



# Leica DMI 3000 B

**Simply Microscopy!**

The Best Start to  
Research Microscopy

**Leica**  
MICROSYSTEMS

Comfort  
Brilliance  
Flexibility

# The Best Start to Research Microscopy

**The experts call it ergonomics. Leica calls it convenience.**

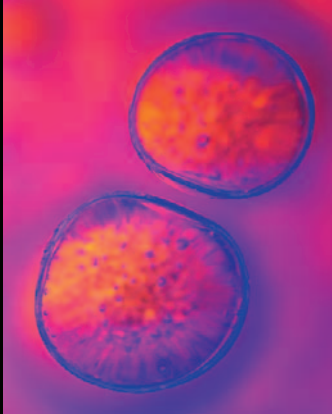
A lot has been said about ergonomics. With the Leica DMI 3000 B, you can feel it. Leica developers devoted a great deal of time to ensure ease of use. The new Leica DMI inverted digital microscope line not only exceeds the latest technical standards, it also more than fulfills all ergonomic requirements.

**Experience and innovation – the art of creating brilliant images**

The options of the transmitted light axis will convince you. The DMI 3000 B supports all transmitted light methods – and more. Let Leica's integrated interpupillary interface and its unparalleled possibilities surprise you.

**Adapted, yet individual**

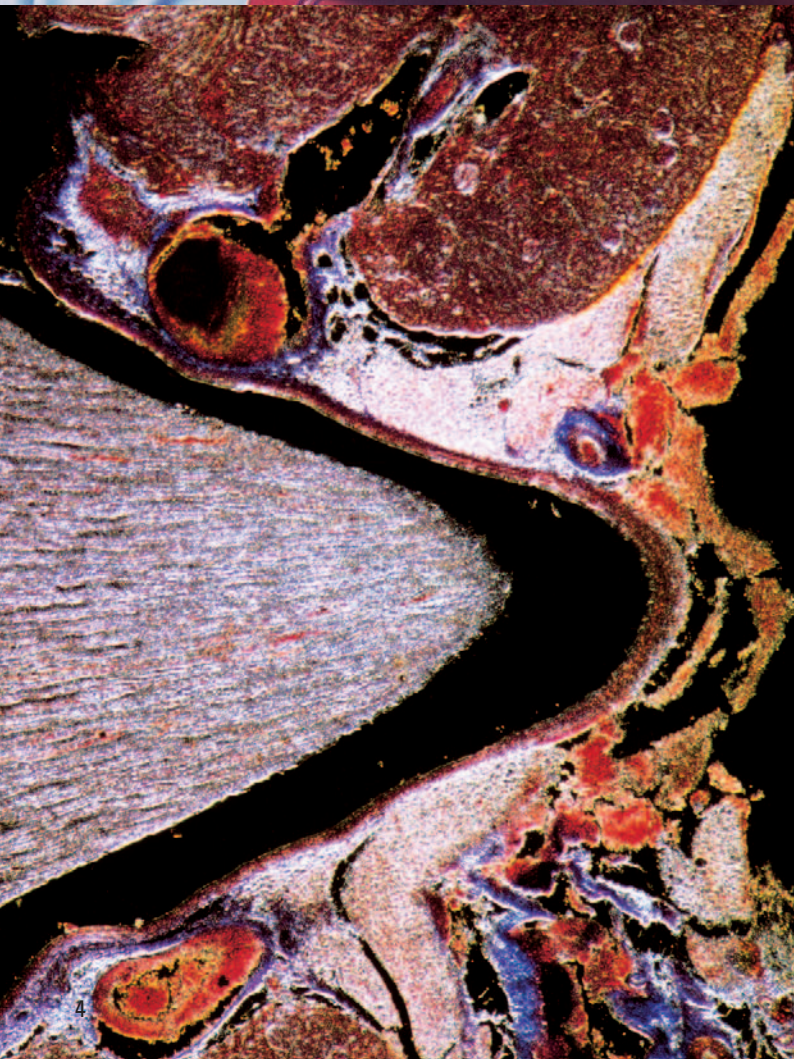
Your research is unique and the microscope you use for it should be as well. Leica cooperates closely with accessory manufacturers for that reason. As a result, we can ensure that any accessory you need for your new system will integrate reliably into the Leica DMI 3000 B system.





Leica Design by Christophe Apothéloz





“Leica engineers apply the term ‘convenience’ to a number of properties that simplify our customers’ day-to-day work with their microscopes and manipulators. The result is an instrument that provides optimal ergonomics and guarantees fatigue-free work.”

**Oliver Jagemann, DMI microscope project leader, Leica Microsystems**



# The Experts Call it Ergonomics. We Call it Convenience.

## Convenient insights

The ergonomic tube is a standard feature of the DMI 3000 B. The viewing angle of the tube can be adjusted continuously to ensure the best possible user posture. By building the ergonomic tube into every stand, we provide the benefit of ergonomomy at the same price as our fixed angle tube.

## Convenient overviews

There is no substitute for an unobstructed clear view of the specimen. That's why Leica invented the "viewing channel" – a notch between the eyepieces that provides a clear view of the specimen regardless of the position of the ergonomic tube.

## Convenient operation

All of the microscope's controls were placed in easily accessible locations, as developed in cooperation with engineers of the Fraunhofer Institute IAO\*. The positioning is so natural that you can reach the focus buttons without looking.

## Natural feel

The focus buttons are ergonomically shaped for an optimal fit in the user's hand. The flat focus button on the right-hand side has two advantages: it permits one-hand operation of both the stage and focus and prevents collisions of the stage drive and focus controls.

\*The Fraunhofer Institute IAO in Stuttgart, Germany evaluates the ergonomic properties of products. Together with its partners in industry, it develops industrial designs intended to meet the most exacting standards.

## Comfort



### Integrated ergonomic tube

Every Leica DMI 3000 B is equipped with an ergonomic tube. The continuous adjustment of the eyepieces guarantees optimal viewing angles for all users, while the "viewing channel" provides an unobstructed view of the specimen at all times.



### One-hand operation

The stage drive and focus button of the Leica DMI 3000 B are positioned closely to one another for convenient, one-hand operation. In addition, the flat design of the focus button prevents collisions with the stage drive.



### Unobstructed view of the specimen

The "viewing channel" integrated in the tube provides a clear view of your specimen, and lets you switch from microscopic to visual observation of your specimens at any time without changing the tube setting.

# Micromanipulation

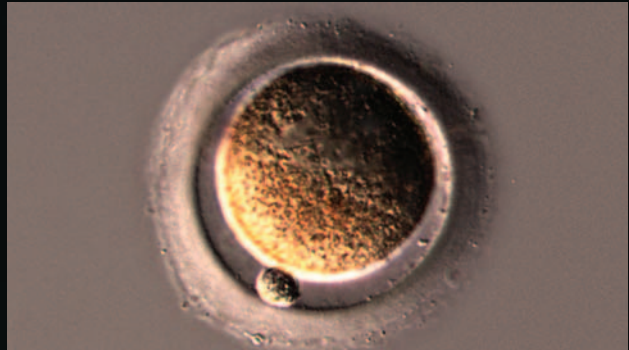
## Leica DMI 3000 B:

- The micromanipulation stage with its slim design allows easy adaptation of manipulators.
- The heating insert guarantees optimal experimental conditions for the cells.
- IMC – integrated modulation contrast – may be used economically with bright field objectives and supports observation through plastic Petri dishes.
- At 28 mm, the S28 condenser already provides enough working distance for micromanipulation – and if more is required, an S70 condenser with 70 mm working distance will leave nothing to be desired.

## Narishige micromanipulators

- The new micromanipulators feature a compact, rugged design for guaranteed stability.
- The short distance to the tip of the pipette reduces vibration to a minimum.
- The manipulators are universally deployable on both sides.
- The hanging joystick guarantees a relaxed hand position and sensitive control.

Micromanipulation places high demands on microscope systems. The system shown below is an integrated solution consisting of a Leica DMI 3000 B, equipped with the new Narishige MON-202D mechanical manipulator on the left side and the motorized MOM-202D on the right side.



C. Mehnert, Center for In-Vitro Fertilization, Giessen, (D)



# Experience and Innovation – the Art of Creating Brilliant Images

## **Contrast and resolution for every specimen –**

### **The new differential interference contrast DIC**

It's a familiar phenomenon when using DIC: improved contrast results in lower resolution and vice versa. This effect is more pronounced when observing specimens that are unusually thick or thin. Leica offers special prism combinations for such cases: Prism C for regular thickness, C1 for especially thick, and C2 for especially thin specimens.

## **Take the optics into your own hands –**

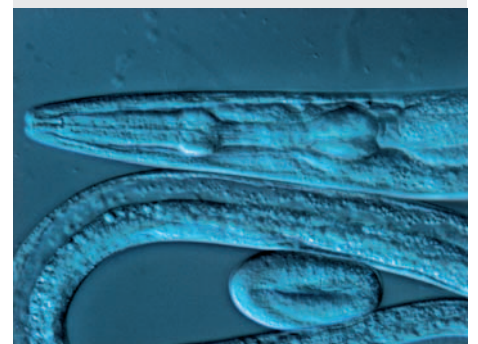
### **The new intermediate modulation contrast (IMC)**

Leica optics experts have created an intermediate interpupillary interface. Now users have an effective, yet affordable, modulation contrast solution with bright field objectives.

## **Why settle for less?**

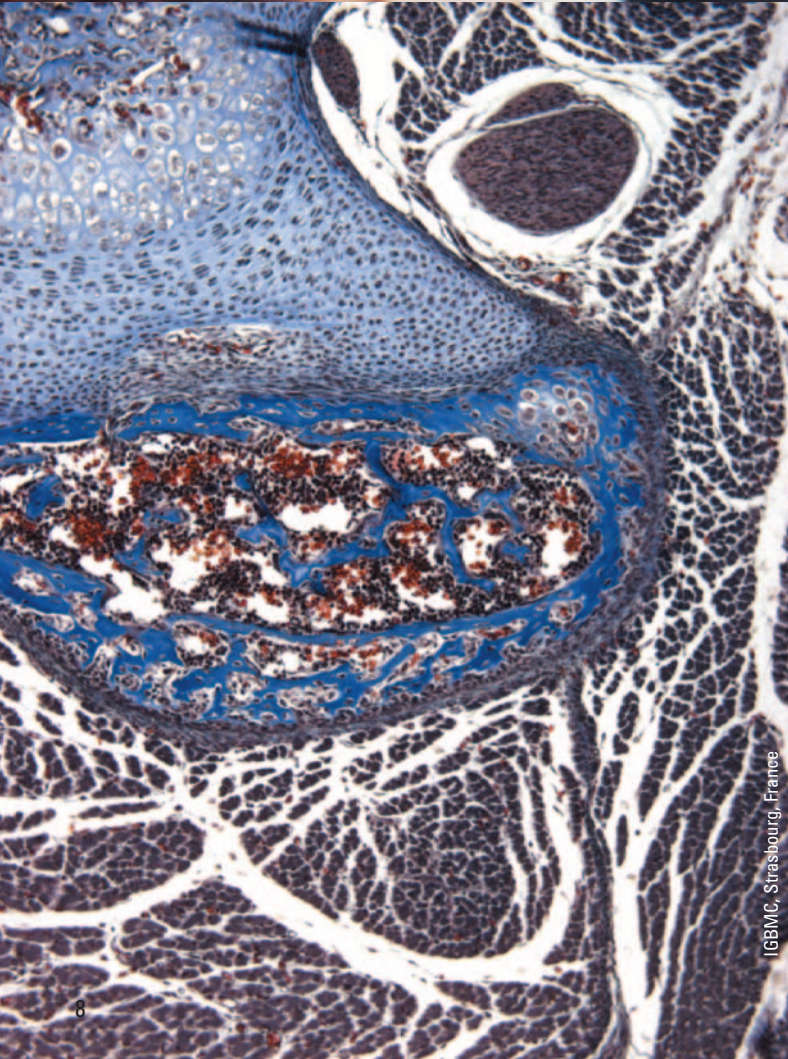
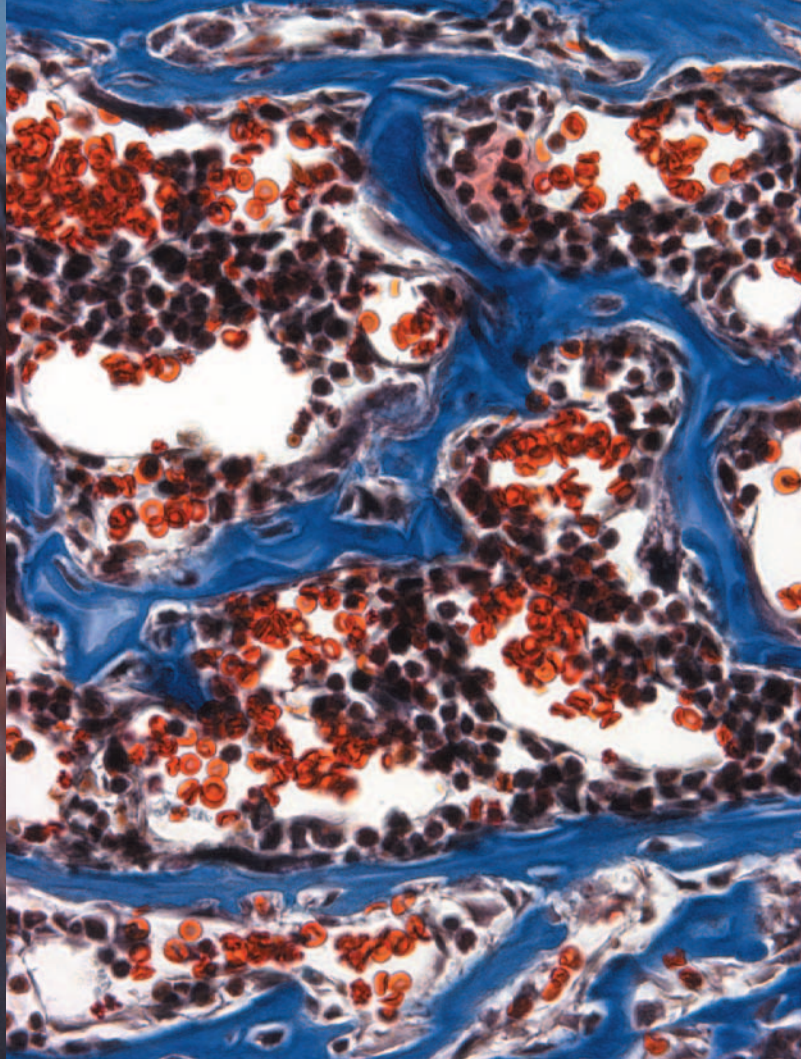
### **The new intermediate phase contrast (IPH)**

If you can realize modulation contrast with bright field objectives, why buy special objectives for phase contrast? Leica has applied the intermediate pupil interface to another revolutionary contrast method, IPH the first phase contrast in which you can influence the contrast yourself – using bright field objectives.



*C. elegans* recorded with differential interference contrast (DIC) and Wollaston prisms with different splitting angles.  
Image source: IGBMC, Strasbourg (F)





“When observing living cells under a microscope, it’s essential to maintain optimal conditions for the organisms. Leica Microsystems offers its customers ideal accessories for any application, letting them control the environmental conditions of their cells throughout their experiments.”

**Dr. Katja Peter, Marketing Manager, Research Microscopes  
Leica Microsystems**



# Well-Adjusted – and Yet Individual

## The best stage

The DMI 3000 B supports a large selection of specimen stages, letting you choose among fixed and 3-plate cross-stages. Motorized stages may also be used.

A special development for the DMI 3000 B: an extra-narrow 3-plate cross-stage for micromanipulation that leaves enough room for accessories.

## Contrast for every application

A broad selection of condensers is available for the DMI 3000 B. From 1 to 70 mm, any working distance is possible. The S1 to S28 condensers (1–28 mm working distance) are universal condensers for all magnifications.

## From refrigerator to sauna

Stage inserts for all types of containers, combined with temperature control units, ensure correct temperatures for your experiments. From below freezing to +60°C, any temperature is possible. Simply choose the components that best suit your requirements.



### Incubators

Shown here is the Incubator S, which was designed for use with Petri dishes and glass slides. The transparent incubator housing is placed on a heating insert or heating stage. Glass inserts are integrated in the covers to permit observation in DIC contrast.

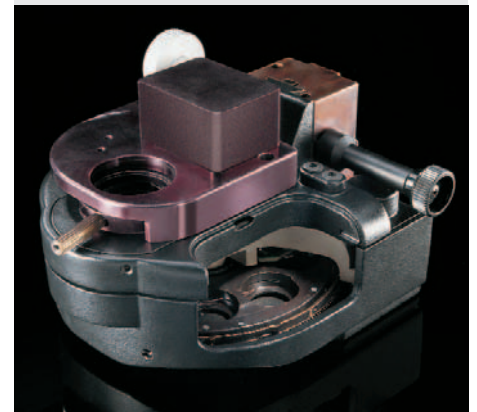
For detailed descriptions of the various stages, heating and cooling inserts and control instruments, please see Leica's separate brochure, "Live on Stage". Order number: 914 352

## Flexibility



### Heating and cooling inserts

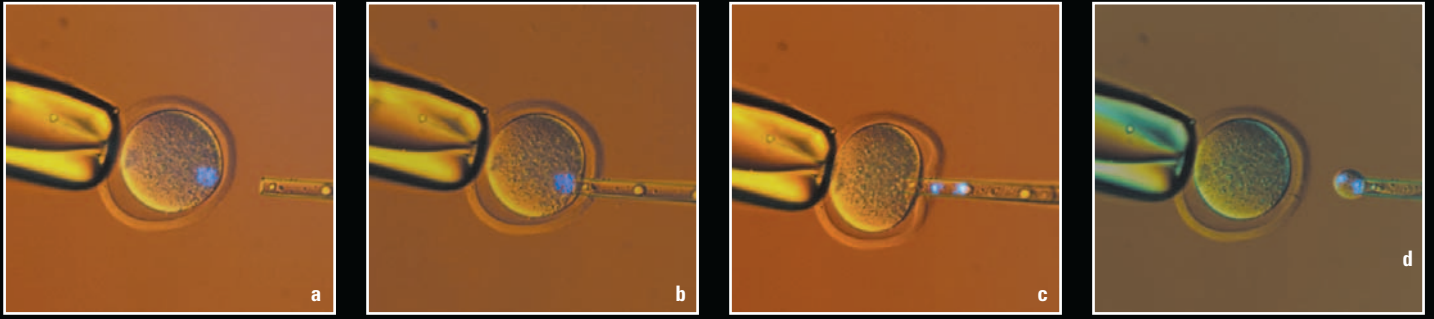
Leica's wide range of heating and cooling inserts covers the needs of virtually every user. Inserts for Petri dishes, coverslips, multiwell dishes and other containers can be integrated in the stage. An M24 multiwell dish heating insert is shown here.



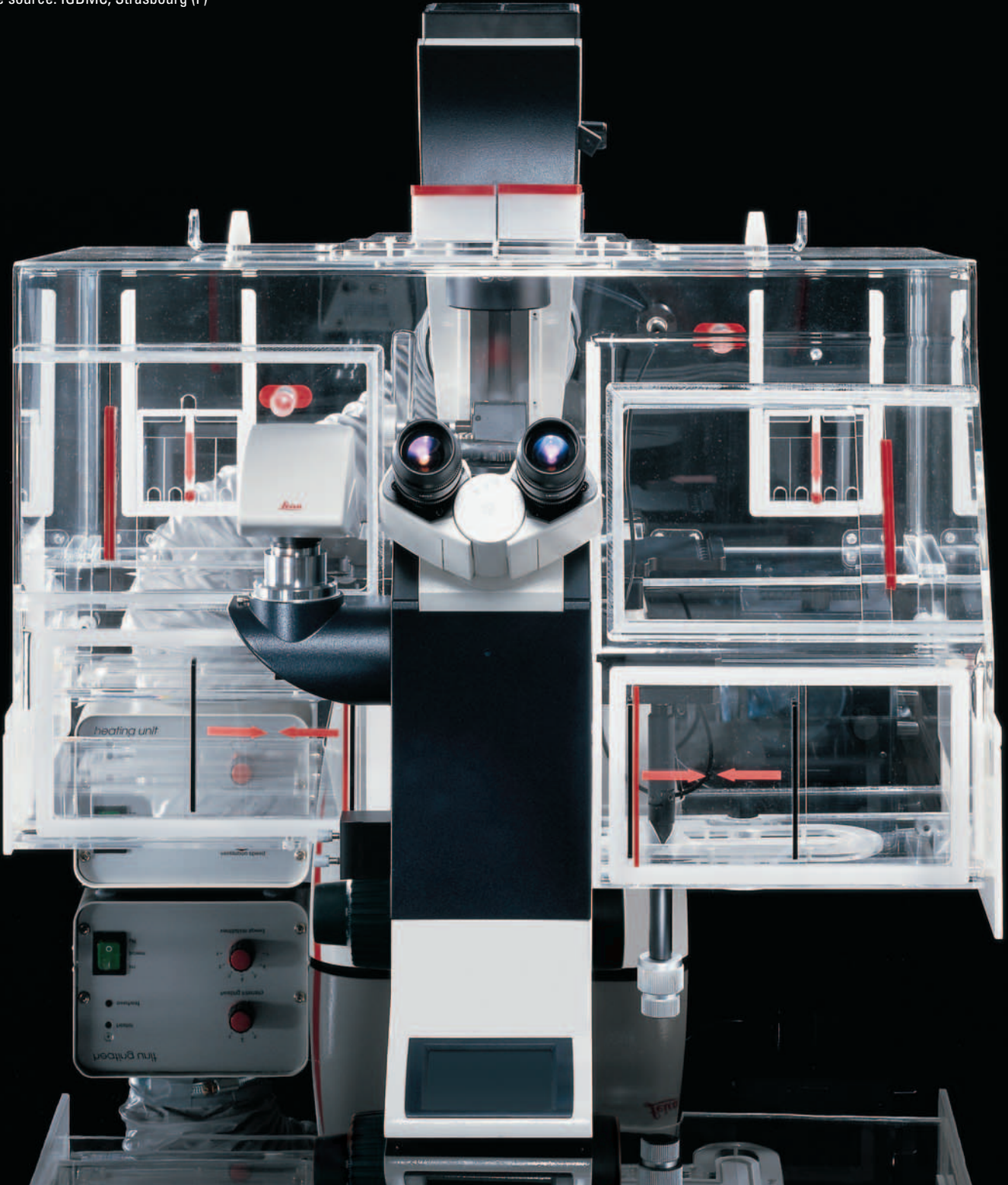
### The new condenser generation

A new generation of condensers is available for the DMI series. This range of condensers is the first ever to support magnifications of 1.25x to 100x in inverted microscopes. Another new feature is the plug connection between the condenser and illumination arm, which makes condenser replacement easy. And thanks to the Koehler locking lever, users can easily restore their optimal Koehler settings; the lock also prevents damage to manipulation needles.

All condensers feature septuple condenser disks, making them suitable for all contrast methods. A selection of condensers is available for working distances from 1 to 70 mm.



Mouse egg chromosome removal sequence (UV and transmitted light):  
**a** prior to removal; **b** entry of removal pipette; **c** removal; **d** verification of removal  
 Image source: IGBMC, Strasbourg (F)





### **Everything under control**

A comprehensive range of control equipment is available for the Leica DMI 3000 B. Carbon dioxide control units maintain constant pH values. Oxygen controllers regulate the O<sub>2</sub> concentration required by the cells. Temperature regulators are also available that are capable of maintaining any required physiological temperature.

### **Perfect climate**

Your specimens require defined environmental conditions for your experiments. The Leica DMI 3000 B offers everything you need in this respect. Leica climate chambers are available in a variety of sizes – from models designed to accommodate a single Petri dish, to one that encloses the entire microscope.

### **Like an extra hand**

Cell manipulation belongs to the standard repertoire of biomedical researchers – be it transgenic manipulation or to inject proteins, dyes, or drug compounds.

For tasks such as these, the mechanical Leica micromanipulator is unparalleled in its precision and quality, and it has been optimally adapted to the Leica DMI 3000 B. Suitable adapters for electrical and hydraulic manipulators are available.

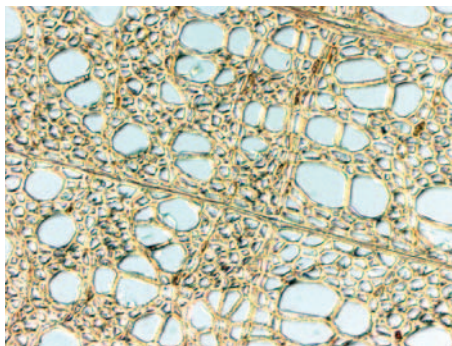
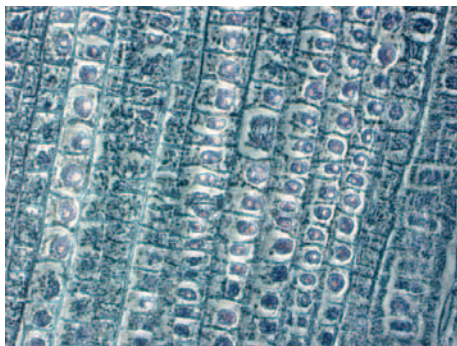


### **Leica micromanipulators**

The mechanical Leica manipulator is very convenient to use because of its hanging joystick. It is absolutely precise and very direct in its action.

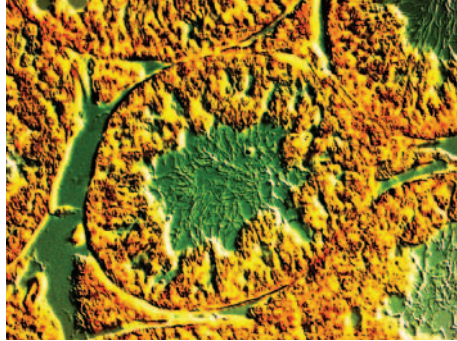
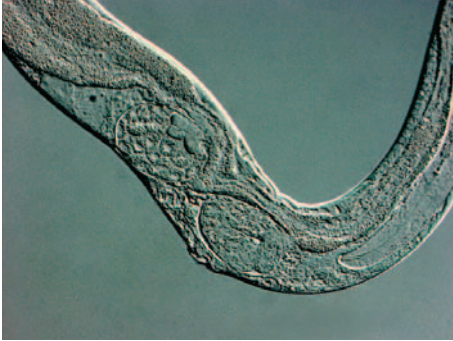
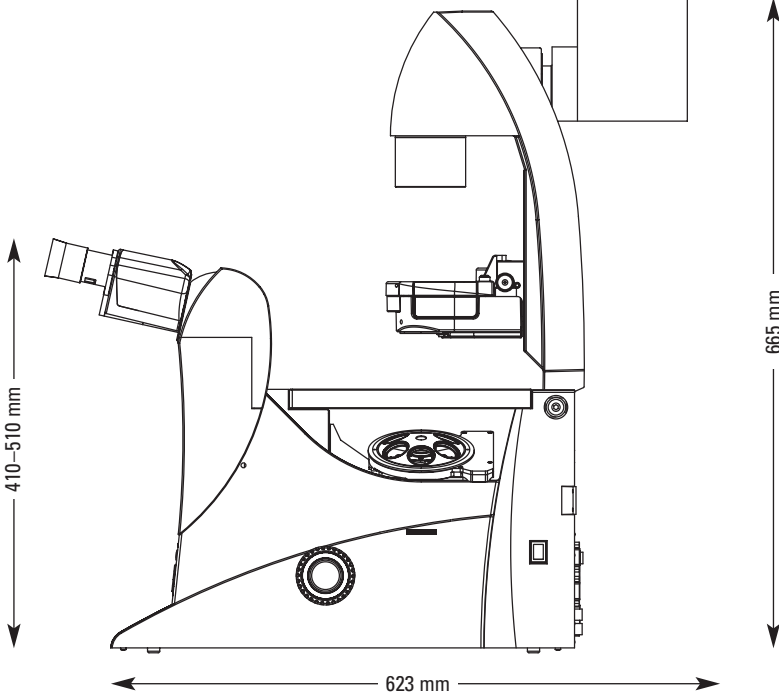
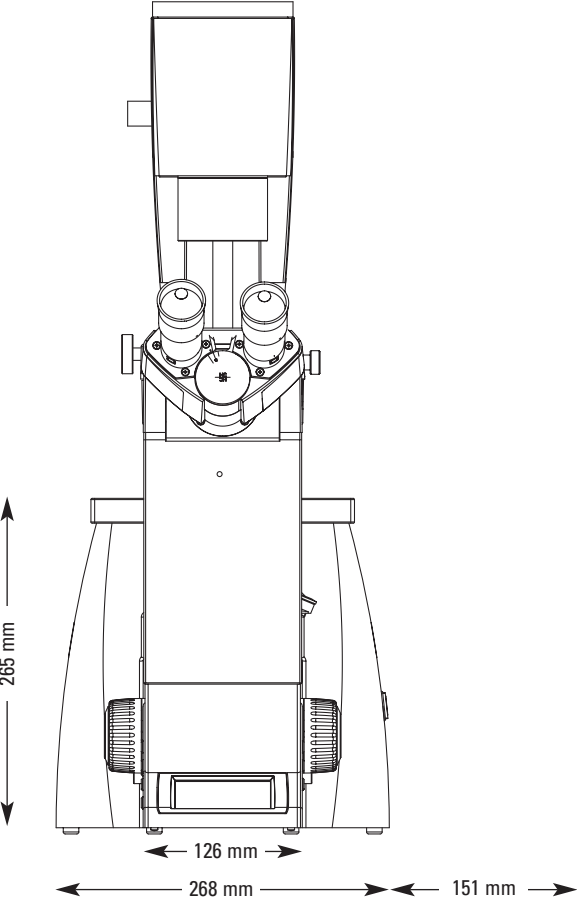
**Leica DMI 3000 B**

<b>Stand</b>	<b>Power supply</b>	<ul style="list-style-type: none"> <li>• in stand</li> </ul>
<b>Focus</b>	<b>General</b>	<ul style="list-style-type: none"> <li>• mechanical</li> <li>• coarse and fine drives</li> </ul>
<b>Objective turret</b>		<ul style="list-style-type: none"> <li>• 6-position M25</li> <li>• mechanical</li> </ul>
<b>Stages</b>	<b>Mechanical stages</b>	<ul style="list-style-type: none"> <li>• fixed stages                             <ul style="list-style-type: none"> <li>– various sizes</li> <li>– ceramic-coated</li> <li>– over 20 different inserts available</li> <li>– can be equipped with heating and cooling inserts</li> </ul> </li> <li>• 3-plate cross-stages (also slim form for micromanipulator)</li> </ul>
<b>Transmitted light axes</b>	<b>Illumination arm</b>	<ul style="list-style-type: none"> <li>• 12V/100W halogen lamp</li> <li>• manual field diaphragm</li> <li>• filter magazine for 2 filters, mechanical</li> <li>• manual shutter</li> </ul>
<b>Condensers</b>	<b>General</b>	<ul style="list-style-type: none"> <li>• condenser disk for optical elements with                             <ul style="list-style-type: none"> <li>– 4 large openings for prisms, DF stop, BF, PH rings, IMC modulators</li> <li>– 3 small openings for BF, PH rings, IMC modulators</li> </ul> </li> <li>• integrated manual aperture diaphragm AP</li> <li>• suitable for magnifications from 1.25x to 100x</li> <li>• separate manual polarizer (optional)</li> </ul>
	<b>S1–28</b>	<ul style="list-style-type: none"> <li>• manual condenser disk</li> <li>• manual flip-top condenser head</li> </ul>
	<b>S70</b>	<ul style="list-style-type: none"> <li>• manual condenser disk</li> <li>• fixed condenser head</li> <li>• mechanical lens for low magnifications</li> </ul>





# Specifications

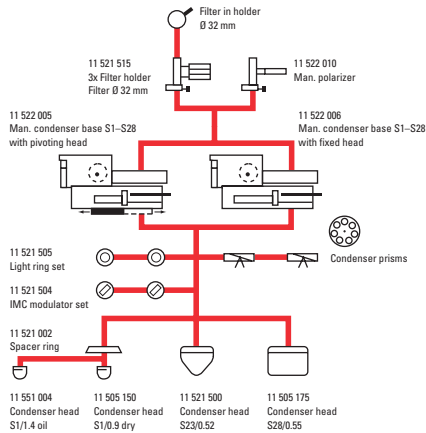


# System Overview Leica DMI3000 B

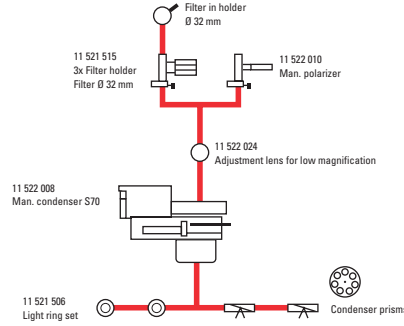
## Condensers

1a

S1–28 man.



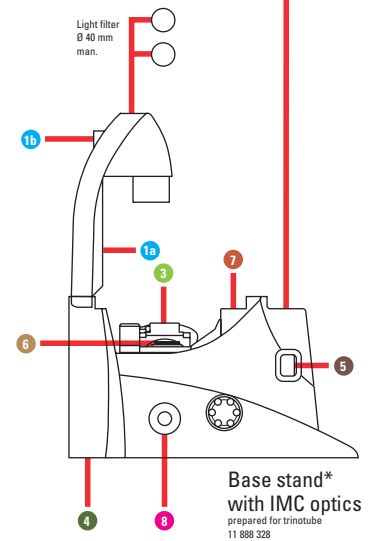
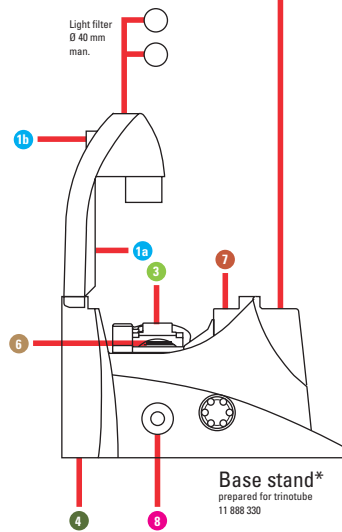
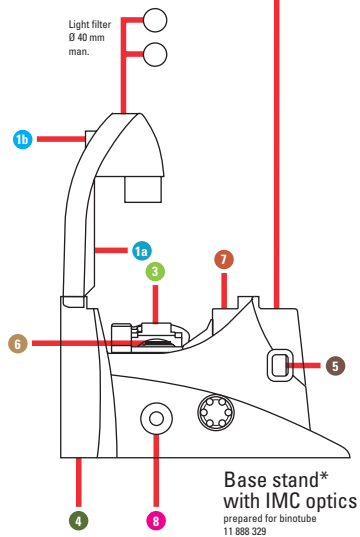
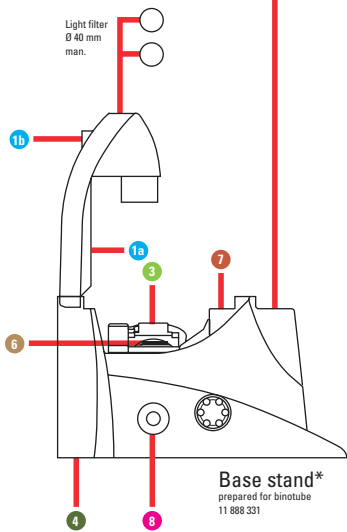
S70 man.



## Bino ErgoTubes



## Trino ErgoTubes

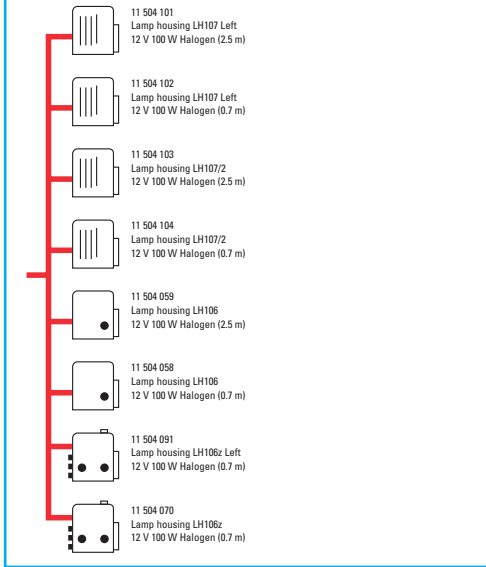


\* All base stands without bottom port, incl. man. illuminator arm and man. field diaphragm, man. shutter, man. filter magazine



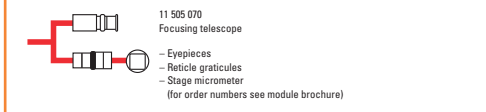
## Transmitted-light lamp housings

1b



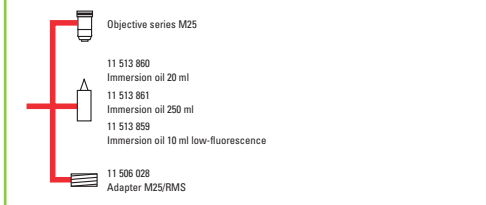
## Eyepieces

2



## Objectives

3



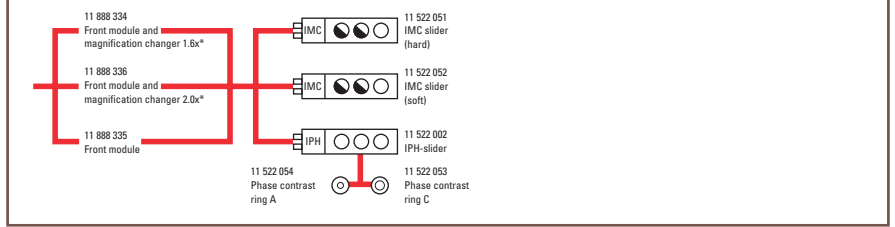
## Base plates

4



## IMC-/IPH-Systems

5



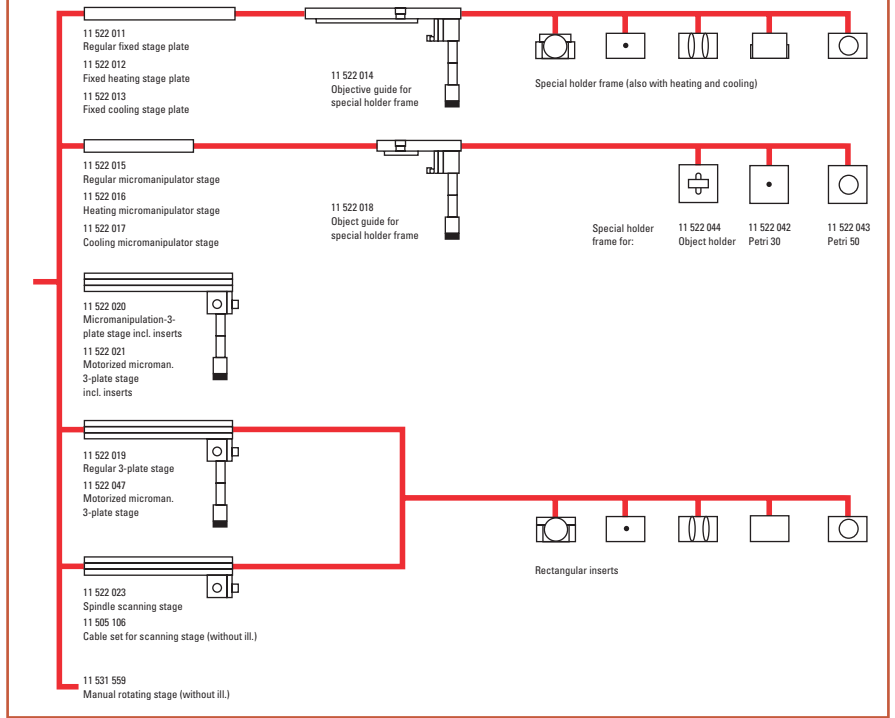
## DIC systems

6



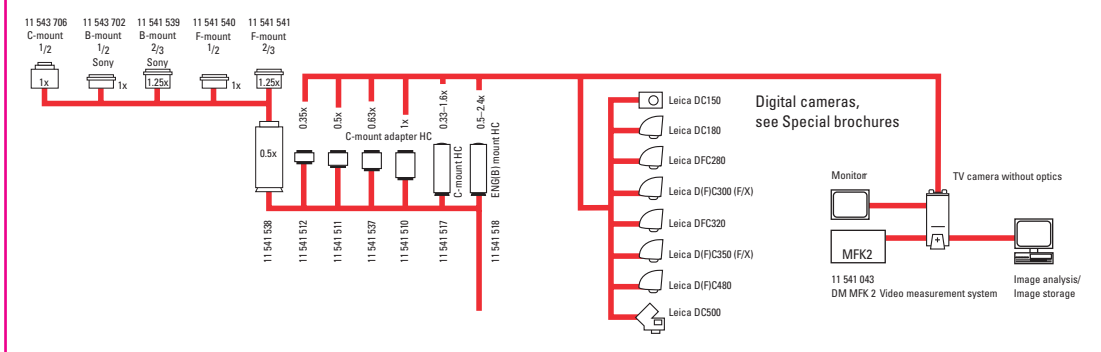
## Stages

7



## TV systems

8



# Leica Microsystems – the brand for outstanding products

Leica Microsystems' mission is to be the world's first-choice provider of innovative solutions to our customers' needs for vision, measurement, lithography and analysis of microstructures.

Leica, the leading brand for microscopes and scientific instruments, developed from five brand names, all with a long tradition: Wild, Leitz, Reichert, Jung and Cambridge Instruments. Yet Leica symbolizes innovation as well as tradition.

## Leica Microsystems – an international company with a strong network of customer services

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and representatives of Leica Microsystems  
in more than 100 countries.

The companies of the Leica Microsystems Group operate internationally in four business segments, where we rank with the market leaders.

### ● Microscopy Systems

Our expertise in microscopy is the basis for all our solutions for visualization, measurement and analysis of microstructures in life sciences and industry. With confocal laser technology and image analysis systems, we provide three-dimensional viewing facilities and offer new solutions for cytogenetics, pathology and materials sciences.

### ● Specimen Preparation


We provide comprehensive systems and services for clinical histo- and cytopathology applications, biomedical research and industrial quality assurance. Our product range includes instruments, systems and consumables for tissue infiltration and embedding, microtomes and cryostats as well as automated stainers and coverslippers.

### ● Medical Equipment

Innovative technologies in our surgical microscopes offer new therapeutic approaches in microsurgery.

### ● Semiconductor Equipment

Our automated, leading-edge measurement and inspection systems and our E-beam lithography systems make us the first choice supplier for semiconductor manufacturers all over the world.

 [www.simply-microscopy.com](http://www.simply-microscopy.com)

  
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