



# Leica KL200 LED / Leica L2

**Compact, modular cold light sources for routine stereomicroscopes**

# Optimized Illumination for Peak Performance

The key to top performance of any microscope depends 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 are often present to illuminate 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 Routine Modular Lighting System is a powerful, compact, yet affordable cold light source system that is ideal for many routine applications in industry and life science.

At the heart of this system are two powerful light sources, The KL200 LED and the Classic L2 (halogen lamp). These light sources can be combined with a vast array of accessories such as standard one or two armed fiber light guides, one or two arm goosenecks, coaxial lighting, near vertical illumination, and transmitted light base adapters. This allows the user to customize their system to meet the most demanding routine application needs.

Due to their smart design, the KL200 LED and the Leica L2 can be mounted to nearly any microscope stand or used as a stand-alone illumination devices.

#### **Leica Cold Light Source – Illumination method**

In fiber optics, light is transmitted in bundled fiber optic cables made of glass. 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. Since the KL200 LED is LED based, there is also no IR present.

The KL200 LED: Compact, space-saving, powerful, and energy saving.

Leica Design by Christophe Apothéloz



# The freedom of choice in light!

## KL200 LED

The KL200 LED employs state-of-the-art technology, using a single powerful LED driven light source to provide an attractive alternative to conventional halogen cold light sources. The KL200 LED has an extremely long service lifetime of approximately 50,000 hours. This means users never have to change bulbs, which can reduce the cost of ownership and avoids service and downtime. Compared to conventional halogen light sources, the KL200 LED consumes up to 80% less energy, which not only has a positive impact on the environment, but also has the potential to save money.

The brightness is equivalent to a 20-watt halogen lamp, which makes it an ideal illumination system for the requirements of routine stereo microscopes. Emitting neutral white light (approx. 5,600 K) the KL200 LED is DC driven. This provides ripple free illumination that is well suited for digital imaging applications. An additional benefit is that the color temperature does not change when the light source is dimmed.

The KL200 LED combines all advantages of LED light with the advantages of illumination through fiber optic solutions. This means that one can achieve higher light intensities focused to a very small field of view.

The KL200 LED offers simple operation combined with an excellent value for your money.



StereoZoom® Leica S6 E with Leica KL200 LED cold light source



Stand-alone version for mounting the KL200 LED



Coaxial illumination for flat reflective objects such as polished metal components, wafers, chips, or layered surfaces.



Adapter for the KL200 LED to S-Series Stereomicroscopes.



### Leica L2

For those who prefer working with the warmer Halogen light source, we can offer the Leica L2.

The Leica L2 is a powerful, compact, affordable cold light source that is powered with a 20W halogen lamp. It's integrated design conserves bench-top space and is perfect for industry and laboratory applications.

The Leica L2 delivers light at the color temperature of 3200° K, perfect for photo-documentation. The built-in controller allows the user to select from three light intensities to provide the optimum illumination. The L2 is constructed of ESD safe polymers to help reduce the build-up of electrostatic charges on the light source.

The Leica L2 is a high efficiency system that provides excellent illumination at competitive prices, simply a good value!

- Halogen Cold Light Source – 20 Watt
- Semi-compact housing can be attached directly to nearly any microscope stand or can be used stand-alone
- Three bright levels with separate on/off switch
- Convection cooling (no fan)
- Universal power supply (100 – 240 V, 50 – 60 Hz) with international plug system
- Outstanding price performance ratio



Dual goose necks, offer complete flexibility to illuminate challenging samples.



Transmitted light base for prepared slides or semi-transparent specimens.



Universal light guides with integrated lenses to provide a focused light output.

# Leica KL200 LED / Leica L2

## Light with Variety!

### Modest footprint

In most laboratory and industrial environments bench space is at a premium. Since the KL200 LED and the Leica L2 can be directly attached to the stereomicroscope stand, you can make the most of your work space! 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 a system drawing, see page 7.

### The Fiber Optics Make the Difference

The fiber optic light guides 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 Megolon®. 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.

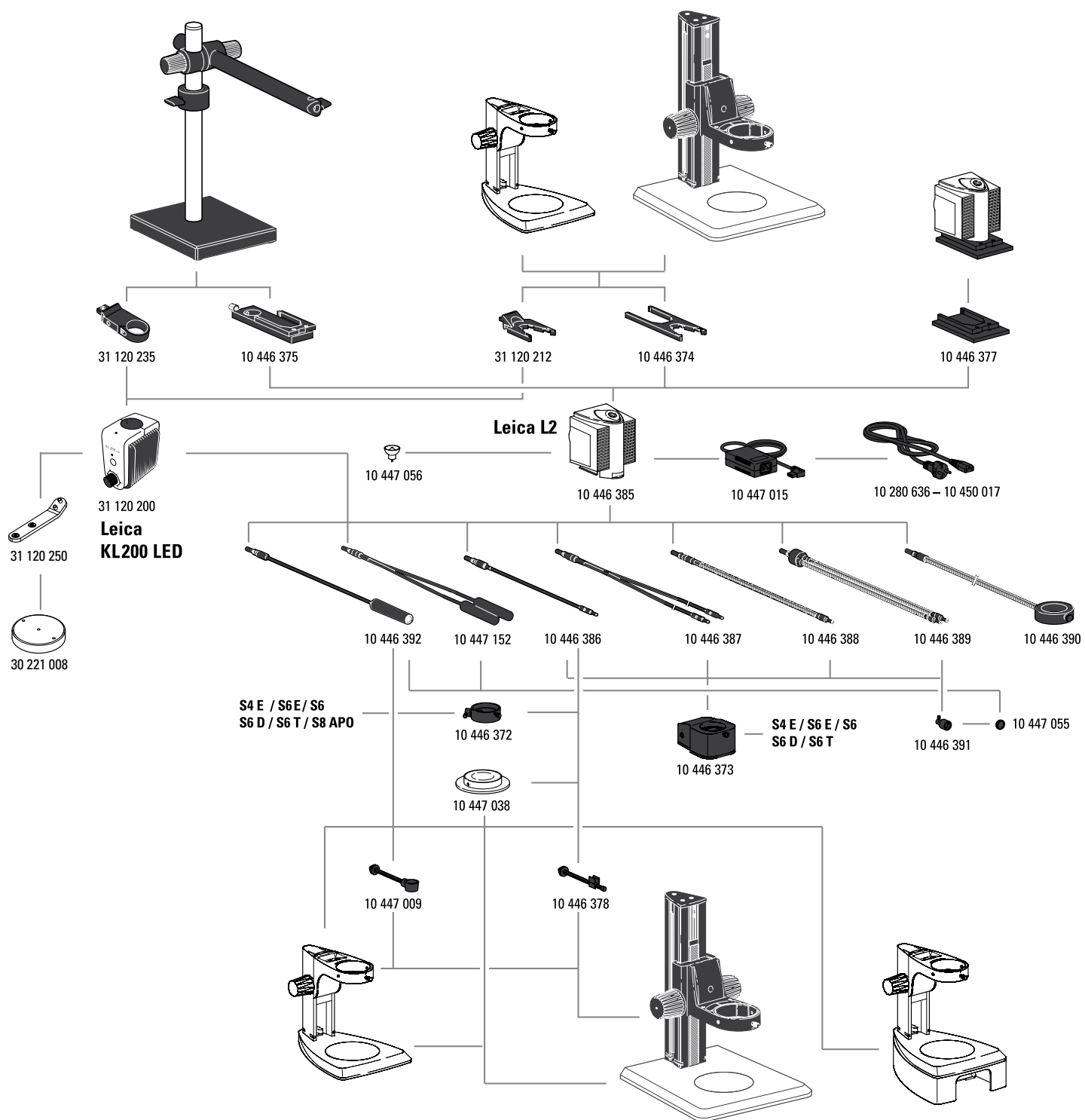
### Catalog references Leica KL200 LED and Leica L2

Item No.	
31 120 200	KL200 LED fiber optic light source
10 446 385	Leica L2 fiber optic light source
10 447 015	Transformer Leica L2, 90-250V
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
10 446 377	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
30 221 008	Base Plate for KL200 LED
31 120 250	KL200 LED Adapter for Base Plate
31 120 235	KL200 LED Adapter for swing arm stand
31 120 212	KL200 LED Bracket for S-Stand

### Bulb

10 447 056	Bulb 8V/20W for L2
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# System Diagram



# Leica KL200 LED and L2 cold light sources

## Technical data

	<b>KL200 LED</b>	<b>Leica L2</b>
Dimensions (WxDxH)	115 mm × 106 mm × 59 mm	approx. 125 mm × 110 mm × 150 mm
Weight	0.35 kg	approx. 0.53 kg
Material	-	antistatic
Operational voltage of the network component, volt-sensitive	100 .. 240V ~ 50/60Hz	
Power consumption	5 VA	20W
Lamp	3W	halogen reflector lamp 8V/20W
Brightness control	continuous	Three position switch
Average lamp lifetime	50,000	5000h (at level I)/1000h (at level II) 250h (at level III)
Cooling	convection ventilation, silent and vibration-free	
Maximum technically usable bundle diameter of light guide	6 mm	
Total light stream at light guide output on Level III (maximum)		
– Light guide $\varnothing$ 4.5mm	50 lumens	40 lumens
Color temperature	5600°K	3200°K
<b>Attachments</b>		
Various adapters	35 mm column M-Series	35 mm column M-Series columns MZ-Series columns
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 flexible light guides	
Protective coating on light guides	halogen-free, Megolon®	
Conformance with standards	The KL200 LED is in compliance with the CE regulations. (Power supply: CE, UL, PSE)	The L2 is in compliance with the CE regulations. (Power supply: CE, UL)