

Endoscopic Imaging System



LUCERNA

4K Ultra HD

Advanced Endoscopic Imaging System

Advanced 4K Camera System

See Clearly. Operate Confidently.

Surgeon-centered 4K imaging with precision in every pixel—built for smoother cases, faster turns, and better patient care.

EPMD's Lucerna 4K Endoscope Camera System gives you the view you've always wanted; crystal-clear, near-human-eye **Ultra HD (3840×2160)** from inside the surgical field.

A **lossless** digital pipeline and **AI-enhanced processing** preserve fine texture and reveal subtle color differences, while a **wider color gamut** delivers true-to-tissue rendition.

The result is clearer vascular and tissue plane differentiation that helps you decide faster and with greater confidence. Built for the rhythm of your OR; so you spend less time adjusting settings and more time operating.

The outcome: a smoother workflow, shorter turnarounds, and a clearer path to patient recovery.



CLINICAL CAPABILITIES



True 4K out.

1:1 pixel fidelity on surgical monitors for confident calls on margins and micro-vasculature.



Big sensor, bigger clarity.

Native 4K (3840×2160) with superior low-light sensitivity reveals subtle planes, tiny vessels, and color nuance you can trust.



AI spatial augmentation

Locked geometry, True Lines, 3D-like depth, razor-sharp hand-eye coordination without 3D hardware



AI smoke/fog/particle clearance

Live de-hazing during cautery and suction so you maintain pace instead of waiting for the picture to clear.



Moiré suppression

Eliminates honeycomb moiré from fine-mesh scopes/displays without softening edges



High Dynamic Range (HDR)

Preserves detail in both glare and shadow so anatomy looks natural under rapidly changing illumination.



Targeted enhancement modes

Reveals micro-structure and vasculature so you spot what matters sooner and act with confidence.



Large depth of field

Keeps more of the field crisp with fewer refocus events, supporting smoother instrument flow and fewer interruptions.



High quality 4K Ultra HD recording

On-screen, built in recording facility. Reduce the clutter in your OR.



One camera, many specialties.

Full-screen laparoscopy and circular formats for urology, gynecology, and ENT.



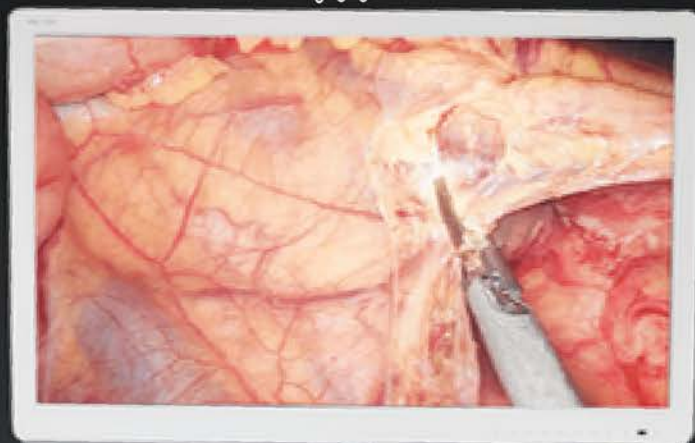
TRUE COLOR: HUMAN EYE FIDELITTY



PERCEPTUAL 3D



NO DARK AREAS (HDR)



LUCERNA WORKSTATION

Value Pillars

- **See More:** True 4K detail, HDR, moiré suppression, and AI visibility tools reveal subtle color and texture, so organelles and vessels are easier to read.
- **Work Smoother:** Large 3–200 mm depth of field, one-tap presets, and low-glare imaging reduce eye strain and interruptions.
- **Standardize Smarter:** Programmable controls, C-mount compatibility, and a clean mobile stack help teams align across specialties and rooms.

Why it matters:

Clearer Views → Fewer Decision Timeouts → Tighter Operative Rhythm



VALUE ADDITION FOR ALL STAKEHOLDERS

Audience	What they get
Surgeons	• Faster, more confident decisions from high-fidelity 4K + HDR and targeted enhancements. • Fewer focus/brightness tweaks; less visual fatigue; shortcuts under your thumb. • Clear view continuity during cautery and irrigation with AI visibility cleanup.
OR Teams & Hospitals	• Standardized, repeatable setup (presets, WB memory) and cross-specialty compatibility (C-mount). • Quieter OR (<50 dB), organized mobile stack, and faster turnover with standby wake. • Protect prior optics investments; scale with accessories as services grow.
Patients	• Imaging designed to support precise visualization and efficient case flow. • Fewer interruptions and smoother progress can mean less time under insufflation and anesthesia. • High-quality capture aids documentation and follow-up care discussions. • Lower surgery time leads to quicker recovery post-op.

ACCESSORIES



27"/32" LUCERNA MONITOR



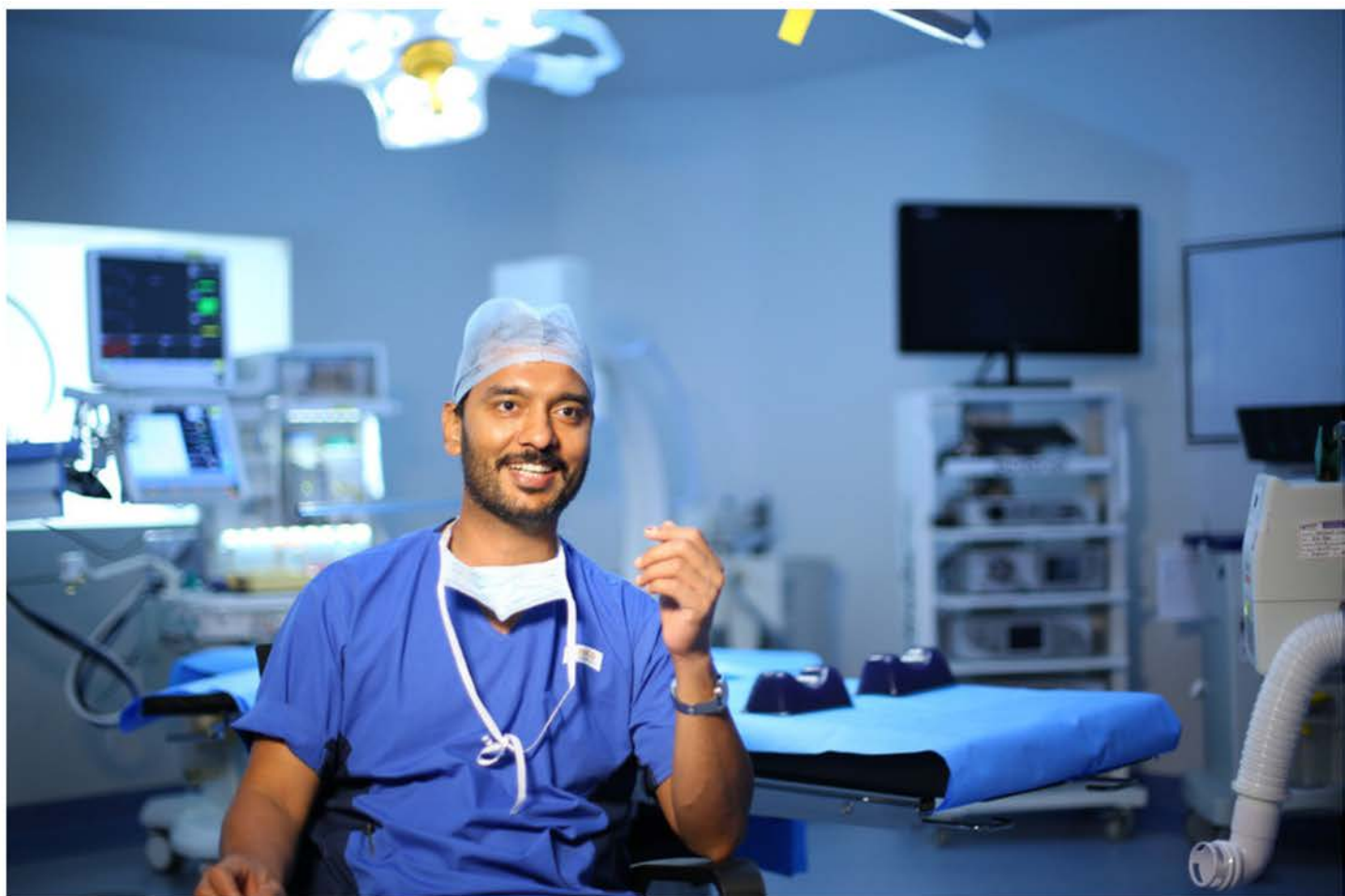
LUCERNA 4K SCOPES



ENVOLITE LIGHT SOURCE



LUCERNA ENDOCART



SPECIFICATIONS

Camera Control Unit (CCU)	
Parameter	Specification
Power	100–240 V~ ($\pm 10\%$), 50/60 Hz; Fuse T1.25AL250V; 0.6–0.3 A
System resolution & lines	3840×2160; ~2100 TVL (vertical), ~3800 TVL (horizontal)
Output frame rates	60 Hz, HDMI 2.0 cable/monitor needed for 3840×2160 at 60/50 Hz
Video I/O	4K HDMI 2.0 out×1; HD-3G-SDI out×1; HD-DVI-D out×1
Compression / recording	H.264; MP4 video; JPEG/BMP stills; to USB media (no internal user data persistence) ; USB 2.0 x 2, USB 3.0 X 1
Image controls	AWB/ATW; gain/brightness/sharpness/saturation/contrast (1–10); gamma (transparent/standard/soft); dark-zone improvement; highlight suppression; image flip; digital noise reduction; de-moiré modes; surgical scene presets
Acoustic noise	≤ 45 dB(A)
4K Camera Head	
Parameter	Specification
Sensor / effective pixels	10 MP
Native output resolution	3840×2160 (UHD)
Minimum illumination	≤ 0.5 Lux
SNR	56 dB
Electronic zoom	0.5×–5.0×
Buttons	4 programmable (AWB, record, capture, freeze, zoom $\pm$, brightness $\pm$)
Protection	IPX7
Size / weight / cable	109×50×49 mm; 500 g (incl. cable); 3.0 m highly-flex cable
Optical mount	F22 optical interface (bayonet to coupler)

SPECIFICATIONS

Laparoscope (Rigid, Reusable)	
Parameter	Specification
Viewing direction	30°
Working length	345 mm
Optical working distance (design)	50 mm
Field of view	80°
Effective depth of field	3–200 mm
Insertion diameter (max)	10.0 mm
Useful life	Rated for 500 sterilization cycles
Sterilization	Autoclave, Soaking
Surgical Monitor (Compatibility & Recommended Requirements)	
Parameter	Specification
Native resolution	3840×2160 (UHD)
Input	HDMI 2.0 for 3840×2160 at 60/50 Hz
Sizes	27" , 32" 4K variants
Color Modes	BT.709, BT.2020
Image controls	gain/brightness/sharpness/saturation/contrast (1–10); gamma levels as per medical standards



30+ YEARS
MEDICAL DEVICE
MANUFACTURING EXPERIENCE



50+
MEDICAL DEVICES



10,000+
OPERATING
ROOMS



10 Million
ACTIVE USERS

Our Brands



Certifications and Compliances

ISO 9001:2015



ISO 13485:2016



ICMED 13485



CDSCO



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