

Leica A60 H

The stereomicroscope system for high productivity in the electronics and medical device manufacturing industries

Living up to Life

Leica
MICROSYSTEMS



n a stent, mechanical precision is a
natter of life and death



ood example of extreme miniaturiza-
on: state-of-the-art hearing aid



Precision for medical device manufaturing

Optimizes productivity and quality

The Leica A60 H is optimized for applications in which components have to be assembled, glued, soldered, and reworked.

- Large object field of 30 mm provides good overview of the device
- Approximately twice the depth of field makes installation work easy
- Saves time, as refocusing is rarely necessary
- Convenient handling of tools with a large working distance of 122 mm

The illumination: powerful yet energy-saving

Because medical components in frequently consist of reflective metal that causes bothersome shiny spots during viewing, the Leica A60 H offers two types of illumination.

- Bright, uniform illumination of the sample provided by LEDs with focus lenses in front
- Comfortable, convenient viewing of reflective samples with the attachable diffuser
- Virtually no lamp replacement due to long lifetime, powerful LEDs
- Low power consumption

Ergonomically designed

The Leica A60 H benefits from Leica Microsystems' expertise in ergonomic design.

- 38° viewing angle for natural head posture
- Special eyepieces for eyeglass wearers
- Perfectly matched position between zoom and focus knob for tension-free work

Optimized electronics production

Inspection of printed circuit boards made easy
The optics of the Leica A60 H make inspecting and reworking printed circuit boards easy.

- Large overview with a 30 mm object field
- Approximately 100 % greater depth of field makes resoldering work easy
- Convenient handling of soldering iron and test probe with a large working distance of 122 mm

One illuminator – two illumination types
The Leica A60 H offers an illuminator that enables a view of both detail-rich workpieces and highly reflective samples.

- LED ring illuminator for bright, uniform illumination
- Attachable diffuser for viewing reflective specimens without bothersome shiny spots
- Fast amortization: durable, power-saving LED illumination (at the same brightness, provides energy savings of up to 80 % compared to conventional halogen cold light sources)

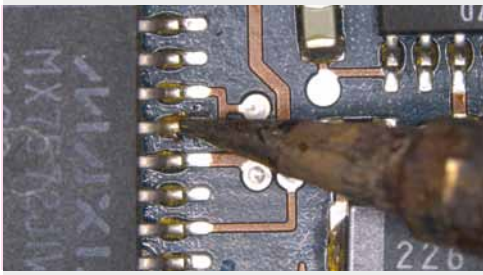
Optimum use of the workstation
If a separate microscope workstation is not available, both stand variations – swing arm and flex arm – are ideal.

- Minimal space requirements
- Greatest possible amount of room for work
- Can swing out of the way easily, clearing the workstation for other tasks

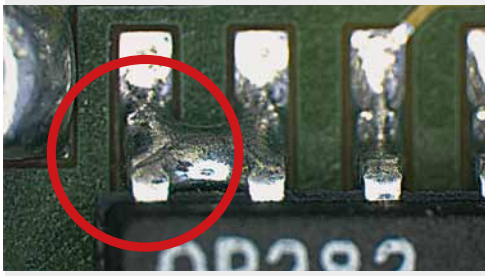
Safer for sensitive components
Because protection against static charge is required for tools used in ESD sensitive environments, the Leica A60 H has an ESD-protected design.

- Patented, antistatic polymer housing
- High degree of ESD protection helps safeguard your products



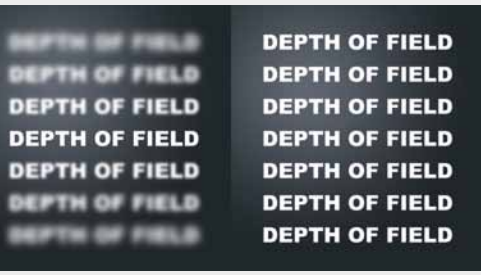


Resoldering chips

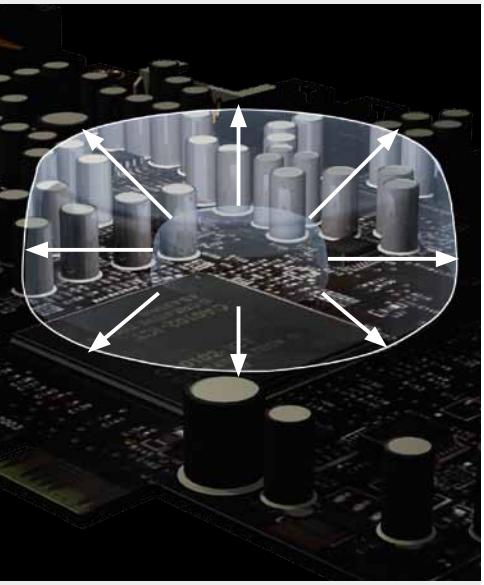


Time-critical production

See more of the sample



Save time when focusing, provided by a depth of field of up to 10.3 mm





Working distance of 122 mm means there is plenty of room for tools

What does FusionOptics™ mean?

Conventional stereomicroscopes have two identical beam paths that reveal a spatial impression of the sample. Leica Microsystems' innovative FusionOptics™ technology, on the other hand, takes advantage of a neurological phenomenon: the microscope's left beam path has a great depth of field, while the right beam path shows an image with super-high resolution. The human brain then combines the best information from both channels, to compose a high resolution image with a great depth of field never achieved in any stereomicroscope before.

From a quick overview to the smallest detail

In most cases, components examined under a stereomicroscope in production are only a few millimeters in size. However, the entire workpiece is substantially larger. The Leica A60 H offers a magnification range from 8× to 48×, which enables both a large surface overview and detailed observation; with consistent sharpness and without time-consuming refocusing. This saves valuable time.

Large object field for maximum overview

Large samples frequently have multiple areas that need to be examined. The greater the number of areas of interest in the field of view at once, the faster, more accurate, and convenient work becomes. 30 mm object field means more comfort, convenience, and time savings.

Eagle eye in the millimeter range

With a depth of field of up to 10.3 mm, the Leica A60 H has a depth of field that is approximately twice that of comparable stereomicroscopes without FusionOptics™ technology. Practically speaking, this means that all areas within a height of up to 10.3 mm are displayed in sharp focus, without refocusing. Working with the microscope becomes more comfortable, convenient, and efficient.

More room for work

Often, manual tasks such as resoldering are performed while components are viewed under the stereomicroscope. With a working distance of 122 mm (without ring light), there is enough room to carry out even complex procedures comfortably, accurately, and without microscope contact. The high-quality optics of the Leica A60 H are protected from harmful soldering fumes by an interchangeable protective glass.

Hard facts about hardware

Ergonomics for high performance

Ergonomically designed workstations have been proven to increase performance and the quality of work results. Leica Microsystems' many years of experience in ergonomics is evident in the Leica A60 H: The 38° viewing angle of the Leica A60 H is close to a person's natural head posture. The zoom and focus knobs could not be more accessible; the rheostat of the focus drive can be adjusted to the preferences of a specific user. The operating elements of the Leica A60 H ring illuminator are also intuitive and easily accessible, by left and right-handed users alike.

Dual use of the workstation

The Leica A60 H offers two stand solutions for optimum utilization of the workstation. During microscope use, both the swing arm and the flex arm are compact enough to offer the maximum possible amount of room. When the microscope is not in use, simply swing it off to the side. This provides room for other tasks. As the Leica A60 H does not have any additional controls or cables, it also contributes to a neat, productive work environment.

Sturdy mechanical parts – little downtime

Where manufacturing processes are run around the clock, the demands on man and machine are high. In this environment, the sturdy, well-designed construction of the Leica A60 H is evident: The microscope's components have been tested under tough production conditions.

Safer for critical components

With its high degree of ESD dissipation, the patented, antistatic plastic of the Leica A60 H housing helps to protect against damage caused by static electricity in ESD sensitive production areas.



The 38° viewing angles of the Leica A60 H corresponds to natural head posture



The mechanical design, established for 10 years, protects your investment



The patented plastic housing prevents static charge



In one step, the microscope workstation becomes a regular workbench

Illumination options



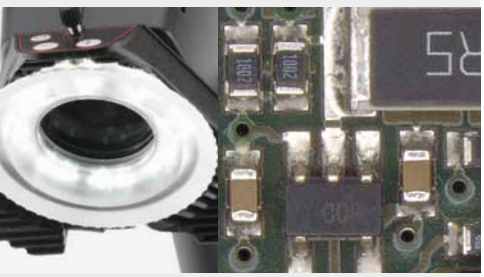
Always easily accessible: the operating elements of the Leica A60 H ring illuminator



The focusing lenses of the ring illuminator optimize brightness and illumination



Maximum brightness for matte, dark specimens



Diffused light reduces reflections on metallic surfaces, e.g., soldered joints

The best illumination for every application

The Leica A60 H is equipped with a bright, uniform LED ring illuminator plus removable diffuser. The outstanding feature of the ring illuminator is its daylight-like spectrum, which corresponds to the human eye's perception of neutral white. This allows details in different colors to be identified equally well and defects to be identified.

Find defects quickly and accurately

The dimmable LED ring illuminator brings the finest details to light, even on dark specimens. This makes finding defects on matte surfaces faster, more accurate, and more relaxed for the user.

Diffused light for better vision

When working with highly reflective surfaces such as metal or soldering joints, a diffuser is recommended. The diffused light, which is similar to a circular neon lamp, minimizes bothersome reflections and shiny spots. The finest details, such as microcracks in soldering joints, become visible. The diffuser makes work easier on the user's eyes and makes it easier to concentrate – a bonus for productivity.

Changing lamps is no longer necessary

The state-of-the-art, powerful LEDs used in the Leica A60 H have an average lifetime of 50,000 hours with very low power consumption. There is no need to change lamps, and no downtime. Cost of ownership is reduced and LED is energy-saving illumination.

The optimized LED ring illuminator

The LED ring illuminator is more than a circular arrangement of LED lamps. For the best light efficiency, a specially calculated focus lens is placed in front of each LED lamp. The LED ring illuminator provides optimum illumination of the work surface and creates the greatest possible brightness.

Specifications

Optical Data	
Optical system	Greenough, with Leica FusionOptics™
Convergence angle	10°
Zoom factor	6:1
Zoom range	8× – 48×
Working distance	122 mm (without illumination)
Viewing angle	38°
Max. object field	30 mm
Max. depth of field	10.3 mm
Interpupillary distance	52 – 76 mm
ESD protection	Antistatic polymer housing
Protection of optics	Interchangeable protective glass

LED Ring Light	
Number of LEDs	16 Med Power SMT LEDs
LED service life	50,000 hours
Color temperature	5600 K
Controls	On / Off, brightness (10 increments)
Max. power consumption	15 Watts
Power supply	100 – 240 V, 47 – 63 Hz, 0.55 A

Stands	
Swing Arm stand	
Max. extension	560mm
Dimensions of the base	230 × 266 mm
Flex Arm stand	
Max. extension	995 mm
Dimensions of the table clamp	105 × 100 mm
Table thickness	Up to 100 mm

Order Numbers	
10 450 642	Leica A60 H, with LED ring light
10 450 495	Flex arm stand with table clamp
10 447 260	Base plate, small
10 447 008	Vertical column 470 / 35 mm
10 447 097	Horizontal arm, 500 mm
10 446 447	Reticle, 10 mm / 0.1 mm
10 446 448	Reticle, 5 mm / 0.1 mm
10 446 449	Reticle, 5 mm / 0.05 mm
10 446 450	Reticle with crosshair
10 310 345	Stage micrometer
10 450 014	Power cable, 2 m, China, Type L

Spare Part Numbers	
10 447 039	Dust cover, small
10 447 150	Eyecups for eyepieces for eyeglass wearers (1 pair)
10 446 324	Optics protective glass

Optical Data		
Total magnification	Object field in mm	Depth of field* in mm
8	30	10.3
10.1	23.8	6.8
12.8	18.8	4.5
16	15	3
20	12	2
25.6	9.4	1.3
32	7.5	0.9
40	6	0.6
48	5	0.4

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

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

LIFE SCIENCE DIVISION

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

INDUSTRY DIVISION

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

BIOSYSTEMS DIVISION

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

MEDICAL DIVISION

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

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Canada · Concord/Ontario	+1	800 248 0123	847 405 0164
Denmark · Ballerup	+45	4454 0101	4454 0111
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Korea · Seoul	+82	2 514 65 43	2 514 65 48
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