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OMS3200
SURGICAL MICROSCOPE

OMS3200

INTELLIGENT HIGH-END SURGICAL MICROSCOPE



Intelligent Design

Zumax surgical microscopes help doctors achieve refined, precise, and visualized procedures while adding intelligent features. They provide clearer, more comfortable, longer lasting, and smarter user experiences with more convenient and flexible operation, improving efficiency.

Outstanding Optical Performance and Quality

The entire optical system uses top grade German imported optical glass with multi-layer anti-reflection coatings, achromatic design, large field of view, large depth of field, high clarity, and high resolution.

FreeMov® Zero-Gravity Balancing Arm

The FreeMov® three electromagnetic locks control system enables free, weightless suspension movement of the three joints of the microscope arm, with rapid locking and precise control.

BriPlus™ Adaptive LED Illumination System

The BriPlus™ adaptive TruLed™ illumination system automatically adjusts brightness according to magnification. At maximum magnification, illumination increases by 30% to ensure a bright and clear field. High CRI medical LED lighting provides true-to-life colour.

Auto-Focus

The built-in 4K imaging system supports one touch autofocus for smarter and more efficient operation.

Multifunctional Electric Control

Electric continuous zoom and magnification allow the operator to focus on the surgical field while adjusting functions blindly with either hand for an immersive operating experience.

Enhanced Doctor-Patient Communication

The built-in 4K Ultra HD imaging system visualizes the treatment process. Real time images help patients understand precise procedures, improving communication.

COMFORTABLE & FLEXIBLE ELECTROMAGNETIC LOCK CONTROL SYSTEM

The FreeMov® Zero-Gravity Balancing System with Three Electromagnetic Locks of the OMS3200 Surgical Microscope delivers weightless free floating movement, instant locking and precise control of the three-joint microscope stand

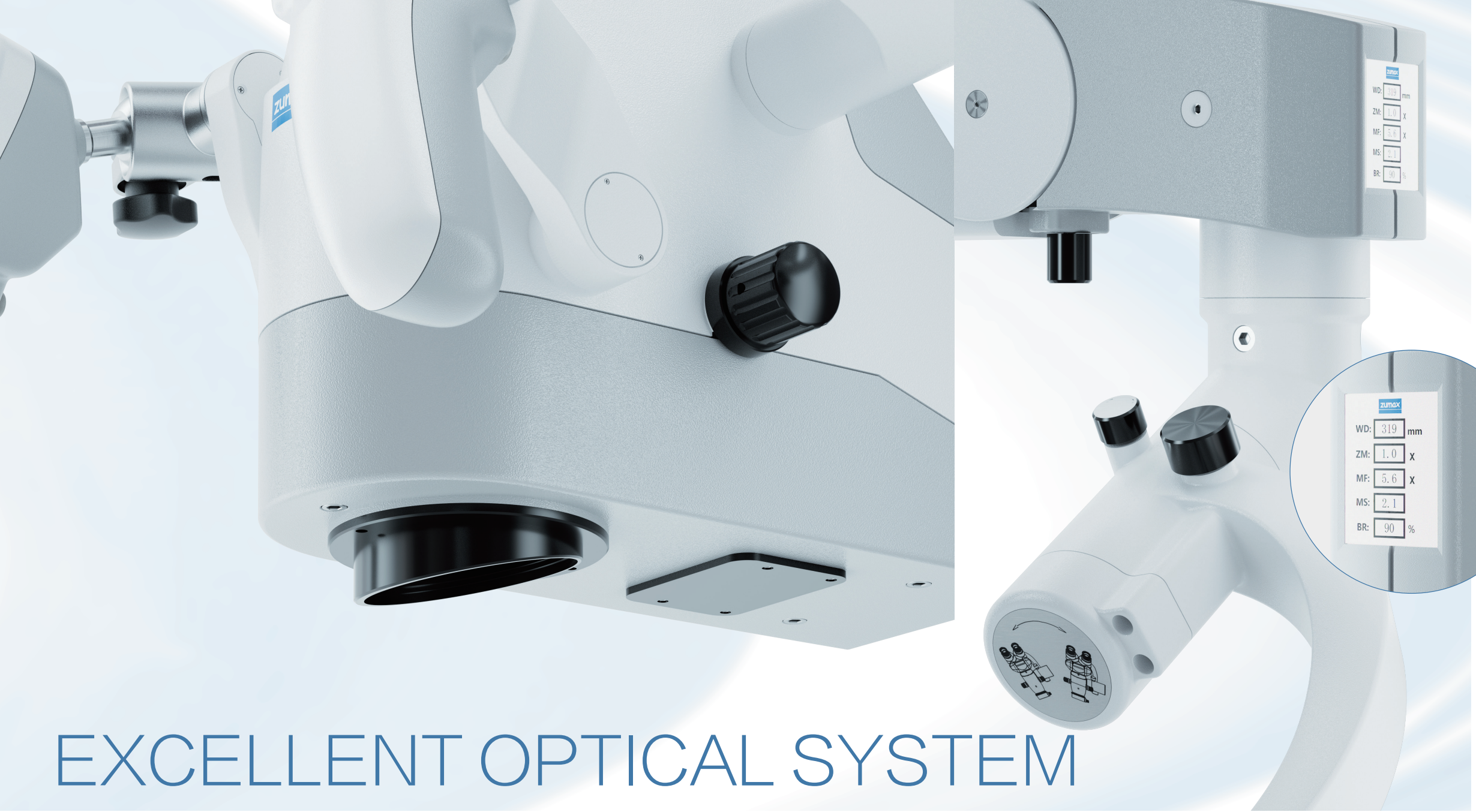


Electromagnetic Lock Control System

Press the handle button to quickly unlock the joints. Release the button to lock all joints in place. Freely and effortlessly move the microscope lens to the working area, then release the button to fully lock all joints.

Free Suspension + Balance System

The electromagnetic lock control system maintains free suspension and balance of the microscope head, according to load, providing a zero gravity operating experience.



EXCELLENT OPTICAL SYSTEM

SmartMon LCD Display

Displays real-time parameters such as working distance, magnification, total magnification, scale factor, and brightness, facilitating communication between the doctor and assistant.

WD: Working distance

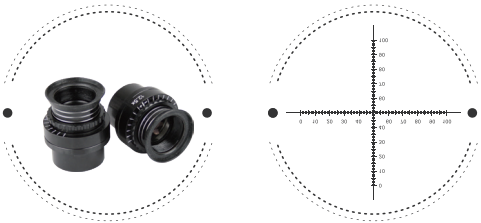
ZM: Magnification

MF: Total magnification

MS: Scale ratio coefficient

BR: Brightness

12.5x Eyepiece with Target Reticle (optional)



Each division of 0.1mm
actual object length = scale interval x measurement factor

Built-in VarioDist Electric Zoom Objective Lens (F=200~450mm)

A large range zoom objective suitable for all specialties, with a 250mm focusing stroke covering the entire surgical area. The large working distance provides ample operating space, allowing the doctor to maintain an ergonomic posture while adjusting focusing to see every detail.

Motorized Continuous Zoom

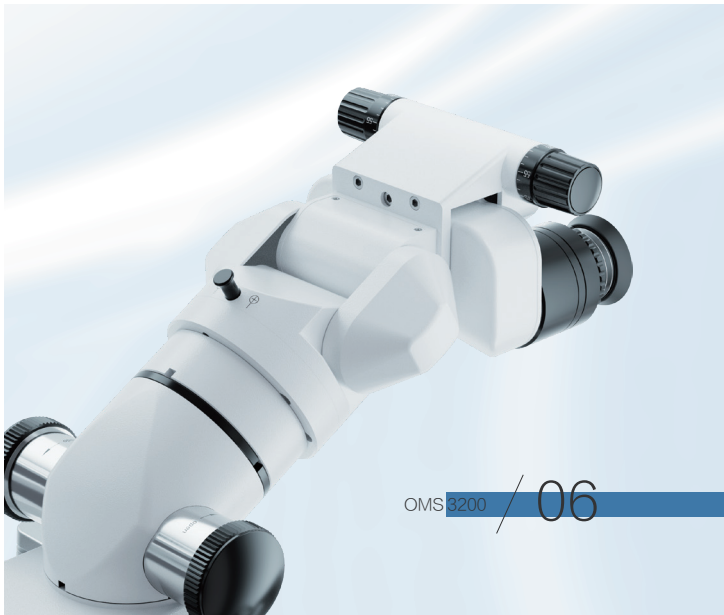
Using the magnification switch on the handle, magnification adjusts smoothly from 0.4x to 2.4x. Total magnification ranges from 1.8x to 19.4x without blackout or field loss.

Motorized Continuous Zoom	Magnifiers 12.5x
Magnification Factor	0.4x~2.4x
Magnification	1.8x~19.4x
Field of View Diameters (mm)	124~11.6

MagPlus1.5™ (Optional)

One-touch magnification on binocular tube: doctors instantly boost magnification by 1.5x for finer details or reset to wideview easily.

	Magnifiers 12.5x	MagPlus1.5™
Magnification Factor	0.4x~2.4x	0.4x~2.4x
Magnification	1.8x~19.4x	1.8x~29x
Field of View Diameters (mm)	124~11.6	82.5~7.7



IMMERSIVE OPERATING EXPERIENCE

MultifHandle MULTIFUNCTIONAL ELECTRIC CONTROL HANDLE

Multifunction Handle

Ergonomically designed to easily perform electric continuous zoom, magnification, brightness adjustment, photo capture, and video recording.

One Touch Autofocus

Pressing the autofocus button instantly focuses the microscope. The built-in 4K imaging system supports one touch autofocus.

Electromagnetic Lock Positioning Control Function

Press the rear handle button to unlock electromagnetic brakes of three front lens joints; release to engage lock and fix microscope at target position for accurate positioning.

- 
- A.Photo / Video
 - B.Lighting Switch
 - C.Function Handle
(Vertical Magnify,Horizontal Zoom)
 - D.Brightness+
 - E.Brightness-
 - F.Auto-Focus
 - G.3 Electromagnetic Locks Control

INTELLIGENT ILLUMINATION SYSTEM

BriPlus™ ADAPTIVE LED LIGHTING SYSTEM

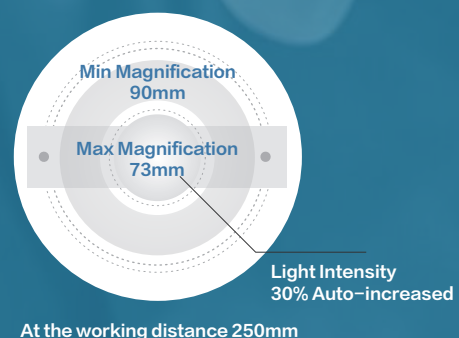
Integrated True Colour TruLED™ Lighting System: CRI>90, Illuminance>100000 Lux, Colour Temperature 5500K

BriPlus™ Enhancement: Automatically increases brightness by 30% at maximum magnification

BiLED™: Built-in backup LED (optional upgrade to 4+5 LED combination)

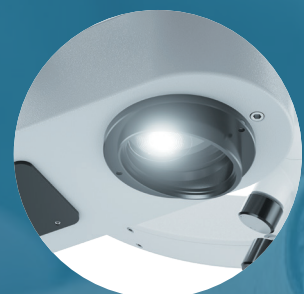
FluoDet™ Fluorescent Module: Integrated fluorescence system for auxiliary caries inspection (optional)

AntiReflect™ Module: Polarized light to reduce reflections and reveal true details (optional)



BriPlus™ Illumination System

30% auto-increased intensity at maximum magnification to get more light for high magnification. When the magnification is at the highest, the light spot is the smallest and when the magnification is at the lowest, the light spot is the largest.



BiLED™ Illumination

Illumination > 100000 lux, CRI> 90, LEDs present many advantages over Halogen or Xenon sources including lower energy consumption, longer lifetime, improved robustness, durability and reliability.

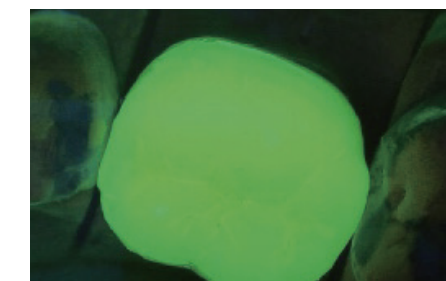
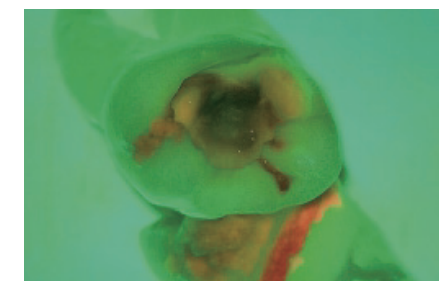
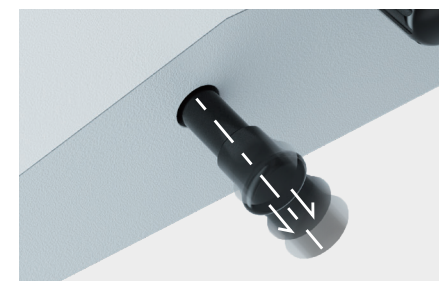


TruLed™ Illumination

Built-in backup LED light source (optional)

FluoDet™ Fluorescence Module (Optional)

For detecting caries and removing excess resin materials.



Spots and Filters (Integrated Yellow & Green Filters, Illumination Filter)

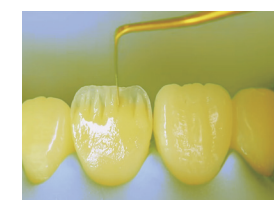
In addition to the two colour filters of yellow and green, 4-level adjustable illumination spot (large / medium / small / micro), easily tuned via knob to fit diverse surgeries.

Yellow Filter: Prevents rapid curing of resin materials.

Green Filter: Enhances visibility of small nerves and blood vessels during surgeries.



Normal

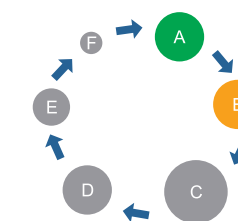


Yellow Filter

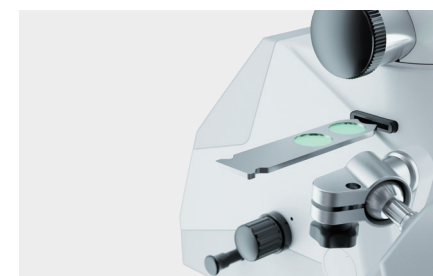


Green Filter

A.Green
B.Yellow
C.Large
D.Middle
E.Small
F.Micro



Integrated Laser Safety Filter



Argon:488-514nm
Diode:660nm
Diode:800-830nm
Diode 980nm
& NdYag 1064nm
Co2 10600nm
& Erbium 2780-2940nm

DIGITAL 4K-3D IMAGING SYSTEM

ENHANCED DOCTOR-PATIENT COMMUNICATION

NakedEYE 3D Display



FPGA Core Algorithm Technology -- Groundbreaking Innovation
Integrated 3D image processing chip reduces reliance on external computing power, minimizing PC performance requirements and delivering real-time, lag-free 3D imaging.



15.6-inch 4K3D Ultra-HD Display -- Premium Medical-Grade Display
No traditional 3D glasses: authentic depth, high-quality 3D display, boosts surgical efficiency.



Eyeball Tracking Technology -- Immersive 3D Visuals
Through eye-interlaced imaging technology, the surgical 3D visuals are highly realistic and vivid, with no ghosting in the reversal area. A crosstalk rate of less than 3% effectively prevents dizziness.



70° Wide Field of View -- cComfortable for Long-duration Operations
Featuring high refresh rates, low blue light, flicker-free display, and low latency, it reduces eye strain. Vibrant, lifelike colours ensure doctors see more clearly and precisely during long procedures.

Highly Innovative Integration

Digital NakedEYE 3D Display integrates with OMS3200. Adopting FPGA Core Algorithm Technology, it upgrades 4K3D microsurgery from clear to true-to-life vision. Surgeons gain immersive stereoscopic views without eyepieces or 3D glasses

Redefine Workflow

Digital 4K3D External VisionI 2D/3D reshapes surgical workflow. Its ergonomic design eliminates rigid operating postures, offering 360° full lesion view and unobstructed surgical angles. It pioneers next-gen microsurgery.

Empower Training Transformation

Digital 4K3D External VisionI 2D/3D features dual 4K 2D/3D display for teaching. Switch freely between optical and digital modes, delivering immersive real-time visuals to replicate surgical scenes, boost training efficiency and shorten learning curves.

ZUMAX Micro 4K-3D System integrates premium optics and imaging for revolutionary vision. Built-in dual 4K Ultra HD 3D imaging system delivers true-to-life, vivid 3840x2160 visuals. Real-time 3D output serves clinics, teaching and research; stereoscopic depth perception accelerates learning curves. High-quality imaging optimizes doctor - patient communication. It lifts microsurgery success rates, reduces revisions and postoperative risks, improves patient satisfaction and clinic competitiveness. Surgical microscopes optimize the clinical environment and elevate the clinic's brand image.



PERFECT ERGONOMIC DESIGN

Boasting refined ergonomic design, ZUMAX surgical microscopes offer unmatched operational benefits for dental clinics. Doctors can easily reach ideal balanced working postures to reduce fatigue, boost treatment quality and avoid neck & lumbar occupational strains. The tilt function of binocular tube with optical extenders and rotating rings fully complies with ergonomic standards. It facilitates full oral cavity observation, simplifies minor mouth mirror adjustments and eliminates frequent repositioning of patients or doctors, delivering steady focus and smooth surgical operations.

0–190° Adjustable Binocular Tubes

The angle of the binocular tubes can be adjusted according to the doctor's needs, ensuring a comfortable working posture during long procedures.



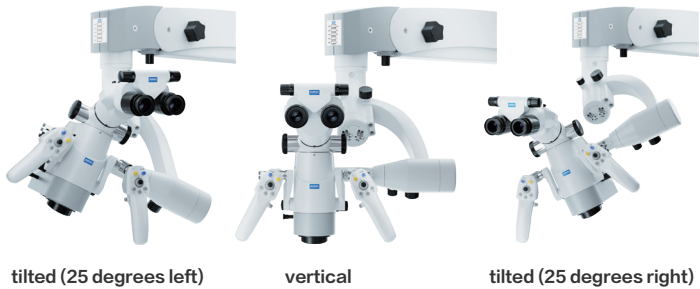
Optical Extender

Specially designed for dentistry to deliver a larger surgical working area.

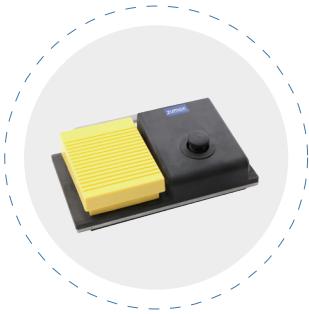


Tilt Function

The microscope body can swing left and right. Doctors can maintain the horizontal observation position of the binocular tube while observing at any swing angle.

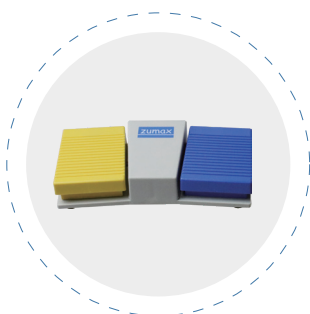


ACCESSORIES



WirelessST Mini Multifunctional Wireless Foot Pedal

IPX8 waterproof, compact design. Innovative joystick focusing & zooming ensures accurate, efficient operation. Foot control adjusts focus and magnification, enables precise focusing and photo / video capture without losing sight of the operative field, freeing both hands for treatment.



Wireless Foot Pedal for Camera

Suitable for use with Canon/ Nikon/ SONY DSLR cameras. Supports high-speed continuous shooting, anti-shake, easy placement. It allows doctors to capture satisfactory clinical images at any time during treatment.



Depth of Field Enhancer (Variable Aperture)

Based on optical imaging principles, the variable aperture can triple the depth of field in captured images, with particularly noticeable effects at high magnifications.



30° optical extender and beam splitter



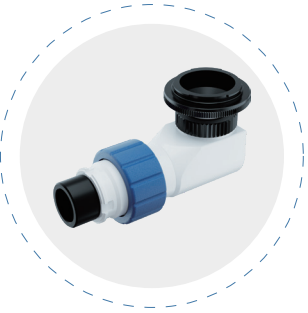
Rotating ring



45° optical extender



Easy360 Plus mobile phone adapter



Rota 360 digital camera adapter



Digital camera adapter

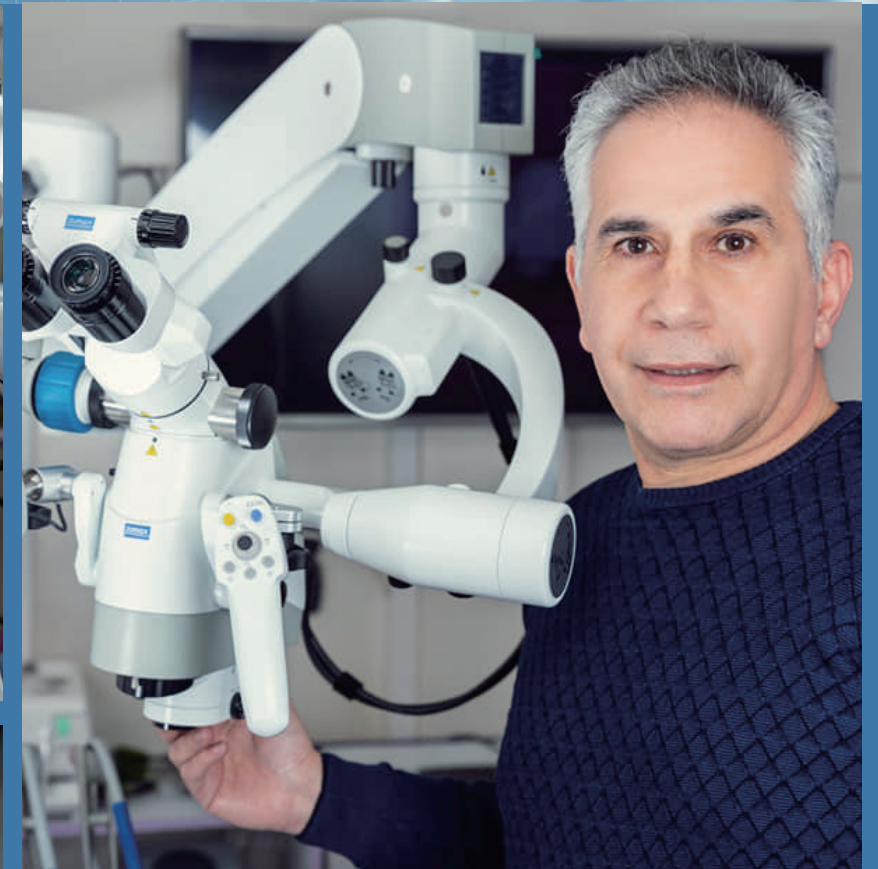


Digital camera adapter (Canon/Sony/Nikon)

More Imaging Solutions

- SONY Alpha / CANON Mirrorless Camera
- CANON / SONY / NIKON DSLR
- Easy 360 (Plus) Mobile Phone Imaging System
- CANON / SONY Digital Video Camera / 4K Digital/VideoCamera

WELL-RECEIVED BY USERS WORLDWIDE



TECHNICAL PARAMETERS

Basic Configuration

Magnification System	Motorized continuous zoom, magnification factor $\gamma = 0.4\times -2.4\times$
	Total magnification 1.8x~19.4x
Field of View Diameter	11.6mm~124mm
Binocular Tube	0° - 190° inclinable binocular tube with PD knobs, adjustment range 55~75mm
	MagPlus 1.5™ -- 0° -190° inclinable binocular tube, boosts magnification by 50% (optional)
	12.5x wide-field eyepieces, diopter adjustment range $\pm 7D$
Working Distance	Integrated VarioDist Objective Lens, variable working distance 200~450 mm
BriPlus™ Lighting System	Integrated true colour LED illumination CT 5500K / CRD > 90 Illuminance > 100000 Lux, 30% auto-increased intensity at maximum magnifcaton
	Yellow filter, green (red-free) filter
	Integrated yellow & green filters,illumination filter, adjustable spot diameter
Control System	Backup LED light source (optional) , dual LEDs for post-objective illuminance 200000Lux
	FreeMov® Zero-Gravity Balancing System with Electromagnetic Lock
	MultifHandle multi-functional handles: below buttons to lock / unlock three brakes, joysticks for Motorized zoom+/-, Motorized focus+/-, Taking photo / video, Lighting+/-
Arms	SmartMon LCD display: displaying current working distance, zoom factor, magnification measurement factor, LED brightness
	Arms extension range > 1300mm; First arm length > 500mm, rotation angle: 360° ; Second arm length $\geq$ 800mm, rotation angle: 150° , vertical movement 300mm;The first arm is located above the second arm

Optional Accessories

FluoDet™ Fluorescence Module For detecting caries and removing excess resin materials	
Laser Filter	Interchangeable laser filters: Argon: 488~514nm Diode: 660nm Diode:800~830nm
	Diode 980nm & NdYag 1064nm Co2 10600nm & Erbium 2780~2940nm
Intergrated 4K Imaging System	Integrated Ultra HD 4K Imaging System, resolution 3840x2160
	Dual USB 3.0 Image Storage: Picture and video recording formats: JPEG, MP4; HDMI+12G-SDI Dual output
	Auto Focus + Voice Control
Intergrated MICRO 4K-3D Imaging System	Integrated Ultra HD 4K Imaging System, resolution 3840x2160
	Dual USB 3.0 Image Storage: Picture and video recording formats: JPEG, MP4; HDMI+12G-SDI Dual output
	Supports 3D stereoscopic image output and 2D image output
NakedEYE 3D Display	Auto Focus + Voice Control
	Size: 15.6 inches; Display area: 345.6mm (H) *194.4mm(V); Resolution: 3840*2160
	Pixel pitch: 0.09*0.09mm; Brightness: 340cd/m ; Aspect Ratio: 16:9
iMovCloud Workstationh	HDMI Input: HDMI2.0*1 / only support 3840*2160@60Hz; HDMI Output: HDMI2.0*2, 1x 3D, 1x2D
	Supported video colour format: YCbCr 4:4:4; Operating temperature: 0° C-50° C; Storage temperature: -30° C-70° C
	Viewing angle: 70° horizontal, 50° vertical; Input voltage: 110~240V,50/60Hz; Power consumption: 30VA
Image Management System	Viewing range: 40cm-150cm; eye tracking supports masks, glasses & surgical caps
	Enables digital storage and editing of dynamic & static images, with case management, sharing, and review
Image Management System	Provides efficient imaging solutions for clinicians in clinical, teaching, and research fields
	Cross-Platform App (Windows, macOS, iOS and Andriod) :Via wireless WIFI or wired RJ45 connection, microscope video streaming can be transmitted to Windows desktop devices and mobile phones.
Image Management System	Capture images via Zumax App on PC, Android and iOS devices

