The best decision leaves you options

The Leica MC170 HD and Leica MC190 HD

Fast and precise HD live preview images – right on your HD monitor! Absolutely user-friendly and, with an outstanding price/performance ratio, the new Leica MC170 HD and MC190 HD microscope cameras complement the high-definition product range for optimum use in industry and research. The perfect interaction of trend-setting quality, ultimate convenience of operation, and innovative image management create ideal requirements for ergonomic, efficient work with excellent results.

Best performance for highest requirements

The high-performance Leica MC170 HD and MC190 HD microscope cameras provide ultra-high-speed live images via an HDMI interface to a high-definition monitor, or via a USB interface to a computer screen. Depending on the operating mode configured, the camera can be operated entirely separately, directly with a remote control on an HD monitor, or on a computer with high-performance Leica imaging software that was developed for the special requirements in microscopy. Brilliant and professional – the results of the new HD microscope camera are impressive!

The infrared remote control allows comfortable work: Faster changeover to other camera modes; running a white balance operation; capturing movie clips for fast documentation and hands-on training; saving directly to an SD card. In addition, all camera parameters can be controlled directly and conveniently, even advanced settings such as brightness, intensification, or contrast of the image.

User-friendly menus on the monitor support professional processing of images. This enables digital watermarks, company logos, or even bar displays to be very easily copied right into the images.

Comfort and convenience at the touch of a button: RC2 remote control
For all requirements:
Cost efficiency by means of flexibility

With the C-mount interface, the compact HD microscope cameras fit on every commercially available Leica microscope, macroscope, or imaging instrument. That makes them particularly flexible and of interest for individual requirements and budgets.

With the C-mount adapter, even existing microscopes can be easily and cost-efficiently enhanced with the advantages of the Leica MC170 HD and MC190 HD cameras.

To the heart of the matter.
Perfect image management

It has never been easier to acquire and edit first-class images. The new Leica MC170 HD and MC190 HD cameras get right to the heart of today’s requirements for innovative image management. Use of the latest CMOS image sensors guarantees maximum image quality – pin-sharp and natural images, even in unfavorable light conditions. The intelligent automatic mode adapts exposure time, gamma, and various other camera settings to nearly every situation with amazing precision.

The latest image processing algorithms provide perfect results in images or brilliant HD videos – whether on a computer, right on the HD screen, or on the mobile SD card.

- Inspection of electrical parts and soldered joints
- Visualization of a fruit fly wing (Drosophila melanogaster)
- Simple and fast. All switches and plug connections are located on the rear side of the camera for easy access.
- Examination of the surface composition of printed circuit boards
For all requirements:
Leica Application Suite (LAS) Software

Leica Application Suite (LAS) is the platform for all of the microscopes and microscope cameras from Leica Microsystems. Precise measurements and analyses are carried out on the digital image with it. This software allows expansion with a multitude of modules, which are unified in a collective, easy-to-use user interface. The compact and free Leica EZ software is suited for easily making remarks and measurements. For Apple users there is the user-friendly Leica Acquire camera software. Just like LAS, it contains many intuitive functions for optimal camera settings. Using Leica Acquire, images can be transferred to other image editing programs immediately, such as iPhoto or Aperture, or stored in a simple gallery.

**BENEFITS OF THE LEICA MC170 HD & MC190 HD:**
- Digital microscope camera with HD live image for operation with or without a computer.
- Leica MC170 HD with a resolution of 5 megapixels, optimum for most microscopy applications.
- Leica MC190 HD with a resolution of 10 megapixels, also suited for acquiring the finest details at low magnifications.
- Very fast or high-resolution live preview images on an HD monitor (720 p or 1080 i/p).
- Outstanding price/performance ratio and cost efficiency.
- Ergonomic, thanks to view switching between the binocular tube and the HD monitor.
- Highly compact – with the corresponding C-mount adapter, it fits on any microscope with a C-mount port.
- Easy, inexpensive, fast and high-quality image storage to the SD card.
- Full HD movie clips recorded directly to the SD card (MP4 format).
- Direct control of all camera parameters via infrared remote control (in HD mode).
- Captured images stored and managed directly on the computer.
- Best image quality and sharpness without vignetting or reflections.
- Automatic, predefined, or user-specific selection of camera parameters.
- USB2 connector for power supply and data transfer via computer.
- Including the standard LAS software for easy camera control, image acquisition, commenting, and measuring.

Added value including:
LAS with LAS Montage module (top image) and LAS EZ (bottom image)

Easy and reproducible documentation
Brilliant Full HD movie clips
Leica MC170 HD & MC190 HD – Technical Data

**Camera**

<table>
<thead>
<tr>
<th>Resolution (Live images)</th>
<th>MC170 HD</th>
<th>MC190 HD</th>
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</thead>
<tbody>
<tr>
<td>Full HD</td>
<td>1280×720 – 50 Hz / 60 Hz – 30 fps</td>
<td>1920×1080 – 50 Hz / 25 Hz – 30 fps</td>
</tr>
<tr>
<td>PC</td>
<td>1600×1200 – 10 fps</td>
<td>1600x1200 – 10 fps</td>
</tr>
<tr>
<td>1024x768 – 24 fps</td>
<td>1400x1050 – 13 fps</td>
<td>1024x768 – 24 fps</td>
</tr>
<tr>
<td>(Individual images)</td>
<td>5 Mpixel (2592×1944)</td>
<td>10 Mpixel (3648×2736)</td>
</tr>
<tr>
<td></td>
<td>2.5 Mpixel (1920×1388)</td>
<td>5 Mpixel (2592×1944)</td>
</tr>
<tr>
<td></td>
<td>2 Mpixel (1600×1200)</td>
<td>2.5 Mpixel (1924×1388)</td>
</tr>
<tr>
<td></td>
<td>0.8 Mpixel (1024×768)</td>
<td>2 Mpixel (1600x1200)</td>
</tr>
</tbody>
</table>

- **Resolution (Movie clips)**: HD1080 (1920×1080) / HD720 (1280×720)
- **Pixel size at max. resolution**: 2.35 µm × 2.35 µm / 1.67 µm × 1.67 µm
- **Sensor grade**: Aptina 1/2.3” CMOS
- **Sensor size**: 6.1 mm × 4.6 mm
- **Exposure time**: 0.5 msec – 500 msec
- **Gain**: 1x – 12x
- **Color depth**: 3x8 bit = 24 bit
- **Data format**
  - PC: JPEG / TIF / AVI
  - HD: JPEG / MP4
- **Operating systems & Software**
  - Windows 7 and Windows 10 (LAS and LAS X)
  - Windows 8 (LAS only)
  - OS X (Leica Acquire)
- **Recommended computer configuration**: PC / Mac, Intel Core 2 Duo, 2.4 GHz, 4 GB RAM, 24-bit graphics

**Mechanical and Optical Interfaces**

- **Mechanical**: C-mount thread
- **Color filter**: Type IRB680, replaceable, (stock number: 12730484)
- **Recommended C-mount adapter**: 0.55× / 0.5×

**Electronic Interfaces**

- **Computer**: USB 2.0, standard USB plug type B
- **High-definition connector**: HDMI 1.3, standard HDMI plug type A
- **Audio**: Audio signals for recording, white balance, etc. (can be turned off)
- **On/Off switch**: Available, on rear side of the camera
- **PC/HD switch**: Available, on rear side of the camera
- **Pinhole switch**: Display for the current resolution, Changeover to the next resolution, reset, firmware upload
- **Remote control**: Infrared remote control RC3
- **Remote release** (Optional: 12730229)
- **Hand and foot trigger**, with 1.5 m cable
- **SD card (Secure Digital)**: SD HC compatible, 128 MB – 32 GB
- **Status LED**: 3 colors: green – power on, yellow – busy, red – error
- **Power supply**: Through a USB cable to computer or to external USB power supply 5 V
- **Power requirement**: 4 W

**Other**

- **Operating temperature range**: +5 °C – 50 °C
- **Rel. humidity**: 10 – 90 %
- **Weight**: 250 g (camera only)
- **Confirmation of CE conformity**: Available
- **Tested standards**
  - EMI/RFI: EN55011-B

The Leica MC camera has an image section with a 16:9 size ratio for live images on an HD monitor (shown with a green frame). The images are always saved in a 4:3 size ratio (shown with a red frame).
The Leica MC170 HD and MC190 HD fit excellently on the Leica DM500 or DM750 school microscopes. These feature many particularly user-friendly details, such as EZLite, EZStore, and AgTreat™. To use the cameras on these microscopes, we recommend using the high-quality 30° or 45° trinocular tubes.

Leica Z6Apo / Z16Apo
When using the Leica MC170 HD and MC190 HD with a Leica Z6Apo or Z16Apo macroscope, a trinocular tube can be omitted entirely. With an A tube and C-mount adapter, highly compact and optically outstanding systems can be composed. The fast live image can be conveniently viewed on an HD monitor in high resolution.

Leica M60 / M80
The ergonomically and modularly designed Leica M60 and Leica M80 routine stereo microscopes offer a large field of view, high depth of field, and excellent optical resolution. With an HDF or HDV tube, the Leica MC170 HD and MC190 HD cameras can be connected to these microscopes.

Leica M125
The modular Leica M125 stereo microscope offers a fully apochromatically corrected 12.5:1 zoom. This large range of positions allows an overview of the specimen as well as observation and acquisition of the finest structures. With a 50% or 100% trinocular tube, the Leica MC170 HD or MC190 HD can be connected to this microscope.