



Operation Microscope

EM9 / EM9 Pro

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Operation Microscope

Developed Specifically for Dentists

14 years of dedicated focus in the dental industry, with a deep understanding of the needs for precision dental treatment

Enjoy better visualization during dental surgery and benefit from increased physical comfort, giving you clearer, better comfort and allowing you to concentrate fully on your treatment, greatly optimizing your treatment results.

We have the spirit of persevering in research and development

SOCO adhering to the craftsman spirit, over 300 precision components undergo rigorous testing and selection, each part backed by a strong global supply chain.



- ※ High eye point 12.5X wide-angle eyepiece, adjustable diopter
- ※ 0~180° variable angle binocular tube
- ※ Convenient interpupillary distance adjustment function



- ※ pendulum system
- ※ Host balance force adjustment device
- ※ Balance arm balance force adjustment device
- ※ Bracket system damping adjustment device



Optical Upgrade

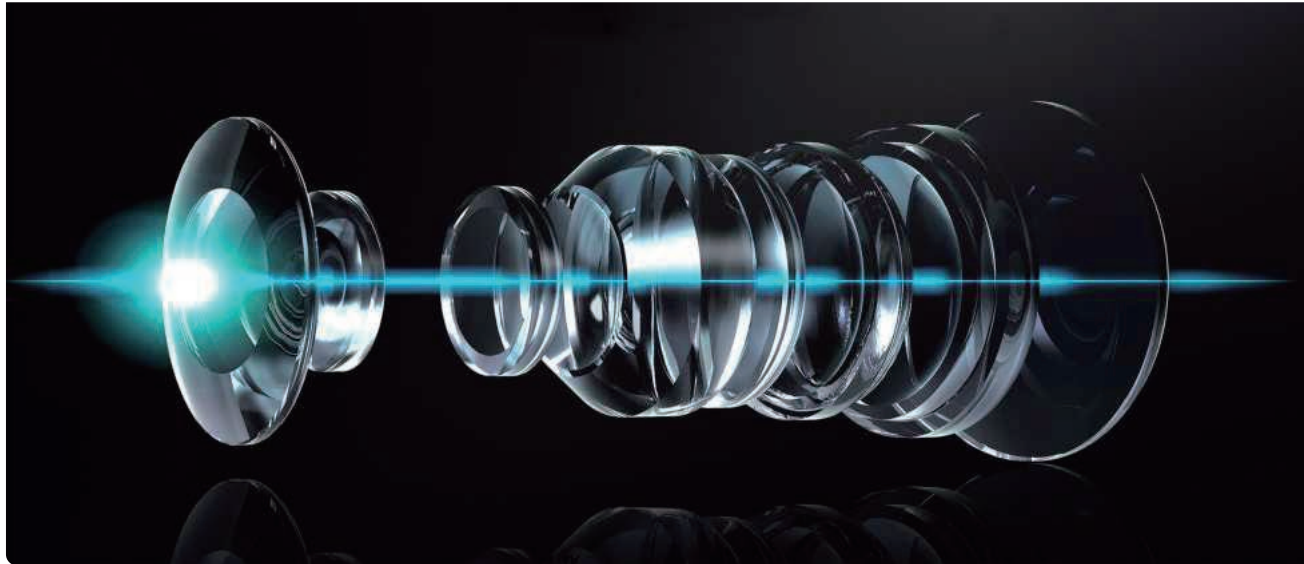
- ※ Apochromatic optical system
- ※ Continuous zoom: magnification factor of 0.4-2.5, total magnification of 1.6X-19X.
- ※ Zoom large objective lens: larger working distance $f=190-480\text{mm}$
- ※ Lighting system upgrade. illuminance up to more than 120000 Lux.



Upgraded Built-in 4K Ultra HD Imaging System

- ※ Integrated design, reducing external device connections for greater convenience.
- ※ Comes with powerful image management software.
- ※ High image quality: provides rich detail and more true-to-life colors through real-time processing and optimization.
- ※ Strong real-time performance: low latency and high frame rate meet the requirements of real-time observation suitable for high-precision scenarios.

Superior Optical Performance



German-imported optical glass, multi-layer coating process for achromatic optical system design

- using German-imported special optical glass (EDGlass) with unique optical properties: lower dispersion, higher transmittance, extremely high transparency, helping to reduce color aberration in images, providing clearer and sharper images.
- Lenses are coated with anti-reflective coatings and multi-layer coating materials via advanced E-beam Evaporation processing technology, which reduces light reflection, increases transmittance, and prevents glare.
- During the assembly of microscopes, each lens is subject to strict surface inspection and accuracy testing to ensure the optical performance of the finished product.

Lighting System



- Integrated true-color LED medical cold light source with a color rendering index $Cr \geq 90\%$, illuminance of 120000lux.
- Fast start-up, energy-saving lifespan ≥ 60000 hours, low heat generation, suitable for long-term use.
- Equipped with built-in orange and green filters to meet the needs of different surgical scenes.
- Equipped with automatic light-off when the small swivel arm is raised to the highest position and automatic light-on when lowered to the working position.



Built-in 4K Ultra HD Imaging System



- Using Sony's high-end CMOS image sensors, supporting larger resolutions.
- The advanced 7nm process technology chip delivers enhanced computing power to meet the demands of high-pixel image data processing.
- 4K ultra-HD real-time output with a frame rate of up to 60 fps; minimal image quality loss and more vivid colors; low latency and high frame rates meet the requirements for real-time observation.
- Equipped with powerful image management software, offering practical features such as image categorization and archiving, photo editing, and video playback.
- Supports USB3.0 fast storage, dual-mode USB and type-C interfaces, plug-and-play, convenient for viewing and retrieving images on mobile phones and other devices.

Optional Accessories

High-quality monitor bracket



Order code:ZY-XS01

27-inch 4K UHD Monitor



Order code:27US500-W

24-inch HD Monitor



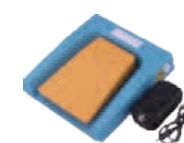
Order code:P2425H

4K wireless foot pedal component



Order code:WX-02

Wireless photo system



Order code:WX-01

Order Code: EM9



Order Code: EM9 PRO



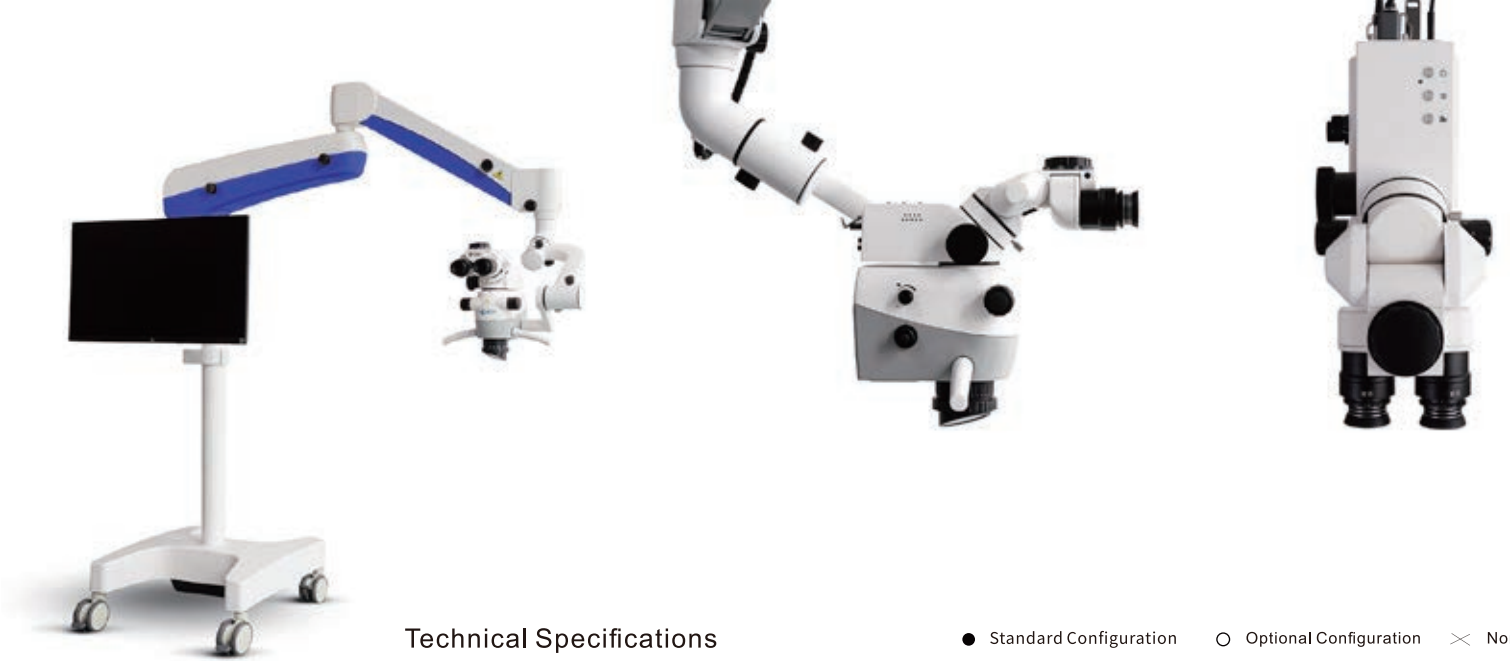
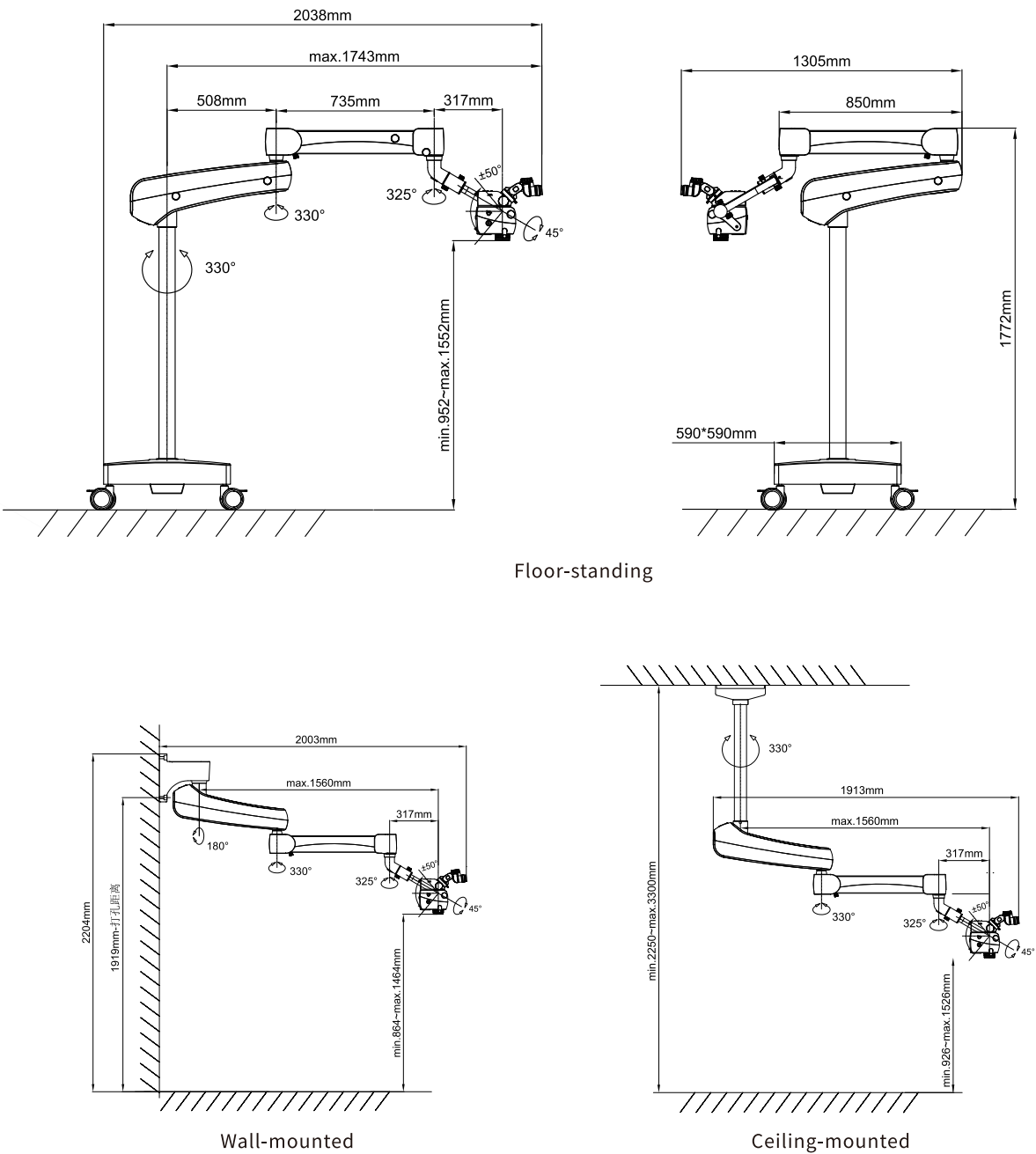
Robust Support System with Customizable Installation Methods

The support system adopts ergonomic design, German-imported gas springs, host balance force adjustment, and balance arm balance force adjustment, allowing doctors to operate the microscope easily and flexibly during treatment.

- the main body of the support system is manufactured from high-strength alloy through CNC precision machining, ensuring every component has high precision and consistency.
- TMulti-axis adjustments enable vertical, horizontal, front-back, and rotational adjustments, facilitating precise positioning of the microscope by doctors to adapt to various surgical angle requirements.
- Using center-of-gravity optimized design and high-rigidity materials to prevent shaking or displacement during use, with a special damping system absorbing tiny vibrations produced by operations to ensure stable imaging.
- Adjustable height lifting device to accommodate the needs of doctors of different heights; sufficiently long moving arm span design covers multiple working areas of the clinic.

The support system can be customized with various installation methods, choosing floor-standing, wall-mounted, ceiling-mounted, desktop, etc., according to the spatial structure of the clinic and usage scenarios.

Common installation method diagrams:



Technical Specifications

● Standard Configuration ○ Optional Configuration ✕ Non-configurable

Order code		EM9Pro	EM9
Optical System	Apochromatic optical System	●	●
Magnification System	Continuous zoom: magnification ratio: 0.4x-2.5x Total magnification: 1.6x-19x	●	●
Binocular Tube	0°-180° Variable angle binocular tube with interpupillary adjustment mechanism, Interpupillary distance adjustable from 55-75 High Eye Point 12.5x Wide-Angle Eyepiece, adjustable eye cup height, diopter compensation range ±7D	●	●
Zoom System	Zoom objective lens with variable working distance of 190-480mm	●	●
Light ing System	Integrated true color LED illumination with color temperature 5700K, color rendering index >90%, illuminance 120,000Lux Integrated orange filter, green filter; white spot light modes in three sizes: large, medium, and small .	●	●
Built-in 4K Ultra HD Imaging System	4-in-1 camera module: 4K camera system, beamsplitter, 45° extender, pendulum system; integrated imaging system in the beamsplitter with a split ratio of 2:8 or 5:5; Built-in 4K live image output system with resolution 3840x2160, comes with image management software.	●	✕
External HD Imaging System Interface	3-in-1 Beamsplitter: 45° extender, pendulum system, integrated beamsplitter with a split ratio of 2:8 or 5:5 Digital camera tube: Knob-style camera focus adjustment	✕	●
Bracket system	Host Balance Force Adjustment Device	●	●
	Balance Arm Balance Force Adjustment Device		
	Swivel Arm: Swivel Radius 508mm, 330° Rotation		
	Balance Arm: Swivel Radius 735mm, 330° Rotation, vertical movement range (up/down) 600mm; Balanced Wall Mount: Swivel Radius 317mm, rotation angle 325°		
	Maximum Arm Clear Span: 1743mm		
Accessories	Integrated Base with 4-inch silent medical casters, base size: 590×590mm	●	●
	Monitor Bracket		
	24-inch HD Monitor		
	27-inch 4K UHD Monitor (Brand:LG)		
	Camera (Optional Camera Brands: Canon, Sony)		
	Direct Camera Power Supply		
	4K Wireless Foot Pedal Assembly		
	Wireless Photography System	○	○
	Objective Lens Protective Cover	●	●