

Living up to Life

Leica

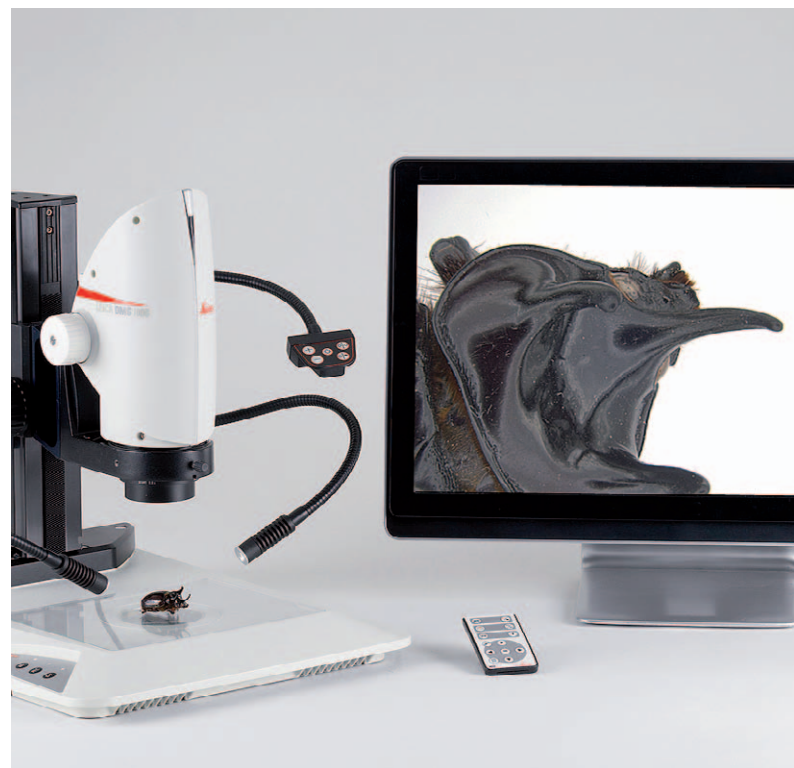
MICROSYSTEMS

LIFE SCIENCE DIVISION



Leica DMS1000 & DMS1000 B

Digital microscope system with integrated high-end optics and high-performance digital camera. Optimized for digital workflows in research and development.



A New Perspective On Things

Experience your work in another dimension – totally digitally! Leica Microsystems unites all advantages of digital technology into one microscope – the Leica DMS1000. As a unit, the Leica DMS1000 impressively shows what a digital system can do. High-end optics and first-class camera performance are united in the shapely design of the Leica DMS1000 as an outstanding microscope with the best digital performance, created for examining biological specimens.

› Working with ease

Fast and easy inspection, documentation and archiving of your work, with or without a computer.

› The perfect combination

With encoded zoom and the FlexAperture™ technology, you have your specimens optimally in view. Compatible with the high-performance digital camera, the Leica DMS1000 brings your results precisely to the point.

› Everything in (over)view

Leica DMS1000 B – the core piece in *in vitro* diagnostics! Observing your specimens without an eyepiece makes it possible to carry our experiments with precision even in closed laminar flow cabinets. More protection from contamination for people and specimens.

Working with ease

Optimized for digital operations, the new Leica DMS1000 microscope system makes an impression not only with innovative functionality and versatility, but also with astoundingly convenient operation and trendsetting ergonomics. In standalone mode with an HD-monitor or with a computer – the Leica DMS1000 stands for professional documentation of your specimens and work steps. The results are impressive!

DIGITAL SPECIALIST – WITH OR WITHOUT A COMPUTER

With amazing ease, individual work steps can be visualized and documented quickly on an HD-monitor even during an experiment.

While the FlexAperture™ technology guarantees natural reproduction without an eyepiece, the high-performance microscope camera provides ultra-high-speed live images via HDMI-interface on a high definition monitor or on a computer screen via USB-interface.

Depending on the chosen operating mode, the camera can be operated entirely independently at an HD-monitor directly using a remote control or connected to a computer via USB.

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.

MODULAR SYSTEM WITH HIGH FLEXIBILITY

Conceptualized as a modular system, the Leica DMS1000 provides an ideal prerequisite to cover the requirements of modern research laboratories for flexible and ergonomic workstations. Depending on the application and available work surface, the variability of the Leica DMS1000 allows you to configure the instrument exactly as you need it.

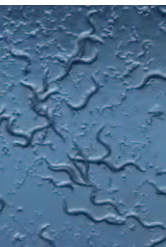
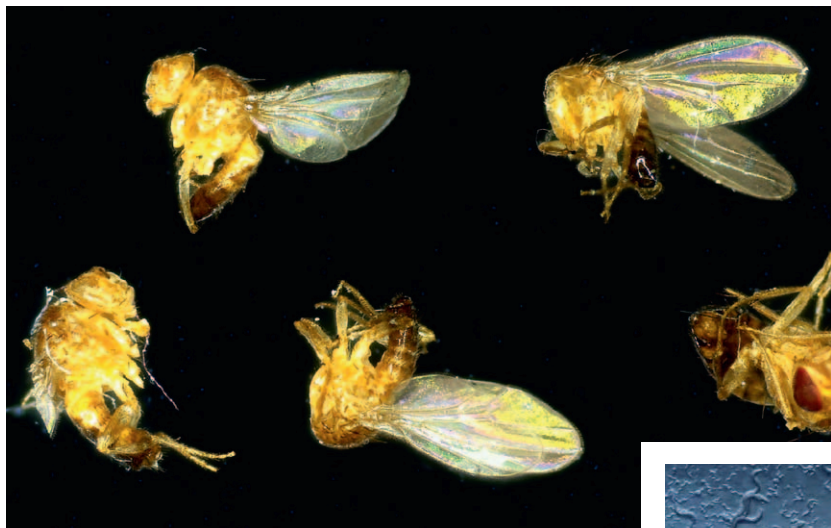
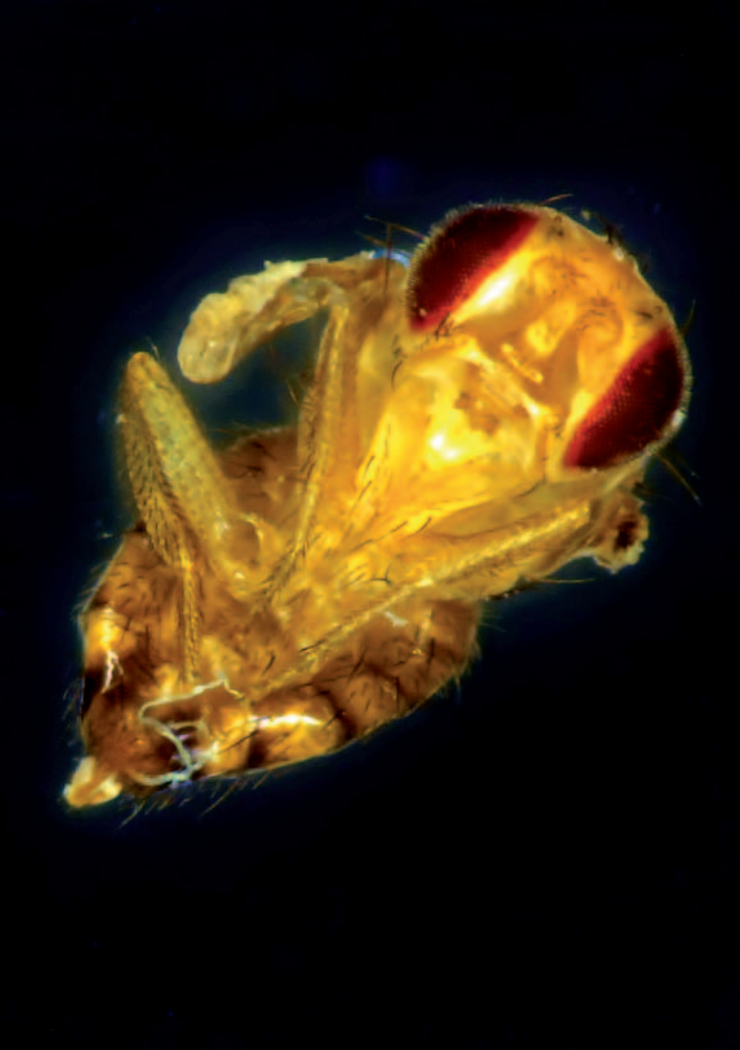
Aside from that, with the Leica DMS1000, more than one person can use the same workstation without having to make complex changes.



YOUR ADVANTAGES

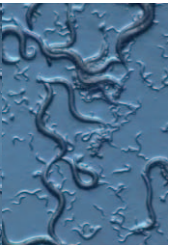
- **Encoded optics guarantee correct and traceable measurement results**
- Parfocal, parcentric and telecentric optics
- Quick and true-to-detail live image
- **Standalone operation directly on the HD-monitor**
- Intuitive control of all camera parameters via infrared remote control (in HD-mode)
- Programmable preset values and importable templates
- Direct recording of HD-movie clips to SD-card
- **FlexAperture™ technology provides for constant brightness of the image across the entire zoom range**





The perfect combination

There is more to the compact unit with the new Leica DMS1000 than you would think: highest imaging performance combined with an optimally matched digital camera in proven high-end quality from Leica Microsystems. This system provides every comfort and convenience – not only for your eyes.



FlexAperture™

The exposure time remains the same during the entire zoom range, no further readjustment is necessary.



Switchable clickstops

facilitate inspection and measurement through defined magnification levels in the zoom range.



Integrated SD-card and programmable operating buttons allow for different functions such as image acquisition, white balance or film start/stop.



Optionally available hand-/foot switch for quick and easy operation by hand or foot. Programmable for different functions.

THE OPTICS OF THE LEICA DMS1000

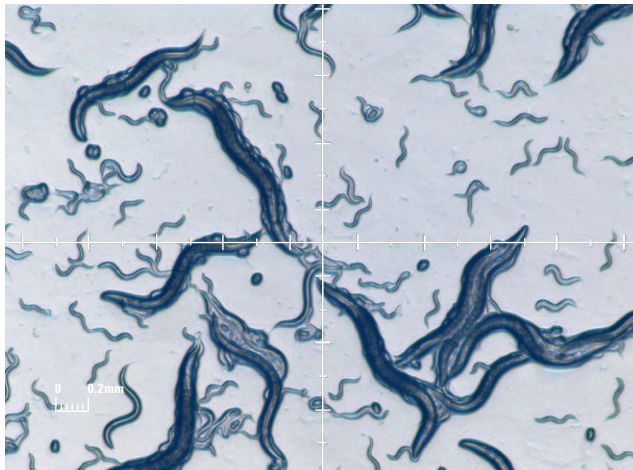
- Quick changeover from overview to detail thanks to an 8:1 zoom range
- Digital magnification range of up to 300×
- Encoded zoom for automatic recording of the magnification
- Parfocal optics – no refocusing during magnification change
- Telecentric objectives for more precise measurement results available as accessories
- FlexAperture™: automatic settings for consistent brightness of the image

THE HIGH-PERFORMANCE CAMERA OF THE LEICA DMS1000

- Digital camera with 5.0 MP resolution, also suited for recording the finest details at low magnification
- High live-image speed up to 30 frames per second
- User-optimized menu on the monitor
- Programmable preset values and importable templates
- Direct control of all camera parameters via infrared remote control (in HD-mode)
- Direct recording of HD-movie clips to SD-card

Everything in (over)view

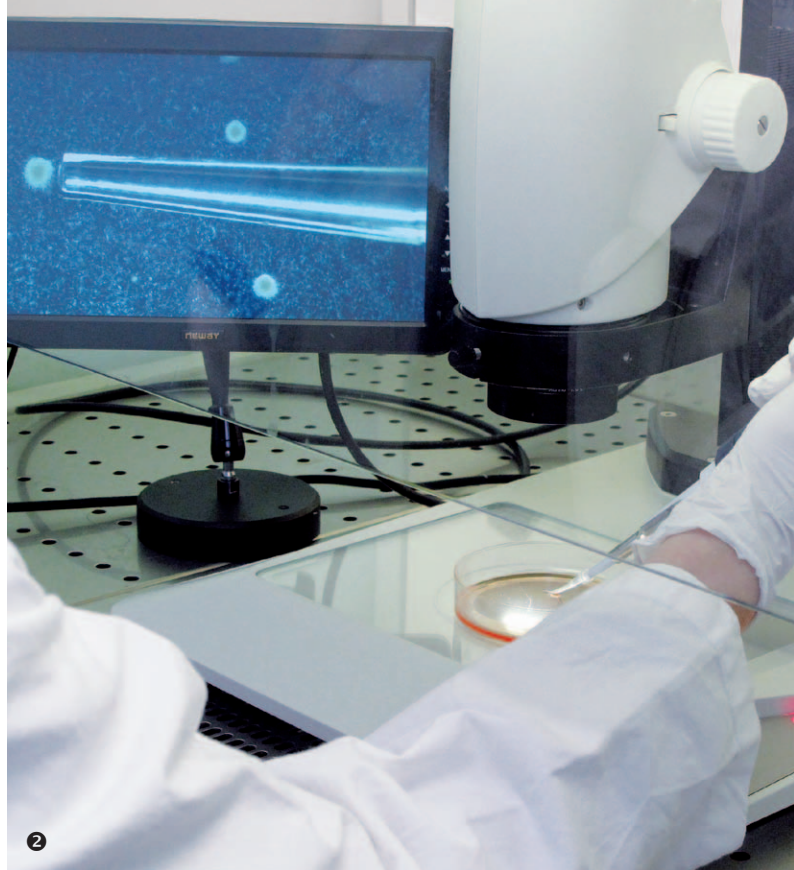
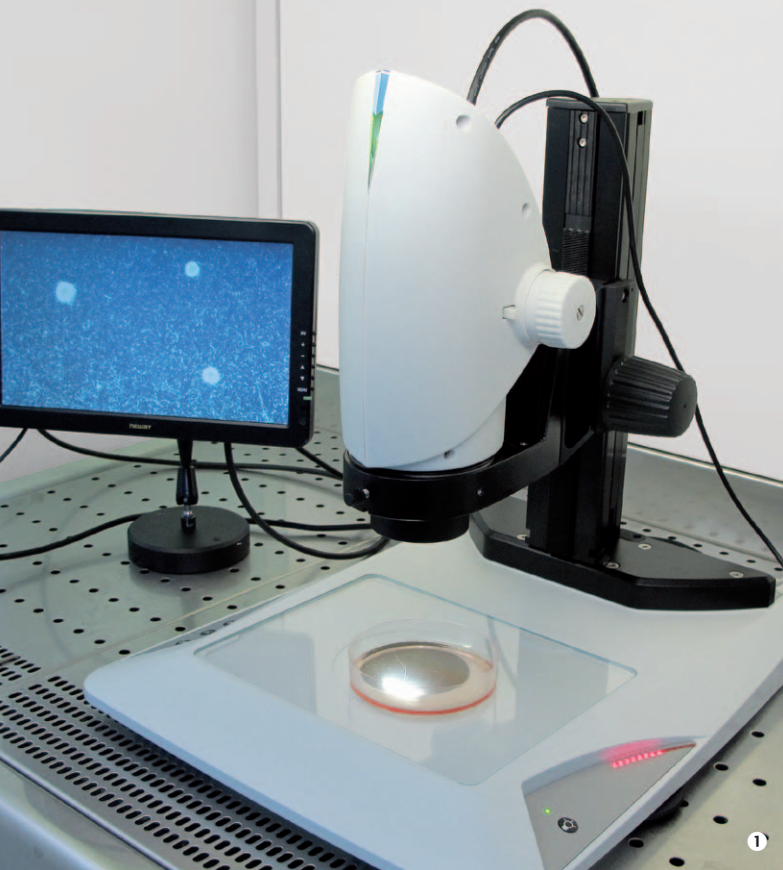
In modern research, the Leica DMS1000 B digital microscope system is the first choice for advanced tasks in a laboratory. Here, precision, reliability and human safety have priority. High-precision zoom optics facilitate advanced workflows and always keep the specimen in the perfect position in the field of view.



The continuously **encoded zoom** permits fast, easy measurement. In standalone mode without a computer, the zoom position is updated automatically, directly on the HDMI-monitor.



With **parfocal, parcentric and telecentric optics** you always keep your specimens optimally and sharply at the center of your field of view – no refocusing is needed when changing the magnification.



Ideal for working in laminar flow cabinets, such as for stem cell research or used for artificial reproduction:

- ❶ Leica DMS1000 B + TL5000 Ergo transmitted light base + 10"-monitor in open laminar flow bench
- ❷ Leica DMS1000 B + TL5000 Ergo transmitted light base + 10"-monitor in closed laminar flow bench
- ❸ Human oocyte with granulosa cells
- ❹ Human oocyte after decoronization

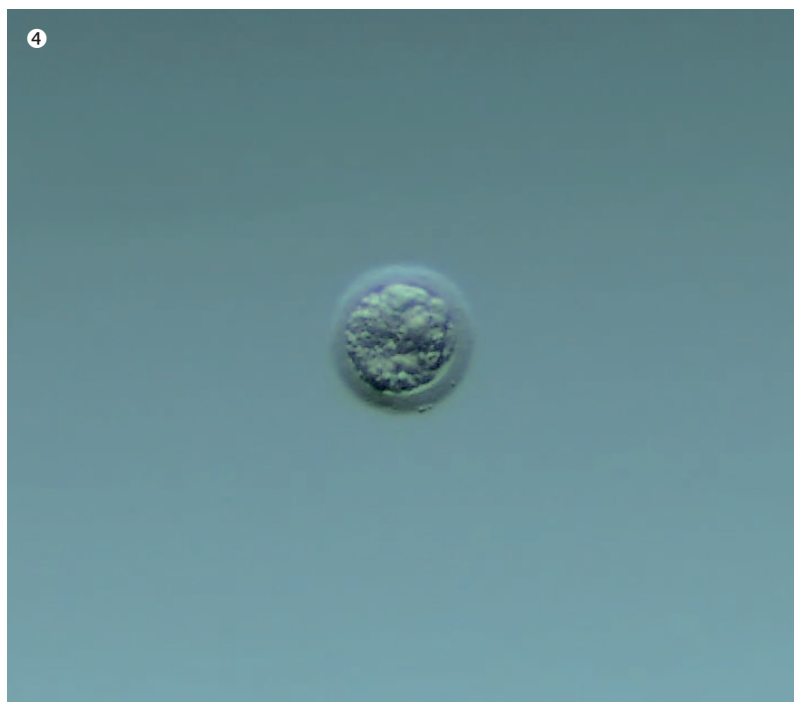
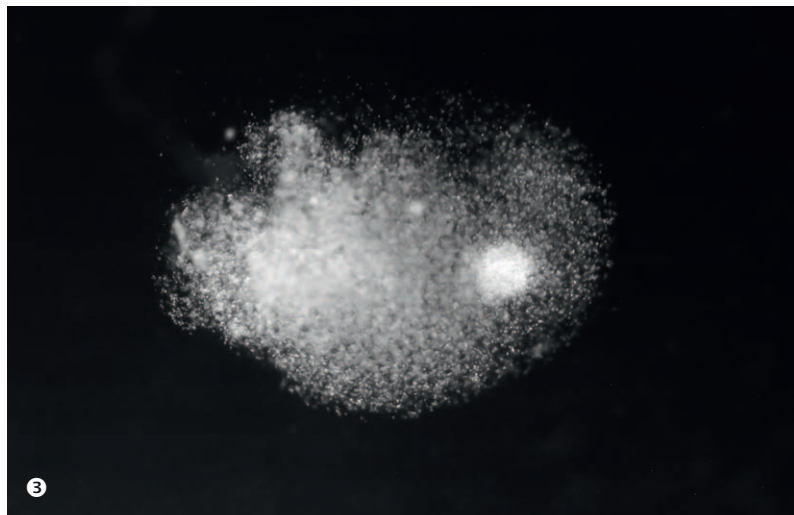
Images:

- ❶ ❷ IGBMC Strasbourg, France
- ❸ ❹ L'institute Mutualiste Montsouris, Paris, France

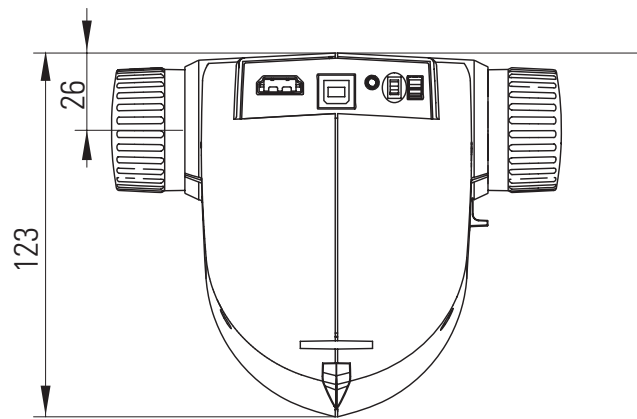
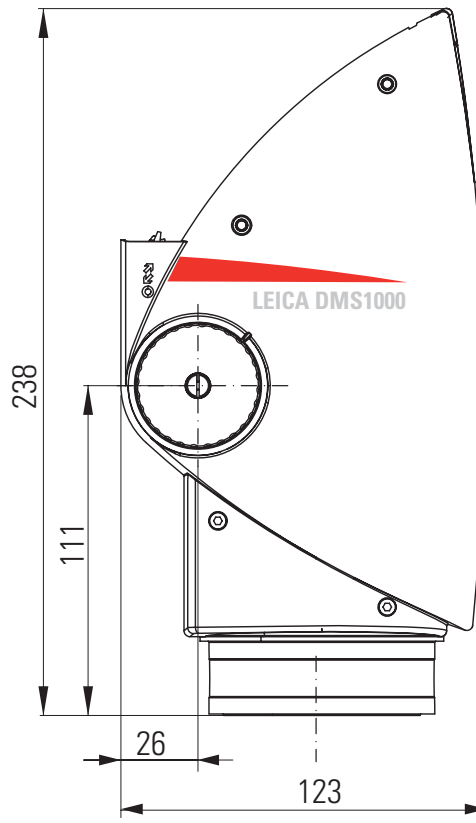
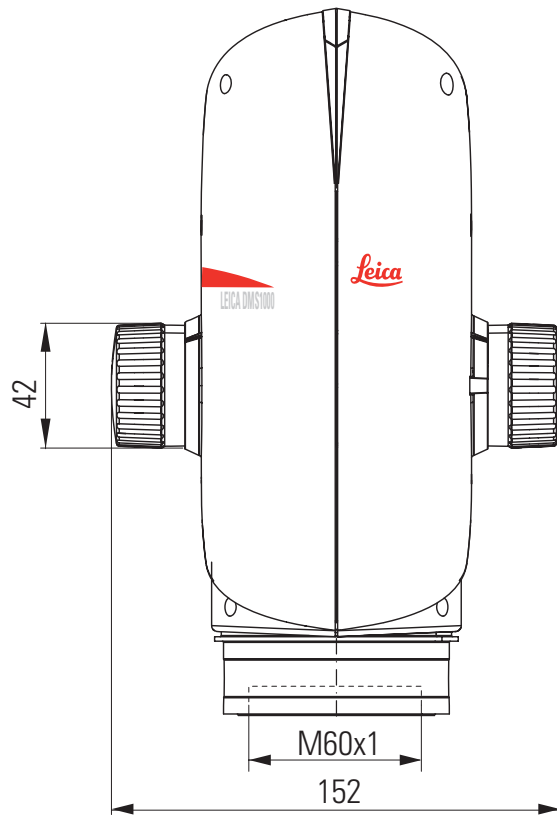
FOR THE ADVANCED REQUIREMENTS IN IN VITRO DIAGNOSTICS: THE LEICA DMS1000 B

The Leica DMS1000 is also available as a B model variant especially for applications in the area of *in vitro* diagnostics (IVD). The complete system certified in accordance with the IVD directive combines all of the required components under one article number.

Observing the specimen without eyepieces now makes it possible to carry out experiments with precision even in closed laminar flow cabinets. This keeps the risk of contaminating the specimen to a minimum. Optimal prerequisite for working in the clinical field, such as *in vitro* fertilization.



Dimensions



Specified in millimeters

Leica DMS1000 and DMS1000 B – specifications

LEICA DMS1000 AND DMS1000 B

Live image: (Full HD)	Max. resolution	337 lp/mm
	Max. FoVx	82 mm
	Max. FoVy	46 mm
	Max. DoF	34 mm
	Working distance	303 to 27 mm
	Max@22"-monitor	6 – 299

CAMERA SPECIFICATIONS

Resolution (live images)	HD ready	1280×720 – 50 Hz / 60 Hz – 30 fps
	Full HD	1920×1080 – 50 Hz / 60 Hz / 25 Hz / 30 Hz – 30 fps
	PC	1600×1200 – 10 fps / 1024×768 – 24 fps
Resolution (individual images)		5 megapixels (2592×1944)
		2.5 megapixels (1824×1368)
		1.1 megapixels (1216×912)
Resolution (movie clips)		HD1080 (1920×1080)
		HD720 (1280×720)
Pixel size (resolution)		2.35 µm×2.35 µm
		3.34 µm×3.34 µm
Sensor grade		Aptina 1/2.3" CMOS
Sensor size		6.1 mm × 4.6 mm
Exposure time		0.5 msec – 500 msec
Gain		1× – 12×
Color depth		3×8 bit = 24-bit
Data format	PC	JPG
	Movie	MP4
Operating systems		Windows XP, Windows 7, Mac OS X
Software	PC	Leica LAS & LAS EZ software
	MAC	Leica Acquire Software
Recommended computer configuration		PC / Mac, Intel Core 2 Duo, >2.4 GHz, 4 GB RAM, 24-bit graphics card, 1248×1024

ORDER NUMBERS

10 450 596	Leica DMS1000 (incl. USB power supply, USB-cable, HDMI-cable, SD-card, HD RC remote control)
11 524 105	Leica DMS1000 B complete system with TL3000 ST transmitted light base (incl. USB power supply, USB-cable, HDMI-cable, SD-card, RC2 remote control)
11 524 106	Leica DMS1000 B complete system with TL5000 Ergo transmitted light base (incl. USB power supply, USB-cable, HDMI-cable, SD-card, RC2 remote control)

LEICA DMS1000 AND DMS1000 B ACHROMATIC OBJECTIVE (1.0×)

		DMS1000@highest zoom position	DMS1000@lowest zoom position
Live image: (Full HD)	Resolution	159 lp/mm	21 lp/mm
	Max. FoVx	3.2 mm	25.9 mm
	Max. FoVy	1.8 mm	14.6 mm
	Max. DoF	0.05 mm	3.5 mm
	Max@22"-monitor	150×	18×

ELECTRONIC INTERFACES

Computer	USB 2.0, standard USB-plug type B
High-definition connector	HDMI 1.3, standard HDMI-plug type A
On/off switch	available
PC/HD switch	available
Pinhole switch	display for the current resolution, changeover to the next resolution, reset, firmware upload
Remote control	infrared remote control RC2 pairable with instrument, with button battery type CR2025
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	5 V via USB-cable to computer or to external USB
Power requirement	5 W

OTHER

Operating temperature range	+5 °C – 40 °C
Rel. humidity	10 % – 90 %
Weight	1.3 kg
Confirmation of CE Conformity	available
Tested standards	IEC/EN 61326-2-6
	IEC/EN 61010-2-101
	IEC/EN 62471



The Leica DMS1000 and DMS1000 B have a 16:9 format image section for the live image on an HD-monitor (represented by a green box). The images are always saved in a 4:3 size ratio (shown with a red frame).

