



## **CAMERAS & DIGITAL Solutions**

Cameras for Microscopy & Digital Scanner

# 4 CAMERAS & DIGITAL Solutions

The most flexible way to create a digital microscope is to combine a digital camera to a standard microscope. You can then move the camera on different microscopes and different cameras on any microscope for an incredible versatility. Moreover, since microscope camera technology is improving so rapidly, it is easy to replace a camera as new ones are released.

OPTIKA offers an impressive amount of microscope camera, all of which are easy-to-use, affordable and professionally selected for excellent color resolution and rapid transmission. Downloadable, free of charge software is always available to enable the latest updates.

Applications include standard image capture and documentation for education, schools, home as well as professional image analysis for laboratories and industrial inspections, including very advanced solutions for critical applications like low light fluorescence imaging and material science applications.

## Entry-Level Microscope Cameras page 357

### Smart & Affordable Solutions – Not Only For Schools & Education...

A wide range of affordable solutions with diversified live resolution for clear and crisp images to be combined via USB, HDMI or Wi-Fi.

## Professional Microscope Cameras page 381

### Comprehensive Range, Remarkable Performance

An impressive offering compatible with any microscope brand to ensure the highest performance available for routine applications in professional environments, with USB, HDMI, 4K, Wi-Fi connections.

## High Microscope Cameras page 407

### High Sensitivity Fluorescence Cameras

In order to detect the often low levels of fluorescence emitted by specimess, cameras used in fluorescence microscopy must have particular features, including high sensitivity and low noise, in order to capture as many photons as possible. These cameras are typically equipped with CCD sensor, although nowadays there is always a larger selection of scientific-grade CMOS.

## Icons

|                                                                                    |                                     |                                                                                     |                       |                                                                                       |                 |
|------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|-----------------|
|  | Multi-Plug low voltage power supply |  | USB 2.0 input (mouse) |  | HDMI output     |
|  | Li-Ion Rechargeable battery         |  | USB 2.0 output        |  | SD/MicroSD slot |
|  | CCD sensor                          |  | USB 3.0 output        |  | Wi-Fi           |
|  | CMOS sensor                         |  | Tablet screen size    |  | BlueTooth       |
|  | Camera resolution                   |  | Software included     |  | Mouse included  |
|  | Cooling system                      |  | ETHERNET output       |                                                                                       |                 |

# Entry-Level Microscope Cameras



## **Smart & Affordable Solutions Not Only For Schools & Education...**

A wide range of affordable solutions with diversified live resolution for clear and crisp images to be combined via USB, HDMI or Wi-Fi ensuring smooth and productive teaching experiences on PC, tablets, projectors and other devices.

These models can also be used for basic requirements in laboratories and industries.

Compatible with any microscope brand, thanks to the projection lens and rings (included in most of the cases).

# Entry-Level Microscope Cameras



## E like Essential

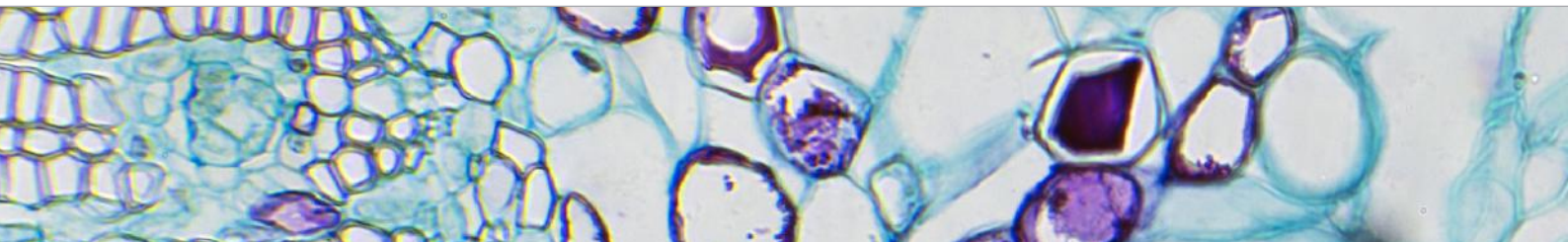
Simply the most essential eyepiece camera (C-E2). That's it!

**C-E2** E2 eyepiece camera, 2 MP CMOS, USB2.0

## B like Basic - C-B Series

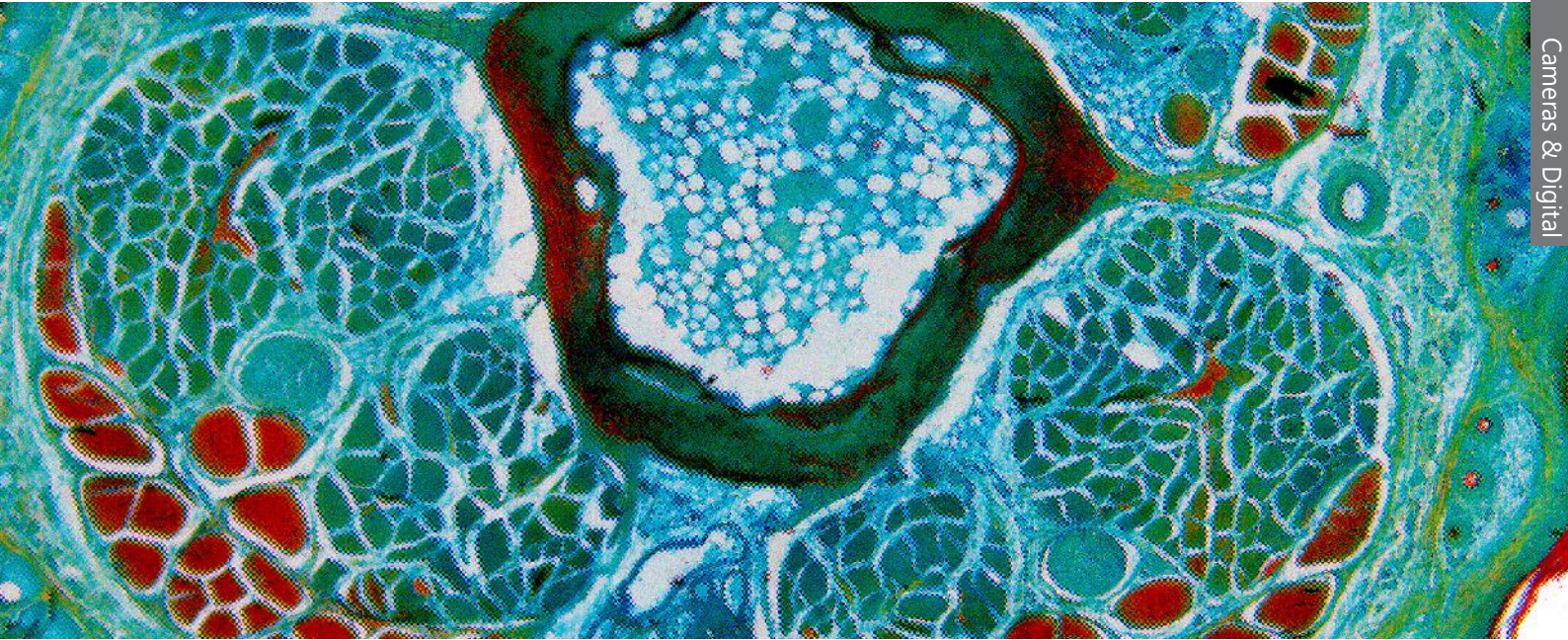
The cost-effective OPTIKA C-B cameras are generally recommended for basic/general applications in education and home use. With C-B+ models, faster transmission speed is achieved through USB3.0 connection, being ideal especially on moving specimens.

|               |                                 |
|---------------|---------------------------------|
| <b>C-B1</b>   | B1 camera, 1.3 MP CMOS, USB2.0  |
| <b>C-B3A</b>  | B3 camera, 3.1 MP CMOS, USB2.0  |
| <b>C-B5</b>   | B5 camera, 5.1 MP CMOS, USB2.0  |
| <b>C-B16</b>  | B16 camera, 16 MP CMOS, USB2.0  |
| <b>C-B10+</b> | B10+ camera, 10 MP CMOS, USB3.0 |
| <b>C-B18+</b> | B18+ camera, 18 MP CMOS, USB3.0 |



# Entry-Level Microscope Cameras

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## TB like Tablet - TB Series

The combination of OPTIKA C-B cameras with Windows tablet PC for a completely new, revolutionary experience. Not a simple tablet but a real PC with large touch screen for smooth and responsive control, representing an extremely comfortable solution for open discussions.

- TB-3W** Windows tablet PC with B3 camera, 3.1 MP CMOS, USB2.0, EU
- TB-5W** Windows tablet PC with B5 camera, 5.1 MP CMOS, USB2.0, EU

## HE like HDMI Essential - C-HB & C-HBSC

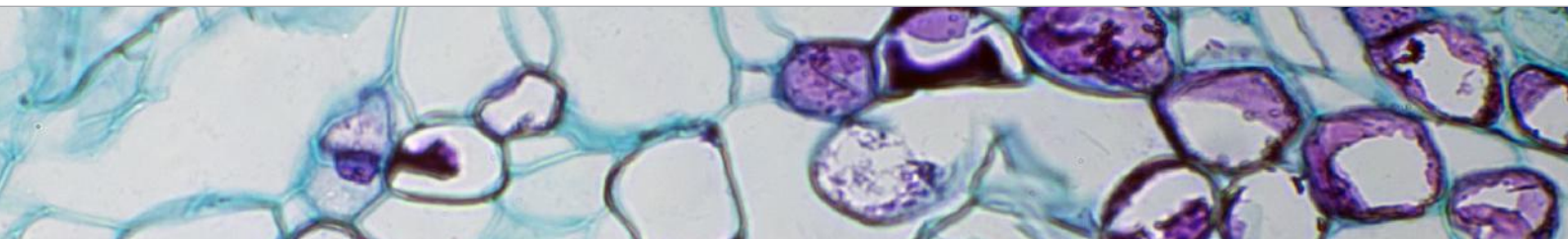
Recommended for its easy operation, no software installation is required with image captured on SD card. SC version includes a 11.5" Full HD screen for an all-in-one solution, with tilting features and saving space on the bench.

- C-HB** HB Camera, 1080p, 2 MP CMOS, HDMI, multi-plug
- C-HBSC** HB Camera, 1080p, 2 MP CMOS, HDMI, with screen, multi-plug

## WiFi Cameras – WiFi Series

The most flexible and versatile camera on the market! New frontiers are opened thanks to its rechargeable batteries (C-WFR), allowing the camera to be moved from one microscope to another, whilst transferring the live view on any device (using Windows, Android or IOS).

- C-WF** WF camera, 1 MP CMOS, Wi-Fi, multi-plug
- C-WFR** WFR rechargeable camera, 1 MP CMOS, Wi-Fi, multi-plug



# Essential

## C-E2

2.0 MP

CMOS

USB-OUT



Simply the most essential, user-friendly and handy eyepiece camera for low budget, with 2 MP resolution, CMOS sensor and USB2.0 connection.

Ready to use on any microscope with direct eyepiece tube connection, thanks to the rings included. Connectable also on trinocular tube.

Downloadable, free of charge software (Windows, Mac OS or Linux) is always available to enable the latest updates.

### Model:

**C-E2:** E2 eyepiece camera, 2 MP CMOS, USB2.0

### C-E2

|                            |                                                                             |
|----------------------------|-----------------------------------------------------------------------------|
| Digital camera resolution  | 2 MP                                                                        |
| Analog camera resolution   | NO                                                                          |
| Signal output              | USB 2.0                                                                     |
| Audio Signal               | NO                                                                          |
| Sensor Size                | 1\3.2"                                                                      |
| Sensor technology          | CMOS                                                                        |
| Image format               | 4\3                                                                         |
| Full Image size            | 1600 x 1200                                                                 |
| Frame rate full resolution | 5 fps (1600x1200) / 7,5 fps (1280x1024) / 20fps (800x600) / 22fps (640x480) |
| Max Exposure time          | Auto                                                                        |
| ON board Memory            | NO                                                                          |
| External Memory Card       | NO                                                                          |
| External camera power      | PC USB                                                                      |
| White Balance              | Auto                                                                        |
| Gain Control               | Auto                                                                        |
| Back light control         | Auto                                                                        |
| Exposure control           | Auto                                                                        |
| C-Mount connection         | NO                                                                          |
| CS-Mount connection        | NO                                                                          |
| Arm length                 | -                                                                           |
| 8mm objective              | NO                                                                          |

#### Accessories included:

C-E2: 30 mm / 30.5 mm ring adapters, 1.8 m USB cable.



C-E2



- » Simple operation, driver-free
- » Universal connection to any microscope brand
- » Direct eyepiece & trinocular port connection
- » Crisp 2 MP images
- » High frame rate
- » Reliable color fidelity
- » Rings included
- » USB cable included
- » Downloadable, free of charge software
- » OPTIKA ProView & LiteView for Windows
- » OPTIKA LiteView for Mac OS or Linux



## ④ C-B Series

1.3/18  
MP

CMOS



C-B

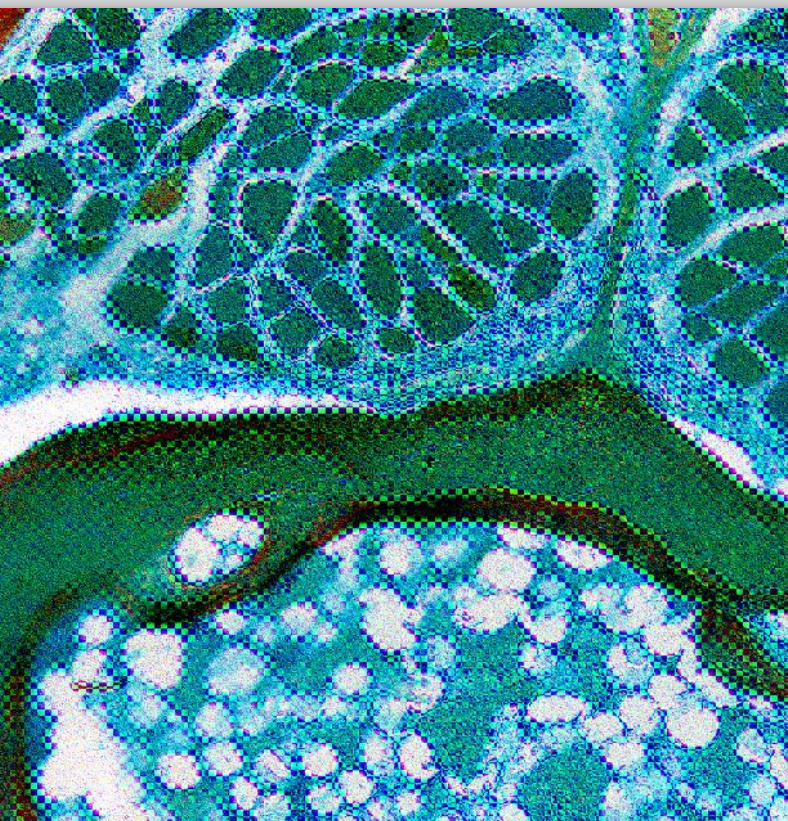
C-B+

Cost-effective, user-friendly cameras with several resolutions (from 1.3 up to 18 MP), CMOS sensor and USB2.0 or USB3.0 connection, recommended for basic/general applications in education and home use especially on moving specimens.

Ready to use on any microscope with direct eyepiece tube connection, thanks to the C-mount projection lens and rings included.

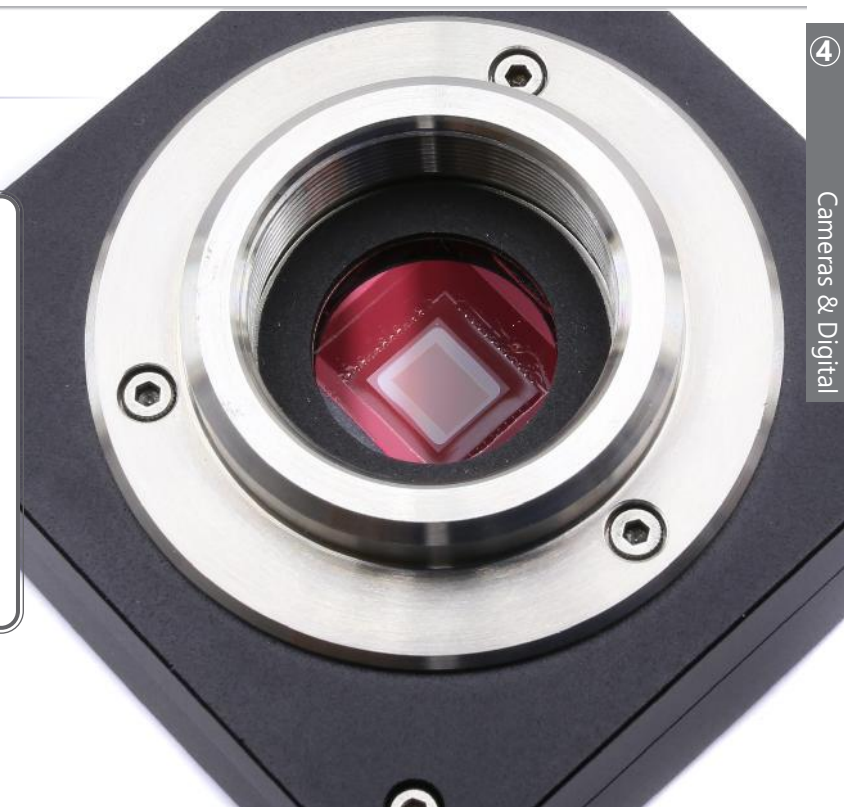
Connectable also to all the trinocular tube of different brands using the C-mount projection lens included or additional focusable C-Mount adapter.

Downloadable, free of charge software (Windows, Mac OS or Linux) is always available to enable the latest updates.



# C-B Series

- » Simple operation, driver-free
- » Universal connection to any microscope brand
- » Direct eyepiece & trinocular port connection
- » Crisp 1.3 MP crisp images
- » Reliable color fidelity
- » C-Mount projection lens and rings included
- » USB cable and calibration slide included
- » Downloadable, free of charge software
- » OPTIKA ProView & LiteView for Windows
- » OPTIKA LiteView for Mac OS or Linux



## ④ C-B Series

### C-B Models:

- C-B1:** B1 camera, 1.3 MP CMOS, USB2.0
- C-B3:** B3 camera, 3.1 MP CMOS, USB2.0
- C-B5:** B5 camera, 5.1 MP CMOS, USB2.0
- C-B16:** B16 camera, 16 MP CMOS, USB2.0

### C-B+ Models:

- C-B10+:** B10+ camera, 10 MP CMOS, USB3.0
- C-B18+:** B18+ camera, 18 MP CMOS, USB3.0



## C-B Series - Specifications

|                              | C-B1                        | C-B3A                        | C-B5                                      |
|------------------------------|-----------------------------|------------------------------|-------------------------------------------|
| Digital camera resolution    | 1.3 MP (1280 x 1024)        | 3.1 MP (2048 x 1536)         | 5.1 MP (2592 x 1944)                      |
| Signal output                | USB 2.0                     | USB 2.0                      | USB 2.0                                   |
| Sensor Size                  | 1/3"                        | 1/2.8"                       | 1/2.5"                                    |
| Sensor technology            | CMOS                        | CMOS                         | CMOS                                      |
| Sensor type                  | Aptina CMOS                 | Aptina CMOS                  | Aptina CMOS                               |
| Image format                 | 5/4                         | 4/3                          | 4/3                                       |
| Pixel size                   | 3.6 x 3.6 $\mu\text{m}$     | 2.5 x 2.5 $\mu\text{m}$      | 2.2 x 2.2 $\mu\text{m}$                   |
| Frame rate full resolution   | 15 fps (1280 x 1024)        | 10.5 fps (2048x1536)         | 7 fps (2592 x 1944)                       |
| Frame rate other resolutions | 50 fps (320 x 256)          | 15 fps (1920x1080)           | 27 fps (1280 x 960);<br>90fps (640 x 480) |
| Sensitivity                  | 1 V/lux-second              | 600mV at 1/30sec             | 0.53 V/lux-second                         |
| Signal / noise ratio         | 44 dB                       | 40.5 dB                      | 40.5 dB                                   |
| Dynamic range                | 74 dB                       | 66.5 dB                      | 66.5 dB                                   |
| ADC conversion               | 8 Bit                       | 8 Bit                        | 8 Bit                                     |
| Color Depth                  | 1 Bit; 4 Bit; 8 Bit; 24 Bit | 1 Bit ; 4 Bit; 8 Bit; 24 Bit | 1 Bit; 4 Bit; 8 Bit; 24 Bit               |
| Exposure Time                | 0.14 msec - 2 sec           | 0.244 msec - 2 sec           | 0.294 msec - 2 sec                        |
| Binning                      | 1x1; 2x2; 4x4               | 1x1; 2x2; 3x3                | 1x1; 2x2; 4x4                             |
| IR filter                    | 380-650 nm (IR-cut filter)  | 380-650 nm (IR-cut filter)   | 380-650 nm (IR-cut filter)                |
| Camera power                 | PC USB                      | PC USB                       | PC USB                                    |
| C-mount                      | YES                         | YES                          | YES                                       |



## C-B Contents:

USB camera  
USB 2.0 cable  
30 & 30.5 mm rings  
C-mount projection lens  
Micrometric slide



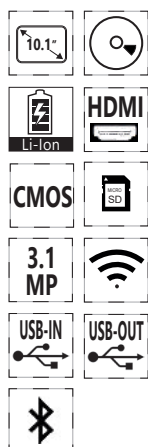
## C-B+ Contents:

USB camera  
USB 3.0 cable  
30 & 30.5 mm rings  
C-mount projection lens  
Micrometric slide

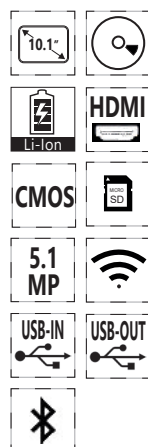


| C-B16                                        | C-B10+                      | C-B18+                                           |
|----------------------------------------------|-----------------------------|--------------------------------------------------|
| 16 MP (4632 x 3488)                          | 10 MP (3584 x 2748)         | 18 MP (4912 x 3684)                              |
| USB 2.0                                      | <b>USB 3.0</b>              | <b>USB 3.0</b>                                   |
| 1/2.3"                                       | 1/2.3"                      | 1/2.3"                                           |
| CMOS                                         | CMOS                        | CMOS                                             |
| Aptina CMOS                                  | Aptina CMOS                 | Aptina CMOS                                      |
| 4/3                                          | 4/3                         | 4/3                                              |
| 1.335 x 1.335 µm                             | 1.67 x 1.67 µm              | 1.25 x 1.25 µm                                   |
| 2 fps (4632 x 3488)                          | 7.2 fps (3584 x 2746)       | 5.6 fps (4912 x 3684)                            |
| 8 fps (2320 x 1740);<br>11 fps (1536 x 1160) | 24.5 fps (1792 x 1372);     | 18.1 fps (2456 x 1842);<br>32.2 fps (1228 x 922) |
| 0.31 V/lux-second                            | 0.31 V/lux-second           | 0.62 V/lux-second                                |
| -                                            | 34 dB                       | 36.3 dB                                          |
| 65 dB                                        | 65.2 dB                     | 65.8 dB                                          |
| 8 Bit                                        | 8 Bit - 12 Bit              | 8 Bit - 12 Bit                                   |
| 1 Bit; 4 Bit; 8 Bit; 24 Bit                  | 1 Bit; 4 Bit; 8 Bit; 24 Bit | 1 Bit; 4 Bit; 8 Bit; 24 Bit                      |
| 0.2 msec - 2 sec                             | 0.4 msec - 2 sec            | 0.1 msec - 2 sec                                 |
| 1x1; 2x2; 3x3                                | 1x1; 2x2; 4x4               | 1x1; 2x2; 4x4                                    |
| 380-650 nm (IR-cut filter)                   | 380-650 nm (IR-cut filter)  | 380-650 nm (IR-cut filter)                       |
| PC USB                                       | PC USB                      | PC USB                                           |
| YES                                          | YES                         | YES                                              |

## ④ TB Series



**TB-3W**



**TB-5W**

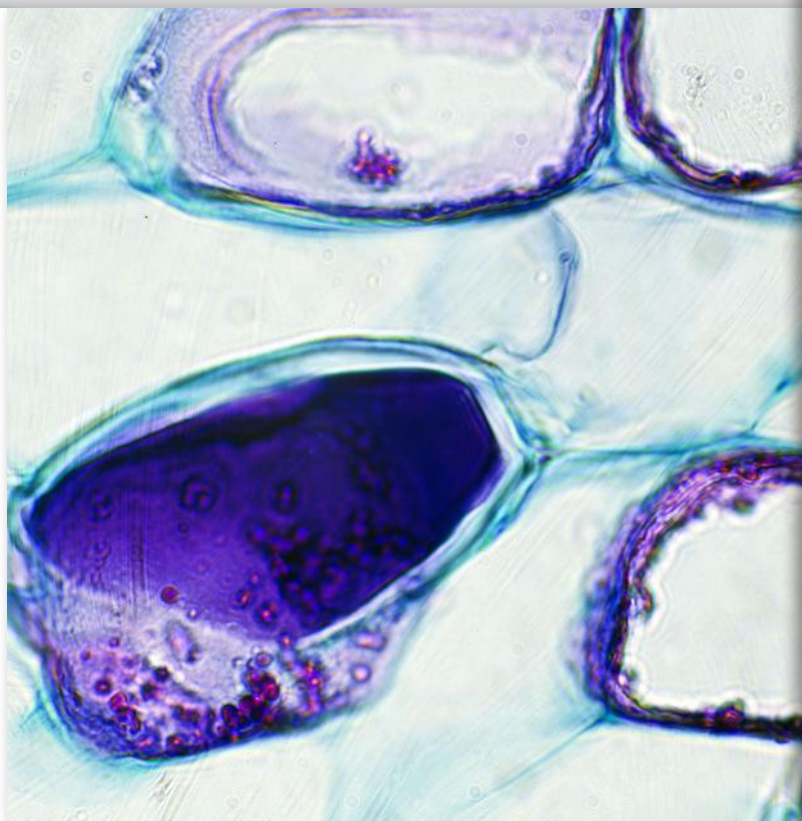
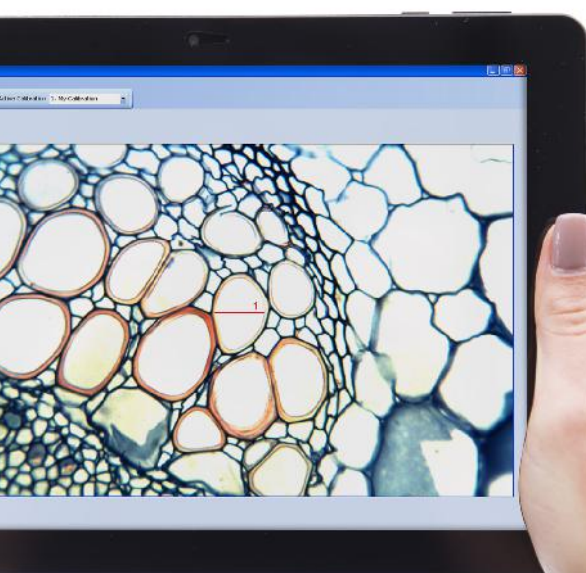
Exclusive, powerful Windows tablet PC combined to a CMOS sensor cameras with USB2.0 connection, recommended for discussion groups and educational purposes thanks to the easy operation, space-saving features and unparalleled comfort. The unique holding solution for open discussion is 360° rotating and tilting for any adjustment, whilst the large touch screen provides fast, responsive and smooth control.

At any time, the tablet PC can be easily detached to be used as a laptop.

Non-stop operation is granted by the simultaneous camera and power connection for long-term use and class/lesson alternation.

Connectable also to all the trinocular tube of different brands using the projection lens included or additional focusable C-Mount adapter.

Downloadable, free of charge software is always available to enable the latest updates.



# TB Series

- » External digital camera connected to Windows tablet PC
- » Large touch screen with fast, responsive and smooth control
- » Easily detachable, can be used as a laptop
- » A 2-in-1 solution that you can use like a PC, being Windows-based
- » Simultaneous camera and power connection for long-term operation
- » Powerful Intel processor ensuring top performance and speed
- » High-resolution, vivid color graphic display
- » Crisp 3.1 or 5.1 MP images
- » High frame rate
- » Reliable color fidelity
- » C-mount connection (direct or via dedicated adapter, on any microscope)
- » C-mount projection lens and calibration slide included
- » Downloadable, free of charge software
- » OPTIKA ProView for Windows



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Cameras & Digital



# 4 TB Series

## Tablet Models:

**TB-3W:** Windows tablet PC with B3 camera, 3.1 MP CMOS, USB2.0, EU

**TB-5W:** Windows tablet PC with B5 camera, 5.1 MP CMOS, USB2.0, EU



OPTIONAL

## TB Series - Specifications

| CAMERA TECHNICAL SPECIFICATIONS | TB-3W                                   | TB-5W                                  |
|---------------------------------|-----------------------------------------|----------------------------------------|
| Digital camera resolution       | 3.1 MP (2048 x 1536)                    | 5.1 MP (2592 x 1944)                   |
| Signal output                   | USB 2.0                                 | USB 2.0                                |
| Sensor Size                     | 1/2"                                    | 1/2.5"                                 |
| Sensor technology               | CMOS                                    | CMOS                                   |
| Sensor type                     | Aptina CMOS                             | Aptina CMOS                            |
| Image format                    | 4/3                                     | 4/3                                    |
| Pixel size                      | 3.2 x 3.2 $\mu\text{m}$                 | 2.2 x 2.2 $\mu\text{m}$                |
| Frame rate full resolution      | 12 fps (2048 x 1536)                    | 7 fps (2592 x 1944)                    |
| Frame rate other resolutions    | 32 fps (1024 x 768); 45 fps (680 x 510) | 27 fps (1280 x 960); 90fps (640 x 480) |
| Sensitivity                     | 1 V/lux-second                          | 0.53 V/lux-second                      |
| Signal / noise ratio            | 43 dB                                   | 40.5 dB                                |
| Dynamic range                   | 61 dB                                   | 66.5 dB                                |
| ADC conversion                  | 8 Bit                                   | 8 Bit                                  |
| Color Depth                     | 1 Bit ; 4 Bit; 8 Bit; 24 Bit            | 1 Bit; 4 Bit; 8 Bit; 24 Bit            |
| Exposure Time                   | 0.244 msec - 2 sec                      | 0.294 msec - 2 sec                     |
| Binning                         | 1x1; 2x2; 3x3                           | 1x1; 2x2; 4x4                          |
| IR filter                       | 380-650 nm (IR-cut filter)              | 380-650 nm (IR-cut filter)             |
| Camera power                    | PC USB                                  | PC USB                                 |
| C-mount                         | YES                                     | YES                                    |



## TB Contents:

USB camera  
Windows tablet PC  
C-mount projection lens  
Micrometric slide  
OTG cable (micro USB-C to USB-A)  
USB cable USB-B to USB-A (0.5m)  
External power supply

## TB Series - Tablet specifications

### TABLET TECHNICAL SPECIFICATIONS

|                             |                                                                      |
|-----------------------------|----------------------------------------------------------------------|
| Operating system            | Windows 10 (64Bit)                                                   |
| CPU                         | Gemini-Lake, N4100                                                   |
| CPU speed                   | 1.10 GHz                                                             |
| Graphic card                | Intel® HD Graphics 600                                               |
| RAM                         | Ram 6 GB LPDDR3                                                      |
| Display size                | LED 10.1" IPS Multi Touch Screen                                     |
| Display resolution          | 1920x1200                                                            |
| Storage                     | Hdd 128 GB                                                           |
| Network                     | WiFi (2.4G / 5G) - Bluetooth 5.0                                     |
| Input ports                 | USB-C (1 USB2.0 for battery charge, 1 USB3.0) - Micro SD card reader |
| Output ports                | Microphone - Headphone - Micro HDMI                                  |
| Battery Type                | Lithium-ion                                                          |
| Battery capacity            | 6500 mAh                                                             |
| Power consumption           | 24.05W                                                               |
| Power supply                | 12V 2A EU                                                            |
| Dimensions (mm)             | 261 x 167 X 9                                                        |
| Weight (Kg)                 | 0.53                                                                 |
| Language                    | Multilanguage                                                        |
| Weight                      | 530 g                                                                |
| Tablet accessories included | OTG cable (micro USB-C to USB-A)<br>USB cable USB-B to USB-A (0.5m)  |



# C-HB & C-HBSC



**C-HB**



**C-HBSC**

Cost-effective, entry-level HD camera with 1080p, 2 MP resolution, CMOS sensor and HDMI connection, recommended for its easy operation, no software installation is required with image capturing on SD card.

Connection into the eyepiece tube or to the trinocular tube of any microscope brand via dedicated adapter (to be purchased separately). Wireless mouse, SD card and built-in software included.



# C-HB & C-HBSC

## C-HB

- » Simple operation, built-in software
- » Crisp 2 MP images
- » High frame rate
- » Reliable color fidelity
- » C-mount connection (direct or via dedicated adapter, on any microscope)
- » Mouse and SD card included

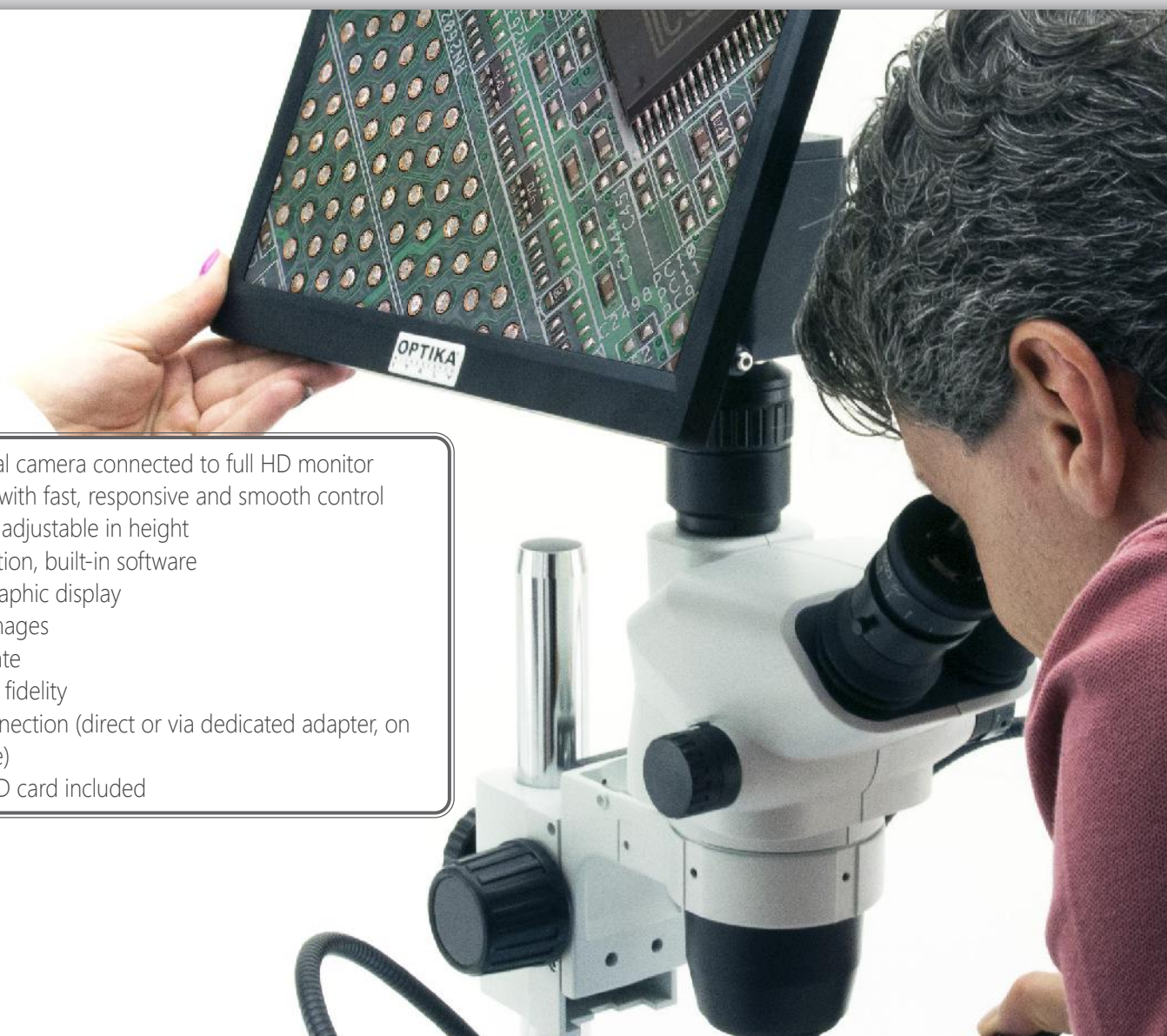


4

Cameras & Digital

## C-HBSC

- » External digital camera connected to full HD monitor
- » Large screen with fast, responsive and smooth control
- » Tiltable to be adjustable in height
- » Simple operation, built-in software
- » Vivid color graphic display
- » Crisp 2 MP images
- » High frame rate
- » Reliable color fidelity
- » C-mount connection (direct or via dedicated adapter, on any microscope)
- » Mouse and SD card included



## ④ C-HB & C-HBSC

### C-HB Models:

**C-HB:** HB camera, 1080p, 2 MP CMOS, HDMI, multi-plug

**C-HBSC:** HB camera, 1080p, 2 MP CMOS, HDMI, with screen, multi-plug



## C-HB & C-HBSC - Specifications

|                                | C-HB                       | C-HBSC                     |
|--------------------------------|----------------------------|----------------------------|
| Video resolution (USB output)  | -                          | -                          |
| Video resolution (HDMI output) | HD 1080p                   | HD 1080p                   |
| Digital camera resolution      | 2 MP (1280 x 720)          | 2 MP (1280 x 720)          |
| Signal output                  | HDMI                       | HDMI                       |
| Sensor Size                    | 1/2.8"                     | 1/2.8"                     |
| Sensor technology              | CMOS                       | CMOS                       |
| Sensor type                    | SONY STARVIS               | SONY STARVIS               |
| Image format                   | 16/9                       | 16/9                       |
| Pixel size                     | 2.9 x 2.9 µm               | 2.9 x 2.9 µm               |
| Frame rate (HDMI)              | 60@1920X1080               | 60@1920X1080               |
| Sensitivity                    | 1300 mV at 1/30sec         | 1300 mV at 1/30sec         |
| Dark Signal                    | 0.15mV at 1/30sec          | 0.15mV at 1/30sec          |
| Exposure Time                  | 0.01 msec - 1 sec          | 0.01 msec - 1 sec          |
| Binning                        | 1x1                        | 1x1                        |
| IR filter                      | 380-650 nm (IR-cut filter) | 380-650 nm (IR-cut filter) |
| Camera power                   | DC 12V 1A                  | DC 12V 1A                  |
| C-mount                        | YES                        | YES                        |
| White balance                  | Auto/Manual//ROI           | Auto/Manual//ROI           |
| Live HDMI measurement          | Yes                        | Yes                        |
| Exposure control               | Auto / Manual              | Auto / Manual              |

# C-HB & C-HBSC



**C-HB Contents:**

- HDMI camera
- HDMI cable
- SD card
- Wireless mouse
- Multi-plug external power supply
- Calibration slide

A collection of accessories for the C-HB microscope, including an HDMI camera, a coiled HDMI cable, an SD card, a wireless mouse, a multi-plug external power supply, and a calibration slide.

**C-HBSC Contents:**

- HDMI camera
- HDMI monitor
- HDMI cable
- SD card
- Wireless mouse
- Multi-plug external power supply (2 pcs.)
- calibration slide

A collection of accessories for the C-HBSC microscope, including an HDMI camera, an HDMI monitor, an HDMI cable, an SD card, a wireless mouse, two multi-plug external power supplies, and a calibration slide.

## C-HB & C-HBSC - Monitor Specifications

| MONITOR TECHNICAL SPECIFICATIONS |            |
|----------------------------------|------------|
| Size                             | 11,5"      |
| Power supply                     | 12V / 2,5A |
| HDMI cable                       | 150 cm     |



# WiFi Cameras – WiFi Series



C-WF



C-WRF

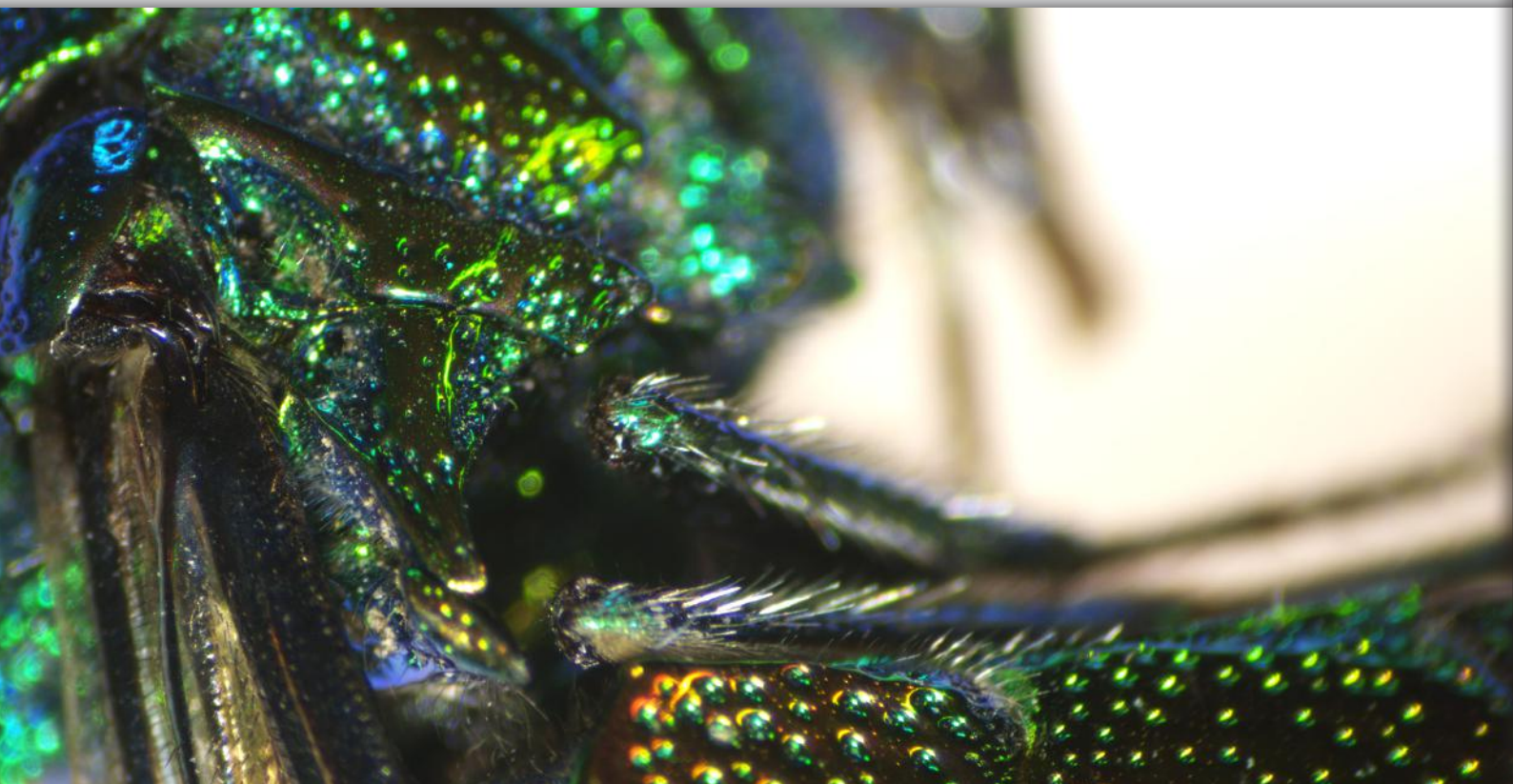
Cost-effective and user-friendly Wi-Fi camera with good resolution, CMOS sensor and Wi-Fi connection, recommended for basic/general applications in education and home use.

Complete cordless operation is ensured thanks to the rechargeable batteries (5 hours autonomy per single charge) (C-WRF) and direct Wi-Fi as no router is required thanks to the direct remote application for simplified use.

Ready to use on any microscope with direct eyepiece tube connection, thanks to the C-mount projection lens and rings included.

Connectable also to all the trinocular tube of different brands using the C-mount projection lens included or additional focusable C-Mount adapter.

Downloadable, free of charge software (Windows, Mac OS or Linux) is always available to enable the latest updates.



# WiFi Cameras – WiFi Series

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Cameras & Digital



- » Simple, intuitive operation with powerful software
- » Universal connection to any microscope brand
- » Direct eyepiece & trinocular port connection
- » Wi-Fi interface
- » Direct Wi-Fi connection (no router is required)
- » Cordless use, totally independent from the mains connection (C-WFR)
- » Battery-operated to enable portable use for approx. 5 hours (C-WFR)
- » Image and video capturing function when used in Wi-Fi mode
- » Reliable colour fidelity
- » C-mount projection lens and rings included
- » USB cable for batteries recharge (C-WFR) and calibration slide included
- » Downloadable, free of charge software
- » OPTIKA ProView & LiteView for Windows
- » OPTIKA LiteView for Mac OS or Linux

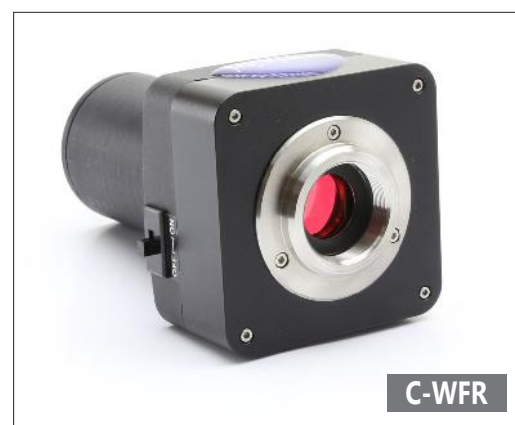


# 4 WiFi Cameras – WiFi Series

## WiFi Series model:

**C-WF:** WF camera, 1 MP CMOS, Wi-Fi, multi-plug

**C-WFR:** WFR rechargeable camera, 1 MP CMOS, Wi-Fi, multi-plug



## WiFi Series - Specifications

| CAMERA TECHNICAL SPECIFICATIONS | C-WF / C-WFR                                                                                                           |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Camera sensor resolution        | 2592x1944                                                                                                              |
| Signal output                   | USB 2.0                                                                                                                |
| Sensor Size                     | 1/2"                                                                                                                   |
| Sensor technology               | CMOS                                                                                                                   |
| Sensor type                     | Aptina CMOS                                                                                                            |
| Image format                    | 4/3                                                                                                                    |
| Pixel size                      | 2.2 x 2.2 $\mu$ m                                                                                                      |
| Frame rate full resolution      | 10 fps (1280x720)                                                                                                      |
| Frame rate other resolutions    | 10 fps (1280x720) (WiFi)                                                                                               |
| Sensitivity                     | 1 V/lux-second                                                                                                         |
| Signal / noise ratio            | 43 dB                                                                                                                  |
| Dynamic range                   | 61 dB                                                                                                                  |
| ADC conversion                  | 8 Bit                                                                                                                  |
| Color Depth                     | 8 Bit                                                                                                                  |
| Exposure Time                   | Auto                                                                                                                   |
| Binning                         | 2x2                                                                                                                    |
| IR filter                       | 380-650 nm (IR-cut filter)                                                                                             |
| Camera power                    | <b>Ni-MH (AA-size) Rechargeable batteries (only on C-WFR model)</b><br>Multiplug 100-240Vac/6Vdc external power supply |
| C-mount                         | YES                                                                                                                    |

# WiFi Cameras – WiFi Series

## C-WF Contents:

Wi-Fi camera  
30 & 30.5 mm rings  
C-mount projection lens  
Micrometric slide  
Multi-plug external power supply



## C-WFR Contents:

Wi-Fi rechargeable camera  
30 & 30.5 mm rings  
C-mount projection lens  
Micrometric slide  
Multi-plug external power supply



## 4 Recommended Camera Adapters

|                   |                | Upright                                             |                                     |                          |                                 |
|-------------------|----------------|-----------------------------------------------------|-------------------------------------|--------------------------|---------------------------------|
|                   |                | Monocular<br>Binocular<br>(Ø 23 mm)                 | Trinocular<br>(Ø 23 mm)             | Binocular<br>(Ø 30 mm)   | Trinocular                      |
| Camera model      | Sensor<br>size | Ecovision / B-60 / B-150<br>B-190-290 / B-380 (ALC) | B-190 / B-290<br>B-380 (with M-699) | B-510 / B-810 / B-1000   | B-380 / B-510<br>B-810 / B-1000 |
| <b>C-B1</b>       | 1/3"           | Included with the camera                            | Included with the camera            | Included with the camera | M-620                           |
| <b>C-B3A</b>      | 1/2.8"         | Included with the camera                            | Included with the camera            | Included with the camera | M-620                           |
| <b>C-B5</b>       | 1/2.5"         | Included with the camera                            | Included with the camera            | Included with the camera | M-620.1                         |
| <b>C-B16</b>      | 1/2.33"        | Included with the camera                            | Included with the camera            | Included with the camera | M-620.1                         |
| <b>C-B10+</b>     | 1/2.3"         | Included with the camera                            | Included with the camera            | Included with the camera | M-620.1                         |
| <b>C-B18+</b>     | 1/2.3"         | Included with the camera                            | Included with the camera            | Included with the camera | M-620.1                         |
| <b>TB-3W</b>      | 1/2"           | -                                                   | Included with the camera            | M-114 + M-113.1          | M-620.1                         |
| <b>TB-5W</b>      | 1/2.5"         | -                                                   | Included with the camera            | M-114 + M-113.1          | M-620.1                         |
| <b>C-HB</b>       | 1/2.8"         | M-115                                               | M-115                               | M-115 + M-113.1          | M-620                           |
| <b>C-HBSC</b>     | 1/2.8"         | M-115                                               | M-115                               | M-115 + M-113.1          | M-620                           |
| <b>C-WF/C-WFR</b> | 1/2.5"         | Included with the camera                            | Included with the camera            | M-114 + M-113.1          | M-620.1                         |

M-114 / M-115



M-113.1 / M-113.2



M-620



M-620.1



# Recommended Camera Adapters

| Inverted    | Stereo                   |                          |                |
|-------------|--------------------------|--------------------------|----------------|
| Trinocular  | Binocular<br>(Ø 30.5 mm) | Binocular<br>(Ø 30 mm)   | Trinocular     |
| IM-3 / IM-5 | SFX                      | SLX / SZ / SZP           | SLX / SZ / SZP |
| M-620       | Included with the camera | Included with the camera | M-620          |
| M-620       | Included with the camera | Included with the camera | M-620          |
| M-620.1     | Included with the camera | Included with the camera | M-620.1        |
| M-620.1     | Included with the camera | Included with the camera | M-620.1        |
| M-620.1     | Included with the camera | Included with the camera | M-620.1        |
| M-620.1     | Included with the camera | Included with the camera | M-620.1        |
| M-620.1     | Included with the camera | Included with the camera | M-620.1        |
| M-620.1     | Included with the camera | Included with the camera | M-620.1        |
| M-620       | M-115 + M-113.2          | M-115 + M-113.1          | M-620          |
| M-620       | M-115 + M-113.2          | M-115 + M-113.1          | M-620          |
| M-620.1     | Included with the camera | Included with the camera | M-620.1        |



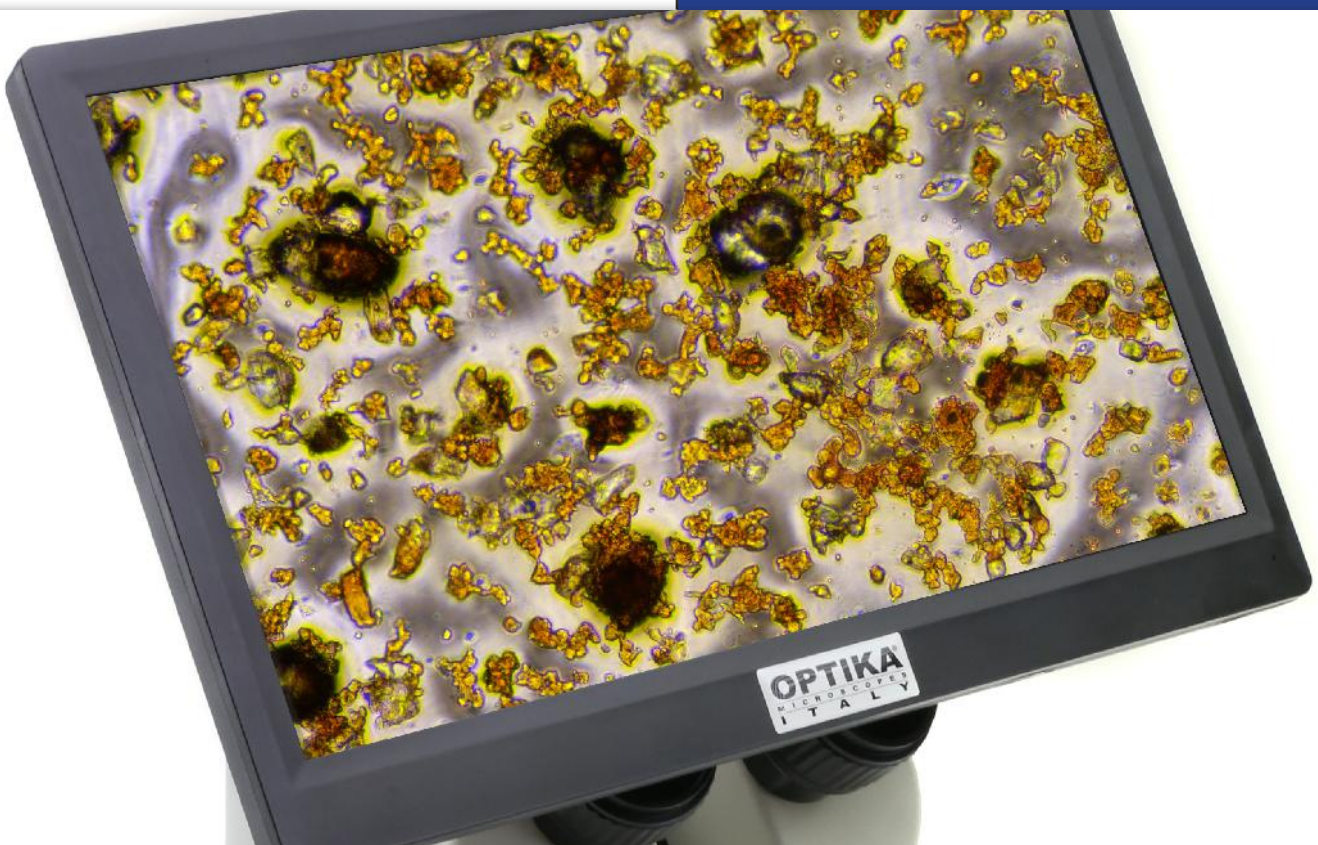
Headquarters and Manufacturing Facilities

**OPTIKA® S.r.l.** Via Rigla, 30 - 24010 Ponteranica (BG) - ITALY - Tel.: +39 035.571.392 - info@optikamicroscopes.com

Optika Sales branches

|                      |                             |                                |                                |
|----------------------|-----------------------------|--------------------------------|--------------------------------|
| <b>OPTIKA® Spain</b> | spain@optikamicroscopes.com | <b>OPTIKA® North America</b>   | namerica@optikamicroscopes.com |
| <b>OPTIKA® China</b> | china@optikamicroscopes.com | <b>OPTIKA® Central America</b> | camerica@optikamicroscopes.com |
| <b>OPTIKA® India</b> | india@optikamicroscopes.com | <b>OPTIKA® Africa</b>          | africa@optikamicroscopes.com   |

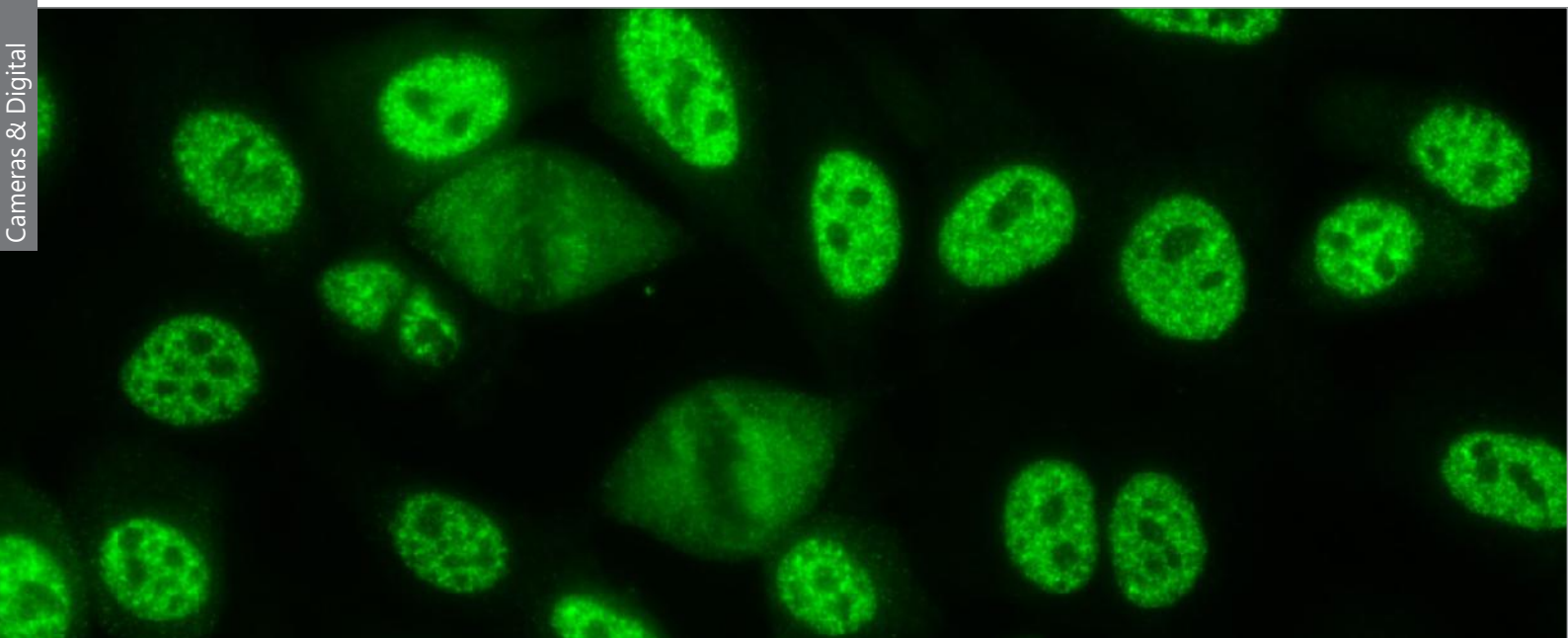
# Professional Microscope Cameras



## **Professional Microscope Cameras Comprehensive Range, Remarkable Performance**

An impressive offering compatible with any microscope brand to ensure the highest performance available for routine applications in professional environments, with USB, HDMI, 4K, Wi-Fi connections. Images and videos will be of the highest quality and rich in contrast and detail with the top-class SONY sensors, worldwide recognized, ensuring beautiful true-to-life color and delivering incredibly accurate colors just as you see them. The compact and elegantly designed housing conceals the very latest in camera technology.

# Professional Microscope Cameras



## P as Professional

Recommended for professional use in laboratory and industrial field, the valuable yet affordable OPTIKA C-P cameras are equipped with top-class SONY EXMOR sensors and USB3.0 connection for premium features and faster transmission speed. Perfect for most of the brightfield, darkfield, phase contrast and metallographic applications when requiring PC/Laptop operation.

|               |                                                                       |
|---------------|-----------------------------------------------------------------------|
| <b>C-P3</b>   | P3 Pro camera, 3.1 MP CMOS, USB3.0                                    |
| <b>C-P6</b>   | P6 Pro camera, 6.3 MP CMOS, USB3.0                                    |
| <b>C-P6AR</b> | P6 Pro camera, 6.3 MP CMOS, USB3.0, with AR glass for IR applications |
| <b>C-P8</b>   | P8 Pro camera, 8.3 MP CMOS, USB3.0                                    |
| <b>C-P20</b>  | P20 Pro camera, 20 MP CMOS, USB3.0                                    |

## GS like Global Shutter

Global shutter camera are designed when particularly high-motion captures are needed, being perfect for enabling 'freeze frame' of fast changing events, exposing each and every pixel simultaneously on PC/Laptop.

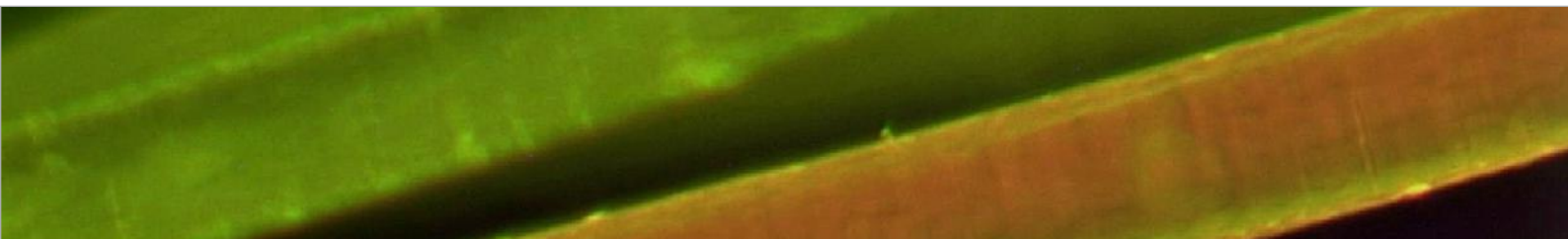
Superb with moving specimens in brightfield, darkfield, phase contrast and even in polarized light observations thanks to the generous dynamic range which gives a great response to light and dark at the same time.

|               |                                                   |
|---------------|---------------------------------------------------|
| <b>C-P5GS</b> | P5GS Pro global shutter camera, 5 MP CMOS, USB3.0 |
|---------------|---------------------------------------------------|

## WH like Wi-fi & HDMI

The most versatile cameras with endless possibilities perfect for most of the brightfield, darkfield, phase contrast and material science applications. Take benefit from the on-board imaging software to display live view directly on monitor and projector, with data storage on SD card; or download the professional imaging software for PC.

|                |                                                                   |
|----------------|-------------------------------------------------------------------|
| <b>C-WH5</b>   | WH5 camera, 1080p, 5 MP CMOS, Wi-Fi/HDMI, multi-plug              |
| <b>C-WH5SC</b> | WH5 camera, 1080p, 5 MP CMOS, Wi-Fi/HDMI, with screen, multi-plug |



# Professional Microscope Cameras

4

Cameras & Digital



## HA like HDMI Autofocus - C-HA

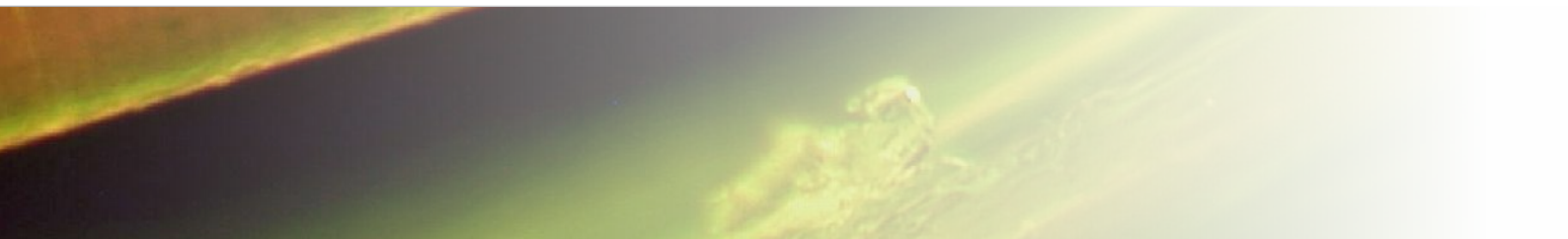
Providing precise and ultra-fast automatic focus adjustment in any condition and in real time, perfect to compensate the lack of parfocality of the microscope or poor sample preparation, without any user effort. Ideal for every use in brightfield, darkfield, phase contrast, polarized light and material science applications for easy connection to any monitor and projector.

**C-HA** HA autofocus camera, 2 MP CMOS, HDMI, multi-plug

## 4K like Ultra-HD - C-HP4 / C-HUB4K

This is much more detailed than anything you're likely to have seen before: an immersive experience is created, improving detail and general sharpness. Ideal for every use in brightfield, darkfield, phase contrast, polarized light and material science applications for easy connection to Ultra-HD monitors, providing more pixels, more details and colors.

**C-HP4** HP4 camera, 4K/8MP CMOS, HDMI/USB  
**C-HP4SC** HP4 camera, 4K/8MP CMOS, HDMI/USB, with 4K monitors  
**C-HUB4K** HUB4K Camera, 8MP CMOS, 4K/USB/ETHERNET/WIFI multi video output



## ④ C-P Series

3.1/20  
MP

CMOS



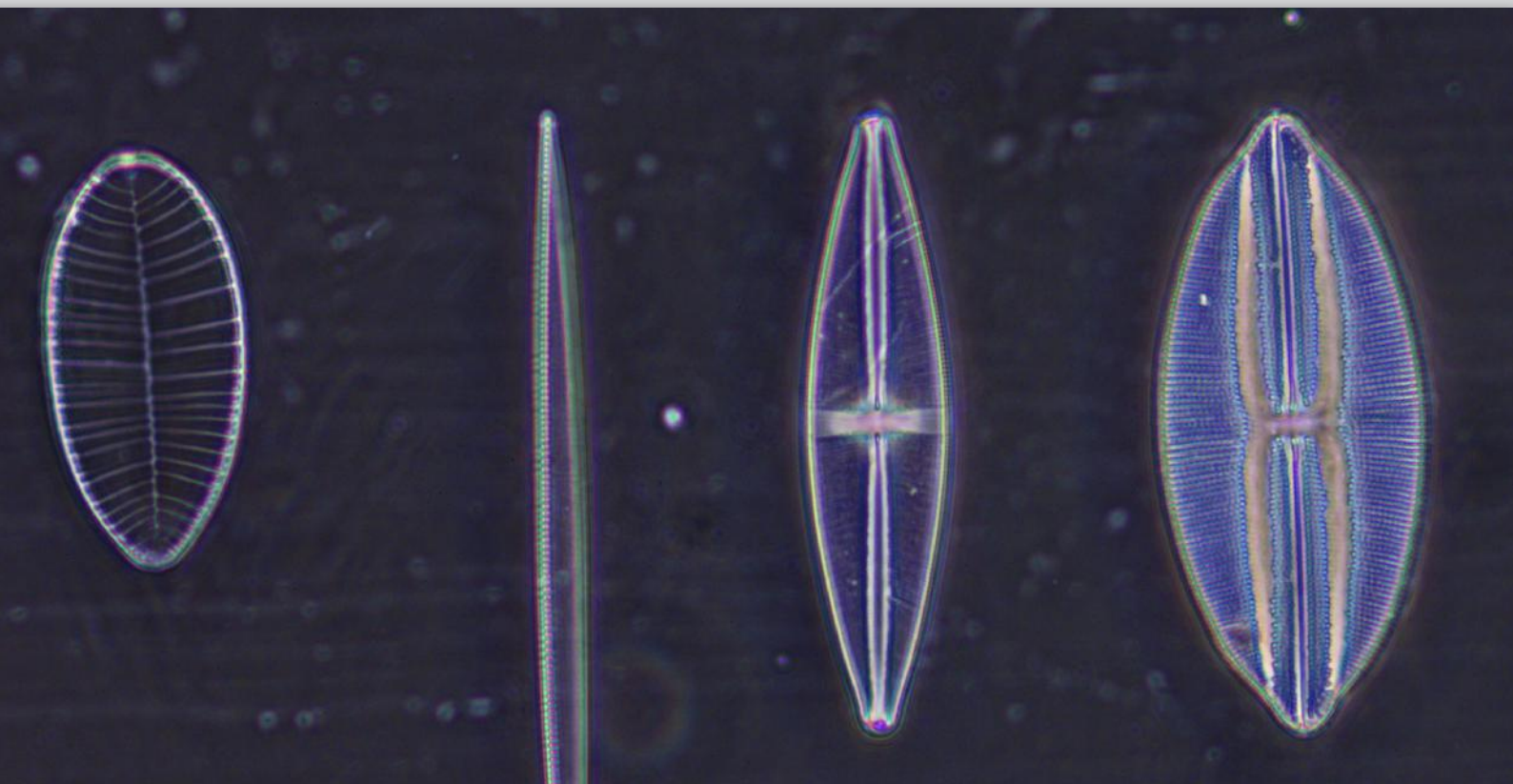
Professional yet very easy to use cameras with several resolutions (from 3.1 up to 20 MP), large SONY EXMOR CMOS sensor and USB3.0 connection, recommended for general scientific or industrial purposes requiring rapid speed transmission.

The compact and elegantly designed housing conceals the very latest in camera technology.

Images will be of the highest quality and rich in contrast and detail with the top-class SONY sensors, worldwide recognized, ensuring beautiful true-to-life color and delivering incredibly accurate colors just as you see them.

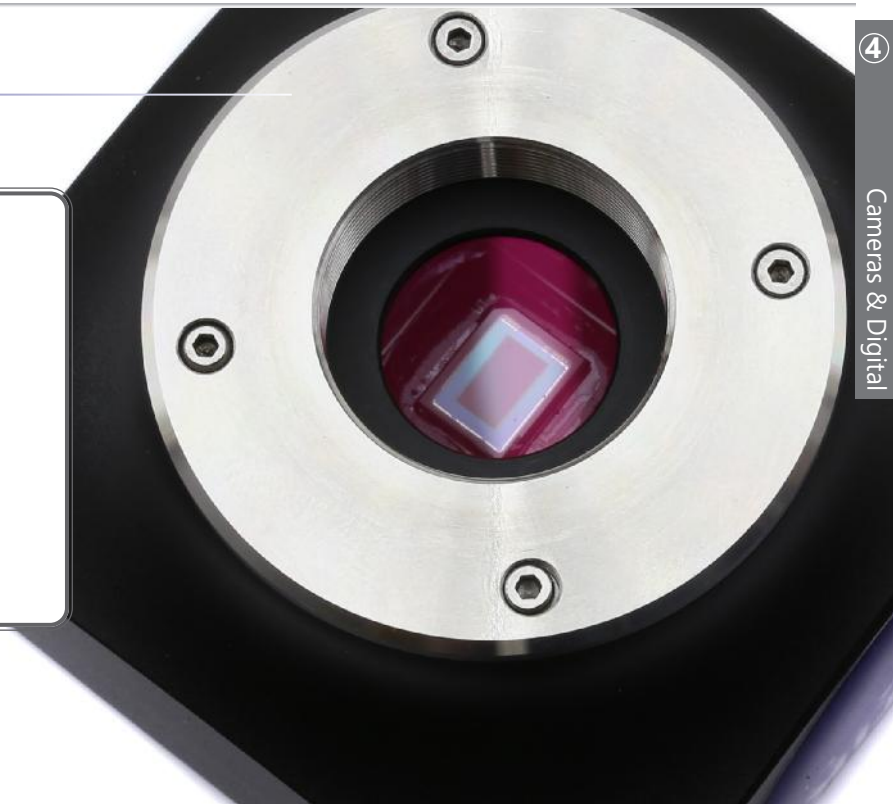
Ideal to be connected to all the trinocular tube of different brands using the focusable C-Mount adapter (to be purchased separately).

Downloadable, free of charge software (Windows, Mac OS or Linux) is always available to enable the latest updates.



# C-P Series

- » Simple operation, driver-free
- » Top-class SONY EXMOR sensor
- » Universal connection to any microscope brand
- » Crisp 3.1 to 20 MP images
- » USB3.0 for impressive high frame rate
- » Incredibly accurate colors
- » USB cable and calibration slide included
- » Downloadable, free of charge software
- » OPTIKA ProView & LiteView for Windows
- » OPTIKA LiteView for Mac OS or Linux"



# 4 C-P Series

## C-P Models:

- C-P3:** P3 Pro camera, 3.1 MP CMOS, USB3.0
- C-P6:** P6 Pro camera, 6.3 MP CMOS, USB3.0
- C-P6AR:** P6 Pro camera, 6.3 MP CMOS, USB3.0 (AR glass)
- C-P8:** P8 Pro camera, 8.3 MP CMOS, USB3.0
- C-P20:** P20 Pro camera, 20 MP CMOS, USB3.0



## C-P Series - Specifications

|                              | C-P3                        | C-P6                        | C-P6AR                        | C-P8                        |
|------------------------------|-----------------------------|-----------------------------|-------------------------------|-----------------------------|
| Digital camera resolution    | 3.1 MP (2048 x 1536)        | 6.3 MP (3072 x 2048)        | 6.3 MP (3072 x 2048)          | 8.3 MP (3840 x 2160)        |
| Signal output                | USB 3.0                     | USB 3.0                     | USB 3.0                       | USB 3.0                     |
| Sensor Size                  | 1/2.8"                      | 1/1.8"                      | 1/1.8"                        | 1/2.5"                      |
| Sensor technology            | CMOS                        | CMOS                        | CMOS                          | CMOS                        |
| Sensor type                  | SONY EXMOR                  | SONY EXMOR                  | SONY EXMOR                    | SONY EXMOR                  |
| Image format                 | 4/3                         | 3/2                         | 3/2                           | 16/9                        |
| Pixel size                   | 2.5 x 2.5 $\mu\text{m}$     | 2.4 x 2.4 $\mu\text{m}$     | 2.4 x 2.4 $\mu\text{m}$       | 1.62 x 1.62 $\mu\text{m}$   |
| Frame rate full resolution   | 50 fps (2048 x 1536)        | 30 fps (3072 x 2048)        | 30 fps (3072 x 2048)          | 32 fps (3840 x 2160)        |
| Frame rate other resolutions | 50 fps (1920 x 1080)        | 38 fps (1536 x 1024)        | 38 fps (1536 x 1024)          | 65 fps (1920 x 1080)        |
| G Sensitivity                | 600mV at 1/30s              | 425mV at 1/30s              | 425mV at 1/30s                | 236mV at 1/30s              |
| Dark Signal                  | 0.15mV at 1/30s             | 0.15mV at 1/30s             | 0.15mV at 1/30s               | 0.1mV at 1/30s              |
| Dynamic range                | 66 dB                       | 66.8 dB                     | 66.8 dB                       | 65 dB                       |
| ADC conversion               | 8 Bit - 12Bit               | 8 Bit - 12Bit               | 8 Bit - 12Bit                 | 8 Bit - 12Bit               |
| Color Depth                  | 1 Bit; 4 Bit; 8 Bit; 24 Bit | 1 Bit; 4 Bit; 8 Bit; 24 Bit | 1 Bit; 4 Bit; 8 Bit; 24 Bit   | 1 Bit; 4 Bit; 8 Bit; 24 Bit |
| Exposure Time                | 0.1 msec - 15 sec           | 0.1 msec - 15 sec           | 0.1 msec - 15 sec             | 0.244 msec - 15 sec         |
| Binning                      | 1x1                         | 1x1; 2x2                    | 1x1; 2x2                      | 1x1; 2x2                    |
| IR filter                    | 380-650 nm (IR-cut filter)  | 380-650 nm (IR-cut filter)  | <b>380-1050 nm (AR glass)</b> | 380-650 nm (IR-cut filter)  |
| Camera power                 | PC USB                      | PC USB                      | PC USB                        | PC USB                      |
| C-mount                      | YES                         | YES                         | YES                           | YES                         |

# C-P Series



## C-P Contents:

USB camera  
USB 3.0 cable  
Micrometric slide



## C-P20

20 MP (5440 x 3648)

USB 3.0

1"

CMOS

SONY EXMOR

3/2

2.4 x 2.4  $\mu$ m

15 fps (5440 x 3648)

50 fps (2736 x 1824); 60 fps (1824 x 1216)

462mV at 1/30s

0.21mV at 1/30s

66.3 dB

8 Bit - 12Bit

1 Bit; 4 Bit; 8 Bit; 24 Bit

0.1 msec - 15 sec

1x1; 2x2; 3x3

380-650 nm (IR-cut filter)

PC USB

YES



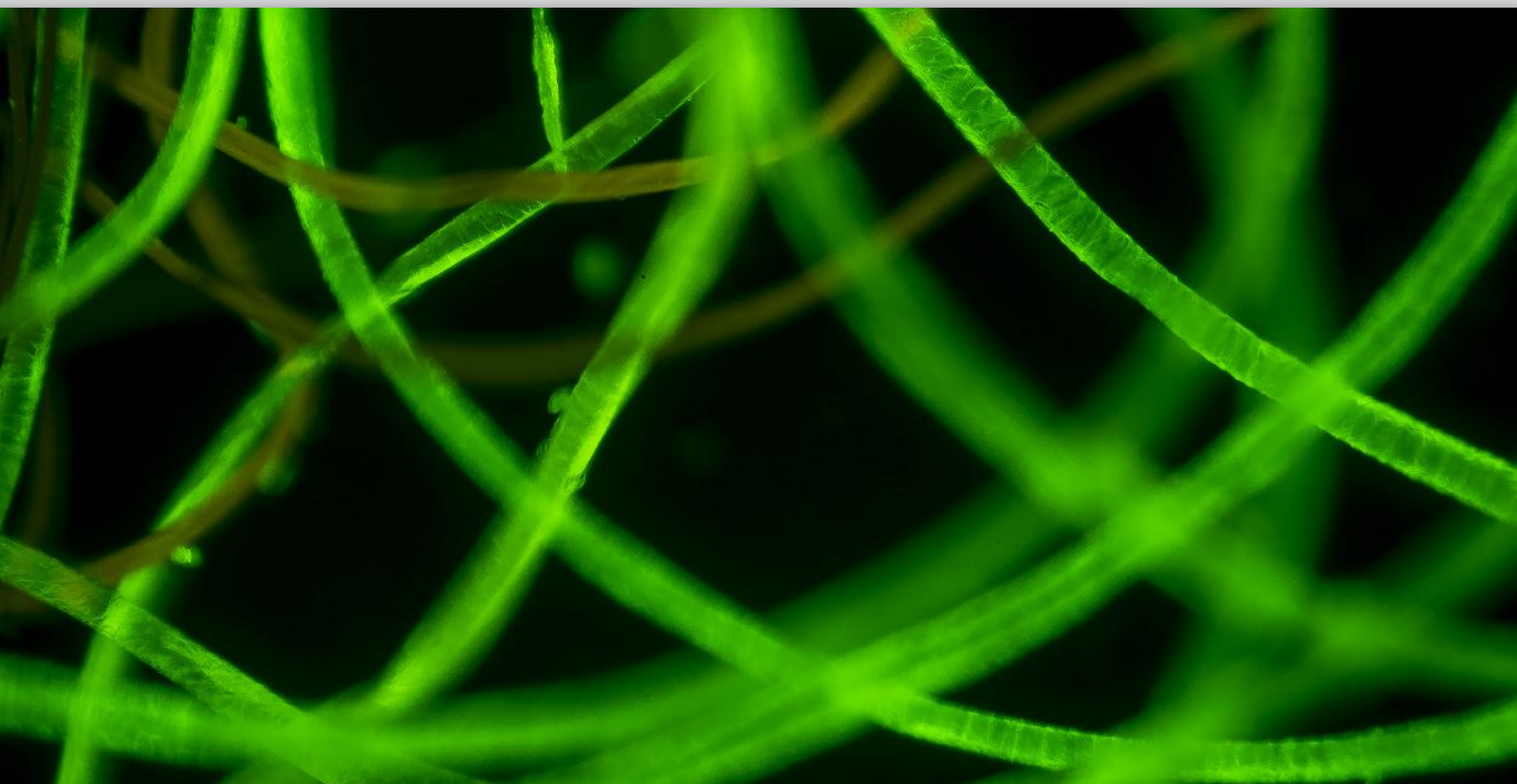
## ④ C-PGS Model

5 MP

CMOS



Professional yet very easy to use cameras with several resolutions, large SONY EXMOR CMOS sensor, USB3.0 connection and Global Shutter mode. Global Shutter mode can be easily thought of as a 'Snapshot' exposure mode, perfect for capturing images of moving objects and enabling 'freeze frame' capture of fast changing events, exposing each and every pixel simultaneously. In addition, the generous dynamic range gives a great response to light and dark simultaneously, being recommended for polarizing light applications. The compact and elegantly designed housing conceals the very latest in camera technology. Images will be of the highest quality and rich in contrast and detail with the top-class SONY sensors, worldwide recognized, ensuring beautiful true-to-life color and delivering incredibly accurate colors just as you see them. Ideal to be connected to all the trinocular tube of different brands using the focusable C-Mount adapter (to be purchased separately). Downloadable, free of charge software (Windows, Mac OS or Linux) is always available to enable the latest updates.



# C-PGS Model

- » Simple operation, driver-free
- » Top-class SONY EXMOR sensor
- » Universal connection to any microscope brand
- » Crisp 5MP images
- » Global Shutter technology for ""freeze frame"" capture
- » Generous dynamic range, recommended for polarizing light
- » USB3.0 for impressive high frame rate
- » Crystal-clear images, even for very short exposures
- » Outstanding noise characteristics, even in low lighting conditions
- » Incredibly accurate colors
- » USB cable and calibration slide included
- » Downloadable, free of charge software
- » OPTIKA ProView & LiteView for Windows
- » OPTIKA LiteView for Mac OS or Linux"



## 4 C-PGS Model

### C-PGS Model:

**C-P5GS:** P5GS Pro global shutter camera, 5 MP CMOS, USB3.0



## C-PGS Model - Specifications

|                              | C-P5GS                      |
|------------------------------|-----------------------------|
| Digital camera resolution    | 5 MP (2448 x 2048)          |
| Signal output                | USB 3.0                     |
| Sensor Size                  | 2/3"                        |
| Sensor technology            | CMOS                        |
| Sensor type                  | SONY EXMOR                  |
| Image format                 | 5/4                         |
| Pixel size                   | 3.45 x 3.45 $\mu$ m         |
| Frame rate full resolution   | 35 fps (2448 x 2048)        |
| Frame rate other resolutions | 50 fps (1224 x 1024)        |
| G Sensitivity                | 1146mV at 1/30s             |
| Dark Signal                  | 0.15mV at 1/30s             |
| Dynamic range                | 70.60 dB                    |
| ADC conversion               | 8 Bit - 12 Bit              |
| Color Depth                  | 1 Bit; 4 Bit; 8 Bit; 24 Bit |
| Exposure Time                | 0.1 msec - 15 sec           |
| Binning                      | 1x1;                        |
| IR filter                    | 380-650 nm (IR-cut filter)  |
| Camera power                 | PC USB                      |
| C-mount                      | YES                         |

# C-PGS Model

4

Cameras & Digital

## C-PGS Contents:

USB camera  
USB 3.0 cable  
Micrometric slide



# C-WH5 & C-WH5SC



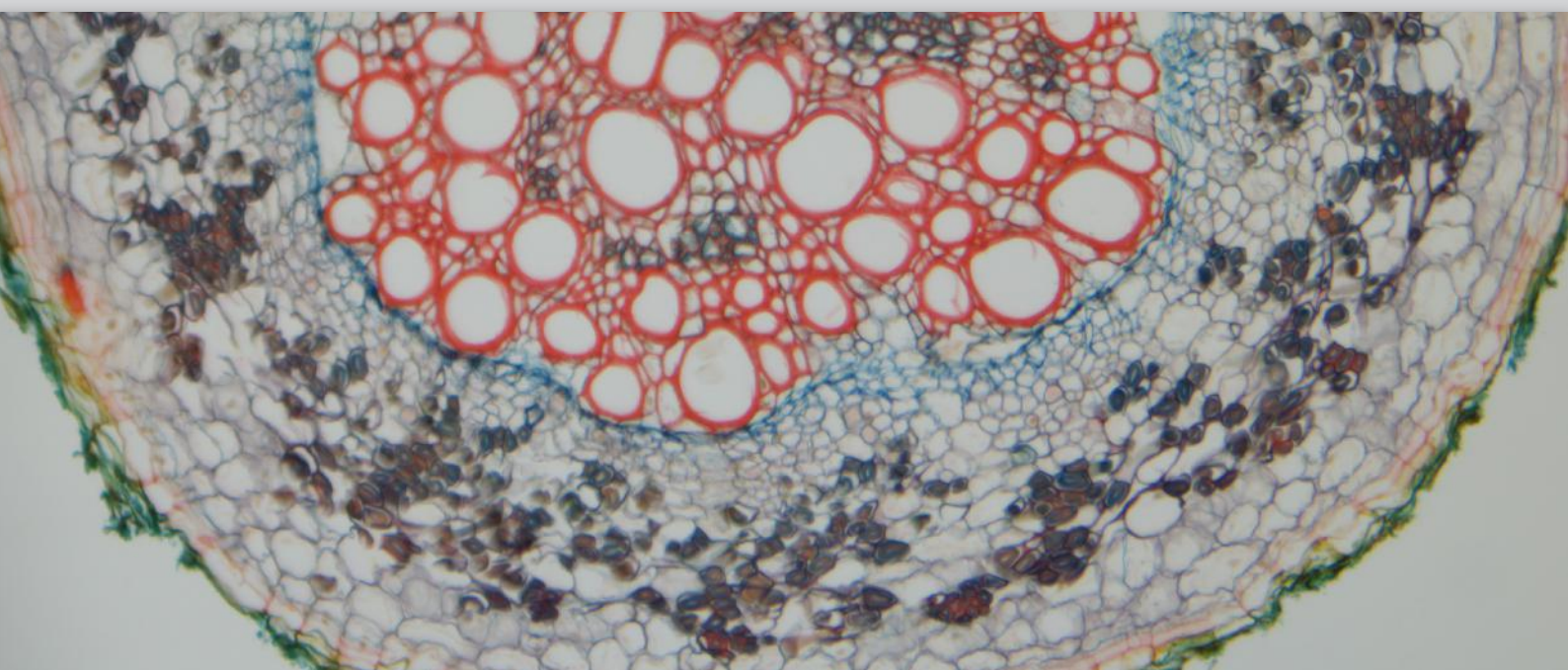
**C-WH5**



**C-WH5SC**

Smart and user-friendly dual output (HDMI & Wi-Fi) camera with good resolution (up to 5 MP), high-grade SONY CMOS sensor and HDMI/Wi-Fi connection, recommended for routine operations and whenever measurements are required. No software installation is required with image and video capturing on SD card when in HDMI mode. No router or external applications are required thanks to the quick and simple camera connection. At any time, it can be connected to PC and used via the downloadable, free of charge software (Windows), which is always available to enable the latest updates. The compact and elegantly designed housing conceals the very latest in camera technology. Images will be of the highest quality and rich in contrast and detail with the top-class SONY sensors, worldwide recognized, ensuring beautiful true-to-life color and delivering incredibly accurate colors just as you see them. Ideal to be connected to all the trinocular tube of different brands using the focusable C-Mount adapter (to be purchased separately).

Connection into the eyepiece tube or to the trinocular tube of any microscope brand via dedicated adapter (to be purchased separately). Available also as an all-in-one, space saving package including a 11.5" full HD monitor with compact footprint, enabling screen adjustment to ensure correct posture and eliminate fatigue during observation connectable to trinocular tube only via dedicated adapter (to be purchased separately). Wireless mouse, SD card and built-in software included.



# C-WH5 & C-WH5SC

- » Simple operation, built-in software
- » Universal connection to any microscope brand
- » Crisp 1080p images and videos
- » Live measurements function
- » Dual output mode (HDMI/WiFi)
- » High frame rate
- » Reliable color fidelity
- » C-mount connection (via dedicated adapter, on any microscope)
- » HDMI cable, Wireless adapter, mouse and SD card included
- » Downloadable, free of charge software
- » OPTIKA ProView for Windows



# C-WH5 & C-WH5SC

## Models:

**C-WH5:** WH5 camera, 1080p, 5 MP CMOS, Wi-Fi/HDMI, multi-plug

**C-WH5SC:** WH5 camera, 1080p, 5 MP CMOS, Wi-Fi/HDMI, with screen, multi-plug



## C-WH5 & C-WH5SC - Specifications

|                             | C-WH5 & C-WH5SC                                        |
|-----------------------------|--------------------------------------------------------|
| PC Camera resolution (MP)   | 5 MP                                                   |
| HDMI Camera resolution (MP) | 2 MP                                                   |
| Digital camera resolution   | 1920 x 1080                                            |
| HDMI Signal output          | Yes                                                    |
| Sensor Size                 | 1/1.8"                                                 |
| Sensor technology           | CMOS                                                   |
| Sensor type                 | SONY                                                   |
| Image format                | 16/9                                                   |
| Pixel size                  | 2.4x2.4 µm                                             |
| Frame rate (HDMI)           | 60 fps (1920 x 1080 HDMI);<br>25fps (1920x1080) (WiFi) |
| Dynamic range               | 66 dB                                                  |
| Sensitivity                 | 1120mV at 1/30s                                        |
| Dark Signal                 | 0.15mV at 1/30s                                        |
| ADC conversion              | 8 Bit - 12Bit                                          |
| Color Depth                 | 1 Bit; 4 Bit; 8 Bit; 24 Bit                            |
| Exposure Time               | 0.03 msec - 918 msec                                   |
| Binning                     | 1x1                                                    |
| IR filter                   | 380-650 nm (IR-cut filter)                             |
| Camera power                | DC 12V 1A                                              |
| C-mount                     | YES                                                    |

# C-WH5 & C-WH5SC



### C-WH5 Contents:

- HDMI camera
- HDMI cable
- WiFi adapter
- SD card
- Wireless mouse
- Multi-plug external power supply



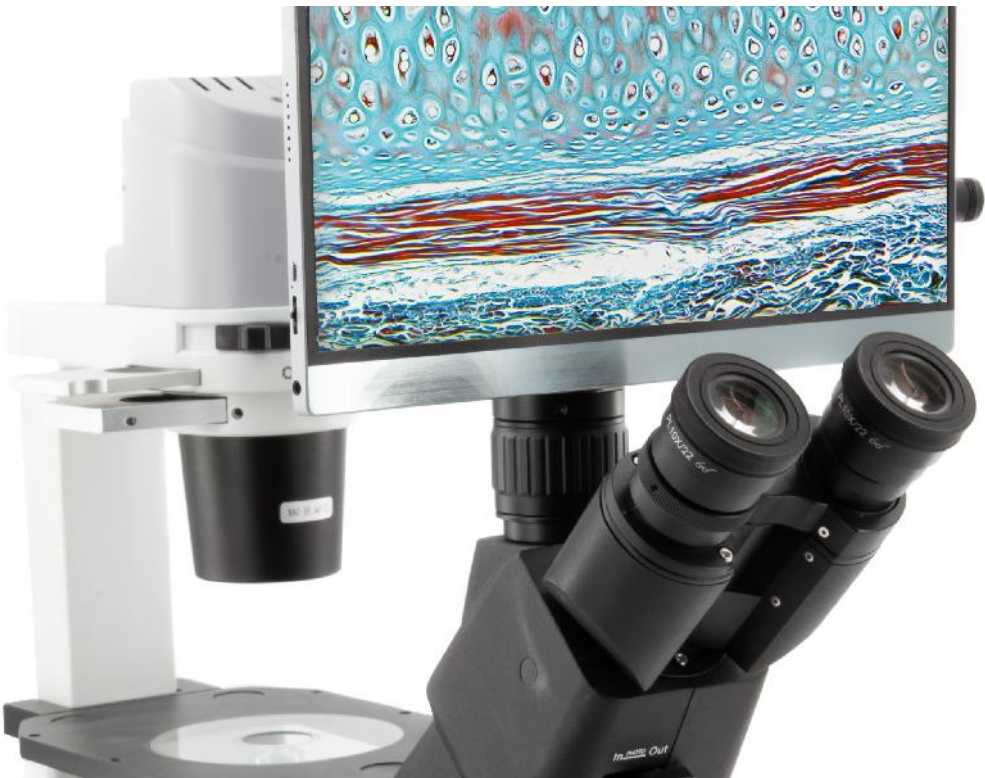
### C-WH5SC Contents:

- HDMI camera
- HDMI monitor
- HDMI cable
- WiFi adapter
- SD card
- Wireless mouse
- Multi-plug external power supply (2 pcs.)



## C-WH5SC - Monitor Specifications

| MONITOR TECHNICAL SPECIFICATIONS (C-WH5SC) |            |
|--------------------------------------------|------------|
| Size                                       | 11,5"      |
| Power supply                               | 12V / 2,5A |
| HDMI cable                                 | 50 cm      |



# C-HA

2  
MP

CMOS



HDMI



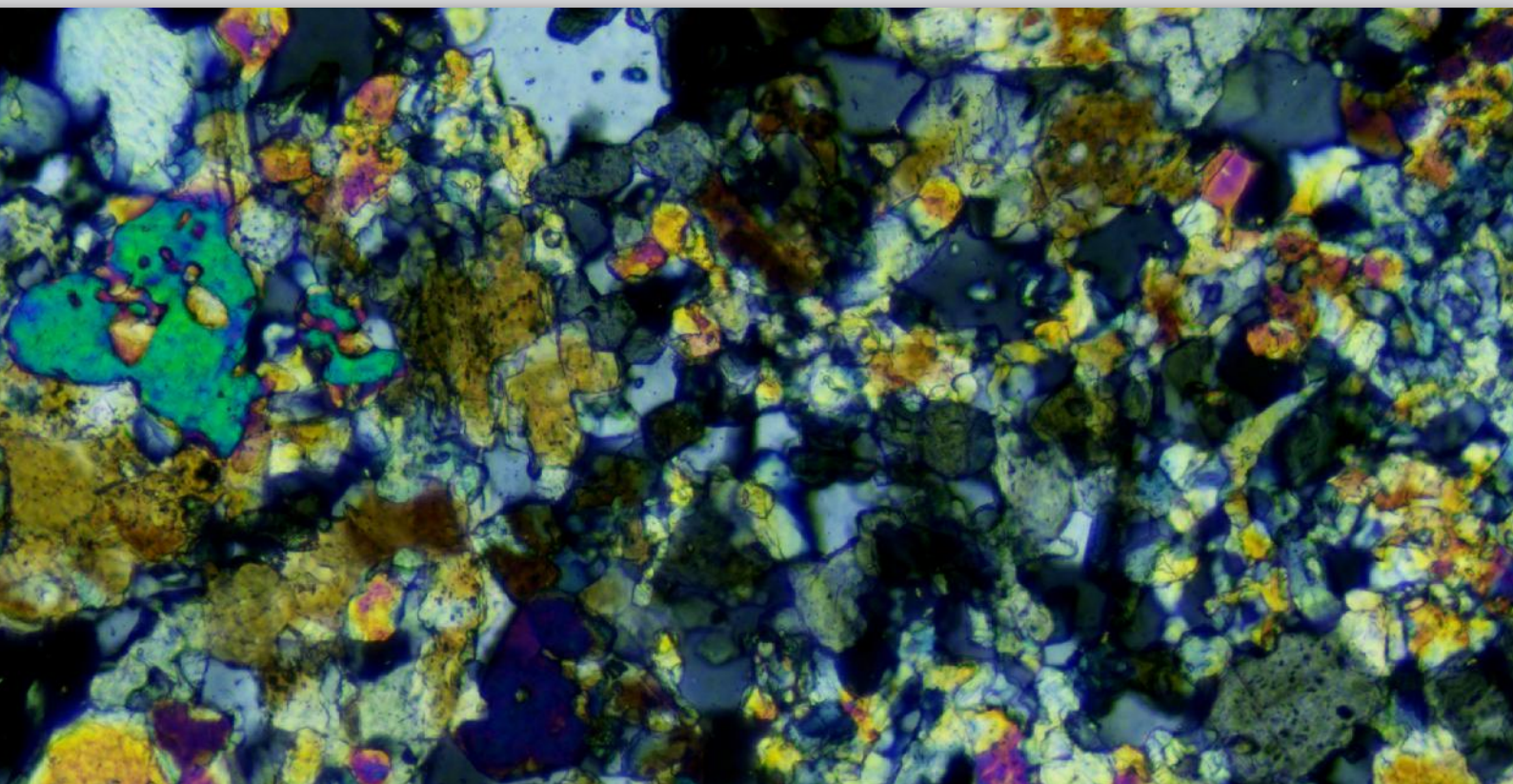
Impressive autofocusing FULL HD camera with 1080p, 2 MP resolution, CMOS sensor and HDMI connection, ensuring precise and ultra-fast automatic focus adjustment in any condition and in real time. Recommended for routine operations and perfect to compensate the lack of parfocality of the microscope without any user effort.

No software installation is required with image and video capturing on SD card.

Camera control panel shows exposure, white balance, color adjustment and sharpness when using mouse control.

Connection to the trinocular tube of any microscope brand via dedicated adapter (to be purchased separately).

Wireless mouse, SD card and built-in software included.



# C-HA

- » Simple operation, built-in software
- » Universal connection to any microscope brand
- » Rapid autofocus system
- » Crisp 1080p images and videos
- » High frame rate
- » Reliable color fidelity
- » C-mount connection (via dedicated adapter, on any microscope)
- » HDMI cable, mouse and SD card included



# C-HA

**Model:**  
**C-HA:** HA autofocus camera, 2 MP CMOS, HDMI, multi-plug



## C-HA Series – Specifications

|                            | C-HA                       |
|----------------------------|----------------------------|
| HDMI camera resolution     | 2 MP (1920 x 1080)         |
| HDMI Signal output         | Yes                        |
| Sensor Size                | 1/2.8"                     |
| Sensor technology          | CMOS                       |
| Sensor type                | Aptina CMOS                |
| Image format               | 16/9                       |
| Pixel size                 | 2.9 x 2.9 μm               |
| Frame rate full resolution | 50 fps (1920 x 1080)       |
| G Sensitivity              | 510mV at 1/30sec           |
| Dark Signal                | 0.15mV at 1/30sec          |
| ADC conversion             | 8 Bit                      |
| Color Depth                | 8 Bit                      |
| Exposure Time              | Auto                       |
| Binning                    | 1x1                        |
| Cooling Temperature        | None                       |
| Camera Power               | 5V 2A                      |
| IR filter                  | 380-650 nm (IR-cut filter) |
| CS-mount                   | YES                        |
| C-mount                    | YES                        |



## C-PGS Contents:

- USB camera
- USB 2.0 cable
- 30 & 30.5 mm rings
- C-mount projection lens
- Micrometric slide
- Wireless mouse
- SD card



# C-HP4 & C-HP4SC



**C-HP4**



**C-HP4SC**

Professional ultra-high definition yet very easy to use 4K camera with 2160p, 8 MP resolution, large SONY CMOS sensor and HDMI connection to clearly reveal the sample's finest details on-screen and perform measurements.

No software installation is required with image and video capturing on SD card when in HDMI mode.

At any time, it can be connected to PC and used via the downloadable, free of charge software (Windows), which is always available to enable the latest updates. The compact and elegantly designed housing conceals the very latest in camera technology.

Images will be of the highest quality and rich in contrast and detail with the top-class SONY sensors, worldwide recognized, ensuring beautiful true-to-life color and delivering incredibly accurate colors just as you see them.

Ideal to be connected to all the trinocular tube of different brands using the focusable C-Mount adapter (to be purchased separately). Wireless mouse, SD card and built-in software included.

- » Simple operation, built-in software
- » Universal connection to any microscope brand
- » Ultra HD 4K 2160p images and videos
- » Dual output mode (HDMI/USB)
- » High frame rate
- » Reliable color fidelity
- » C-mount connection (via dedicated adapter, on any microscope)
- » HDMI cable, mouse and SD card included
- » Downloadable, free of charge software
- » OPTIKA ProView for Windows



## C-HP4 - Specifications

|                                                | C-HP4                       |
|------------------------------------------------|-----------------------------|
| <b>PC Camera resolution (MP)</b>               | 8 MP                        |
| <b>HDMI Camera resolution (MP)</b>             | 8 MP                        |
| <b>Camera resolution (n° of pixels: W x H)</b> | 3840x2160                   |
| <b>Color / Monochrome</b>                      | Color                       |
| <b>Sensor Size</b>                             | 1/1.8"                      |
| <b>Sensor technology</b>                       | CMOS                        |
| <b>Sensor type</b>                             | SONY                        |
| <b>Image format</b>                            | 16/9                        |
| <b>Pixel size</b>                              | 2.0 x 2.0 µm                |
| <b>Frame rate full resolution</b>              | 30@ 3840x2160               |
| <b>G Sensitivity</b>                           | 505mV at 1/30s              |
| <b>Dark Signal</b>                             | 0.13mV at 1/30s             |
| <b>ADC conversion</b>                          | 8 Bit - 12 Bit              |
| <b>Color Depth</b>                             | 1 Bit; 4 Bit; 8 Bit; 24 Bit |
| <b>Exposure Time</b>                           | 0.04 msec- 2 sec            |
| <b>Binning</b>                                 | 1x1                         |
| <b>IR filter</b>                               | 380-650 nm (IR-cut filter)  |
| <b>Camera power</b>                            | 12V 1A                      |
| <b>C-mount</b>                                 | YES                         |

# C-HP4 & C-HP4SC



**C-HP4 Contents:**

- 4k Camera
- USB Cable 180cm
- HDMI Cable 150cm
- Wireless Mouse
- 16gb SD Card
- Calibration slide



**C-HP4SC Contents:**

- 4k Camera
- USB Cable 180cm
- HDMI Cable 150cm
- Wireless Mouse
- 16gb SD Card
- Calibration slide



**Model:**  
**C-HP4:** HP4 camera, 4K/8 MP CMOS, USB/HDMI, multi-plug  
**C-HP4SC:** HP4 camera, 4K/8MP CMOS, HDMI/USB, with 4K monitor

## C-HP4SC - Monitor Specifications

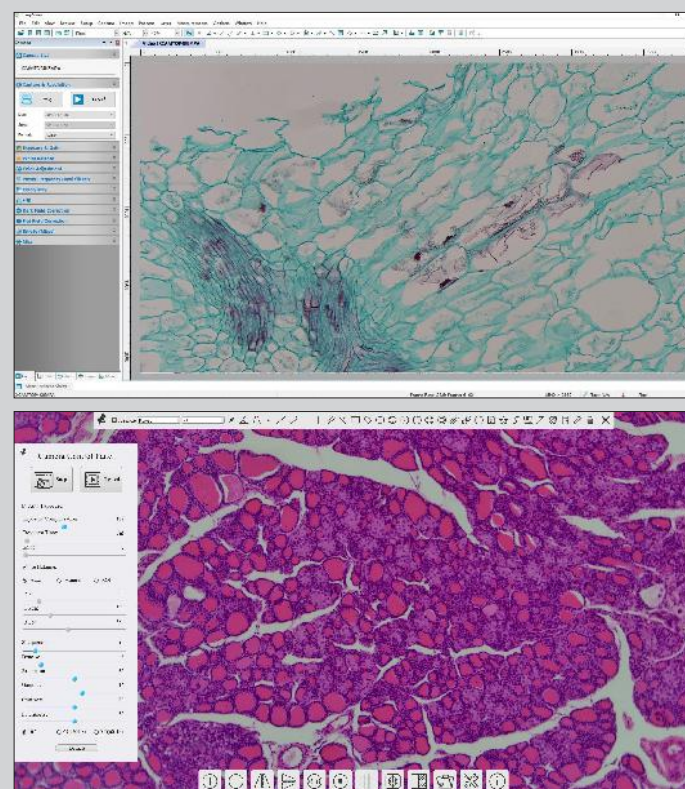
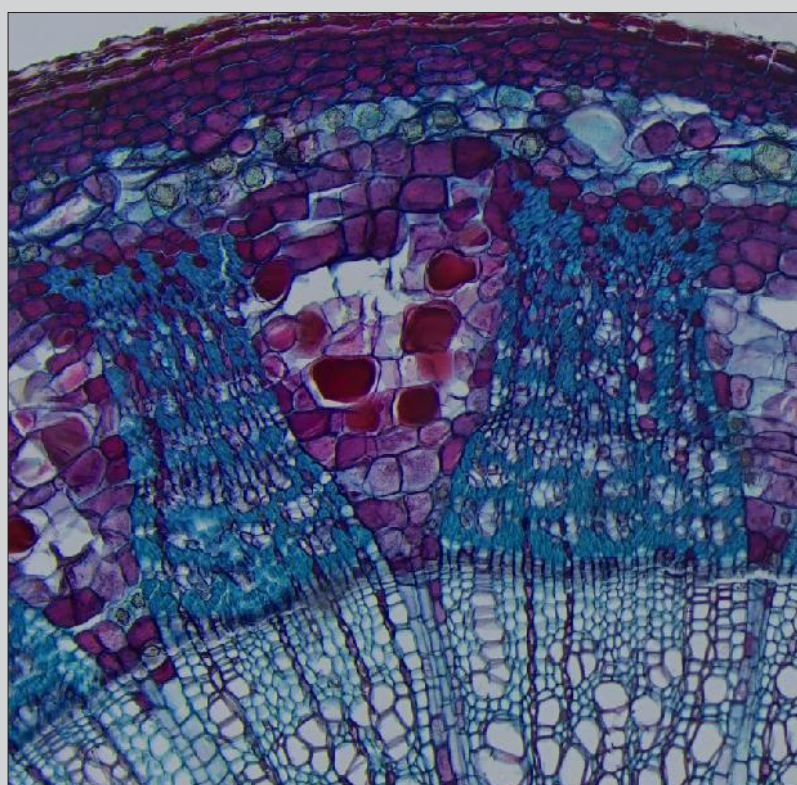
| MONITOR TECHNICAL SPECIFICATIONS (C-HP4SC) |            |
|--------------------------------------------|------------|
| Size                                       | 11,5"      |
| Power supply                               | 12V / 2,5A |
| HDMI cable                                 | 50 cm      |



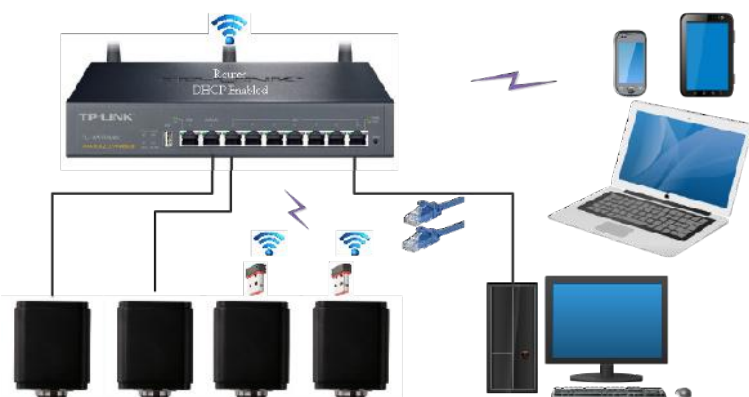
# 4 C-HUB4K



Professional ultra-high definition yet very easy to use 4K camera with 2160p, 8 MP resolution, large SONY CMOS sensor and HDMI connection to clearly reveal the sample's finest details on-screen and perform measurements. No software installation is required with image and video capturing on SD card when in HDMI mode. At any time, it can be connected to PC and used via the downloadable, free of charge software (Windows), which is always available to enable the latest updates. The compact and elegantly designed housing conceals the very latest in camera technology. Images will be of the highest quality and rich in contrast and detail with the top-class SONY sensors, worldwide recognized, ensuring beautiful true-to-life color and delivering incredibly accurate colors just as you see them. Ideal to be connected to all the trinocular tube of different brands using the focusable C-Mount adapter (to be purchased separately). Wireless mouse, SD card and built-in software included.



# C-HUB4K



## C-HUB4K Contents:

4k Camera  
USB Cable 180cm  
HDMI Cable 150cm  
Wireless Mouse  
16gb SD Card  
Calibration slide



- » Simple operation, built-in software
- » Universal connection to any microscope brand
- » Ultra HD 4K 2160p images and videos
- » Dual output mode (HDMI/Ethernet)
- » High frame rate
- » Reliable color fidelity
- » C-mount connection (via dedicated adapter, on any microscope)
- » HDMI cable, mouse and SD card included
- » Downloadable, free of charge software
- » OPTIKA ProView for Windows



## Model:

**C-HUB4K:** HUB4K Camera, 8Mp CMOS, 4K/USB/ETHERNET/WIFI multi video output

# C-HUB4K - Specifications

|                                         | C-HUB4K                     |
|-----------------------------------------|-----------------------------|
| PC Camera resolution (MP)               | 8 MP                        |
| HDMI Camera resolution (MP)             | 8 MP                        |
| Camera resolution (n° of pixels: W x H) | 3840x2160                   |
| Color / Monochrome                      | Color                       |
| Sensor Size                             | 1/1.8"                      |
| Sensor technology                       | CMOS                        |
| Sensor type                             | SONY                        |
| Image format                            | 16/9                        |
| Pixel size                              | 2.0 x 2.0 µm                |
| Frame rate full resolution              | 30@ 3840x2160               |
| G Sensitivity                           | 505mV at 1/30s              |
| Dark Signal                             | 0.13mV at 1/30s             |
| ADC conversion                          | 8 Bit - 12 Bit              |
| Color Depth                             | 1 Bit; 4 Bit; 8 Bit; 24 Bit |
| Exposure Time                           | 0.04 msec- 2 sec            |
| Binning                                 | 1x1                         |
| IR filter                               | 380-650 nm (IR-cut filter)  |
| Camera power                            | 12V 1A                      |
| C-mount                                 | YES                         |

# Camera Adapters Charts

|              |             | Upright                                             |                                     |                        |                                 |
|--------------|-------------|-----------------------------------------------------|-------------------------------------|------------------------|---------------------------------|
|              |             | Monocular<br>Binocular<br>(Ø 23 mm)                 | Trinocular<br>(Ø 23 mm)             | Binocular<br>(Ø 30 mm) | Trinocular                      |
| Camera model | Sensor size | Ecovision / B-60 / B-150<br>B-190-290 / B-380 (ALC) | B-190 / B-290<br>B-380 (with M-699) | B-510 / B-810 / B-1000 | B-380 / B-510<br>B-810 / B-1000 |
| C-P3         | 1/2.8"      | M-115                                               | M-115                               | M-115 + M-113.1        | M-620                           |
| C-P6         | 1/1.8"      | M-114                                               | M-114                               | M-114 + M-113.1        | M-620.1                         |
| C-P8         | 1/2.5"      | M-115                                               | M-115                               | M-115 + M-113.1        | M-620.1                         |
| C-P20        | 1"          | -                                                   | -                                   | -                      | M-620.3                         |
| C-P5GS       | 2/3"        | M-118                                               | M-118                               | M-118 + M-113.1        | M-620.2                         |
| C-HP         | 1/1.9"      | M-114                                               | M-114                               | M-114 + M-113.1        | M-620.1                         |
| C-HPSC       | 1/1.9"      | M-114                                               | M-114                               | M-114 + M-113.1        | M-620.1                         |
| C-WH5        | 1/1.8"      | M-114                                               | M-114                               | M-114 + M-113.1        | M-620.1                         |
| C-WH5SC      | 1/1.8"      | M-114                                               | M-114                               | M-114 + M-113.1        | M-620.1                         |
| C-HA         | 1/2.8"      | M-115                                               | M-115                               | M-115 + M-113.1        | M-620                           |
| C-HP4        | 1/1.8"      | M-114                                               | M-114                               | M-114 + M-113.1        | M-620.1                         |
| C-HUB4K      | 1/1.8"      | M-114                                               | M-114                               | M-114 + M-113.1        | M-620.1                         |



# Camera Adapters Charts

4

Cameras & Digital

| Inverted    | Stereo                   |                        |                |
|-------------|--------------------------|------------------------|----------------|
| Trinocular  | Binocular<br>(Ø 30.5 mm) | Binocular<br>(Ø 30 mm) | Trinocular     |
| IM-3 / IM-5 | SFX                      | SLX / SZ / SZP         | SLX / SZ / SZP |
| M-620       | M-115 + M-113.2          | M-115 + M-113.1        | M-620          |
| M-620.1     | M-114 + M-113.2          | M-114 + M-113.1        | M-620.1        |
| M-620.1     | M-115 + M-113.2          | M-115 + M-113.1        | M-620.1        |
| M-620.3     | -                        | -                      | M-620.3        |
| M-620.2     | M-118 + M-113.2          | M-118 + M-113.1        | M-620.2        |
| M-620.1     | M-114 + M-113.2          | M-114 + M-113.1        | M-620.1        |
| M-620.1     | M-114 + M-113.2          | M-114 + M-113.1        | M-620.1        |
| M-620.1     | M-114 + M-113.2          | M-114 + M-113.1        | M-620.1        |
| M-620.1     | M-114 + M-113.2          | M-114 + M-113.1        | M-620.1        |
| M-620       | M-115 + M-113.2          | M-115 + M-113.1        | M-620.1        |
| M-620.1     | M-114 + M-113.2          | M-114 + M-113.1        | M-620          |
| M-620.1     | M-114 + M-113.2          | M-114 + M-113.1        | M-620          |



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## Headquarters and Manufacturing Facilities

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**OPTIKA® S.r.l.** Via Rigla, 30 - 24010 Ponteranica (BG) - ITALY - Tel.: +39 035.571.392 - [info@optikamicroscopes.com](mailto:info@optikamicroscopes.com)

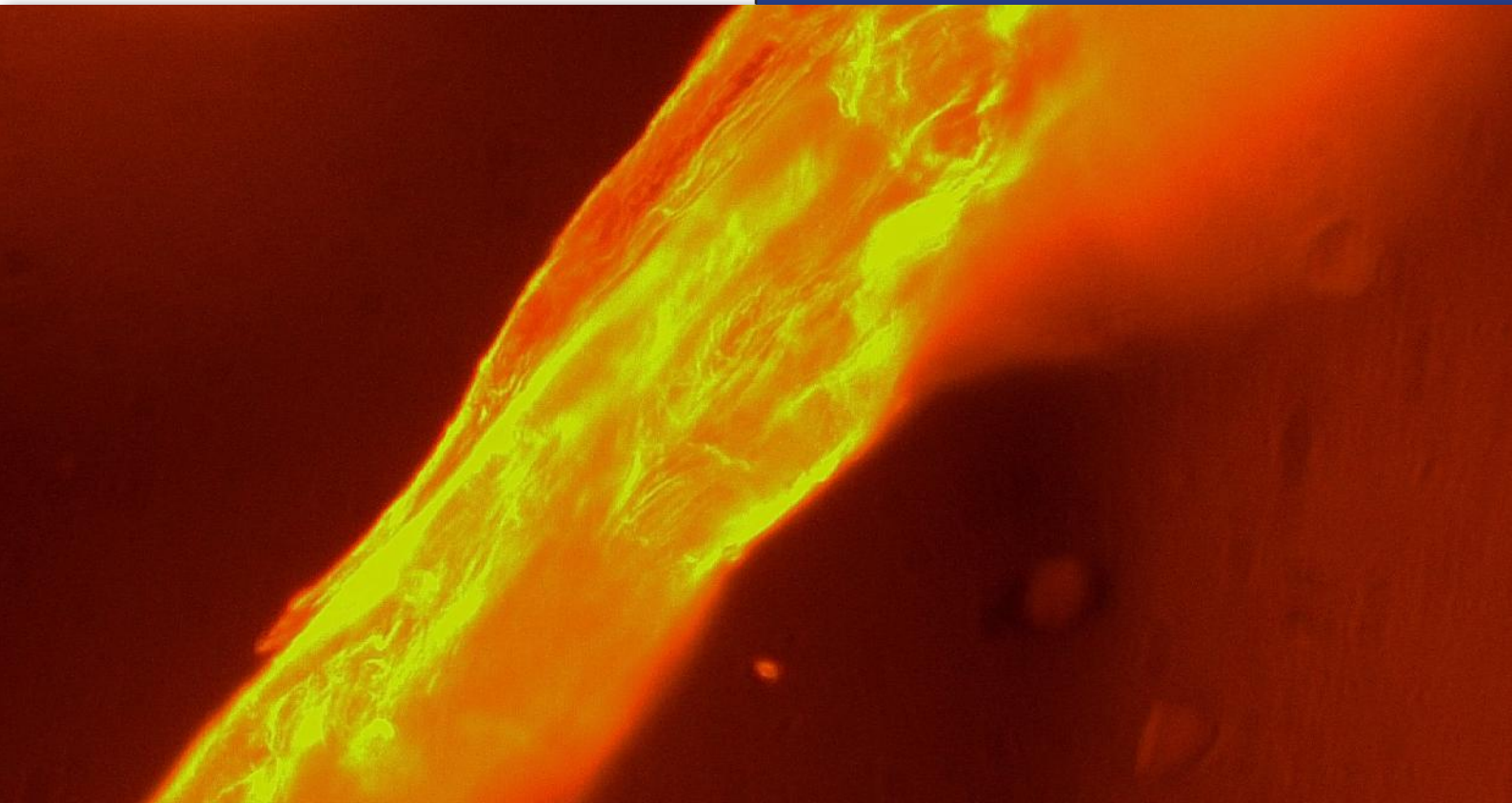
## Optika Sales branches

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**OPTIKA® Spain** [spain@optikamicroscopes.com](mailto:spain@optikamicroscopes.com)  
**OPTIKA® China** [china@optikamicroscopes.com](mailto:china@optikamicroscopes.com)  
**OPTIKA® India** [india@optikamicroscopes.com](mailto:india@optikamicroscopes.com)

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**OPTIKA® Africa** [africa@optikamicroscopes.com](mailto:africa@optikamicroscopes.com)

# High-End Microscope Cameras for Fluorescence Microscopy



## **Large Selection of Best-in-class High Sensitivity Fluorescence Cameras**

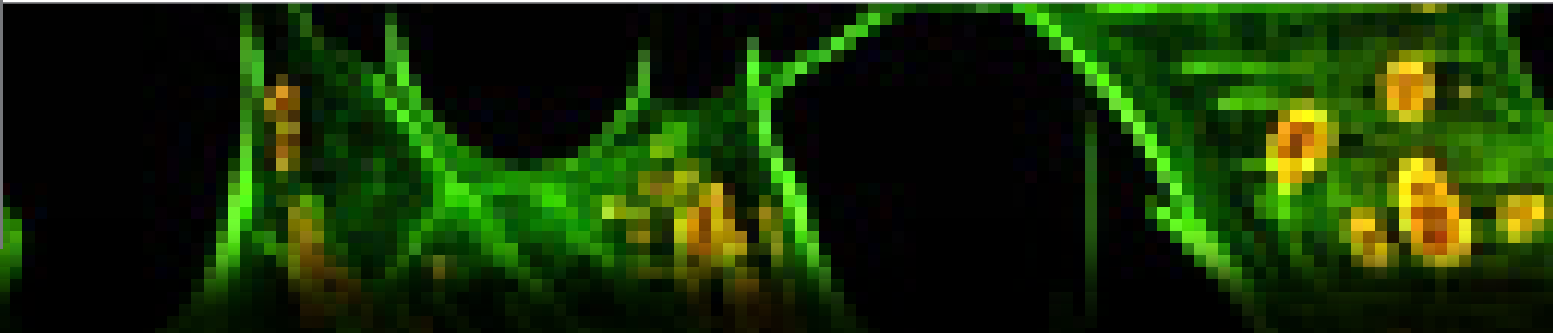
In order to detect the often low levels of fluorescence emitted by specimens, cameras used in fluorescence microscopy must have particular features, including high sensitivity and low noise, in order to capture as many photons as possible.

These cameras are typically equipped with CCD sensor, although nowadays there is always a larger selection of scientific-grade CMOS. Monochrome cameras are usually more suited to fluorescence imaging as they do not have a colour filter array, and enable more photons to reach the sensor, increasing their sensitivity very significantly compared to the color sensors.

The most indicated camera depends case by case, as it is of fundamental importance to consider the sample being imaged, the fluorochromes used, the required frame-rate, field of view, resolution and sensitivity.

All these elements drive to the selection of the right camera for a specific use.

# High-Level Microscope Cameras

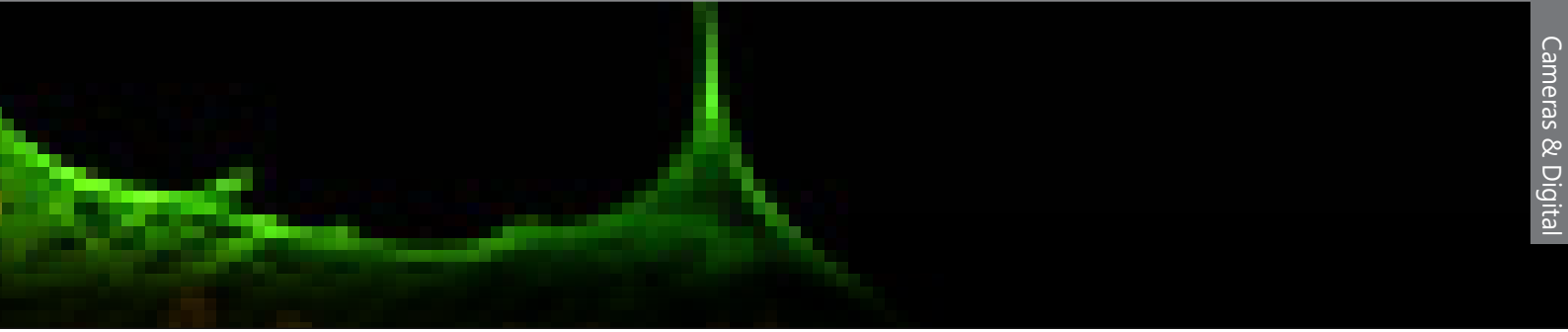


Cooled Scientific-grade CMOS Sensor, Rolling Shutter - C-P20CC & C-P20CM  
 Cooled Scientific-grade CMOS Sensor, Global Shutter - C-P1CCGS & C-P1CMGS  
 CCD Sensor, Rolling Shutter - C-P6FL

| Model                    | C-P20CC                       | C-P20CM                          | C-P1CCGS              | C-P1CMGS              | C-P6FL            |
|--------------------------|-------------------------------|----------------------------------|-----------------------|-----------------------|-------------------|
| Sensor technology        | Scientific-grade CMOS         | Scientific-grade CMOS            | Scientific-grade CMOS | Scientific-grade CMOS | CCD               |
| Color / Monochrome       | Color                         | Monochrome                       | Color                 | Monochrome            | Color             |
| Global / Rolling shutter | Rolling shutter               | Rolling shutter                  | Global shutter        | Global shutter        | Rolling shutter   |
| Resolution               | 20MP (5440 x 3648)            | 20MP (5440 x 3648)               | 1.7MP (1600 x 1100)   | 1.7MP (1600 x 1100)   | 6MP (2748 x 2200) |
| Frame rate               | 5 fps/10 fps/15 fps<br>30 fps | 17.8 fps/41 fps/51<br>fps/64 fps | 33 fps                | 94 fps                | 7.5 fps/14 fps    |
| Sensitivity              | 426 mV at 1/30s               | 388 mV at 1/30s                  | 4910 mV at 1/30s      | 8100 mV at 1/30s      | 1000 mV at 1/30s  |
| Cooling system           | Yes                           | Yes                              | Yes                   | Yes                   | No                |

# High-Level Microscope Cameras

4



# C-P1CCGS & C-P1CMGS

1.3/18  
MP

CMOS



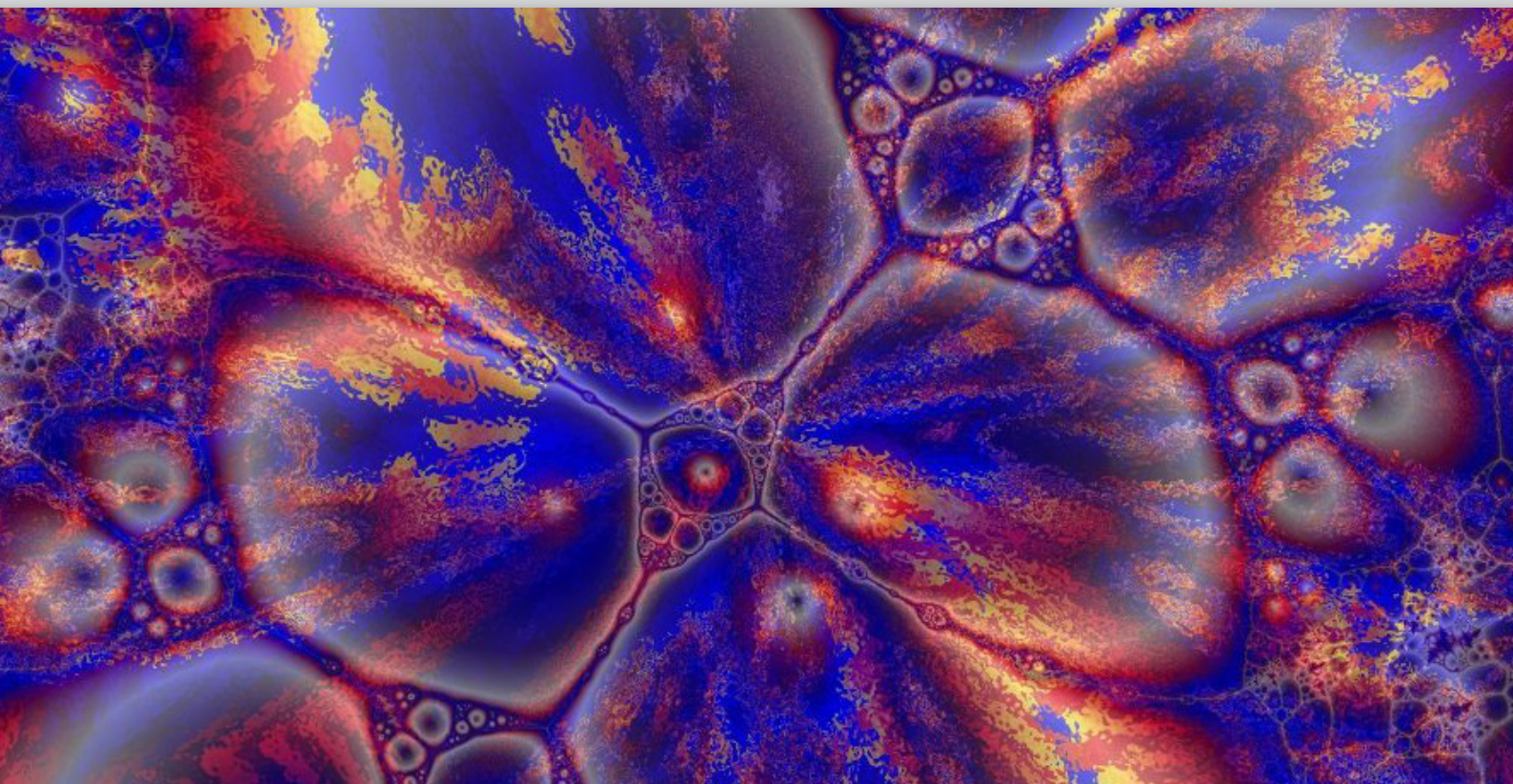
USB-OUT



Superb, stunning global shutter SONY EXMOR CMOS cameras with low resolution (1.7 MP), cooled large sensor and USB3.0 connection, recommended for specific scientific applications especially connected to fluorescence microscopy. Main key-points are the global shutter featuring its sensitivity, which makes this series impressive both with fast-moving specimens and in low-light fluorescence, especially thanks to the cooling function. Choose the monochrome version for superb sensitivity, being perfect for fluorescence imaging.

The compact and elegantly designed housing conceals the very latest in camera technology. Images will be of the highest quality and rich in contrast and detail with the top-class SONY sensors, worldwide recognized, ensuring beautiful true-to-life color and delivering incredibly accurate colors just as you see them. Ideal to be connected to all the trinocular tube of different brands using the focusable C-Mount adapter (to be purchased separately).

Downloadable, free of charge software (Windows, Mac OS or Linux) is always available to enable the latest updates.



# C-P1CCGS & C-P1CMGS

## C-P1CCGS

- » Recommended for special applications, including fluorescence
- » Simple operation, driver-free
- » Top-class, large SONY EXMOR sensor
- » Cooling system for enhanced sensitivity
- » Global shutter for impressive performance on moving samples
- » Universal connection to any microscope brand
- » Crisp 1.7 MP images
- » USB3.0 for impressive high frame rate
- » Incredibly accurate colors
- » USB cable and calibration slide included
- » Downloadable, free of charge software
- » OPTIKA ProView & LiteView for Windows
- » OPTIKA LiteView for Mac OS or Linux



# C-P1CCGS & C-P1CMGS

- Models:
- C-P1CCGS:** High Performance USB 3.0 C-mount Cooled Color Microscope Camera
  - C-P1CMGS:** High Performance USB 3.0 C-mount Cooled Monochrome Microscope Camera



## C-P1CCGS & C-P1CMGS - Specifications

| Camera Technical Specifications | C-P1CCGS                     | C-P1CMGS                   |
|---------------------------------|------------------------------|----------------------------|
| Digital camera resolution       | 1.7 MP (1600 x 1100)         | 1.7 MP (1600 x 1100)       |
| Signal output                   | USB 3.0                      | USB 3.0                    |
| Color / Monochrome              | Color                        | Monochrome                 |
| Sensor Size                     | 1.1"                         | 1.1"                       |
| Sensor technology               | CMOS                         | CMOS                       |
| Sensor type                     | SONY EXMOR                   | SONY EXMOR                 |
| Image format                    | 3/2                          | 3/2                        |
| Pixel size                      | 9.0 x 9.0 μm                 | 9.0 x 9.0 μm               |
| Frame rate full resolution      | 33 fps (1600 x 1100)         | 94 fps (1600 x 1100)       |
| G Sensitivity                   | 4910mV at 1/30s              | 8100mV at 1/30s            |
| Dark Signal                     | 0.3mV at 1/30s               | 0.3mV at 1/30s             |
| ADC conversion                  | 8 Bit - 12 Bit               | 14 Bit                     |
| Color Depth                     | 1 Bit ; 4 Bit; 8 Bit; 24 Bit | -                          |
| Exposure Time                   | 0.1 msec - 3600 sec          | 0.1 msec - 3600 sec        |
| Binning                         | 1x1                          | 1x1                        |
| IR filter                       | 380-650 nm (IR-cut filter)   | 380-650 nm (IR-cut filter) |
| Cooling Temperature             | -45°C                        | -45°C                      |
| Cooling power                   | 12V 3A                       | 12V 3A                     |
| Camera power                    | PC USB                       | PC USB                     |
| C-mount                         | YES                          | YES                        |

# C-P1CCGS & C-P1CMGS

4



## C-P1CCGS & C-P1CMGS Contents:

- USB camera
- USB 3.0 cable
- Calibration slide
- External power supply



1.7  
MP

CMOS



USB-OUT

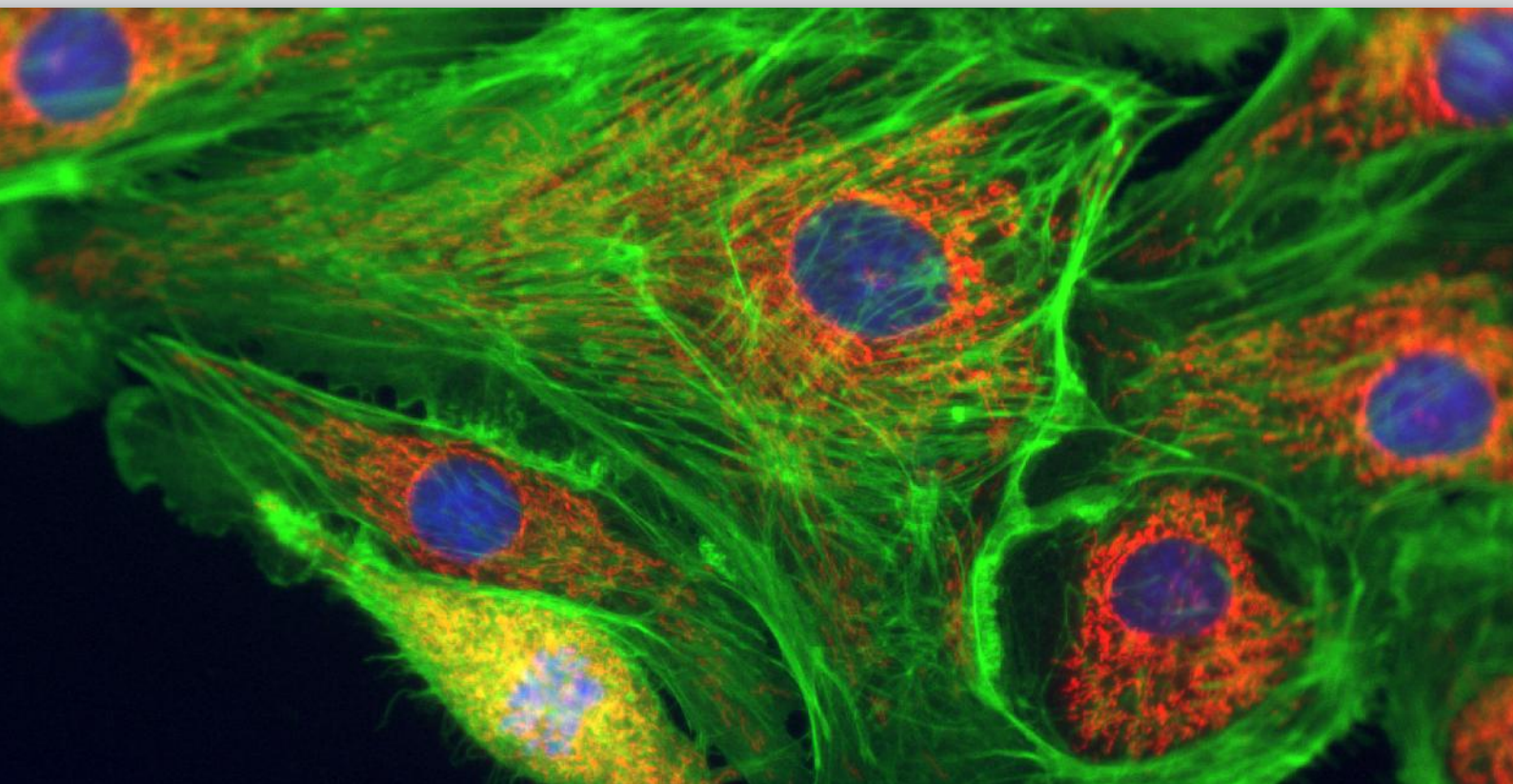


Top-class, easy to operate SONY EXVIEW CCD camera with high resolution (6 MP), large sensor and USB3.0 connection, recommended for specific scientific applications especially connected to fluorescence microscopy. Its particular sensitivity is relevantly important in low-light fluorescence, and if small changes in fluorescence need to be detected, determining how clear the image produced is. The compact and elegantly designed housing conceals the very latest in camera technology.

Images will be of the highest quality and rich in contrast and detail with the top-class SONY sensors, worldwide recognized, ensuring beautiful true-to-life color and delivering incredibly accurate colors just as you see them.

Ideal to be connected to all the trinocular tube of different brands using the focusable C-Mount adapter (to be purchased separately).

Downloadable, free of charge software (Windows, Mac OS or Linux) is always available to enable the latest updates.



- » Recommended for special applications, including fluorescence
- » Simple operation, driver-free
- » Top-class, large SONY EXVIEW CCD sensor
- » Significant sensitivity for a non-cooled camera
- » Universal connection to any microscope brand
- » Crisp 6 MP images
- » USB3.0 for impressive high frame rate
- » Incredibly accurate colors
- » USB cable and calibration slide included
- » Downloadable, free of charge software
- » OPTIKA ProView & LiteView for Windows
- » OPTIKA LiteView for Mac OS or Linux
- » C-mount connection (via dedicated adapter, on any microscope)



# C-P6FL

**Model:**  
**C-P6FL:** High Performance USB 3.0 C-mount Microscope Camera



## C-P6FL - Specifications

| CAMERA TECHNICAL SPECIFICATIONS | C-P6FL                       |
|---------------------------------|------------------------------|
| Digital camera resolution       | 6 MP (2748 x 2200)           |
| Signal output                   | USB 3.0                      |
| Color / Monochrome              | Color                        |
| Sensor Size                     | 1"                           |
| Sensor technology               | CCD                          |
| Sensor type                     | SONY EXVIEW                  |
| Image format                    | 5/4                          |
| Pixel size                      | 4.54 x 4.54 μm               |
| Frame rate full resolution      | 7.5 fps (2748 x 2200)        |
| Frame rate other resolution     | 14 fps (2748 x 1092)         |
| Dynamic range (DB)              | 62                           |
| G Sensitivity                   | 1000mV at 1/30s              |
| Dark Signal                     | 8mV at 1/30s                 |
| ADC conversion                  | 8 Bit - 12 Bit               |
| Color Depth                     | 1 Bit ; 4 Bit; 8 Bit; 24 Bit |
| Exposure Time                   | 0.06 msec - 1000 sec         |
| Binning                         | 1x1                          |
| IR filter                       | 380-650 nm (IR-cut filter)   |
| Camera power                    | PC USB                       |
| C-mount                         | YES                          |

## C-P6FL Contents:

USB camera  
USB 1.8 cable  
Calibration slide



# C-P20CC & C-P20CM

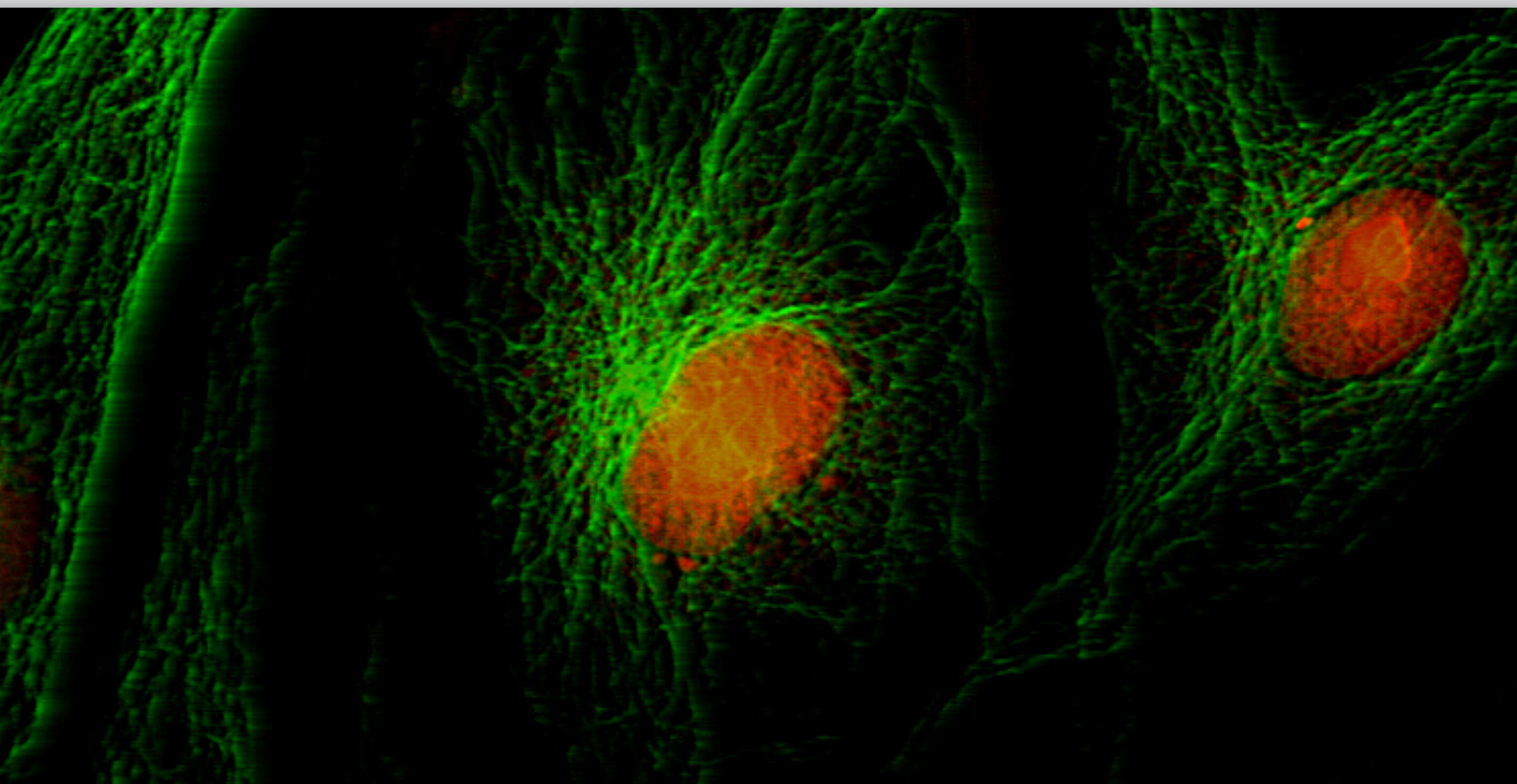


C-P20CC



C-P20CM

Ultra-professional yet intuitive cameras with incredibly high resolution (20 MP), cooled large SONY EXMOR CMOS sensor and USB3.0 connection, recommended for specific scientific applications especially connected to fluorescence microscopy. The cooling system affects sensitivity and therefore image clarity. Choose the monochrome version for superb sensitivity, being perfect for fluorescence imaging. The high resolution makes these models interesting also for morphological imaging, patch clamping and network studies. The compact and elegantly designed housing conceals the very latest in camera technology. Images will be of the highest quality and rich in contrast and detail with the top-class SONY sensors, worldwide recognized, ensuring beautiful true-to-life color and delivering incredibly accurate colors just as you see them. Ideal to be connected to all the trinocular tube of different brands using the focusable C-Mount adapter (to be purchased separately). Downloadable, free of charge software (Windows, Mac OS or Linux) is always available to enable the latest updates.



# C-P20CC & C-P20CM

## C-P20CC

- » Recommended for special applications, including fluorescence
- » Simple operation, driver-free
- » Top-class, large SONY EXMOR sensor
- » Cooling system for enhanced sensitivity
- » Universal connection to any microscope brand
- » Crisp 20 MP images
- » USB3.0 for impressive high frame rate
- » Incredibly accurate colors
- » USB cable and calibration slide included
- » Downloadable, free of charge software
- » OPTIKA ProView & LiteView for Windows
- » OPTIKA LiteView for Mac OS or Linux

## 4 C-P20CC & C-P20CM

### Models:

**C-P20CC:** Pro Cooled Color camera, 20 MP CMOS, USB3.0

**C-P20CM:** Pro Cooled Monochromatic camera, 20 MP CMOS, USB3.0



## C-P20CC & C-P20CM - Specifications

| CAMERA TECHNICAL SPECIFICATIONS | C-P20CC                                                   | C-P20CM                                                      |
|---------------------------------|-----------------------------------------------------------|--------------------------------------------------------------|
| Digital camera resolution       | 20 MP (5440 x 3648)                                       | 20 MP (5440 x 3648)                                          |
| Signal output                   | USB 3.0                                                   | USB 3.0                                                      |
| Color / Monochrome              | Color                                                     | Monochrome                                                   |
| Sensor Size                     | 1"                                                        | 1"                                                           |
| Sensor technology               | CMOS                                                      | CMOS                                                         |
| Sensor type                     | SONY EXMOR                                                | SONY EXMOR                                                   |
| Image format                    | 3/2                                                       | 3/2                                                          |
| Pixel size                      | 2.4 x 2.4 $\mu$ m                                         | 2.4 x 2.4 $\mu$ m                                            |
| Frame rate full resolution      | 5 fps (5440 x 3648)                                       | 17.8 fps (5440 x 3648)                                       |
| Frame rate other resolution     | 10 fps (4096x2160); 15 fps (2736x1824); 30fps (1824x1216) | 41 fps (4096 x 2160); 51 fps (2736x1824); 64 fps (1824x1216) |
| G Sensitivity                   | 426mV at 1/30s                                            | 388mV at 1/30s                                               |
| Dark Signal                     | 0.21mV at 1/30s                                           | 0.21mV at 1/30s                                              |
| ADC conversion                  | 8 Bit - 12 Bit                                            | 14 Bit                                                       |
| Color Depth                     | 1 Bit ; 4 Bit; 8 Bit; 24 Bit                              | -                                                            |
| Exposure Time                   | 0.1 msec - 3600 sec                                       | 0.1 msec - 3600 sec                                          |
| Binning                         | 1x1; 2x2; 3x3                                             | 1x1; 2x2; 3x3                                                |
| IR filter                       | 380-650 nm (IR-cut filter)                                | 380-650 nm (IR-cut filter)                                   |
| Cooling Temperature             | -45°C                                                     | -45°C                                                        |
| Cooling power                   | 12V 3A                                                    | 12V 3A                                                       |
| Camera power                    | PC USB                                                    | PC USB                                                       |
| C-mount                         | YES                                                       | YES                                                          |

# C-P20CC & C-P20CM

4

Cameras & Digital

## C-P20CC & C-P20CM Contents:

USB camera  
USB 3.0 cable  
Calibration slide  
External power supply



# Camera Adapters Charts

|              |             | Upright                                             |                                     |                        |                                 |
|--------------|-------------|-----------------------------------------------------|-------------------------------------|------------------------|---------------------------------|
|              |             | Monocular<br>Binocular<br>(O 23 mm)                 | Trinocular<br>(O 23 mm)             | Binocular<br>(O 30 mm) | Trinocular                      |
| Camera model | Sensor size | Ecovision / B-60 / B-150<br>B-190-290 / B-380 (ALC) | B-190 / B-290<br>B-380 (with M-699) | B-510 / B-810 / B-1000 | B-380 / B-510<br>B-810 / B-1000 |
| C-P20CC      | 1"          | -                                                   | -                                   | -                      | M-620.3                         |
| C-P20CM      | 1"          | -                                                   | -                                   | -                      | M-620.3                         |
| C-P1CCGS     | 1,1"        | -                                                   | -                                   | -                      | M-620.3                         |
| C-P1CMGS     | 1,1"        | -                                                   | -                                   | -                      | M-620.3                         |
| C-P6FL       | 1"          | -                                                   | -                                   | -                      | M-620.3                         |



# Camera Adapters Charts

| Inverted    | Stereo                   |                        |                      |
|-------------|--------------------------|------------------------|----------------------|
| Trinocular  | Binocular<br>(O 30.5 mm) | Binocular<br>(O 30 mm) | Trinocular           |
| IM-3 / IM-5 | SFX                      | SLX / SZM / SZ / SZP   | SLX / SZM / SZ / SZP |
| M-620.3     | -                        | -                      | M-620.3              |
| M-620.3     | -                        | -                      | M-620.3              |
| M-620.3     | -                        | -                      | M-620.3              |
| M-620.3     | -                        | -                      | M-620.3              |
| M-620.3     | -                        | -                      | M-620.3              |



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## Headquarters and Manufacturing Facilities

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**OPTIKA® S.r.l.** Via Rigla, 30 - 24010 Ponteranica (BG) - ITALY - Tel.: +39 035.571.392 - [info@optikamicroscopes.com](mailto:info@optikamicroscopes.com)

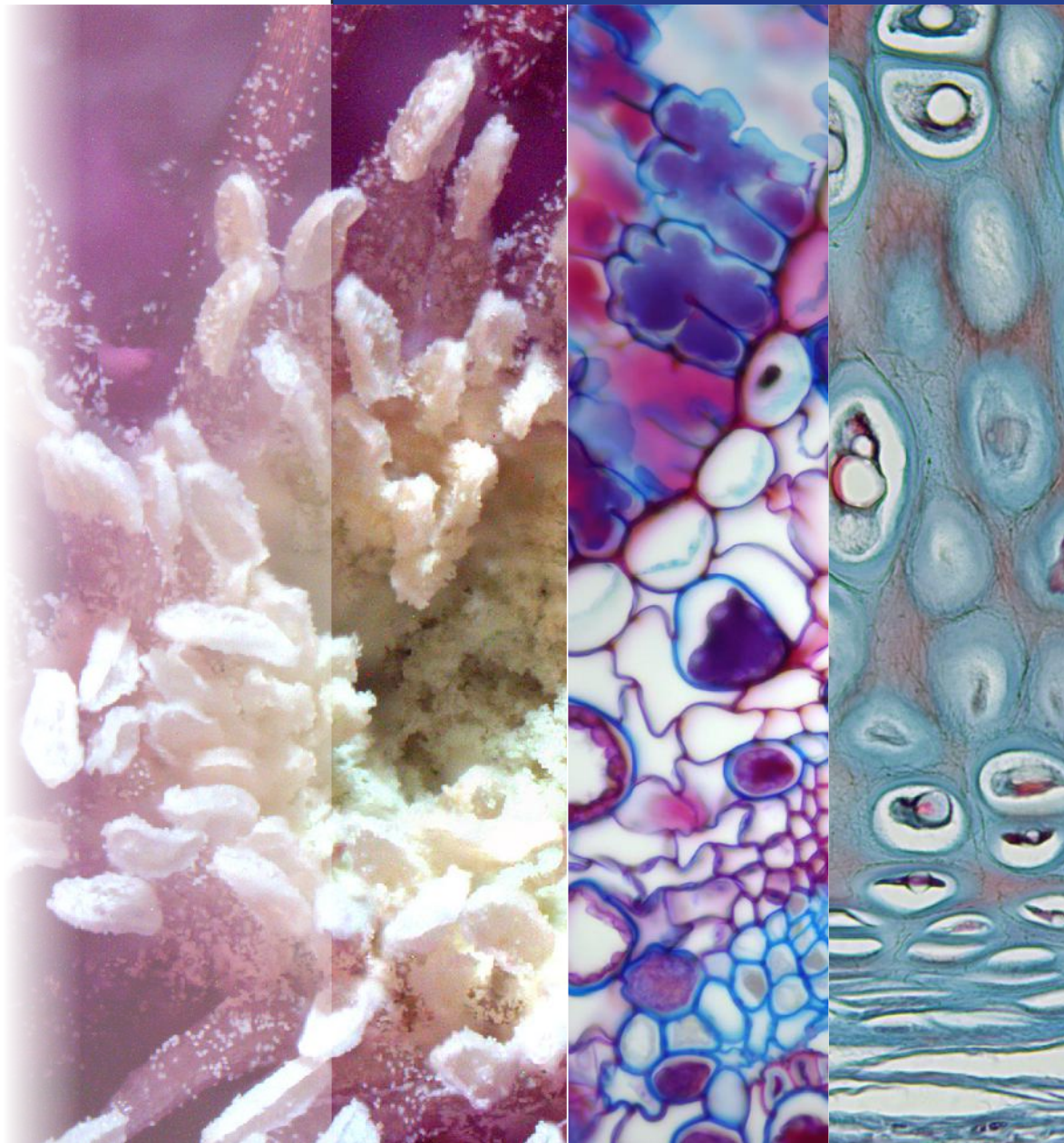
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---

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# OPTIKA SOFTWARE

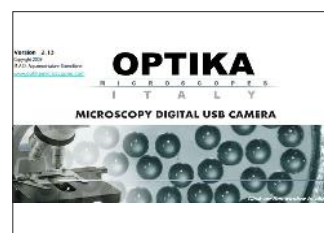


**OPTIKA SOFTWARE SUITES**

# OPTIKA SOFTWARE - Comparison chart

## Software

- Before proceeding with the SW installation, please check the table below "Software Function list" to identify the most suitable software.



## SOFTWARE FUNCTION LIST

| GENERAL | FUNCTION                                   |                  | OPTIKA PRO VIEW | OPTIKA LITE VIEW | OPTIKA VISION LITE |
|---------|--------------------------------------------|------------------|-----------------|------------------|--------------------|
|         | Simultaneous management of several cameras |                  | X               | X                | X                  |
|         | GUI (Graphical User Interface)             |                  | X               |                  |                    |
|         | Report generator                           |                  | X               |                  | X                  |
|         | Archiving                                  |                  | X               | X                | X                  |
|         | Language                                   | Catalan          | X               | X                |                    |
|         |                                            | Chinese (simpl.) | X               | X                |                    |
|         |                                            | Chinese (trad.)  | X               | X                |                    |
|         |                                            | Korean           | X               | X                |                    |
|         |                                            | English          | X               | X                | X                  |
|         |                                            | French           | X               | X                | X                  |
|         |                                            | German           | X               | X                | X                  |
|         |                                            | Indonesian       | X               | X                |                    |
|         |                                            | Italian          | X               | X                | X                  |
|         |                                            | Japanese         | X               | X                |                    |
|         |                                            | Polish           | X               | X                | X                  |
|         |                                            | Russian          | X               | X                |                    |
|         |                                            | Spanish          | X               | X                | X                  |
|         |                                            | Swedish          |                 |                  | X                  |
|         |                                            | Thai             | X               | X                |                    |
|         |                                            | Turkish          | X               | X                |                    |

| MEASUREMENTS | FUNCTION                   |                | OPTIKA PRO VIEW | OPTIKA LITE VIEW | OPTIKA VISION LITE |
|--------------|----------------------------|----------------|-----------------|------------------|--------------------|
|              | Measurements on "live"     |                | X               |                  |                    |
|              | Measurements on "captured" |                | X               |                  | X                  |
|              | 2D Measurements            | Line           | X               |                  | X                  |
|              |                            | Angle          | X               |                  |                    |
|              |                            | Parallel lines | X               |                  |                    |
|              |                            | Rectangle      | X               |                  |                    |
|              |                            | Ellipse        | X               |                  |                    |
|              |                            | Circle         | X               |                  |                    |
|              |                            | Annulus        | X               |                  |                    |
|              |                            | Arc            | X               |                  |                    |
|              |                            | Curve          | X               |                  |                    |
|              |                            | Polygon        | X               |                  |                    |
|              | Particle count             |                | X               |                  |                    |
|              | Export to Excel            |                | X               |                  | X                  |

# OPTIKA SOFTWARE - Comparison chart

4

Cameras & Digital

## SOFTWARE FUNCTION LIST

### IMAGE ACQUISITION

| FUNCTION                                   |            | OPTIKA PRO VIEW | OPTIKA LITE VIEW | OPTIKA VISION LITE |
|--------------------------------------------|------------|-----------------|------------------|--------------------|
| Simultaneous management of several cameras |            | X               | X                |                    |
| IMAGE acquisition                          |            | X               | X                | X                  |
| Image formats                              | tiff       | X               | X                | X                  |
|                                            | jpg        | X               | X                | X                  |
|                                            | bmp        | X               | X                | X                  |
|                                            | png        | X               | X                |                    |
|                                            | pcx        | X               | X                |                    |
|                                            | jp2        | X               | X                |                    |
|                                            | dcm        | X               | X                |                    |
| IMAGE acquisition                          |            | X               | X                | X                  |
| VIDEO formats                              | avi        | X               | X                | X                  |
|                                            | wmv        | X               | X                | X                  |
|                                            | mp4        | X               | X                | X                  |
|                                            | asf        | X               | X                | X                  |
|                                            | 3gp        | X               | X                | X                  |
|                                            | mov        | X               | X                | X                  |
|                                            | h264       | X               | X                | X                  |
|                                            | h265       | X               | X                | X                  |
| Continuous automatic exposure              |            | X               | X                | X                  |
| Manual Exposure                            |            | X               | X                | X                  |
| Mobile spot for exposure                   |            | X               | X                | X                  |
| Resizable spot for exposure                |            | X               | X                | X                  |
| Colour acquisition                         |            | X               | X                | X                  |
| Grey-scale acquisition                     |            | X               | X                | X                  |
| Manual Time-Lapse                          |            | X               |                  | X                  |
| Automatic Time-Lapse                       |            | X               |                  |                    |
| Fast Image Acquisition                     |            | X               | X                | X                  |
| Focus Indicator                            |            | X               |                  |                    |
| White Balance                              |            | X               | X                | X                  |
| Black balance                              |            | X               |                  |                    |
| Background correction                      |            | X               |                  |                    |
| Dark Field Correction                      |            | X               | X                |                    |
| Image Enhancement                          |            | X               | X                | X                  |
| Live Histogram                             |            | X               | X                | X                  |
| Flip                                       | Horizontal | X               | X                | X                  |
|                                            | Vertical   | X               | X                | X                  |
| Rotate                                     |            | X               |                  |                    |

### PROCESSING

| FUNCTION                                       |  | OPTIKA PRO VIEW | OPTIKA LITE VIEW | OPTIKA VISION LITE |
|------------------------------------------------|--|-----------------|------------------|--------------------|
| Several function of image processing (filters) |  | X               |                  |                    |
| Multiple image combining                       |  | X               |                  |                    |
| EDF (Extended Depth of Focus)                  |  | X               |                  |                    |
| Colour Combine (Multi-Fluorescence Imaging)    |  | X               |                  |                    |
| Shift Correction                               |  | X               |                  |                    |
| HDR (High Dynamic Range)                       |  | X               |                  |                    |
| Layer Management                               |  | X               |                  | X                  |
| Text Overlay                                   |  | X               |                  |                    |
| Ruler Overlay                                  |  | X               |                  |                    |
| Measurement Overlay                            |  | X               |                  |                    |
| Grids                                          |  | X               |                  | X                  |

4083.Wifi, 4083.4 and 4083.EC2 work with Vision Lite only. Cameras with HDMI connection only, do not require any software.

# 4 OPTIKA Vision Lite - Extremely Intuitive Software

**Optika Vision Lite** has been designed and developed to be incredibly intuitive, simple and easy to use for customers needing a convenient solution to be combined with OPTIKAM cameras.

- » Friendly interface, multilanguage
- » Capture still images & stream live videos
- » Perform linear measurements
- » Export comprehensive reports

## Friendly interface, multilanguage

Engineered for easy user interaction and optimized image acquisition, the main purpose of OPTIKA Vision Lite is ensure clear communication.

- An efficient means to efficiently completing your jobs
- Pleasant, easy-to-navigate menus
- Eight languages pre-installed, others upgradable

## Capture still images & stream live videos

Use the live preview to accurately focus your image and change parameters to obtain the perfect final result you are looking for. Images can be saved in different formats and even as test reports, including personal comments.

Additional features:

- Image stack acquisition
- Grid addition for rapid considerations
- Image flipping option available

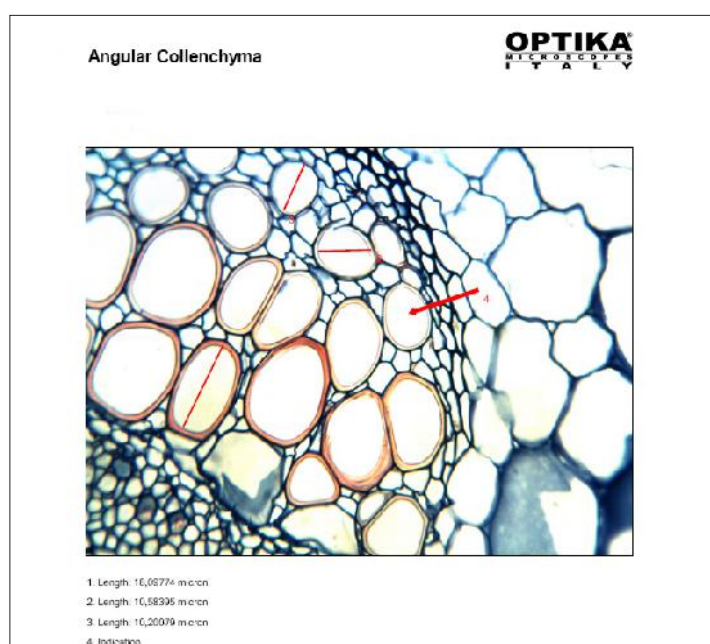
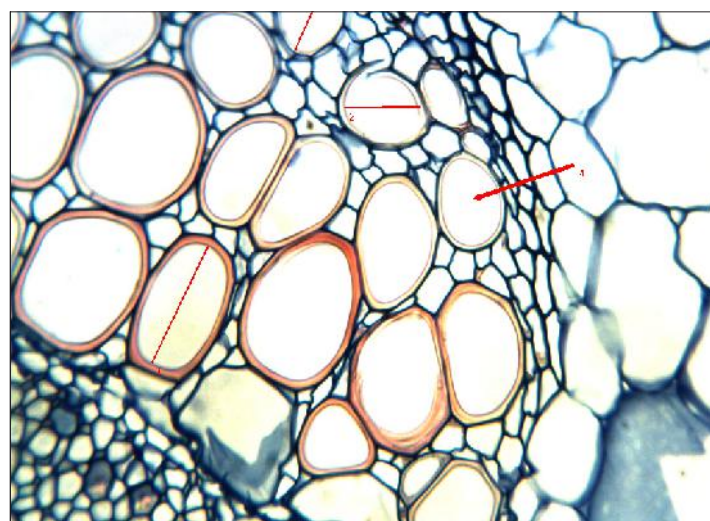
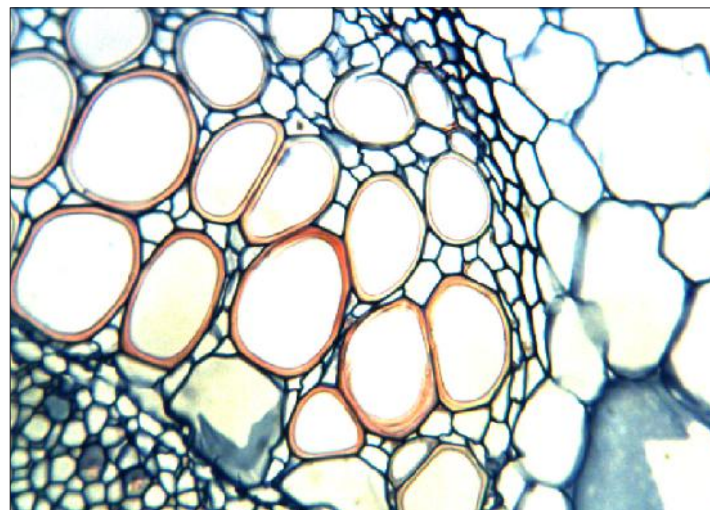
## Perform linear measurements

Perform linear measurements in an extremely way just by drawing a line after creating your preferred calibration based on the magnification.

- Accurate measurements through simple calibration
- Comprehensive data export (notes & measures included)
- Indicate particular objects in the image to add persona comments

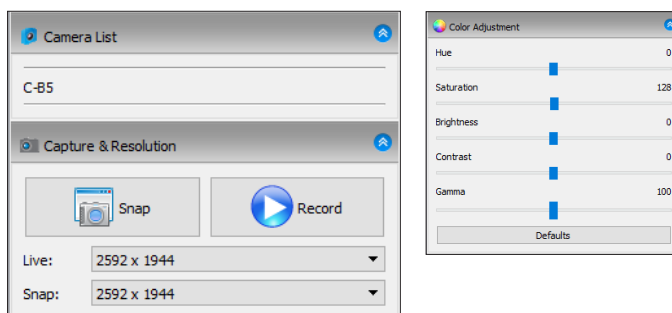
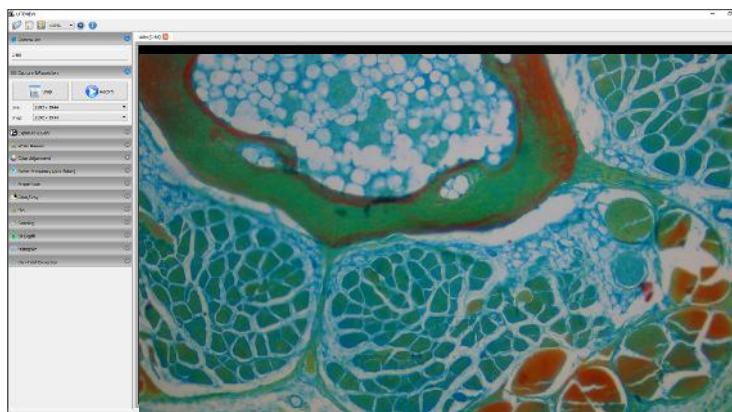
## Export comprehensive reports

Detailed test reports can be generated, printed and saved. Reports can be also customized with company logos.



**OPTIKA LITEView** is a basic image acquisition software. The user who simply wants acquire a still image or a video, with no need to perform measurements, has, with this powerful and intuitive software, the perfect solution.

- ) Simple management of «live» image
- ) Acquisition of still images or video
- ) Basic imaging functions
- ) Background correction



## Simple management of «live» image

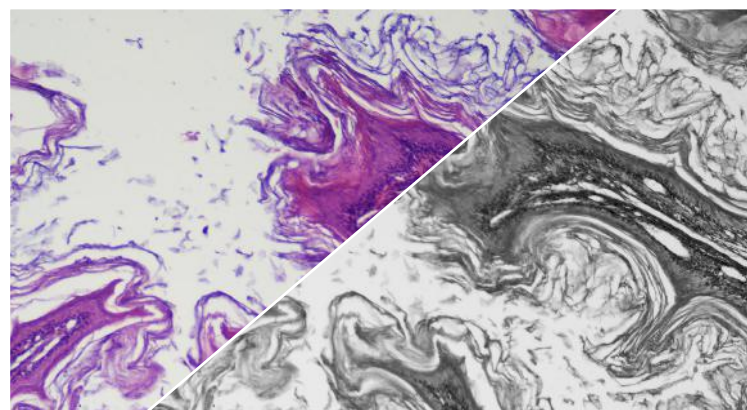
Image preview is freely customizable by the user. A simple White Balance function with a mobile spot allows to perform the balance even on very small areas, once the specimen has been framed and focused.

Basic functions:

- Automatic or manual acquisition
- Possibility to have «live» and «capture» at different resolutions
- White Balance with mobile spot
- Background correction for the acquisition of perfectly illuminated images.

## Capturing still images or video

Just select the option and the software performs: acquiring still images or videos is simply and intuitive.



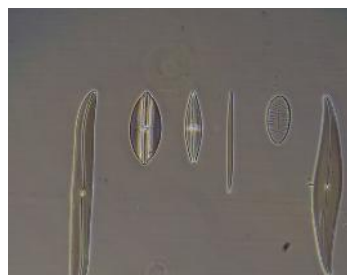
Color / Grey scales

## Basic imaging functions

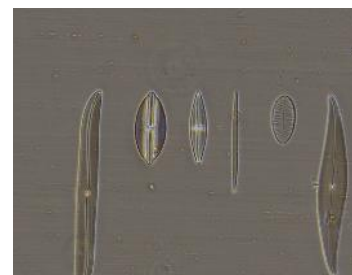
Image parameters can be modified according user's needs. Color, Contrast and Gamma can be changed in real time. More, it is possible to use a color camera in «SGrey Scales» modo in order to increase the camera sensitivity.

## Background Correction

Any inhomogeneity of illumination of the microscope can be corrected by using the background correction function. This allows to obtain a faithful reproduction of the image without annoying inhomogeneity due to a not perfect illumination.



No Background correction



With Background correction

# OPTIKA PROView - Professional Image Analysis

**OPTIKA PROView** is a professional image analysis software. The user who needs to acquire an image or video and to perform a series of processings or measurements, can easily achieve incredible results thanks to this software. PROView incorporates all the functions of the LITEView package, but in addition allows:

- White Balance and Black Balance
- Simultaneous management of several cameras
- Graphical User Interface fully customizable
- Imaging of Multichannel Fluorescence Images with «pixel shift» function
- Multilanguage Software

## Beginners? Experts?

An «On-line» manual will help any user (no matter on how expert he can be) to get the best from the software

## Images always perfect

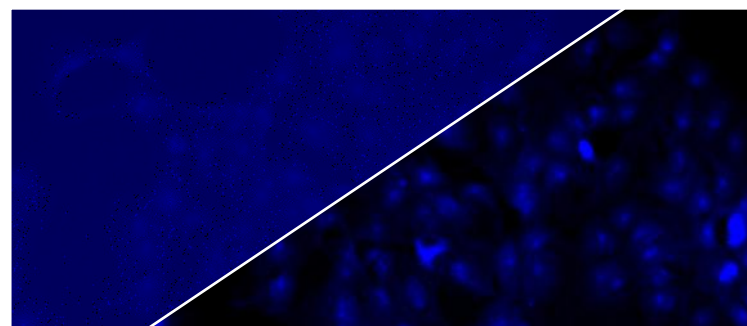
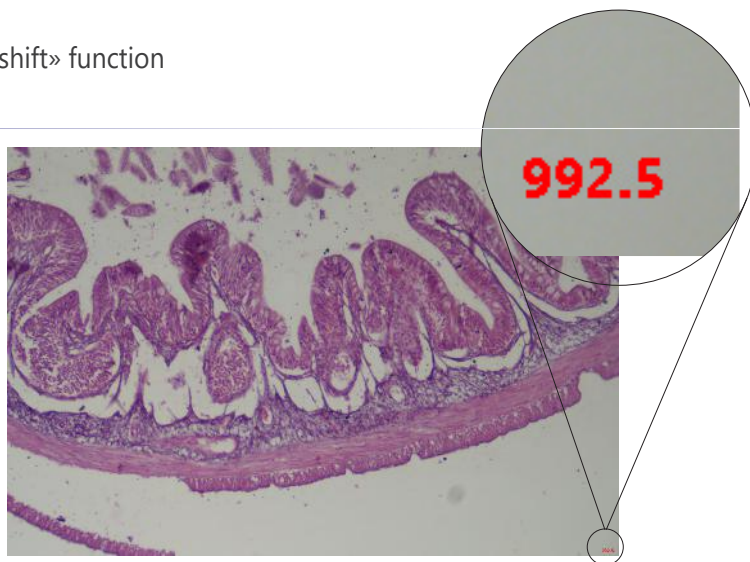
The management of the acquisition parameters allows to get always the best from your camera. White balance, black balance, background correction, «live» management of Colors, Contrast, Gamma, Gain and Exposure Time ensure to obtain a faithful image. A numerical focus indicator will ensure an optimal focusing, also on specimens with different focal planes.

## White Balance and Black Balance

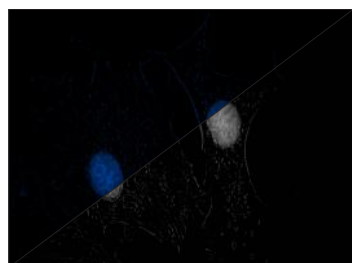
It is possible to obtain the balance either on the whole frame or on a small ROI (Region Of Interest) of the image simply resizing and moving the spot in one part of the specimen

## Multichannel Fluorescence Image processing

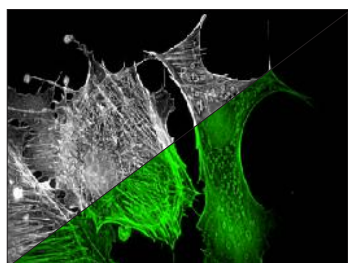
Acquire fluorescence images with a specific filtercube, use a false color for the used fluorochrome, get a single multichannel image is simply and intuitive.



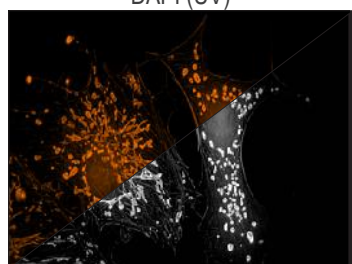
No black correction / Black correction



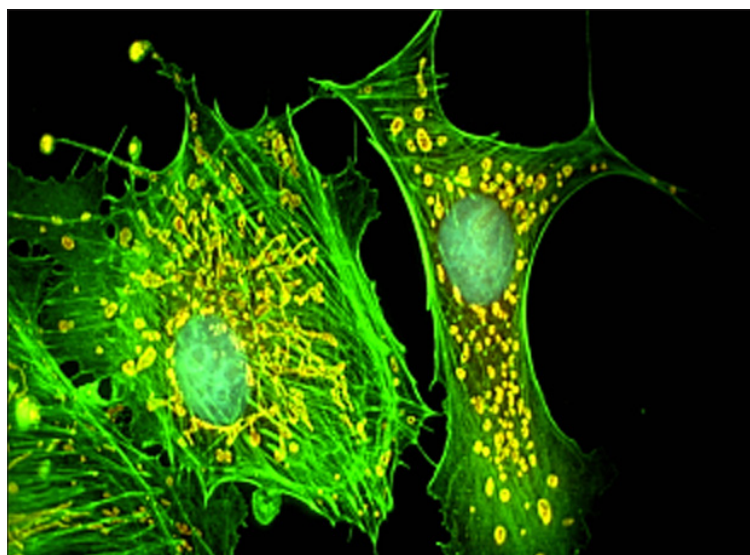
DAPI (UV)



FITC (B)



TEXAS RED (G)



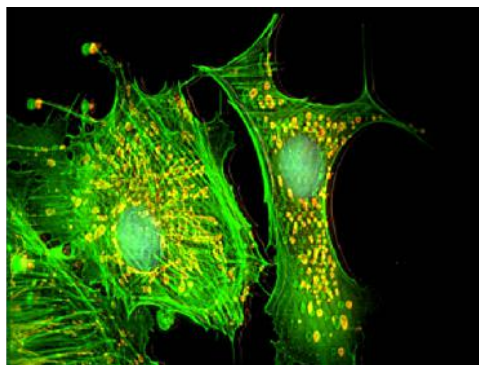
Combined multichannel image

## «Pixel Shift» function

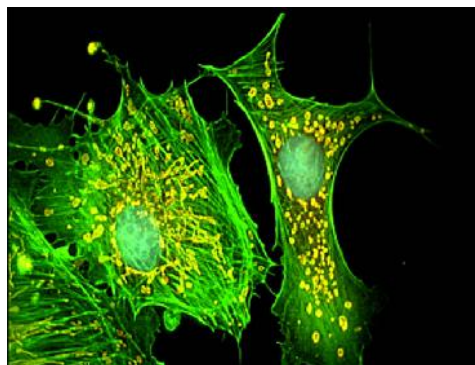
Fluorescence filter cubes, sometimes, are not perfectly aligned.

During acquisition of multichannel fluorescence images, this can cause a non perfect overlapping of the different signals, making the colocalization calculation almost impossible.

«Pixel Shift» function allows to correct these small misalignments:



Original image



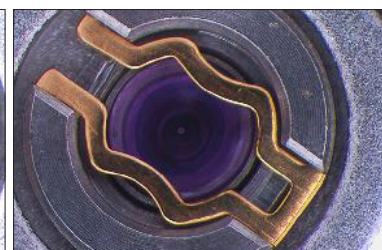
Corrected image

## HDR (High Dynamic Range) acquisition

Acquisition of different images with different exposure times allows this function to create a final image where bright and dark zones of the specimen are perfectly displayed.



Standard Dynamic Range



High Dynamic Range

## Extended Depth of Focus (EDF)

Acquire images with different focal planes, specially on specimens observed under a stereomicroscope, and to obtain a focused final image with a theoretical infinite focus. **EDF** function (also known as «Z-stack») allows a very refined image processing.



Single Focal Plane Images

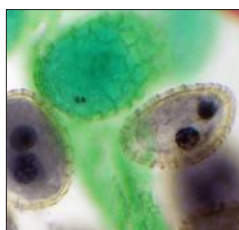
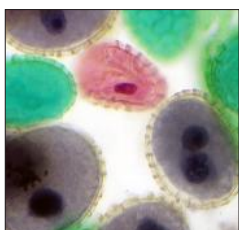
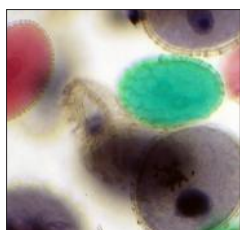


EDF Image

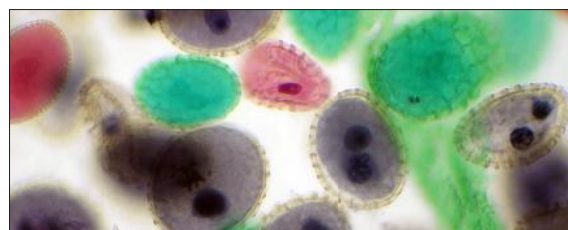
## Stitching & Tiling

Get an image with high resolution but, at the same time, have a wide view of the specimen under observation.

Impossible? No. The multiple image alignment function allows to get a single image starting from adjacent images of the specimen.



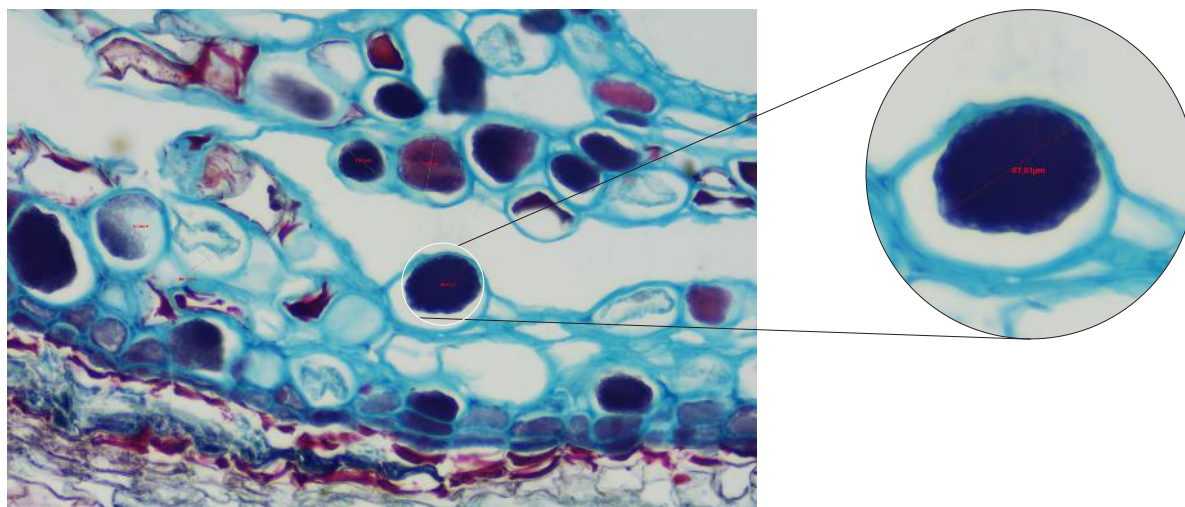
Separate Images



Stitched image

## Measurements

User can perform measurements on the «live» image (no need to capture an image) and on captured images.



## From Beginners To Experts

Measurements available:

- linear measurements
- angles
- circles
- annuli
- polygons
- touch count

## Report Generator

At the end of the analysis it is possible to export images and measurement results either on a Excel sheet and on a Report Generator in MS Word format.

The template is freely configurable and can be modified according to laboratory standards.

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## Testing Material Lab

### Test Report

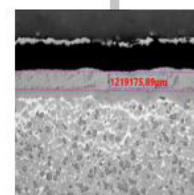
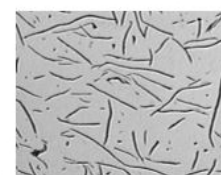
Specimen: Gear

Material: Cast iron

Test: Macro + Micro

Production Batch: GY-04-2018

Date: 2018-04-10 08:40:09



Measurements:

| Index | Length(μm)                  | Angle(°) | Distance(μm) |
|-------|-----------------------------|----------|--------------|
| 1     | 16154719,49,<br>16129320,00 | 179,64   | 1219175,89   |

Comments:

Operator: \_\_\_\_\_

Chief of Laboratory: \_\_\_\_\_

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## OPTISCAN



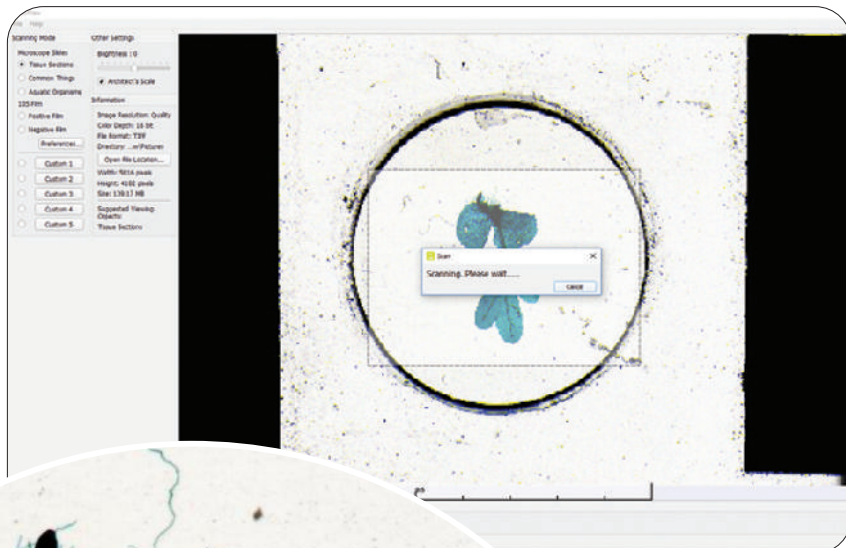
**OPTISCAN10**  
Digital scanner

## CONVERT YOUR GLASS SLIDES INTO DIGITAL DATA !

Rapid and high resolution scanner to convert your slides into digital slides. The digital slide can be easily manipulated to see any location at any magnifications. Digitizing slides opens up a variety of new possibilities, like:

- Creating a database to be incorporated into a laboratory information system
- Networking slide libraries to be consulted from distant facilities and research institutes
- Sharing expertise for evaluation processes and discussing
- Information storing (digital data does not deteriorate, are secure from damages and losses)

Main application fields are quality control & research, education, veterinary, histology / pathology, entomology / insectology, etc.



### Main Features:

- High Resolution (up to 10.000 dpi)
- True & Neutral Color Fidelity
- White Balance & Distortion-free Images
- Dedicated Illumination (LED Transmitted Light)
- Efficient Scanning Area, Wide Field of View
- Impressive Scanning Speed (from 40 sec. to few minutes)
- High Sensitivity CCD Sensor
- Largest Field Of View, Better Than Any Camera



### Ideal for:

- building up a comprehensive database of images for routine operations
- sharing expertise for evaluation processes
- archiving confidential patient information



# OPTISCAN10 - Technical Specifications

4

**OPTISCAN10** is an extremely convenient scanner for professionals, labs & teaching purposes, offering unmatched price/performance ratio and coming along with a comprehensive but user-friendly software.

A ultra efficient, compact scanning device carrying high resolution features for spot detection with easy operation figure.

It is equipped with a dedicated LED transmitted light system and high resolution CCD sensor, ensuring high sensitivity with low background noise.

|                         |                                                                                      |
|-------------------------|--------------------------------------------------------------------------------------|
| Signal output           | USB 2.0                                                                              |
| Illumination            | LED                                                                                  |
| Resolution              | 5'000 dpi (Normal), 10'000 dpi (Quality)                                             |
| Allowed slide           | Standard 24 x 75 mm                                                                  |
| Scan view size          | Any size, Max 24 x 36mm                                                              |
| Prescan function time   | 25 seconds                                                                           |
| Scanning time (Normal)  | 1min 30sec (24 x 36mm); 40 sec (standard 15x15mm cover slide)                        |
| Scanning time (Quality) | 2min 10sec (24 x 36mm); 1min (standard 15x15mm cover slide)                          |
| Always included         | 1.5 m USB cable, power supply, CD rom                                                |
| System requirements     | Windows XP service pack 2, Vista / win7 / win8 / win10 / 32-64 bit / USB 2.0         |
| Supplied software       | Multilanguage software for image scan                                                |
| Capture features        | Prescan, slide scan 24x36mm, crop scan, brightness, contrast, saturation, image flip |



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