



Leica CM1950

THE Disinfecting Clinical Cryostats

Living up to Life

Leica
MICROSYSTEMS

Leica CM1950 Platform

THE cryostats for high quality sectioning, user safety and efficient workflow

The Leica CM1950 platform is the latest innovation in a long line of distinguished cryostats manufactured by Leica Microsystems. Leica designed and developed the new family of cryostats based upon users' feedback and their requirements for high quality sections, user safety, and efficient laboratory workflow.

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High Quality Sectioning

- High precision microtome with stepper motor object feed
- Motorized sectioning (optional)
- New stable specimen clamp system
- New flat specimen discs for high specimen stability
- New rapid-freezing shelf design
- New effective object cooling system (optional)

User Safety

- UVC disinfection
- **AgProtect™** antimicrobial nanosilver surface coating
- New disposable blade holder CE
- Debris-free, frost-free enclosed microtome assembly
- Leica's Section Waste Removal System (optional)
- Spacious cabinet with rounded edges inside and out

Efficient Workflow

- UVC disinfection at any time and temperature
- Organized work space inside and out
- Frost-free, encapsulated microtome assembly
- Leica's Section Waste Removal System with easily-accessible, concealed filter system (optional)
- Easily recognizable control symbols
- Visible operating parameters at all times

Learn quickly and work confidently using the externally located, self-explanatory controls with easily recognizable symbols.

For an extra measure of safety, the inside of the instrument features an ozone-free UVC disinfection system that is certified to be effective against most bacteria, virus, and fungi, even at cold temperatures.



Increased safety for the user and others in the immediate work area: Leica's **AgProtect™** antimicrobial nanosilver surface coating deters the propagation of infectious agents on the outside of the instrument.



To protect the laboratory environment from contamination, a multi-filter system (including HEPA filter) removes particulates and cleans the air exhausted from the optional Section Waste Removal System

Liquid condensate
collected in an e
ble waste contain

ntly lit, ergonomic cryo-
is spacious enough to
efficient handling of multi-
mens.



te is safely
asily accessi-
er.

Store tools, glass slides, stain-
ing containers, etc. in a
recessed area on top of the
cryostat to have these items
immediately at hand.

For extra ease of use and con-
sistent sectioning of all speci-
men types, an optional section-
ing motor drive is available.

Leica Design by Werner Hölbl

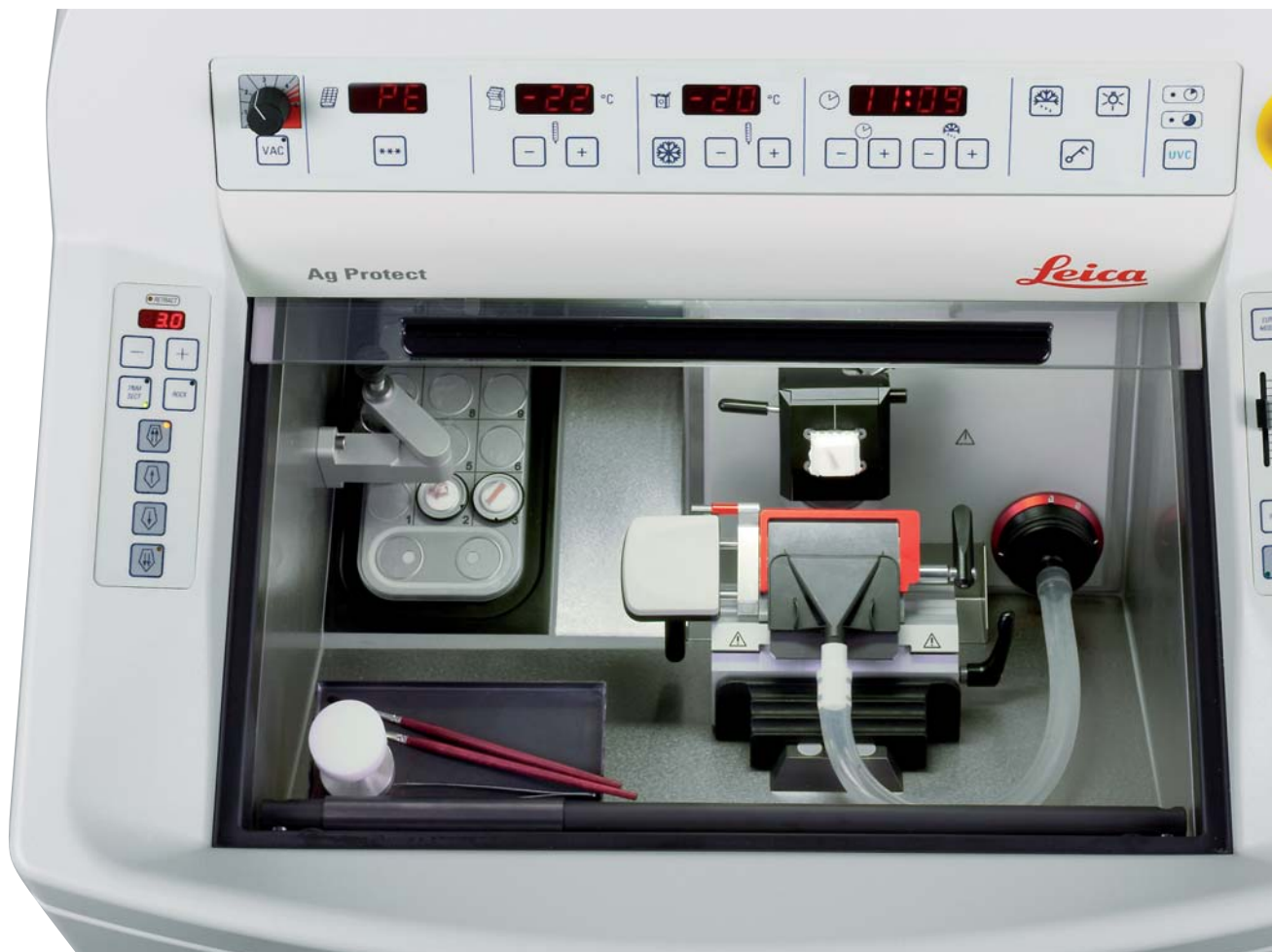
THE cryostats for high quality sectioning

Obtain high quality sections through:

- NEW: CryoZone™ blade holder and anti-roll guide cooling
- Maintaining the ideal object temperature for specific specimens
- Great stability of the microtome and blade holder system
- Extreme accuracy of the stepper motor object feed
- Consistent, motor-driven cutting stroke (optional)
- Vacuum-assisted sectioning aid (optional)
- High precision microtome with exact stepper motor object feed.

CryoZone™ – the cool way to improve section quality

The CryoZone™ system controls a zone of uniformly cool air in the critical areas of the cryochamber. This cool air circulates around the specimen, knife and anti-roll guide to create the optimal conditions for consistent, high-quality sectioning.



Efficient specimen loading is achieved via single lever operation that provides maximum clamping force independent of individual user strength. Direct contact cooling through the (optional) actively cooled object head facilitates rapid changes of specimen temperatures to provide the best conditions for sectioning various specimen types.

High specimen stability is achieved by adherence to deeply grooved specimen discs. Specimens freeze quickly because the pre-cooled discs feature a large back surface that fully contacts the freezing shelf with integrated Peltier element.

Superior sectioning of routine, hard, and/or large samples is achieved using a choice of knife/blade holders as well as the new dove tail mounting system that provides increased stability and extended working distance. The new CE holder for high and low profile disposable blades evenly distributes clamping pressure across the entire length of the blade, which provides vibration-free sectioning.

The new CN and CNZ knife holders are available for steel or tungsten carbide knives (optional accessories).

The optional vacuum sectioning aid achieves time-saving section preparation and reduces section curling.



THE cryostats for the highest user safety

Histology laboratories continue to express major concerns about biohazard exposure and non-ergonomic work practices. As a result of their feedback, the Leica CM1950 family of cryostats is designed to provide maximum protection from these risks at all stages of the sectioning process.

- Certified UVC disinfection of exposed surfaces and air within the cryochamber at cold temperatures
- **AgProtect™** antimicrobial nanosilver coating on the outside surfaces of the cryostat
- Optional Section Waste Removal System with a series of three filters
- Ergonomic exterior cabinet design with rounded edges and comfortable working height
- Optional ergonomic chair and foot rest

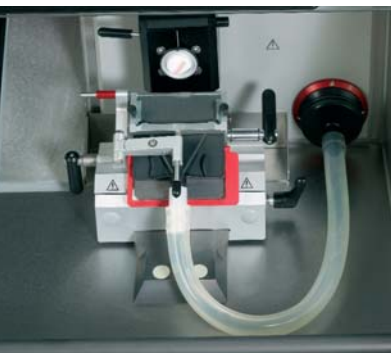


Leica's built-in **UVC disinfection** system provides certified protection from infectious material and minimizes the risk of contamination in the cryochamber. Scientific studies prove that surface disinfection from bacteria, viruses, and fungi can be achieved with UVC light. Certification proving the effectiveness of UVC disinfection against a range of microorganisms can be downloaded from www.leica-microsystems.com/cm1950_safety, which includes detailed information on the test procedure and the efficacy of UVC disinfection.

To efficiently reduce the propagation of infectious agents on the outside surfaces of the cryostat, the Leica CM1950 family features an antimicrobial nanosilver surface coating, called



AgProtect™. Silver (**Ag**) ions are well documented for their ability to reduce bacterial growth.



Section waste is easily removed by using Leica's optional Section Waste Removal System during trimming with the magnetized nozzle, or during extensive cleaning with the flexible hose. Solid waste is collected in a concealed primary filter system and air is filtered through a HEPA filter for added safety in the laboratory environment. Liquid condensate is collected in a condensate bottle for safer disposal.



The new disposable blade holder CE with integrated, colored safety guard and blade removal aid makes blade handling safer. For users who prefer using the brush technique during sectioning, the palm rest can be used instead of the anti-roll guide.

The ergonomic design of the Leica CM1950 protects the user from sharp edges and helps prevent work-related musculoskeletal disorders (MSD) and repetitive strain injury (RSI). Rounded edges allow the user to adopt a comfortable working position. Bright, glare-free illumination helps reduce eye fatigue.



For individual user comfort, the Leica chair and height adjustable foot rest are available as optional accessories.



THE cryostats for highly efficient workflow

The best workflow for efficient operation is achieved by:

- Simple specimen identification using the optional, color-coded specimen discs
- Fast, efficient specimen orientation with clearly defined zero position
- Disposable blade holder for both high and low profile blades
- Frost-free, enclosed microtome assembly
- Optional motor drive for specimen sectioning
- Certified UVC disinfection at low temperatures – does not produce condensation or contaminated waste, is effective at low temperatures, and can be terminated at any time to process urgent cases



Easy for the multi users: the self-explanatory, single-function keys and easily readable LEDs help prevent operating errors, facilitate cryosectioning, and make scrolling through multiple menus unnecessary. The control panels are comfortably positioned in the armrests to eliminate the need to reach into the cold chamber to use or adjust settings.

Tools, glass slides, staining containers, etc. can be stored in a recessed area on top of the cryostat to keep them immediately at hand.



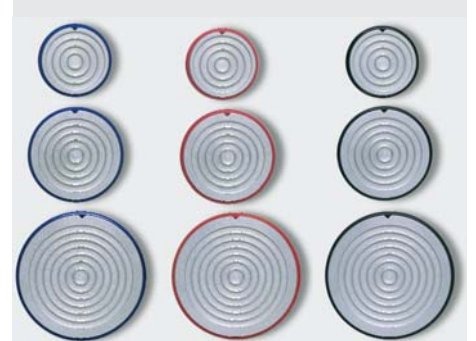
Sectioning tools/aids etc. can be conveniently placed on the optional, movable shelf.



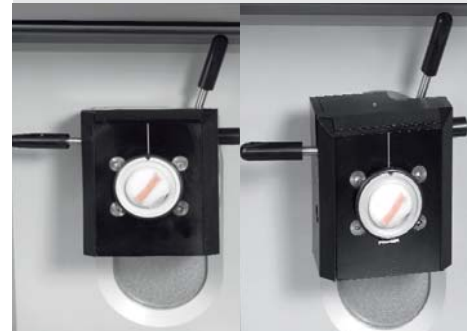
The specimen discs can be pre-cooled in the optional internal storage container, and then easily organized and transported.



Optional color coded specimen discs help identify specimens coming from multiple sources. The specimen disc features a visual specimen orientation aid to enable precise orientation.



A clearly defined zero-position allows faster specimen alignment prior to sectioning and easy realignment if the specimen is removed from the object head.



With the new disposable blade holder CE blade exchange is simple and fast. The holder's lateral displacement function allows the use of the full length of the blade. Small and large sections are easily lifted from the large, horizontal pressure plate.



Leica CM1950 Technical Specifications

The Leica CM1950 basic instrument is equipped with CryoZone™ technology, UVC Disinfection, specimen orientation and AgProtect™ antimicrobial nanosilver coating.

An individual, tailor-made instrument can be configured by use of the various options available:

- Actively cooled object head (double compressor)
- Vacuum Section Waste Removal System
- Motorized Sectioning
- A wide range of accessories

UVC surface disinfection:		30 or 180 minutes, user selectable
Microtome		
Section thickness range:	Setting values:	1 to 100 µm 1.0 µm – 5.0 µm in 0.5 µm steps 5.0 µm – 20.0 µm in 1.0 µm steps 20.0 µm – 60.0 µm in 5.0 µm steps 60.0 µm – 100.0 µm in 10.0 µm steps
Trimming range:	Clinical: Setting values:	10 – 40 µm 10 µm, 20 µm, 30 µm, 40 µm
	Research: Setting values:	1 – 600 µm 1,0 µm – 10,0 µm in 1,0 µm steps 10,0 µm – 20,0 µm in 2,0 µm steps 20,0 µm – 50,0 µm in 5,0 µm steps 50,0 µm – 100,0 µm in 10,0 µm steps 100,0 µm – 600,0 µm in 50,0 µm steps
Maximum specimen size:		50 x 80 mm
Total specimen feed:		25 mm
Vertical specimen stroke:		59 mm
Specimen retraction:		20 µm or off
Specimen orientation:		8° (x-, y-axis), 360° rotation of specimen disc
Electric coarse feed:	Slow:	300 µm/s, in 20 µm steps
	Fast:	900 µm/s
Cryo-chamber		
Temperature range:		0°C to -35°C at ambient temperature of 20 °C
Specimen cooling (optional)		
Temperature range:		- 10 to - 50 °C
Defrosting of specimen head:		manual defrost
Cryo-chamber defrosting		
Automatic cryo-chamber defrosting:		programmable, (hot gas defrost), selectable time, 1 defrost in 24 h or manual hot gas defrost, defrost time: 12 minutes
Automatic shut off defrost:		at - 5 °C chamber temperature

Quick-freeze shelf

Minimum temperature:	down to – 42 °C, at chamber temp. – 35°C
Number of freezing stations:	15 + 2
Defrost:	manual hot-gas defrost

Peltier element

Number of freezing stations:	2
Maximum temperature difference:	17 K, at chamber temp. of – 35 °C

Power draw	1900 VA
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General information

Operating temperature range:	18°C to 35°C
Relative humidity:	max. 60%, non-condensing
Storage humidity:	< 60%

Dimensions and Weights

Width (without handwheel):	700 mm
Width (with handwheel):	835 mm
Depth (cabinet only):	850 mm
Height (total):	1215 mm
Working height (armrest):	1025 mm
Weight:	165 kg
Weight (with vacuum):	183 kg
Weight (with motor):	185 kg
Weight (with motor and vacuum):	193 kg

Choice of blade or knife holders:

Stable blade holder base with segment arc for lateral displacement of the blade.

Disposable blade holder insert CE for high and low profile blades with 2 anti-roll guides with 50 and 100 µm spacer with glare minimizing glass insert, colored safety guard and blade removal help. Palm rest for brush technique.

Stable knife holder base for knife holder CN or knife holder CNZ. Knife holder CN for reusable steel knives

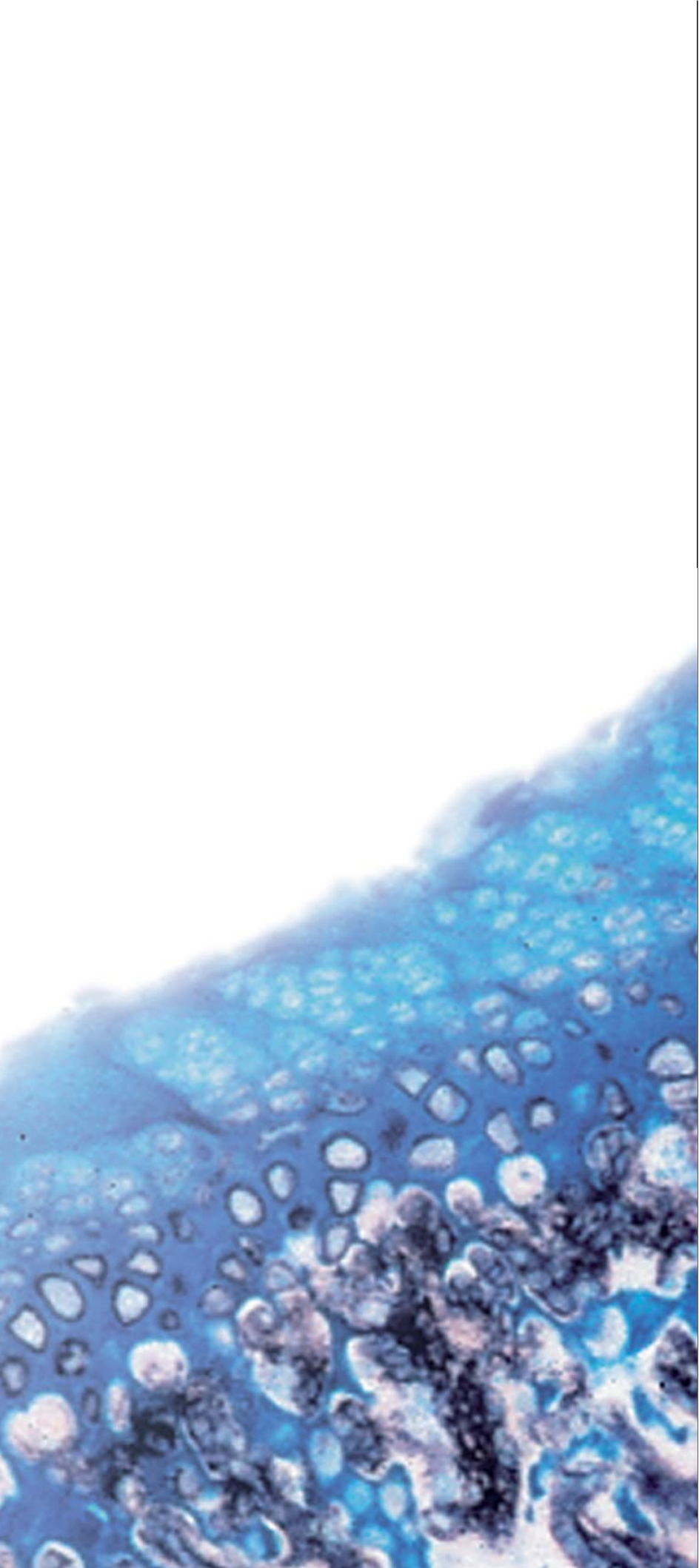
Knife holder CNZ for reusable steel or tungsten carbide knives with central pressure plate for full usage of the knife.

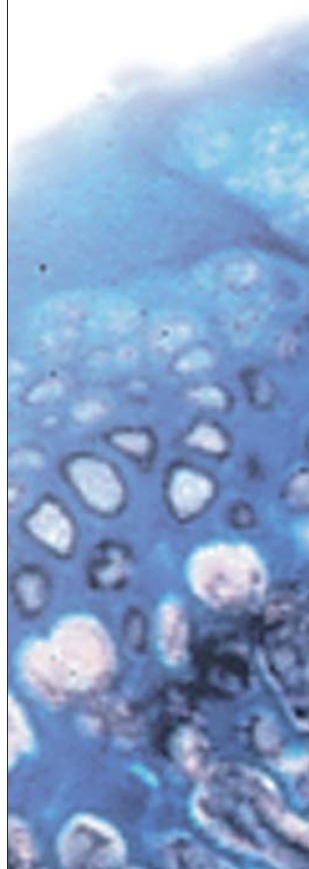
Wide range of accessories available on request.

Technical specifications subject to change without prior notice.

As confirmed by the successful c_CSA_us certification, the Leica CM1950 has been designed and manufactured in compliance with US, Canadian and IEC requirements.

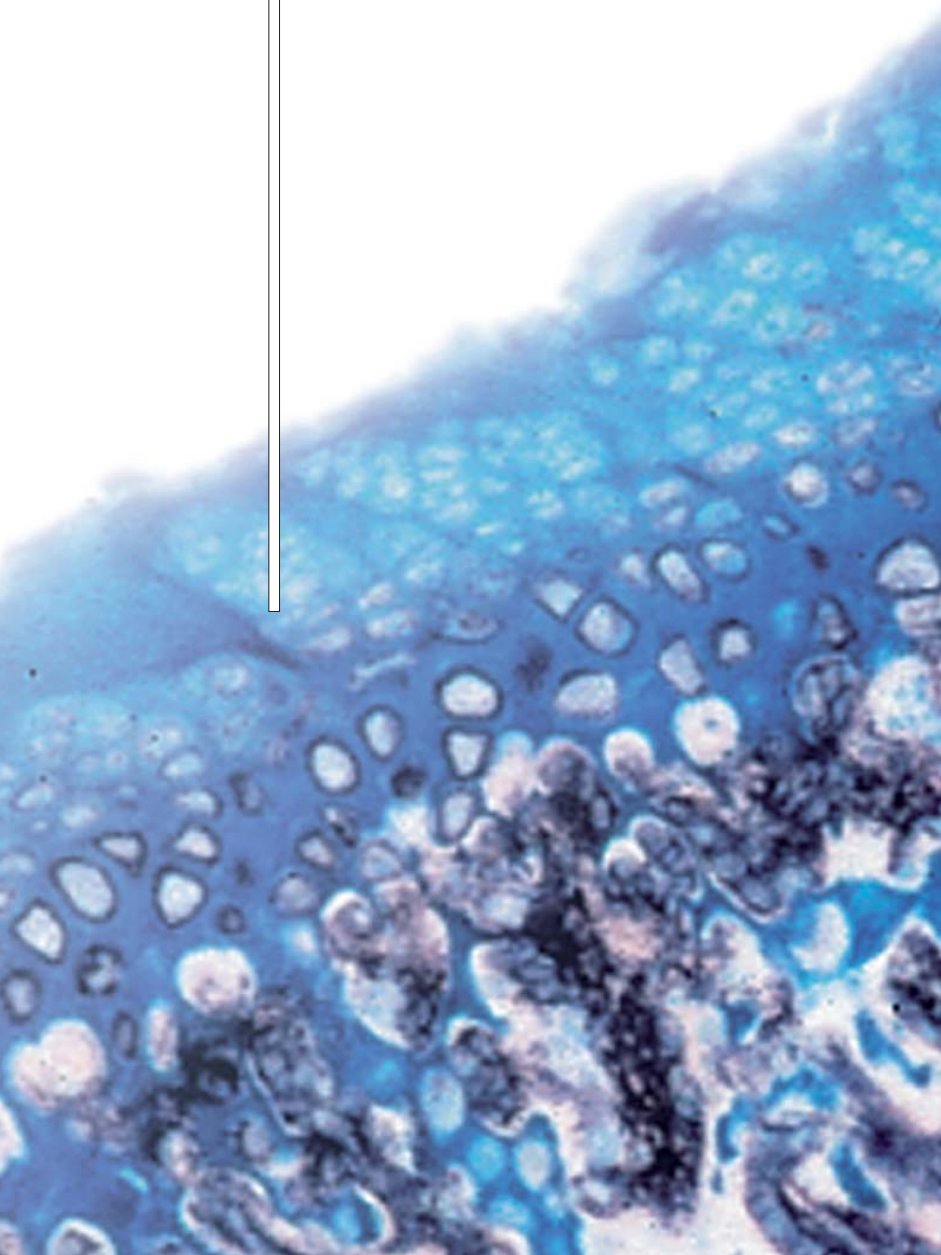
State-of-the-art development, manufacturing and quality control procedures – certified under DIN EN ISO 9001 – ensure highest quality and reliability.





The Croystats for high
quality sectioning, user
safety and efficient
Lean Histology™
workflow.

See how they work...



“With the user, for the user”

Leica Microsystems

Leica Microsystems operates internationally 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.

● Surgical Division

The Leica Microsystems Surgical 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.

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.**

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