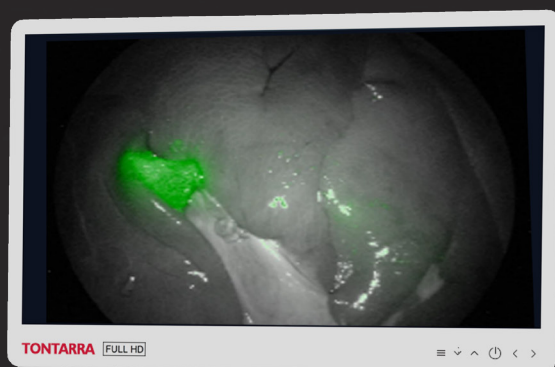


TONTARRA



LUMI*ni*R
near infrared



ENDOOR-TOWER

Cameras | Units | Accessories



YOUR SPECIALIST IN THE WORLD CENTER OF MEDICAL TECHNOLOGY

For more than 55 years “made by TONTARRA, Germany” is a synonym for state-of-the-art surgical and endoscopic instruments and equipment of high quality and precision. The success of TONTARRA derives from innovation, commitment and a strong focus on our continuing tradition.

A product range with over 20.000 articles is distributed worldwide under our own brand as well as OEM. Indispensable ‘tools’ for maturing a new idea into the surgical instrument of highest precision include our state-of-the-art manufacturing facility with 6.000 m², the ingenuity and strong commitment of our entire team of technicians and skilled workers and a location which for more than 100 years has been the very world center – with a high manufacturing penetration – for developing and producing all types of innovative and patient-oriented surgical instrumentation for distinguished physicians across the globe.



+ 55
years of experience



+ 150
skilled employees



+ 20.000
upmarket products

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► Endoor-Compact All-In-one Endoscope Camera System

The **All-in-one Compact Camera System** comes with a 17.3" monitor and LED light source. The portable laptop size unit and the included FULL HD camera head is compatible with a wide range of rigid and flexible endoscopes.

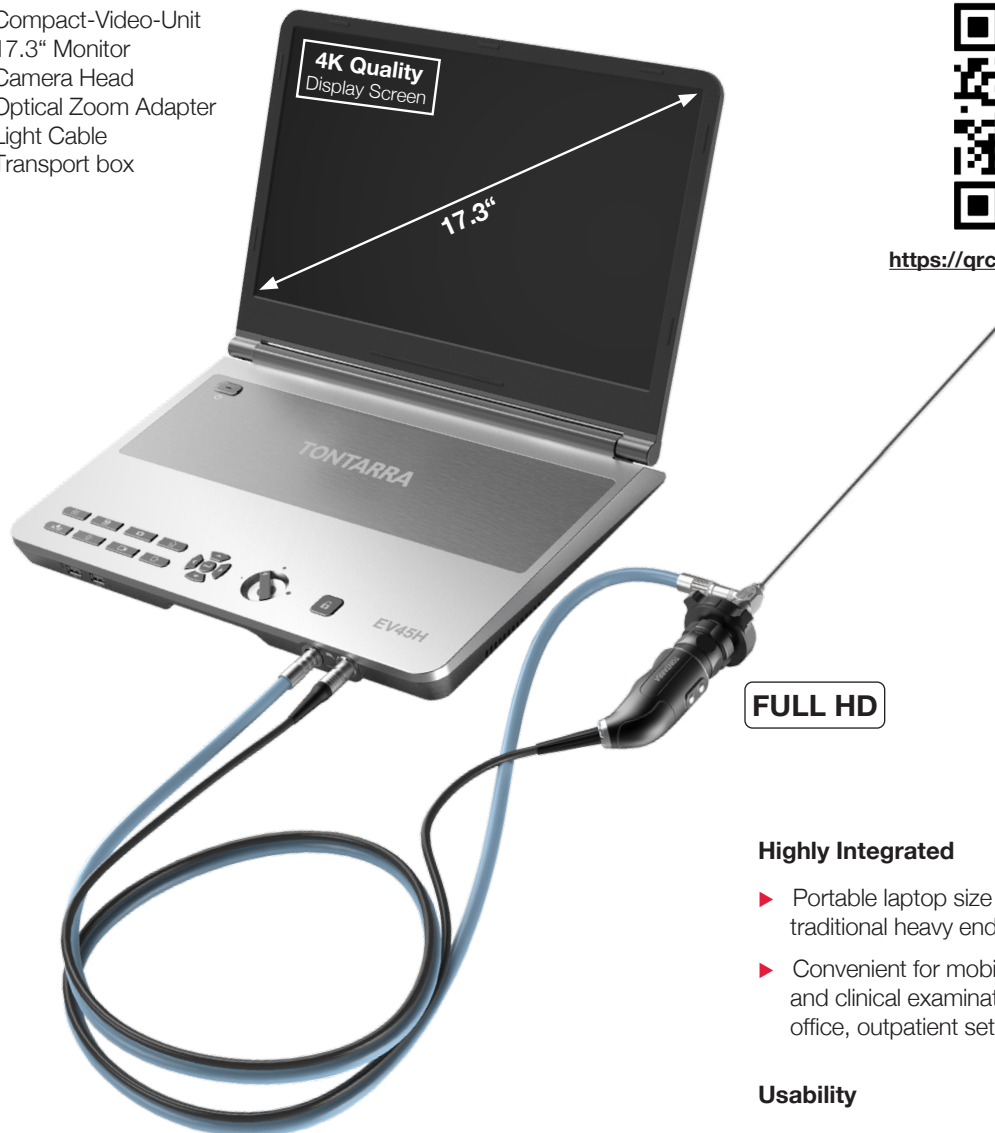
With its portable design, it is the perfect video unit for universal use in doctors' office, outpatient settings, day clinics.

NSEO/EV45H

Endoor-Compact All-in-one Endoscope Camera System

consisting of:

- Compact-Video-Unit
- 17.3" Monitor
- Camera Head
- Optical Zoom Adapter
- Light Cable
- Transport box



For more information
please see our
EndoorCompact presentation



<https://qrco.de/endoor-compact>

Highly Integrated

- Portable laptop size unit instead of the traditional heavy endoscope tower
- Convenient for mobile medical treatment and clinical examination, e.g. in doctors' office, outpatient setting and day clinics.

Usability

- Buttons for easy and intuitive handling
- Pre-installed specialty settings
- Possibility to store individual specialty settings
- USB ports to connect external devices

TECHNICAL DATA	
Screen Size	17.3" 4K quality display
Resolution	1920 x 1080; 60 frames
Ports for External Monitor	HDMI & VGA
Camera Head	f= 15-25 mm; IPX7 waterproof
Capturing	Photos and Videos
Light Source	Intergrated LED (60 Watt)
Color Rendering Index	RA > 92
Color Temperature	5.700 K
Directive Compliance	CE mark
Supply Voltage	100-240 V, 5V 12A
Power Supply	80W, 5V 12A
Product Size	413 mm (L) x 291 mm (W) x 40 mm (H)

► ACCESSORIES:



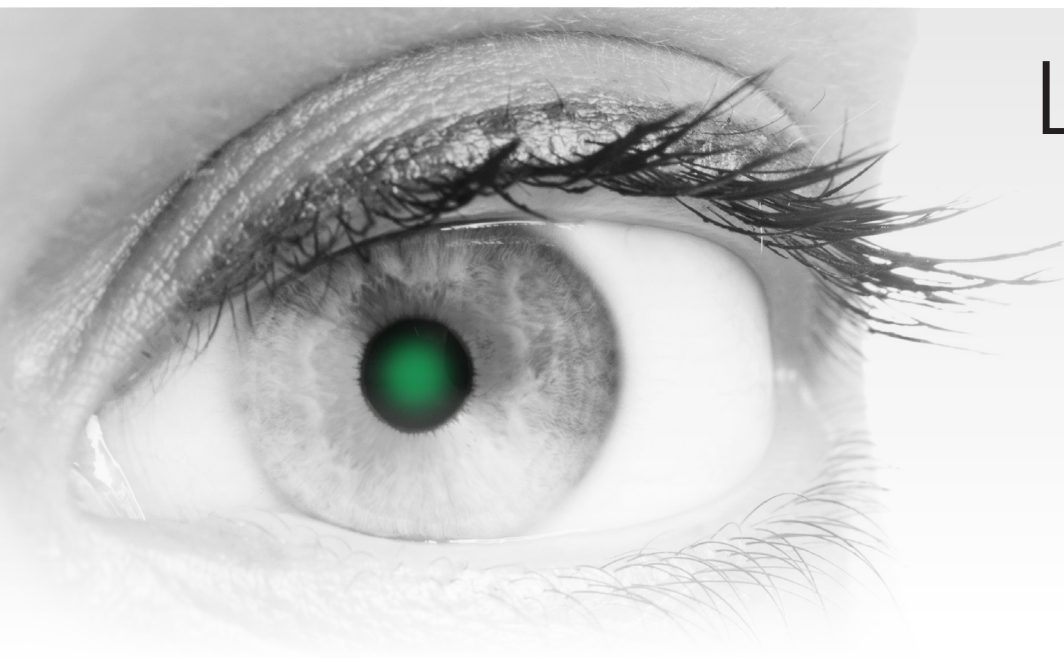
NSEO/114011301

Endoor-Compact camera head FULL-HD;
resolution 1920x1080



NSEO/110213046

Endoor-Compact Optical zoom adapter; parfocal zoom:
f = 15-28mm; for camera head FULL-HD



LUMI^{niR}
near infrared



fluorescence



imaging



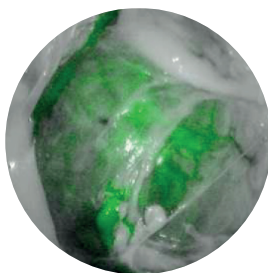
technology

During the last years, NIR (NearInfraRed) Fluorescence technology has become more and more of interest as a tool in intra-operative minimally invasive surgery. This fluorescence imaging technology enables surgeons to visualize and assess blood flow and tissue perfusion, an important indicator for healthy tissue, as well as specific anatomical structures during multiple minimally invasive procedures.

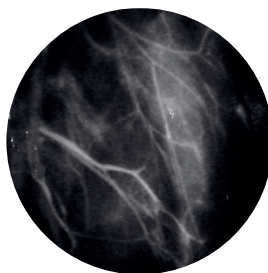
The Fluorescent imaging agent ICG binds the protein of blood and is metabolized and exuded by the liver thereby providing laparoscopy visualization of the hepatic artery and biliary ducts.

CAMERA SIGNAL MODES

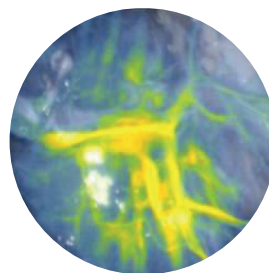
The LUMI_NIR camera systems feature three different NIR FI signal modes which provide the surgeon with the best possible visualisation option for their patients:



NIR FI green



NIR FI contrast

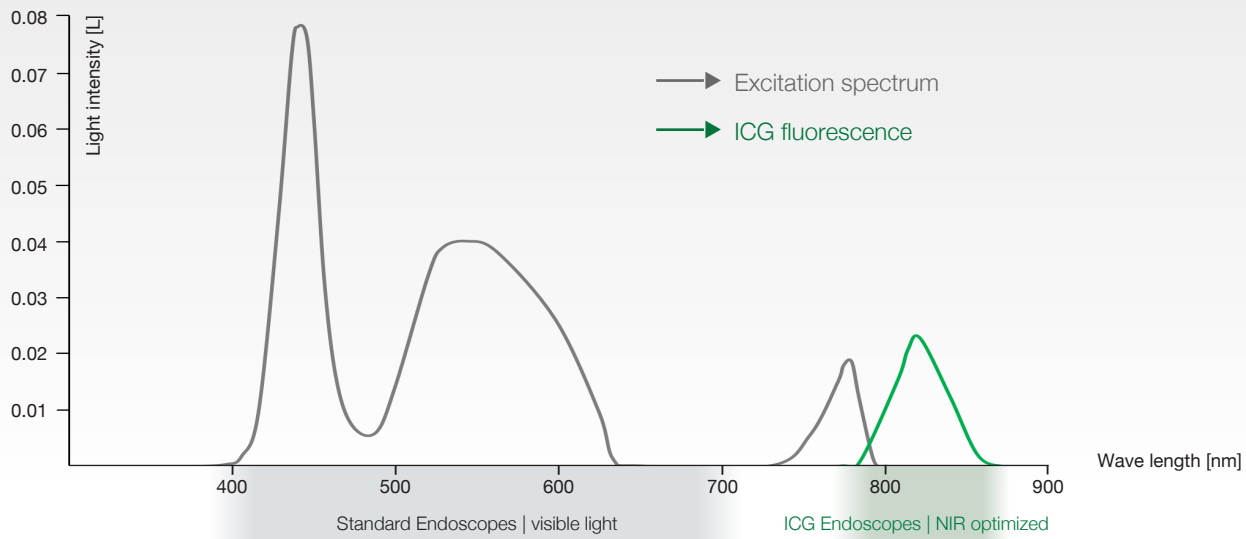


NIR FI intensity

With a picture out of picture mode (PoP) it is also possible to have 2 modes next to each other. It helps to clearly identify the intensity in the single modes, e.g. one picture in green mode and one picture in intensity mode.

The different modes can be easily accessed by pressing the green colored NIR FI button on the NIR FI camera head. This allows to switch from standard white light procedures to NIR FI procedure whenever there is need during the procedure performed.

FLUORESCENCE SPECTRUM



The absorption spectrum of ICG (indocyanine green) is located in the near-infrared range (NIR). Basically ICG absorbs the light in the range of 600nm to 900nm and emits the fluorescence between 800nm up to 850nm. Thus, it is possible to detect the fluorescence intraoperatively and to visualize with System green.

CLINICAL INDICATIONS

Gynecologic Procedures

- sentinel lymph node mapping
- in laparoscopic procedures
- in uterine or cervical cancer procedures
- examination of sentinel lymph nodes

Endometriosis Procedures

- bowel endometriosis surgery
- sampling of lymph nodes in risk of endometrial cancer
- visualization of vascularization of rectal wall

Cholecystectomy

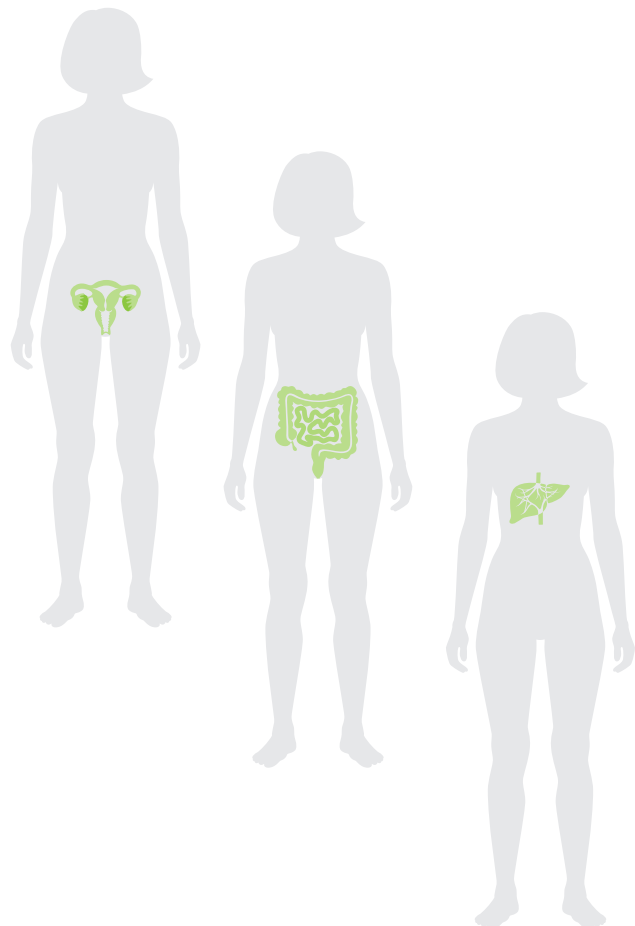
- cholangiography
- biliary duct visualization and perfusion assessment

Colorectal Surgery

- colectomy or colon resection procedures
- perfusion assessment in colon cancer, polyps, infections
- better prevention of anastomotic leaks

Esophageal Surgery

- esophagogastric anastomosis
- perfusion assessment in colon cancer, polyps, infections
- better prevention of anastomotic leaks





► **Visualization**

Medical Monitors

► **Visualization**

Camera Control Units & Camera Heads

► **Visualization**

LED Light Source

► **Irrigation & Suction**

Multi-Indication Pump

► **Insufflation**

Insufflator 50L

► **Resection**

HF-Generator

SCHO/95-3930

EndoorCam 10 Full HD Camera Controller

Features:

- Full HD USB image capture
- Multi-connectivity
- Videoalgorithms:
selective color enhancement, smoke reduction, grid removal
- Compatible with Full HD camera heads:
camera head Full HD zoom, Full HD 90° angled



TECHNICAL DATA

Operation control panel	On-Off, menu, white balance, photo
Video outputs	High definition: 2 x DVI (1080p), 2 x 3G-SDI (1080p)
Remote outputs	2 x 3.5 mm phone jack connectors (to connect recording/printer devices)
Remote inputs	2 x 3.5 mm phone jack connectors (to connect a foot control switch)
Connectivity	MIS-Bus interface
Dimensions/Weight	295 x 100 x 355 mm (W x H x D) / 4.39 kg

SYSTEM

Standard compliance	IEC 60601-1
Directive compliance	CE-mark
Supply voltage	100 - 240 V AC, 50/60 Hz
Current consumption	0.8 - 0.4 A
Protection class as per IEC 60601-1	Protection class I
Degree of protection	IP 21
Classification as per Medical Device Regulation (EU) 2017/745	Class I medical device
Classification as per IEC/CISPR 11	Group 1, Class B

Original Manufacturer Product of SCHÖLLY



LUMI**nIR**
near infrared

VISUALIZATION SYSTEMS

NATIVE FULL
1080p HD

EndoorCam 20 NIR FI Native Full HD camera:

TONTARRA's versatile and economic EndoorCam 20 NIR FI Native Full HD camera leads the way to integrate the Fluorescence technology as a standard in the medical area.

The Full HD version does not only offer USB photo and video recording but also provides patented automatic light control of the NIR FI Light Source.

4K
ULTRA HD

EndoorCam 40 NIR FI ULTRA HD 4K camera:

TONTARRA's EndoorCam 40 NIR FI Ultra HD 4K camera is the solution when looking for an outstanding performance. With a 4K UHD imaging output it offers a greater and more detailed color space compared to the already exceptional EndoorCam 20 NIR FI Native Full HD camera system. Additionally, it provides USB photo and video recording as well as patented automatic light control of the NIR FI Light Source.

LUMI^{nir}

SCHO/95-3981

EndoorCam 20 NIR FI* Native Full HD Camera Controller

Features:

- Full HD USB image / video capture
- Multi-connectivity
- Videoalgorithms: color shift 1 + 2, selective color enhancement, smoke reduction, grid removal
- Picture out of picture mode at use of video algorithms
- Automatic light control in combination with EndoorLight 300 LED & EndoorLight 300 NIR FI light source
- Compatible with all Endoor HD Camera Heads
- Compatible with NIR FI Camera Head



* Standard use in white light mode.
NIR FI function included, to be used only with NIR FI-components (camera head, light source, endoscopes).

TECHNICAL DATA

Operation control panel	On-Off, menu, white balance, photo, video
Video outputs	High definition: 2 x DVI (1080p), 2 x 3G-SDI (1080p)
Remote outputs	2 x 3.5 mm phone jack connectors (to connect recording/printer devices)
Remote inputs	2 x 3.5 mm phone jack connectors (to connect a foot control switch)
Interfaces USB Keyboard / Drive	2 x USB
Connectivity	MIS-Bus interface
Dimensions/Weight	295 x 100 x 355 mm (W x H x D) / 5.7 kg

SYSTEM

Standard compliance	IEC 60601-1
Electromagnetic compatibility	IEC/EN 60601-1-2
Directive compliance	CE-mark
Supply voltage	100 - 240 V-, 50/60 Hz
Current consumption	0.8 - 0.4 A
Protection class as per IEC 60601-1	Protection class I
Degree of protection	IP 21
Classification as per Medical Device Regulation (EU) 2017/745	Class I medical device
Classification as per IEC/CISPR 11	Group 1, Class A

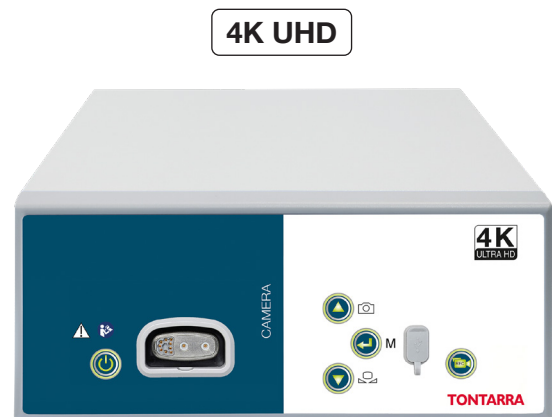
LUMI^{nIR}

SCHO/95-3985

EndorCam 40 NIR FI* 4K UHD Camera Controller

Features:

- Outstanding performance
- 4K UHD imaging (3840 x 2160, 50 / 60p)
- BT2020, large 4K UHD color space
- Image / video capturing via USB (Full HD)
- Multi-connectivity:
 - NIR FI: camera head NIR FI full HD zoom
 - 4K UHD: camera head 4K UHD zoom
 - Full HD: camera head full HD zoom, full HD 90° angled



* Standard use in white light mode.
 NIR FI function included, to be used only with NIR FI-components
 (camera head, light source, endoscopes).

TECHNICAL DATA

Operation control panel	On-Off, menu, white balance, photo, video
Video outputs 4K-UHD HD	4 x 3G-SDI (3840 x 2160p, 50 / 60p) 2 x 3G-SDI, 2 x DVI (1080p)
Remote outputs	2 x 3.5 mm (to connect recording / printer devices)
Remote inputs	2 x 3.5 mm (to connect a foot control switch) 2 x USB (1 x for image and video capture, 1 x keyboard)
Interfaces USB Keyboard / Drive	2 x USB
Connectivity	MIS-Bus interface
Dimensions/Weight	295 x 130 x 355 mm (W x H x D) / 7 kg

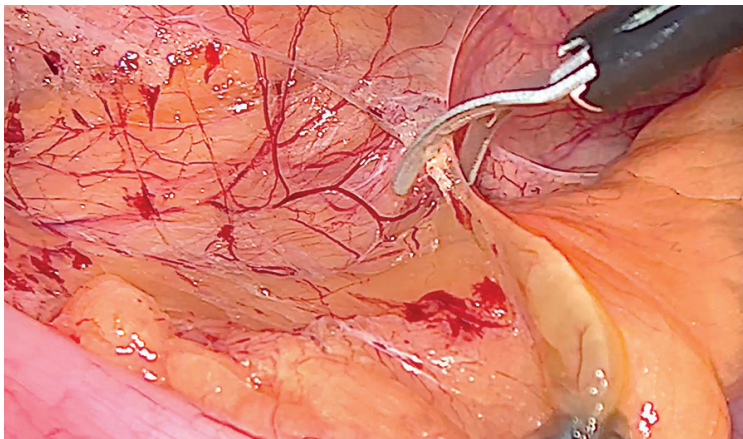
SYSTEM

Standard compliance	IEC 60601-1
Electromagnetic compatibility	IEC/EN 60601-1-2
Directive compliance	CE-mark
Supply voltage	100 - 240 V~, 50/60 Hz
Current consumption	1.2 - 0.5 A
Protection class as per IEC 60601-1	Protection class I
Degree of protection	IP 21
Classification as per Medical Device Regulation (EU) 2017/745	Class I medical device
Classification as per IEC/CISPR 11	Group 1, Class A

State-of-the-art Image Quality

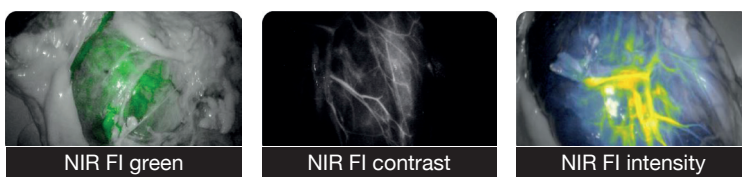
Latest CMOS chip technology integrated in the **EndoorCam** native full HD endoscopy camera systems provides a brilliant image quality with highest sensitivity. Edge enhancement, dynamic contrast function and various video algorithms lead to a vivid, crystal clear image.

Vessels and tissue structures can be highlighted, the view during HF or laser applications can be improved or the honeycomb structure of image bundle endoscopes can be reduced. All these details and technologies lead to this best-in-class camera solution.



LUMInIR

NIR FI Modes:



Standard use in white light mode.

NIR FI function included, to be used only with NIR FI-components (camera head, light source, endoscopes).

► Video Algorithm Color Shift 1 + 2

The range of advanced imaging algorithms is completed with „Color Shift“ modes. Spectral colors are shifted and exchanged. It can be used to enhance vessels and tissue structures.

► Picture out of picture mode (POP)

User can display the image improved by video algorithm either in fullscreen or use it side by side, with the original image, both on the same monitor in PoP-mode.

Automatic Light Control

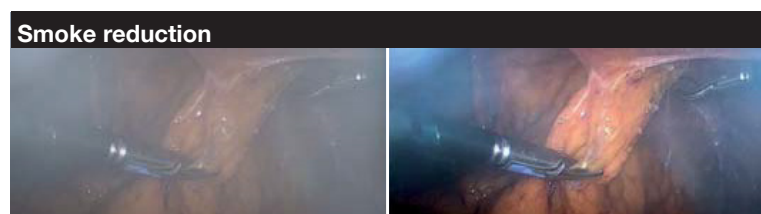
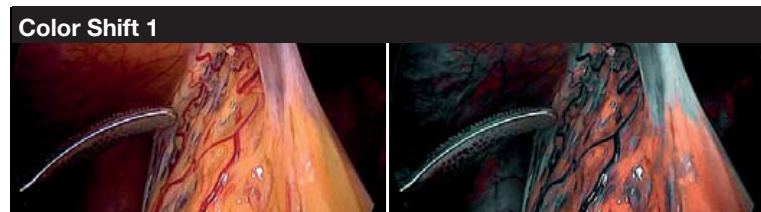
Perfect integration of LED light source and camera through MIS-Bus. The light source can be switched on and off and regulated in brightness through the camera controller and camera head buttons. The camera can even control the luminance of the light source fully automatic.

OR-Integration Module

As an option the camera can be controlled by your integrated OR system. The whole camera menu can be accessed by your OR control system. Additionally we offer solutions for still image archive and video streaming through Ethernet hospital network to a KIS/PACS system

NIR FI compatible

To visualize and access blood flow and tissue perfusion as well as specific anatomical structures during multiple MIS procedures



► Color Shift 1

Enhances vessels and tissue structures. Spectral colors are shifted and exchanged; with a stronger effect.

► Color Shift 2

Enhances vessels and tissue structures. Spectral colors are shifted and exchanged; with a weaker effect.

► Selective Color Enhancement

Enhances vessels and tissue structures with higher color contrast. The original color impression remains.

► Smoke reduction

For a clear view during dissection technologies that create smoke (e.g. HF).

► Grid removal

Reduces the honeycomb structure of image bundle endoscopes.

► Clear view

For a clear view during operations in hazy liquids (e.g. Arthroscopy)

System overview	EndoorCam 10 SCHO/95-3930	EndoorCam 20 NIR FI SCHO/95-3981	EndoorCam 40 NIR FI SCHO/95-3985
Video algorithms			
► Selective color enhancement	✓	✓	✓
► Smoke reduction	✓	✓	✓
► Grid removal	✓	✓	✓
► Clear view	optional	optional	optional
► Color Shift 1 + 2	-	✓	✓
Picture out of picture mode (PoP) for all above mentioned algorithms	-	✓	✓
Integrated galvanic insulation for use with chip-in-tip endoscopes	-	✓	✓
Compatibility with future camera heads e.g. autoclavable heads	✓	✓	✓
Full HD USB image capture	✓	✓	✓
Full HD USB video capture	-	✓	✓
Automatic light control with NEW LED light source	-	✓	✓
OR integration module	-	optional	optional
Camera Head Full HD Zoom	✓	✓	✓
Camera Head Full HD Fix 90° Angled	✓	✓	✓
Camera Head Full HD 3CMOS Zoom	-	✓	-
Camera Head NIR FI	-	✓	✓
Camera Head 4K UHD Zoom	-	-	✓

SCHO/95-3901

EndoorCam Camera Head **Full HD Zoom**

Features:

- Full HD sensor resolution
- Illuminated control buttons
- 2x optical zoom
- 3x digital zoom
- Lockable endoscope connection
- Time saving and useful presets
- Sterilization via Sterrad
- All rigid, flexible or semi-flexible endoscopes with standard ocular can be connected



TECHNICAL DATA

Image sensor	1/3" CMOS, progressive scan
Sensor resolution	1920 x 1080, 50/60p
Function keys	3 individ. programmable & illuminated keys
Endocoupler	For standard ocular, lockable
Parfocal zoom	f = 14.25 - 28 mm
Waterproof connection plug	Yes
Degree of protection	IPX 7
Lockable endoscope connection	Yes
Length camera cable	3.5 m
Weight camera head (without cable)	210 g
Control unit compatibility	EndoorCam 10 / 20 NIR FI / 40 NIR FI

Original Manufacturer Product of SCHÖLLY

SCHO/95-3903

EndoorCam Camera Head **Full HD Fix 90° Angled**

Features:

- Full HD sensor resolution
- Illuminated control buttons
- 3x digital zoom
- Lockable endoscope connection
- Time saving and useful presets
- Sterilization via Sterrad
- Lightweight and slim design
- All rigid, flexible or semi-flexible endoscopes with standard ocular can be connected



TECHNICAL DATA

Image sensor	1/3" CMOS, progressive scan
Sensor resolution	1920 x 1080, 50/60p
Function keys	3 individ. programmable & illuminated keys
Endocoupler	For standard ocular, freely rotating & lockable
Parfocal zoom	f = 14.25 mm
Waterproof connection plug	Yes
Degree of protection	IPX 7
Lockable endoscope connection	Yes
Length camera cable	3.5 m
Weight camera head (without cable)	190 g
Control unit compatibility	EndoorCam 10 / 20 NIR FI / 40 NIR FI

Original Manufacturer Product of SCHÖLLY

SCHO/95-3906

EndoorCam Camera Head Full HD 3CMOS Zoom

Features:

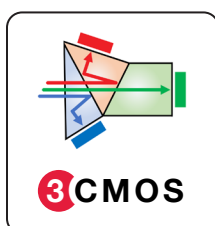
- 3CMOS sensor, native Full HD
- Illuminated control buttons
- 2x optical zoom; 3x digital zoom
- Best color reproduction due to 3CMOS sensor design
- Unique lockable endoscope connection
- Time saving and useful presets
- Sterilization via Sterrad
- All rigid, flexible or semi-flexible endoscopes with standard ocular can be connected



TECHNICAL DATA

Image sensor	3 x 1/3" CMOS, progressive scan
Sensor resolution	3 x 1920 x 1080, 50 / 60p
Function keys	3 individ. programmable & illuminated keys
Endocoupler	For standard ocular, lockable
Parfocal zoom	f = 14.25 - 28 mm
Waterproof connection plug	Yes
Degree of protection	IPX 7
Lockable endoscope connection	Yes
Length camera cable	3.5 m
Weight camera head (without cable)	300 g
Applied part as per IEC 60601-1	Type CF defibrillation-proof
Control unit compatibility	EndoorCam 20 NIR FI

Original Manufacturer Product of SCHÖLLY



**1x FULL HD
for each color:**
RED | GREEN | BLUE

SCHO/95-3905

EndoorCam Camera Head 4K UHD Zoom

Features:

- 4K UHD imaging (3840 x 2160, 50 / 60p)
- 3CMOS sensor
- BT2020, large UHD color space
- 2 x optical zoom (plus 3 x digital zoom)
- Unique lockable endoscope connection
- Sterilization via Sterrad
- Integrated Endocoupler for less interfaces
- Waterproof connection plug

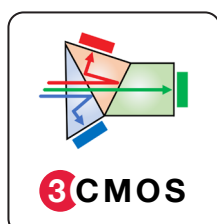


4K UHD

TECHNICAL DATA

Image sensor	3 x 1/3" CMOS, progressive scan
Sensor resolution	3840 x 2160, 50 / 60p
Function keys	3 individ. programmable & illuminated keys
Endocoupler	For standard ocular, lockable
Parfocal zoom	f = 14.25 - 28 mm
Waterproof connection plug	Yes
Degree of protection	IPX 7
Lockable endoscope connection	Yes
Length camera cable	3.5 m
Weight camera head (without cable)	330 g
Applied part as per IEC 60601-1	Type CF defibrillation-proof
Control unit compatibility	EndoorCam 40 NIR FI

Original Manufacturer Product of SCHÖLLY



**1x FULL HD
for each color:
RED | GREEN | BLUE**



**Large camera
color space**

LUMIniR

SCHO/95-3908

EndoorCam Camera Head NIR FI

Three individually programmable and illuminated keys for easy identification in dark OR. **Green NIR FI button** allows easy switch from white light image to **NIR FI imaging modes**. Manually adjustable focal length of 14.25 - 28 mm. Designed to ensure that the full HD image remains sharp when zooming. All-purpose 2x optical zoom and 3x digital zoom offers full screen laparoscopic images.

Features:

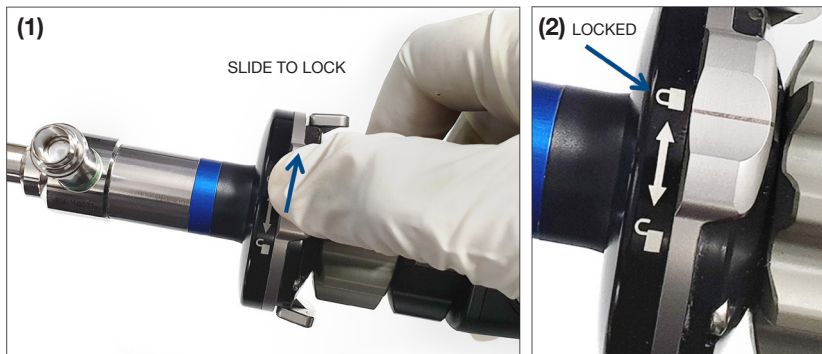
- Full HD sensor resolution
- Illuminated control buttons
- Green ICG button for fast and easy switch to NIR FI Modes
- 2 x optical zoom (plus 3 x digital zoom)
- Unique lockable endoscope connection
- Sterilization via Sterrad
- All rigid, flexible or semi-flexible endoscopes with standard ocular can be connected
- Powerful sensor with improved NIR sensitivity



TECHNICAL DATA

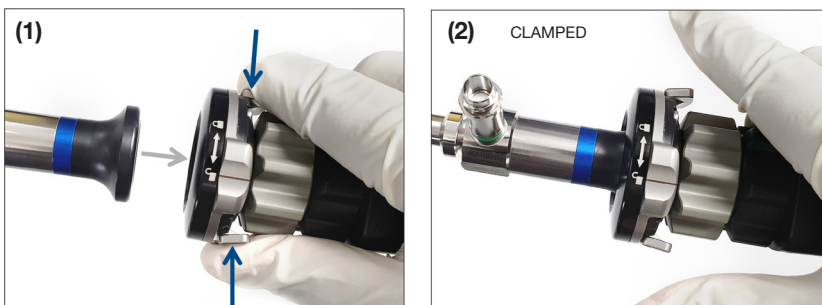
Image sensor	1/3" CMOS, progressive scan
Sensor resolution	1920 x 1080, 50 / 60p
Function keys	3 individ. programmable & illuminated keys
Endocoupler	For standard ocular, lockable
Parfocal zoom	f = 14.25 - 28 mm
Waterproof connection plug	Yes
Degree of protection	IPX 7
Lockable endoscope connection	Yes
Length camera cable	3.5 m
Weight camera head (without cable)	330 g
Applied part as per IEC 60601-1	Type CF defibrillation-proof
Control unit compatibility	EndoorCam 20 NIR FI / 40 NIR FI

Original Manufacturer Product of SCHÖLLY



Lock/unlock endocoupler grip

- Unique locking mechanism
- (1) Slide to lock/unlock
- (2) The endoscope is securely locked (or unlocked).



Endoscope clamping mechanism

- (1) Press both buttons to insert the endoscope
- (2) Release the buttons. The endoscope is securely clamped.



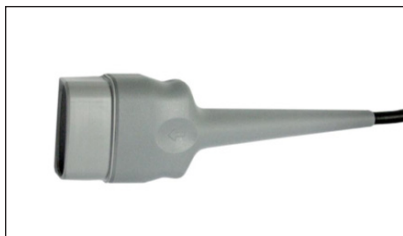
Illuminated camera head buttons

- Easy to identify in dark OR-room
- Color coded: White = White balance



Three function buttons

- Fully programmable
- Several functions are preset



Connection plug

- Waterproof
- No cap required

ACL OR-MD Medical Monitors**TFT-displays | FULL HD**

including: VESA-100 mounting interface
w/o mounting system incl. power cord

**TECHNICAL DATA**

Screen Diagonal	24" (61 cm)	27" (68.6 cm)	32" (81.3 cm)
Resolution	1920 x 1200 pixels	1920 x 1080 pixels	1920 x 1080 pixels
Contrast Ratio	1000:1	3000:1	3000:1
Brightness	300 cd/m ²	350 cd/m ²	500 cd/m ²
Video Inputs	DVI-I DP	DVI-I DP	DVI-I DP
Mount	built-in VESA-100 interfaces	built-in VESA-100 interfaces	built-in VESA-100 interfaces
Power Supply	100-240 V	100-240 V	100-240 V
Power Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Dimensions w x h x d	565 x 402 x 58 mm	652 x 424 x 63.5 mm	748 x 579 x 64 mm
Weight	7.8 kg (without accessory)	10.1 kg (without accessory)	16.5 kg (without accessory)
Cleaning	Wipe disinfection	Wipe disinfection	Wipe disinfection

Original Manufacturer Product of ACL

ACL OR-MD Medical Monitors**TFT-displays | 4K UHD**

including: VESA-100 mounting interface
w/o mounting system incl. power cord

**ACLO/OR-MD32-4K-TON****ACLO/OR-MD43-4K-TON****TECHNICAL DATA**

Screen Diagonal	32" (81.3 cm)	43" (109.2 cm)
Resolution	3840 x 2160 pixels	3840 x 2160 pixels
Contrast Ratio	1700:1	3000:1
Brightness	650 cd/m ²	500 cd/m ²
Video Inputs	4x SDI IN (2x max. 12G-capable, 2x max. 3G-capable), 1x 12G-SDI Loop-Through; 2x HDMI 2.0 IN; 1x HDMI 2.0 Loop-Through	1x 12G-SDI; 1x 12G-SDI Loop-Through; 2x DP; 1x HDMI 2.0 IN
Mount	built-in VESA-100 interfaces	built-in VESA-100 interfaces
Power Supply	100-240 V	100-240 V
Power Frequency	50/60 Hz	50/60 Hz
Dimensions w x h x d	748 x 479 x 64 mm	1006 x 625 x 74 mm
Weight	13 kg (without accessory)	24 kg (without accessory)
Cleaning	Wipe disinfection	Wipe disinfection

Original Manufacturer Product of ACL

Please note:

The 43" 4K UHD TFT-display can only be connected to the EndoorCam 40 4K UHD camera controller in combination with the Video Converter FSNO/IPS100A.

SCHO/05-0760led**EndoorLight 300 LED** Light Source

Patented fully automatic light control, permitting **reliable and efficient** use in combination with the EndoorCam 20 NIR FI and EndoorCam 40 NIR FI camera system. **Quick adjustment** by the user via camera control unit or camera head button. **Very silent** during use. The multi-light guide adapter allows the use of light guides from Storz, Wolf and Olympus. Bus system for easy connection to camera system.

Features:

- High color rendering index (CRI): Ra > 90
- Lifetime > 30.000 h
- Low noise level
- Multi-light-guide adapter
- Meets high requirements for CF with defibrillators
- BUS connectivity to Camera Units
- Automatic light control in combination with EndoorCam 20 NIR FI and EndoorCam 40 NIR FI

**TECHNICAL DATA**

Illumination type	High power white light LED
Color Rendering Index	CRI Ra > 90
Color temperatue	5,600 K
Luminous flux	1,420 lm
Lifetime of the illuminant	> 30,000 h
Operation control panel	LCD Display with illuminated buttons
Standard compliance	IEC 60601-1
Electromagnetic compatibility	IEC/EN 60601-1-2
Directive compliance	CE-mark
Dimensions (W x H x D)	295 x 130 x 355 mm
Weight	8 kg
Supply voltage	100 - 240 V~, 50/60 Hz
Current consumption	1.6 - 0.6 A
Protection class acc. to IEC 60601-1	Protection class I
Degree of protection	IP21
Applied part as per IEC 60601-1	Type CF defibrillation-proof
Classification as per Medical Device Regulation (EU) 2017/745	Class I medical device
Classification as per IEC/CISPR 11	Group 1 Class B



Original Manufacturer Product of SCHÖLLY

LUMI^{nIR}

SCHO/05-0761NIR

EndoorLight 300 NIR FI Light Source

Features:

- High color rendering index (CRI): Ra > 90
- Lifetime > 30.000 h
- Low noise level
- Multi-light-guide adapter
- Meets high requirements for CF with defibrillators
- BUS connectivity to Camera Units
- Automatic light control in combination with EndoorCam 20 NIR FI & 40 NIR FI
- NIR FI – Near infrared fluorescence imaging with 805 nm NIR laser for optimal ICG excitation.



TECHNICAL DATA

Illumination type	High power white light LED
Color Rendering Index	CRI Ra > 90
NIR FI	805 nm NIR laser
Color temperatue	5,600 K
Luminous flux	1,420 lm
Lifetime of the illuminant	> 30,000 h
Operation control panel	LCD Display with illuminated buttons
Standard compliance	IEC 60601-1
Electromagnetic compatibility	IEC/EN 60601-1-2
Directive compliance	CE-mark
Dimensions (W x H x D)	295 x 130 x 355 mm
Weight	8 kg
Supply voltage	100 - 240 V~, 50/60 Hz
Current consumption	1.6 - 0.6 A
Protection class acc. to IEC 60601-1	Protection class I
Degree of protection	IP21
Applied part as per IEC 60601-1	Type CF defibrillation-proof
Classification as per Medical Device Regulation (EU) 2017/745	Class I medical device
Classification as per IEC/CISPR 11	Group 1 Class A
Laser class as per IEC 608025-1	Class 3R



LUMIⁿⁱR

NIR FI Endoscopes

Ø 10.0 mm Laparoscopes

Specially designed NIR FI Endoscopes to transmit the NIR wave lengths are mandatory to detect the ICG Fluorescence. Only a complete image chain consisting of NIR camera unit, NIR camera head, NIR light source, NIR Light guide and NIR endoscopes allow a perfect visualization and functionality of the ICG Fluorescence.

Our Ø 10.0 mm Laparoscopes are based on the latest image technology and optical components which ensure a high resolution and homogenous illumination of the complete OR field.

Features:

- Sharp image from center to edge
- Homogenous illumination in the entire image area
- High-contrast image
- High depth of field



SCHO/11-0131NIR

Laparoscope UHD/NIR

- Ø 10.0 mm; 0°
- FL 344 mm
- autoclavable



SCHO/11-0143NIR

Laparoscope UHD/NIR

- Ø 10.0 mm; 30°
- FL 344 mm
- autoclavable

Original Manufacturer Product of SCHÖLLY

LUMIⁿⁱR

The NIR FI Light Guide is the specified equipment for NIR laser activation. The NIR FI Light Guide has a Class 3R laser output at the distal end. Therefore, direct eye-contact needs to be avoided.



SCHO/05-0094L-NIR

NIR FI Light Guide Cable (without endoscope-side connectors)

- Ø 4.8 mm
- 3000 mm length
- 3R laser output

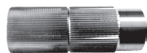
Connectors

Endoscope-Side



540-880-02

TONTARRA/Storz/
Aesculap/Olympus (old)



540-880-04

Olympus new



540-880-13

Wolf/HSW/Dyonics snap



540-880-01

ACMI/British/Codman

TONTARRA High Performance Line (HP) is specially designed for use with **LED light sources**. Latest fiber technology provides an improved transmission rate.



Connectors

Projector-Side



540-890-02

Storz/Aesculap



540-890-10

Olympus/ACMI



540-890-14

Olympus new (switch)



540-890-04

Wolf



540-890-01

ACMI/British/Codman

Light Guide Cables

optimized for **LED**

540-822-18 Ø 2.5 mm, 1800 mm

540-822-23 Ø 2.5 mm, 2300 mm

540-822-30 Ø 2.5 mm, 3000 mm

540-822-50 Ø 2.5 mm, 5000 mm

540-823-18 Ø 3.5 mm, 1800 mm

540-823-23 Ø 3.5 mm, 2300 mm

540-823-30 Ø 3.5 mm, 3000 mm

540-823-50 Ø 3.5 mm, 5000 mm

540-824-18 Ø 4.9 mm, 1800 mm

540-824-23 Ø 4.9 mm, 2300 mm

540-824-30 Ø 4.9 mm, 3000 mm

540-824-50 Ø 4.9 mm, 5000 mm

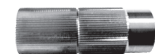
Connectors

Endoscope-Side



540-880-02

TONTARRA/Storz/
Aesculap/Olympus (old)



540-880-04

Olympus new



540-880-13

Wolf/HSW/Dyonics snap

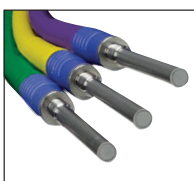


540-880-01

ACMI/British/Codman



Fused fibers



TONTARRA light guide cables come as standard in grey coloring. For ordering different colors, please add the corresponding code behind the article number:: LL (Lilac); YW (Yellow); GN (Green)

TONTARRA High Temperature Technology Line (HTT) is specially designed for use with **XENON light sources**. Compared to the Standard Line the HTT-Line has an higher transmission rate of approx. 20% due to the adhesive-free light entry area.



Light Guide Cables (without endoscope-side connectors)

optimized for **XENON**

540-812-18	Ø 2.5 mm, 1800 mm
540-812-23	Ø 2.5 mm, 2300 mm
540-812-30	Ø 2.5 mm, 3000 mm
540-812-50	Ø 2.5 mm, 5000 mm
540-813-18	Ø 3.5 mm, 1800 mm
540-813-23	Ø 3.5 mm, 2300 mm
540-813-30	Ø 3.5 mm, 3000 mm
540-813-50	Ø 3.5 mm, 5000 mm
540-815-18	Ø 4.9 mm, 1800 mm
540-815-23	Ø 4.9 mm, 2300 mm
540-815-30	Ø 4.9 mm, 3000 mm
540-815-50	Ø 4.9 mm, 5000 mm



TONTARRA light guide cables come as standard in grey coloring. For ordering different colors, please add the corresponding code behind the article number:: LL (Lilac); YW (Yellow); GN (Green)

TONTARRA Standard Light Cables are specially designed for use with **HALOGEN light sources**. These light cables may not be used with high energy output.



Light Guide Cables (without endoscope-side connectors)

optimized for **HALOGEN**

540-802-18	Ø 2.5 mm, 1800 mm
540-802-23	Ø 2.5 mm, 2300 mm
540-802-30	Ø 2.5 mm, 3000 mm
540-802-50	Ø 2.5 mm, 5000 mm
540-803-18	Ø 3.5 mm, 1800 mm
540-803-23	Ø 3.5 mm, 2300 mm
540-803-30	Ø 3.5 mm, 3000 mm
540-803-50	Ø 3.5 mm, 5000 mm
540-805-18	Ø 4.9 mm, 1800 mm
540-805-23	Ø 4.9 mm, 2300 mm
540-805-30	Ø 4.9 mm, 3000 mm
540-805-50	Ø 4.9 mm, 5000 mm



TONTARRA light guide cables come as standard in grey coloring. For ordering different colors, please add the corresponding code behind the article number:: LL (Lilac); YW (Yellow); GN (Green)

To connect an endoscope with a light cable it is necessary that **the diameters of both components match**. The perfect combination of endoscope diameter and light cable diameter prolongs the life-time of the endoscope light fibers.

Recommended Combination: Light Cable with Endoscope

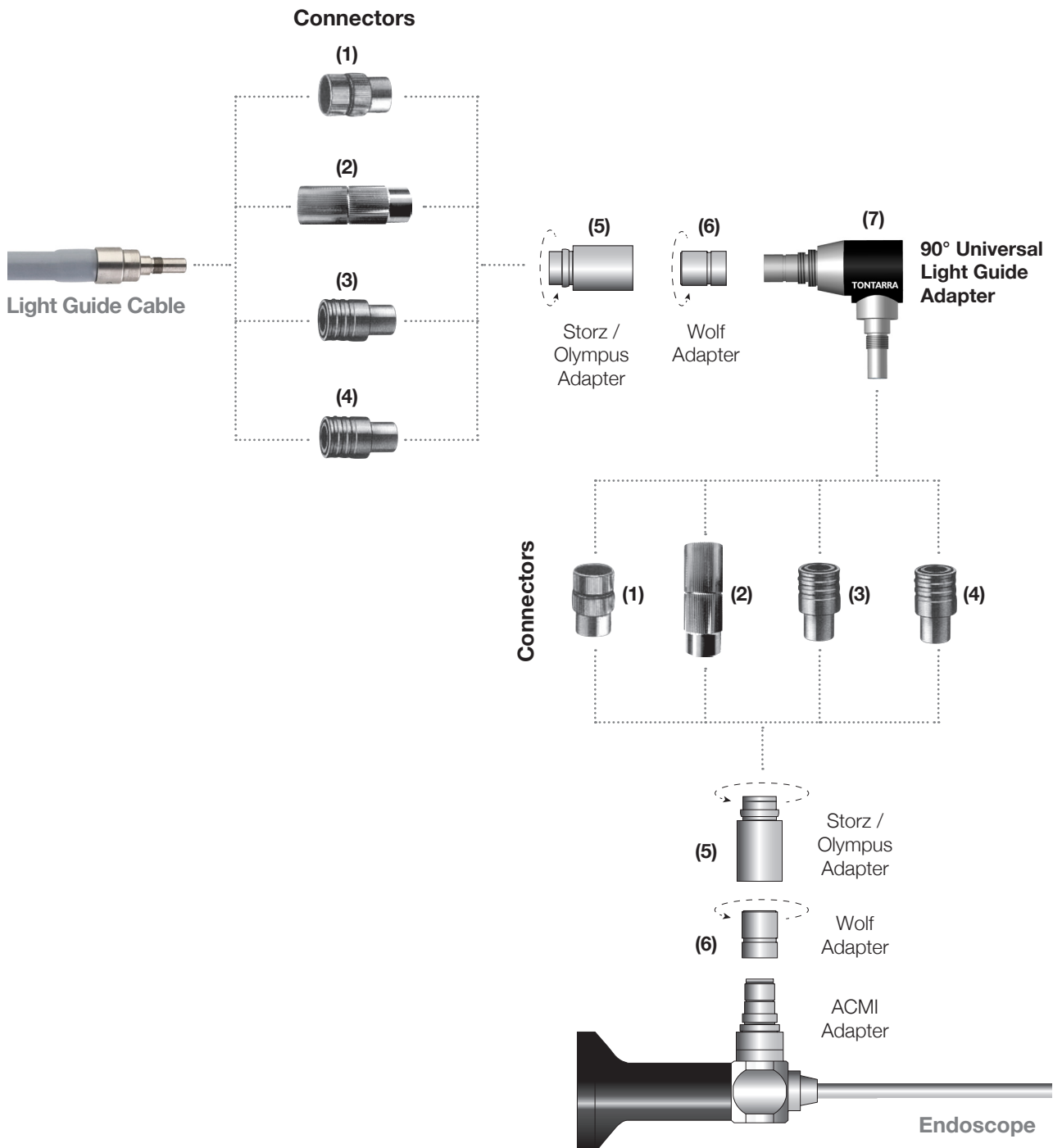
Light Cable Diameter	Endoscope Diameter
4.8 - 5.0 mm	6.5 - 12.0 mm
3.0 - 3.5 mm	3.0 - 6.5 mm
2.0 - 2.5 mm	0.8 - 2.9 mm

Please note: The high light concentration at the end of the light cable causes heat in the focal point. The end of the light cable should never be placed on the patient's drape or skin as long as the cold light fountain is turned on as the light intensity may cause burns to the patient or set the drape on fire. The diameter indicated refers to the diameter of the fiber optics.

The **90° Universal Light Adapter** is the needed accessory in nearly every surgery. The adapter helps to keep the light cable out of the working field as well as prevents too intense bending of the light cable during the intervention.

Since it is freely rotatable the light cable will not accidentally be disconnected from the telescope while rotating the light cable or entire scope for new positioning.

This universal light adapter can be used with all kinds of endoscopes. Also, the connection to the light guide is versatile and fits most common light cable connectors.



LIGHT GUIDE CONNECTORS

(1)	540-880-02	Connector TONTARRA / Storz / Aesculap / Olympus (old)
(2)	540-880-04	Connector Olympus new
(3)	540-880-13	Connector Wolf/HSW/Dyonics snap
(4)	540-880-01	Connector ACMI / British / Codman

LIGHT GUIDE ADAPTERS

(5)	601-900-00	Adapter Storz / Olympus
(6)	601-900-10	Adapter Wolf

UNIVERSAL ADAPTER

(7)	601-900-15	Universal Adapter, 90° angled
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FSNO/IPS740DG (compatible connection with TONTARRA EndorCam40)

Documentation Unit **4K UHD 3G/12G-SDI**

Features:

- 5" Touchscreen
- Record mp4 videos in 4K UHD quality
- Capture still images in crystal clear 4K UHD quality
- Can record and playback video content in 3D
- Integrated VACS ® Software for video archiving and collaboration
- Connection to PACS system possible
- Possible to attach external devices via USB, e.g. external storage device etc.
- Record files simultaneously to internal hard disc and external storage device
- Huge internal storage capacity of 4TB
- Possibility to attach external monitor

4K UHD



TECHNICAL DATA

Video Inputs	1x HDMI 2.0 1x DisplayPort 1.4 4x 3G-SDI or 2x 12G- SDI
Video Outputs	1x HDMI 2.0 4x 3G-SDI or 2x 12G-SDI
Other Connections	4x USB 3.0 (2x front / 2x back) 3.5 mm Stereo x 2ea MIC in, line in 3.5 mm Stereo line out
Capture and Record	4096x2160p60 3840x2160p60 1920x1080p60
Encoding formats	H.264, H.265
Recording file format	MP4
Capture image format	BMP, JPEG, DICOM
Audio encoding format	AAC
3D video formats	4K line alternative (SBSH conversion) 4K side-by-side half
DICOM, HL7	DICOM Store (Image) Modality Worklist MPPS Appointment Booking (HL7)
DICOM store	Direct access to PACS
Internal Storage	4 TB

SYSTEM

Standard Compliance	IEC60601-1 EN 60601-1-2
Directive Compliance	CE-mark
Power requirements	AC 100-240V
Dimensions	260 x 95 x 330 mm (W x H x D)
Weight	4.1 kg

Original Manufacturer Product of FSN

FSNO/IPS740DSDocumentation Unit **4K UHD 3G-SDI**

-  Return to **HOME** screen icon.
-  **FILE** icon manages tasks, including: search, modify, copy, delete, DICOM store, and print.
-  **WORKLIST** icon retrieves patient information that is stored on the worklist server.
-  **SETUP** icon opens settings for input sources, file types, DICOM, server, network, local time, foot pedal, printing layout, and system options.
-  Select the **MONITOR** icon to switch to the connected external monitor. When in this mode, touchscreen can also be used as a touchpad.
-  Create a new **TASK** when plus (+) symbol is shown, or close an active task when minus (-) symbol is shown.

4K UHD**TECHNICAL DATA**

Video Inputs	1x HDMI 2.0 1x DisplayPort 1.4 1x 3G-SDI
Video Outputs	1x HDMI 2.0 1x 3G-SDI
Other Connections	4x USB 3.0 (2x front / 2x back) 3.5 mm Stereo x 2ea MIC in, line in 3.5 mm Stereo line out
Capture and Record	4096x2160p60 3840x2160p60 1920x1080p60
Encoding formats	H.264, H.265
Recording file format	MP4
Capture image format	BMP, JPEG, DICOM
Audio encoding format	AAC
3D video formats	4K line alternative (SBSH conversion) 4K side-by-side half
DICOM, HL7	DICOM Store (Image) Modality Worklist MPPS Appointment Booking (HL7)
DICOM store	Direct access to PACS
Internal Storage	4 TB

SYSTEM

Standard Compliance	IEC60601-1 EN 60601-1-2
Directive Compliance	CE-mark
Power requirements	AC 100-240V
Dimensions	260 x 95 x 330 mm (W x H x D)
Weight	4.0 kg

Original Manufacturer Product of FSN

FSNO/IPS720Documentation Unit **FULL HD**

Features:

- 5" Touchscreen
- Record mp4 videos in FULL HD quality
- Capture still images in 1920 x 1080 FULL HD quality
- Integrated VACS® Software for video archiving and collaboration
- Connection to PACS system possible
- Possible to attach external devices via USB, e.g. external storage device etc.
- Record files simultaneously to internal hard disc and external storage device
- Can record 2 sources at once
- Play back 1 or 2 sources from the same video file
- Huge internal storage capacity of 2TB
- Possibility to attach external monitor

**FULL HD****TECHNICAL DATA**

Video Inputs	2x HDMI 2.0 1x DisplayPort 1.4 2x 3G-SDI
Video Outputs	1x HDMI 2.0
Other Connections	4x USB 3.0 (2x front / 2x back) 3.5 mm Stereo x 2ea MIC in, line in 3.5 mm Stereo line out
Capture and Record	1920x1080p60
Encoding formats	H.264, H.265
Recording file format	MP4
Capture image format	BMP, JPEG, DICOM
Audio encoding format	AAC
3D video formats	Side-by-Side Top-Bottom Line-by-Line (SbS conversion, TB conversion)
DICOM, HL7	DICOM Store (Image) Modality Worklist MPPS Appointment Booking (HL7)
DICOM store	Direct access to PACS
Internal Storage	2 TB

SYSTEM

Standard Compliance	IEC60601-1 EN 60601-1-2
Directive Compliance	CE-mark
Power requirements	AC 100-240V
Dimensions	260 x 95 x 330 mm (W x H x D)
Weight	4.0 kg

Original Manufacturer Product of FSN

FSNO/IPS100A (For use with EndorCam 40 NIR FI and 43" 4K Monitor)

Video Signal Converter **Quad SDI to 12 SDI /DHDMI 4K**

Features:

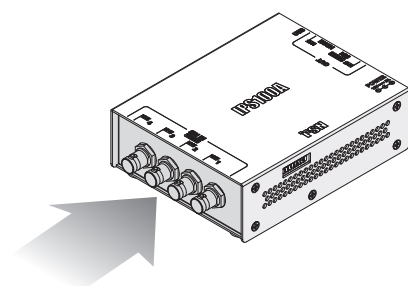
- Accepts quad SDI (3G or 12G) input up to 4K
- Delivers single SDI (3G or 12G) or HDMI 2.0 output up to 4K.
- Mode select switch configuration allows for quick setup
- Meets medical certification requirements
- Controls and settings are accessed through a USB interface
- Firmware updates are fast and easy



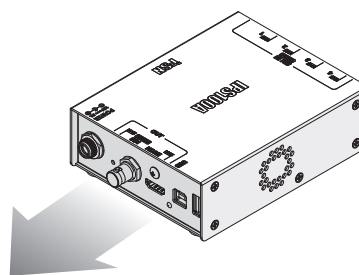
TECHNICAL DATA

Input Signal	4 x SDI (SD/HD/3G/12G)
Output Signal	1 x HDMI (2.0) 1 x SDI (HD/3G/12G)
External Control	USB (2.0)
Power Supply	12Vdc
Power Consumption	20W max
Mode Select	Manual control: switch 8 is off, switches 1-7 are active. Software/service control: switch 8 is on, switches 1-7 are inactive, USB A and B are active.
Unit Dimension	130.5(W) x 103(H) x 40(D) mm 5.13(W) x 4.05(H) x 1.57(D) inch
Package Dimension	242(W) x 187(H) x 72(D) mm 9.53(W) x 7.36(H) x 2.83(D) inch
Weight	0.48Kg, 1.06 lbs. (IPS100A) 1.01Kg, 2.23 lbs. (shipping package)

Original Manufacturer Product of FSN



Quad SDI
(3G or 12G)
input up to 4K



Single SDI (3G or 12G)
or HDMI 2.0
output up to 4K



Medical keyboard; desinfectable

with replaceable sterilizable cover

Replacement cover

for medical keyboards

Language layout	Art. no.
Arabian	MAMO/VCF/AR/W5
Belgian	MAMO/VCF/BE/W5
Swiss/Luxembourg	MAMO/VCF/CH/W5
German	MAMO/VCF/DE/W5
Nordic	MAMO/VCF/DNS/W5
Spanish	MAMO/VCF/ES/W5
French	MAMO/VCF/FR/W5
Italian	MAMO/VCF/IT/W5
Portuguese	MAMO/VCF/PT/W5
Turkish	MAMO/VCF/TR/W5
UK	MAMO/VCF/UK/W5
US International	MAMO/VCF/US/W5
UK with printed keys	MAMO/VCFUK/UK/W5

Language layout	Art. no.
Arabian	MAMO/DRAPE/VC/AR
Belgian	MAMO/DRAPE/VC/BE
Swiss/Luxembourg	MAMO/DRAPE/VC/CH
German	MAMO/DRAPE/VC/DE
Nordic	MAMO/DRAPE/VC/DNS
Spanish	MAMO/DRAPE/VC/ES
French	MAMO/DRAPE/VC/FR
Italian	MAMO/DRAPE/VC/IT
Portuguese	MAMO/DRAPE/VC/PT
Turkish	MAMO/DRAPE/VC/TR
UK	MAMO/DRAPE/VC/UK
US International	MAMO/DRAPE/VC/USV2

Original Manufacturer Product of Man & Machine



Medical keyboard; disinfectable

completely silicone sealed

Language layout	Art. no.
Belgian	MAMO/RCLP/BE/W5
Swiss/Luxembourg	MAMO/RCLP/CH/W5
German	MAMO/RCLP/DE/W5
Nordic	MAMO/RCLP/DNS/W5
Spanish	MAMO/RCLP/ES/W5
French	MAMO/RCLP/FR/W5
Italian	MAMO/RCLP/IT/W5
Portuguese	MAMO/RCLP/PT/W5
UK	MAMO/RCLP/UK/W5
US International	MAMO/RCLP/US/W5

Original Manufacturer Product of Man & Machine

WOMO/PM304-M01

Multi-Indication Pump for suction and irrigation;
without Indication-Transponder

The multiple use of this pump facilitates routine hospital activities. It combines streamlined design, **easy operation** and safety. Key parameters are seen at a glance, allowing for **quick and correct adjustment**.

Multi Indication:

- Laparoscopy
- Arthroscopy
- Hysteroscopy
- Urology



TECHNICAL DATA

Pressure range	Laparoscopy: not adjustable Arthroscopy: 5 - 150 mmHG Hysteroscopy: 15 - 150 mmHG Urology: 15 - 150 mmHG
Flow range	Laparoscopy: 1.0 - 1.8 l/min Arthroscopy: 0.1 - 1.8 l/min Hysteroscopy: 50 - 500 ml/min Urology: 50 - 500 ml/min
Suction capacity	Max. 2 l/min (depending on outflow cannula)
Power supply	100 - 240 V~
Frequency	50 - 60 Hz
Power consumption	80 VA
Current consumption	100 V: 0.8 A 240 V: 0.3 A
Classifications	Protection Class I, Type BF, IP 21
Dimensions (W x H x D)	381 x 149 x 379 mm
Weight	6.3 kg

Original Manufacturer Product of WOM

WOMO/PP120-M01

Suction-/Irrigation Pump for Laparoscopy

Suction & Irrigation in Laparoscopy

With a built-in vacuum pump, it stands for efficiency in suction and irrigation in minimally-invasive surgery. A volume of 3l/min and pressure up to 450 mmHg for irrigation creates clear view during all kind of procedures. Equipped with RFID, it identifies automatically the tube sets and ensures proper use.

Features:

- Simple set up and operation
- Easy to load tube set
- Vacuum suction included



TECHNICAL DATA

Mains voltage range	AC 100 - 240 V~
Supply frequency range	50 / 60 Hz
Protection class	IP21
Classification acc.	Ila
Max. sound level	< 80 dB (a)
Max. negative suction pressure	- 60 kPA
Max. pump pressure	450 mmHg
Max. irrigation preformance	3 l/min
Accuracy flow	± 10 %
Dimensions (W x H x D)	380 x 148 x 388 mm
Weight	6.0 kg

Original Manufacturer Product of WOM

**BEMO/3002055**

BEMIS Container, 3 L, disposable

**WOMO/Z0540-01**

Foot pedal

**BEMO/533910**

Four canister hi-low stand; max. height: 91cm (36")

**WOMO/2205331**

Transponder, Indication ARTHRO

WOMO/2205334

Transponder, Indication LAP

WOMO/2205333

Transponder, Indication HYS

WOMO/2205336

Transponder, Indication URO

**BEMO/532810**

BEMIS Container, wire ring

**BEMO/537010**

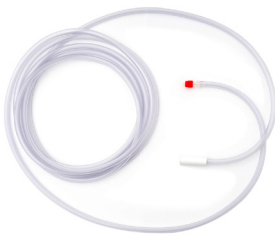
Connecting tube for BEMIS container; non sterile; length: 46cm

**WOMO/T0505-01**

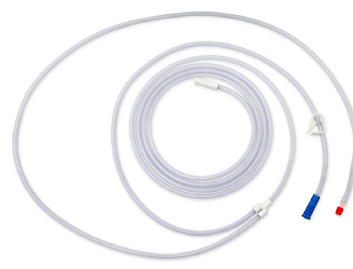
Tube set for Irrigation, single-use, 10 pcs./pack, all indications

**WOMO/T0506-01**

Tube set for Irrigation, reusable, 20 uses, 1 pc./pack, all indications

**WOMO/T0502-01**

Tube set for suction, single-use, 10 pcs./pack, all indications

**WOMO/T0503-01**

Tube set for suction, 2 connectors, single-use, 10 pcs./pack, all indications

**WOMO/T0504-01**

Tube set for Vacuum, incl. Filter, 30-day use, 10 pcs./pack, all indications

Original Manufacturer Product of WOM



WOMO/Z0101-01

Power supply cord EU



WOMO/Z0176-00

Power supply cord UK



WOMO/Z0102-01

Power supply cord US



WOMO/Z0103-01

Power supply cord CN



WOMO/Z0560-01

Power supply cord BR

Original Manufacturer Product of WOM

WOMO/FM134-M01

Insufflator; 50L

High performance and safety

The Insufflator 50L for minimally-invasive procedures is made for high performance and optimally adjusts to different anatomical requirements. With a color touchscreen and its ease of use, it offers a high degree of user-friendliness.

Multi-mode powerhouse:

- Three additional modes: Bariatric, Pediatric and Vessel Harvesting
- High-end performance
- Gas heating: reusable and disposable
- Color touchscreen for a high degree of user-friendliness



TECHNICAL DATA

Insufflation medium	Med. CO ₂
Max. gas flow	50 l/min
Pressure range	1 - 30 mmHG
Power supply	100 - 240 V~
Frequency	50 - 60 Hz
Power consumption	150 VA
Current consumption	100 V: 1.5 A 240 V: 0.63 A
Classifications	Protection Class I, Type BF, IP21
Dimensions (W x H x D)	406 x 150 x 195 mm
Weight	10 kg

Original Manufacturer Product of WOM

**WOMO/Z0452-01**

Tube set for insufflation, reusable, 20 uses, ISO

**WOMO/Z0280-01**

Heating tube set for insufflation, reusable, 100 uses

**WOMO/Z0293-01**

Tube set for insufflation, single-use (20 pieces)

**WOMO/Z0260-01**

Heating tube set for insufflation, single-use (10 pieces)

**WOMO/4222/701BSSA**

ECO Filter, single-use, sterile, ISO-ISO (50 pieces)

**WOMO/Z5044-01**

Hose for CO2 gas bottle DIN:US, 1.5m

**WOMO/Z5045-01**

Hose for CO2 gas bottle ISO:US, 1.5m

**WOMO/Z0499-01**

Hose for CO2 gas bottle Pin:US, 1.5m

**WOMO/Z5073-01**

US adapter for universal gas connector

**WOMO/Z5072-01**

Sinter filter for universal gas connector (5 pieces)

Original Manufacturer Product of WOM

**WOMO/Z5074-01**

NIST adapter for universal gas connection

**WOMO/Z5075-01**

DISS adapter for universal gas connection

**WOMO/Z5077-01**

Universal gas connector CO2 angled

**WOMO/Z5010-01**

Connector CO2 NIST for central gas supply
(EU standard)

**WOMO/Z5102-01**

Hose for CO2 central gas supply NF/US 3m

**WOMO/Z5104-01**

Hose for CO2 central gas supply UNI/US 3m

WOMO/Z5103-01

Hose for CO2 central gas supply NF/US 5m

WOMO/Z5105-01

Hose for CO2 central gas supply UNI/US 5m

**WOMO/Z5106-01**

Hose for CO2 central gas supply AGA/US 3m

**WOMO/Z5100-01**

Hose for CO2 central gas supply DIN/US 3m

WOMO/Z5107-01

Hose for CO2 central gas supply AGA/US 5m

WOMO/Z5101-01

Hose for CO2 central gas supply DIN/US 5m

Original Manufacturer Product of WOM

540-280-50(PWT-400)

High-Frequency Generator PWT-400

Features:

- 14 mono- and bipolar cutting modes
- 10 coagulation modes
- 99 storage positions for application-specific programs/profiles
- simultaneous use of two monopolar handles
- Pre-set-up programs for TONTARRA resectoscopes
- Convenient use via touch screen
- Automatic self-test and permanent auto-check during use



540-284-50

Twin foot-switch



INDICATIONS



► Gynecology



► Urology



► Laparoscopy

MONOPOLAR CUTTING

	Pure cut	Blend cut 1	Blend cut 2	Pure cut pulsed	Blend cut pulsed	Auto pure cut micro	Auto blend cut micro	Auto papillo pure cut	Auto polipo blend cut	Auto endocut
Max. output power	400 W	300 W	250 W	200 W	125 W	300 W	300 W	300 W	300 W	300 W
Rated load	400 Ω	400 Ω	400 Ω	400 Ω	400 Ω	300 Ω	300 Ω	300 Ω	300 Ω	300 Ω
Vpp	2550	3390	3330	2640	3330	1137	1500	1140	1490	1670
Crest factor	1.46	1.94	2.29	2.00	3.20	1.50	1.98	1.50	1.98	–
Modulation	0	17 kHz	17 kHz	3 Hz	50 Hz	0	17 kHz	0 kHz	17 kHz	–
Duty Cycle	100%	95%	65%	50%	50%	100%	90%	100%	95%	–
Power setting	Progressive with steps from 1 to 10 W						10 effects			
Power control	ADC System – dynamic self-adjusting with constant voltage						APC System – totally self-adjusting with constant voltage			

MONOPOLAR COAGULATION

	Fulg forced coag	Spray coag	Pin point contact coag	pulsed spray coag	Soft micro coag
Max. output power	150 W	200 W	300 W	100 W	280 W
Rated load	300 Ω	700 Ω	400 Ω	700 Ω	300 Ω
Vpp	4500	7750	3700	7750	3300
Crest factor	6.4	7.75	2.2	11.5	2.1
Modulation	60 kHz	30 kHz	17 kHz	3 Hz	17 kHz
Duty Cycle	18%	7%	85%	50%	75%
Power setting	Progressive with steps from 1 to 10 W				10 effects
Power control	ADC System – dynamic self-adjusting with constant voltage				APC System – totally self-adjusting with constant voltage

BIPOLAR CUTTING

	Saline Uro-Gyn cut	Saline Arthro cut	Standard bicut	Blend bicut
Max. output power	320 W	240 W	200 W	160 W
Rated load	350/400 Ω	350/400 Ω	150/300 Ω	100/200 Ω
Vpp	1070	1070	1070	740
Crest factor	1.5	1.5	1.5	1.6
Modulation	0	0	0	17 kHz
Duty Cycle	100%	100%	100%	95%
Power setting	10 effects		Progressive with steps from 0.1 to 5 W	
Power control	ADC System – dynamic self-adjusting with constant voltage			

BIPOLAR COAGULATION AND VESSEL SEALING

	Soft micro bicoag	Auto soft micro bicoag	Sealing	Auto sealing	Forced macro bicoag
Max. output power	140 W	140 W	320 W	320 W	200 W
Rated load	100/150 Ω	100/150 Ω	50/100 Ω	50/100 Ω	100/150 Ω
Vpp	460	460	320	320	550
Crest factor	1.6	1.6	1.46	1.46	1.6
Modulation	0	0	0	0	0
Duty Cycle	100%	100%	100%	100%	100%
Power setting	Progressive with steps from 0.1 to 5 W		10 effects		Progressive with steps from 0.1 to 5 W
Power control	APC System – totally self-adjusting with constant voltage				ADC System – dynamic self-adjusting with constant voltage

TECHNICAL DATA

Mains supply and consumption, Mains switch, Fuses and Standby	100 / 230V ± 10% ~ 50/60Hz (Consumption: Max. 3.6 A = 828 VA, Standby 0.4 A = 92 VA). Bipolar switch (green), Two fuses 8 A, Standby mode selectable on the touch-screen.
Equipotential connection	Standard DIN 42801 plug.
Enclosure, Cooling	Metal painted case, protected against the spilling of liquids according to IEC 60601-2-2. Cooling by convection (No fan).
Software updating and calibration	Updating by a serial port connected to a PC, calibration on-site.
Dimensions and weight	38 x 35 x 19 cm (10 kg)
HF generator	Meets IEC 60601-1 and IEC 60601-2-2
EMC compatibility	Meets IEC 60601-1-2
EC Classification and approval	Class IIB according to 93/42/CEE
Classification according to IEC 60601-1	Class I, CF type with the following typical low frequency leakage currents (all cables tied together): on the patient: 4 μA = 0,004 mA/into the enclosure: 1 μA = 0,001 mA /to earth: 30 μA = 0,03 mA
Output circuit according to IEC 60601-2-2	FLOATING (Isolated at high and low frequencies) and protected against the use of the defibrillator. Typical HF leakage currents measured at the unit: monopolar currents = 90 mA, bipolar currents = 60 mA.
Working frequency	Monopolar and bipolar currents: 440kHz ± 5 w%.

HF Connection Cables

monopolar

Available for following units:

		Erbe / ICC / ACC / Storz; Ø 5.0 mm; 3.0 m	582-531-02
		Valleylab; Conmed; Bowa Ø 8.0 mm; 3.0 m	582-532-03
		TONTARRA mod. PWT-400; Equipment with banana plug; Ø 4.0 mm; 3.0 m	582-533-04

HF Connection Cables

bipolar; for Electrodes

Available for following units:

(length)

 flat plug		Erbe; Storz/unit side round plug	287-200-30 (3m) 287-200-50 (5m)
		Berchthold/Martin/unit side round plug	287-205-30 (3m) 287-205-50 (5m)
		US-Models; 2-pins/unit side banana plugs; Ø 4.0 mm	287-210-30 (3m) 287-210-50 (5m)
		TONTARRA mod. PWT-400; Valleylab; International Models; 2 pins; Ø 4.0 mm	287-215-30 (3m) 287-215-50 (5m)

HF Connection Cables**bipolar: for TONTARRA Resectoscopes****Available for following units:**

		Erbe mod. ICC/ACC; Storz 3.0 m	287-200-30BR
		Berchthold/Martin mod. Maxium 3.0 m	287-205-30BR
		TONTARRA mod. PWT-400; International Models; 2-pins 3.0 m	287-215-30BR
		Erbe mod. VIO300D with multi- contact connector; Karl Storz mod. Autocon II 400; 3.0 m	287-220-30BR
		Erbe mod. VIO 3 with MF-U socket 4.5 m	287-235-30BR
		Bowa mod. ARC 350 & 400; 4.5 m	287-230-30BR

► HF Connection Cables & Neutral Electrodes



289-010-10

Single-use neutral electrode; for adults and children; split; Acond*= 110 cm²; 1 PU= 100 pieces



289-010-15

Single-use neutral electrode; for newborns; non-split; Acond*= 40 cm²; max. 100 Watt; 1 PU= 100 pieces



289-010-05

Single-use neutral electrode; for adults and children; non-split; Acond*= 110 cm²; 1 PU= 100 pieces

HF Connection Cables

for Neutral Electrodes

Available for following units:

		TONTARRA mod. PWT-400; Erbe ACC/ICC/VIO; Martin; 5m	289-025-45
		BOWA; Conmed; Valleylab 5m	289-030-45

► Equipment Cart "Pro"

TONTARRA's „Pro“ mobile equipment cart comes in an elegant and modern single-column design with shelf width 450 mm and a maximum load capacity of up to 80 kg / 176 lbs. The support of the “Pro” cart offers many advantages such as a separate routing of the power cables. The integrated rubber clip and cover cap ensure a quick access to the cables. Furthermore, the four twin castors and push handle provide a high level of mobility and easy maneuverability. The “Pro” cart comes with an VESA 100/100 adaptation.

The integrated power columns also allow separate cable routing of data and power cables and the installation of socket strips. Excess cable lengths can also be stowed away safely. For an easy use there is an on/off switch integrated into the top of the column.

ITDO/KN.0891.800

Equipment Cart "Pro" with isolating transformer and on/off switch

Color: ruby red

Consisting of:

- Basic frame "Pro" with support column
- Push handle
- Roller conversion kit Ø 125 mm; conductive
- Monitor mount; VESA 100/100; max. load capacity 18 kg
- Shelf without handle; 450 x 360 mm (W x D); max. load 20 kg
- Camera holder
- Isolating transformer 1,200 VA
- 6-way SCHUKO socket strip
- Power cord 5m

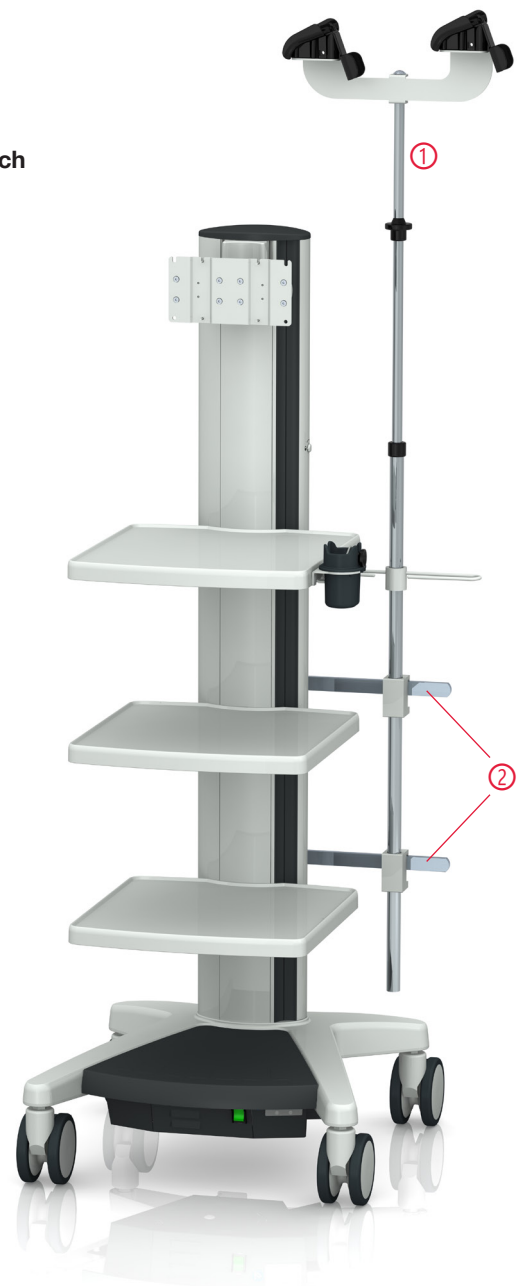
Optional equipment:

① ITDO/GW.0870.991

Endoscope holder double; mounting on standard rail
in combination with ITDO/GW.9801.991

② ITDO/GW.9801.991

2x Standard rail 10 x 25 mm; L = 390 mm
in combination with ITDO/GW.0870.991



Original Manufacturer Product of ITD

ITDO/KN.0904.800

Monitor Cart "Pro" with push handle

Color: ruby red

Consisting of:

- Basic frame "Pro" with support column
- Cable winder for monitor cart "Pro"
- Roller conversion kit Ø 125 mm; conductive
- Monitor mount; VESA adjustable; max. load capacity 65 kg
- Counterweight set 15 kg
- 6-way SCHUKO socket strip
- Power cord 5m
- External earthing cable



Original Manufacturer Product of ITD

► Equipment Cart "Classic"

TONTARRA's "Classic" equipment cart is a two-column cart with shelf width 500 mm and a maximum load capacity of up to 150 kg / 330 lbs. It is characterized by its excellent stability and sturdiness as well as the spacious storage areas of its shelves with a distributed load rating of up to 50 kg / 110 lbs. The four twin castors provide a high level of mobility and easy maneuverability. The "Classic" cart comes with an VESA 75/100 adaptation.

For a better choice there are two options available one with isolating transformer and one without isolating transformer. The integrated power columns allow separate cable routing of data and power cables and the installation of socket strips. Excess cable lengths can also be stowed away safely. For an easy use there is an on/off switch integrated into the top of the column (cart with insulating transformer only).

ITDO/KN.0814.800

Equipment Cart "Classic" with isolating transformer and on/off switch

Color: ruby red

Consisting of:

- Basic frame "Classic" max. load 150 kg
- Energy column
- Roller conversion kit Ø 125 mm; conductive
- Crossbar with universal monitor mount VESA 75/100; +/- 90° rotatable; +/-15° tiltable; max. load 14 kg
- Shelf with handle 500 x 491 mm (W x D); max. load 50 kg
- Keyboard drawer with mousepad; 500 x 491 x 64 mm (W x D x H); Mousepad 200 x 200 mm; max. load 5 kg
- 3x Shelf without handle; 500 x 491 mm (W x D); max. load 50 kg
- Isolating transformer 1,600 VA; power cord 5m
- Camera holder
- 8-way SCHUKO socket strip; plugged into transformer



Original Manufacturer Product of ITD

Optional equipment:

ITDO/TH.2101.991

Pivot Arm, 1-fold with VESA 75/100 adaptation

- Arm length: 325 mm
- Monitor weight: max. 14 kg
- Convenient operation thanks to preset torques
- Large action radii cover a wide working range ($\pm 20^\circ$ tilt, $\pm 90^\circ$ swivel and $\pm 5^\circ$ rotation)
- Large-volume cable ducts with strain relief accommodate various cables



ITDO/KN.0890.800

Equipment Cart "Classic" without isolating transformer

Color: ruby red

Consisting of:

- Basic frame "Classic" max. load 150 kg
- Energy column
- Roller conversion kit Ø 125 mm; conductive
- Crossbar with universal monitor mount VESA 75/100; +/- 90° rotatable; +/-15° tilt max. load 14 kg
- Shelf with handle 500 x 491 mm (W x D); max. load 50 kg
- Keyboard drawer with mousepad; 500 x 491 x 64 mm (W x D x H); Mousepad 200 x 200 mm; max. load 5 kg
- 3x Shelf without handle; 500 x 491 mm (W x D); max. load 50 kg
- Camera holder
- 8-way SCHUKO socket strip; central on/off switch; power cord 5 m



Original Manufacturer Product of ITD

Optional equipment:

ITDO/HA.2236.903

Variable height support arm with VESA 75/100 adaptation

- Arm length: 300 mm x 350 mm
- Monitor weight: 8-14 kg
- Adjustable swivel joints and a brake function ensure precise positioning; ± 20° tilt, ± 90° swivel and ± 5° rotation
- Monitor can be tilted with little effort due to spring-loaded support
- Folds up to save space for transportation
- Cable support available



ITDO/HA.5011.991

Monitor crossbar for ITDO/HA.2236.903

(when purchased separately)

ITDO/HA.2094.991

Counterweight for ITDO/HA.2236.903

(when purchased separately)

TONTARRA Medizintechnik GmbH is certified in accordance with the European Medical Device Regulation (EU) 2017/745 and complies with the requirements of the Medical Device Single Audit Program (MDSAP).

This certification affirms our commitment to quality and safety standards in the design, manufacturing and distribution of our medical devices. As a result, we are authorized to affix the CE mark to our products within the scope outlined in our certificates, which can be accessed on our official website. This achievement reflects our dedication to delivering high-quality, compliant medical devices to our customers and underscores our adherence to the rigorous standards set forth by regulatory authorities.

Sales and availability of products are limited to registrations in the corresponding markets.

Original Manufacturers' reference numbers correspond to the references indicated in this catalog, eliminating the prefix letters (e.g. SCHO/95-3930 = original reference: 95-3930).

The products listed in this catalog may only be used by trained healthcare professionals, evaluating the proper application in each patient case.

This content does not replace the instruction for use of the product.

Indications, contraindications and warnings are specified in the corresponding instructions for use.



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