



Leica L2

Compact, modular cold light source
for stereomicroscopes

Leica
MICROSYSTEMS

Optimized Illumination for Peak Performance

A large portion of the performance of any microscope is dependent upon proper illumination of the specimen. Optimized illumination also improves the user's optical performance, and reduces eye strain, fatigue and error rates. Cold light sources and fiber optics have become the preferred means of illuminating specimens under a stereomicroscope for several reasons:

- They generate intense, bright, focused light that can be easily guided to the specimen.
- The infrared spectrum (heat generating) of light is filtered out to reduce the possibility of damaging heat sensitive specimens or injuring operators.
- A wide variety of fiber optic light guides are available, allowing a multitude of illumination techniques to achieve optimized illumination and generate the best possible image of the specimen.

- The bulk of the system is removed from the immediate workspace, and the compact fiber optic light guides do not interfere with specimen handling and accessibility.

The Leica L2 cold light source is a powerful, compact, and affordable system suited for all applications in industry and science. The fiber optic light guides are carefully matched to the cold light source, creating an optimized system designed to compliment the performance of the Leica StereoZoom® line. Specialty fiber guides and accessories are available to provide advanced lighting techniques such as coaxial, vertical (spot), and transparent illumination. Standard gooseneck and ring-light fiber guides are also available for routine bright-field and dark-field incident and transmitted light applications. The Leica L2 can be attached directly to Leica StereoZoom® and MZ series stereomicroscopes and has the same patented *ZeroStat* antistatic protection.

Leica L2 – Illumination method

In fiber optics, light is transmitted in bundled fiber optic cables made of glass through multiple total reflection. Glass guarantees the greatest possible safety during use, cannot be burned, and is not sensitive to heat, UV rays, and other environmental influences. The cold light source in the Leica L2 is a halogen reflector lamp 8V/20W, whose heat-producing infrared rays have been filtered out. The remaining visible light is directed to the other end of the light guide and is emitted there as a concentrated point of light.

The Leica L2 cold light source:
Compact, space-saving, powerful,
and antistatic

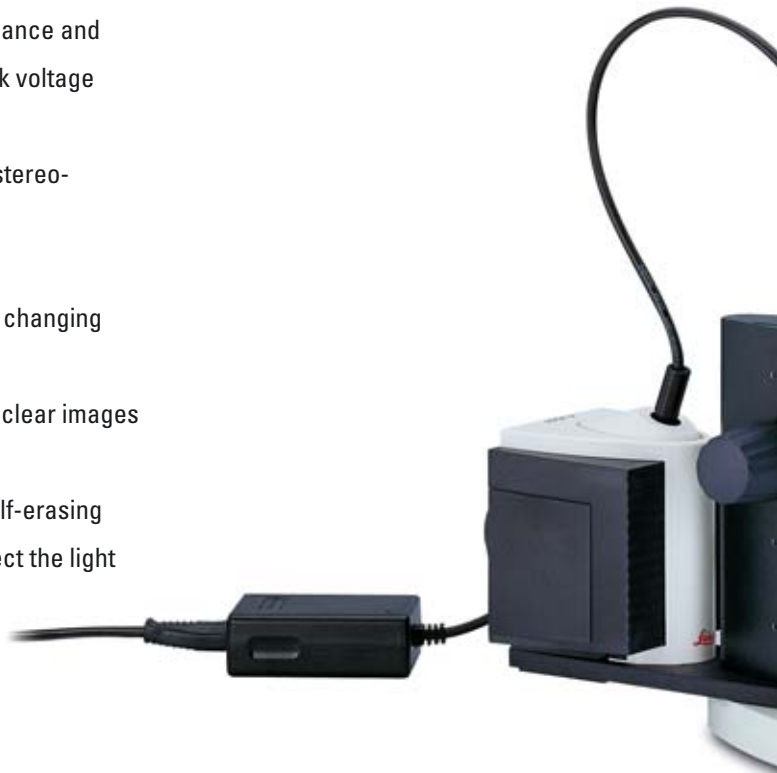
Leica Design by Christophe Apothélos



The Dawning of a New Light

The Leica L2's unique performance:

- Highest total light stream of 63 lumens at light guide – more intense light to produce better microscope images
- Minimal 100Hz flickers, no light dispersion, constant color temperature at 3200°K for optimized video images
- Smallest (125mm×110mm×150mm) and lightest (0.5kg) cold light source – conserves bench space, easy to move
- Can be integrated with stereomicroscopes to provide optimized illumination, taking up less space and avoiding the misdirection of illumination during focusing or moving the stereomicroscope
- Only cold light source with a volt-sensitive network component that guarantees stable illumination performance and automatic calibration to the corresponding network voltage from 100V to 240V
- Antistatic casing in harmony with antistatic Leica stereomicroscopes for ESD safe inspections
- Long lamp life of 250 hours (at maximum intensity) to 5000 hours (at level I) saves money, simple lamp changing (no tools required) saves time
- Noise-free and vibration-free operation for crystal clear images in a peaceful environment
- Various light guides with a protective coating of self-erasing Megolon® – long life fiber guides to accurately direct the light where it is most needed
- Attachments for coaxial, vertical, and transparent illumination – special lighting techniques to see details that may otherwise go unnoticed





Affordable Optimization

The Leica L2 is designed for optimized performance with Leica StereoZoom® stereomicroscopes. As an integrated system it offers the greatest performance advantages and is the most affordable cold light source in its class. The Leica L2 is the only cold light source that eliminates 100Hz flicker, a distracting phenomenon witnessed when viewing digital image processing on a monitor.

The total light stream at the fiber optic light guide output is more intense ($\varnothing 4.5\text{mm}$ bundle at 54 lumens and $\varnothing 5\text{mm}$ at 63 lumens) to produce the best microscope images possible. The volt-sensitive network component is also unique, calibrating itself automatically to the applicable network voltage of 100V to 240V and guaranteeing stable illumination performance during voltage fluctuations.

Easy to maintain and safe

The aesthetically appealing design conceals a specially selected halogen reflector lamp 8V/20W for optimal results. The lamp casing has been refined to make changing the lamp as quick and easy as possible: Simply open the lamp cover (the lamp turns off automatically), change the lamp, and close the cover again. The Leica L2 has been tested and approved against applicable international safety regulations, and is both UL and CE compliant.



StereoZoom® Leica S6 E with Leica L2 cold light source,
universal light guide and power supply unit, volt-sensitive

Leica L2

Variety in a new light

Modest footprint

In most laboratory and industrial environments bench space is at a premium. The Leica L2 is not only the smallest (125mm×110mm×150mm) and lightest (0.5kg) cold light source, it is also the only one that can be attached directly to the stereomicroscope stand. The advantages:

- The complete microscope and illumination system require minimal space and can be carried easily from one work place to another area.
- The illumination retains a constant orientation toward the specimen when the stereomicroscope is refocused or moved.

For data and scale drawings, see page 7.

Vertical illumination for high relief slide preparations and for brightening depressions and holes

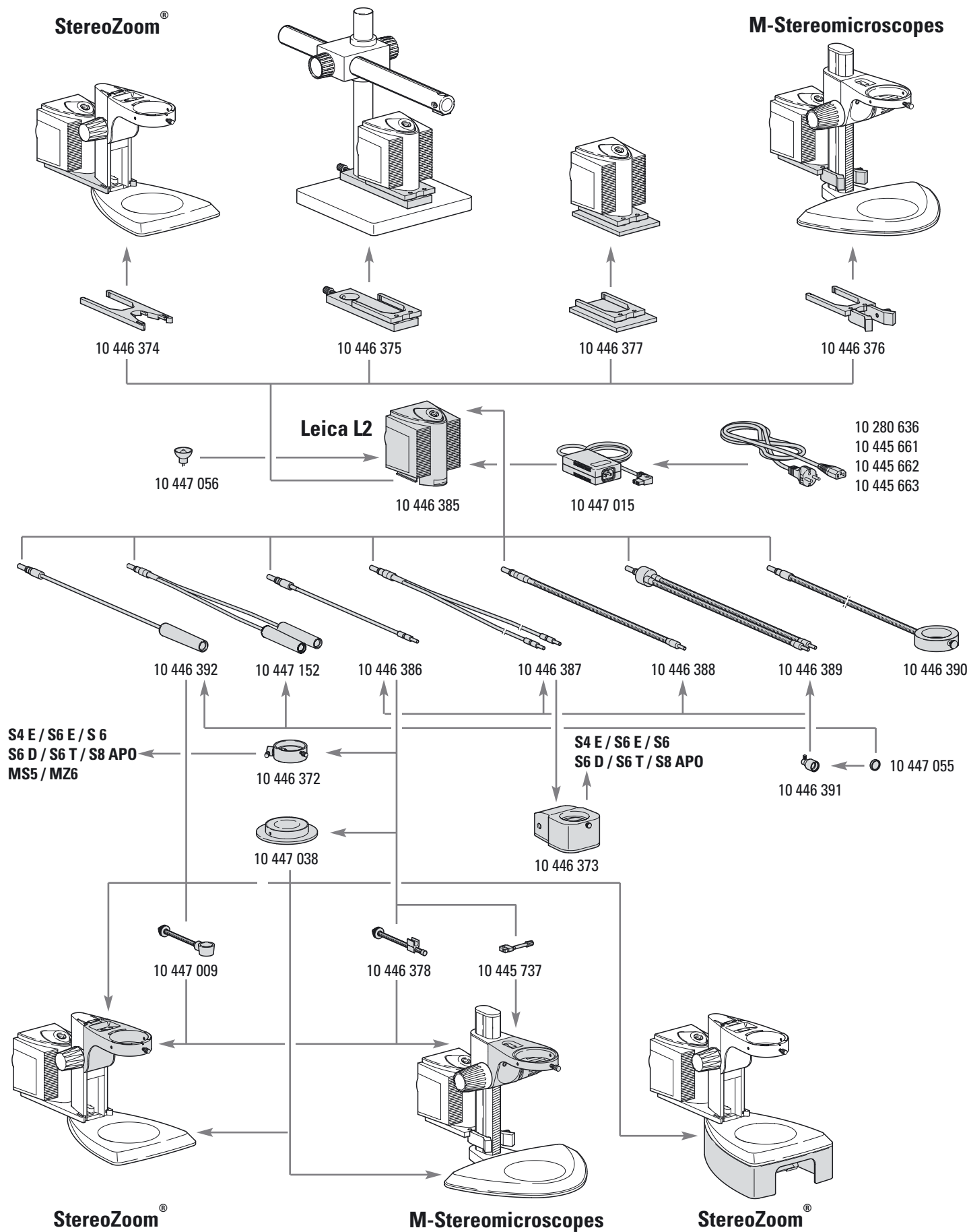


The Fiber Optics Make the Difference

The fiber optic light guides of the Leica L2 system are made from specially selected glass to guarantee the fastest light transmission rates and optimal light distribution. This creates the brightest, most evenly distributed beam of light possible at the exit end of the fiber bundle. The optical fiber bundles are encased in a high quality coating of halogen-free, self-erasing Mego-lon®. This environmentally friendly process creates a casing that is strong and flexible. It will not become brittle or crack with time and does not leave performance robbing deposits on the glass bundles it protects. The entrance ends of the fiber guides are heat resistant to prevent de-lamination and assure extraordinary long fiber optic life.

- | | |
|--|--|
| 1 Self-supporting one and two-armed goose-neck light guides | 4 6-point ring light for shadow-free, homogenous illumination of reflective, uneven surfaces |
| 2 Coaxial illumination for reflective, flat objects like polished metal components, wafers, chips, or layered surfaces | 5 Transparent parts for thinly cut slide preparations and semi-transparent slide preparations |
| 3 Adapter for Leica M Stereomicroscopes | 6 Universal light guides with integrated lenses for brightening-related and transparent applications, usable with or without articulated arm |

Leica L2 Assembly diagram



Catalog references

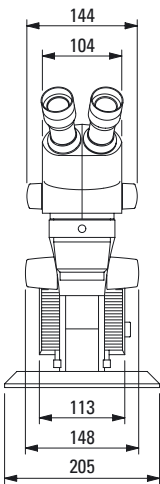
Item No.	
10 446 385	Leica L2 fiber optic light source
10 447 015	Power supply Leica L2
10 446 386	Single flexible light guide, 550mm
10 446 387	Double flexible light guide, 750mm
10 446 388	Single gooseneck, 500mm
10 446 389	Double gooseneck, 500mm
10 446 390	6-point ringlight, 58mm I.D., 750mm
10 447 038	Transmitted light stage
10 446 391	Focusing lens
10 447 055	Daylight conversion filter for focusing lens
10 446 392	Universal light guide
10 447 152	Double universal light guide
10 446 374	L2 adapter for focus column
10 446 375	L2 adapter for S-stand
10 446 376	L2 adapter for focus drive 300mm
10 446 377	L2 base
10 446 378	Flexible light guide mount
10 447 009	Universal light guide mount
10 446 372	Near vertical illuminator
10 446 373	Coaxial illuminator
10 280 636	Power cable 2m, CH
10 445 661	Power cable 2m, US
10 445 662	Power cable 2m, EURO
10 445 663	Power cable 2m, BS

Bulb	
10 447 056	Bulb 8V/20W for L2

Dimensions of Leica L2 with Leica S4 E, S6 E, S6 T

with incident-light stand

Leica S4 E, S6 E, S6 T



Dimensions
in mm



1



2



3



4



5



6

Leica L2 Cold light source

Technical data

Dimensions (W×D×H)	approximately 125mm×110mm×150mm
Weight	approximately 0.53kg
Material	antistatic
Operational voltage of the network component, volt-sensitive	100 .. 240V ~ 50/60Hz
Power consumption	20W
Lamp	halogen reflector lamp 8V/20W
Brightness control	Three position switch
Average lamp lifetime	5000h (at level I)/1000h (at level II)/250h (at level I)
Cooling	convection ventilation, silent and vibration-free
Maximum technically usable bundle diameter of light guide	6mm
Total light stream at light guide output on Level III (maximum)	
– Light guide Ø4.5mm	54 lumens
– Light guide Ø6.0mm	63 lumens
Color temperature	3200°K

Attachments

Various adapters	to secure the cold light source to the stands of the Leica StereoZoom® and M Stereomicroscope lines and columns diameter 25mm–38mm
Base plate	stand-alone version
Light guides	one and two-armed, flexible and self-supporting
Focusing front lens	with daylight filter, adjustable
Universal light guides	with convex lens
Various arms	to secure the light guides to the stereomicroscope
6-point ring light	shadow-free, homogeneous illumination
Coaxial, vertical, and transparency illumination	usable with light guides
Protective coating on light guides	halogen-free, Megolon®
Conformance with standards	– safety regulations for electric measuring, control, regulator, and laboratory equipment DIN EN 61010-1:1993 IEC 1010-1 – electrical equipment for laboratory use UL 3101-1 – low-voltage guidelines 73/23/EWG – EMV guidelines 89/336/EWG – earned European standards seal of approval CE

In accordance with the ISO 9001 certificate, Leica Microsystems (Switzerland) Ltd., Stereo & Macroscopic Systems, has at its disposal a management system that meets the requirements of the international standard for quality management.

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