



# Leica DM1000–3000

Technical Information

Living up to Life

*Leica*  
MICROSYSTEMS

# Microscopy Tailored to You!

## **MYcroscopy: Designed to adapt to an individual user's daily routines**

Leica Microsystems presents microscopes that are the best in their class, the Leica DM Digital Microscope Series. Leica has turned innovative ideas into reality to create a microscope that seamlessly adapts to the physique and workflow of every user. With the Leica DM Series, work at the microscope is not only efficient, but also comfortable.

Leica DM Microscopes are completely adjustable. With just a few hand movements, the microscope easily adapts to individual preferences and work routines. In this way, effortless work combines with high-performance, and the microscope meets the user's needs down to the smallest detail. The Leica DM Series is one of the most ergonomic microscope lines on the market today – and the first choice for fatigue-free work; fast, reliable results; and excellent cost-effectiveness – the benefits of a microscope tailored to individual user routines.

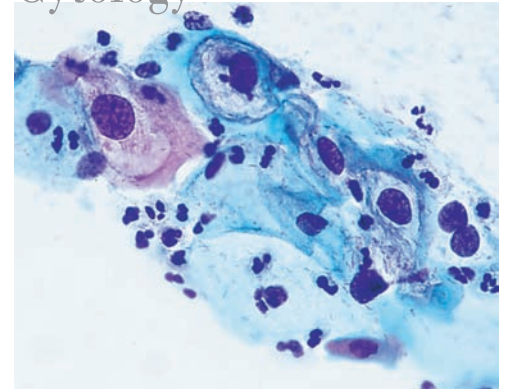
## **MYcroscopy: Configured for specific and universal applications**

Leica DM Microscopes are designed for applications in medicine, clinical laboratories, pathology, and biology; from routine tasks to research.

- The Leica DM1000 provides comfort as well as optical brilliance, and is ideal for the clinical laboratory, in particular histology and cytology applications.
- The Leica DM1000 LED provides additional convenience with constant-color LED illumination and an optional, portable power supply.
- In addition, the Leica DM2000 features a sophisticated focus mechanism with five focus functions – either 2-gear or 3-gear focusing, with torque adjustment and adjustable stage height stop.
- The Leica DM2500 also offers powerful 100 W illumination and is well-suited for pathology and biomedical research that require specialized contrast methods such as differential interference contrast (DIC).
- The “intelligent automation” of the Leica DM3000 supports greater intuitive efficiency and enhanced user comfort. The microscope is designed for clinical laboratories, all biomedical routine and research applications, and is ideal for pathology applications where the user spends hours at a time at the microscope.

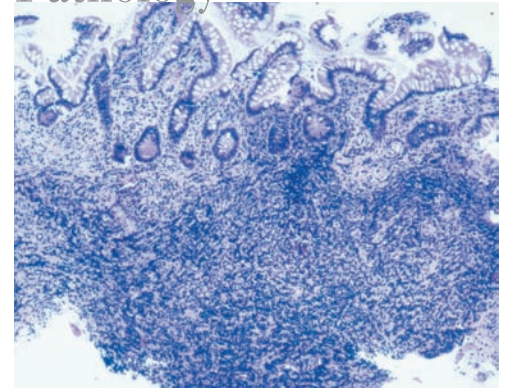
Optionally, all five versions can be equipped with fluorescence contrast. The Leica DM Digital Microscope Series can be uniquely tailored to specific laboratory applications.

## Cytology



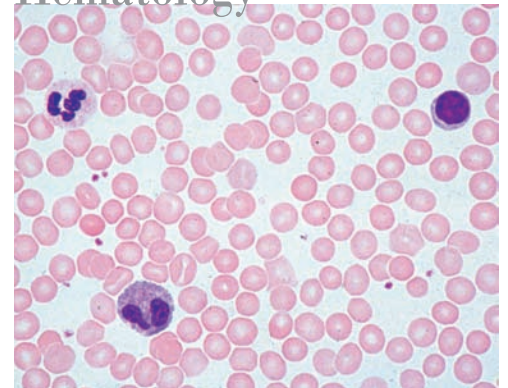
High-performance HI PLAN 10x CY SL screening objective, light intensity synchronized with HI PLAN 40x.

## Pathology

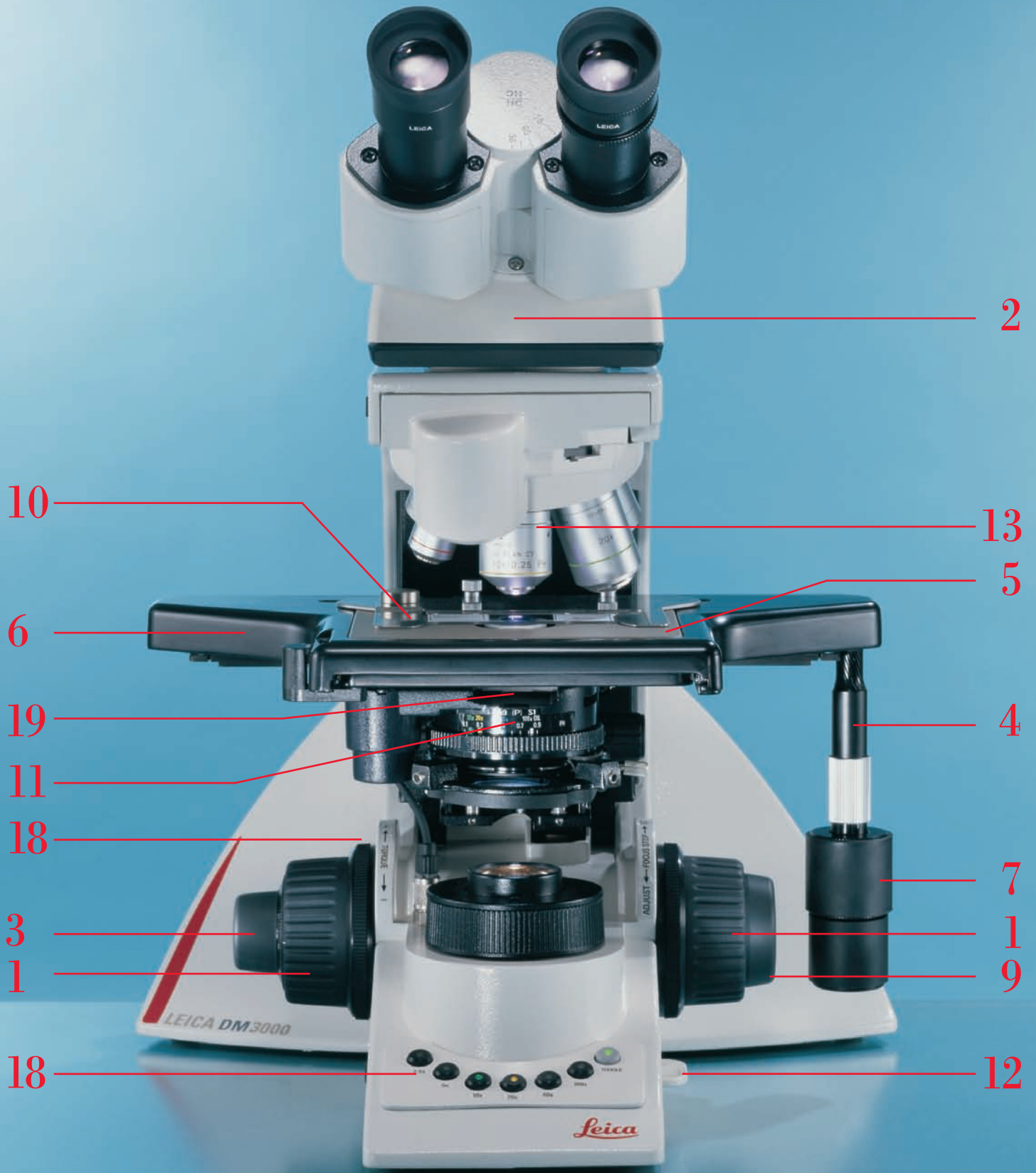


Ultra-hard ceramic stage surface ensures long product life. The 1.25x objective provides a clear overview.

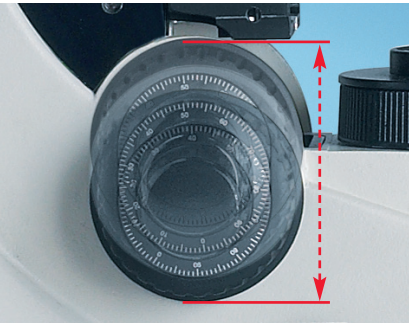
## Hematology



Easy, single-handed operation (for x/y/z) when simultaneous counting or written notation is required.



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## Effortless Microscopy Means Comfort

The Leica DM Digital Microscope Series makes routine work as comfortable and effortless as possible. Only a few hand movements are required to adjust the microscope to the user's seated height, head posture, arm length, and hand size. This adaptability provides reliable protection from muscular tension, poor posture, and long term, detrimental health effects. Microscopy has never been more comfortable and pleasant.

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### 1. Height-adjustable Focus Knobs

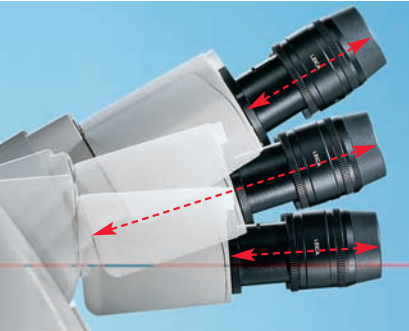
#### A technological first!

No two hands are alike. And so the Leica DM Series enables every hand to rest on the focus knobs in complete comfort. The focus knobs can be precisely adjusted to fit the user's hand. This prevents hand, arm, and shoulder tension and ensures a comfortable, fatigue-free grip – without additional arm supports.

### 3 True Symmetrical Operation

#### Comfortable shoulder posture provides comfort

The stage drive and focus knob are arranged at the same height on the microscope, forming a straight line and positioned at an equal distance from the user. Because of this symmetry both hands are comfortably aligned during work, and the shoulders automatically assume a right-angle position to the body's axis. The result: the user sits at the microscope in a straight, relaxed posture.



### 2. Adjustable Eyetubes

#### Relaxed head posture eases tension

Proper arrangement of the eyetubes promotes good posture while sitting at the microscope. The Leica DM Series offers a wide range of products to customize the eyetube settings. Choose from an ergonomic viewing angle of 15° or adjustable variotubes for a relaxed head position while viewing. Customized eyetube positioning prevents neck and back muscle strain, and shoulder and lower neck muscle tension, even over lengthy work sessions. Leica's optional ErgoLift even adjusts the viewing height and angle of the entire microscope stand to adapt to the user's body.



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### 4 Fast Changeover from Right- to Left-handed Operation

#### One-of-a-kind!

The user can set up Leica DM Microscopes for either right- or left-handed operation as the default. This feature is especially beneficial when alternating users on one microscope.



## 5. Unique Ultra-hard Surface

### Designed to last a lifetime

The microscope's stage surface is made of a new, hard ceramic that makes the stage resistant to scratches and chemicals, and is completely durable for years, even under the most rigorous usage. The light beige color of the ceramic provides an ideal surface on which to identify specimens by outline and coloring before placing under the objective.

## 6 New Design

### More work space

The design of the stage is rounded, and the entire microscope is compactly designed, with no protruding parts. The compact design frees additional work space around the microscope.

## 7. Ergonomic Control Knobs

### Comfort is at hand

As an alternative to the standard knobs, Leica's rubberized ErgoKnobs are available to provide a comfortable, secure grip for the focus drive. For the x-y drive knobs, replaceable sleeves made of soft, yet firm rubber are included with the stage drive. Simply pull the sleeves over the knobs to enhance the feeling of sensitive control.

## 8 Comfortable ErgoLift

### Variable height adjustment

Leica's optional ErgoLift is a special, adjustable plate that raises or lowers the entire microscope to the seated height of each user with just a few hand movements.

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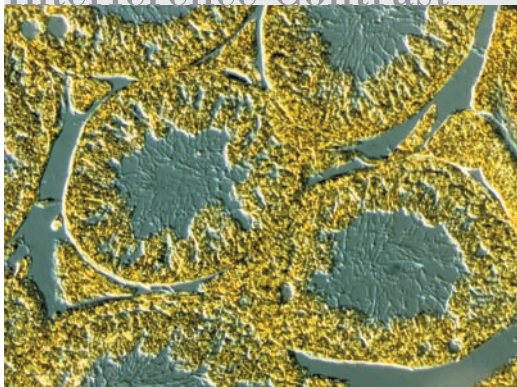
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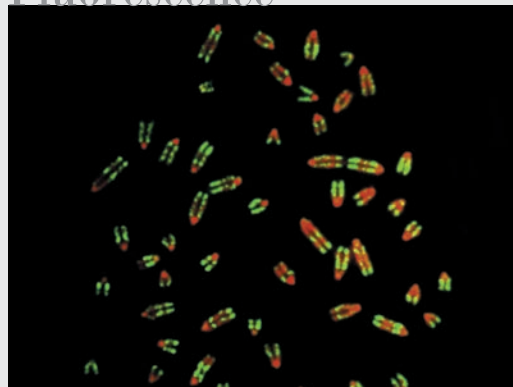


## Differential Interference Contrast



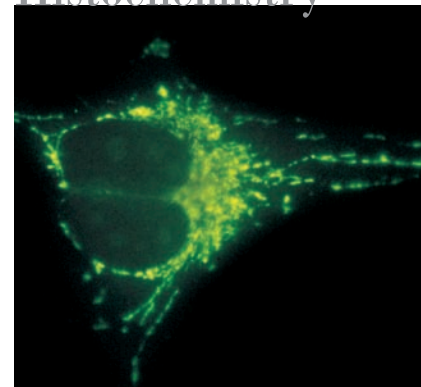
Optical contrast methods such as Darkfield, Polarization, Phase or DIC provide brilliant images. Ready for a universal condenser and any 6- or 7-position objective turret.

## Fluorescence



High-intensity fluorescence with zero pixel shift for all kinds of probes and labels. Five positions are available.

## Histochemistry



Best contrast for viewing autoimmune reactions. Brightness can be reduced with the integrated N4 filter.

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## Elegant Design for Efficient, High-quality Work

Better performance, higher throughput, and faster workflow: three important benefits that provide maximum efficiency to today's laboratories. Microscopes with well-engineered functions down to the smallest hand movements allow users to work quickly and smoothly. The Leica DM Digital Microscopes are thoughtfully and elegantly designed to provide these benefits.

### 9. Simultaneous Focus and Stage Control

#### One-handed adjustment

The focus and stage can be adjusted with just one hand to allow faster, more efficient workflow. While one hand (left or right) focuses the specimen, the other hand is free for other tasks, such as note taking.

### 11. Premiere: Color-coded Diaphragm Settings

#### Faster identification and adjustment

The aperture diaphragm's scale (on the condenser) features color-coded markings, which correspond to the standardized color codes of the objectives. The user can identify, at a glance, the diaphragm that best matches the currently selected objective, and then quickly and correctly configure the settings.

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### 10. New Slide Holders

#### Ergonomic design means efficient work

Leica's new slide holders help make microscope work easier. The slide holders are constructed so that specimens can be changed with one hand – and one hand movement. The specimen is inserted into the holder and removed from it using just two fingers. This ensures a fast, fluid workflow.

### 12. Fast Lamp Replacement

#### Efficient maintenance

The lamps can be replaced easily and in very little time. Just remove the socket from the side of the microscope, replace the lamp, and reinsert the socket into the microscope – and the task is done. The microscope does not need to be moved to replace the lamp.

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Another option: the new Leica DM1000 LED with long-lasting LED illumination means lamp changes are a thing of the past.

## Excellent Image Quality: Optical Brilliance

Leica is the well-known brand for excellent optics. Users can expect Leica's renowned excellent image quality and exceptional viewing comfort. Leica DM Microscopes feature a host of innovative functions that enable the user to quickly and reliably configure the optical settings for the best viewing conditions. Leica's objectives provide brilliant, high-contrast images. The optical system is designed to reduce eyestrain and ensure fatigue-free work at the microscope.

### 13 Leica's Renowned, High-quality Optics

#### The best brightness, brilliance, contrast

The Leica DM Series features spectacular optical quality. Brilliantly detailed images with razor-sharp contrast await the viewer. Leica's high-quality optics clearly reveal the finest cellular structures, which makes identification easy. Leica's HI PLAN planachromat objectives offer improved field-flattening and color correction. The HI PLAN 10x objective is particularly well-suited for cytology applications. Its long working distance of 12mm allows specimens to be marked at 10x magnification.

### 14. Brightness-matched Objectives

#### No need to adjust light intensity

Leica's new HI PLAN SL (Synchronized Light) objective series with 4x, 10x, and 40x magnification is particularly easy on the eyes. Leica's SL objectives are matched to each other so that brightness always remains constant for the user, regardless of the selected magnification. This eliminates the need to continuously adjust the brightness and reduces the eyestrain that can occur due to large fluctuations in light intensity. The preferred color impression remains the same for each objective.

### 15. Planachromat Objective

#### Excellent field-flattening and color correction

Leica's special Planachromat HI PLAN CY 10x/0.25 objective provides excellent field-flattening and color correction, and offers a long working distance of 12mm for clinical applications. This objective is also available in the SL version.

### 16. Overview Objective

#### 1.25x objective – for screening

Specifically designed for the clinical laboratory, Leica offers a screening objective with 1.25x magnification. Specimens can be surveyed and recorded quickly and easily.

### 17. The New Fluorescence Axis

#### Five filter block positions provide greater flexibility

Leica's stable, high-quality fluorescence axis features five filter block positions. Users can rapidly switch back and forth between them. Leica's extensive range of filters can be used with a wide variety of fluorochromes. Leica's filter blocks feature "zero pixel shift" technology to prevent the image from shifting when changing filter blocks, so that images are correctly superimposed.

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## Intelligent and Innovative: The Automated Leica DM3000

Even faster, more comfortable, and more efficient: the Leica DM3000 Microscope combines operating convenience with an ergonomic design. The automated Leica DM3000 optimizes work processes while adapting to each user's physical requirements. With its unique toggle mode for changing objectives and automated condenser, the intuitive Leica DM3000 provides the greatest speed and precision while maintaining reliability for all clinical, as well as routine biomedical and research applications.

### 18 Change Objectives at the Touch of a Button

#### Eyes stay focused and hands remain in place

Leica's motorized objective turret allows magnification to be changed in only half a second. Two buttons, conveniently located behind the focus knobs, control the turret. Leica's unique toggle mode: any two of the six objectives can be assigned to these buttons. The remaining four objectives are available at the touch of a button whenever a different magnification is required. Six buttons on the base of the microscope are assigned to the six objectives. An optional foot pedal is also available, which frees the user's hands for activities such as note taking.

### 19. Automated Condenser Head

#### Intuitive and efficient work

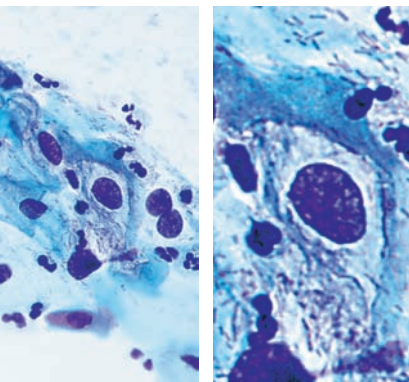
The automated condenser head automatically swings out when using objectives with less than 10x magnification and swings back into position when a higher magnification is selected. The microscope knows the best condenser position for every objective. For special applications, the user can manually adjust the condenser position by assigning this position to a control button. Leica's automated condenser head accelerates workflow in the laboratory.

### 20. Automatic Light Intensity Adjustment

#### The best light for any magnification

Whenever the objective is changed, the Leica DM Microscope automatically adjusts the light intensity to best illuminate a specimen at any given magnification. The user's most recently used light values are stored for each objective. And the brightness remains constant, which prevents sudden light intensity changes that can cause eye-strain.

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## Microscopy in a New Light The Leica DM1000 LED – with Constant-color Illumination and Optional Solar Panel

The new Leica DM1000 LED is equipped with long-life LED illumination, which replaces the conventional halogen bulb. Leica also offers a portable, solar-powered version for field-based deployment. Users of the Leica DM1000 LED also benefit from the same ergonomic, performance-enhancing advantages of the Leica DM1000.

### 21. Bulb Replacement Is History

The LEDs have an extremely long service life of approximately 100,000 hours. Assuming six hours of use per day, the bulb's service life is 50 years. This saves laboratories both time and money.

### 22. Comfortable, Pleasant Light

LED illumination provides a cool color impression. The light contains a relatively high blue cast, which closely approximates daylight. The color temperature also remains constant at different illumination intensities and is easy on the eyes.

### 23. Energy Savings

The Leica DM1000 LED features a 4 W LED bulb. Because of its low power consumption, the system is energy efficient.

### 24. Portability

Leica offers an optional, portable power supply for the new Leica DM1000 LED. When using the microscope for field-based applications, the flexible solar panel delivers power to the rechargeable battery, which is integrated with the stand. The microscope can then be used for approximately eight hours on a fully charged battery.

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## Easy Image Archiving

The Leica Image Organizer with integrated database is an easy-to-use software tool for image archiving, particularly for clinical applications, and is also ideal for any field in which simple image storage and search options are required.

## Save and Retrieve Data with Just One Click

With the Leica Image Organizer, a user can save image information, including microscope setting, camera setting, specimen type, and patient data. All data is linked to the image and can be retrieved at one click of a button.

## Overview or Detailed Image Viewing

The Leica Image Organizer displays images either in an overview format in the gallery or as single exposures via the magnification function. The user can quickly find the desired images in the gallery. The magnification function then reveals the image with the finest details in razor-sharp clarity.

## Easy Storage and Fast Search Options

Images are easily saved under multiple categories using the Leica Image Organizer. A sophisticated search function utilizes various search criteria to quickly find images and associated data.

## Easy Image Archiving

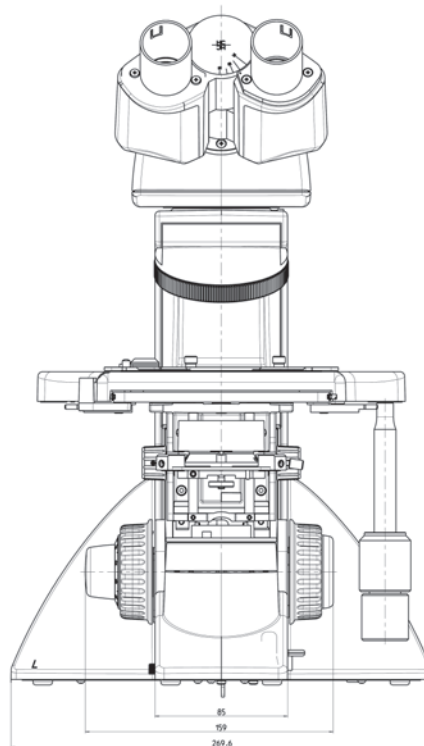
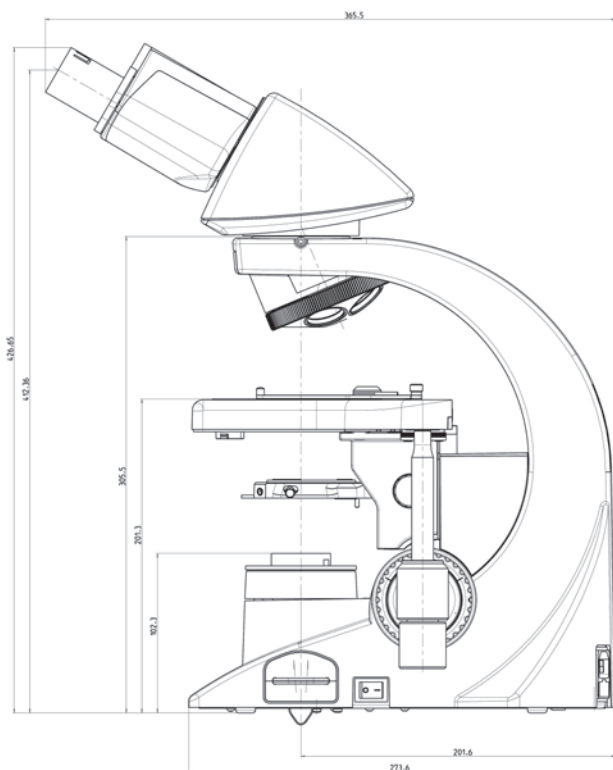
The Leica Image Organizer features an integrated database, which is an easy-to-use archiving tool that is particularly useful for clinical laboratory applications. The archiving feature is ideal for any application that requires simple, easy-to-use image storage and search options.



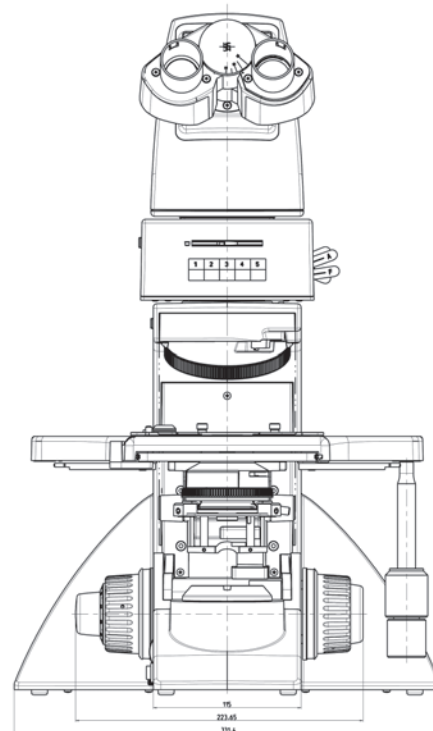
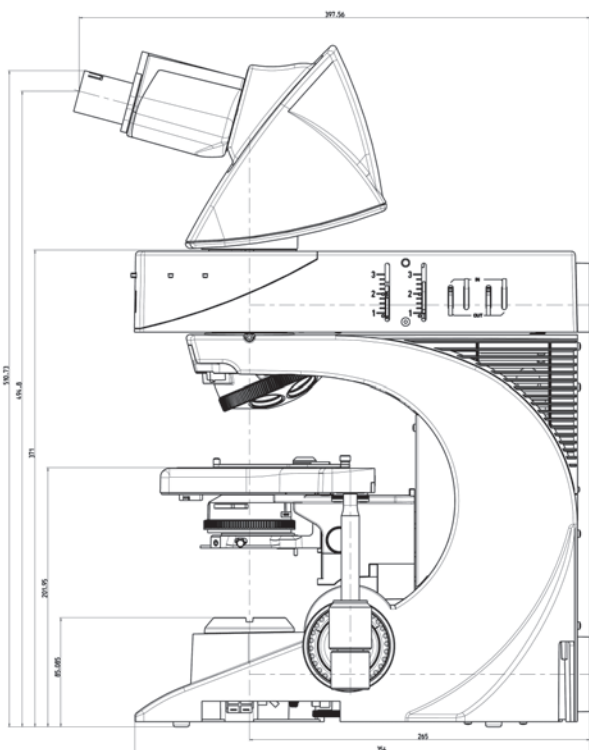


Leica Design by Christophe Apothéloz

## Leica DM1000, Leica DM1000 LED



## Leica DM2000, Leica DM2500, Leica DM3000



# Specifications

\* New unique features

			DM1000	DM1000 LED	DM2000	DM2500	DM3000
<b>Stand</b>	<b>Power supply</b>	External 4 W/90–250 V Integrated power supply, 30 W stabilized / 90–250 V auto. adjustment Integrated power supply, 100 W stabilized / 90–250 V auto. adjustment	x	x	x		x
	<b>Koehler</b>	Variable Koehler illumination Prefixed Koehler (option)	x	x	x	x	x
	<b>Eyetubes</b>	<b>Ergotube 15° viewing angle FOV 22*</b> Standard tube 30° viewing angle FOV 22 Ergo tilting eyetube FOV 25 (long) Ergo tilting eyetube FOV 22 (short) Advanced ergo tilting eyetube FOV 22	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x
	<b>Phototubes</b>	Trinocular ergo tilting phototube 50/50 FOV 22 Trinocular ergo tilting phototube 100/100 FOV 25 Trinocular ergo tilting phototube 50/50 FOV 25 BDT25 0/50/100 dual port option FOV 25 EDT22 50/50 FOV 22	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x
	<b>Ergomodules</b>	30 mm 60 mm	x x	x x	x x	x x	x x
<b>Operation</b>	<b>Focus</b>	<b>Height adjustable focus knobs*</b> 2-gear focusing: coarse, fine, focus stop <b>5 focus functions: 2- or 3-gear focusing, focus-stop, adjustable torque*</b>	x x	x x	x	x	x
	<b>Objective turret</b>	5-fold 6-fold 7-fold <b>Automatic 6-position objective turret with additional toggle mode*</b>	x	x	x x	x x	x
	<b>Objective</b>	<b>Brightness synchronized objective series 4x, 10x, 40x*</b>	x	x	x	x	x
	<b>Light intensity adjustment</b>	Automatic light intensity adaptation for varying magnifications*					x
	<b>Stage</b>	<b>Ceramic-coated (ultra hard ceramic)*</b> <b>Left/right (exchangeable by user)*</b> Rackless Telescopic drive Adjustable torque Rotatable / stage for two slides (option)	x x x x x x	x x x x x x	x x x x x x	x x x x x x	x x x x x x
<b>TL axis</b>	<b>illumination</b>	TL illumination: LED <b>12 V/30 W halogen lamp, easy bulb-exchange (with special drawer)*</b> 12 V/100 W halogen lamp with lamp house	x	x	x		x
	<b>Filtering</b>	Flip-out blue filter Filter holder for 2 filters Filter magazine for 3 filters Built-in filter magazine for 3 filters	x x x	x x x	x x x	x x x	x x x
	<b>Condenser</b>	– Standard condenser CL/PH color coding* (2.5x–100x) – Achr. Apl. Flip top condenser color coding* (1.25x–100x) – Automated Achr. Apl. Flip top condenser with color coding (1.25x–100x)* – Universal condenser UCL BF/Phase/DF – Universal condenser UCA BF/Phase/DF/DIC	x x x x	x x x x	x x x x	x x x x	x x x x
	<b>Contrast methods</b>	BF DF, PH, POL DIC	x x	x x	x x x	x x x	x x x
<b>Fluo-axis</b>	<b>illumination</b>	50 W Hg 75 W Xe 100 W Hg 12 V/100 W halogen lamp	x x x x	x x x x	x x x x	x x x x	x x x x
	<b>Filter cube changer</b>	Slider with 3 positions for filter cubes 5-position filter cube turret	x	x	x	x	x

# “With the user, for the user”

## Leica Microsystems

Leica Microsystems operates globally in four divisions, where we rank with the market leaders.

### ● Life Science Division

The Leica Microsystems Life Science Division supports the imaging needs of the scientific community with advanced innovation and technical expertise for the visualization, measurement, and analysis of microstructures. Our strong focus on understanding scientific applications puts Leica Microsystems' customers at the leading edge of science.

### ● Industry Division

The Leica Microsystems Industry Division's focus is to support customers' pursuit of the highest quality end result. Leica Microsystems provide the best and most innovative imaging systems to see, measure, and analyze the microstructures in routine and research industrial applications, materials science, quality control, forensic science investigation, and educational applications.

### ● Biosystems Division

The Leica Microsystems Biosystems Division brings histopathology labs and researchers the highest-quality, most comprehensive product range. From patient to pathologist, the range includes the ideal product for each histology step and high-productivity workflow solutions for the entire lab. With complete histology systems featuring innovative automation and Novocastra™ reagents, Leica Microsystems creates better patient care through rapid turnaround, diagnostic confidence, and close customer collaboration.

### ● Medical Division

The Leica Microsystems Medical Division's focus is to partner with and support surgeons and their care of patients with the highest-quality, most innovative surgical microscope technology today and into the future.

The statement by Ernst Leitz in 1907, “with the user, for the user,” describes the fruitful collaboration with end users and driving force of innovation at Leica Microsystems. We have developed five brand values to live up to this tradition: Pioneering, High-end Quality, Team Spirit, Dedication to Science, and Continuous Improvement. For us, living up to these values means: **Living up to Life.**

### Active worldwide

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