



leica-microsystems.com

# Leica M Series Stereomicroscopes

A completely modular system  
for all applications

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**Leica**  
MICROSYSTEMS

**No.1 in stereomicroscopy**

# Welcome!

Thank you for your interest. Leica Microsystems is proud to present the Leica M series. The success of a stereomicroscope in practice depends on the versatility of its accessories. Therefore, these stereomicroscopes – from routine to the high-performance instruments – feature a modular design that allow them to be adapted to the individual requirements of a workstation and its users at any time.

## **This brochure**

portrays the Leica MS5, MZ6, MZ7<sub>5</sub>, MZ9<sub>5</sub>, MZ12<sub>5</sub>, MZ16 and MZ16 A stereomicroscopes in many configurations, along with the appropriate accessories. There is a comprehensive assembly diagram to help you put together the equipment configuration you require. If you still have questions, get in touch with your local Leica agency or directly with Leica Microsystems. On our homepage, [www.leica-microsystems.com](http://www.leica-microsystems.com), you can find valuable information on the products and services offered by Leica Microsystems and the address of your nearest agency. We are glad to be of service for all of your imaging needs. CUSTOMER SERVICE is a big thing with us, not only before the sale, but afterward as well.

Leica Microsystems (Switzerland) Ltd.  
Stereo & Macroscopic Systems  
[www.leica-microsystems.com/stereomicroscopes](http://www.leica-microsystems.com/stereomicroscopes)

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# The Leica M-Series

## The requirements

You expect a high-performance stereomicroscope to produce a perfect image, offer versatility and be comfortable to use. The three-dimensionality, depth of field, contrast, resolution and color fidelity of the image must be optimal. In addition, ergonomic requirements must be met and work must be largely fatigue-free. Motorized and software-controlled stereomicroscopes are not only particularly ergonomic and efficient in their operation, they also allow for automating entire sequences of operations. In addition, a rich accessory program must allow for a practice-oriented workstation layout, including digital image recording systems as well as image processing and analysis software, and expand the benefit of the stereomicroscope.



Leica Design  
by Christophe Apothéoz

### **From routine to high performance**

The Leica M series offers an extensive stereomicroscope program for all applications, from quality testing during manufacturing and assembly, OEM integration and lab applications for students up to demanding tasks in research and development.

### **Fully apochromatic motorized models**

As the leading manufacturer of high-quality stereomicroscopes, Leica Microsystems is introducing the first fully apochromatic and motorized 16:1-zoom models to the market. With the largest zoom range and the highest resolution of all stereomicroscopes currently available, these models allow for detecting structures up to a size of 0.6 micrometer. Thanks to the motorized and automated functions, typical sequences of operations and experiments can be reproduced with the control of software.

### **High-performance optical system**

The Leica stereomicroscopes in the M series create brilliant three-dimensional images of spatial objects and permit fine assembly and preparation work of a precision unattainable with the naked eye. Being large, flat, and sharp right to the edge, the object fields allow fatigue-free viewing over long periods of time.

The CMO (Common Main Objective) optical system consists of two parallel beam paths and common one main objective. This elaborate design guarantees fatigue-free viewing and constant image sharpness during magnification changes.

### **Constant sharpness, from the overall view down to the detailed inspection**

The Leica stereomicroscopes in the M series are parfocally matched. This means that, when the magnification is altered, the feature remains in focus right from the lowest magnification to the highest.

### **Ergonomics**

With the Leica M-series you have the largest range of binocular tubes on the market at your disposal. Individual factors such as one's individual build, height of the equipment and the working methods present no problem for you. Distortion-free, wide field eyepieces permit observation either with or without eyeglasses. Additional ergonomic advantages include the low-positioned focus knobs for manual focusing and optional motorized focusing.

### **Patented ESD protection**

The optics carriers of the Leica M series, the binocular tube, ErgoTube®, ErgoWedge® 5°–25°, the ESD swing-arm stand and the cold-light sources Leica L2 and CLS consist of ESD-discharging material (surface resistance  $<10^{11} \Omega/\text{mm}^2$ , discharge time  $<2$  seconds, 1000V to 100V).

### **Abundant choice of accessories**

The advantage of the modular design is that you can compile your outfit to suit the application and supplement it with specific accessories. An interesting aspect for your capital investment budget is the fact that the accessories already available are universal and also compatible with the new stereomicroscopes.

### **Digital imaging and analysis**

From stereomicroscope to digital camera, including application software, Leica Microsystems offers customer-specific complete solutions for professional image acquisition, archiving, analysis, processing, presentation or print. A series of professional FireWire camera systems for PC and Mac are available as well as image management and analysis programs (PC).

# Performance Features



- Seven different optics carriers are available upon request for different requirements: From routine instrument with five-stage magnification changer to the high-performance instrument with motor zoom 16:1 for research tasks
- Two optics carriers for fluorescence with manual or motorized 16:1 zoom
- Motorized models with computer connection and software control
- Zoom magnification changer, manual or motorized, with selectable ratchet positions for repeating certain magnifications
- Parfocal optical system: The focus remains constant when the magnification is changed.
- Impressive 3D effect, great depth of field, large object fields, high-resolution, high contrast
- Achromatic, planachromatic and plan-apochromatic objectives of your choice
- Widest choice of ergonomic accessories on the market: ErgoTube®, ErgoModule® and motorized focus
- Widefield eyepieces for use with or without eyeglasses
- Coarse/fine focus drive, manual or motorized
- Various possibilities for fitting to existing stands and for OEM uses
- Conveniently placed control knobs
- Cameras for digital imaging and video
- Software for image management and analysis (PC)
- All stereomicroscopes have ESD-protection material
- Innovative stand program, particularly a high-performance transmitted-light stand with Rottermann® contrast technology and ergonomic swing-arm stands



# The Modular System

The modular design allows you to customize your application-compliant equipment. Depending upon the requirements of the workplace, you can select among the following components:

## Optics carriers

MS5, MZ6, MZ7<sup>5</sup>, MZ9<sup>5</sup>, MZ12<sup>5</sup>, MZ16 or MZ16 A

The fluorescence stereomicroscopes Leica MZ16 F and MZ16 FA are described in separate brochures.

## Microscope carriers

- Microscope carrier for stereoscopic observation
- Microscope carrier AX for stereoscopic and axial observation

## Focus drives

For incident light and transmitted light stands:

- Focus drive (coarse) and focus drive (coarse/fine) with 300 mm and 500 mm columns
- Motor focus system with 300 mm and 500 mm columns

For swing arm stands and OEM:

- Inclinable focus drive
- Focus drive (coarse) and focus drive (coarse/fine) with inclinable column
- Motor focus system with inclinable column

For universal stands and columns,  $\varnothing$  50 mm:

- Drive housing with coarse/fine focus drive

## Binocular tubes

- Inclined binocular tube 45°
- ErgoTube® 45°
- Apochromatic ErgoTube® 10°–50°
- Inclined binocular tube, low
- Straight binocular tube
- Inclined trinocular tube, low
- Trinocular tube, ultra-low

## ErgoModules®

- ErgoWedge® ±15°
- ErgoWedge® 5°–25°
- ErgoModule® 50 mm
- ErgoModule® 30 mm–120 mm

## Eyepieces

- Widefield eyepieces for eyeglass wearers, 10×, 16×, 25×, 40×, distortion-free

## Interchangeable objectives

- Achromats, from 0.32× reducing to 2× magnifying
- Ergo objective 0.4× – 0.63×
- Planachromats 0.5× reducing to 1× magnifying
- Planapochromats 0.63× reducing to 2× magnifying
- Achromats with focal distances of 100 mm to 400 mm

## Stands

- Incident light stand
- Swing arm stand, various designs
- Universal stand
- Transmitted light stands: TL ST, TL BPDF, TL RC™ and TL RCI™

## Stages

- Leica IsoPro™ manual cross-stage
- Leica MATS thermocontrol stage
- Various other stages, e.g. for using the "Live on Stage" products

## Illumination

- Inclined incident light illumination
- Coaxial illuminator
- Vertical illuminator
- Cold light sources with fiber-optic light guides
- LED illumination
- Stereo-fluorescence module

## Choice of accessories

- Video/phototubes, different models
- Digital camera systems
- Integrated digital camera
- Leica 3D system
- Control, image editing and analysis software
- Accessories for commercially available TV, video, film, or SLR systems
- Double iris diaphragm
- Discussion tube
- Drawing tube
- Measuring graticules
- Attachment for vertical and oblique observation®
- Polarization set
- Filter slide housing

# Optics Carriers

## The requirements

A modern stereomicroscope offers the maximum possible flexibility to fulfill user requirements. Leica's modular components can be combined according to your wishes. Contact us and we will gladly help you assemble the ideal outfit for your specific investigation tasks, training and documentation.

The optics carrier includes the optical system, a dovetail ring for binocular tubes or accessories and a thread for the interchangeable objectives.

### **Leica MS5 with 5-step magnification changer**

A compact optics carrier with the same advantages as the new zoom models as regards imaging, ergonomics and accessories. With the 1× objective and 10× eyepieces magnifications obtainable are 6.3×, 10×, 16×, 25× and 40×.

### **Leica MZ6 with zoom 6:1**

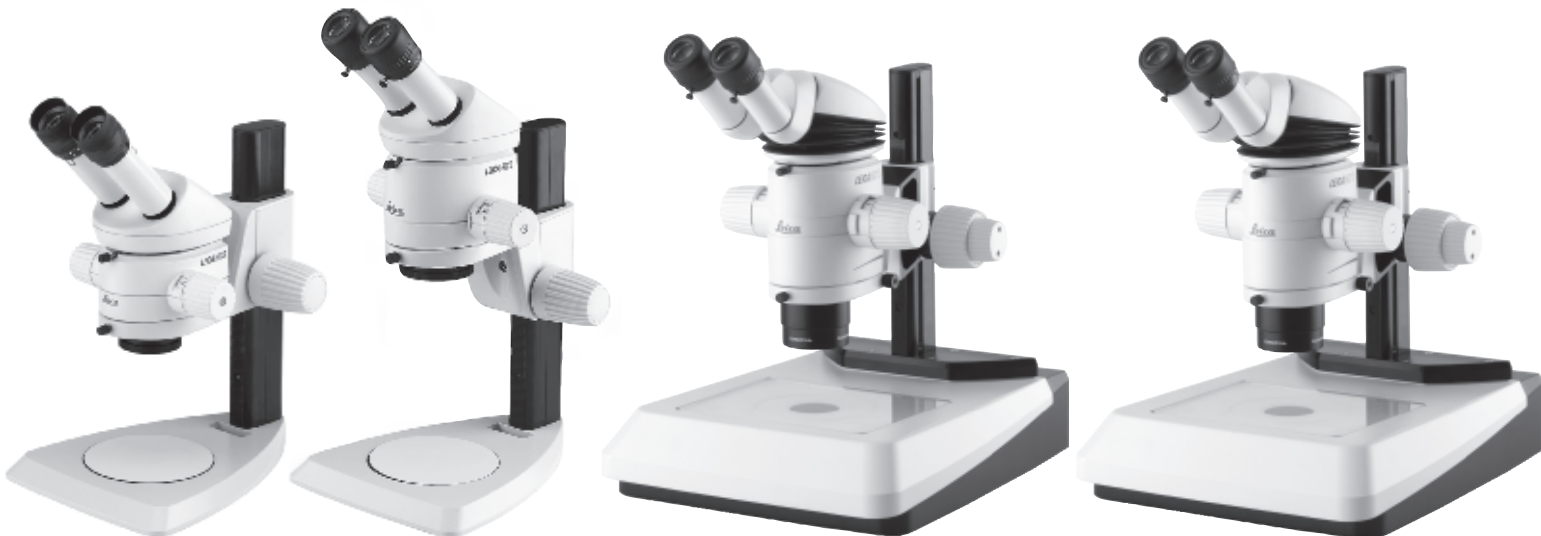
Compact optics carrier. With 1× objective and 10× eyepieces the magnification can be continuously changed within the range of 6.3× to 40×. 7 zoom stops are engageable at the magnification changer positions 0.8, 1, 1.25, 1.6, 2, 2.5 and 3.2.

Leica MS5 with 5-step magnification changer  
Order no. 10 445 613\*

Leica MZ6 with zoom 6:1  
Order no. 10 445 614\*

Leica MZ7<sub>s</sub> with zoom 7.9:1  
Order no. 10 446 371\*

Leica MZ9<sub>s</sub> with zoom 9.5:1  
Order no. 10 446 372\*



**Leica MZ7s with zoom 7.9:1**

Infinitely variable choice of magnification from 6.3× to 50× with 1× objective and 10× eyepieces. 8 zoom stops engageable at 0.8, 1, 1.25, 1.6, 2, 2.5, 3.2, 4.

**Leica MZ9s with zoom 9.5:1**

Provides an infinitely variable choice of magnification from 6.3× to 60× with 1× objective and 10× eyepieces. 9 zoom stops engageable at 0.8, 1, 1.25, 1.6, 2, 2.5, 3.2, 4, 5.

**Leica MZ12s with zoom 12.5:1**

With 1× objective and 10× eyepieces magnifications of 8× to 100× are obtained. 10 zoom stops are engageable at 1, 1.25, 1.6, 2, 2.5, 3.2, 4, 5, 6.4 and 8.

**Leica MZ16 with zoom 16:1**

Apochromatic high-performance instrument with the largest zoom range and the highest resolution on the market. With a turret for 1× and 2× objectives objects can be viewed in a magnification range of 7.1× to 230× and with a resolution of up to 840 Lp/mm. Features 12 zoom stops for repetitive tasks.

**Leica MZ16 A with 16:1 zoom, motorized**

This top-class apochromatic instrument is the first stereomicroscope with a 16:1 motor-zoom and automatic measuring functions. The digital display shows measurement values and magnification, taking the factors of eyepiece, objective, coaxial illumination, etc. into consideration. LAS control and application software (included).

**Leica MZ16 F and MZ16 FA**

The special stereomicroscopes for fluorescence applications are described in separate brochures.

Leica MZ12s with zoom 12.5:1  
Order no. 10 446 370\*



Leica MZ16 with zoom 16:1  
Order no. 10 447 102\*



Leica MZ16 A with 16:1 zoom, motorized  
Order no. 10 447 103\*



# Binocular Tubes, Ergo Accessories

## The requirements

A good stereomicroscope provides a comfortable body and head position under any circumstances. Individual characteristics such as the height of the particular outfit, the build of the user, and the working technique can be accommodated by selecting the appropriate binocular tube and additional Ergo Accessory from the wide range available.

Inclined binocular tube 45°  
Order no. 10 445 619



Inclined binocular tube, low  
Order no. 10 429 781



ErgoTube® 10°–50°  
Order no. 10 445 822



The optical quality of the Leica stereomicroscope tubes is designed to pass along all of the high imaging performance of the planapochromatic objectives to the viewer.

### Inclined binocular tube 45°

This is the standard tube with a fixed 45° viewing angle. Vary the viewing angle by using the ErgoWedge® ±15° and 5°–25°.

### ErgoTube® 45°

As opposed to the standard tube, the long eyepiece tubes raise the viewing point by 65 mm toward the observer. Being able to use the stereomicroscope at a farther distance away provides a comfortable, upright sitting position. The maximum interpupillary distance which can be set is 90 mm; the magnification factor is 1.6×.

### Apochromatic ErgoTube® 10°–50°

Using the ErgoTube® the user can change his or her sitting position at any time and match the viewing angle to body height. This provides a flexible sitting position that exerts less strain on the neck and back. For added comfort, the long eyepiece tubes also enable an upright sitting position. The ErgoTube® 10°–50° is made of anti-static material (see also page 7).

ErgoTube® 45°  
Order no. 10 446 253



Straight binocular tube  
Order no. 10 429 783



## Ergo Accessories

By utilizing Leica Ergo Accessories the user can match the viewing height and viewing angle of the various binocular tubes to his or her own height.

### Straight binocular tube

This tube is ideal for observation using a steeply tilted stereomicroscope, e.g. on a swing arm stand or for OEM adaptation.

### Inclined binocular tube, low

The low eyepiece tubes ensure a comfortable head and arm position even at long working distances and with high outfits.

### Trinocular video/phototubes

Observation/phototubes with a low viewing height and an ideal viewing angle of 38° (see illustration on page 36). Available with 50% or 100% light in the photo beam path.

**The adjustment range of the interpupillary distance is 52 mm to 76 mm for all the binocular tubes.**

ErgoTube® and ErgoModule® are registered in the United States Patent and Trademark Office.

**Ergonomic video/phototubes see p. 36.**

### ErgoWedge® 5°–25°

When the ErgoWedge™ is used together with the 45° binocular tube, the viewing angle can be set anywhere between 20° and 40° and the viewing height can be individually adjusted at the same time. An additional advantage is that the viewing point shift toward the observer by up to 65 mm compared with the normal outfit, resulting in a more comfortable sitting position. The ErgoWedge® 5°-25° is made of antistatic material (see also page 7).

### ErgoModule® 50 mm

When the low Leica MS5 and MZ6 stereomicroscopes are combined with incident-light stands and achromatic objectives, the resulting viewing height is too low for tall users. The new ErgoModule® raises the viewing point by 50 mm, so that the user can sit upright and be more comfortable.

### ErgoWedge® ±15°

This practical accessory enables the viewing angle of the various binocular tubes to be adjusted in two directions, either + or - 15°.

### ErgoModule® 30 mm–120 mm

The ErgoModule® 30 mm to 120 mm “stretches” short stereomicroscopes and enables users of different heights using the same instrument to adjust an optimum viewing height.

ErgoModule® 50 mm  
Order no. 10 446 170



ErgoWedge® 5°–25°  
Order no. 10 446 123



ErgoWedge® 5°–25°



Inclined binocular tube 45° and  
ErgoWedge® ±15°, in the -15° position  
Order no. 10 346 910



Inclined binocular tube 45° and  
ErgoWedge® ±15°, in the +15° position



ErgoModule® 30 mm–120 mm  
Order no. 10 446 171



# Objectives

## The requirements

Leica offers a range of high-quality objectives and eyepieces that enable the user to adjust the working distances, total magnifications and the diameters of the field of view to his or her particular application.



Ergo objective  
Order no. 10 447 148



Interchangeable  
achromatic objectives for  
Leica MS5, MZ6, MZ7s, MZ9s

2× planapochromatic objective (Order no. 10 447 101),  
0.8× plane objective (Order no. 10 447 075),  
1× planapochromatic objective (Order no. 10 447 157)



To meet your imaging requirements Leica offers a choice of high-quality interchangeable planachromatic and planapochromatic objectives and also the more affordable achromatic objectives. The assembly diagram on page 62 shows the various objectives that can be combined with the respective stereomicroscope models.

- **Achromatic objectives** are well-suited for observing high-contrast, 3D structures.
- **Flat-field (planachromatic) objectives** are advantageous for studying flat objects such as wafers and thin sections.
- **With planapochromatic objectives**, the finest structures can be visualized with higher resolution. The sophisticated apochromatic correction allows these objectives to attain the highest color brilliance and fidelity.

Planachromatic and  
planapochromatic objectives



### **Achromatic objectives:**

#### **(Suggested for MS5, MZ6, MZ75, MZ95)**

Leica's 0.32×, 0.5×, 0.63×, 0.8×, 1×, 1.5×, 2× achromatic objectives offer diverse possibilities for varying field diameter, magnification range and working distances from (27 mm to 297 mm).

### **Planachromatic objective 1×**

#### **(Suggested for MS5, MZ6, MZ75, MZ95)**

To obtain good overall image quality, the stereomicroscope can be combined with the high-grade 1× planachromatic objective. This objective provides a flat, sharp image to the very edge of the field.

### **Planachromatic and planapochromatic objectives**

#### **(Suggested for MZ125, MZ16, MZ16 A)**

- The Leica MZ95 is supplied with an adapter ring for the achromatic objectives and the 1× planachromatic objective with 58 mm diameter. After removing the intermediate ring, the planachromatic and planapochromatic objectives for the MZ125 can be used.
- For the Leica MS5, MZ6 and MZ75, a spacer ring (10 446 172) also allows use of the planapochromatic objectives with M65 thread (see page 62).
- When using the planachromatic and planapochromatic objectives with M65 thread on the Leica MS5, MZ6, MZ75 and MZ95, the magnification is increased by 1.25× (see objective combinations on page 62).



### **Ergo objective**

#### **(Suggested for MS5, MZ6, MZ75, MZ95)**

With the 0.4×–0.63× achromatic Ergo objective it is possible to focus ergonomically and precisely with the objective instead of the focus drive. In the same respect, magnification and working distance can be changed without time consuming objective changes.

### **Objectives for the MZ125, MZ16 and MZ16 A**

#### **Planachromatic and planapochromatic objectives**

The high-magnification MZ125, MZ16 and MZ16 A are combined with planapochromatic objectives 1×, 0.63×, 1.6×, 2× or planachromatic objectives 1×, 0.8× and 0.5×.

#### **Achromatic objectives with long focal distance:**

For special applications, achromatic objectives with long working distances and focal lengths of  $f=100$  mm to 400 mm are available.

#### **Objective turret**

##### **(Suggested for MZ16, MZ16 A)**

The objective turret (or revolving nosepiece) carries a 1× and a 2× planapochromatic objective. In this way, a fast switchover can be made from high-resolution/low working distance to standard resolution/long working distance lenses. During switchover the object remains sharp (parfocal). The objective turret also serves as a microscope carrier.

Please note: When using the objective turret together with MS5, MZ6, MZ75, MZ95 or MZ125 large fields of view at low magnifications are not fully illuminated.

Objective turret with 2× and 1×  
planapochromatic objectives  
Order no. 10 447 107

# Eyepieces

## **Distortion-free wide-field eyepieces for eyeglass wearers,**

- Magnifications of 10×, 16×, 25× and 40×
- Work with or without eyeglasses
- Adjustable eyecups
- Diopter setting adjustable from +5 to –5
- Photo graticules for determining the image sections (also measuring graticules can be implemented)

The distortion-free, wide field eyepieces for eyeglass wearers (10×/21B) provide excellent imaging. Due to the distance of approximately 22 mm between the eyepiece and the exit pupil (in this position the user sees the optimum circular image field), it is possible to work with or without eyeglasses. If you work without eyeglasses and want contact with the eyepieces or eyecups, you can extend the eyecups from 4 mm to 20 mm.

## **Soft eyecups**

The wide-field eyepieces for eyeglass wearers 10×/21B (Order no. 10 447 160) are supplied with soft eyecups that can be attached to the integrated hard plastic eyecups. They protect your eyeglasses from becoming scratched and promote good hygiene when several users are working with the same instrument.

## **Widefield eyepieces 10×, low eye-point**

The exit pupil of the affordable wide field eyepieces 10×/21 (Order no. 10 447 159) is approximately 12 mm and is suitable for observation without eyeglasses. The soft eyecups, slanted at the sides, are easily attached. It is possible to adjust diopter settings from +5 to –5, and insert graticules.

Wide field eyepiece  
10×/21, eyecup,  
Wide field eyepieces for  
eyeglass wearers 10×/21,  
16×/14, 25×/9.5 and 40×/6





# Focus Drives

A choice of focus drives can be individually combined with each of the Leica MS5, MZ6, MZ75, MZ95, MZ125, MZ16 and MZ16 optics carriers.

## Focus drives for incident and transmitted light stands

- Focus drive, coarse, with 300 mm column, Order no. 10 445 615, and 500 mm column, Order no. 10 446 100.
- Focus drive, coarse/fine, with 300 mm column, Order no. 10 447 106, and 500 mm column, Order no. 10 447 185.

The focus drive permits focusing along the full length of the side-faced column. The focus drive and side-faced column come already assembled. The low-positioned, convenient bilateral drive knobs enable you to work comfortably with supported arms. Ease of movement can be

adjusted individually in accordance with the microscope load. The side-faced column with focus drive is available in two versions:

- With coarse drive, fast focusing is possible over greater distances
- The coaxial coarse/fine drive permits fine focusing.

To ensure accurate focusing at higher magnifications, the MZ95, MZ125, MZ16 and MZ16 A stereomicroscopes should only be used with the coarse/fine drive.

## Mountable focus arm for swing arm stand and OEM

The mountable focus arm is described on page 19 (Order no. 10 447 254). This item is also a focus drive.

## Leica motor focus system

- Motor focus system for incident light and transmitted light stands with 300 mm column (Order no. 10 446 176) and 500 mm (Order no. 10 447 041)
- Motor focus system with inclinable swing arm/table clamp stands, Order no. 10 447 258

The motor focus system enables any microscope to effortlessly move up and down with the turn of a remote hand wheel, the press of a foot pedal, or by means of computer control. Five focus positions can be stored and recalled with the hand control, and an unlimited number with the computer.



Motor focus system on the TL RC™ transmitted light stand

Coarse/fine focusing



# Microscope Carriers

## The requirements

Astereomicroscope with a logical modular concept brings real rewards. Only a stereomicroscope that allows the flexibility to provide tailor-made solutions for the diverse applications of today and tomorrow, and that can be adapted to many different tasks, workstations and users will prove economical in the long term.

The Leica MS5, MZ6, MZ75, MZ95, MZ125, MZ16 and MZ16A optics carriers fit onto the microscope carrier and are connected to the stand by the focus drive.

- The objective turret (Order no. 10 447 107) for the Leica MZ16 and MZ16 A also serves as the microscope carrier (see page 15)
- The mountable focus arm (Order no. 10 447 151) serves as a microscope carrier and a focus drive at the same time (see page 19)

### Microscope carriers for 3D observation

Order no. 10 447 422 for the Leica MS5, MZ6, MZ75, MZ95, MZ125

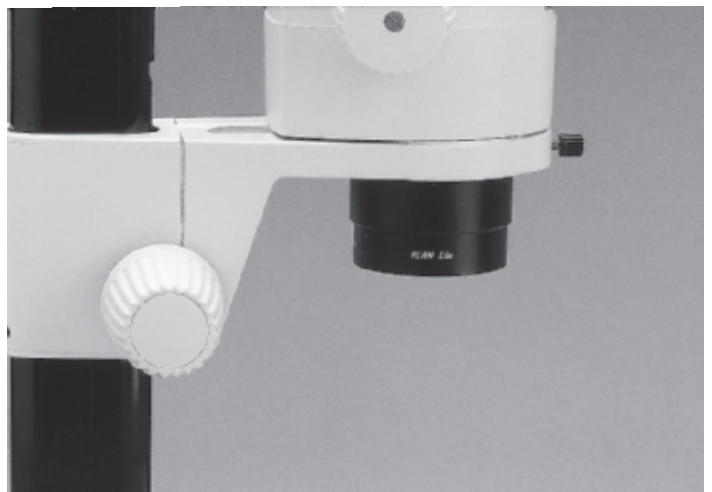
Order no. 10 447 425 for the Leica MZ16 and MZ16 A

The microscope carrier for stereoscopic observation can be secured in two different positions on the drive housing. The advantage: With its relatively short, side-faced column (300 mm), the outfit is compact, yet can still be used with all 0.5× to 2× objectives.

Optics carrier with microscope carrier mounted in the lower position, focus drive with side-faced column



Optics carrier with microscope carrier mounted in the upper position



The optics carrier, which fits into the microscope carrier, can be turned to the left and right if the user wants to view from the side. The optics carrier can also be quickly and easily removed from the yoke and fitted to another stand.

The microscope carrier provides a connection socket for an earthing cable  $\varnothing 4$  mm and side threaded bore holes for illuminator holders (or holder arms).

**Microscope carrier AX**

Microscope carrier, with selectable stereoscopic and axial image

- Order No. 10 447 062 for configurations with planachromatic, apochromatic (with adapter) and planapochromatic objectives (required for use with motor focus)

Users who intend to do 3D image stacking, a great deal of photography, take measurements or work with polarization should select the microscope carrier AX for stereoscopic/axial observation. The parallax-free imaging provided by the vertical beam path offers results without parallax error.

A built-in stray light diaphragm prevents disturbing reflections during axial observation with coaxial incident illumination and a quarter-wave plate.

**Mountable focus arm for OEM**

In this outfit, the microscope carrier and the focus drive form a single entity. The  $\varnothing 15.8$  mm (5/8") diameter peg enables the microscope to be fitted easily to machines, bonders and rigs. A tiltable joint aligns the optics carrier to the object being observed. Ease of movement of the focus drive is adjustable. The same mountable focus arm, inclinable, can also be used on the swing arm stands (page 22).



Focus drive, coarse/fine, for incident light and transmitted light stands with side-faced column. Optics carrier in the microscope carrier turned sideways

Microscope carrier for stereoscopic / axial observation



Axial observation switched on



Mountable focus arm for OEM and swing arm stands  
Order no. 10 447 254

# Incident Light Stands

## The requirements

It is important to arrange the stereomicroscope workstation in exact accordance with individual requirements. The stereomicroscope easily integrates into the work process if the sturdy stand offers unrestricted access to the object and adequate space for tools and jigs.

### Incident light stand, anti-static

The incident light stand consists of:

- Incident light base (Order no. 10 446 340)
- Focus drive, coarse (Order no. 10 445 615)
- Microscope carrier (Order no. 10 445 617)

The flat, anti-static incident light base occupies little space. This stand is suitable for the Leica MS5 and MZ6 and is fitted with a black/white stage plate  $\varnothing$  120 mm. This ergonomic base plate, with its beveled edge, provides comfortable support for the hands.

### Sub-base for transmitted light

Using the transmitted light sub-base (Order no. 10 446 341), the small incident light base (Order no. 10 446 340) can be affordably converted to observe transparent objects. For illumination, a cold light source with light guide is necessary. Using an adjustable mirror, the light can be guided at any angle from vertical to nearly horizontal through the object plane. Depending on the inclination of the mirror, certain object structures can be more easily visualized. For example, when observing translucent objects, such as foraminifera and fish eggs, pseudo-darkfield illumination is usually preferred.

Incident light stand, antistatic



Incident-light stand with sub-base for transmitted light





Large incident light base  
with Leica S6 D

### **Incident-light stand, large base, anti-static**

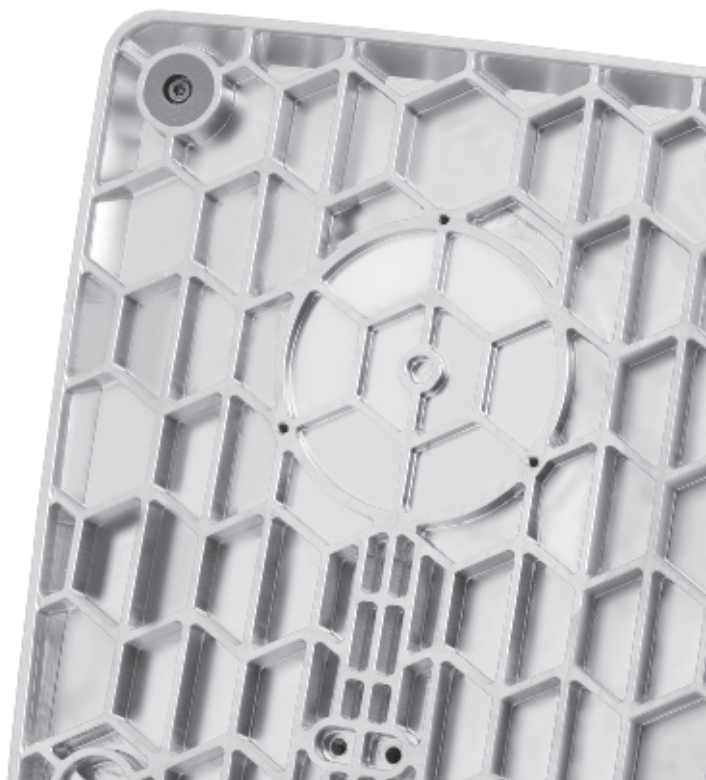
The incident light stand consists of:

- Incident light base (Order no. 10 447 342)
- Focus drive, fine (Order no. 10 447 106)
- Microscope carrier (Order no. 10 445 617)

With a footprint of 277×300 mm, the new, large incident light base offers plenty of room for working with various specimens. An ingenious honeycomb construction means that the base weighs less than 2 kg, but still remains highly resistant to torsion. This makes it easy to transport and, with a height of 24 mm, makes it extremely ergonomic despite the large specimen deposit surface.

All standard stages and adapters with  $\varnothing$  120 mm can be used on the large incident light base. The adapter 10 447 368 allows installation of the Leica IsoPro™ manual or automated cross-stage.

Honeycomb construction of the  
new, large incident light base



# Swing Arm Stands



Standard swing arm stand with Leica MS5 and inclinable focus drive (10 447 254), integrated microscope carrier

Swing arm stands offer ample room for large objects (rocks, metal castings, circuit boards) placed directly on the bench top. Various adjustments enable the work station to be arranged as required.

The optics carrier can be turned in either direction in the microscope carrier if a lateral working position is needed.

## ESD swing arm stand

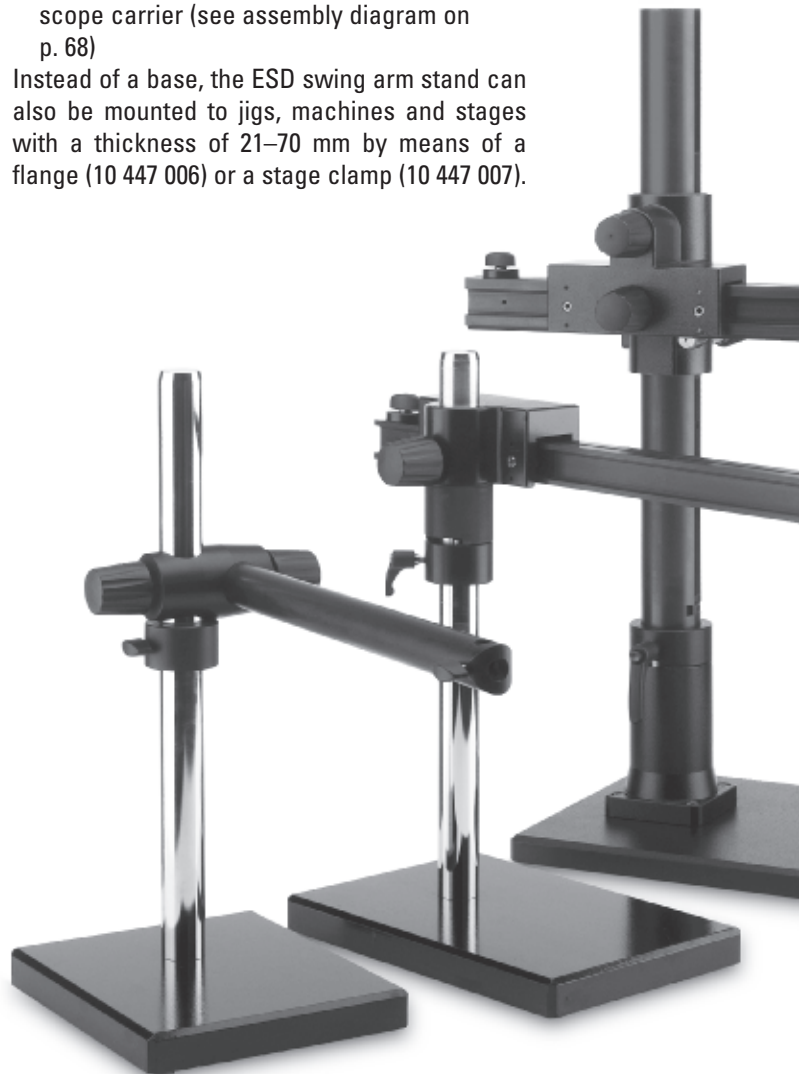
- Base with anti-static, durable coating, stainless, available in 2 sizes
- Vertical column 470/35 mm made of chrome-plated steel, stainless
- Swing arm and cross-member made of black anodized aluminum, stainless, grease-free run
- 5 different focus drives with plug  $\varnothing 15.8$  mm (5/8")
- Many and diverse options to mount the focus drives on the horizontal arm
- Easy-glide adjustment
- Tapered horizontal arm secures the stereo-microscope against inadvertent rotation
- Ergonomic control panels
- Stage clamp and flange available as options

The ESD swing arm stand offers protection against electrostatic discharge during assembly and the quality control of electronic components

such as printed circuit boards and integrated circuits. The stand consists of ESD discharging material and is fitted with two connection sockets for  $\varnothing 4$  mm earthing cables. This stable stand is suitable for the similarly anti-static Leica MS5, MZ6, MZ75 and MZ95. Order the following:

- Base, small (10 447 260) or medium (10 446 436)
- Vertical column 470/35 mm (10 447 008)
- ESD horizontal arm (10 447 097) with clamp and cross-member
- One focus drive of your choice and dependent upon focus drive used also a microscope carrier (see assembly diagram on p. 68)

Instead of a base, the ESD swing arm stand can also be mounted to jigs, machines and stages with a thickness of 21–70 mm by means of a flange (10 447 006) or a stage clamp (10 447 007).



Standard swing arm stand with Leica MS5 and focus drive, coarse/fine (10 447 257) with inclinable column, microscope carrier (10 447 425) and adapter for cold-light source Leica L2 (10 446 385)



#### Standard swing arm stands

- Easy-glide even adjustment of the horizontal arm due to ball bearing and lateral polyamide bearing
- Continuous adjustable braking resistance
- Limiting stop for reproducible stereomicroscope positioning
- Base with antistatic, durable coatings, stainless
- Vertical column 470/35 mm made of chrome-plated steel, stainless
- Swing arm and cross-member made of black anodized aluminum, stainless, grease-free
- 5 different focus drives with plug  $\varnothing 15.8$  mm (5/8")
- Many and diverse options to mount the focus drives on the horizontal arm
- Ergonomic control panels
- Stage clamp and flange available as options

The horizontal arm can easily and evenly be moved forward and backward by means of ball bearing and lateral polyamide bearing so that even frequent position changes are easily and precisely possible without exerting force. For this purpose, the braking resistance can be adjusted individually. The limiting stop can be used to determine a position on the horizontal arm to which it is always possible to return after a movement. The base is fitted with special dampening feet that significantly reduce the postoscillation of the system. This ensures that

ESD swing arm stand, standard and large

the image always remains steady for observation and photography, even if frequent vibrations should occur in the working environment.

Order the following:

- Base, medium (10 446 436)
- Vertical column 470/35 mm (10 447 008)
- Standard horizontal arm (10 447 098) with clamp and cross-member
- One focus drive of your choice and dependent upon focus drive used also a microscope carrier (see assembly diagram on p. 68)

Instead of a base, the standard swing arm stand can also be mounted to jigs, machines and stages by means of a flange (10 447 006) or a stage clamp (10 447 007).

#### Flex-arm

The flex-arm provides horizontal and vertical movement of up to 90 cm, enabling large objects such as circuit boards, works of art or large fossils to be examined. Ease of movement is individually adjustable. The flex-arm offers ample movement for dentistry, as the microscope can swing to and from the object. The adjustable balancing enables the stereomicroscope to be moved effortlessly up and down. Since the instrument can be secured at any given height, it can be moved in the horizontal plane without affecting the sharpness of focus. It can fit onto tables, walls and machines.

Order the following:

- Flexible arm (13 312 610)
- Focus drive, inclinable (10 447 254), microscope carrier integrated
- Stage mount, screw-on (13 312 611)
- Wall mount, screw-on (13 312 613)
- Stage clamp (13 312 614)

Flex-arm with focus drive, inclinable





Large swing arm stand with Leica MZ16, coarse/fine focus drive (10 447 257) with inclinable column and microscope carrier (10 447 425)

#### Large swing arm stand

- Easy-glide even adjustment of the horizontal arm due to ball bearing and lateral polyamide bearing
- Continuous adjustable braking resistance
- Limiting stop for reproducible stereomicroscope positioning
- Rack rail and crank for height positioning of heavy stereomicroscopes without exerting force
- Large, stable base with anti-static, durable coating
- Vertical column 800/57 or 500/57 mm made of chrome-plated steel
- Swing arm and cross-member made of black anodized aluminum, grease-free
- Freely positionable limits for lateral swing movement (up to 90°)
- 6 different focus drives, including motor focus with plug  $\varnothing$  15.8 mm (5/8")
- Many and diverse options to mount the focus drives on the horizontal arm
- Ergonomic control panels



Drive housing with coarse/fine drive, Order no. 10 447 082, on the universal stand

The large swing arm stand is perfect for handling heavy stereomicroscope equipment and offers the greatest operating comfort.

The ball-bearing horizontal arm moves very easily, the braking resistance is continuously adjustable. In addition to the adjustable stop on the horizontal arm for reproducible positioning, the stand column also features an adjustment for defining the lateral swinging angle of the horizontal arm. Using the rack rail and crank, even heavy equipment can be moved up and down without exerting force.

Order the following:

- Base, large (10 446 437)
- Vertical column 500/57 mm (10 447 230) or 800/57 mm (10 447 014)
- Horizontal arm, large (10 447 099) with cross-member
- One focus drive of your choice or the motor focus (10 447 258) and dependent upon focus drive used also a microscope carrier (see assembly diagram on p. 68)

#### Universal stand

The universal stand is characterized by exceptional stability. Vibrations which would create a disturbance during observation at high magnifications or in photography are eliminated with this stand. The baseplate readily accepts large objects and also magnetic stage carriers. The coarse/fine drive permits precise focusing at high magnifications and with heavy additional equipment. The same focus drive is also used on the discussion tube.

Dimensions of baseplate: 530 × 350 × 25 mm.

The stable, universal stand is suitable for all M-series models and heavy outfits. Order the following:

- Base plate with 450 mm column,  $\varnothing$  50 mm (Order no. 10 445 153) or 800 mm column,  $\varnothing$  50 mm (Order no. 10 445 154)
- Drive housing with coarse/fine drive for  $\varnothing$  50 mm columns (Order no. 10 445 629)

Choice of microscope carrier:

- Microscope carrier (Order no. 10 447 422 or 10 447 425)
- Microscope carrier AX (Order no. 10 447 062)



# Transmitted Light Stands

## The requirements

For observing transparent objects under the stereomicroscope, a transmitted light stand is ideal. Even low contrast objects can be sharply reproduced in true color. The ability to observe double-refracting materials and thin sections in transmitted polarized light is also important.

TL RCI™ (10 446 352) transmitted light stand with Leica IsoPro™ (10 446 353) manual cross-stage and heating stage (10 447 275)

### **Transmitted light**

is used for inspecting transparent objects such as fibers, embryos, and small fish, and also specially prepared and stained objects such as thin cuts, smears and sections. The following illumination techniques are possible with Leica stereomicroscopes:

### **Transmitted light, brightfield**

is suitable for transparent objects with contrasting structures. The object is directly illuminated from below and is seen in its natural colors against a bright background.

### **Transmitted light, darkfield**

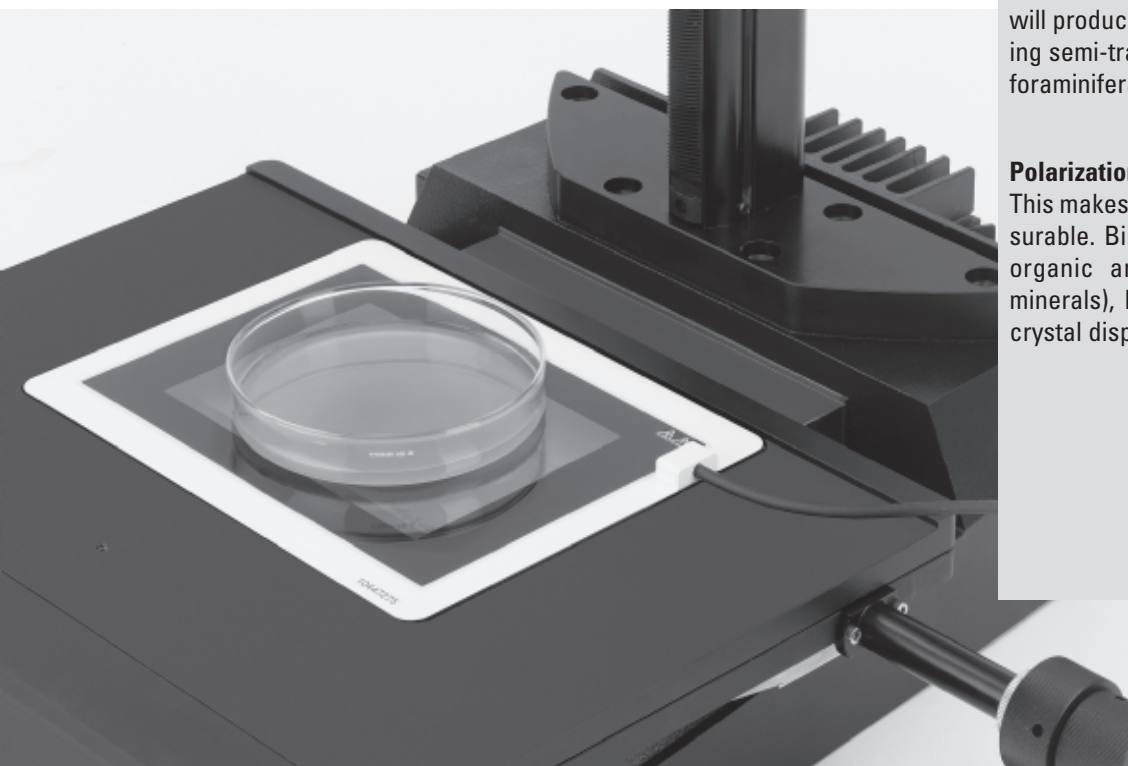
provides more information for weakly contrasting objects with structures which are either poorly defined or very fine. In this case, the light beams penetrate the object at a flat angle. Finely detailed structures and contours contrast brilliantly and brightly on a dark background.

### **Oblique transmitted light**

traverses the object at a shallow angle, and will produce effects advantageous for observing semi-transparent, opaque objects such as foraminifera and fish eggs.

### **Polarization, transmitted light**

This makes double-refraction visible and measurable. Birefringent materials such as many organic and inorganic crystals (including minerals), bones, polymers, glass and liquid-crystal displays, can be studied.



Four stable transmitted light stands are available for all the models in the M series and for heavy outfits. For each stand, you need one of the three stages (standard stage, Leica IsoPro™ manual cross-stage and Leica IsoPro™ motorized cross-stage). Individually configure your own transmitted light outfit. Order the following:

**Choice of base**

- Transmitted light base TL ST (10 446 350)
- Transmitted light base TL BDF (10 443 351)
- Transmitted light base TL RC™ (10 447 390)
- Transmitted light base TL RCI™ (10 446 352)

**Choice of stages:**

- Standard stage (10 447 269)
- IsoPro™ manual cross-stage (10 446 353)
- IsoPro™ motorized cross-stage (10 447 305)

**Choice of focus drive:**

- Focus drive, coarse, with 300 mm column (Order no. 10 445 615) or 500 mm column (Order no. 10 446 100)
- Focus drive, coarse/fine, with 300 mm column (Order no. 10 447 106) or 500 mm column (Order no. 10 447 185 )
- Motor focus system with 300 mm column (Order no. 10 446 176) or 500 mm (Order no. 10 447 041)

**Choice of microscope carrier:**

- Microscope carrier (Order no. 10 447 422 or 10 447 423)
- Microscope carrier AX (Order no. 10 447 062)

**TL ST transmitted light stand**

- Bright field or single-sided dark field
- Uniformly illuminated object field, Ø50 mm
- 12V/20-watt halogen lamp (output same as a conventional 35-watt lamp)
- Stand remains cool
- Large work surface with glass stage plate
- Comfortable handrest
- High stability and exceptional vibration-dampening properties

This is the stand of choice for observations and photomicrography in bright and darkfield. The switchover between the two illuminating techniques only takes a moment with the lever. The automatic adjustment of the path-folding mirror keeps illumination over the entire illuminated area uniform at all times with Ø50 mm. The illuminator is a 12V/20-watt halogen lamp that features identical performance to a 35-watt lamp with minimal heating of the base.

**TL BDF transmitted light stand**

- Fixed mirror, quick changeover between bright field and dark field
- Uniformly illuminated object field, Ø40 mm
- Regulation of illumination with external cold light source and fiber optic/liquid light guide
- High stability and exceptional vibration-dampening properties
- Standard stage, choice of either manual or automated Leica IsoPro™ cross-stage

Due to the smooth changeover between bright field and dark field, the Leica BDF is suitable for a broad spectrum of work specimens: stained, high-contrast amplitude specimens are usually examined in bright field, while the dark field adjustment is primarily useful for semitransparent specimens such as foraminifera.



TL ST transmitted light stand (10 446 350)



MZ12s with transmitted light stand TL ST (10 446 350)

### TL RC™ transmitted light stand

- Bright field, single-sided dark field and oblique light Relief Contrast system (RC™) with positive and negative relief contrast imaging
- Uniformly illuminated object field, Ø35 mm
- Contrast increase via the complete object field without relief display
- Positive or inverted relief presentation
- Flexible adjustment of the light gap in the dynamic relief contrast across the entire object field
- 360° rotating mirror with concave side for objectives with high numeric aperture
- Relief contrast across a large zoom range
- Regulation of illumination with external cold light source and fiber optic/liquid light guide

The high-performance TL RC™ transmitted light base meets the most demanding requirements for observation and documentation. The innovative Rottermann Contrast™ from Leica Microsystems is a technology for contrast-rich presentation of transparent samples that are hardly visible in direct transmitted light bright field. The TL RC™ transmitted light base provides the option of observing phase specimens without artificial dye in impressive relief contrast. The Rottermann Contrast™ technology is a partial illumination technique that represents

changes of the refractive index as brightness variance. Phase structures then typically act as spatial, relief-type images – in the positive relief contrast like hills, in the inverted relief contrast like recesses. The two built-in diaphragms that create the relief effect can be set individually from open to closed. In addition, fine-tilting the path-folding mirror using the rotary knob on the left side of the base allows for regulating the relief effect from weak to strong. This results in a multitude of variants to obtain the maximum possible amount of information from every object.

### TL RCI™ transmitted light stand

- Bright field, single-sided dark field and oblique lighting Relief Contrast systems (RC™) with positive and negative relief contrast imaging
- Uniformly illuminated object field, Ø35 mm
- Contrast increase via the complete object field without relief display
- Positive or inverted relief presentation
- Flexible adjustment of the light gap in the dynamic relief contrast across the entire object field
- 360° rotating mirror with concave side for objectives with high numeric aperture
- Relief contrast across a large zoom range
- 12V/20-watt halogen lamp (same output as conventional 35-watt lamp)

The high-performance TL RCI™ transmitted light base is based on the same technology as the TL RC™. The illumination is provided by an integrated high-output halogen lamp with long service life, which, due to its low power consumption, ensures minimal heating of the base, thus protecting temperature-sensitive specimens. The CCIC shutter allows the illumination of the specimens to be controlled with great precision. CCIC is a brightness control technology that maintains a constant color temperature at all times. Using the built-in USB connection, the TL RCI™ can be ideally coupled to a PC and the LAS (Leica Application Suite) software. Therefore, in conjunction with the Leica IsoPro™ automated cross-stage, it is perfectly suited to recurring procedures in industry and the life sciences.

TL RCI™ transmitted  
light stand (10 446 352)  
With automated cross-stage  
Leica IsoPro™ (10 447 305)



# Stages & Adapters

For the TL BFD<sup>TM</sup>, TL RC<sup>TM</sup> and TL RCi<sup>TM</sup> transmitted light bases, the stage must be ordered separately. The following stages are available:

- Standard stage
- Leica IsoPro<sup>TM</sup> manual cross-stage
- Leica IsoPro<sup>TM</sup> motorized cross-stage

With an adapter, the two cross-stages can also be operated on the large incident light base. All three stages are equipped with a 170×220 mm glass insert, for which many new stage plates are available. If the incident-light stage needs to be changed, this takes just a few hand movements thanks to the SlideOn<sup>TM</sup> technology.

## Standard stage

With lots of room for working with multiple specimens and the new stage inserts, the standard stage is an affordable introduction to the world of Leica stereomicroscope transmitted light bases.

## Leica IsoPro<sup>TM</sup> manual cross-stage

- Very high mechanical accuracy
- IsoPro<sup>TM</sup> technology for constant focusing plane
- Control elements can be installed on both sides

The manual Leica IsoPro<sup>TM</sup> is the first cross-stage specially made for stereo microscopes. The control elements, which can be mounted on both sides, allow you to pass over specimens quickly, with an accuracy of 2 µm – a precision that would be impossible to attain by hand.

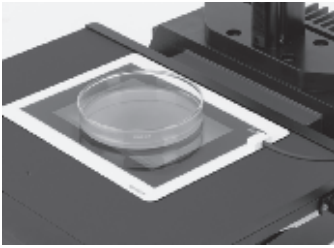
## Leica IsoPro<sup>TM</sup> automated cross-stage

- Repeatability: 2 µm
- Travel path: 150 × 100 mm
- Speed: 30 mm/s
- Motor resolution: 0.25 µm
- Slack-free
- IsoPro<sup>TM</sup> technology for constant focusing plane
- Control options with Leica PSC, Leica Smart Move and Leica LAS via PC

The new automated Leica IsoPro<sup>TM</sup> cross-stage makes working with recurring processes in industry and the life sciences easy and efficient. The Leica PSC (Precision Stage Controller) guides the user through the specimen to be checked using the coarse and fine control. The triggered points can be programmed using the Leica Application Suite, then called up automatically.



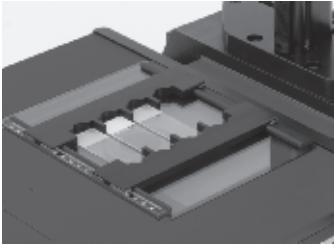
TL RCi<sup>TM</sup> transmitted light stand (10 446 352)  
with manual cross-stage  
Leica IsoPro<sup>TM</sup> (10 446 353)



Leica MATS thermal stage (10 447 275)

### Leica MATS thermal stage

Leica MATS is the most efficient solution for protecting and maintaining living cells during microscopic observation. The low tolerance of 0.2° Celsius between stage and specimen allows meaningful experiments with temperature-dependent specimens.



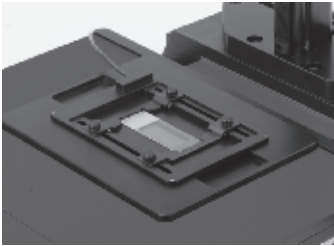
4x glass slide (10 447 392)

### 4x glass slide

In combination with the cross-stage, this adapter is the ideal equipment configuration for comparative analysis of up to four specimens on glass slides.

### Live on Stage

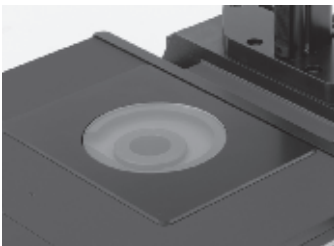
The integration of the Live on Stage product line (with incubation systems, pH value control, cell cultivation systems and many others) for inverted Leica light microscopes gives your stereomicroscope all of the capabilities you need for the most demanding life science tasks.



Live on Stage (10 447 391)

### Adapter for 120 mm insert

The adapter for inserts with 120 mm diameter gives you the ability to use accessories such as the gliding stage, cup stage or polarization stages (see assembly diagram in the technical data).



Adapter for 120 mm inserts  
(10 447 276)

### Leica ErgoRest™

The Leica ErgoRest™ armrest allows precision, fatigue-free work at the stereomicroscope. It has two ratchet steps on the base that support the arm while focusing or working on the Petri dish.

### Footswitch

The new, potentiometer-controlled footswitch has a CAN bus connection. This allows the two rockers to be used for any functions desired, such as motor focus, zoom control or filter changer (such as the Leica MZ16 FA).

### Leica CLS150 LS cold light source

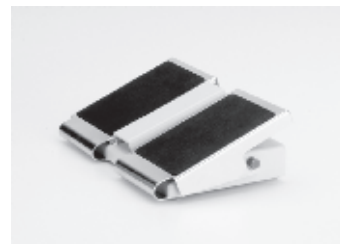
The CLS150 LS has been specially adapted for automated control of the new TL RCI™ transmitted light base via the LAS (Leica Application Suite) software. Through the serial interface, brightness, color temperature and the electronic shutter can be controlled using a PC or Leica UMC.

### Micromanipulation

Applications such as ICSI (intracellular sperm injection), IVF (in vitro fertilization) or electrophysiological experiments can be used in stereomicroscopy with the adapter for micromanipulation accessories.



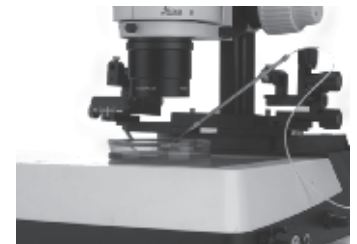
Leica ErgoRest™ (10 447 431)



Footswitch (10 447 398)



Leica CLS150 LS cold light source  
(30 110 481)



Micromanipulation

# Illuminators

## The requirements

Correct illumination is the key to informative investigation and inspection. The better the object is illuminated, the more details become visible, and the more reliable the inspection and photographic documentation are.

### **Inclined incident light, darkfield**

When contoured objects are illuminated with oblique incident light, the rays of light fall on the object from above at an angle to bring out details (steep to shallow). This type of lighting softens dark shadows. This lighting technique can be accomplished by using gooseneck fiber optics or a ring lamp.

### **Coaxial incident light, brightfield**

is used to reveal the structures of flat, highly-reflecting objects such as wafers, integrated circuits, liquid crystal displays and metal sections by using interference colors. Using this method of illumination, the light rays are polarized, then reflected directly into the two observation beam paths of the stereomicroscope. The light beams shine through the objective onto the reflecting surface of the object and are reflected back into the objective at a similar angle through the use of a quarter-wave plate. Amazing detail can be seen.

### **Vertical incident light**

is projected at 5° off of the optical axis so that the light penetrates recesses and enables boreholes and cavities to be observed. Disturbing shadows which may be caused by tools on the stage are avoided during work.

### **Fluorescence**

When irradiated with short-wave light, fluorescent substances emit light of a higher wavelength. Stereo fluorescence is an observational technique for research (molecular cell biology, biochemistry, molecular pharmacology, biology) and for the metalworking, electronics and paper industries, as well as in criminology.





Leica LED1000

### Fiber optic light guides

Fiber optic illuminators are available. Flexible gooseneck guides can be clamped onto the microscope carrier.

### Leica LED illumination

- Color temperature 5000 K (daylight!)
- Free of ripple and flicker
- Long life
- Quiet, vibration-free operation
- Extremely compact design
- Battery operation possible
- Modular concept allows for a combination of ring illuminator and spotlight



Leica L2 cold-light source  
Order no. 10 446 385

Leica LED1000 (Laser Emitting Diode) illumination is available with a ring lamp and/or spot and is suitable for routine tasks with the Leica MS5, MZ6, MZ75, MZ95 stereomicroscopes. LEDs, which do not generate any heat, are used as illuminators.

### Fluorescent illumination

The fluorescent ring light offers a homogenous illuminated area in daylight quality. With its anti-static properties, the housing is also suitable for ESD workstations.

- Color temperature 5500 K
- Illuminated area  $\varnothing$  55 mm
- 360° shadow-free, homogenous illuminated area
- Free of ripple and flicker
- Noiseless, vibration-free operation
- Long life
- ESD protective grating



Fluorescent illumination  
Order no. 30 310 001

### The Leica CLS cold light sources

The Leica CLS cold light sources provide the strongest light intensity within the smallest space and flicker-free white light with a minimum heat influence on the specimens.

- Different models for 30-W, 100-W, 150-W halogen reflector lamps
- Maximum light intensity at fiber-optics output  $\varnothing$  6 mm depending upon model 5 Mlx, 8 Mlx, 17 Mlx or 19 Mlx
- Maximum bulb service life
- Unlimited combination possibilities of light sources and fiber-optic light guides
- Brightness control (potentiometer) with/without change of color temperature
- Thermal overload protection, axial fan
- Meets all safety-relevant standards
- ESD design

When combining the light sources with gooseneck guides, we also recommend the base (30 117 209). It increases the stability when adjusting the fiber-optic light guides.

When using the ring lamp ( $\varnothing$  66 mm) on the planachromatic objective 0.8x ( $\varnothing$  80 mm), a special adapter (10 447 078) is required.



Leica LED1000, ring illuminator and spotlight



### Leica L2 – compact, modular cold-light source

- Highest total light flux of 63 lumens at the fiber optic light guide
- No 100Hz flicker, no scattered light, constant color temperature 3200 °K
- Smallest (125 mm×110 mm×150 mm) and lightest (0.5 kg) cold light source
- The only cold light source that can be coupled directly to the stereomicroscope. Thus the complete outfit requires minimal space, and the illumination remains constant when the stereomicroscope is moved
- The only cold light source with volt-sensitive supply unit, which assures a stable light output and automatic adjustment to the respective mains voltage of 100 V–240 V
- Anti-static housing
- Long lamp service life of 250 hours, simple lamp change without using tool
- Noiseless, vibration-free operation
- Diverse fiber optic light guides with protective (self-extinguishing Megolon®) coating
- Accessories for coaxial, vertical, and transmitted light illumination

The Leica L2 cold light source is suitable for all applications in industry and life science. The respective accessories are also available for coaxial, vertical and transmitted light illumination techniques. The Leica L2 offers higher performance at a lower price than other cold light sources in the 20 W class.

### Coaxial incident illuminator

With coaxial illumination, flat, reflecting object surfaces become visible. The M-series coaxial illuminator has a magnification factor of 1.5×. Order the intermediate ring (10 446 300) for the MZ75, MZ95 with the 1× planachromatic objective; the largest object fields are then fully illuminated.

Also order a fiber optic light guide (ferrule diameter of 13 mm) and a cold light source.

### Near vertical illuminator

The near vertical illuminator is used with interchangeable objectives of focal lengths 100 mm, 150 mm, 175 mm or 200 mm. The f=200 mm objective fully illuminates a 66mm field of view. The incidence angle of this system is approximately 5°. Please order the appropriate intermediate rings (see page 62), a light guide (active  $\varnothing=5$  mm, end tube  $\varnothing=13$  mm) and a cold light source, to match the instrument.

## Fluorescence

### Leica stereofluorescence module

- For three-dimensional observation of living organisms
- Intensive incident illumination
- Differentiation of the finest structures
- Choice of special filter sets, e.g. for GFP
- UV light user protection

The powerful fluorescence module enables whole, fluorescing specimens to be viewed three-dimensionally, manipulated, sorted and recorded. The intense light produced by the mercury lamp, together with appropriate filter sets, enables even the finest structures, such as individual nerve cells, hairs, cracks, blemishes, inclusions or dirt particles, to be imaged.

### Note:

UV radiation could damage the eyes. To protect the eyes of the observer, please order the UV protection screen (10 446 154), the arm (10 399 211) and the clamp (10 445 654).

### Only from Leica

Discover the best fluorescence stereomicroscopes of the world: the first motorized, automated, fully apochromatic Leica MZ16 FA (brochure M1-116-5) and the powerful, fully apochromatic Leica MZ16 F with 16:1 zoom (brochure M1-116-8).



Coaxial incident illuminator  
Order no. 10 446 180



Near vertical illuminator  
Order no. 10 445 198



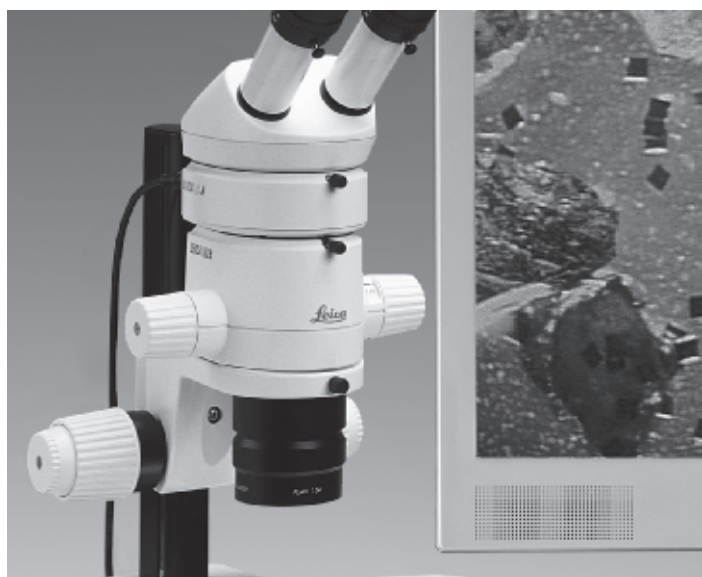
Stereo fluorescence module

# Integrated Cameras

## The requirements

Those who are using their stereomicroscopes for demanding control and examination tasks, would also like to document the observed objects – as a working document, as evidence material, as illustration for publication and on the Internet or for training purposes. For this reason, an optical precision instrument with high benefits must always allow for state-of-the-art documentation types, such as digital imaging, photography, video and film without complicated special adjustments.

The modular accessory program for digital imaging, video and photography from Leica Microsystems fulfills all individual documentation desires of the professional microscopy. You can combine your tailor-made documentation system or discuss your requirements with your Leica consultant.



Leica IC A  
Integrated video  
module

## Leica IC A integrated video module

The Leica IC A (Integrated Camera-Analog) is an integrated analog camera with automatic digital control of the high-end class. The video module is attached directly underneath the binocular tube without any additional video/phototube and is protected against dust. Detailed information in brochure M1-393-1.

## Functions

The Leica IC A video module permits simple, affordable, fast, environment-friendly, and high-quality picture production on video printers and recording of moving pictures on the video recorder. Directly coupled to a PC, photos can be processed immediately, stored or subsequently used for direct transmission.

## Automatic digital control

The automatic digital control of the camera ensures reproduction quality and reliability for many years of use. The coupling to the beam path of the stereomicroscope ensures the best image quality right up to the edge of the monitor and a reflection-free image in the binocular tube. The image sharpness on the monitor and in the eyepieces is identical. The center of the image also remains fixed when the magnification is changed.

## Basic settings

The video module is optimally adjusted for microscopy purposes with regard to sharpness, brightness and color. The user can work with the factory settings or control the brightness and contrast of the entire image (integrated) or a certain section (spot) and save/call up the changed settings.

### FireWire Leica IC D color camera system

- Fast data transfer with standard FireWire
- Live image for fast focusing and positioning
- 3.3 megapixel CCD with Bayer Array RGB filter
- Resolution of 2088 × 1550 pixels, interpolated up to 7.3 megapixel = 3132 × 2325 pixels
- Exposure time between 230 μs and 30 s
- Color depth up to 36 bit RGB
- Connection to all stereomicroscopes of the M-series
- Intuitive user interface with practical functions for image recording and editing

The digital FireWire Leica IC D color camera provides the user with a powerful, ergonomic, cost-efficient and compact solution for professional image recording, archiving, analysis, editing, presentation or printing. The supplied Leica DFC Twain camera software allows for an efficient recording and editing of the data. The camera operates fully automatically. In addition, manual image optimization is possible with a few clicks of the mouse.

### Ergonomic design

The camera housing sits protected against dust between binocular tube and optics carrier of the Leica M stereomicroscopes without additional video/phototube and can be combined with the ErgoTubes® or ErgoModules® from the Leica ergonomics program. The Leica IC D is easy to install via a single FireWire connecting cable and can be connected to any PC or Macintosh with a monitor.

### Digitizing on the CCD chip

The 3.3-megapixel RGB sensor provides a resolution of 2088 × 1550 pixels (interpolated up to 7.3 megapixel = 3132 × 2325 pixels). The light sensitivity of the CCD sensor can be adjusted via gain control to obtain a maximum signal quality prior to digitizing.

The brightness signals impinging on the CCD chip are digitized directly at the camera head with a resolution of 12 bits per color channel. This technology allows for a fast baud rate without loss of information or quality and generates a noise-free, sharp and true-color live image on the monitor. In addition, the innovative true-color calibration from Leica Microsystems ensures natural color reproduction and excellent image quality.

For a detailed description of the Leica IC D, see the brochure M1-393-4



Leica IC D, integrated in the Leica MS5 stereomicroscope



FireWire Leica IC D color camera (12 730 054)



Connection via a single FireWire cable

# Video/Phototubes



Video/phototube A  
Order no. 10 445 925



Trinocular video/phototube  
Order no. 10 445 924 50  
Order no. 10 446 229 100

Video/phototubes are used adapting a Leica digital camera, an MPS system or various commercially available digital or analog SLR cameras.

## Trinocular or monocular attachment

The use of trinocular video/phototubes allows the user to stereoscopically observe the object in the binocular tube. In the video/photo beam path the light is directed, depending on the part-system, via the video/photo interface to the camera.

With the monocular attachment using phototube A, the object and sharpness can only be observed on the monitor or in the viewfinder/focusing telescope on the camera, depending on the documentation outfit.

## Video/phototube A

The monocular phototube A is suitable for users who observe the object on the monitor or seldom take photographs, whereby they observe the object in the viewfinder or focusing telescope of the camera. In the photo interface there is 100% light available.

## Trinocular video/phototubes

The trinocular video/phototube is an observation and video/phototube all in one. Thanks to the low viewing height and deep position of the eyepiece this tube offers comfortable viewing for high outfits with accessories such as transmitted light stand, coaxial illumination or fluorescence module. The center of gravity of the camera is above the right beam path, thus ensuring high stability.

The trinocular video/phototube is available in two versions with differing part-systems.

- **Trinocular video/phototube 50% with fixed part-system:** in the video/photo beam path 50% of the light is directed to the camera, whereby the object is observed stereoscopically with 50% light and can be treated. While taking the photo, a selectable diaphragm prevents foreign light from shining through the eyepieces.
- **Trinocular video/phototube 100%** for poor light conditions: A switchover is possible between the observation and the video/photo beam path. When the observation beam path is switched on, 100% light is directed to each of the eyepieces. In the video/photo beam path 100% light is directed into both the camera and the left eyepiece.

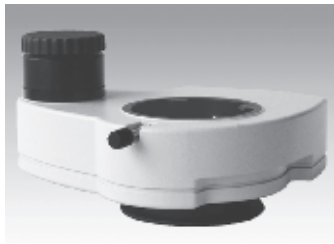
## Trinocular tube, ultra-low

The ultra-low trinocular tube is specifically suited for high equipment since the viewing height is lowered by approx. 78 mm and the viewing angle is 28°. The tube factor is 1.25x and provides an additional magnification for the user.

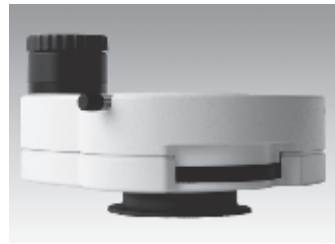
Switching between 100% visual stereoscopic and photo position 100% at 100% observation in the left eyepiece.



Trinocular tube, ultra-low  
Order no. 10 446 310



Video/phototube HD-F, vis 50% / 50% / photo 50%  
Order no. 10 446 308



Video/phototube HD V, selectable vis 50% / 50% / photo 50%; Vis 100% in the right eyepiece / photo 100%; Vis 100%,  
Order no. 10 447 309



Video/phototube HD V, selectable

### Video/phototubes HD F & HD V

The video/phototubes HD F and HD V are optimized for the adaptation of state-of-the-art digital cameras to obtain perfect results for image processing. The video/phototubes can be combined with the binocular tubes and the ErgoModules™ from the Leica ergonomics program. A range of high-quality video objectives with different self-magnifications and C-mount allows for the selection of different cameras.

**Note:** The video objective 0.32× is shorter. For large cameras, please use the low inclined binocular tube (10 429 781) on the video/phototubes HD F and HD V.

**The HD V** allows for selecting three different distribution ratios:

- 50% light at all outputs, i.e. 50% light for stereoscopic observation and recording at 50% light.
- 100% light in the right eyepiece for monitoring the object and 100% light in the camera to have the maximum light for the recording under extremely poor light conditions, such as for finest fluorescence signals.
- Three-dimensional observation with 100% light in the binocular tube.

**For the HD F**, the distribution ratio is fixed and measures 50% in the binocular tube and 50% in the photo beam path. This allows the user to conduct three-dimensional observations of the samples in the binocular tube, manipulate and edit them and simultaneously project the image live on the monitor. Since the sensors of state-of-the-art cameras are highly sensitive, the exposure time for most applications is short in spite of lower light intensity.

### Video/phototube HD-50

The two side interfaces on the video/phototube HD-50 can be used simultaneously for photography and video. A switchover is possible between the observation and the video/photo beam path. When the video/photo beam path is switched on, 50% light is available in the right interface for the modern, highly sensitive video modules. 100% light in the left interface also allows photography or video during critical light conditions.

While taking the picture, the object can be monitored with the right eye at 50%. Depending on the outfit, the user can select the most ergonomic of 4 binocular tubes as well as an ErgoWedge® and mount a double-iris diaphragm.

### Filter-slide housing

The filter-slide housing is installed in the beam path of the stereomicroscope and accommodates 2 color compensation filters or fluorescence barrier filters.

### Double-iris diaphragm

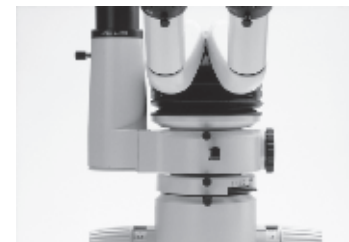
If you want to individually regulate the depth of field, we offer the double-iris diaphragm (10 445 927) for all M-series microscopes. The MZ16, MZ16 A and MZ16 F/FA already have a built-in double-iris diaphragm.



Video/phototube HD V with 0.63× video objective and Leica digital camera



Video/phototube HD-50  
Order no. 10 446 197



Video/phototube HD with-50 video/photo objective H and double-iris diaphragm  
Order no. 10 445 927



Video/phototube HD-50 with video/photo objective H and filter-slide housing  
Order no. 10 447 158

# Video/Phototubes

Feature	Trinocular video-/phototube 50%	Trinocular video-/phototube 100%	Trinocular tube ultra-low	Video-/phototube HD-50	Video-/phototube HD-F	Video-/phototube HD-V	Video-/phototube A
Use	Universal for photography, video, digital imaging	Universal for photography, video, digital imaging	Universal for photography, video, TV, film	Universal for photography, video, digital imaging	Universal for photography, video, TV, film	Universal for photography, video, TV, film	Universal for photography, video, digital imaging
Special features	Reduces the height	directs 100% of light into the camera, for poorly illuminated objects	Reduces the height for high equipment, factor 1.25x	Simultaneous photography and video transmission	Simultaneous photography and video transmission, fixed partial system	3 selectable distribution ratios	Competitively-priced, for non-stereoscopic observation on the monitor
Design	Trinocular	Trinocular	Trinocular	Trinocular	Trinocular	Trinocular	Monocular
Observation	50% stereoscopic observation	100% stereoscopic observation, switchable to video/photo	100% stereoscopic observation	50% stereoscopic observation / 50% in right and left video/photo beam path, switchable to video/photo	50% stereoscopic observation	– 100% stereoscopic observation – 50% stereoscopic observation – 50% in the video/photo beam path	None stereoscopic observation
Light distribution for photography/video	– 50% visual stereoscopic – 50% in video/photo path	– 100% visual in one eyepiece – 100% in video/photo path	– 100% in the video/photo beam path – 100% visual in the left eyepiece	– 50% visual in the right eyepiece – 50% in the right video path – 100% in left video/photo beam path	– 50% in the video/photo path	– 100% visual in the right eyepiece – 100% in the video/photo path	– 100% in the video/photo path
Double-iris diaphragm	purchase separately	purchase separately	purchase separately	purchase separately	purchase separately	purchase separately	purchase separately
Leica micro-photo systems	– Leica MPS30 – Leica MPS60	– Leica MPS30 – Leica MPS60	– Leica MPS30 – Leica MPS60	– Leica MPS30 – Leica MPS60	– Leica MPS30 – Leica MPS60	– Leica MPS30 – Leica MPS60	– Leica MPS60
Supported SLR cameras	– various state-of-the-art camera housings, analog and digital	– various state-of-the-art camera housings, analog and digital	– various state-of-the-art camera housings, analog and digital	– various state-of-the-art camera housings, analog and digital	– various state-of-the-art camera housings, analog and digital	– various state-of-the-art camera housings, analog and digital	– various state-of-the-art camera housings, analog and digital
Usable video systems	– 3-chip video modules, 1/2" and 2/3" with B-mount – 1/3", 1/2", 2/3", 3/4" and 1" video modules with C-mount	– 3-chip video modules, 1/2" and 2/3" with B-mount – 1/3", 1/2", 2/3", 3/4" and 1" video modules with C-mount	– 3-chip video modules 1/2" and 2/3" with B-mount; – 1/3", 1/2", 2/3", 3/4" and 1" video modules with C-mount	– 3-chip video modules, 1/2" and 2/3" with B-mount; – 1/3", 1/2", 2/3", 3/4" and 1" video modules with C-mount	– 3-chip video modules, 1/2" and 2/3" with B-mount; – 1/3", 1/2", 2/3", 3/4" and 1" video modules with C-mount	– 3-chip video modules, 1/2" and 2/3" with B-mount – 1/3", 1/2", 2/3", 3/4" and 1" video modules with C-mount	– 3-chip video modules, 1/2" and 2/3" with B-mount – 1/3", 1/2", 2/3", 3/4" and 1" video modules with C-mount
Digital image recording systems	– Leica DFC camera line	– Leica DFC camera line	– Leica DFC camera line	– Leica DFC camera line	– Leica DFC camera line	– Leica DFC camera line	– Leica DFC camera line

# Accessories for Video, Digital and SLR Cameras



Video objectives with C-mount for CCD cameras: 0.32× for 1/3" and 0.5× for 1/2", additional video objectives: 0.63× and 0.8×

## Video objectives

Video objectives with C-mount:

- 0.32× for 1/3" CCD cameras (Order no. 10 445 928)
- 0.5× for 1/2" CCD cameras (Order no. 10 445 929)
- 0.63× for 2/3" CCD cameras (Order no. 10 447 367)
- 0.8× (Order no. 10 446 307)

## Vario TV adapter

As an alternative to the TV adapters with a fixed magnification a Vario TV adapter with a zoom range of 0.55 to 1.1× (Order no. 11 541 038) is available. Depending on the TV camera used, a C-Mount adapter (preferably for 1/2" and 3/4" TV cameras) or B-Mount adapter for 3-chip cameras, 1/2" and 2/3", are additionally required.



SLR projective 2.5×, with camera adapter, for using single-lens reflex cameras on video/phototubes (shown with trinocular tube with video/projection lens 1×) Order no. 10 445 930 and SLR adapter (photo projective 2.5× 10 446 175), T2 required depending on the camera

## Assembly with 2.5× photo projective

The 2.5× photo projective with T2-mount allows the adaptation of SLR 35-mm camera housings (analog or digital) without additional photo eyepiece and without complicated special adaptations on Leica stereomicroscopes with video/phototube. Please order a suitable camera adapter (T-mount).

## Single-lens reflex camera attachment with photo eyepiece

This attachment with the differing photo eyepieces 8×, 10× or 16× permits varying the section and magnifications. The outfit for attaching to any single-lens reflex camera consists of:

- Video/phototube of your choice
- Eyepiece tubes (Order no. 10 445 932)
- Photo eyepiece 8×, 10× or 16× (Order no. 10 446 120, 10 445 304, 10 445 305)
- Adapter 40 mm (Order no. 10 404 207)
- Connecting sleeve (Order no. 10 162 226)
- Camera objective 0.32× (Order no. 10 445 541)
- Matching camera adapter for diverse single-lens reflex cameras

# Digital Image Recording Systems

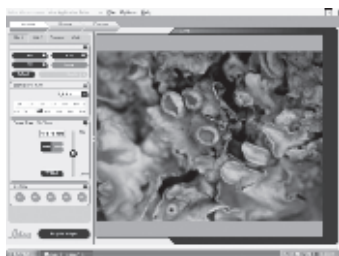


Image Viewer Camera Control

Leica stereomicroscopes meet the best requirements for professional image recording and analysis. From stereomicroscope to digital camera, including image management and analysis software, Leica Microsystems offers customer-specific complete solutions for professional image acquisition, archiving, analysis, processing, presentation or print.

Our product range goes from standard camera for universal use up to high-end camera for PC and Mac and is perfectly suited for all microscopic procedures. In addition to comfortable operation of the camera, the control program also allows for processing, analysis and archiving digital images. The user interface with live image offers high user comfort and allows for intuitive, trouble-free control of all camera functions.

The components for the assembly of the Leica digital cameras on Leica M stereomicroscopes are described on pages 36–38 (video/phototubes) and 39 (video objectives and adapters). All camera systems, including software, are universally applicable with stereomicroscopes and microscopes.

The detailed technical data of the Leica digital cameras are described in individual camera brochures (for brochure numbers, see p. 69).

## Digital FireWire color camera system Leica DFC290

The Leica DFC290 creates high-quality documentations in real time and is suitable for routine tasks. The recordings are digitized using a 10-bit AD converter with a dynamic range of 700:1. Resolution: 3.1 megapixels.

## Digital FireWire color camera system Leica DFC340 FX

The Leica DFC340 FX is a highly sensitive, monochrome camera that is particularly suitable for routine fluorescence photography. The active-cooled CCD sensor provides a maximum resolution of 2 megapixels and features exceptionally fast live preview images.

## Digital FireWire camera systems Leica DFC350 FX and DFC300 FX

The DFC350 FX (monochrome) and DFC300 FX (color camera) were developed specifically for recording procedures under low light intensities. The highly sensitive 2/3" progressive scan interline sensor allows for quickly bleaching fluorescence specimens and sensitive living cells to be quickly displayed or stored. Resolution: 1.4 megapixels.



Digital Leica DC150 camera system for professional and personal applications, with adapter for microscopes

MZ16 A with Leica DFC420 digital camera on TL RCI™ transmitted light base and Leica IsoPro™ manual cross-stage





### Digital FireWire color camera system

#### Leica DFC420 / DFC420 C

The Leica DFC420 offers high image resolution and detail exactness for routine tasks. The image information is digitized directly in the camera head. This leads to maximum noise suppression and perfect acquisition of the unprocessed CCD signal. Resolution: 5 megapixel.

The cooled version, the Leica DFC420 C, allows images of even bright fluorescence specimens to be captured due to its higher image quality.

#### Digital FireWire camera system Leica DFC490

The Leica DFC490 provides images with very high resolution as well as color and detail fidelity and is ideally suited for highest demands in science and industry. The image transfer rate and the scan method are freely selectable. Resolution: 8 megapixel.

#### Digital 12 megapixel FireWire camera system Leica DFC500

The Leica DFC500 is the top-of-the-line professional camera for analyses, measurements and processing of high-quality image data. The Leica DFC500 allows for unlimited use for all contrasting, bright and dark procedures and specifically for extremely low-light specimens and weak fluorescence. Resolution: 1.3 to 12 megapixels.

#### Digital camera system Leica DC150

The Leica DC150 can be used universally for recordings with and without microscope. The consumer-grade camera included in the set provides a resolution of 8 megapixels, sufficient for photo-quality A4-size prints. The zoom range of the 5.8 – 20.7 mm 3× AF zoom objective corresponds to that of a 35-mm camera with a focal length of 28 to 100 mm.

## Leica 3D system for microscopy

Leica Microsystems offers the only 3D system worldwide for true 3D visualization of surfaces and for non-tactile quantification of surface parameters. The complete system consists of the integrated Leica IC 3D stereo camera, the Leica StereoExplorer application software, and the Leica ASD 3D display system.

Detailed information about the Leica 3D system can be found in the brochure M1-525-5 and in the individual module descriptions.

#### Digital stereo camera Leica IC 3D

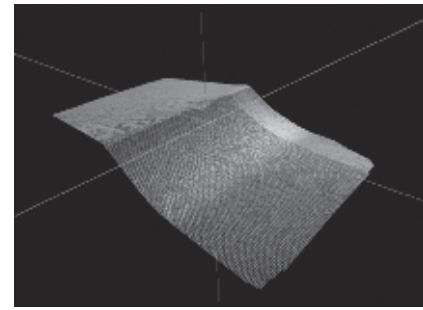
The Leica IC 3D is a digital FireWire stereo color camera with two independent 3.3-megapixel RGB sensors. It creates stereopairs with a resolution of 2088 × 1550 pixels (interpolated 7.3 megapixel = 3132 × 2325 pixels). The live images can be observed directly on the monitor in real time.

#### Modular Leica StereoExplorer software package

Using two-dimensional stereo image pairs, the Leica StereoExplorer automatically calculates a 3D data record that can be viewed on the monitor. The Profile, Areas and Volume modules allow for precise surface analyses. For example, profiles can be extracted, the roughness or unevenness can be determined, and the volume of depressions or elevations can be calculated.

#### Leica ASD 3D display

The Leica ASD-3D is the only high-resolution autostereoscopic 3D display that also allows for observing processes under the stereomicroscope on the monitor – spatially and in real time. With the help of a movable prism mask closely in front of the TFT display, the part images recorded with the Leica IC 3D are projected onto the eyes of the observer. The 3D image is absolutely real and appears to be float in front of the 3D monitor ready to be grasped.



3D reconstruction of a metallic surface with StereoExplorer from a stereopair



Automated Leica MZ16 A stereomicroscope with integrated Leica IC 3D camera

# Image Management Software

For the modular camera systems, Leica Microsystems offers software for professional archiving, processing and analysis of digitized images. Detailed information about the different programs and the modules can be found in separate brochures (for brochure numbers, see p. 69). Discuss your requirements with your Leica consultant.

## **Leica Application Suite, the new powerful software concept**

LAS is the new Leica interface that represents the operating environment for motorized stereomicroscopes, digital cameras, motorized focus drives and external light sources (CLS 150XD, KL 2005LCD, CLS150 LS, EL6000) from Leica. LAS optimizes the recording, analysis and editing of digital images in the biosciences, clinical and industrial sector.

Thanks to its modular concept, the functionality of LAS ranges from simple, interactive image measurements up to automatic measurements of a multitude of features based on several parameters. Thanks to its user interface – which has been awarded a design prize – the LAS is particularly easy to learn and use.

The suite is supplied with all motorized components and includes “core functions” such as the control system of the stereomicroscope and a Leica DFC camera as well as image display and basic image editing. Add-on modules such as image superimposition, multifocus and network must be licensed separately.

## **Leica IM1000 Image Manager**

Leica IM1000 is a modular software package for image acquisition, processing, measurement and printout as well as for data exchange and backup. The clearly arranged user-configurable archive structure allows for mapping the entire work flow of a lab in the system.

Leica IM1000 offers a broad range of application modules, such as measuring, MultiFocus, image correlation, time lapse, image superimposition, presentation and much more. Thanks to the modular concept, Leica IM1000 can be tailored to your tasks and your budget.

## **Leica Q550MW material workstation**

The Leica Q550MW is designed specifically for material and metallurgy labs. The Leica Q550MW automates the manual tasks required for material analysis and performs demanding analytical tasks quickly, efficiently and economically.

Various modules offer numerous application solutions, such as particle size analysis with Leica QParticles, the steel purity degree analysis with Leica QIncs or hardness test with Leica QHardness, coating or coating thickness measurement with Leica QCoating and much more.

## **Image processing and analysis software**

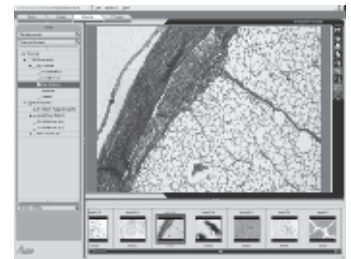
### **Leica QWin**

Leica QWin is a modular image analysis software for quantitative microscopy in industry and natural science. Leica QWin is available in five versions that are tailored to the requirements and the budget of the customer:

QWin Runner (Order no. 12 724 166), Leica QWin Lite (Order no. 12 724 167), QWin Plus (Order no. 12 724 168), Leica QWin Standard (Order no. 12 724 169), Leica QWin Professional (Order no. 12 724 170).

Leica QWin covers a wide field of applications from interactive measurements up to fully automatic analyses and controls automated microscopes. Thanks to the integrated interactive QUIPS macro language, fully automatic routine procedures can be programmed.

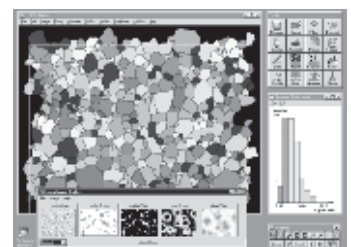
The modularity allows for tailoring the configuration to the needs of the user. Modules are available for the different QWin versions, such as Leica QGallery for saving and displaying images, Leica QFAB for creating analyses, Leica QFFT for performing fast Fourier transformations, as well as time lapse, extended focus, mosaic and much more.



Leica Application Suite:  
Directory Browser



Leica IM1000 Image Manager:  
Extended Viewer for the search  
and observation of image and  
data material



Leica QWin Standard

# Discussion Tube

## The requirements

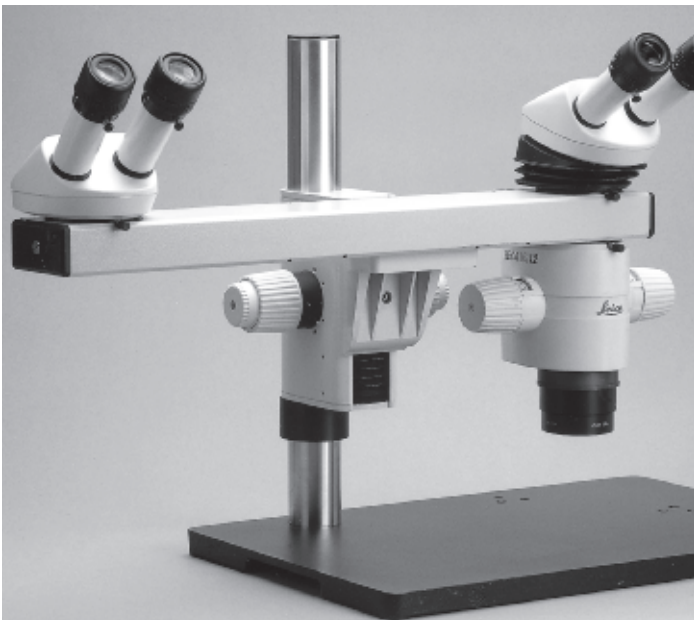
Leica produces stereomicroscopes for educational and training purposes. Trainees who see the same upright, laterally-correct, stereoscopic image as the instructor and can follow the working sequences with their own eyes, can learn quickly and more easily.

### Discussion stereomicroscope

- Stereoscopic, upright and laterally-correct image for both observers
- Light pointer positionable as required, and with automatic switch off
- Individually adjustable binocular tubes, interpupillary distance and diopter setting
- Accessories for photography and video
- Stable universal stand with coarse and fine focusing
- Stage carriers with magnetic linkage

The discussion stereomicroscope, as a ready-made workstation, is ideal for training new employees, as well as for expert discussion. Both users simultaneously see the same stereoscopic image. An illuminated pointer, which can be positioned on the respective point of interest on the object, facilitates understanding.

The discussion tube (Order no. 10 479 887) is coupled with the MS5, MZ6, MZ75, MZ95, MZ125 or MZ16 optics carrier and connected to the universal stand (Order no. 10 445153 or 10 445 154) by means of a coarse/fine drive; focusing range 65mm (Order no. 10 447 082) (see p. 24). Because of the modular construction, this outfit can also be equipped with a choice of binocular tubes and accessories.



Discussion stereomicroscope

# Measuring/Polarization

## Polarization accessories

There is a choice of two polarizing sets for use with the transmitted-light stands:

- Analyzer (Order no. 10 315 306) for achromat objectives, or (Order no. 10 367 929) for planachromatic and planapochromatic objectives, rotatable polarization stage  $\varnothing$ 120 mm (Order no. 10 446 302) with sensitive tint plate compensator (Order no. 10 361 719), object guide (Order no. 10 382 130), 360° scale and vernier with crosshair graticule (Order no. 10 376 120)
- Analyzer (Order no. 10 315 306) for achromat objectives, or (Order no. 10 367 929) for planachromatic and planapochromatic objectives and glass insert with polarizer (Order no. 10 446 228)  $\varnothing$ 120 mm

Using the rotatable polarization stage together with the sensitive tint-plate even weak birefringence can be detected. After the crosshair graticule in one eyepiece has been used to center the rotatable stage, the specimen held tightly in the mechanical stage can be turned without drifting out of the field of view. The range of movement of the mechanical stage is 76 mm $\times$ 28 mm.

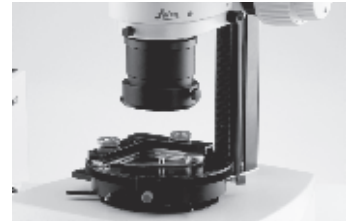
Angle measurements using the scale of 0°–360° and the vernier for  $\frac{1}{10}^\circ$  on the rotatable stage provide further information on the character and structure of the birefringent elements.

## Accessories for measuring

The graticules for length measurements and numbering are fitted in mounts and can be inserted into the eyepieces. A highly precise stage micrometer with a 50 mm scale, and graduation of 0.1 mm and 0.01 mm (Order no. 10 310 345), permits calibration according to the selected magnification.

For angle measurements see rotatable polarization stage.

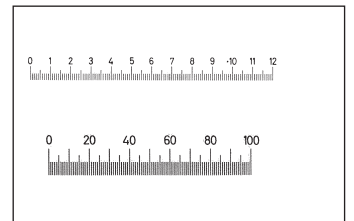
Rotating polarization stage  
(Order no. 10 446 302)  
with sensitive-tint plate,  
(Order no. 10 361 719)  
mechanical stage  
(Order no. 10 382 130)  
and 360° scale and vernier,  
analyzer



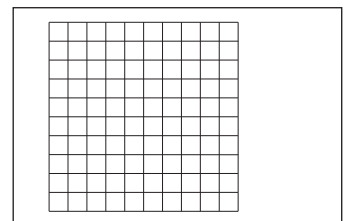
Graticule and eyepiece insert



Scale 12 mm:120  
(Order no. 10 376 119)  
Scale 5 mm:100  
(Order no. 10 394 771)



Graticule with grid  
100 $\times$ 1 mm<sup>2</sup>  
(Order no. 10 376 122)



# Oblique Observation/ Drawing Tools

## The requirements

A high-performance stereomicroscope has additional functionality when the potential of less sophisticated instruments has been exhausted. Leica stereomicroscopes provide additional observation techniques not available from other manufacturers.

### Attachment for vertical and oblique observation

Three-dimensional objects such as assembled printed circuit boards, insects or plants can be inspected from all sides without tilting or rotating, at an angle of 45°.

The patented attachment for vertical and oblique observation is used with the 1× achromatic objective and provides a "bird's eye" view from 45° of the sample. The magnification factor is 0.6×. A fiber-optic light guide provides the best source of illumination.

Please order the intermediate rings appropriate to this accessory (see page 62).

### Drawing tube

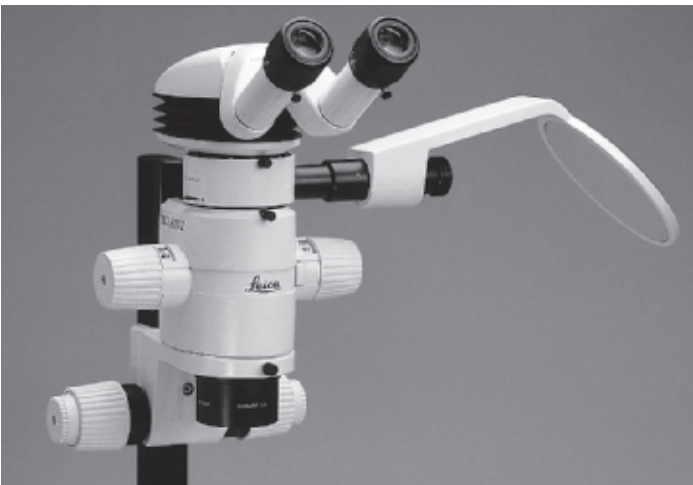
- The specimen and the drawing surface are visible through the eyepieces at the same time
- Suitable for left and right-handed persons
- Work is possible in the daylight
- Documents can be mirrored-in

When the beam path is switched on, the user sees the object, the drawing surface and the pen simultaneously in the binocular tube, upright and laterally correct. Contours and characteristic features can be sketched easily. In addition, documents and scales can be mirrored-in and photographed along with the object.

### Double-iris diaphragm

The double-iris diaphragm enables an infinitely variable adjustment of the depth of field. Being extremely thin, the double-iris diaphragm is a useful accessory for observing and photographing three-dimensional objects. The Leica MZ16 and MZ16 A and the video/phototubes HV, HU, have built-in iris diaphragms.

Drawing tube (Order no. 10 446 193)



Attachment for vertical and oblique observation® (Order no 10 445 156)



Double-iris diaphragm (Order no. 10 445 927)



# Leica MS5, MZ6 Optical Data

Objectives		1× Plan 1× Achromat 0.8× Plan*	1× Planapo*	2× Planapo*	1.6× Planapo*	0.63× Planapo*	0.5× Plan* 0.63× Achromat	0.32× Achromat	0.5× Achromat	1.5× Achromat	Ergo Objective 0.4×–0.63×												
Eyepieces	Magnification changer	Working distances in mm																					
		81 Plan 89 Achromat 112 Plan		55 Planapo		15 Planapo		19 Planapo 27 Achromat		97 Planapo 112 Achromat		135 Plan 149 Achromat		297 Achromat		187 Achromat		49 Achromat		63.5 mm		153.5 mm	
		Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)
10×/21B	0.63	6.3	33.3	7.9	26.6	15.8	13.3	12.6	16.7	5	42	3.9	53.8	2	105	3.2	65.6	9.4	22.3	4	52.5	2.6	80.8
	0.8	8	26.3	10	21	20	10.5	16	13.1	6.4	32.8	5	42	2.5	84	4	52.5	11.9	17.6	5	41.2	3.3	63.6
	1	10	21	12.5	16.8	25	8.4	20	10.5	8	26.3	6.3	33.3	3.1	67.7	5	42	14.9	14.1	6.4	32.8	4	51.2
	1.25	12.5	16.8	15.6	13.5	31.3	6.7	25	8.4	10	21	7.8	26.9	3.9	53.8	6.3	33.3	18.7	11.2	8	26.3	5	41.2
	1.6	16	13.1	20	10.5	40	5.25	32	6.6	12.8	16.4	10	21	5	42	8	26.3	23.9	8.8	10.2	20.6	6.6	31.8
	2	20	10.5	25	8.4	50	4.2	40	5.3	16	13.1	12.5	16.8	6.3	33.3	10	21	29.9	7	12.7	16.5	8.2	25.6
	2.5	25	8.4	31.3	6.7	62.5	3.4	50	4.2	20	10.5	15.6	13.5	7.8	26.9	12.5	16.8	37.3	5.6	15.9	13.2	10.3	20.4
	3.2	32	6.6	40	5.3	80	2.63	64	3.3	25.6	8.2	20	10.5	10	21	16	13.1	47.8	4.4	20.4	10.3	13.2	15.9
4	40	5.3	50	4.2	100	2	80	2.6	32	6.6	25	8.4	12.5	16.8	20	10.5	59.7	3.5	25.5	8.2	16.5	12.7	
16×/14B	0.63	10.1	22.2	12.6	17.8	25.2	9	20.2	11.1	8.1	27.7	6.3	35.6	3.2	70	5	44.8	15	14.9	6.4	35	4	54.6
	0.8	12.8	17.5	16	14	32	7	25.6	8.8	10.2	22	8	28	4	56	6.4	35	19.1	11.7	8.2	27.3	5.3	42.3
	1	16	14	20	11.2	40	5.6	32	7	12.8	17.5	10	22.4	5	44.8	8	28	23.9	9.4	10.2	22	6.6	33.9
	1.25	20	11.2	25	9	50	4.5	40	5.6	16	14	12.5	17.9	6.3	35.6	10	22.4	29.9	7.5	12.7	17.6	8.2	27.3
	1.6	25.6	8.8	32	7	64	3.5	51.2	4.4	20.5	10.9	16	14	8	28	12.8	17.5	38.2	5.9	16.3	13.7	10.5	21.3
	2	32	7	40	5.6	80	2.8	64	3.5	25.6	8.8	20	11.2	10	22.4	16	14	47.8	4.7	20.4	11	13.2	17
	2.5	40	5.6	50	4.5	100	2.2	80	2.8	32	7	25	9	12.5	17.9	20	11.2	59.7	3.8	25.5	8.8	16.5	13.6
	3.2	51.2	4.4	64	3.5	128	1.75	102.4	2.2	41	5.5	32	7	16	14	25.6	8.8	76.4	2.9	32.6	6.9	21	10.6
4	64	3.5	80	2.8	160	1.4	128	1.8	51.2	4.4	40	5.6	20	11.2	32	7	95.5	2.3	40.8	5.5	26.3	8.5	
25×/9.5B	0.63	15.8	15	19.7	12.1	39.4	6	31.5	7.5	12.6	18.8	9.8	24.2	4.9	48.5	7.9	30.1	23.5	10.1	10	23.8	6.5	36.5
	0.8	20	11.9	25	9.5	50	4.75	40	5.9	16	14.8	12.5	19	6.3	37.7	10	23.8	29.9	7.9	12.7	18.7	8.2	29
	1	25	9.5	31.3	7.6	62.5	3.8	50	4.8	20	11.9	15.6	15.2	7.8	30.4	12.5	19	37.3	6.4	15.9	14.9	10.3	23
	1.25	31.3	7.6	39.1	6.1	78	3	62.5	3.8	25	9.5	19.5	12.2	9.8	24.2	15.6	15.2	46.6	5.1	19.9	11.9	12.9	18.4
	1.6	40	5.9	50	4.8	100	2.4	80	3	32	7.4	25	9.5	12.5	19	20	11.9	59.7	4	25.5	9.3	16.5	14.4
	2	50	4.8	62.5	3.8	125	2	100	2.4	40	5.9	31.3	7.6	15.6	15.2	25	9.5	74.6	3.2	31.8	7.5	20.6	11.5
	2.5	62.5	3.8	78.1	3	156	1.5	125	1.9	50	4.8	39.1	6.1	19.5	12.2	31.3	7.6	93.3	2.5	39.8	6	25.7	9.2
	3.2	80	3	100	2.4	200	1.2	160	1.5	64	3.7	50	4.8	25	9.5	40	5.9	119.4	2	51	4.7	32.9	7.2
4	100	2.4	125	1.9	250	1	200	1.2	80	3	62.5	3.8	31.3	7.6	50	4.8	149.3	1.6	63.7	3.7	41.2	5.8	
40×/6B	0.63	25.2	9.5	31.5	7.6	63	3.8	50.4	4.8	20.2	11.9	15.8	15.2	7.9	30.4	12.6	19	37.6	6.4	16	14.9	10.4	23
	0.8	32	7.5	40	6	80	3	64	3.8	25.6	9.4	20	12	10	24	16	15	47.8	5	20.4	11.8	13.2	18.2
	1	40	6	50	4.8	100	2.4	80	3	32	7.5	25	9.6	12.5	19.2	20	12	59.7	4	25.5	9.4	16.5	14.5
	1.25	50	4.8	62.5	3.8	125	1.9	100	2.4	40	6	31.3	7.7	15.6	15.4	25	9.6	74.6	3.2	31.8	7.5	20.6	11.7
	1.6	64	3.8	80	3	160	1.5	128	1.9	51.2	4.7	40	6	20	12	32	7.5	95.5	2.5	40.8	5.9	26.3	9
	2	80	3	100	2.4	200	1.2	160	1.5	64	3.8	50	4.8	25	9.6	40	6	119.4	2	51	4.7	32.9	7.3
	2.5	100	2.4	125	1.9	250	1	200	1.2	80	3	62.5	3.8	31.3	7.7	50	4.8	149.3	1.6	63.7	3.8	41.2	5.8
	3.2	128	1.9	160	1.5	320	0.75	256	0.9	102.4	2.3	80	3	40	6	64	3.8	191	1.3	81.5	2.9	52.7	4.6
4	160	1.5	200	1.2	400	0.6	320	0.8	128	1.9	100	2.4	50	4.8	80	3	238.8	1	101.9	2.4	65.8	3.6	

MS5: Positions 0.63, 1, 1.6, 2.5, 4

\* When using the planachromatic and planapochromatic objectives MZ125, the magnification is increased by the factor 1.25x.

## Performance Features

### Stereomicroscopes MS5 and MZ6

Construction principle	Multi-coated optical system with 2 parallel beam paths and 1 main objective, lead-free, parfocal
ESD surface resistivity	$<10^{11}$ ohm/square, discharge time $<2$ seconds, 1,000 V to 100 V
Max. numerical aperture	0.150 with objective achromat 2× and planapochromatic objective 1.6×/0.075 with achromatic objective 1×/0.188 with planapochromatic objective 2×
Resolution Lp/mm	450 with achromatic objective 2× or planapochromatic objective 1.6×/225 with objective 1×/563 with planapochromatic objective 2×
Magnification changer	MS5: 5-stage, 0.63×, 1×, 1.6×, 2.5×, 4×/MZ6: Zoom 6:1, 0.63× to 4×
7 ratchet position switches (MZ6)	at 0.8, 1, 1.25, 1.6, 2, 2.5, 3.2
Magnifications with eyepieces 10×	6.3× to 40× with objective 1×/7.9 to 50× (with planapochromatic objective 1×)
Total magnification	2× to 320×/to 400× (with planapochromatic objective 2×)
Object field $\varnothing$	0.8 mm to 104.2 mm
Working distances	81 mm (1× planachromatic), 97 mm (0.63× planapochromatic), 112 mm (0.8× planachromatic), 135 mm (0.5× planachromatic), 15 mm (planapochromatic 2×), 27 mm–297 mm (achromats)
Planachromatic and planapochromatic objectives	1× (planachromatic, planapochromatic), 0.8× (planachromatic), 0.5× (planachromatic), 0.63× (planapochromatic), 1.6× (planapochromatic), 2× (planapochromatic) lead-free
Achromatic interchangeable objectives	1×, 1.5×, 2×, 0.8×, 0.63×, 0.5×, 0.32×, ergo objective 0.4×–0.63× with 90-mm adjustment range (working distance 63.5–153.5 mm)
Eyepieces	Wide-field eyepieces for eyeglass wearers distortion-free, 10×/21B, 16×/14B, 25×/9.5B, 40×/6B, low-priced wide-field eyepieces 10×/21, soft eyecups, diopter setting +5 to –5
Interpupillary distance	52 to 76 mm adjustable
Binocular tubes	Various types, apochromatic ErgoTube® 10° to 50° with synchronized interpupillary adjustment, various ErgoModules®

### Stands, illuminations

Focus drive	Coarse, fine, manual and motorized, tiltable for OEM and swing arm stands
Length of column	300 mm and 500 mm side-faced column
Microscope carrier	Two basic heights, optics carrier rotatable through 360°, stereoscopic or axial observation (AX)
Swing arm stands	Versions: ESD with column 470/35 mm, antistatic base available in 2 sizes / standard with horizontal arm with ball bearing, dimensions same as ESD / large with column 800/57 mm or 500/57 mm, horizontal arm with ball bearing, vertical column with rack rail and crank / for ESD and standard stage clamp or flange optional
Universal stand	450/50 mm or 800/50 mm column, 52×34 cm baseplate, magnetic carrier for stages
Transmitted light stands	Bright field, bright and darkfield, high-performance base HL-RC™
Stages	Various, incl. rotatable polarization stage, Leica MATS Thermocontrol System with thermostage
Incident lamps	Inclined, coaxial, vertical, fiber-optic light guides, and cold-light sources, ESD-discharge, LED illumination (Laser Emitting Diode), fluorescence module

### Accessories

Phototubes	Various trinocular tubes with different light distribution, incl. ultra-low, monocular video/phototube
Integrated cameras	Leica IC A analog, IC D digital
Digital cameras	Various digital image recording systems from routine to high-end, FireWire Leica DFC camera line
3D display system	Leica IC 3D, StereoExplorer, ASD-3D display
Image archiving, analysis	Leica Image Manager, QWin, materials work station, various options
Discussion tube	for training and education
Drawing tube	For both left and right-handed users
Double-iris diaphragm	For increasing the depth of field
Measurement graticules	For length measurements and counting
Vertical and oblique observation	45° side view around the complete object
Filter-slide housing	for 2 gelatin filters (available as an accessory)

# Leica MZ75, MZ95 Optical Data

Objectives		1× Plan 1× Achromat 0.8× Plan**	1× Planapo**		2× Planapo*		1.6× Planapo** 2× Achromat		0.63× Planapo** 0.8× Achromat		0.5× Plan** 0.63× Achromat		0.32× Achromat		0.5× Achromat		1.5× Achromat		Ergo Objective 0.4×–0.63×				
		Working distances in mm																					
Eyepieces	Magnification changer	81 Plan 89 Achromat 112 Plan		55 Planapo		15 Planapo		19 Planapo 27 Achromat		97 Planapo 112 Achromat		135 Plan 149 Achromat		297 Achromat		187 Achromat		49 Achromat		63.5 mm		153.5 mm	
		Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)
10×/21B	0.63	6.3	33.3	7.9	26.6	15.8	13	12.6	16.7	5	42	3.9	53.8	2	105	3.2	65.6	9.4	22.3	4	52.5	2.6	80.8
	0.8	8	26.3	10	21	20	10.5	16	13.1	6.4	32.8	5	42	2.5	84	4	52.5	11.9	17.6	5	41.2	3.3	63.6
	1	10	21	12.5	16.8	25	8.4	20	10.5	8	26.3	6.3	33.3	3.1	67.7	5	42	14.9	14.1	6.4	32.8	4	51.2
	1.25	12.5	16.8	15.6	13.5	31	6.7	25	8.4	10	21	7.8	26.9	3.9	53.8	6.3	33.3	18.7	11.2	8.0	26.3	5	41.2
	1.6	16	13.1	20	10.5	40	5.25	32	6.6	12.8	16.4	10	21	5	42	8	26.3	23.9	8.8	10.2	20.6	6.6	31.8
	2	20	10.5	25	8.4	50	4	40	5.3	16	13.1	12.5	16.8	6.3	33.3	10	21	29.9	7	12.7	16.5	8.2	25.6
	2.5	25	8.4	31.3	6.7	62.5	3.4	50	4.2	20	10.5	15.6	13.5	7.8	26.9	12.5	16.8	37.3	5.6	15.9	13.2	10.3	20.4
3.2	32	6.6	40	5.3	80	2.6	64	3.3	25.6	8.2	20	10.5	10	21	16	13.1	47.8	4.4	20.4	10.3	13.2	15.9	
4	40	5.3	50	4.2	100	2	80	2.6	32	6.6	25	8.4	12.5	16.8	20	10.5	59.7	3.5	25.5	8.2	16.5	12.7	
5	50	4.2	62.5	3.4	125	1.7	100	2.1	40	5.3	31.3	6.7	15.6	13.5	25	8.4	74.6	2.8	31.8	6.6	20.6	10.2	
6*	60	3.5	75	2.8	150	1.4	120	1.8	48	4.4	37.5	5.6	18.8	11.2	30	7	89.6	2.3	38.2	5.5	24.7	8.5	
16×/14B	0.63	10.1	22.2	12.6	17.8	25	8.9	20.2	11.1	8.1	27.7	6.3	35.6	3.2	70	5	44.8	15	14.9	6.4	35	4	54.6
	0.8	12.8	17.5	16	14	32	7	25.6	8.8	10.2	22	8	28	4	56	6.4	35	19.1	11.7	8.2	27.3	5.3	42.3
	1	16	14	20	11.2	40	5.6	32	7	12.8	17.5	10	22.4	5	44.8	8	28	23.9	9.4	10.2	22	6.6	33.9
	1.25	20	11.2	25	9	50	4.5	40	5.6	16	14	12.5	17.9	6.3	35.6	10	22.4	29.9	7.5	12.7	17.6	8.2	27.3
	1.6	25.6	8.8	32	7	64	3.5	51.2	4.4	20.5	10.9	16	14	8	28	12.8	17.5	38.2	5.9	16.3	13.7	10.5	21.3
	2	32	7	40	5.6	80	2.8	64	3.5	25.6	8.8	20	11.2	10	22.4	16	14	47.8	4.7	20.4	11	13.2	17
	2.5	40	5.6	50	4.5	100	2.2	80	2.8	32	7	25	9	12.5	17.9	20	11.2	59.7	3.8	25.5	8.8	16.5	13.6
3.2	51.2	4.4	64	3.5	128	1.75	102.4	2.2	41	5.5	32	7	16	14	25.6	8.8	76.4	2.9	32.6	6.9	21	10.6	
4	64	3.5	80	2.8	160	1.4	128	1.8	51.2	4.4	40	5.6	20	11.2	32	7	95.5	2.3	40.8	5.5	26.3	8.5	
5	80	2.8	100	2.2	200	1.1	160	1.4	64	3.5	50	4.5	25	9	40	5.6	119.4	1.9	51	4.4	32.9	6.8	
6*	96	2.3	120	1.9	240	0.9	192	1.2	76.8	2.9	60	3.7	30	7.5	48	4.7	143.3	1.6	61	3.7	39.5	5.7	
25×/9.5B	0.63	15.8	15	19.7	12.1	39.4	6	31.5	7.5	12.6	18.8	9.8	24.2	4.9	48.5	7.9	30.1	23.5	10.1	10	23.8	6.5	36.5
	0.8	20	11.9	25	9.5	50	4.75	40	5.9	16	14.8	12.5	19	6.3	37.7	10	23.8	29.9	7.9	12.7	18.7	8.2	29
	1	25	9.5	31.3	7.6	62.5	3.8	50	4.8	20	11.9	15.6	15.2	7.8	30.4	12.5	19	37.3	6.4	15.9	14.9	10.3	23
	1.25	31.3	7.6	39.1	6.1	78	3	62.5	3.8	25	9.5	19.5	12.2	9.8	24.2	15.6	15.2	46.6	5.1	19.9	11.9	12.9	18.4
	1.6	40	5.9	50	4.8	100	2.4	80	3	32	7.4	25	9.5	12.5	19	20	11.9	59.7	4	25.5	9.3	16.5	14.4
	2	50	4.8	62.5	3.8	125	1.9	100	2.4	40	5.9	31.3	7.6	15.6	15.2	25	9.5	74.6	3.2	31.8	7.5	20.6	11.5
	2.5	62.5	3.8	78.1	3	156	1.5	125	1.9	50	4.8	39.1	6.1	19.5	12.2	31.3	7.6	93.3	2.5	39.8	6	25.7	9.2
3.2	80	3	100	2.4	200	1.2	160	1.5	64	3.7	50	4.8	25	9.5	40	5.9	119.4	2	51	4.7	32.9	7.2	
4	100	2.4	125	1.9	250	0.95	200	1.2	80	3	62.5	3.8	31.3	7.6	50	4.8	149.3	1.6	63.7	3.7	41.2	5.8	
5	125	1.9	156.3	1.5	313	0.8	250	1	100	2.4	78.1	3	39.1	6.1	62.5	3.8	186.6	1.3	79.6	3	51.4	4.6	
6*	150	1.6	187.5	1.3	375	0.6	300	0.8	120	2	93.8	2.5	46.9	5.1	75	3.2	223.9	1.1	95.5	2.5	61.7	3.8	
40×/6B	0.63	25.2	9.5	31.5	7.6	63	3.8	50.4	4.8	20.2	11.9	15.8	15.2	7.9	30.4	12.6	19	37.6	6.4	16	14.9	10.4	23
	0.8	32	7.5	40	6	80	3	64	3.8	25.6	9.4	20	12	10	24	16	15	47.8	5	20.4	11.8	13.2	18.2
	1	40	6	50	4.8	100	2.4	80	3	32	7.5	25	9.6	12.5	19.2	20	12	59.7	4	25.5	9.4	16.5	14.5
	1.25	50	4.8	62.5	3.8	125	1.9	100	2.4	40	6	31.3	7.7	15.6	15.4	25	9.6	74.6	3.2	31.8	7.5	20.6	11.7
	1.6	64	3.8	80	3	160	1.5	128	1.9	51.2	4.7	40	6	20	12	32	7.5	95.5	2.5	40.8	5.9	26.3	9
	2	80	3	100	2.4	200	1.2	160	1.5	64	3.8	50	4.8	25	9.6	40	6	119.4	2	51	4.7	32.9	7.3
	2.5	100	2.4	125	1.9	250	1	200	1.2	80	3	62.5	3.8	31.3	7.7	50	4.8	149.3	1.6	63.7	3.8	41.2	5.8
3.2	128	1.9	160	1.5	320	0.75	256	0.9	102.4	2.3	80	3	40	6	64	3.8	191	1.3	81.5	2.9	52.7	4.6	
4	160	1.5	200	1.2	400	0.6	320	0.8	128	1.9	100	2.4	50	4.8	80	3	238.8	1	101.9	2.4	65.8	3.6	
5	200	1.2	250	1	500	0.5	400	0.6	160	1.5	125	1.9	62.5	3.8	100	2.4	298.5	0.8	127.4	1.9	82.3	2.9	
6*	240	1	300	0.8	600	0.4	480	0.5	192	1.3	150	1.6	75	3.2	120	2	358.2	0.7	152.9	1.6	98.8	2.4	

\* Position 6 for MZ95 only

\*\* When using the planachromatic and planapochromatic objectives MZ95, the magnification is increased by the factor 1.25×.



## Performance Features

### Stereomicroscopes Leica MZ75 and MZ95

Design principle	Multiple-coated, parfocal high-performance optical system with 2 parallel beam paths and 1 main objective (CMO), lead-free, parfocal
ESD surface resistivity	<10 <sup>11</sup> ohm/square, discharge time <2 seconds, 1,000 V to 100 V
Numerical aperture	MZ75: 0.164 with planapochromatic objective 1.6×, 0.082 with planachromatic objective 1×, 0.103 with planapochromatic objective 1×, 0.2 with planapochromatic objective 2× MZ95: 0.2 with planapochromatic objective 1.6×, 0.1 with planachromatic objective 1×, 0.125 with planapochromatic objective 1×, 0.25 with planapochromatic objective 2×
Resolution	MZ75: 492 Lp/mm with planapochromatic objective 1.6×, 246 Lp/mm with planachromatic objective 1×, 309 Lp/mm with planapochromatic objective 1×, 615 Lp/mm with planapochromatic objective 2× MZ95: 300 Lp/mm with planachromatic objective 1×, 375 Lp/mm with planapochromatic objective 1×, 600 Lp/mm with planapochromatic objective 1.6×, 750 Lp/mm with planapochromatic objective 2×
Magnification changer	MZ75: Zoom 7.9:1/MZ95: Zoom 9.5:1
Engageable ratchet positions	at 0.8, 1, 1.25, 1.6, 2, 2.5, 3.2, 4, 5 (MZ95)
Magnifications	with objective 1×/eyepieces 10×: MZ75: 6.3× to 50×, MZ95: 6.3× to 60×/with planapochromatic objective 2×: MZ75: 15.8× to 125×/MZ95: 15.8× to 150×
Total magnification	MZ75: 2× to 400×/with planapochromatic objective 2× to 500×/MZ95: 2× to 480×/with planapochromatic objective 2× to 600×
Object field Ø	0.6 mm to 105 mm
Working distances	81 mm (1× planachromatic), 112 mm (0.8× planachromatic), 135 mm (0.5× planachromatic), 97 mm (0.63× planapochromatic), 55 mm (1× planapochromatic), 15 mm (planapochromatic 2×), 19 mm (1.6× planapochromatic), 27–297 mm (achromats)
Planachromatic and planapochromatic objectives	0.5× (plan), 0.8× (plan), 0.63× (planapo), 1× (plan, planapo), 1.6× (planapo), 2× (planapo), lead-free
Achromatic interchangeable objectives	1×, 1.5×, 2×, 0.8×, 0.63×, 0.5×, 0.32×, ergo objective 0.4×–0.63× with 90-mm adjustment range (working distance 63.5–153.5 mm)
Eyepieces	Wide-field eyepieces for eyeglass wearers distortion-free, 10×/21B, 16×/14B, 25×/9.5B, 40×/6B, low-priced wide-field eyepieces 10×/21, soft eyecups, diopter setting +5 to –5
Interpupillary distance	52 to 76 mm adjustable
Binocular tubes	Various types, apochromatic ErgoTube® 10° to 50° with synchronized interpupillary adjustment, various ErgoModules®
<b>Stands, illuminations</b>	
Focus drive	Coarse, fine, manual and motorized, tiltable for OEM and swing arm stands
Length of column	300 mm and 500 mm side-faced column
Microscope carrier	Two basic heights, optics carrier rotatable through 360°, stereoscopic or axial observation (AX)
Swing arm stands	Versions: ESD with column 470/35 mm, antistatic base available in 2 sizes / standard with horizontal arm with ball bearing, dimensions same as ESD / large with column 800/57 mm or 500/57 mm, horizontal arm with ball bearing, vertical column with rack rail and crank / for ESD and standard stage clamp or flange optional
Universal stand	450/50 mm or 800/50 mm column, 52×34 cm baseplate, magnetic carrier for stages
Transmitted light stands	Bright field, bright and darkfield, high-performance base HL-RC™
Stages	Various, incl. rotatable polarization stage, Leica MATS Thermocontrol System with thermostage
Incident lamps	Inclined, coaxial, vertical, fiber-optic light guides, and cold-light sources, ESD-discharge, LED illumination (Laser Emitting Diode), fluorescence module
<b>Accessories</b>	
Phototubes	Various trinocular tubes with different light distribution, incl. ultra-low, monocular video/phototube
Integrated cameras	Leica IC A analog, IC D digital
Digital cameras	Various digital image recording systems from routine to high-end, FireWire Leica DFC camera line
3D display system	Leica IC 3D, StereoExplorer, ASD-3D display
Image archiving, analysis	Leica Image Manager, QWin, materials work station, various options
Discussion tube	for training and education
Drawing tube	for right-handers and left-handers
Double-iris diaphragm	for increasing the depth of field
Measurement graticules	for length measurements and counting
Vertical and oblique observation	45° side view around the complete object
Filter-slide housing	for 2 gelatin filters (available as an accessory)

# Leica MZ125, MZ16 and MZ16 A Optical Data

Objectives		1× Plan 1× Planapo	0.5× Plan	0.63× Planapo	0.8× Plan	1.6× Planapo	2× Planapo						
Eyepieces	Magnification changer	Working distances in mm											
		60 Plan 55 Planapo		135 Plan		97 Planapo		112 Plan		19 Planapo		15 Planapo	
		Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)	Total magnification	Object field Ø (mm)
<b>10×/21B</b>	0.71*	7.1	29.6	3.5	59.1	4.5	47	5.7	37	11.4	18.5	14.2	14.8
	0.8	8	26.3	4	52.5	5.1	41.2	6.4	32.8	12.8	16.4	16	13.1
	1	10	21	5	42	6.4	32.8	8	26.3	16	13.1	20	10.5
	1.25	12.5	16.8	6.3	33.3	8	26.3	10	21	20	10.5	25	8.4
	1.6	16	13.1	8	26.3	10.2	20.6	12.8	16.4	25.6	8.2	32	6.6
	2	20	10.5	10	21	12.8	16.4	16	13.1	32	6.6	40	5.3
	2.5	25	8.4	12.5	16.8	16	13.1	20	10.5	40	5.3	50	4.2
	3.2	32	6.6	16	13.1	20.5	10.2	25.6	8.2	51.2	4.1	64	3.3
	4	40	5.3	20	10.5	25.6	8.2	32	6.6	64	3.3	80	2.6
	5	50	4.2	25	8.4	32	6.6	40	5.3	80	2.6	100	2.1
	6.3	63	3.3	31.5	6.7	40.3	5.2	50.4	4.2	100.8	2.1	126	1.7
	8	80	2.6	40	5.3	51.2	4.1	64	3.3	128	1.6	160	1.3
10	100	2.1	50	4.2	64	3.3	80	2.6	160	1.3	200	1.1	
11.5*	115	1.8	57.5	3.7	72.5	2.9	92	2.2	184	1.1	230	0.9	
<b>16×/14B</b>	0.71*	11.4	19.7	5.7	39.4	7.2	31.3	9.1	24.6	18.2	12.3	22.8	9.8
	0.8	12.8	17.5	6.4	35	8.2	27.3	10.2	22	20.5	10.9	25.6	8.8
	1	16	14	8	28	10.2	22	12.8	17.5	25.6	8.8	32	7
	1.25	20	11.2	10	22.4	12.8	17.5	16	14	32	7	40	5.6
	1.6	25.6	8.8	12.8	17.5	16.4	13.7	20.5	10.9	41	5.5	51.2	4.4
	2	32	7	16	14	20.5	10.9	25.6	8.8	51.2	4.4	64	3.5
	2.5	40	5.6	20	11.2	25.6	8.8	32	7	64	3.5	80	2.8
	3.2	51.2	4.4	25.6	8.8	32.8	6.8	41	5.5	81.9	2.7	102.4	2.2
	4	64	3.5	32	7	41	5.5	51.2	4.4	102.4	2.2	128	1.8
	5	80	2.8	40	5.6	51.2	4.4	64	3.5	128	1.8	160	1.4
	6.3	100.8	2.2	50.4	4.4	64.5	3.5	80.6	2.8	161.3	1.4	201.6	1.1
	8	128	1.8	64	3.5	81.9	2.7	102.4	2.2	204.8	1.1	256	0.9
10	160	1.4	80	2.8	102.4	2.2	128	1.8	256	0.9	320	0.7	
11.5*	184	1.2	92	2.4	115.9	1.9	147.2	1.5	294.4	0.8	368	0.6	
<b>25×/9.5B</b>	0.71*	17.7	13.4	8.9	26.8	11.1	21.2	14.2	16.7	28.3	8.4	35.4	6.7
	0.8	20	11.9	10	23.8	12.8	18.6	16	14.8	32	7.4	40	5.9
	1	25	9.5	12.5	19	16	14.8	20	11.9	40	5.9	50	4.8
	1.25	31.3	7.6	15.6	15.2	20	11.9	25	9.5	50	4.8	62.5	3.8
	1.6	40	5.9	20	11.9	25.6	9.3	32	7.4	64	3.7	80	3
	2	50	4.8	25	9.5	32	7.4	40	5.9	80	3	100	2.4
	2.5	62.5	3.8	31.3	7.6	40	5.9	50	4.8	100	2.4	125	1.9
	3.2	80	3	40	5.9	51.2	4.6	64	3.7	128	1.9	160	1.5
	4	100	2.4	50	4.8	64	3.7	80	3	160	1.5	200	1.2
	5	125	1.9	62.5	3.8	80	3	100	2.4	200	1.2	250	1
	6.3	157.5	1.5	78.8	3	100.8	2.4	126	1.9	252	0.9	315	0.8
	8	200	1.2	100	2.4	128	1.9	160	1.5	320	0.7	400	0.6
10	250	1	125	1.9	160	1.5	200	1.2	400	0.6	500	0.5	
11.5*	287.5	0.8	143.8	1.7	181.1	1.3	230	1	460	0.5	575	0.4	
<b>40×/6B</b>	0.71*	28.4	8.4	14.2	16.9	17.9	13.4	22.7	10.5	45.4	5.3	56.8	4.2
	0.8	32	7.5	16	15	20.5	11.7	25.6	9.4	51.2	4.7	64	3.8
	1	40	6	20	12	25.6	9.4	32	7.5	64	3.8	80	3
	1.25	50	4.8	25	9.6	32	7.5	40	6	80	3	100	2.4
	1.6	64	3.8	32	7.5	41	5.9	51.2	4.7	102.4	2.3	128	1.9
	2	80	3	40	6	51.2	4.7	64	3.8	128	1.9	160	1.5
	2.5	100	2.4	50	4.8	64	3.8	80	3	160	1.5	200	1.2
	3.2	128	1.9	64	3.8	81.9	2.9	102.4	2.3	204.8	1.2	256	0.9
	4	160	1.5	80	3	102.4	2.3	128	1.9	256	0.9	320	0.8
	5	200	1.2	100	2.4	128	1.9	160	1.5	320	0.8	400	0.6
	6.3	252	1	126	1.9	161.3	1.5	201.6	1.2	403.2	0.6	504	0.5
	8	320	0.8	160	1.5	204.8	1.2	256	0.9	512	0.5	640	0.4
10	400	0.6	200	1.2	256	0.9	320	0.8	640	0.4	800	0.3	
11.5*	460	0.5	230	1	289.8	0.8	368	0.6	736	0.3	920	0.3	

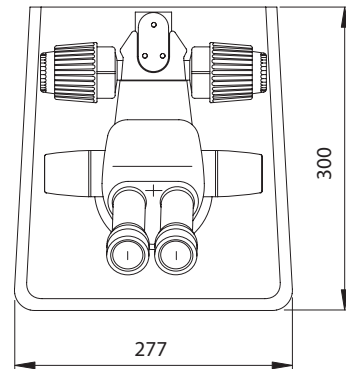
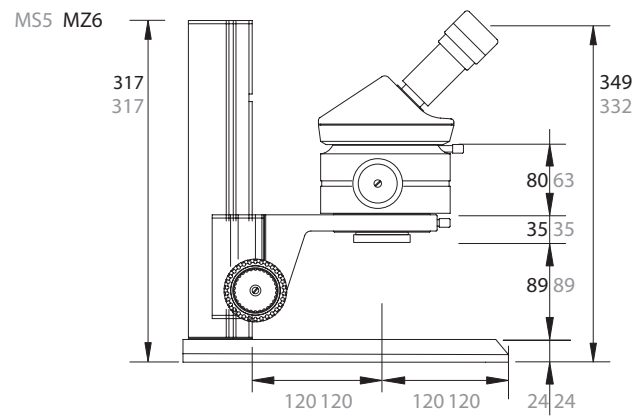
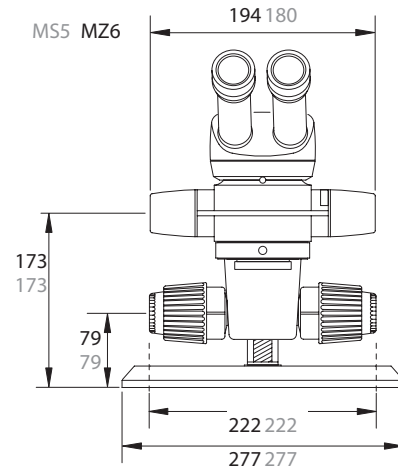
\* Zoom positions 0.71 and 11.5 only for MZ16/MZ16 A

## Performance Features

### Stereomicroscopes MZ12s, MZ16 and MZ16 A

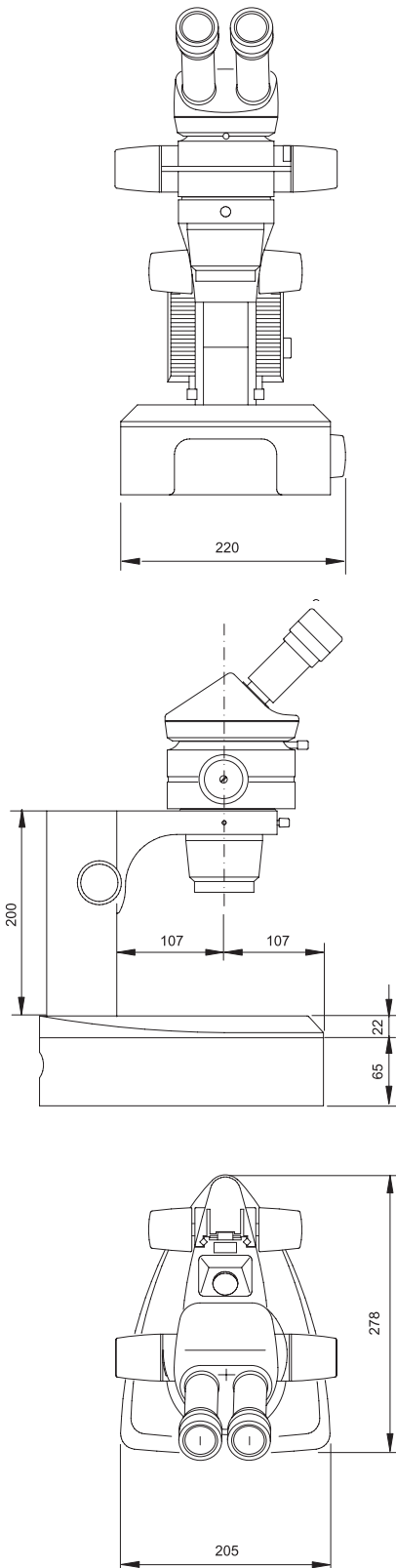
Design principle	Multiple-coated, parfocal high-performance optical system with 2 parallel beam paths and 1 main objective (CMO), lead-free, parfocal
ESD surface resistivity	<10 <sup>11</sup> ohm/square, discharge time <2 seconds, 1,000 V to 100 V
Numerical aperture	MZ12s: 0.2 with planapochromatic objective 1.6×, 0.125 with planachromatic or planapochromatic objective 1×, MZ16 and MZ16 A: 0.28 with planapochromatic objective 2×, 0.14 with planachromatic or planapochromatic objective 1×
Resolution	MZ12s: 375 Lp/mm with planachromatic or planapochromatic objective 1×, 600 Lp/mm with planapochromatic objective 1.6×, 750 Lp/mm with planapochromatic objective 2× MZ16 and MZ16 A: 840 Lp/mm with planapochromatic objective 2×, 420 Lp/mm with planachromatic or planapochromatic objective 1×
Magnification changer	MZ12s: Zoom 12.5:1, range 0.8× to 10× MZ16: apochromatic manual 16:1 zoom, range 0.71×–11.5× MZ16 A: apochromatic 16:1 motor zoom, range 0.71×–11.5×, control via handswitch, foot switch or PC, digital display of current magnification, PC connection
Selectable test positions	MZ12s: 1, 1.25, 1.6, 2, 2.5, 3.2, 4, 5, 6.3, 8 MZ16 and MZ16 A: 0.8, 1, 1.25, 1.6, 2, 2.5, 3.2, 4, 5, 6.3, 8, 10
Magnifications	with objective 1×/eyepieces 10×: MZ12s: 8× to 100×, MZ16 and MZ16 A: 7.1×–115×
Total magnification	MZ12s: 4× to 640× / , MZ16 and MZ16 A: 3.5×–920×
Object field Ø	MZ12s: 0.4 mm to 52.5 mm / MZ16 and MZ16 A: 0.3 mm to 59 mm
Working distances	60 mm (1× planachromatic), 112 mm (0.8× planachromatic), 135 mm (0.5× planachromatic), 97 mm (0.63× planapochromatic), 55 mm (1× planapochromatic), 15 mm (planapochromatic 2×), 19 mm (1.6× planapochromatic), 91–400 mm (achromats)
Planachromatic and planapochromatic objectives	1× (planachromatic, planapochromatic), 0.8× (planachromatic), 0.5× (planachromatic), 0.63× (planapochromatic), 1.6× (planapochromatic), 2× (planapochromatic), lead-free
Objective turret	MZ16 and MZ16 A: for 1× and 2× planapochromatic objective
Wide-field eyepieces for	Distortion-free, 10×/21B, 16×/14B, 25×/9.5B, 40×/6B, soft eyecups eyeglass wearers
Dioptic correction	+5 to–5
Interpupillary distance	52 to 76 mm adjustable
Binocular tubes	Various types, apochromatic ErgoTube® 10° to 50° with synchronized interpupillary adjustment, various ErgoModules®
<b>Stands, illuminations</b>	
Focus drive	Coarse/fine, manual and motorized, tiltable for OEM and swing arm stands
Length of column	300 mm and 500 mm side-faced column
Microscope carrier	Two basic heights, optics carrier rotatable through 360°, stereoscopic or axial observation (AX)
Swing arm stands	Versions: ESD with column 470/35 mm, antistatic base available in 2 sizes / standard with horizontal arm with ball bearing, dimensions same as ESD / large with column 800/57 mm or 500/57 mm, horizontal arm with ball bearing, vertical column with rack rail and crank / for ESD and standard stage clamp or flange optional
Universal stand	450/50 mm or 800/50 mm column, 52×34 cm baseplate, magnetic carrier for stages
Transmitted light stands	Bright field, bright and darkfield, high-performance base HL-RC™
Stages	Various, incl. rotatable polarization stage, Leica MATS Thermocontrol System with thermostage
Incident lamps	Inclined, coaxial, vertical, fiber-optic light guides, and cold-light sources, ESD-discharge, LED illumination (Laser Emitting Diode), fluorescence module
<b>Accessories</b>	
Phototubes	Various trinocular tubes with different light distribution, incl. ultra-low, monocular video/phototube
Integrated cameras	Leica IC A analog, IC D digital
Digital cameras	Various digital image recording systems from routine to high-end, FireWire Leica DFC camera line
3D display system	Leica IC 3D, StereoExplorer, ASD-3D display
Image archiving, analysis	Leica Image Manager, QWin, materials work station, various options
Discussion tube	for training and education
Drawing tube	for right-handers and left-handers
Double-iris diaphragm	for increasing the depth of field (built into the MZ16 and MZ16 A)
Measuring graticules	MZ12s and MZ16: For length measurements and counting MZ16 A: Automatic calibration and display of measurements
Vertical and oblique observation	45° side view around the complete object
Filter-slide housing	for 2 gelatin filters (available as an accessory)

# Leica MS5/MZ6 with Incident Light Stand

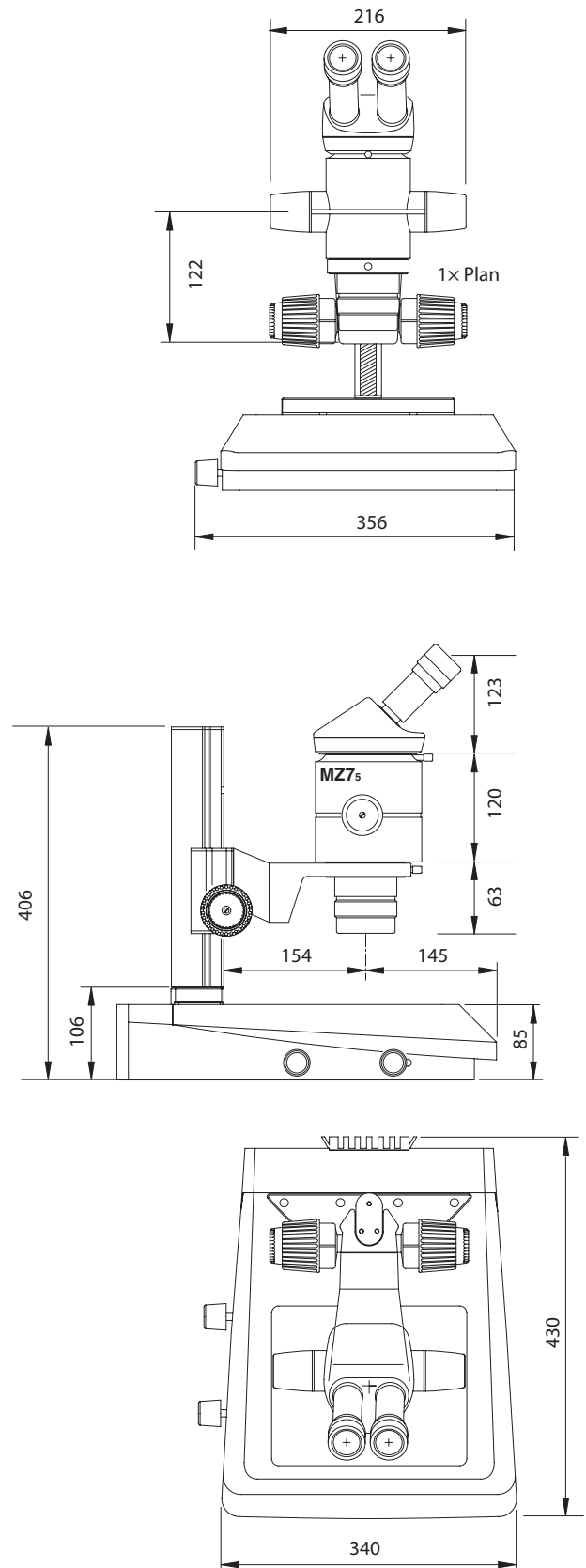


Measurements in mm

## Leica MS5/MZ6 with Transmitted Light Stand

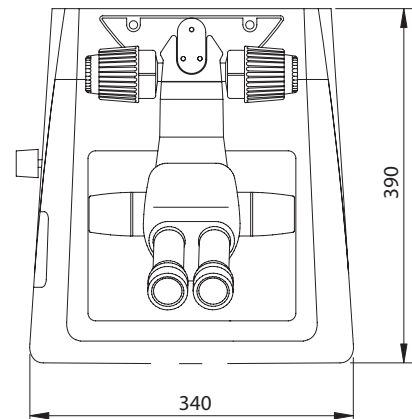
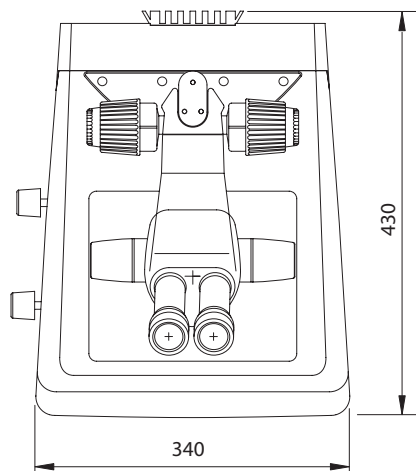
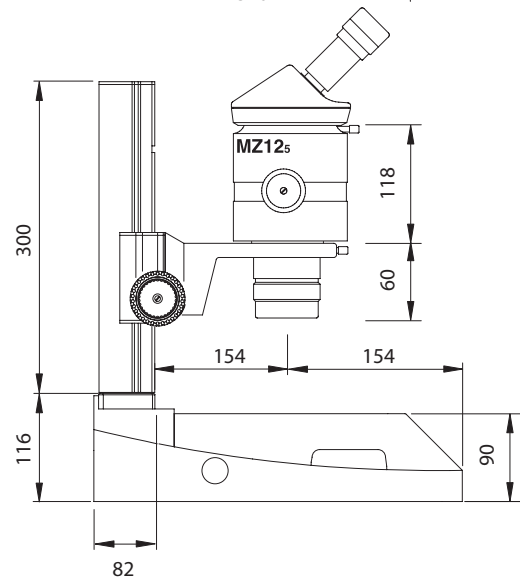
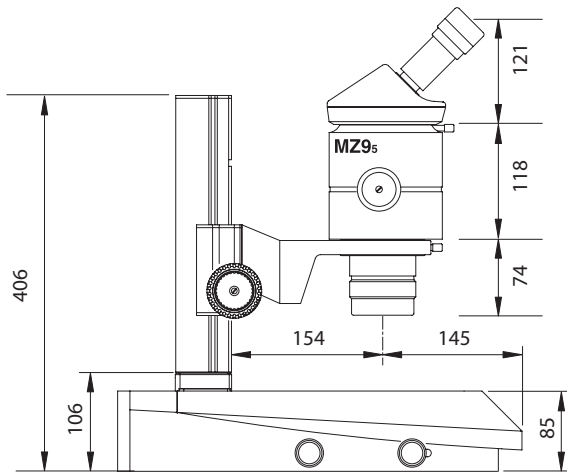
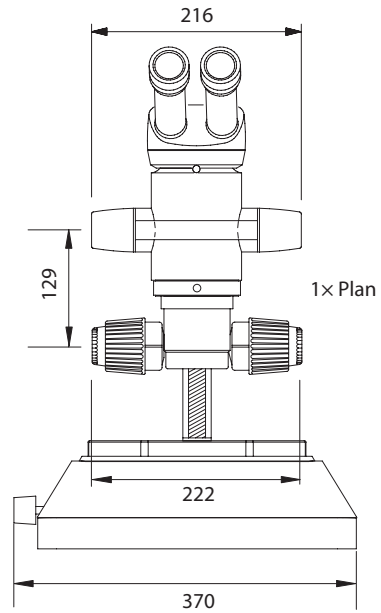
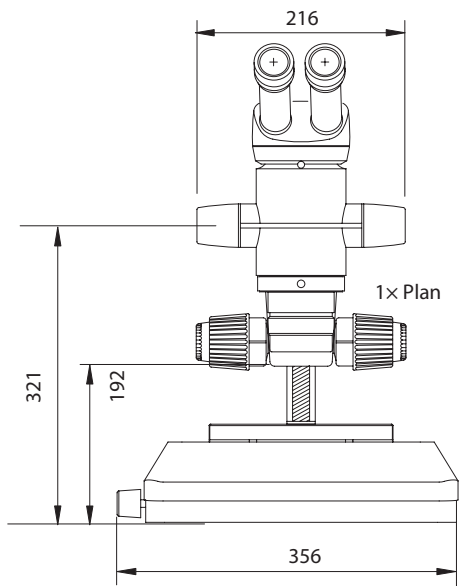


## Dimensions of Leica MZ75 with TL ST Transmitted Light Stand



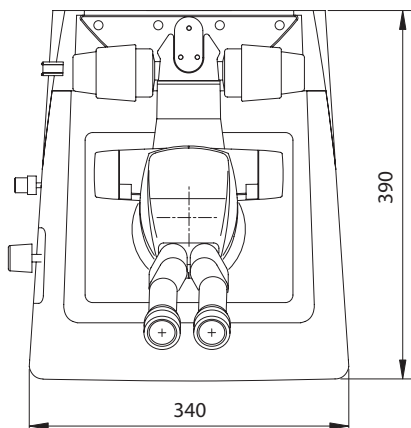
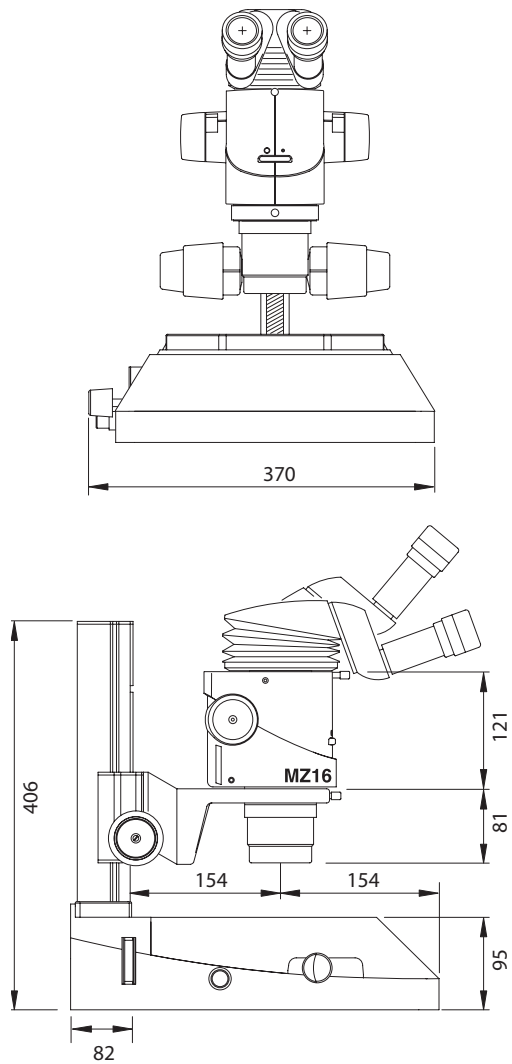
## Dimensions of Leica MZ9<sub>s</sub> with TL ST Transmitted Light Stand

## Dimensions of Leica MZ12<sub>s</sub> with TL ST Transmitted Light Stand

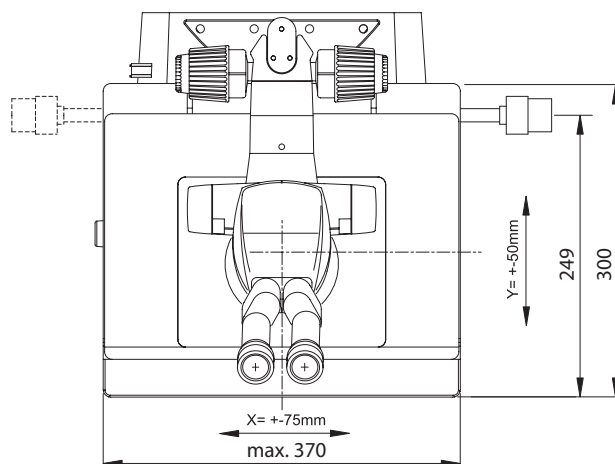
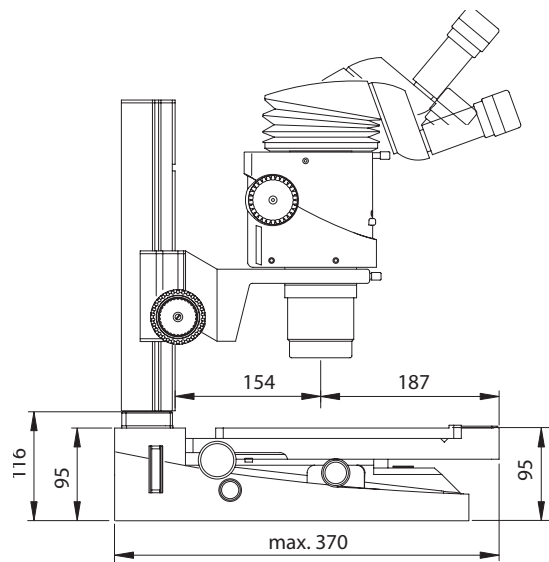
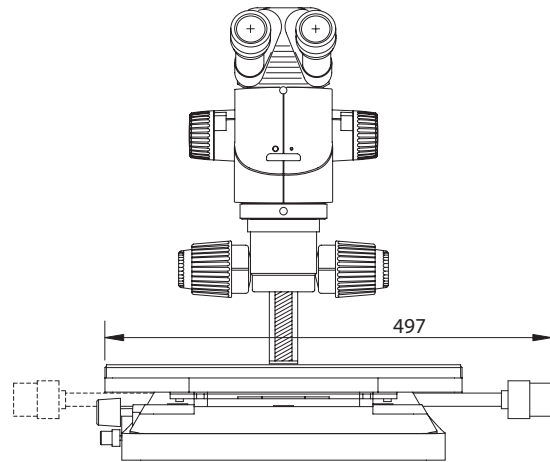


Measurements  
in mm

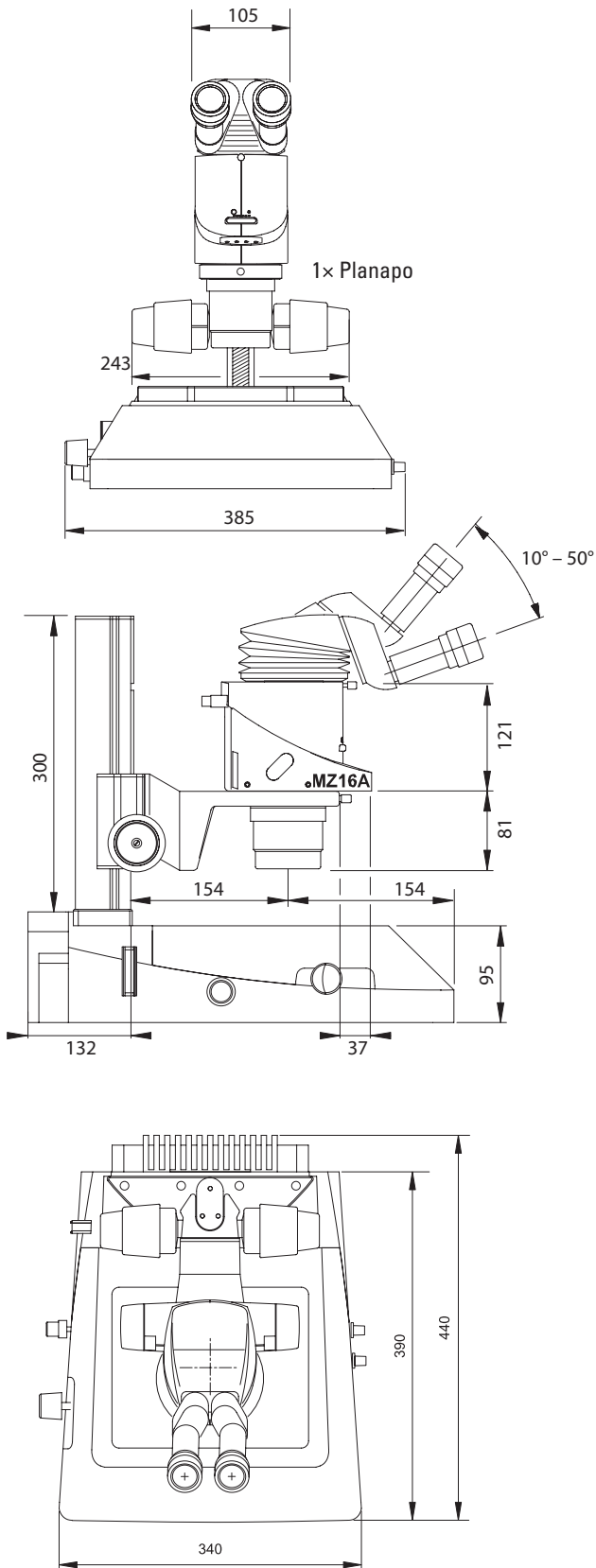
## Dimensions of Leica MZ16 with TL RC™ Transmitted Light Stand



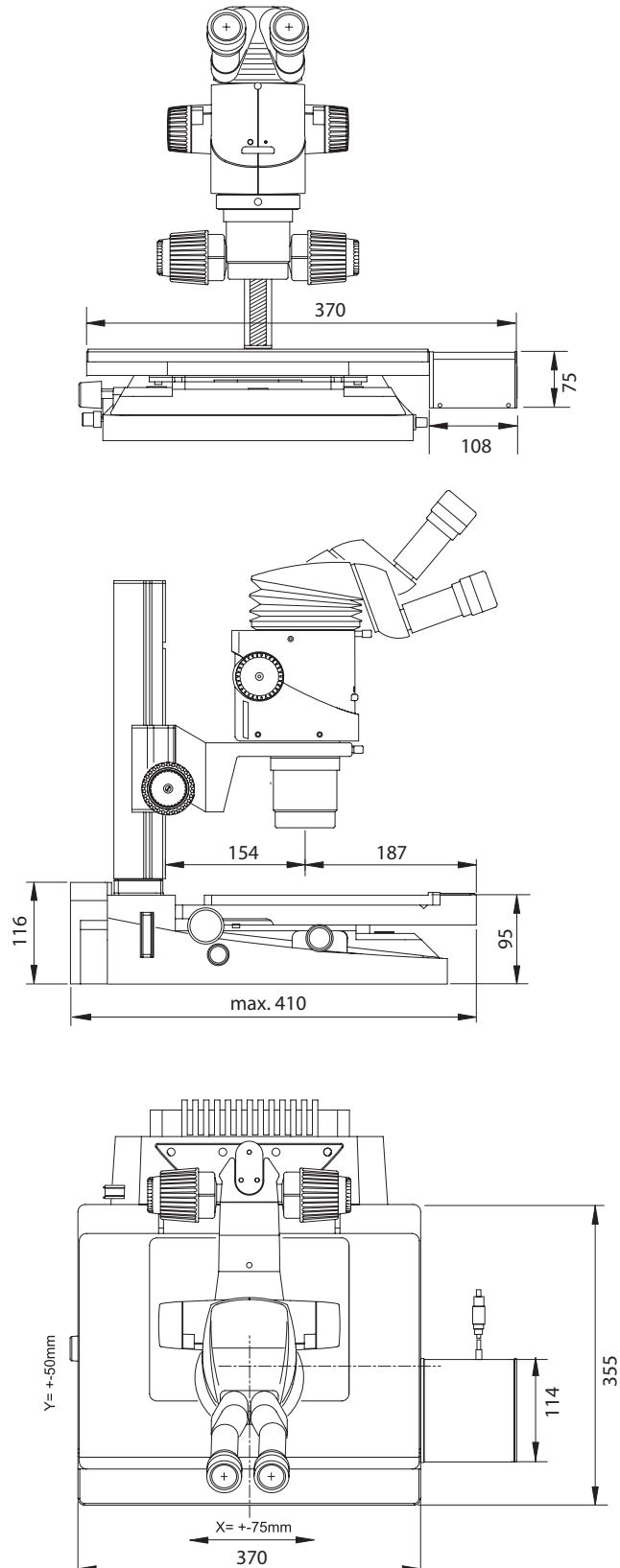
## Dimensions of Leica MZ16 with TL RC™ Transmitted Light Stand and Leica IsoPro™ Manual Cross-stage



Dimensions of Leica MZ16 A  
with TL RCI™ Transmitted  
Light Stand



Dimensions of Leica MZ16  
with TL RCI™ Transmitted Light Stand and  
Leica IsoPro™ Automated Cross-stage





# Parts List

## Optics Carrier, Microscope Carrier

- 10 445 613 Leica MS5 optics carrier with five-step magnification changer
- 10 445 614 Leica MZ6 optics carrier with 6:1 zoom magnification changer
- 10 446 371 MZ7<sub>s</sub> optics carrier with 7.9:1 zoom magnification changer
- 10 446 272 MZ9<sub>s</sub> optics carrier with 9.5:1 zoom magnification changer
- 10 446 370 MZ12<sub>s</sub> optics carrier with 12.5:1 zoom magnification changer
- 10 447 102 Leica MZ16 with 16:1 zoom
- 10 447 103 Leica MZ16 A with 16:1 motor-zoom
- 10 447 163 Hand switch for MZ16 A
- 10 447 398 Foot switch for MZ16 A

For details on MZ16, MZ16 A see brochure M1-116-1.

- 10 447 422 Microscope carriers MS5, MZ6, MZ7<sub>s</sub>, MZ9<sub>s</sub>, MZ12<sub>s</sub> for focus drive
- 10 447 425 Microscope carriers MZ16, MZ16 A for focus drive
- 10 447 062 Microscope carrier AX for MZ12<sub>s</sub>, MZ16, MZ16 A with switchover to axial photography

## MS5, MZ6, MZ7<sub>s</sub>, MZ9<sub>s</sub> Objectives

- 10 447 148 Ergo objective 0.4×–0.63×, achromat
  - 10 446 172 Intermediate ring for MZ12<sub>s</sub>/MZ16 objectives on MS5/MZ6/MZ7<sub>s</sub>
  - 10 446 275 Planachromatic objective 1× for MS5/MZ6/MZ7<sub>s</sub>/MZ9<sub>s</sub>
  - 10 422 564 Achromatic objective 0.32×
  - 10 422 563 Achromatic objective 0.5×
  - 10 445 201 Achromatic objective 0.63×
  - 10 473 832 Achromatic objective 0.8×
  - 10 411 589 Achromatic objective 1×
  - 10 422 562 Achromatic objective 1.5×
  - 10 447 081 Achromatic objective 2×
  - 10 445 156 Attachment for vertical and oblique observation<sup>®</sup> to objective achromat 1×\*
- \* Order**
- for MZ7<sub>s</sub> intermediate ring 10 446 300 (2×)
  - for MZ9<sub>s</sub> intermediate ring 10 446 300
  - for MZ12<sub>s</sub> and MZ16 intermediate rings 10 446 300 and 10 446 393

## Objectives for MZ9<sub>s</sub>/MZ12<sub>s</sub>/MZ16/MZ16 A

- 10 445 819 Planachromatic objective 1×
- 10 446 157 Planachromatic objective 0.5×
- 10 447 075 Planachromatic objective 0.8×
- 10 447 157 Planachromatic objective 1×
- 10 447 051 Planapochromatic objective 0.63×
- 10 447 050 Planapochromatic objective 1.6×
- 10 447 101 Planapochromatic objective 2×
- 10 447 107 Objective turret MZ16/MZ16 A
- 10 447 060 Attachment to objective turret MZ16/MZ16 A
- 10 411 597\* Achromatic objective f= 100 mm
- 10 441 787\* Achromatic objective f= 150 mm
- 10 431 692\* Achromatic objective f= 175 mm
- 10 382 162\* Achromatic objective f= 200 mm
- 10 457 297\* Achromatic objective f= 225 mm
- 10 407 743\* Achromatic objective f= 250 mm
- 10 457 298\* Achromatic objective f= 275 mm
- 10 382 168\* Achromatic objective f= 300 mm
- 10 431 693\* Achromatic objective f= 350 mm
- 10 382 172\* Achromatic objective f= 400 mm

\* Objectives for vertical illuminator

## Tubes, ErgoModules<sup>®</sup>

- 10 445 619 Inclined binocular tube 45°
- 10 446 253 ErgoTube<sup>®</sup> 45°
- 10 429 781 Inclined binocular tube, low
- 10 429 783 Straight binocular tube
- 10 446 123 ErgoWedge<sup>®</sup> 5°–25°
- 10 446 171 ErgoModule<sup>®</sup> 30 mm–120 mm
- 10 446 170 ErgoModule<sup>®</sup> 50 mm

- 10 346 910 ErgoWedge<sup>®</sup> ±15
- 10 445 822 ErgoTube<sup>®</sup> with variable viewing angle 10°–50°
- 10 479 887 Discussion tube with carrier
- 10 446 193 Drawing tube
- 10 445 927 Double-iris diaphragm
- 10 446 308 Video/phototube HD-F, 50%, 50%
- 10 446 309 Video/phototube HD-V, 100%, 50%, 50%, 100%
- 10 446 197 Video/phototube HD-50
- 10 445 924 Trinocular video/photo tube 50%
- 10 446 229 Trinocular video/photo tube 100%
- 10 446 310 Trinocular tube, ultra-low, 100%, 100%

For other video/photo tubes, see p. 64

## Eyepieces

- 10 447 159 Wide field eyepiece 10×/21, adjustable, with eyecup, inclined
- 10 447 160 Wide field eyepiece for eyeglass wearers 10×/21B, distortion-free, adjustable, lead-free, with eyecup and soft eyecup
- 10 445 301 Wide field eyepieces for eyeglass wearers 16×/14B, distortion-free, adjustable, with eyecup
- 10 445 302 Wide angle eyepieces for eyeglass wearers 25×/9.5B, distortion-free, adjustable, with eyecup
- 10 445 303 Wide-field eyepieces for spectacle wearers 40×/6B, distortion-free, adjustable, with eyecup

## Dust Covers

- 10 447 039 Dust cover, antistatic
- 10 362 677 Dust cover for photo equipment and for universal stand (800-mm column)
- 10 126 269 Dust cover for large swinging arm and table-clamp stand
- 10 362 678 Dust cover for discussion stereomicroscope, swing arm and universal stand (450 mm column)

## Incident Light Stands/Components

- 10 446 340 Incident light base with black/white stage plate
- 10 445 631 Incident light base, large, with black/white stage plate
- 10 446 341\* Transmitted light base with reflector for 10 446 340
- \*Cold-light source with fiber-optic light guide necessary
- 10 445 615 Focus drive with side-faced column 300 mm for incident and transmitted light bases
- 10 446 100 Focus drive with side-faced column 500 mm for incident and transmitted light bases
- 10 447 106 Focus drive, coarse/fine, with side-faced column 300 mm for incident and transmitted light stands
- 10 447 185 Focus drive, coarse/fine, with side-faced column 500 mm for incident and transmitted light stands
- 10 446 176 Motor focus drive with column 300 mm and supply unit for incident and transmitted light bases
- 10 447 041 Motor focus drive with column 500 mm and supply unit for incident and transmitted light bases
- 10 446 181 Motor focus manual control
- 10 447 398 Motor focus foot switch
- 10 445 153 Baseplate with column 450/50 mm
- 10 445 154 Baseplate with column 800/50 mm
- 10 445 629 Drive housing with coarse/fine drive for discussion tube or microscope carrier
- 10 447 082 Drive housing for universal stand
- 10 447 254 Inclined focus drive
- Swing arm stand see p. 68

Swing Arm Stands see diagram page 68

10 447 160  
10 445 301  
10 445 302  
10 445 303

10 447 159

10 445 925

10 445 619

10 446 253

10 445 822

10 445 924 50%  
10 446 229 100%

10 447 254

10 446 123

10 346 910

10 446 171

10 446 170

10 446 197

**HD F** 10 446 308  
**HD V** 10 446 309

**AX**

10 447 062 **MS5 - MZ16 A**  
M-65 Objektivethread

10 479 887

**MS5**  
10 445 613

**MZ6**  
10 445 614

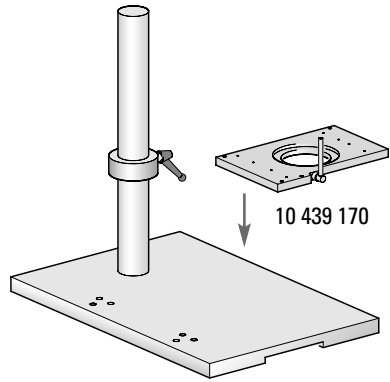
**MZ7<sub>s</sub>**  
10 446 371

**Objectives see**

10 447 422 **MS5 - MZ9<sub>s</sub>**  
10 447 425 **MZ12<sub>s</sub> - MZ16 A**

10 446 300 (2x)

10 447 082

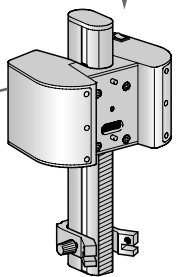


10 445 153 (450mm)  
10 445 154 (800mm)

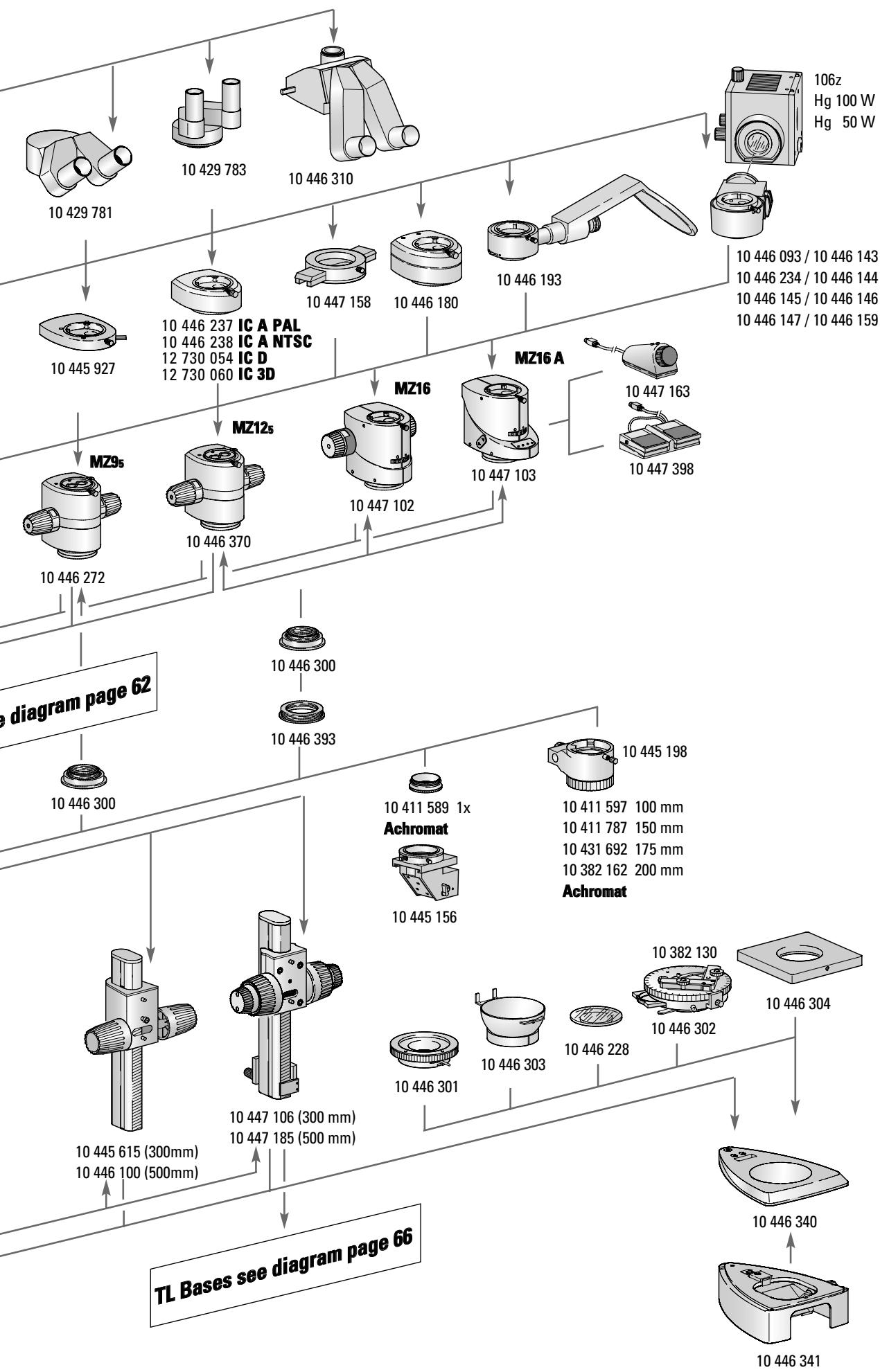
10 446 181  
10 447 398

**Leica L2**

10 446 376



10 446 176 (300mm)  
10 447 041 (500mm)



<p><b>Incident and transmitted light bases</b></p> <p>10 446 340 Incident light base for S series</p> <p>10 446 341 Sub-base for transmitted light for S-series incident light base</p> <p>10 447 342 Incident light base for M series</p> <p>10 446 350 Transmitted-light base TL ST</p> <p>10 446 351 Transmitted-light base TL BFDF</p> <p>10 447 390 Transmitted-light base TL RC™ for external cold light sources</p> <p>10 446 352 Transmitted-light base TL RCI™ with integrated halogen illumination</p> <p>10 445 615 Focus drive with side-faced column 300 mm, for incident and transmitted light bases</p> <p>10 447 106 Focus drive, coarse/fine, with side-faced column 300 mm for incident and transmitted light stands</p> <p>10 446 176 Motor focus drive with column 300 mm and supply unit for incident and transmitted light bases</p> <p>10 446 353 Leica IsoPro™ manual cross-stage for TL BFDF, TL RC™, TL RCI™ transmitted light bases and incident light base (with adapter 10 447 368)</p> <p>10 447 305 Leica IsoPro™ motorized cross-stage for TL BFDF, TL RC™, TL RCI™ transmitted light bases and incident light base (with adapter 10 447 368)</p>	<p>10 446 159 Fluorescence module without filter set</p> <p>10 446 148 GFP filter set for fluorescence module</p> <p>10 446 149 GFP plus filter set for fluorescence module</p> <p>10 446 235 GFP plant filter set for fluorescence module</p> <p>10 446 150 UV filter set for fluorescence module</p> <p>10 446 151 Violet filter set for fluorescence module</p> <p>10 446 152 Blue filter set for fluorescence module</p> <p>10 446 153 Green filter set for fluorescence module</p> <p>10 446 154 Glare protection</p> <p>10 445 654 Clamp, column/lamp holder</p>
<p><b>Illuminators</b></p> <p>10 446 180 Coaxial incident light housing for fiber-optic light* *Complete the illuminations 10 446 180 and 10 445 198 with a fiber-optic light guide (active <math>\varnothing=10</math> mm, end tube <math>\varnothing=13</math> mm) and a light source. For MZ7<sub>5</sub>/MZ9<sub>5</sub> order intermediate ring 10 446 300</p> <p>10 445 352 Quarter-wave plate for achromats, for use with microscope carrier AX with coaxial incident light</p> <p>10 367 929 Analyzer in rotatable mount for planachromatic and planapochromatic, for use with microscope carrier AX with coaxial incident light</p> <p>10 445 198 Vertical incident light housing for fiber-optic light guides and achromats MZ12<sub>5</sub>. Order – for MZ7<sub>5</sub> spacer ring 10 446 300 (2x) – for MZ9<sub>5</sub> spacer ring 10 446 300 – for MZ12<sub>5</sub> and spacer rings 10 446 300 and 10 446 393</p> <p>10 445 314 Step transformer 4/5/6V, 10VA, prim. 115 /230V, with power cable</p> <p>10 447 262 Regulating transformer 5.3V–7.5V/40VA, 115V/230V</p> <p>10 280 636 Power cable, 2.5m, 3-pole, Switzerland</p> <p>10 445 661 Power cable, 2m, USA</p> <p>10 445 662 Power cable, 2m, EURO</p> <p>10 445 663 Power cable, 2m–2.5m, BS</p> <p>10 450 012 Power cable, 2m, Argentina, Type K</p> <p>10 450 013 Power cable, 2m, Australia, Type F</p> <p>10 450 014 Power cable, 2m, China, Type L</p> <p>10 450 015 Power cable, 2m, Israel, Type I</p> <p>10 450 016 Power cable, 2m, Italy, Type E</p> <p>10 450 017 Power cable, 2m, South Africa, Type D</p> <p>10 370 881 Halogen bulb 6V/10W</p> <p>10 362 658 Halogen bulb 6V/20W</p> <p>10 447 158 Filter-slide housing</p>	<p><b>Stages</b></p> <p>10 446 301 Gliding stage <math>\varnothing 120</math> mm</p> <p>10 446 304 Universal carrier <math>\varnothing 120</math> mm</p> <p>10 446 303 Cup stage <math>\varnothing 120</math> mm</p> <p>10 439 169 Stage carrier with magnetic linkage for stages, <math>\varnothing 80</math> mm</p> <p>10 439 170 Stage carrier with magnetic linkage for cross-stage* * available upon request</p> <p>For details see brochure M1-227-0</p> <p>10 447 164 Leica MATS thermostage Type A with control device for transmitted light base HL</p> <p>10 447 165 Leica MATS thermostage Type B with control device for transmitted light base HF/DF</p>
<p><b>Fluorescence Modules</b> Order a lamp housing 105Z or 106Z with supply unit</p> <p>10 446 093 Fluorescence module GFP</p> <p>10 446 143 Fluorescence module GFP Plus</p> <p>10 446 234 Fluorescence module GFP plants</p> <p>10 446 144 Fluorescence module UV</p> <p>10 446 145 Fluorescence module violet</p> <p>10 446 146 Fluorescence module blue</p> <p>10 446 147 Fluorescence module green</p>	<p><b>Polarization</b></p> <p>10 446 302 Rotatable polarization stage <math>\varnothing 120</math> mm with polarizer and glass stage plate, clear</p> <p>10 382 130 Attachable mechanical stage for rotatable polarization stage</p> <p>10 361 719 Sensitive-tint plate for rotatable polarization stage</p> <p>10 315 306 Analyzer in rotatable mount for achromat</p> <p>10 367 929 Analyzer in rotatable mount for planachromatic and planapochromatic</p> <p>10 446 228 Glass stage plate with polarizer <math>\varnothing 120</math> mm for transmitted light stands</p> <p><b>Measuring</b></p> <p>10 376 119 Graticule with scale 12 mm:120 and crosshair</p> <p>10 394 771 Graticule with scale 5 mm:100</p> <p>10 376 122 Graticule with grid 100x1 mm<sup>2</sup></p> <p>10 376 120 Crosshair graticule</p> <p>10 398 408 Graticule, unlabeled, with mount</p> <p>10 310 345 Stage micrometer, 50-mm scale with 0.1 mm and 0.01 mm graduation</p> <p>10 447 182 Graticule MZ16 A</p> <p><b>Integrated Video Systems and Digital Cameras</b></p> <p>12 730 054 Leica IC D camera kit with Leica IC D camera, 2m 6-pin to 6-pin FireWire cable, Leica DFC Twain software</p> <p>Detailed information in brochure M1-393-4.</p> <p>10 446 237 Leica IC A video module with integrated CCD and camera control, PAL</p> <p>10 446 238 Leica IC A video module with integrated CCD and camera control, NTSC</p> <p>12 730 060 Leica IC 3D camera kit with Leica IC 3D stereo camera, 2m 6-pin/6-pin FireWire cable, Leica DFC Twain software</p> <p>Detailed information in the brochure M1-525-5 (Leica 3D system with Leica IC 3D stereo camera Stereo Explorer and ASD18 3D monitor)</p> <p>For additional digital camera systems, see p. 65</p>

# Parts List

## L2

- 10 446 385 Leica L2 cold light source
  - 10 447 015 Power pack, Leica L2
  - 10 446 376 L2 Adapter for focus drive 300m
  - 10 446 392 Universal fiber optic light guide
- Detailed information in brochure M1-288-0en

## LED1000

- Detailed information in brochure Leica LED1000
- 30 211 001 Control unit
  - 30 211 002 Supply unit
  - 30 220 001 LED spot
  - 30 221 005 Gooseneck for spot 85 mm
  - 30 221 006 Gooseneck for spot 200 mm
  - 30 221 007 Gooseneck for spot 300 mm
  - 30 210 002 LED ring lamp
  - 30 123 107 LED ring lamp adapter for MS5/MZ6 objectives

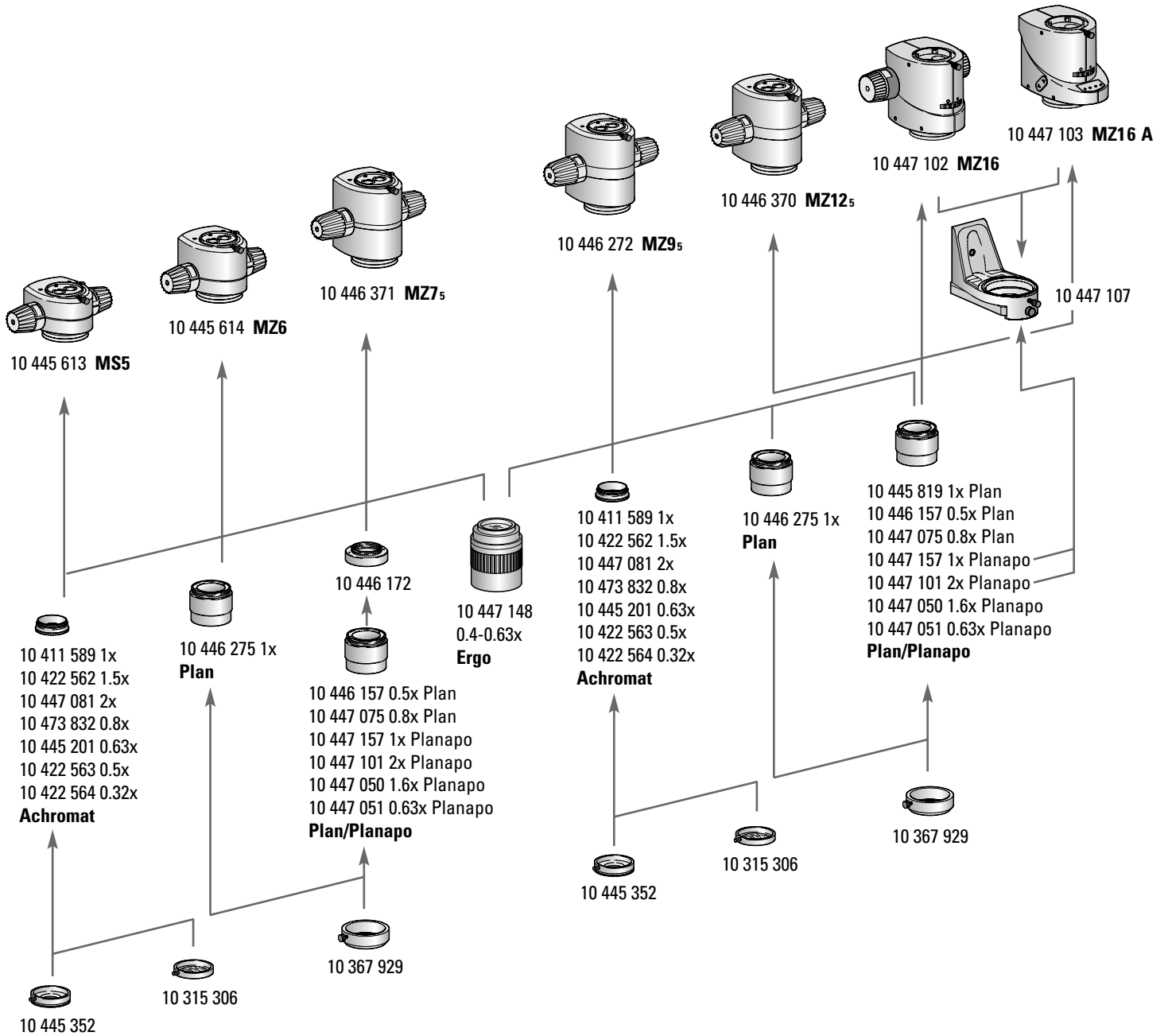
## CLS

- For details see brochure Leica CLS line cold-light sources
- 30 111 150 CLS50X MED (230V–240V)
  - 30 111 160 CLS50X MED (120V)
  - 30 111 250 CLS100X MED (230V–240V)
  - 30 111 251 CLS100X MED (230V–240V, UK Version)
  - 30 111 260 CLS100X MED (100V–120V)
  - 30 111 350 CLS150X MED (230V–240V)
  - 30 111 360 CLS 150X MED (100V–120V)
  - 30 111 480 CLS 150XD MED (100V–240V)
  - 30 110 481 CLS150 LS (100V–240V)
- 
- 30 150 111 Flex light guide 1-arm 3 mm/600 mm
  - 30 150 211 Flex light guide 2-arm 3 mm/600 mm
  - 30 130 011 Gooseneck 1-arm 4.5 mm/600 mm
  - 30 130 021 Gooseneck 2-arm 3 mm/500 mm
  - 30 130 422 Gooseneck 2-arm 4.5 mm/600 mm ESD
- 
- 30 120 101 Ring lamp 6-segment
  - 30 123 107 Ring lamp adapter for objectives 0.32×–2×

## KL1500/KL2500

- For details see brochure Leica KL1500/KL2500 cold-light sources
- 31 150 200 Cold light source KL1500 LCD, 230V
  - 31 150 201 Cold light source KL1500 LCD, 120V
  - 31 250 200 Cold light source KL2500 LCD, 230V
  - 31 250 201 Cold light source KL2500 LCD, 120V
  - 31 154 101 Gooseneck, 1-arm, 600 mm
  - 31 154 202 Gooseneck, 2-arm, 600 mm
  - 31 155 101 Flexible light guide 1-arm d3/1000 mm for KL1500
  - 31 250 101 Flexible light guide 1-arm d12/1000 mm for KL2500
  - 31 157 402 6-point ring lamp, Ø66 mm

# Objective Combinations



## Objective Combinations

	Article no.	MS5	MZ6	MZ7 <sub>5</sub>	MZ9 <sub>5</sub>	MZ12 <sub>5</sub>	MZ16/MZ16 A
<b>Achromat</b>							
Achromat 1×	10 411 589	C	C	C	C		
Achromat 1.5×	10 422 562	C	C	C	C		
Achromat 2×	10 422 561	C	C	C	C		
Achromat 0.8×	10 473 832	C	C	C	C		
Achromat 0.63×	10 445 201	C	C	C	C		
Achromat 0.5×	10 422 563	C	C	C	C		
Achromat 0.32×	10 422 564	C	C	C	C		
Ergo objective 0.4× – 0.63×	10 447 148	C	C	C	C		
<b>Planachromatic</b>							
Planachromatic 1×	10 446 275	C	C	C	C		
Planachromatic 1× MZ12 <sub>5</sub> /MZ16	10 445 819	CA (10 446 172) M	CA (10 446 172) M	CA (10 446 172) M	C*M	C	C
Planachromatic 0.5× MZ12 <sub>5</sub> /MZ16	10 446 157	CA (10 446 172) M	CA (10 446 172) M	CA (10 446 172) M	C*M	C	C
Planachromatic 0.8×	10 447 075	CA (10 446 172) M	CA (10 446 172) M	CA (10 446 172) M	C*M	C	C
<b>Planapochromatic</b>							
Planapochromatic 1× MZ12 <sub>5</sub> /MZ16	10 447 157	CA (10 446 172) M	CA (10 446 172) M	CA (10 446 172) M	C*M	C	C
Planapochromatic 1.6× MZ12 <sub>5</sub> /MZ16	10 472 650	CA (10 446 172) M	CA (10 446 172) M	CA (10 446 172) M	C*M	C	C
Planapochromatic 0.63× MZ12 <sub>5</sub> /MZ16	10 446 236	CA (10 446 172) M	CA (10 446 172) M	CA (10 446 172) M	C*M	C	C
Planapochromatic 2× MZ12 <sub>5</sub> /MZ16	10 447 101	CA (10 446 172) M	CA (10 446 172) M	CA (10 446 172) M	C*M	C	C
<b>Accessories</b>							
Coaxial incident light	10 446 180	C	C	O (10 446 300)	O (10 446 300)	C	C
Microscope carrier AX MS5, MZ6, MZ7 <sub>5</sub> , MZ9 <sub>5</sub>	10 445 618	C	C	C	C		
Microscope carrier AX MZ12 <sub>5</sub> , MZ16, MZ16 A	10 447 062					C	C
Vertical illuminator	10 445 198	C	C	CA 2× (10 446 300)	CA (10 446 300)	CA (10 446 300) + (10 446 393)	
Attachment for vertical and oblique observation	10 445 156	C	C	CA 2× (10 446 300)	CA (10 446 300)	CA (10 446 300) + (10 446 393)	CA (10 446 300) + (10 446 393)
Objective turret for planapochromatic planapochromatic objective 1× and 2×	10 447 107	(C)	(C)	(C)	(C)	(C)	C

C Compatible

CA Compatible if used with intermediate ring (order separately)

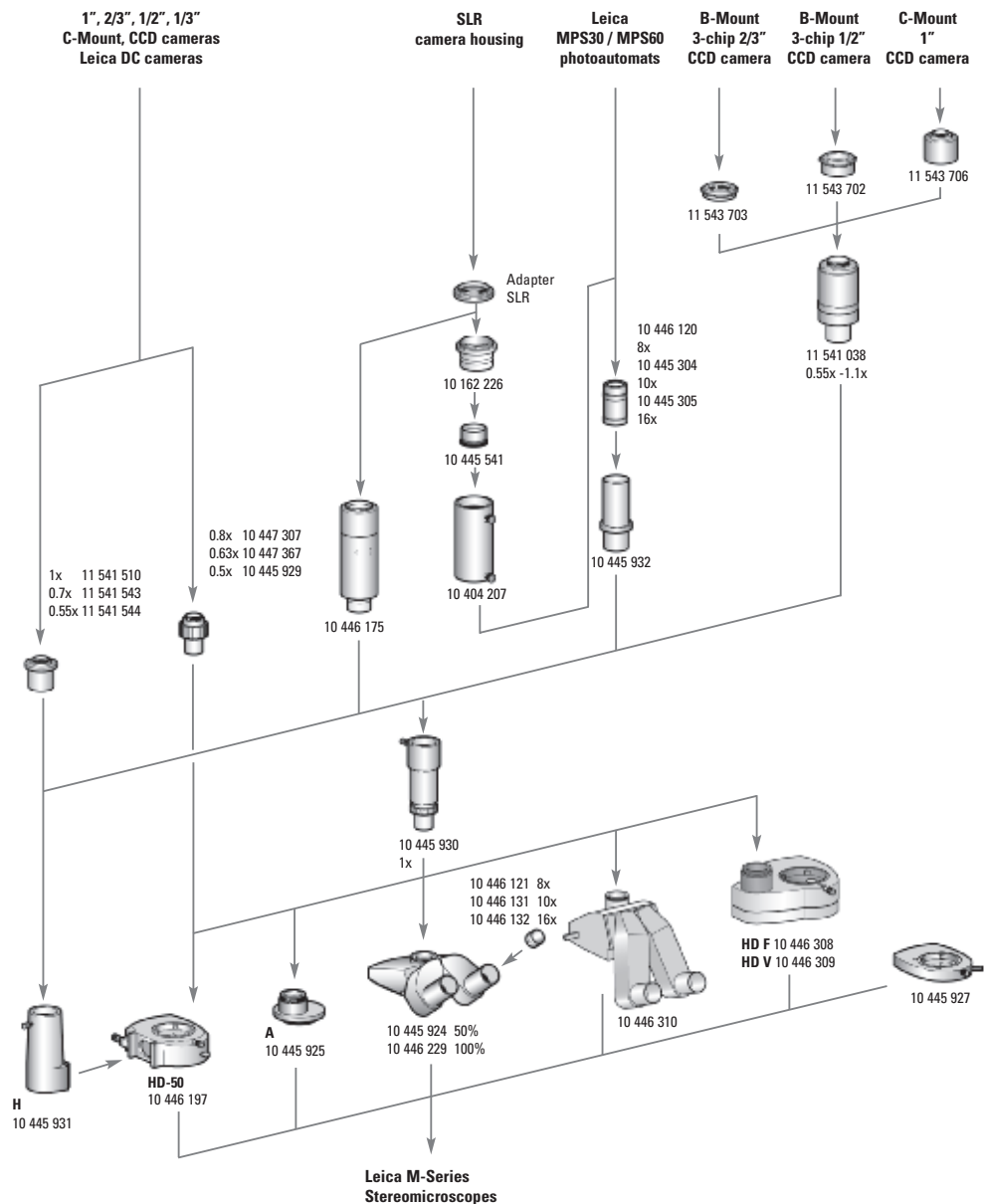
O Intermediate ring is recommended

M Magnification increased by factor 1.25× or higher

(C) Large object fields at low magnifications are not fully illuminated.

\* Remove intermediate ring (10 446 393); already included with MZ9<sub>5</sub>.

# Video/Phototubes

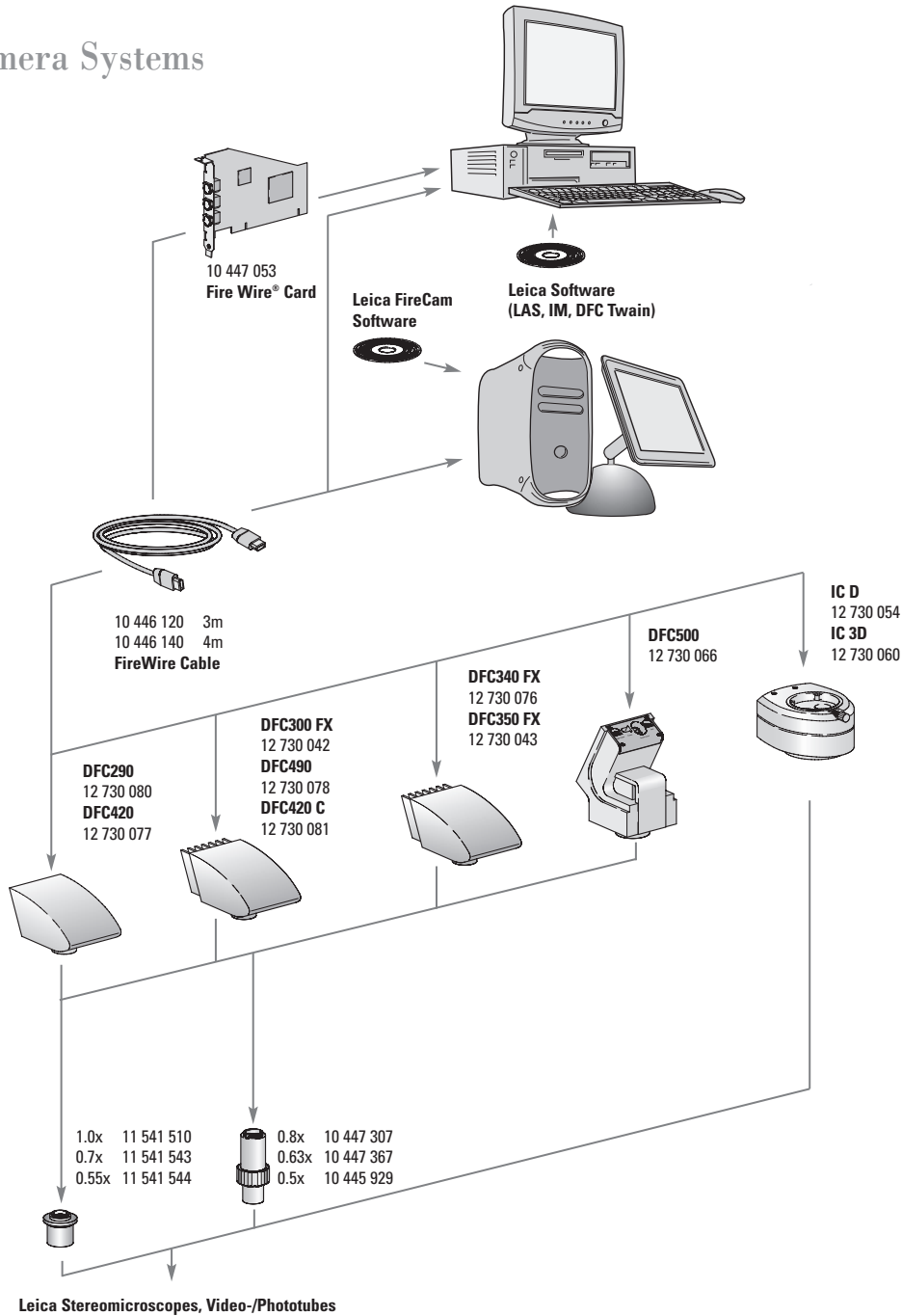


Video/phototubes	
10 445 924	Trinocular video/phototube 50%
10 446 229	Trinocular video/phototube 100%
10 446 197	Video/phototube HD-50
10 445 925	Video/phototube A
10 446 310	Trinocular tube, ultra-low, 100%, 100%
10 446 308	Video/phototube HD-F, 50%, 50%
10 446 309	Video/phototube HD-V, 100%, 50%, 50%, 100%
* The video objective 0.32x is shorter. For this reason, please use the low inclined binocular tube for large cameras (10 429 781)	
Video/photo objectives	
10 445 930	Video/photo objective 1x for video/phototubes
10 445 931	Video/photo objective H for video/phototube HD Video objectives
10 445 928	Video objective 0.32x with C-mount for 1/3" CCD cameras for video/phototubes
10 445 929	Video objective 0.5x with C-mount for 1/2" CCD cameras for video/phototubes
10 447 367	Video objective 0.63x with C-mount for 2/3" CCD cameras for video/phototubes
10 447 307	Video objective 0.8x with C-Mount for CCD cameras for video/phototubes

11 541 510	C-Mount adapter 1x
11 541 543	C-Mount adapter 0.7x
11 541 544	C-Mount adapter 0.55x
Eyepiece tube	
10 445 932	Eyepiece tube for video/photo objectives and video/phototubes (external diameter 37 mm)
Focusing and framing graticule for adjustable eyepieces	
10 446 121	Focusing and framing graticule MPS, 8x
10 446 131	Focusing and framing graticule MPS, 10x
10 446 132	Focusing and framing graticule MPS, 16x
Accessories for SLR cameras	
10 446 120	Photo eyepiece 8x
10 445 304	Photo eyepiece 10x
10 445 305	Photo eyepiece 16x
10 404 207	Adapter 40 mm for SLR camera housing
10 445 541	Camera objective 0.32x
10 162 226	Connecting sleeve for SLR camera housing
10 446 175	Matching SLR camera adapter available upon request. SLR projection lens 2.5x, with T2 thread, for use with single-lens reflex cameras on video/phototubes (For the camera housing the respective camera adapter is additionally required)



# Digital Camera Systems



Leica Stereomicroscopes, Video-/Phototubes

## Digital camera systems

- 12 730 080 Leica DFC290 camera kit
- 12 730 042 Leica DFC300 FX camera kit
- 12 730 076 Leica DFC340 FX camera kit
- 12 730 043 Leica DFC350 FX camera kit
- 12 730 077 Leica DFC420 camera kit
- 12 730 081 Leica DFC420 C camera kit
- 12 730 078 Leica DFC490 camera kit
- 12 730 066 Leica DFC500 camera kit

The camera kits contain: The respective Leica camera, Leica LAS software for PC, Leica DFC Twain software for PC, Leica Firecam software for Mac, Leica IM50 Image Manager for PC, 3 m FireWire cable 6-to-6-pin

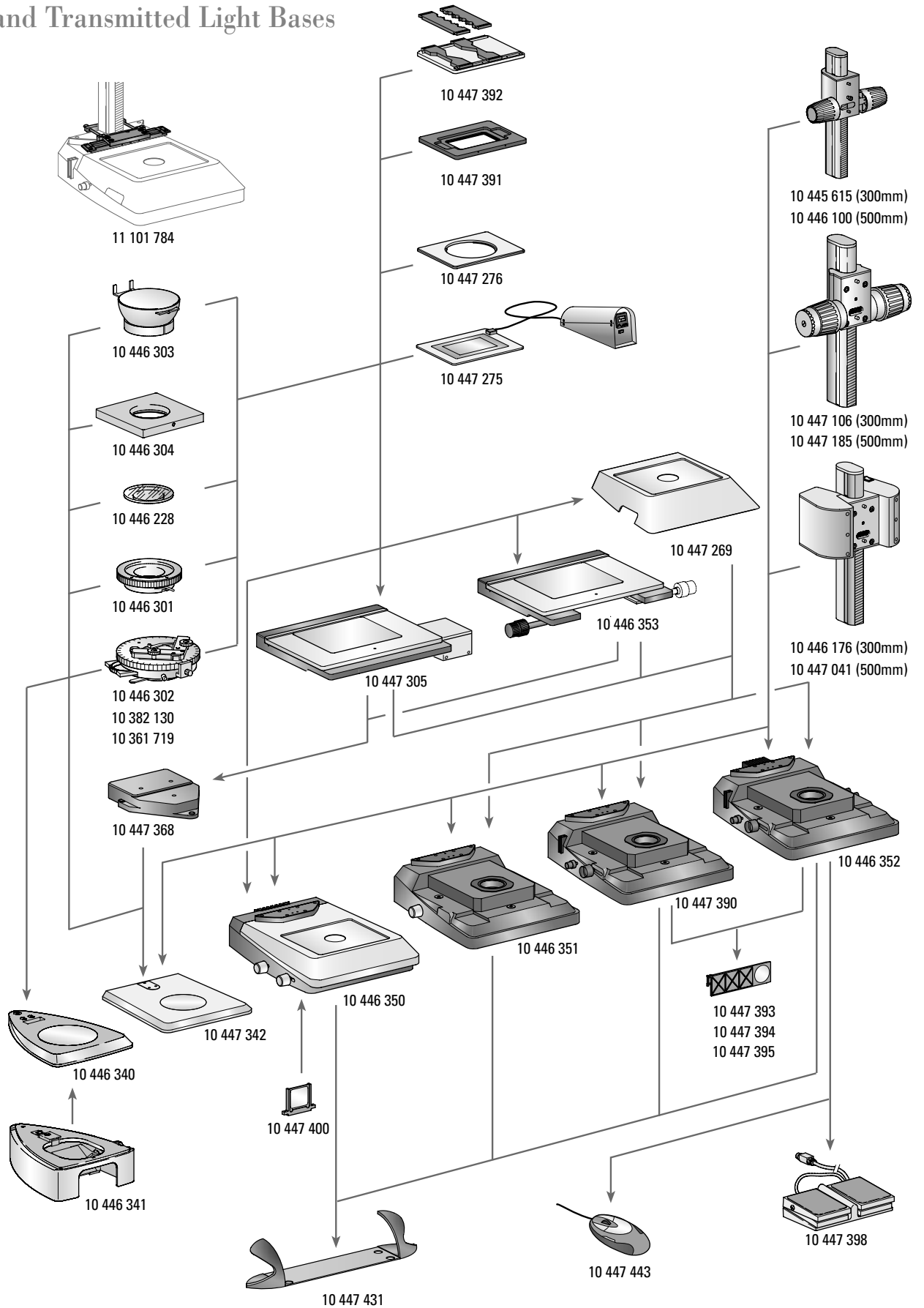
- 12 730 054 Leica IC D camera kit
- 12 730 060 IC 3D camera kit

- 12 730 177 Leica DC150 digital camera system with C-mount adapter and camera software

## Accessories

- 12 447 140 FireWire cable 4m, 6-to-6 pin
- 12 447 053 OHCI FireWire PCI card for PCs without FireWire interface
- 12 447 066 Laptop PCMCIA FireWire interface card
- 12 730 049 Laptop power kit, FireWire hub with power supply for use with 4-pin FireWire or unpowered 6-pin FireWire parts

# Incident and Transmitted Light Bases



**For detailed dimensions and descriptions see brochure M1-218-0en**

**Incident and transmitted light bases**

- 10 446 340 Incident light base for S series
- 10 446 341 Sub-base for transmitted light for S-series incident light base
- 10 447 342 Incident light base for M series
- 10 446 350 Transmitted-light base TL ST
- 10 446 351 Transmitted-light base TL BFDF
- 10 447 390 Transmitted-light base TL RC™ for external cold light sources
- 10 446 352 Transmitted-light base TL RCI™ with integrated halogen illumination
  
- Stages**
- 10 447 269 Standard stage for TL BFDF, TL RC™ and TL RCI™ transmitted light bases
- 10 446 353 Leica IsoPro™ manual cross-stage for TL BFDF, TL RC™, TL RCI™ transmitted light bases and incident light base (with adapter 10 447 368)
- 10 447 305 Leica IsoPro™ motorized cross-stage for TL BFDF, TL RC™, TL RCI™ transmitted light bases and incident light base (with adapter 10 447 368)
- 10 447 368 Adapter between cross-stage and incident light base 10 447 342
  
- 10 447 275 Leica MATS TL heating stage insert with control unit for TL transmitted light bases
- 10 447 276 Adapter for stages with Ø120 mm
- 10 447 391 Stage for LifeOnStage accessories
- 10 447 392 Universal carrier for Petri dishes, glass slides (up to four) etc.
  
- 11 101 784 Column adapter for micromanipulation
- 10 446 301 Gliding stage, Ø120 mm
- 10 446 302 Polarization stage, Ø120 mm
- 10 382 130 Attachable mechanical stage for polarization stage
- 10 361 719 Sensitive-tint plate for Pol rotating stage
- 10 446 303 Cup stage, Ø120 mm

- 10 446 304 Universal carrier Ø120 mm
- 10 446 228 Glass stage plate with Pol, Ø120 mm
- 10 450 058 B&W plate for TL series transmitted light bases
- 10 450 059 Supplementary drive knob for Iso-Pro™ XY stage

**Focus drives**

- 10 445 615 Focus drive with side-faced column 300 mm for incident and transmitted light bases
- 10 446 100 Focus drive with side-faced column 500 mm for incident and transmitted light bases
- 10 447 106 Focus drive, coarse/fine, with side-faced column, 300 mm for incident and transmitted light bases
- 10 447 185 Focus drive, coarse/fine, with side-faced column, 500 mm for incident and transmitted light bases
- 10 446 176 Motor focus drive with column 300 mm and supply unit for incident and transmitted light bases
- 10 447 041 Motor focus drive with column 500 mm and supply unit for incident and transmitted light bases

**Filters**

- 10 447 400 Daylight filter for TL ST base
- 10 447 394 BG38 fluorescence filter for TL RC™/ RCI™ transmitted light base
- 10 447 395 UV filter for TL RC™/ RCI™ base
- 10 447 393 ND filter (gray filter) for TL RC™/ RCI™ base

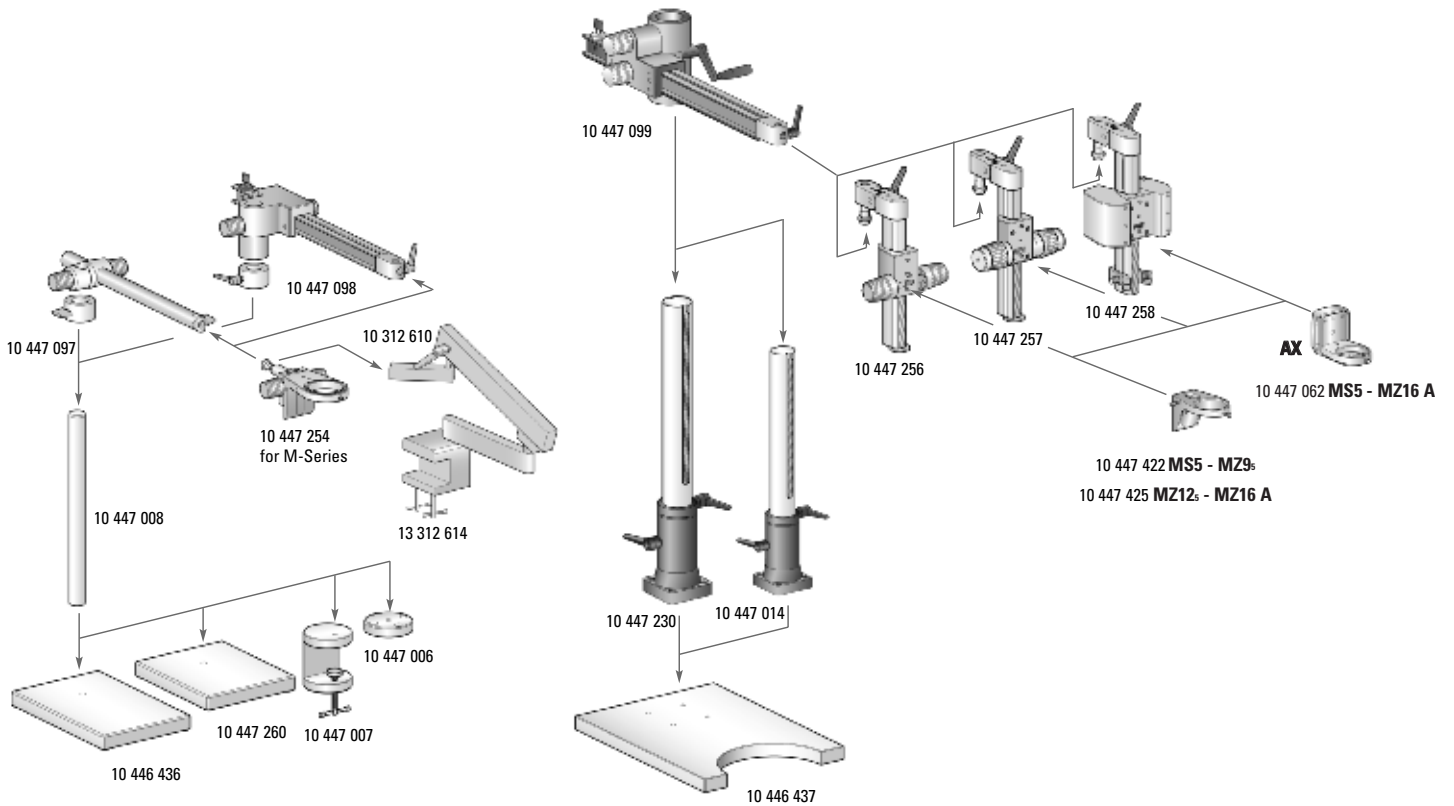
**Illumination**

- 10 447 443 Leica USB mouse, user-programmable five-button mouse for connection to the TL RCI™ transmitted light base or PC
- 10 443 401 USB cable for connecting the TL RCI™ base to the PC
- 10 447 398 Footswitch with CTL2 bus connection

**Ergonomic accessories**

- 10 447 431 Leica ErgoRest (handrest for fatigue-free work)

# Swing Arm Stands



**For detailed dimensions and descriptions  
see brochure M1-217-1**

- 10 447 260 Baseplate, small
- 10 446 436 Baseplate, medium
- 10 447 008 Vertical column 470/35 mm
- 10 447 097 ESD horizontal arm
- 10 447 098 Standard horizontal arm
- 10 447 254 Inclination focus drive
- 10 447 006 Flange
- 10 447 007 Stage clamp
- 10 446 437 Baseplate, large
- 10 447 230 Vertical column 500/57 mm

- 10 447 014 Vertical column 800/57 mm
- 10 447 099 Horizontal arm, large
- 10 447 256 Focus drive with inclinable column
- 10 447 257 Focus drive coarse/fine, with inclinable column
- 10 447 258 Motorized focus with inclinable column, 300mm, and power supply
- 10 447 422 Microscope carrier for MS5 – MZ9s
- 10 447 425 Microscope carrier for MS12s – MZ16 A
- 10 447 062 AX carrier for MS5 – MZ16 A
- 13 312 610 Flex-arm
- 13 312 611 Wall mount for flex-arm, screw-on
- 13 312 613 Stage mount for flex-arm, screw-on
- 13 312 614 Stage clamp for flex-arm

# Information Material

## Stereomicroscopes, zoom systems and accessories

All brochures available in German, English, French, Spanish, Italian. For M and S series stereomicroscopes, manuals are available in German, English, French, Spanish, Italian, Danish, Swedish, Dutch, Finnish, Greek, Portuguese, Estonian, Latvian, Lithuanian, Polish, Czech, Slovenian, Hungarian, Slovak.

Leica MZ16 F and MZ16 FA fluorescence stereomicroscopes	M1-116-5
Leica FluoCombi III™	M1-166-2
Stereomicroscopes Leica MZ16 and MZ16 A	M1-116-0
Stereomicroscope Leica MZ125	M1-125-0
Stereomicroscope Leica MZ95	M1-195-0
Stereomicroscope Leica MZ75	M1-175-0
Stereomicroscope Leica MS5, MZ6	M1-141-0
Leica M series stereomicroscopes (module)	M1-105-4
Zoom systems Leica Z6 APO and Z16 APO	M1-416-0
Motorized zoom systems Leica Z6 APO A & Z16 APO A	M1-417-0
MacroFluo™	M1-416-2
Leica StereoZoom® Greenough Stereomicroscopes	M1-188-0
Leica S8 APO StereoZoom®, natural science	M1-188-3
Leica S8 APO StereoZoom®, technology	M1-188-4
Leica colposcope	M1-280-0
Leica IC A video module for Leica M stereomicroscopes	M1-393-1
Leica stereomicroscope incident light and transmitted light bases	M1-218-0
Expertise in 3D	M1-525-5
Leica MATS heating stages	M1-227-0
Leica L2 cold-light source	M1-288-0
Leica L5 FL cold-light fluorescence system	M1-205-1

Please also visit our website

[www.leica-microsystems.com/stereomicroscopes](http://www.leica-microsystems.com/stereomicroscopes)

There you will find the latest information and updates as well as numerous examples of practical application for our stereomicroscopes in industry and life science. You can also view, print and download any of our catalogs, as well as the latest manuals, in 20 languages.

## Digital cameras & image processing/analysis software

Leica DC150 Digital camera system	M1-398-4
Leica DFC280 FireWire color camera system	M1-398-2
Leica DFC290 FireWire color camera system	M1-399-6
Leica DFC300 FX FireWire color camera system	M1-398-1
Leica DFC320 FireWire color camera system	M1-398-6
Leica DFC340 FX FireWire monochrome camera system	M1-399-4
Leica DFC350 FX FireWire monochrome camera system	M1-398-7
Leica DFC420/DFC420 C FireWire color camera system	M1-399-5
Leica DFC490 FX FireWire color camera system	M1-399-4
Leica DFC500 FireWire color camera system	M1-399-2
Leica Application Suite Software	M1-525-0
Leica IM1000 Image Manager image management system	M1-502-0
Leica QWin for quantitative microscopy	M1-511-0





# Leica Microsystems – the brand for outstanding products

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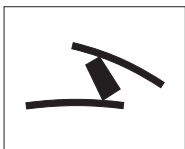
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