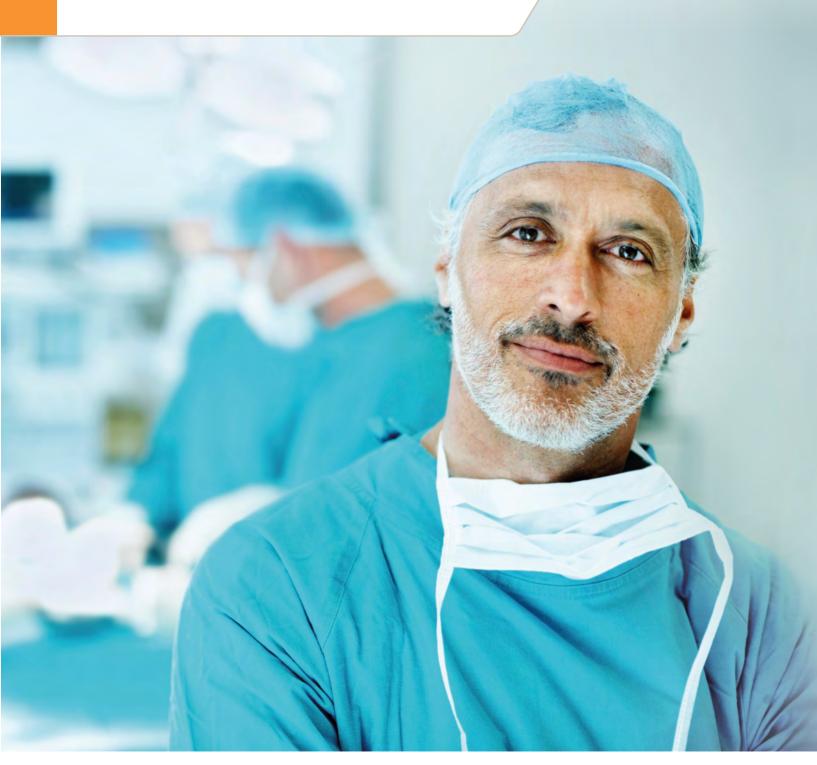
WiSAP[®]

VISUALIZATION

CAMERAS / ENDOSCOPES / LIGHT SOURCES / MONITORS



 $\mathbf{W} \mathbf{i} \mathbf{S} \mathbf{\Lambda} \mathbf{P}^{\circ}$ Quality made in Germany

FULL HD VISUAL CHAIN

INTELLIGENT SYSTEMS THAT ARE ATTUNED TO ONE ANOTHER

IMAGE QUALITY AT THE HIGHEST LEVEL

It is our goal to enable the surgeon and his team to achieve best performance by offering the highest image quality. This requires high quality in all components involved in imaging process and a good parameter match between them. Our range of products for visualization involve all necessary products for the imaging process starting from optics, camera systems with capture mode and light sources.







Camera head and lense Art. No. 8745KKK + 8825



STANDARD-LENS 25



Z00M-LENS 16-34



ZOOM-LENS 16-32 PARFOCAL



ENDOVIEW 4K

ULTRA HIGH DEFINITION CAMERA 3-MOS

TECHNICAL DATA	4K CAMERA HEAD
Aspect ratio	16:9
Image sensor	3x 1/3" MOS
Cleaning	Immersible (using the attached cap)
Operator interface	4 push buttons
Length	85,7 mm (without grommet)
Diameter	43 mm
Weight	200 g

TECHNICAL DATA	ENDOVIEW 4K
Voltage range (current consumption)	100-240 V (60 VA)
Frequency	50-60 Hz
Device protection	2x T3,15 A
Video system	Image resolution: UHD 3840 x 2160 TV resolution: 1600 lines White balance: Automatically, with data hold
Video output	1x HDMI 4K (3840 x 2160) 1x HDMI Full HD (1920 x 1080) 1x SDI 4K (4x BNC) (3840 x 2160) 1x SDI Full HD (1x BNC) (1920 x 1080)
Video format - HDMI output	3840 x 2160 - 59.94p 3840 x 2160 - 50p 1920 x 1080 - 59.94p 1920 x 1080 - 59.94i 1920 x 1080 - 50p 1920 x 1080 - 50i
Video format - SDI output	3840 x 2160 - 59.94p 3840 x 2160 - 50p 1080 - 59.94p 1080 - 59.94i 1080 - 50p 1080 - 50i
Protection class	I (according to IEC 60601-1)
Safety class	BF
IP code	IP20
Standard	IEC 60601-1-2 / IEC 60601-1-1
Device classification	acc. to MDD 93/42/EEC = I
Dimensions: Width, Height, Depth	355 mm x 103 mm x 350 mm
Weight	approx. 6,2 kg



ENDOVIEW 4K

ULTRA HIGH DEFINITION CAMERA 3-MOS



ULTRA HIGH DEFINITION CAMERA 3-MOS

ENDOVIEW 4K

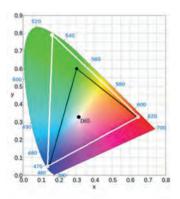
ULTRA HIGH DEFINITION CAMERA 3-MOS

HIGHEST RESOLUTION FOR HIGHEST DEMANDS

Our latest camera system offers the highest resolution for the best view of the operating field. The new technology allows us to use larger screens with consistent image quality and excellent detail. This allows safe working and reduces operator fatigue.







COLOUR SPACE

The camera is able to reproduce the extended color space BT.2020 in addition to the BT.709 color space for HDTV. Prerequisite is a BT.2020 compatible monitor.

4K UHD RESOLUTION

IMAGE ENHANCEMENT OF COLOUR AND STRUCTURE

MULTILINGUAL MENU

ZOOM, FREEZE, FOG REDUCTION

10 USER PRESETS FOR SURGICAL APPLICATION



ENDOSCOPIC CAMERA SYSTEM CMOS TECHNOLOGY

EndoView 3CMOS HD

- Full HD 1920 x 1080 pixel
- High sensitivity enables brighter images
- High resolution implies sharp images
- Format 16:9
- Digital HD-SDI output
- Camera settings via OSD

- 5 user profiles
- Low heat build up
- Exchangeable head cable
- Remote head keys
- C-Mount for lenses

FULL HD

DIGITAL/ANALOG OUTPUT

USB PORT

BUTTONS PROGRAMMABLE



ORDER DATA	ENDOVIEW 3CMOS HD
7736WDH3C	EndoView 3CMOS HD (Set)
8745UC	Camera controller with capture mode
8745KKK	Camera head with cable without lens
8825	Lens standard C-Mount 25 mm
8800Z16	Lens zoom C-Mount 16-34 mm
8800Z18	Lens fix focus C-Mount 18-32 mm

ELECTRICAL DATA	ENDOVIEW 3CMOS HD
Mains voltage	Medical global power adaptor, 100 to 240 V, 50/60 Hz
Power consumption	Max. 20VA

CERTIFICATION DATA	ENDOVIEW 3CMOS HD
Approvals	The CE labeling is performed in accordance with the EU-guidelines 93/42/EWG, Annex II
Safety data	Class I according to 93/42/EWG I, Protection class I, Type BF

STERILIZATION METHOD	ENDOVIEW 3CMOS HD
Sterilization control unit	Wipe-disinfection
Sterilization camera head	Submerging disinfection, no sterilization in autoclave

ENDOSCOPIC CAMERA SYSTEM CMOS TECHNOLOGY

Camera head buttons are equipped with user and remote control of accessory devices $% \left(1\right) =\left(1\right) \left(1\right$

Handy rest of the focus ring enables easy and low-friction manipulation $% \left(1\right) =\left(1\right) \left(1\right) \left($

C-mount optics 25 mm and further optics optional

Optics coupling, made of stainless steel, which automatically adapts to any brand. Thus the camera can be prepared for —any discipline within seconds.



SYSTEM FEATURES	ENDOVIEW 3CMOS HD
Video Standard	Full HD 1920 x 1080
Chip	3x1/3'' MOS Sensitivity: < 3 lux (1/1.4)
Camera Head	With push buttons
Shutter	1/50 (/1/60) to 1/100.000 sec
White balance	Auto Tracing, Auto, Manually
User Menu	3 scene files for user settings. Operation with keypad and in Screen Menu
Features	Boost - Function Freeze -Function 2.5 digital zoom Character generator
Video out	1x HDMI / DVI 1x Y-Pb-Pr (Component) 1x Video (PAL / NTSC) 1x S-Video (PAL / NTSC)
Delivery contains	CCU, camera head with 3 m cable, mains cable, Y/C cable, BNC cable, HDMI - DVI cable, HDMI cable, user manual
Features (optional)	Image capture, video capture

MECHANICAL DATA	ENDOVIEW 3CMOS HD
Dimensions (Camera controller)	w x h x d = 350 x 65 x 275 mm
Dimensions (Camera head)	Ø max. 34 mm x 73 mm
Casing	Stainless steel, aluminium / white coated
Objective connection	C-Mount
Camera cable	$3\ m$ / $9.8\ ft$ highly flexible special cable, replaceable, short circuit proof
Weight (camera controller)	4,1 kg
Weight (camera head)	145 g

ENDOSCOPIC CAMERA SYSTEM **CMOS TECHNOLOGY**

EndoView 1CMOS HD

- Full HD 1920 x 1080 pixel
- High sensitivity enables brighter images
- High resolution implies sharp images
- Format 16:9
- Digital HD-SDI output
- Camera settings via OSD

- 5 user profiles
- Low heat build up
- Exchangeable head cable
- Remote head keys
- C-Mount for lenses

FULL HD

DIGITAL/ANALOG OUTPUT

USB PORT

BUTTONS PROGRAMMABLE



ORDER DATA	ENDOVIEW 1CMOS HD
7735WDH1C	EndoView 1CMOS HD (Set)
8635UC	Camera controller with capture mode
8635KKK	Camera head with cable without lens
8825	Lens standard C-Mount 25 mm
8800Z16	Lens zoom C-Mount 16-34 mm
8800Z18	Lens fix focus C-Mount 18-32 mm

ELECTRICAL DATA	ENDOVIEW 1CMOS HD
Mains voltage	Medical global power adaptor, 100 to 240 V, 50/60 Hz Fuses: 2 Fine fuses, 5x20 mm, delay acting 3,15 AH (l=1500A)
Power consumption	20 VA

CERTIFICATION DATA	ENDOVIEW 1CMOS HD
Approvals	The CE labeling is performed in accordance with the EU-guidelines 93/42/EWG, Annex II
Safety data	Class I according to 93/42/EWG, Protection class I, Type BF

STERILIZATION METHOD	ENDOVIEW 1CMOS HD
Sterilization control unit	Wipe-disinfection
Sterilization camera head	submerging disinfection, no sterilization in autoclave

ENDOSCOPIC CAMERA SYSTEM CMOS TECHNOLOGY

Camera head buttons are equipped with user and remote control of accessory devices

Handy rest of the focus ring enables easy and low-friction manipulation

C-mount optics 25 mm and further optics optional

Optics coupling, made of stainless steel, which automatically adapts to any brand. Thus the camera can be prepared for any discipline within seconds.



SYSTEM FEATURES	ENDOVIEW 1CMOS HD
Video Standard	Full HD 1920 x 1080, 16:9 TV resolution: > 1000 lines
Chip	1/3" MOS Sensitivity: < 3 lux (1/1.4)
Camera Head	With push buttons
Shutter	1/50 (/1/60) to 1/100.000 sec
White balance	Auto Tracing, Auto, Manually
User Menu	3 scene files for user settings. Operation with keypad and in Screen Menu
Features	Boost - Function Freeze -Function On-screen-menu 2.5 digital zoom Character generator
Video out	1x HDMI / DVI 1x Y-Pb-Pr (Component) 1x Video (PAL / NTSC) 1x S-Video (PAL / NTSC)
Delivery contains	CCU, camera head with 3 m cable, mains cable, Y/C cable, BNC cable, HDMI - DVI cable, HDMI cable, user manual
Features (optional)	Image capture, video capture

MECHANICAL DATA	ENDOVIEW 1CMOS HD
Dimensions (Camera controller)	w x h x d = 350 x 65 x 275 mm
Dimensions (Camera head)	Ø max. 34 mm x 73 mm
Casing	Stainless steel, aluminium / white coated
Objective connection	C-Mount
Camera cable	$3\mathrm{m}$ / 9.8 ft highly flexible special cable, replaceable, short circuit proof
Weight (camera controller)	4,1 kg
Weight (camera head)	105 g

FULL HD CAMERA SYSTEMS - ACCESSORIES



ORDER DATA	1			LENSES
	Standard lens	4K	3CMOS	1CM0S
8825	C-Mount 25 mm	•	•	•



	Zoom lens	4K	3CM0S	1CM0S
8800Z16	C-Mount 16-34 mm	•	•	•



	Zoom lens parfocal	4K	3CM0S	1CMOS
8800Z18	C-Mount 16-32 mm	•	•	•







STANDARD-LENS

ZOOM-LENS 16-34

ZOOM-LENS 16-32 PARFOCAL

HD ENDOSCOPES



WISAP



Increased durability

FLOATING GLASS FIBRES

The endoscopes are designed, so that the glass fibers are mounted without continuous tension. This results in less stress on the overall mechanical system, in particular on the light entrance and light exit surfaces. This enhances the life expectancy and improves service life.

GOLD STANDARD

According the latest state of the art, the sightglass is fixed in place with gold solder instead of glue. This guarantees a better fit and improves protection against ingress of moisture. Additionally it enables the occurring stress during any autoclave-cycle to better dispense.

Clear and bright view

For a clear and unique view our endoscopes offer high HD quality. Together with the optimized illumination they offer a very bright and clear picture, which is rich in contrast.

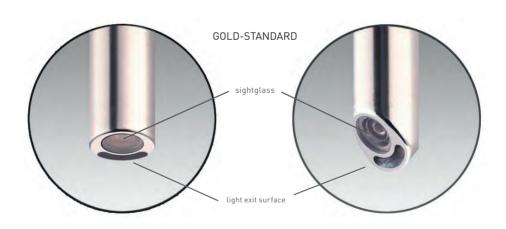
Added to this is an increased depth of field, which enables the user to change the working distance without having to refocus.

We also offer best image quality by reducing the chromatic aberration and reflections.

Better illumination

For our new family HD endoscopes, special emphasis was placed on the creation of homogeneous and sharp-edged lighting.





HD HYSTEROSCOPES





200		

mm I	₩mm	Visual angle	Hysteroscope, integrated fiber	
302 mm	2,9 mm	30°	1180WA3W	

autoclaveable,made of stainless steel, with roptic light transmission Color code: blue

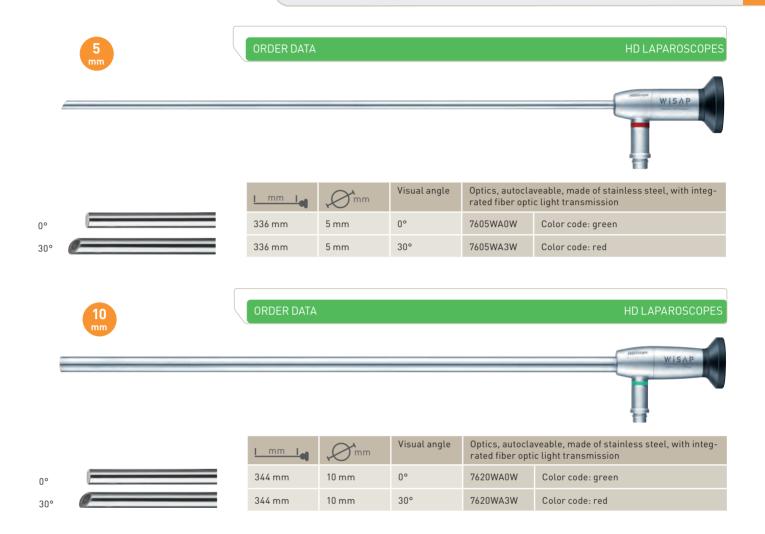






I mm I el	₩mm	Visual angle	Hysteroscope, autoclaveable, made of stainless steel, with integrated fiber optic light transmission	
302 mm	4 mm	0°	1145WA0W	Color code: green
302 mm	4 mm	12°	1145WA1	Color code: blue
302 mm	4 mm	30°	1145WA3W	Color code: red

HD LAPAROSCOPES

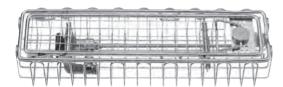


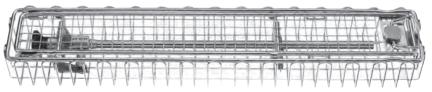
ACCESSORIES



I mm I	₩mm	Fiber optic light cable with glass rod for high and constant light transmission. Standard connections: WISAP / Storz
230 cm	4,8 mm	7761 GS1
300 cm	4,8 mm	7761 GS2
230 cm	3,5 mm	7761 GS4

7761 AD1 $Light-entry\ adaptor,\ with\ glass\ rod,\ for\ use\ with\ cold\ light\ cable.\ WISAP\ /\ Storz$





7790 A Endoscope basket

7790 A	Endoscope basket, with silicone optics support, cover for sterilization and storage of arthroscopy-, ENT-, cystoscopy-optics, 290 x 80 x 52 mm
7790 B	Endoscope basket, with silicone optics support, cover for sterilization and storage of laparoscopy-, pelviscopy-, thoracoscopy-, hysteroscopy-, cystoscopy-optics, 460 x 80 x 52 mm $$



7640-2 Anti-Fog Solution, Ultra Stop, 5 pcs.p.pck.



WISAP-Optics with universal connection for Fiber optic- and Fluid light cables:		onnection for Fiber optic- and Fluid light cables:
	7777 W	Light cable: Wolf
	7777 A	Light cable: Storz



Ada	otors for the connection (of MICAD Eibar antic	and Eluid light cables wit	h the fellowing entice.
Aua	Tions for the confidention (JI WIJAF FIDEI OPLICE	and Fluid light cables wh	in the following optics:

7768 A	Optics: ACMI
7768 W	Optics: WOLF

LED LIGHT SOURCE

LED Illumination L300

- LED light source for optimal light conditions in any endoscopic application
- Free of maintenance because of modern LED Technology
- 6000°K LED light ensures constant daylight colour rendition
- Protection electronics, heat protection

LOW MAINTENANCE COSTS



TECHNICAL DATA	LED ILLUMINATION	
Mains voltage	100-240 VAC; 50-60Hz	
Power cons.	max. 300W	
Lamp equipment	LED Light source	
Colour temperature	6000 °K - 6500 °K	
Video in	1 x VBS, 1 x S-VHS (Y/C)	
Dimensions	w x h x d = 355 x 120 x 340 mm	
Casing	Stainless steel, aluminium / white coated	
Weight	10 kg	

ORDER DATA	LED ILLUMINATION
7720L300	LED Illumination incl. mains cable (2,5 m) and accessories

XENON LIGHT SOURCE

Xenon Illumination X180/H150

- 180 W Xenon light for optimal light conditions in any endoscopic application
- 150 W Halogen Back-Up light for increased patient safety
- Electronic light intensity regulator
- 6000 °K ensures daylight colour rendition The colour temperature is independent from the light intensity
- Lamp life indicator
- Protection electronics, heat protection filter

BACKUP LIGHT



\	TECHNICAL DATA	XENON ILLUMINATION X180 H150
	Mains voltage	115/230 VAC; 230/240 VAC, switchable
	Power input	max. 400 VA
	Lamp equipment	Xenon short arc gas discharge lamp 180 W Halogen 150 W
	Colour temperature	Xenon 6000 °K, Halogen 3400 °K
	Video in	1 x VBS, 1 x S-VHS (Y/C)
	Dimensions	w x h x d = 355 x 110 x 365 mm
	Casing	Stainless steel, aluminium / white coated
	Weight	13,5 kg

ORDER DATA	XENON ILLUMINATION X180 H150
7720X18H	Xenon Illum. X180 H150 incl. mains cable (2,5 m) and accessories

LCD-DISPLAY

21.5" Full HD LCD-Display

- 10 bit signal processing LED backlight
- Multi-Display / side by side or PIP

- Flip function (horizontal/vertical)Memory for 8 users
- Medical approvement



MEDICAL APPROVEMENT

HDMI - INPUT

TECHNICAL DATA	21.5" LCD-DISPLAY
Size	21.5 inch
Resolution	1920 x 1080 pixels (16:9)
Connections	digital: 1xHDMI / 1xDVI / 1xSD-SDI analog: 1 x BNC / 1 x D-Sub / 1 x RGB
Mains voltage	100-240 V / 50/60 Hz
Power input	45 VA
Dimensions	w x h x d = 350 x 130 x 360 mm
Weight	app. 4.5 kg

ORDER DATA	21.5" LCD-DISPLAY
7738-21	21.5" LCD-Display incl. power supply

26" Full HD LCD-Display

- 10 bit signal processing
- LED backlightMulti-Display / side by side or PIP

- Flip function (horizontal/vertical)
- Memory for 8 usersMedical approvement



MEDICAL Approvement

HD-SDI INPUT

TECHNICAL DATA	26" LCD-DISPLAY
Size	26 inch
Resolution	1920 x 1080 pixels (16:9)
Connections	digital: 2 x Multi-SDI / 2 x DVI-D analog: 1 x VBS / 1 x Y/C
Mains voltage	100-240 V / 50/60 Hz
Power input	80 VA
Dimensions	w x h x d = 350 x 130 x 360 mm
Weight	app. 8 kg

OR	DER DATA	26" LCD-DISPLAY
77	38-26	26" LCD Display incl. power supply

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