuminator 30 W halogen	100-240, 50-60	
	KH-48400-02	4x/10x/40x/100x	Binocular	Brightfield	LED illuminator 30 W halogen	100-240, 50-60	
	KH-48400-03	4x/10x/40x/100x	Trinocular	Brightfield	LED illuminator 30 W halogen	100-240, 50-60	
	KH-48400-04	4x/10x/40x/100x	Trinocular	Brightfield	LED illuminator 30 W halogen	100-240, 50-60	
	KH-48400-06	10x/20x/40x/100x	Binocular	Brightfield and Phase Contrast	30 W halogen	100-240, 50-60	
	KH-48400-07	10x/20x/40x/100x	Trinocular	Brightfield and Phase Contrast	30 W halogen	100-240, 50-60	
Microscope with U-plan objectives							
B	KH-48400-11	4x/10x/40x/100x	Binocular	Brightfield	LED illuminator 30 W halogen	100-240, 50-60	
	KH-48400-12	4x/10x/40x/100x	Binocular	Brightfield	LED illuminator 30 W halogen	100-240, 50-60	
	KH-48400-13	4x/10x/40x/100x	Trinocular	Brightfield	LED illuminator 30 W halogen	100-240, 50-60	
	KH-48400-14	4x/10x/40x/100x	Trinocular	Brightfield	LED illuminator 30 W halogen	100-240, 50-60	
	KH-48400-16	10x/20x/40x/100x	Binocular	Brightfield and Phase Contrast	30 W halogen	100-240, 50-60	
	KH-48400-17	10x/20x/40x/100x	Trinocular	Brightfield and Phase Contrast	30 W halogen	100-240, 50-60	
Microscope with achromatic objectives							
C	KH-48401-00	4x/10x/40x/100x	Binocular	Brightfield	30 W halogen	115, 60	
	KH-48401-05	4x/10x/40x/100x	Binocular	Brightfield	30 W halogen	220, 50	
D	KH-48401-10	4x/10x/40x/100x	Trinocular	Brightfield	30 W halogen	115, 60	
	KH-48401-15	4x/10x/40x/100x	Trinocular	Brightfield	30 W halogen	220, 50	
Microscope with semi-plan objectives							
E	KH-48401-20	4x/10x/40x/100x	Binocular	Brightfield	30 W halogen	115, 60	
	KH-48401-25	4x/10x/40x/100x	Binocular	Brightfield	30 W halogen	220, 50	
F	KH-48401-30	4x/10x/40x/100x	Trinocular	Brightfield	30 W halogen	115, 60	
	KH-48401-35	4x/10x/40x/100x	Trinocular	Brightfield	30 W halogen	220, 50	

GO to ColeParmer.com

Click Here

For our full line of video system components to use with your microscope.



Accessories for A, C, D, E, and F

Catalog number	Item	For use with	Price
KH-48401-60	Replacement eyepiece, 10x	C, D, E, and F	
KH-48401-70	Eyepiece reticle with cross bar		
KH-48401-71	Eyepiece reticle, 10 mm		
KH-48401-51	Replacement lamp, 30 W	48401-10, -15, -30, -35	
KH-48401-72	CCTV adapter		
KH-48401-62	C-Mount adapter for 1/2" chip camera	A, C, D, E, and F	
KH-48401-63	C-Mount adapter for 1/8" chip camera		

Accessories for B Models

Catalog number	Item	For use with	Price
KH-48400-74	Replacement eyepiece, 10x	B only	
KH-48400-75	Eyepiece reticle with cross bar		
KH-48400-76	Eyepiece reticle, 10 mm		
KH-48400-62	C-Mount adapter for 1/2" chip camera		
KH-48400-63	C-Mount adapter for 1/8" chip camera		



Mi Microscopes

Compound

Cole-Parmer Compound Microscopes

Multiple head styles for versatile viewing



A
48922-00



B
48923-00



C
48923-10

Dual-head microscope lets two people view simultaneously



E
Trinocular microscope
48923-30 shown with optional
35-mm camera adapter 48923-70



D
48923-20
Binocular microscope provides greater eye comfort.

A Economical Monocular Microscope

- Excellent optical clarity and image brightness at an affordable price

This microscope features a rotating 10x eyepiece with revolving pointer and DIN achromatic 4x, 10x, and 40x retractable objective lenses. The head rotates 360°. The built-in fluorescent illuminator has a 5-watt bulb that delivers brighter light than a standard tungsten bulb. Cool operating temperature prolongs specimen life when viewing live material.

What's included: a dust cover, 110 mm x 120 mm graduated mechanical stage, and a 6-ft cord (three-prong plug on 115 VAC model; European plug on 220 VAC model).

KH-48922-60 Carrying case for 48922-00 and -05

B-E Professional Microscopes

- Objectives provide superb optical clarity and resolution

Each features widefield 10x eyepieces with 4x, 10x, 40x, and 100x DIN achromatic objectives and coarse and fine focus controls. These microscopes are available in monocular; monocular dual-head; binocular; or trinocular styles (see table below). A 12 V, 20 W halogen illuminator provides excellent lighting efficiency. The inclined head rotates 360°. The 140 x 135 mm stage has a built-in, low position graduated mechanical specimen holder and coaxial controls.

What's included: an Abbe N.A. 1.25 condenser, rack and pinion control, iris diaphragm, filter holder, and blue filter. Trinocular model (E) features a vertical tube for mounting a 35-mm camera or video camera (adapter required—order at right) and includes a third 10x eyepiece. The 115 VAC models include a 6-ft cord with three-prong plug.

Accessories

KH-48922-62 Darkfield attachment for "A-E"

Camera Adapters for "E"

Use adapters to attach a 35-mm camera or video camera to trinocular microscope "E". The 35-mm camera adapters include a 2.5x photo lens and T-mount. The video camera C-mount adapter comes with a 0.5x lens.

Catalog number	Camera type	Price
35-mm camera adapters		
KH-48923-70	Canon®	
KH-48923-73	Canon EOS	
KH-48923-71	Nikon®	
KH-48923-72	Olympus®	
Video camera adapter		
KH-48923-60	—	

Limited
Lifetime
warranty

Specifications & Ordering Information

Key	Catalog number	Total magnification	Head	Eyepiece diameter	Illuminator(s)	Power (VAC, Hz)	Price
A	KH-48922-00 KH-48922-05	4x, 10x, 40x	Monocular	23.3 mm ID x 28.0 mm OD	5 watt fluorescent	115, 60 220, 50	
B	KH-48923-00 KH-48923-05	4x, 10x, 40x, 100x	Monocular	23.3 mm ID x 28.0 mm OD	12 V, 20 watt halogen	115, 60 220, 50	
C	KH-48923-10 KH-48923-15	4x, 10x, 40x, 100x	Monocular, dual head	23.3 mm ID x 28.0 mm OD	12 V, 20 watt halogen	115, 60 220, 50	
D	KH-48923-20 KH-48923-25	4x, 10x, 40x, 100x	Binocular	23.3 mm ID x 28.0 mm OD	12 V, 20 watt halogen	115, 60 220, 50	
E	KH-48923-30 KH-48923-35	4x, 10x, 40x, 100x	Trinocular	23.3 mm ID x 28.0 mm OD	12 V, 20 watt halogen	115, 60 220, 50	

Microscopes

Mi

Compound

Cole-Parmer Cordless Compound Microscope

Low-cost portable microscopes for field use

Use these microscopes in the field or in your lab. They provide freedom from cords and outlets with the microscopy features you need. The LED illuminator is bright, non-heating, and long lasting—an 8-hour charge provides 40-50 hours of use. Microscopes feature a widefield 10x eyepiece with pointer, DIN achromatic objectives, coarse and fine focusing, and adjustable light intensity. The 45° head rotates 360° for reverse viewing.

What's included: Model 48922-30 includes 4x, 10x, and 40x objectives, stage clips, and in-stage condenser with iris diaphragm. Model 48922-32 includes 4x, 10x, 40x, and 100x objectives, low-profile mechanical stage with low-position coaxial X-Y controls, Abbe N.A. 1.25 condenser with iris diaphragm. Each model includes rechargeable batteries, 115 VAC battery charger with auto-shutoff, and dust cover.

Limited
Lifetime
warranty

Specifications & Ordering Information

Catalog number	KH-48922-30	KH-48922-32
Total magnification	40x, 100x, 400x	40x, 100x, 400x, 1000x
Head	Monocular	Monocular
Eyepiece diameter	23.3 mm ID x 28.0 mm OD	23.3 mm ID x 28.0 mm OD
Illuminator	LED	LED
Power	Three rechargeable AA batteries (included)	Three rechargeable AA batteries (included)
Price		

[KH-48922-50](#) Carrying case for 48922-30 and -32



48922-30

Inverted Microscopes

Color-corrected infinity optical system maximizes clarity and scalability

- Long working distance (LWD), E-Plan phase, and achromat objectives provide the versatility needed for biological, biotech, and medical applications
- Equipped with 10x/20 mm wide-field eyepieces and 30 W halogen illumination for greater viewing capacity

The working distance of these inverted microscopes is ample for larger culture vessels with or without the 0.30 n.a. condenser attached. The pre-centered system features a removable condenser allowing for flasks and Petri dishes as high as 180 mm to be accommodated on the stage.

The included CCIS phase E-plan achromat objectives coupled with the phase slider provides outstanding contrast images for even the most demanding applications. Changing objectives is made easy as the tempered glass stage insert allows for the nosepiece to be viewed during operation without having to remove the specimen from the stage.

For a quick and easy change of magnification, a centerable annular ring is provided for 10x and 20x phase objective in the phase slider. The trinocular model 48412-04 comes with a built-in slider to control the light path to either the binocular tubes or the trinocular output. C-mount camera adapters are available separately below.

What's included: allen hexagonal key, vinyl dust cover, and 5-ft power cord.

Specifications & Ordering Information

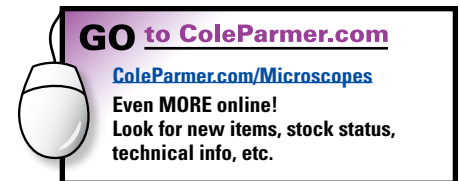
Field of view: 18 mm	Illumination: 6V/30 W quartz halogen
Optical tube: 180 mm L	Interpupillary distance: adjustable, 2 1/4" to 3" (52.5 to 75 mm)
Stage: fixed, 200 mm x 260 mm	Focus: 40 mm/rev (coarse), 1 mm/rev (fine)

Catalog number	KH-48412-02	KH-48412-04
Magnification	4x brightfield, 10x/20x E-Plan LWD phase contrast with 10x/20 mm eyepieces (included)	
Working distance	72 mm with condenser; 180 mm without condenser	
Eyepoint	370 mm	400 mm
Head	Binocular, inclined at 45°	Trinocular, inclined at 45°
Power	110 to 240 VAC	
Price		

Photo/C-Mount Camera Adapters

Catalog number	Description	Price
KH-48412-22	1x (no lens)	
KH-48412-24	0.65x for 2/3" chip sensors	
KH-48412-26	0.65x for 1/2" chip sensors	

[KH-48412-50](#) Replacement bulb



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Even MORE online!

Look for new items, stock status, technical info, etc.

New



48412-02

Mi Microscopes

Compound

Cole-Parmer Compound Microscopes with Built-In Digital Cameras

Reap the benefits of digital photography and excellent microscopy technology. Use the microscope by itself or plug it into your computer and you're ready to capture, label, measure, store, or e-mail digital images of your specimens. You don't need to buy a

separate microscope, camera, cables and software—this package comes complete and ready to use. All models include easy-to-use Windows® software. You can also record audio comments along with your images. You can't go wrong with this system!



A
48923-45

New

Model 48923-41 comes with built-in 2.0 megapixel digital camera and software (order below).



B
48923-40

A Economical Monocular Microscope

- Excellent for the economy-minded without sacrificing quality
- Enhanced microscope available with 100x oil immersion lens

This microscope features a wide field 10x eyepiece with pointer and a four-hole objective turret that is ball-bearing mounted for smooth, precise changes in magnification. The reverse position design and 45° angled eyepiece provides comfortable viewing with the ability for fast and easy slide changes.

Microscope has rack-and-pinion coarse focus with slip clutch to protect focus mechanism, and separate fine focus. The tension adjustment eliminates focus drift. The rugged frame is made of cast aluminum with a gray finish; base measures 160 mm W x 220 mm D.

Includes a 100x oil-immersion objective. The large stage features a low-profile mechanical specimen holder with low-position coaxial X-Y controls. Includes an Abbe 1.25 N.A. condenser, spiral focusing mount, with iris diaphragm, swing-out filter holder, and blue filter. The focusing mechanism features a safety rack-stop to prevent damage to specimen slides and lenses.

B Professional Binocular Microscopes

- Display analog and digital images simultaneously

This microscope features wide field 10x (18-mm) eyepieces with interpupillary adjustment and rubber eyepiece cups. A pointer comes standard in one eyepiece. A three-position sliding rod directs light 100% to binocular eyepieces, or 100% to camera, or 70% to camera and 30% to eyepieces. Microscope has a 1.25 N.A. Abbe condenser with rack-and-pinion focusing, iris diaphragm, and swing-out filter with blue, green, and yellow filters.

The large stage features a built-in low profile, ball-bearing mounted mechanical specimen holder with low-position coaxial controls; 70 mm (x) x 50 mm (y) movement with 0.1-mm graduations. Microscope has coaxial coarse and fine focus. Coarse has tension adjustment, fine is graduated.

Specifications & Ordering Information

Objectives: parfocal, parcentered, achromatic*

Data transfer: 7.5 MB/sec

Data formats: BMP, JPG, MIG (for recording)

Operating requirements: processor 1 GHz or above, USB 2.0, RAM 256 MB, video card 32 MB (48923-45 and 48923-41 models)

Key	Catalog number	Total magnification	Head	Stage dimensions (W x D)	Illuminator(s)	Camera resolution	Cables (supplied)	Power	Price
A	KH-48923-45	4x/10x/40x/100x	Monocular	135 mm x 135 mm	20 watt halogen with rheostat intensity control	1.3 megapixel	USB 2.0	100/240 VAC, 50/60 Hz	
B	KH-48923-40	4x/10x/40x/100x	Binocular	140 mm x 135 mm		480 TV lines (analog) 640 x 480 (digital) [†]	NTSC, USB, RCA		
	KH-48923-41					2.0 megapixel	USB 2.0		

*Model 48923-40 is also available with a super high contrast objective (ACS), a semi-plan objective (SP), or a plan objective (P)—call our Application Specialists for more information.

[†]Resolution for live digital image is 320 x 240 pixels; becomes 640 x 480 after capture.

 Limited Lifetime warranty

Digital Camera Binocular Compound Microscopes

Share images via the Internet!

- Binocular compound microscopes feature super-contrast, plan, or plan-phase objectives

These digital camera microscopes include powerful analysis and manipulation software that counts and measures objects. Measure the length of shapes with metric or English scales. Compute areas of an entire image or portions of it. Combine images, each with a different focus, into one clear image. Enhance saved images with audio narration recordings using MIG format. Software requires a minimum of Windows® 98 or Mac OS® 9.01, 64 MB RAM, and a 4 MB display card (not included).

The white balance correction switch along with adjustable color, brightness, and contrast controls ensure color-correct images.

What's included: high eyepoint 10x widefield eyepieces with rubber cups and diopter adjustment on one eyepiece, an Abbe N.A. 1.25 slide-in condenser, blue filter, frosted glass, measurement calibration slide, and dust cover. The plan-phase model also includes a five-position phase contrast turret, N.A. 1.25 condenser with iris diaphragm, and a phase centering telescope.



Specifications & Ordering Information

Objectives: parfocalled, parcentered, achromatic

Resolution: 320 x 240, 480 TV lines

Functions: count, capture, measure, record, amalgamate, Internet meeting

Shutter speed: 30 fps

Output: digital

Illuminator: 20 W halogen with rheostat

Cable(s): USB, RCA-Video, S-Video

Stage dimensions: 145 mm x 135 mm,
76 mm x 50 mm movement range

Data transfer: 7.5 MB/sec

Data formats: BMP, JPG, MIG

Pixels: 640 x 480 with PCI card (not included)

Catalog number	Magnification	Power	Price
KH-48925-00	4x/10x/40x/100x	115 VAC, 60 Hz	
KH-48925-05	(super contrast)	230 VAC, 50 Hz	
KH-48925-10	4x/10x/40x/100x	115 VAC, 60 Hz	
KH-48925-15	(plan)	230 VAC, 50 Hz	
KH-48925-20	10x/20x/40x/100x	115 VAC, 60 Hz	
KH-48925-25	(plan-phase)	230 VAC, 50 Hz	



48925-00

2.0 Megapixel Digital Imaging Compound Microscopes

High-resolution image sharing and remote real-time inspection in a single microscope

- Capture 1600 x 1280 resolution images at preset intervals up to 100 frames per second—ideal for time lapse studies

Powerful software and an USB 2.0 PCI card (supplied) give you control of a built-in digital camera. Measure length, perimeter, radius, circumference, and angles of objects; simulate 3-D; and combine several images each with a different focus into one clear image. Compute the area of an entire image, or portions of it. Software requires at least Windows® 2000 or XP and 256 MB RAM.

These binocular compound microscopes feature infinity color-corrected optics and achromatic plan (excellent brightfield), ef-plan, or phase (contrast) plan objectives.

What's included: high eyepoint 10x widefield eyepieces with rubber cups and diopter adjustment on both eyepiece, blue filter, frosted glass, measurement calibration slide, and dust cover. Models 03911-21 and -26 also includes a five-position phase contrast turret, N.A. 1.25 condenser with iris diaphragm, and a phase centering telescope.

Specifications & Ordering Information



Objectives: parfocalled, parcentered, achromatic

Pixels: 1600 x 1280

Illuminator(s): 30 W halogen with intensity control

Resolution: 1600 x 1280

Functions: count, capture, division, segment, calculate, measure, 3-D simulation, amalgamate, instant printout, print preview, export, report, Internet meetings

Output: digital

Stage dimensions: 174 mm x 145 mm,
76 mm x 50 mm movement range

Cable(s): USB 2.0 (cables provided)

Data transfer: 480 MB/sec

Data formats: BMP, JPG, MIG, TXT, VLS, SFC

Imaging sensor: 1/2" CMOS, 2.0-megapixel

Catalog number	Magnification	Power	Price
KH-03911-01	4x/10x/40x/100x (ef-plan)	115 VAC, 60 Hz	
KH-03911-06		230 VAC, 50 Hz	
KH-03911-11	4x/10x/40x/100x plan	115 VAC, 60 Hz	
KH-03911-16	(excellent brightfield)	230 VAC, 50 Hz	
KH-03911-21	10x/20x/40x/100x plan-phase	115 VAC, 60 Hz	
KH-03911-26	(phase contrast)	230 VAC, 50 Hz	

New



03911-01

Mi Microscopes

Specialty

New



48900-16

Fundamental Inspection Microscope

Provides all the elements needed for a classroom microscope

- Built-in digital camera and software included for greater specimen detail and analysis
- Reversible 60-mm, black-and-white stage plate with stage clips to secure specimen
- Rugged all-metal frame, locked-on parts, and non-skid rubber feet to withstand multiple usage

The fundamental inspection microscope with built-in digital camera extends to 14¼" (360 mm) to accommodate larger objects such as rocks, insects, and flowers with total magnification up to 40x. Unlike standard classroom microscopes, images are upright and unreversed making it easier to manipulate specimen on stage. This microscope permits connection to your computer with supplied USB cable. Easy-to-use software is included for capturing microscope images, labeling, measuring, storing, and e-mailing (requires PC with Windows® 98 or above, or Mac OS X). The menu on computer monitor has pull-down menus for opening, storing, printing, regulator for brightness, color, gamma correction.

What's included: built-in digital camera, two versions of Motic software (Motic Play and Motic educator), and vinyl dust cover.

Built-In Digital Camera Specifications

Image device	¼" built-in chip
Pixels	640 x 480
Framed resolution	641 x 480 pixels
Electronic shutter	8 to 15 frames/second
White balance	Auto white balance
Minimum illumination	5 Lux (F:1.4)
Data transfer	7.5 MB/second
Color image	Take-up time below one second
Power supply	5 V, self-powered from computer USB
Data format	BMP, JPG, MIG (for recording)

Specifications & Ordering Information

Catalog Number	Total magnification	Objectives	Eyepiece	Illuminator	Power	Price
KH-48900-16	20x or 40x	Built-in 2x/ auxiliary 2x	Widefield 10x/20mm	LED illumination	110 to 240 VAC	

[KH-48900-18](#) Inspection advanced software for greater specimen detail and analysis

CME Phase Contrast Microscopes

View transparent specimens in wastewater treatment, dairy, and water purification applications

- Economical 2000-hour tungsten-halogen lamp and optics provide maximum image quality
- Maintenance-free focus prevents stage drift for the life of the instrument

This microscope helps eliminate stress with easy-to-reach controls and an ergonomic design with a 45° viewing angle. Its rear-facing nose piece, cast aluminum frame, and spring-loaded objectives tolerate heavy use. One of the 18 mm x 10x eye pieces includes a pointer for convenient review.

What's included: phase contrast objectives, Abbe condenser, phase contrast slider, eyepieces with eyeguards, blue filter, immersion oil, installed 2000-hour lamp, Allen wrench, dust cover, manual, cord, and standard 3-prong plug (U.S. plug for 120 VAC models; European plug for 230 VAC models). Model 49402-20 also includes a green filter and four annular phase rings.

Specifications & Ordering Information



Catalog number	Total magnification	Head	Eyepiece diameter	Illuminator	Power	Price
KH-49402-20	10x/20x/ 40x/100x	Binocular	18 mm 10x widefield	Tungsten- halogen	120 VAC 230 VAC	
KH-49402-30	10x/20x/ 40x/100x	Trinocular	18 mm 10x widefield	Tungsten- halogen	120 VAC 230 VAC	

Camera and Video Adapters let you mount your 35-mm or video camera to your microscope. To mount a 35-mm camera, order adapter tube 49402-59 and the T-adapter at right for the camera type.

Catalog number	Description	Price
KH-49402-56	Video camera adapter, ⅓" image format	
KH-49402-58	Video camera adapter, ½" image format	
KH-49402-61	Video camera adapter, 1" image format	
KH-49402-59	35-mm camera adapter tube	



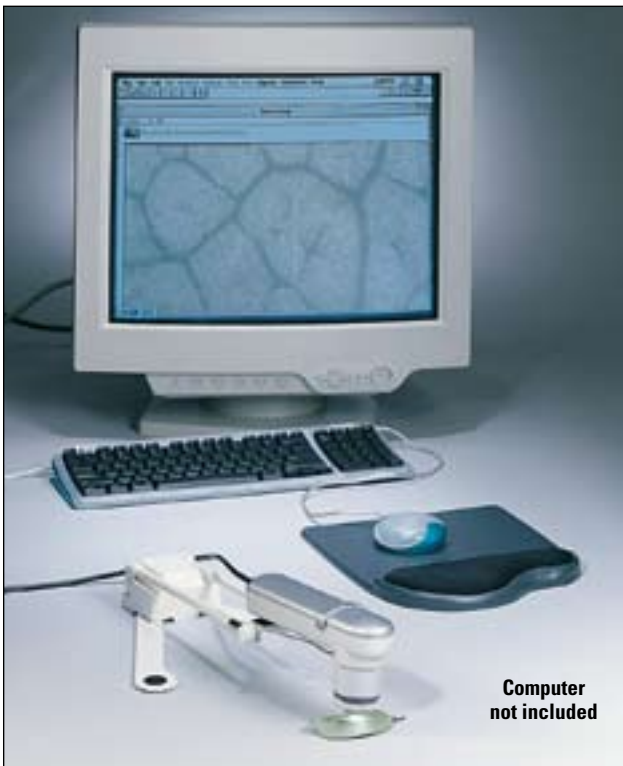
Phase contrast optics enhance views of transparent specimens



49402-20

T Adapters

Catalog number	Type of camera	Price
KH-49402-72	Minolta®	
KH-49402-73	Nikon®	
KH-49402-74	Olympus®	
KH-49402-75	Pentax®, Vivitar®	
KH-49402-76	Yashica®	

Computer
not included

Magnify very small objects for viewing on a computer or laptop screen.

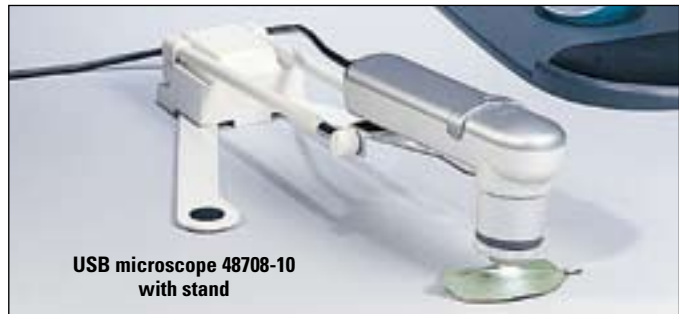
“Plug and Play” USB Microscope

Transform your laptop into a traveling microscopy lab or your desktop into a micro-imaging center!

- Handheld, portable combination microscope/video camera connects to any USB-equipped computer.

Touch and view feature—simply touch the object with the microscope and the 1x image is magnified to a crisp, clear 200x image in seconds. USB connection makes digital micro-imaging a snap. Lens changes are simple—use as a video camera by using 1x lens; 50x and 200x lenses feature built-in white LED illumination. Compatible with PC or Mac with USB port or hub. Use included software for imaging, editing, color adjustments, and single frame, video, and time-lapse photography.

What's included: stand; USB cable (attached to microscope); 1x, 50x, 200x lens; software driver; and video capture and editing software.

USB microscope 48708-10
with stand

Specifications & Ordering Information

Catalog number	Total magnification	Illuminator(s)	Power	Price
KH-48708-10	1x/50x/200x	Built-in white LED	110 VAC, 60 Hz	

Metallurgical Microscopes

View metals, plastics, ceramics, paint, glass, crystals, and semiconductor components

These versatile microscopes are ideal for a wide range of applications, from metallurgy to transparent sample observation. Comfortable sidetop viewing heads have 30° inclined eyetubes with one adjustable diopter and one fixed diopter. The interpupillary distance adjustable from 53 to 75 mm. Ergonomic coaxial focus controls have tension adjustment and a safety autostop. Koehler illumination allows for effective contrast control. The illuminator features field iris, aperture iris, and filter slots. Fiber sets are included.

Brightfield/Incident Microscope (48405-21, -27) is ideal for everyday use. Features Epi-Plan infinity corrected optics and scratch-resistant ceramic coated stage. Each model includes polarized light observation mode.

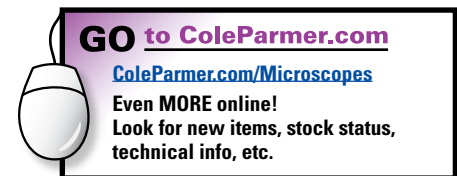
Brightfield/Incident Microscope (48405-41, -47) gives you the flexibility of both incident and transmitted illumination. Features Epi-Plan infinity corrected optics and 30 W halogen vertical Koehler illuminator. This model has a 94.5 mm diameter clear glass insert to allow transmitted lighting. Polarized light mode included.

Brightfield/Darkfield/Incident Microscope (48405-31, -37) includes all the previous models plus adds the capability of darkfield observation mode with Plan Epi BF/DF objectives. This model features an ultra bright 50 W halogen vertical Koehler illuminator. Polarized light mode included.

Specifications & Ordering Information

Catalog number	Objective power	Head	Eyepiece	Illuminator	Power	Price
KH-48405-21	5x/10x/20x/50x	Binocular	Paired DIN 10x	30 W halogen full Koehler	100–240 V	
KH-48405-27	5x/10x/20x/50x	Trinocular	Paired DIN 10x	30 W halogen full Koehler	100–240 V	
KH-48405-31	5x/10x/20x/50x	Binocular	Paired DIN 10x	50 W halogen full Koehler	100–240 V	
KH-48405-37	5x/10x/20x/50x	Trinocular	Paired DIN 10x	50 W halogen full Koehler	100–240 V	
KH-48405-41	5x/10x/20x/50x	Binocular	Paired DIN 10x	30 W halogen full Koehler	100–240 V	
KH-48405-47	5x/10x/20x/50x	Trinocular	Paired DIN 10x	30 W halogen full Koehler	100–240 V	

Limited
Lifetime
warranty



GO to ColeParmer.com

ColeParmer.com/Microscopes

Even MORE online!

Look for new items, stock status, technical info, etc.



48405-21

[KH-48401-51](#) Replacement bulb; 6 V, 30 W halogen. For models 48405-21, -27, -41 & -47

[KH-48401-52](#) Replacement bulb; 12 V, 50 W halogen. For models 48405-31 and -37

Mi Microscopes

Cameras



New

03908-01



03908-10

New



03908-20

CCD Digital Microscope Cameras with Software

Fast plug-and-play cameras relay images from your microscope to your computer or TV monitor

- Supplied software measures specimens and logs each image with an automatic reference number, date, and time

Capture electronic images and videos by converting your compound or stereo microscope into a powerful digital imaging system. These affordable digital cameras capture 24-bit (16.7 million colors) still or video images and instantly transmit them for real-time full screen viewing. Timed-interval shots provide time lapse observation—save, manipulate, print, and send!

These cameras are also great for capturing images of objects too large for a microscope stage. The included macro viewing tube is a stand that sits on the bench and holds the camera above a specimen. Order a flexible gooseneck stand or a tripod separately below for flexible angle views of large specimens—both are suitable for macro applications.

350 CCD Camera connects to your computer USB port—there is no need for a separate power supply.

480 CCD Camera has the added benefit of dual outputs—send images to your computer USB port, a TV monitor, or to both at once!

2300 CCD Camera is a 3.0 megapixel camera with maximum digital output pixel range for enhanced detail documentation or presentation writing.

What's included: C-ring; CCD lens; 28-, 30-, 34-, and 35-mm tube adapters; 10-ft USB cable; two calibration slides; macro viewing tube; and software. Model 03908-10 also includes 6½-ft RCA and S-Video cables and a 12 V linear switching power supply.



03908-10 shown mounted on microscope (sold separately)

Specifications & Ordering Information

ISO9001:2000
SUPPLIER CERTIFIED



Maximum data rate: 7.5 MB/second
Measurement units: μm, inches, mm
Data format: BMP, JPG, MIG

Operating system requirements:
Windows® 98 or better,
Mac® OS 9.01 or better

Description	352 CCD camera	480 CCD camera	2300 CCD camera
Catalog number	KH-03908-01	KH-03908-10	KH-03908-20
Imaging sensor	¼" CCD	½" CCD	½" CMOS
Lens	8-mm CCD	12-mm CCD	8-mm CCD
Pixels	659 x 494	712 x 582	1200 x 1680
Resolution	640 x 480	640 x 480, 480 TV lines	1200 x 1680
Output	Digital	Digital and analog	Digital
Cable(s)	USB	USB	USB 2.0
Power (USB)	5 V self-powered from computer	5 V self-powered from computer	5 V self-powered from computer
Power (analog)	—	12 V	—
Dimensions	2¾"L x 2"W x 1½"H	4¾"L x 4"W x 2¼"H	2"L x 1⅞"W x 1⅝"H
Price			

Accessories

[KH-03906-51](#) Tripod for macro viewing applications

[KH-03908-50](#) Gooseneck stand for 03908-00

[KH-03908-53](#) Carrying case for 03908-00

[KH-03908-54](#) Carrying case for 03908-10

[KH-03908-55](#) Gooseneck carrying case holds either camera and a gooseneck stand

Advanced Digital Microscope Systems

Digital camera and portable microscope—all in one!

Use these digital microscopes to capture still images to send to your PC or printer, and send video images to a monitor or VCR. Rechargeable battery provides an hour of cordless operation.

The 3.5" LCD monitor provides simple touch-and-view operation. Selectable white balance, exposure, and brightness give you clear, true-color images. Use with or without your own microscope. Advanced digital microscope system 48705-01 gives you crisp 2.3-megapixel images with a 256 MB memory card, PCMCIA card adapter, and a wide selection of highly specialized optional lenses.

What's included: video cable, 256 MB CF memory card, PCMCIA adapter, C-mount adapter, rechargeable lithium battery, recharger, DC to DC cable, AC adapter, cover, and carrying case. Order lenses and stand separately below.



Advanced digital microscope 48705-01 with lens (not included) and 256 MB memory card

Required System Components

- Advanced digital microscope 48705-01
- Lens 48705-57 thru -87
- Flexible stand 48705-71 or XYZ stand 48705-74



Send video to monitor or VCR

Specifications & Ordering Information

Dimensions: 3"W x 7"H x 4¼"D

Catalog number	KH-48705-01
Image sensor	1/1.75" CCD
Memory card (included)	256 MB
Total image elements	2,300,000 pixels
Pixels stored	Norm (500 KB): 1792 x 1184 Fine (900 KB): 1792 x 1184 Zoom (200 KB): 896 x 592
Images stored (approx)	17 to 77 per 16 MB card
Shutter speed	¼s to 4 seconds
Digital input/output	CF memory card, PCMCIA adapter
Video output	NTSC mini-jack
Power	Rechargeable lithium-ion battery (included), AC adapter (included)
Price	

Accessories

- [KH-48705-71](#) Flexible stand for 48705-10
[KH-48705-74](#) XYZ stand
[KH-48705-70](#) Extra 4 MB memory card for 48705-00
[KH-48705-65](#) Optional stand for 48705-00
[KH-48705-85](#) Computer interface set for 48705-00. Includes cable and application software for Macintosh
[KH-48705-60](#) C-mount adapter for 48705-00
[KH-48705-76](#) Optical microscope adapter



Lenses

Catalog number	Description	Price
KH-48705-57	30x R/N* lens	
KH-48705-58	50x R/N* lens	
KH-48705-59	100x lens	
KH-48705-61	200x lens	
KH-48705-62	Micro-macro lens, 1x to 30x N†	
KH-48705-63	High-resolution 15x lens	
KH-48705-64	High-resolution 500x lens	
KH-48705-66	Bore lens with 90° mirror	
KH-48705-67	Fish-eye lens with software	
KH-48705-68	Lens for slides	
KH-48705-69	Coaxial illumination lens, 40x	
KH-48705-81	200x high resolution lens	
KH-48705-82	100x high resolution lens	
KH-48705-83	25x to 200x super zoom lens	
KH-48705-84	0x to 200x super zoom lens	
KH-48705-87	Bore lens with 90 degree side mirror	

*Reflective/Nonreflective †Nonreflective

Mi Microscopes

Cameras



Motic Images Plus 2.0 mL can be changed to one of nine different languages.



Apply filters to live or captured images. Emboss, grayscale, red, green, blue filters images for enhanced contrast.



Calibrate and accurately measure objects—export results in spreadsheet format.



Automatically count and analyze objects—export results in spreadsheet format.



Choose from a variety of skins to customize your software.

Digital 1.3 and 2.0 Megapixel Cameras with Image-Analyzing Software

Camera captures in real time for live viewing

- Share live high resolution images
- Advanced calibration and measurement tools with easy export to Excel
- Auto segmenting tool and auto count calculations can be easily exported

Mount these digital cameras on any standard optical microscope or use the focusing lens for macro viewing while connected to your notebook or PC for instant plug-and-play operation.

Image analyzing software simplifies microscopic imaging and analysis. The software segments auto-counts and measures objects, then exports calculations in a standard spreadsheet or text format for further analysis. Edit images captured to your PC or notebook, add music or record your own voice with the images. Use the time-lapse feature to capture images over a period of time or capture live video. Generate reports using images and a written essay. Share images at high speed in real time with the "Distance Image Sharing" feature.

You can capture images without a microscope using the included 16 mm focusing lens. The optional gooseneck stand or tripod allows you to position your camera—ideal for macro viewing applications. Stands are sold separately below.

1.3 megapixel camera (model 03906-02) has a maximum resolution of 1290 x 1024 pixels.

2.0 megapixel camera (model 03906-04) captures sharp, high-contrast images at a rate of 10 fps at full resolution (1600 x 1280) or lower the resolution for faster viewing (up to 30 fps).

What's included: USB 2.0 cable, dust cap, USB 2.0 card for PC, Motic Images Plus 2.0 ML image analyzing software CD (for PC and MAC) with quick start manual, eyepiece adaptors (28 mm, 30 mm, 34 mm, and 35 mm) to fit most standard microscopes oculars, calibration slide, macro tube and B & S adapter (model 03706-04 only). B & S adapter is sold separately below if needed for model 03906-02. If you are using a notebook, a USB 2.0 PCI card may be required (not included).

Specifications & Ordering Information

Minimum system requirements:

Pentium 4, 1 GHz or higher processor, HDD 16 unused, RAM 256 MB or better (recommend 512 MB), display memory 32 MB, Windows 2000 or XP (now supports MAC OSX)

Data rate: 480 MB per second

Power: 5 V self-power from computer

Catalog number	Description	Price
KH-03906-02	1.3 megapixel camera	
KH-03906-04	2.0 megapixel camera	

Accessories

KH-03906-50 Gooseneck stand for large images and flexible observations at an angle. Use with CCD lens 03906-52

KH-03906-51 Tripod for macro viewing applications and large images. Use with CCD lens 03906-52 (sold separately below)

KH-03906-53 Tripod adapter for fine distance adjustments

KH-03906-52 CCD lens to capture images without microscope. For use with gooseneck or tripod

KH-03906-57 Aluminum case protects camera when not in use. Case measures 14½"W x 9½"H x 6"D

KH-03906-64 B & S adapter

KH-03906-62 Software upgrade to Motic Images 3.2. Contains more professional image analysis tools

New

2.0 megapixel model available



Model 03906-04 runs on USB 2.0 technology for faster transfer rates. Fits on almost any microscope.



1.3 megapixel camera 03906-02

ISO9001:2000
CERTIFIED SUPPLIER



Cole-Parmer® Preassembled Video Microscopy Systems

Quick and easy set-up with these complete video microscopy systems



Color Video Microscopy System

Connect this video microscopy system to your existing microscope for high-quality video images.

System includes:

- Color camera 49901-30
- Fiberoptic illuminator with dual light pipes
- 14" color monitor.

Specifications & Ordering Information

Image format: 1/2" Resolution: >500 TV lines

Catalog number	Power	Price
KH-49900-10	115 VAC, 60 Hz	
KH-49900-15	230 VAC, 50 Hz	

NOTE: Working distance, vertical field of view, and electro-optical magnification dependent on existing microscope specifications.

GO to page(s) 946-947

See pages 946-947 to order trinocular microscopes.



Macro Video Microscopy System

This compact and easy-to-use video system has everything you need for quality video imaging. System comes with camera, zoom lens, rack with stand, monitor, and all necessary cables for quick set-up.

System includes:

- Color camera 49901-30 or -35
- Macro zoom lens with 18- to 108-mm focal length
- Stand with focusing rack
- Stand adapter
- 14" color monitor

Specifications & Ordering Information

Image format: 1/2" Resolution: >500 TV lines

Working distance	Vertical field of view		Electro-optical magnification
	Maximum	Minimum	
127	25.0 mm	5.0 mm	9x to 45x
178	38.0 mm	6.3 mm	6x to 36x
254	57.0 mm	9.5 mm	4x to 24x

Catalog number	Format	Power	Price
KH-49900-20	NTSC	115 VAC, 60 Hz	
KH-49900-25	PAL	230 VAC, 50 Hz	



Digital Video Microscopy System

This system includes visual communications software that handles image capture, image editing, image database applications, and video capture applications. The image database organizes images in an easy to use format with full find, sort, and query tools.

System includes:

- Digital color camera
- Macro zoom lens with 18- to 108-mm focal length
- Stand with focusing rack
- Stand adapter
- Camera-to-computer cable
- PCI card
- Software for PC or Macintosh®

Specifications & Ordering Information

Resolution

Capture: 1260 x 960 pixels max
Motion: 640 x 480 pixels max (up to 10 frames/sec)

Image sensor: 270,000 pixel, 1/2" CCD

Bit depth: 24-bit RGB

S/N ratio: 52 db

File formats supported: BMP, TIFF, JPEG, DIB, PCX, WMF, PSD, PCD, FQX, PNG, TGA, EPS, PCT, TIFF, CCITT Fax, CMP

Exposure: auto exposure, auto gain control

White balance: auto/manual

Shutter control: auto/manual

System Requirements

Drive: requires a 486 computer or Macintosh® system 7.5 computer or better with 16 MB RAM

Bundled software: Pixera Viewfinder, Pixera Studio, Pixera Album, Pixera Motion, TWAIN v1.6 Driver, Photoshop Plug-In (Mac), Video for Windows® Driver (Win 95), Pixera VDIG extension (Mac)

Working distance	Vertical field of view		Electro-optical magnification
	Maximum	Minimum	
127	19.0 mm	3.8 mm	12x to 60x
178	29.0 mm	4.7 mm	8x to 48x
254	43.0 mm	7.1 mm	5.3x to 32x

Catalog number	Power	Price
KH-49900-30	Digital video system	

Mi Microscopes

Video

Video Microscopy System Components

Make your microscopy system work easier and more efficient

- Customize a system to suit your application
- Large, high-quality images minimize eyestrain

Give your detail-oriented work the attention it deserves—a video microscopy system. Enjoy the benefits of viewing images on a large screen: greater accuracy, increased efficiency, and reduced user fatigue. Systems are simple to set up and can be customized for various applications.

System consists of a camera, a monitor, and optics (choose either a microscope and adapter or zoom lens). Select individual items to add to your current system, or order all the components to create an integrated system. We also offer complete systems; visit our Web site at www.coleparmer.com.

1
49901-20

2a
83907-20

3
48500-62

1
49901-20

2b
49901-60

A video optics system is ideal for quality control inspections.

Choose a video system that fits with your existing microscope.

Required System Components

- 1** Video camera..... page 958
- 2a** Video optics..... page 959
- 2b** Adapter for your microscope..... page 959
- 3** Monitor page 959

Add these options

- 4** Illuminator page 959

1 Black-and-White and Color Video Cameras

- Excellent resolution and sharp, clear pictures

Use these cameras to make a video image of the item you need to examine. Cameras provide sharp, clear images with no smear, bloom, or image retention. The standard "C" type lens mount works with a variety of optics.

Choose from black-and-white or color cameras. Black and white cameras have 1/2" image format with >600 TV lines. A 6-ft cable with BNC connector is included.

Color cameras have automatic and manual white balancing to save you setup time or allow more control of your levels.

Models 49901-20 and -25 give you excellent resolution at an economical price. Models 49901-30 and -35 offer exceptional sensitivity for low-light operation. Use models 49901-60 and -65 for use with 49910-30 screen splitter (sold on page 1143). Cameras are equipped with genlock for increased color rendition when used with screen splitter.

Cameras are available in EIA or NTSC (115 VAC, 60 Hz) or CCIR or PAL (230 VAC, 50 Hz) formats. All models include a power supply, and a 6-ft cord (115 VAC models include a two-prong plug).

Specifications & Ordering Information

Catalog number	Image format	Resolution (TV lines)	I/O connectors	Dimensions (L x W x H)	Video format	Power	Price
Black-and-white video cameras							
KH-49901-10	1/2"	>600	BNC	1 1/2" x 2" x 3 3/4"	EIA	115 VAC	
KH-49901-15					CCIR		
Color video cameras							
KH-49901-20	1/2"	>450	BNC and four-pin mini DIN (S-video)	2" x 2" x 6"	NTSC	115 VAC	
KH-49901-25					PAL		
KH-49901-30	1/2"	>450		2" x 1 3/4" x 5"	NTSC	115 VAC	
KH-49901-35					PAL		
KH-49901-60	1/2"	>450	1 3/8" x 4 3/4" x 2 1/8"	1 3/8" x 4 3/4" x 2 1/8"	NTSC	115 VAC	
KH-49901-65					PAL		



2a Video Optics

Zoom Optics Kit (shown on facing page)

- Eliminate eyestrain without sacrificing your image quality

Zoom optics kit is ideal for high-magnification applications when you're not using a microscope. Magnification range is 0.7x to 4.5x at a working distance of 90 mm; total magnification depends on monitor screen size—see table for different ranges.

Use zoom optics with lens attachments (sold separately below) to vary magnification and working distance. Zoom optics kit includes stand with rack and pinion gears, and necessary adapters. Order optional illuminator separately from **4** below right.

Specifications & Ordering Information

Magnification range

- For 14" monitor screen size: 21x to 135x
- For 20" monitor screen size: 32x to 208x
- For 27" monitor screen size: 44x to 280x

Catalog number	Description	Price
KH-03907-20	Zoom optics kit	

Optional Lens Attachments

Use lens attachments to vary magnification or working distance. Use with zoom optics kit 03907-20 above.



Specifications & Ordering Information

Catalog number	Magnification	Working distance	Price
KH-03907-30	0.5x	177 mm	
KH-03907-40	2x	37 mm	

Zoom Lenses

- Ideal for macroscopic viewing and surveillance

Use these 6x lenses for applications ranging from surveillance to quality control inspection. Order optional illuminator separately from **4** at right; see www.coleparmer.com for supports.

Model 48901-00 zoom lens is ideal for typical video applications such as filming or surveillance. This lens has a fixed power macro capability. Working distance in macro is 2" to 7". In standard applications, working distance is 1 meter to infinity.

Model 48901-04 macro zoom lens is specifically designed for macro video applications. It allows you to get an overview look, then zoom in on a specific area. Magnification depends on monitor screen size—see table below for different ranges. Working distance is 6".



Specifications & Ordering Information

Magnification range for model 48901-04

- For 14" monitor screen size: 6x to 28x
- For 20" monitor screen size: 8x to 41x
- For 27" monitor screen size: 11x to 55x

Catalog number	Description	Focal length	Price
KH-48901-00	Zoom lens	12.5 to 75 mm	
KH-48901-04	Macro zoom lens	18 to 108 mm	

2b Adapters

CCTV Adapters

Adapters fit into a 23-mm eyepiece or trinocular tube and will accept any 21-mm reticle or eyepiece pointer. Reducing adapter is required for use with 30-mm eyepiece.



Catalog number	Description	Format	Price
KH-49001-60	CCTV adapter, 1/8x	For 1/8"	
KH-49001-00	CCTV adapter, 1/2x	For 1/2"	
KH-49001-10	Reducing adapter	30-mm to 23-mm	

Microscope/Video Adapters

Use adapters to connect an eyepiece or trinocular microscope to a video camera with a "C" mount. Adapter assembly 03907-50 easily slips over the 28-mm eyepiece of most microscopes.



[KH-03907-50](#) Microscope adapter assembly for 28-mm eyepiece

[KH-48401-72](#) Microscope adapter for compound trinocular microscopes 48401-10, -15, -30, and -35 on pages 946-947

[KH-48402-72](#) Microscope adapter for stereo and stereozoom trinocular microscopes 48403-10 and 48402-00, -02 on pages 942-943

[KH-48920-60](#) Microscope adapter for stereozoom trinocular microscopes 48920-20, and -25 on page 939

3 Color Monitor and Monitor/Receivers

These screen monitors/receivers (shown on facing page) provide a large, clear image of your work. The 14" monitor 48500-61 displays PAL, SECAM, and NTSC format—ideal for classroom demos, VCR monitoring, and computer graphics. Choose the 20" monitor/receiver 48500-65 for small groups, or use the 27" monitor/receiver 48500-70 for presentations or applications that demand a large screen with a sharp image. The monitor/receivers display NTSC format.

All models feature direct audio and video inputs (BNC, RCA jacks, and S-video) and simple menu operation of picture controls and presets. Models 48500-65 and -70 feature a front control panel lock to prevent alteration of settings. Units include a 6-ft cord with a three-prong plug.

Specifications & Ordering Information

Catalog number	Screen size	Resolution (TV lines)	Dimensions W x H x D	Power (VAC, Hz)	Price
KH-48500-62	14"	>500	17 ⁵ / ₈ " x 17 ³ / ₈ " x 19 ³ / ₄ "	115/230, 50/60	
KH-48500-70	27"	>550	26" x 23 ³ / ₈ " x 19"	115, 60	

4 Illuminator



This low-noise illuminator features a stepless control knob. Color temperature is 3250 K at full output. Fan-cooled quartz halogen lamp lasts up to 2000 hours.

Order a single, dual, or ring light pipe separately below. Light pipes connect directly to illuminator without an adapter.

[KH-41500-50](#) Illuminator; 115 VAC, 60 Hz

[KH-41500-55](#) Illuminator; 230 VAC, 50 Hz

[KH-41500-10](#) Single light pipe

[KH-41500-00](#) Dual light pipe

[KH-41500-70](#) Ring light pipe

Mi Microscopes

Video

Cole-Parmer Crosshair Generators

Ideal for quality control applications

- On-screen measurements eliminate eyestrain

Connect a crosshair generator with your existing microscope and camera to take measurements right on the screen. We offer four models: fixed or adjustable crosshair generators, video caliper, and screen splitter with reticle generator.

Fixed Crosshair Generator provides a blank screen or a single crosshair with solid or dashed lines.

Adjustable Crosshair Generator has the same features as the fixed model plus crosshairs with single or dual concentric circles, crosshairs with single or dual concentric boxes, dual movable crosshairs, and expandable rectangle. The concentric circle and boxes can be moved and sized for more versatile measurements.

Screen Splitter with reticle generator is designed for high magnification alignment. You can display inputs from two cameras side-by-side on the split screen or show either input on the full-screen display. An independent, positionable single or double X-Y crosshair or size adjustable framing box is displayed on each video input. Use with cameras 49901-10, 49901-60, and 49901-65 (sold separately on page 958).

What's included: all models except 49910-30 include a 6-ft cable with S-video connector; model 49910-30 includes cables for two cameras; models 49910-40 and -60 include power adapters. Monitor is not included—see page 959 for monitor ordering information.



Adjustable crosshair generator 49910-60 features single or double X-Y crosshairs.

GO to page(s) 959

See page 959 to order a video monitor.

Specifications & Ordering Information

Catalog number	Video input	I/O connectors	Dimensions (L x W x H)	Power (VAC, Hz)	Price
Fixed crosshair generator					
KH-49910-40	NTSC, PAL	BNC (composite) and four-pin mini Din (S-Video)	5¾" x 4¼" x 1⅞"	115, 60	
Adjustable crosshair generator					
KH-49910-60	NTSC, PAL	BNC (composite) and four-pin mini Din (S-video)	5¾" x 4¼" x 1⅞"	116, 60	
Screen splitter with reticle generator					
KH-49910-30	NTSC, PAL	BNC (input) and BNC (output)	14½" x 14¾" x 4¾"	115, 60	

Video Cameras with Built-In Crosshair

A camera and crosshair in one—convenient and economical

- Built-in crosshair generator makes measurements easy
- Use camera with SVGA output with standard computer monitors

Make video microscopy and measurements easy—these color video cameras provide high quality images with the convenience of built-in crosshair line generation for X-Y measurements or alignment applications.

Cameras feature automatic electronic shutter to change shutter speed based on illumination levels, back light compensation, mirror image, and image enhancement to increase edge contrast. Built-in line generator features adjustable position, line style (solid, dashed, or off), and vertical line width; choose from nine colors.

Create titles to identify images or data. View images with a monitor/receiver (NTSC output); camera with SVGA output lets you view images on standard computer monitors—less expensive than standard monitors. Standard C-mount adapter is compatible with a variety of optics and adapters.

Specifications & Ordering Information

Catalog number	Image sensor	Resolution	Video format	Dimensions (L x W x H)	Price
KH-49401-00	¼"	752 x 582, 440k pixels	SVGA	4½" x 2" x 2½"	
KH-49401-10	½"	811 x 508, 412k pixels	NTSC	5½" x 2" x 2"	



49401-00



Easily position lines to align or take measurements.



Need help selecting the right video microscopy components? Call our Application Specialists for technical assistance.

847-549-7600

Cole-Parmer Brand Slides

Our slides feature precision ground edges on all four sides. The raised coating on the Superfrost and Colorfrost slides keeps them separated to prevent sticking and scratching. Color frosted slides make identification a snap. Slides measure 75 x 25 mm and are 1-mm thick. They are available in one gross (144 slides) or one case (10 gross) quantities.



Ordering Information

Description	One gross (144 slides)		One case (10 gross)	
	Catalog number	Price	Catalog number	Price/cs
Plain	KH-48500-00		KH-48500-20	
Frosted	KH-48501-00		KH-48501-20	
White Superfrost	KH-48502-00		KH-48502-20	
Blue Colorfrost	KH-48503-00		KH-48503-20	
Green Colorfrost	KH-48503-01		KH-48503-21	
Pink Colorfrost	KH-48503-02		KH-48503-22	
Yellow Colorfrost	KH-48503-03		KH-48503-23	

Superfrost® Plus and Colorfrost® Plus Adhesion Slides

Tissue sections and cells electrostatically adhere to the glass without adhesives—eliminates tissue loss during staining. Ideal for frozen sections and cytological preparations. White Superfrost slides provide a chemically resistant marking surface. Colored marking surfaces of Colorfrost slides ensure easy labeling and identification. Slides measure 75 x 25 mm and are 1-mm thick. Available in one gross (144 slides).



Ordering Information

Catalog number	Description	Price/gross
KH-48512-00	White Superfrost Plus	
KH-48512-02	Blue Colorfrost Plus	
KH-48512-04	Green Colorfrost Plus	
KH-48512-06	Yellow Colorfrost Plus	
KH-48512-08	Pink Colorfrost Plus	

Clipped-Corner Slides

Drastically reduce the chances of cutting your finger or tearing a glove when you use these slides. Clipped corners keep sample away from the edges of the slide—ideal for making blood smears. Choose from plain, frosted, or Superfrost slides. Superfrost slides provide a chemical-resistant, opaque white writing surface for easy labeling. Slides measure 75-x 25 mm and are 1-mm thick. Available in one gross (144 slides).



Ordering Information

Catalog number	Description	Price/gross
KH-48520-01	Plain	
KH-48520-03	Frosted	
KH-48520-05	Superfrost	

Cover Glass

Borosilicate glass covers are available in square or rectangular sizes. Choose from two thicknesses: no.1 (0.13 to 0.17 mm) or no.1.5 (0.16 to 0.19 mm). Cover glass is packaged by the ounce.



48510-00

Specifications & Ordering Information

Catalog number	Size	Thickness	Approx pieces/bx	Price/bx
KH-48510-00	Square (22 x 22 mm)	No. 1 (0.13 to 0.17 mm)	156	
KH-48510-10		No. 1.5 (0.16 to 0.19 mm)	138	
KH-48511-00	Rectangular (22 x 40 mm)	No. 1 (0.13 to 0.17 mm)	87	
KH-48511-10		No. 1.5 (0.16 to 0.19 mm)	76	

Plastic Cover Slips

These plastic cover slips are unbreakable, yet reusable. Cover slips are square and made from flexible vinyl. Packaged as a box of 1000, divided into 10 boxes of 100 covers each, with each slip separated by a protective tissue.



48510-20

Specifications & Ordering Information

Catalog number	Size	Thickness	Qty/pk	Price/pk
KH-48510-20	Square (22 x 22 mm)	0.007" (0.157 mm)	1000	

Slide Dispenser

This slide dispenser delivers one slide at a time for easy handling. The two-piece plastic holding compartment is held together by a plastic clip. The removable half slides off the stationary half for quick filling. Dispenser holds 50 standard 75 x 25 mm slides. The heavy, stable cast-metal base has a nonskid rubber bottom.



48580-00

Specifications & Ordering Info

Catalog number	Description	Price
KH-48580-00	Slide dispenser	

GO to page(s) 696–700

For mounting media, reagents, and staining dishes and jars, see our "Histology" section on pages 696–700.

Immersion Oil

Type A immersion oil has a viscosity of 150 cSt and a refractive index of 1.5239.



48401-95

Ordering Information

Catalog number	Description	Qty	Price
KH-48401-95	Immersion oil	15 mL	

Mi Microscopes

Accessories

Polystyrene Slide Holders

Protect your 75 x 25 mm microscope slides with these compact, durable holders. Both are foam lined with numbered indexes on cover and bottom for easy identification. Cover and bottom are grooved for secure stacking.



Color	25-slide holders		100-slide holders	
	Catalog number	Price	Catalog number	Price
White	KH-48581-10		KH-48580-10	
Blue	KH-48581-12		KH-48580-12	
Yellow	KH-48581-14		KH-48580-14	

Slide Tray and Cover

Store and protect up to one hundred 75 x 25 mm slides. Slides are positioned vertically into prenumbered grooves for easy identification and retrieval. Tray measures 14¼"L x 1½"W x 37⁄8"H. Order tray cover separately in table.



Catalog number	Description	Capacity	Price/ea
KH-48580-25	Slide tray	100	
KH-48580-30	Cover for slide tray	—	

Microscope Slide Tray

Slide tray features white background for quick slide identification. Recessed "finger notches" make slide removal easy. Tray is made of molded PVC and holds twenty standard 75 x 25 mm slides. Tray measures 13⅜" x 7½".



Catalog number	Capacity	Qty/pk	Price/pk
KH-48480-70	20 standard slides	10	

Slide Holder

Protect slides from breakage. Each of these aluminum slide holders accepts four 3" x 1" or 75-x-25-mm slides. Semicircular notches in the upper edge of the holder make it easy to insert or remove slides.



Catalog number	Capacity	Qty/pk	Price/pk
KH-48571-08	Four 3" x 1" or standard slides	10	

Microscope Slide Storage Cabinet

Safely store and organize your slides for easy access

This stackable cabinet is perfect for short-term or long-term storage of prepared slides. Individual tray compartments store slides flat with cover glasses intact, allowing for easy indexing and retrieval. The door slides into the cabinet when open for easy access to all slides. Each wooden cabinet unit houses a set of 25 numbered aluminum trays, storing up to 500 standard 75 x 25 mm slides.



What's included: 25 trays.

48570-00

Specifications & Ordering Information

Catalog number	Capacity	Dimensions	Price
KH-48570-00	500 slides	8½"W x 11"H x 13"D	

KH-48570-50 Replacement slide tray, unnumbered. Holds 20 slides and measures 7¼"W x 11¼"L x ¼"D

Dust Remover

Formulated with HFC-134a, this exceptionally pure, moisture-free, inert gas removes particles without the use of harmful solvents. Because HFCs do not harm the ozone, this product has a zero ozone depletion factor. This duster removes microscopic contaminants, lint, dust, metallic oxide deposits, and other soils. It is non-flammable, odorless, and residue-free.



Catalog number	Description	Size	Cans/cs	Price/cs
KH-17766-12	Dust remover	10 oz	12	

Dry Anti-Static Cloth

This large, lint-free cloth dissipates surface static while safely cleaning delicate surfaces ranging from film and lenses to view screens. Knitted from an ultra-fine mesh of non-toxic synthetic fiber and non-abrasive conductive filament. Since the cloth is not chemically treated or wet, it may be reused many times. Measures 10"W x 18"L.



Catalog number	Description	Price
KH-46301-00	Dry anti-static cloth	