

# 31.5-inch 4K IPS Surgical Monitor

| 32HL714S |

## Superior Picture Quality for Fine Surgery

### 31.5-inch 4K (3840x2160) IPS Display | 178° Wide Viewing Angle

The larger 32HL714S, 31.5-inch 4K display with IPS, helps surgeons easily identify details, presenting accurate, realistic images during a procedure. In addition, when multiple doctors take part in the surgery, the wide viewing angle of the IPS panel allows each doctor to view content on the monitor from different angles with minimal color shift.



### HDR 10

The 32HL714S allows accurate reproduction of HDR contents from devices such as surgical cameras that support HDR. This ensures image from HDR-supported endoscope cameras are displayed in a way that closely resembles how it would appear to actual visual observation.

### 12G-SDI Support

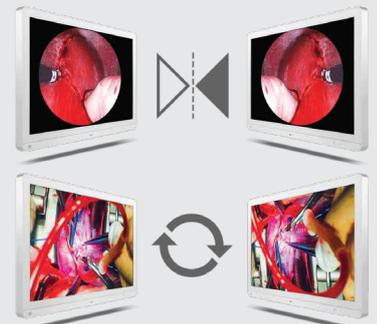
With the usage of 4K increasing in the medical field, successful transmission of 4K medical images without latency is pivotal. The 32HL714S supports 12G-SDI, which enable long-distance transmission of 4K-equivalent signals over a single coaxial cable. Therefore, the transmission is stable even until the long distance of 70 meters (max).

\*12G-SDI input transmission distance : max. 70m (When using BELDEN cable : max.50 / CANARE UHD 5.5 cable : max. 70m)

## Optimized for Surgical Environments

### Mirror & Rotation Mode

Conveniently flip and rotate the monitor to adjust to your surgery needs with the Mirror & Rotation Mode setting. Depending on the situation, use Mirror Mode to share the ongoing surgical procedure in real-time, or Rotation Mode to adjust the screen for an easy-to-operate angle regardless of the surgical camera position.



### Failover Input Switch

32HL714S allows the display to automatically switch to a failover (backup) input in case the main input is missing. The display will automatically restore the main input once the signal is back.

## Enhanced Connectivity for Multi Modalities

### Up to 4PBP (Picture by Picture) | PIP Multi-Modality Connectivity

The 32HL714S allows you to use 2PBP, 3PBP, and even 4PBP. The support up to 4PBP allows medical professionals to see a combination of endoscopic and fluoroscopic images while monitoring vital signs. In other words, different input signals, through 12G-SDI, DVI, DisplayPort and HDMI, can be viewed on one monitor simultaneously.



# Specification

		32HL714S
		<p><b>Matricos tipas: IPS;</b>  <b>Istrižainė: 31,5";</b>  <b>Raiška: 3840x2160;</b>  <b>Matymos kampas: 178 laips.;</b>  <b>Šviesumas: 800 cd/m2;</b>  <b>p. 1.4., p. 1.2., p. 1.3., p. 1.5., p. 1.6.</b></p>
Panel	Panel Type	IPS
	Inch (Aspect Ratio)	31.5-inch (16:9)
	Resolution	4K (3840 x 2160)
	Surface Treatment	Protection Glass (1.6t, Anti-reflection, Anti-fingerprint)
	Color Gamut (Typ.)	sRGB 115% (Area), sRGB over 99% (Coverage)
	Viewing Angles (CR≥10)	178° (Right/Left), 178° (Up/Down)
	Brightness (Typ.)	800cd/m <sup>2</sup>
	Contrast Ratio (Typ.)	1300:1
Response Time (GTG*)	14ms (Off- setting), 5ms (Faster- setting)	
Feat	Video signalo įvestys:	Yes
	HDMI x 1, DP x 1, DVI x 1, 12G-SDI x 1.	Yes (True Color Pro)
	p. 1.7.	HDR 10
Video Signals	Input Terminals	HDMI x1, DisplayPort x1, DVI x1, 12G-SDI x1
	Output Terminals	DisplayPort x1, DVI x1, 12G-SDI x1
Connectivity	Video signalo išvestys:	1 upstream, 1 downstream
Power	DP x 1, DVI x 1, 12G-SDI x 1.	100-240Vac, 50-60Hz
	p. 1.8.	180W
	Power Consumption (Max.)	Less than 0.3W
Power Consumption (DC Off)		
Resistance Rating		IP35 (Front), IP32 (Except for Front), IK06
Certifications & Standards		IEC(IEC 60601-1 / IEC 60601-1-2), EN(EN 60601-1 / EN 60601-1-2) IEC(IEC 60950-1 / IEC 55032, 55024), EN (EN 60950-1 / EN 55032, 55024) cUL (ANSI/AAMI ES 60601-1, CSA CAN/CSA-C22.2 NO. 60601-1) FCC (FCC part 15 Class A), FDA (Rgistration (Class I)), RoHS, REACH, WEEE
User Convenience	Screen Filp	Mirror Mode & Rotation Mode
	PBP / PIP	PBP (2/3/4PBP) / PIP
	Failover Input Switch	Yes
Physical Specifications	Weight (without stand)	13.5 kg (29.8 lb)

\*GTG : Gray to gray response time

**Svoris: 13,5 kg**  
**p. 1.9.**



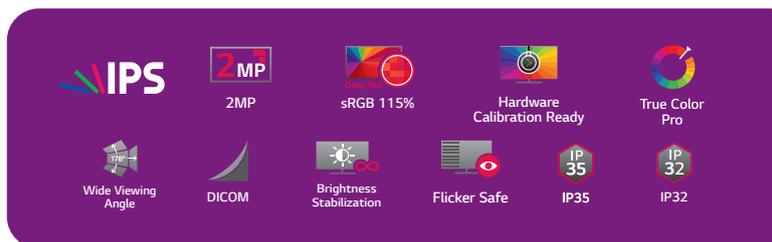
## DISPLAY

Aspect Ratio	16:9
Backlight Dimming Technology	Global Dimming
Backlight Technology	LED
Backlight Type	Edge
Brightness (Min.)	650cd/m <sup>2</sup>
Brightness (Typ.)	800cd/m <sup>2</sup>
Brightness (Stabilization)	500cd/m <sup>2</sup>
Colour Bit	10bit
Colour Depth (Number of Colours)	1.07B
Colour Gamut (Typ.)	sRGB 115% (Area), sRGB over 99% (Coverage)
Contrast Ratio (Typ.)	1300:1
Contrast Ratio with DFC	Mega
Panel Type	IPS
Peak Brightness (Min.)	650cd/m <sup>2</sup> (Peak)
Peak Brightness (Typ.)	800cd/m <sup>2</sup> (Peak)
Pixel Pitch (H x V)	0.18159mm x 0.18159mm
Resolution	3840 x 2160

Pašvietimo technologija: LED  
p. 1.1.

# LG Full HD Surgical Monitor

Full HD monitorius chirurgijai  
p. 2.7.

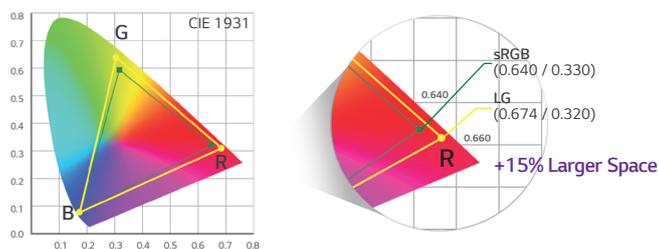


27HK510S

## Optimal Image Quality for Fine Surgery

### Full HD\* IPS Display with sRGB 115%(Deep Red)

The Full HD IPS display with sRGB 115% (Deep Red) is designed to fit with other Full HD surgical devices. It enables surgeons to view accurate, realistic images by maximizing compatibility and clearer, brighter color reproduction, especially in the red color spectrum.



\*FHD: 1920x1080

### DICOM\* Part 14 & Brightness Stabilization

The LG surgical monitor carefully measures and sets every grayscale tone as well to create a monitor compliant with DICOM Part 14 and ensure the most accurate outcome. And, its stabilized brightness settings quickly adapt to the surgical procedure and local lighting conditions.

#### Brightness Stabilization\*

Non Brightness Stabilization  
(conventional display)\*

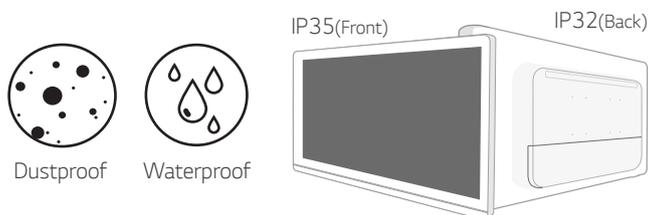


\*DICOM: Digital Imaging and Communications in Medicine.

## Designed for Use in the Operating Room

### IP35 & IP32 : Dustproof & Water Resistance

To ensure protection against contact with substances such as blood or bodily fluids, LG surgical monitors are cleanable and durable, with ratings of IP35 on the front and IP32 on the back, securing them from any direction.



### Anti-Reflection & Protection Glass

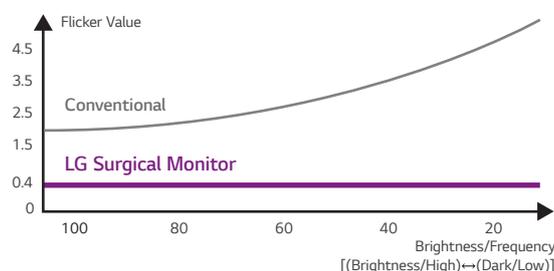
The LG surgical monitor with protection glass provides a more durable display by safeguarding the monitor from water and bodily fluids and making it easier to clean. The improved anti-reflection ability enables a brighter, sharper display for optimal image quality.



## Long-lasting Eye Comfort

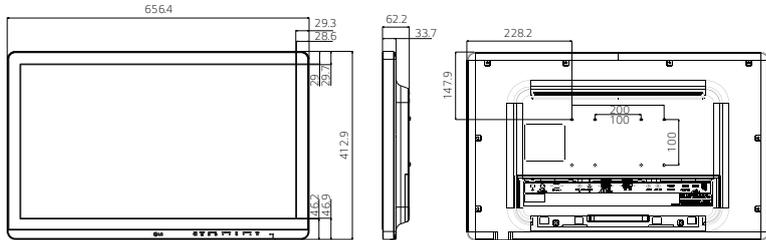
### Flicker Safe

Flicker Safe reduces the onscreen flicker level to almost zero, which helps minimize eye strain and eye fatigue. By combining Flicker Safe with the proven picture quality of IPS technology, users can comfortably work throughout the day.



\*This result based on internal LGE lab tests.

## Specification

Model Name		27HK510S	
External Dimension			
			
Panel	Type	IPS	IPS monitorius p. 1.2.
	Size	27" (16:9)	Dydis 27" p. 2.2.
	Native Resolution	1920 x 1080	Raiška: 1920 x 1080 p. 2.3.
	Pixel Pitch	0.3144 mm x 0.3114 mm	
	Display Colors	10bit / sRGB 115% (Deep Red)	
	Viewing Angles	178/178	Šviesumas: 1000 cd/m <sup>2</sup> p. 1.5.
	Brightness	1000cd/m <sup>2</sup> (Typ.)	
	Surface Treatment	Protection Glass	Kontrasto santykis: 1000:1 p. 1.3.
	Contrast Ratio	1000:1 (Typ.)	
	Response Time	14ms (Typ.)	
	Input Terminals	HDMI (1.4) x 1, S-Video x 1, Composite x 1, 3G-SDI x 1, DVI-I x 1 (Compatible with D-sub & Component via adapter)	Signalų įvestys: 3G-SDI, DVI-D p. 2.5.
Video Signals	Output Terminals	3G-SDI x 1, DVI-D x 1	
	Digital Scanning Frequency (H/V)	HDMI, DVI-D: 30~83kHz / 56~61Hz, D-sub: 30~83kHz / 56~61Hz	
	Sync Formats	Dynamic Sync Mode (Thru Mode)	
USB	Function	1 upstream, 1 downstream (For Calibration)	
	Standard	USB 3.0	
Power	Power Requirements	100-240Vac, 50/60Hz	
	Maximum Power Consumption	120W	
	Power Management	0.3W	
Brightness Stabilization		Support	
Resistance Rating		IP35 / IP32 (Front / Back), 8H Glass, IK06	
Gamma		Gamma 1.8 / Gamma 2.0 / Gamma 2.2 Gamma 2.4 / Gamma 2.6 DICOM Gamma curve	
Certifications & Standards		IEC(IEC60601-1/ IEC60601-1-2), FCC(FCC part 15 Class A), CB, ANSI/AAMI ES 60601-1, CSA CAN/CSA-C22.2 NO. 60601-1, RoHS, REACH, WEEE, CE MDD(Class 1)	
Supplied Accessories		Power Cord, DVI-I to D-Sub Adapter, DVI-D cable, HDMI cable, Adapter, CD/book manual	
Physical Specifications	Weight(Without Stand)	7.7kg	

\*The monitor stand is not included with the surgical monitor.

Svoris: 7,7 kg  
p. 1.9.

**LG Electronics Inc.**

<http://www.lge.com>

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<https://www.lg.com/uk/business/monitor/medical-display-device/surgical-monitors/27hk510s-w/>

# All Spec

## DISPLAY

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Aspect Ratio  
16:9

Pašvietimo technologija: LED  
p. 1.1.

Backlight Technology  
LED

Brightness (Typ.)  
1000cd/m<sup>2</sup>

Colour Bit  
10bit

Colour Gamut (Typ.)  
sRGB 115% (Area),  
sRGB over 99% (Coverage)

Contrast Ratio with DFC  
Mega

Peak Brightness (Min.)  
650cd/m<sup>2</sup> (Peak)

Pixel Pitch (H x V)  
0.3114mm x 0.3114mm

Response Time (GTG)  
14ms (Off-setting), 5ms (Faster-setting)

Size (cm)  
68.58

Viewing Angle (CR≥10)  
178°(Right/Left), 178°(Up/Down)

Backlight Dimming Technology  
Global Dimming

Backlight Type  
Edge

Brightness (Stabilization)  
600cd/m<sup>2</sup>

Colour Depth (Number of Colours)  
1.07B

Contrast Ratio (Typ.)  
1000:1

Panel Type  
IPS

Peak Brightness (Typ.)  
800cd/m<sup>2</sup> (Peak)

Resolution  
1920 x 1080

Size (Inch)  
27

Surface Treatment  
Protection Glass (1.6t, Anti-Reflection, Anti-fingerprint)

## FEATURE

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Hot Key  
Yes (2keys)

Black Stabilizer  
Yes

HW Calibration  
Yes (True Color Pro)

Brightness stabilization  
Yes

Factory Calibration  
Yes (Delta E<5, Gamma 1.8~2.6/DICOM curve)

DICOM Compliant  
Yes



UG912

**COR Mobile Stand, high,**  
rides on 4 antistatic dual wheels, with locking brakes,  
high beam module incl. cable manager and handle,  
including:

UG804

**Subrack,** for COR mobile stand, high

UG811

**Top Cover Monitor Holder,** for COR mobile stand

UG854

**Stainless Steel Tube,** for COR mobile stand, length 400 mm

UG857

**Monitor Module,** for COR mobile stand

UG821

**Shelf, wide,** for COR mobile stand



UG913

**COR Gastro Mobile Stand, high,**  
rides on 4 antistatic dual wheels, with locking brakes,  
high beam module incl. cable manager and handle,  
including:

UG804

**Subrack,** for COR mobile stand, high

UG811

**Top Cover Monitor Holder,** for COR mobile stand

UG854

**Stainless Steel Tube,** for COR mobile stand, length 400 mm

UG857

**Monitor Module,** for COR mobile stand

UG862

**Drawer, wide,** for COR mobile stand

UG816

**Pump Holder,** for COR mobile stand



UG914

**COR Airway Mobile Stand, high,**  
rides on 4 antistatic dual wheels, with locking brakes,  
high beam module incl. cable manager and handle,  
including:

UG804

**Subrack,** for COR mobile stand, high

UG811

**Top Cover Monitor Holder,** for COR mobile stand

UG815

**Equipment Rail,** for COR mobile stand

UG854

**Stainless Steel Tube,** for COR mobile stand, length 400 mm

UG857

**Monitor Module,** for COR mobile stand

UG862

**Drawer, wide,** for COR mobile stand



UG915

**COR C-MAC® Mobile Stand, high,**  
rides on 4 antistatic dual wheels, with locking brakes,  
high beam module incl. cable manager and handle,  
including:

UG804

**Subrack,** for COR mobile stand, high

UG811

**Top Cover Monitor Holder,** for COR mobile stand

UG815

**Equipment Rail,** for COR mobile stand

UG854

**Stainless Steel Tube,** for COR mobile stand, length 400 mm

UG862

**Drawer, wide,** for COR mobile stand

ET43-303127

**Cross Tube Adaptor**

ET43-302703

**Stainless Steel Round Pipe,** length 250 mm

KARL STORZ SE & Co. KG • PO Box 230 • 78503 Tuttlingen/Germany



## TO WHOM IT MAY CONCERN

Your ref.	Date of your letter	Our ref. Exp.E / KB	Date 06.11.2018
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Dear Sirs,

Herewith, KARL STORZ SE & Co. KG., Dr. Karl-Storz-Str. 34, D-78532 Tuttlingen (Germany)

## DECLARES

that our listed products are fully responding technical characteristics as follows:

### TH120

**Digital one-chip camera head for 4K UHD with 2 freely programmable camera head buttons, compatible with systems with integrated, innovative visualization technology for surgery by shifting the color spectrum and via homogeneous illumination and contrast enhancement.**

#### Technical data:

Image sensor: 1 x 1/2.3" CMOS chip.  
Pixels: 3840 (h) x 2160 (v) pixels.  
CMOS chip supports 16:9 input format.  
Progressive scan (full frame) for display of 50 or 60 frames per second.  
Lens: Integrated lens, f = 18mm  
Control buttons: 3 (2 of them freely programmable).  
Dimensions (w x h x d): 46 mm x 37 mm x 133 mm.  
Weight: 210g.  
Integrated connection cable with plug to CCU.

Taškai 3840 x 2160  
Formatas: 16:9  
p. 3.1., p. 3.2.

**Special features:**

Image acquisition in 16:9, with 3840 x 2160 pixels and progressive scan.

Programmable refresh rate of 50 Hz or 60Hz.

Digital through and through: Conversion of optical images to digital signals at the earliest possible site: the CMOS sensor chip.

Digital input guarantees best possible image quality and eliminates need to convert analog input signals to digital output formats, which could result in a loss of image quality.

Captured digital images in format 16:9 can be displayed on WideView monitors in the same format without being converted. This prevents a loss of image quality caused by image ovalization (stretching).

Image acquisition with an **3x skaitmeninis didinimas p. 4.3., Q2.** than 8 million pixels – 4 times higher than with FULL HD.

3x digital zoom.

Ergonomic design – short and light design which is easy to hold.

2 freely programmable camera head buttons.

Compatible with systems with integrated, innovative visualization **Šviesos šaltiniai valdomi kameros galvos mygtukais. p. 3.4.** shifting

the color spectrum and via homogeneous illumination and contrast enhancement.

Suitable light sources are controllable by camera head buttons via communication bus.

Suitable insufflators are controllable by camera head buttons via communication bus.

Suitable camera control units can store 4K UHD images and FULL HD video clips to USB mass storage devices in conjunction with the camera head.

Suitable camera control units can print images in conjunction with the camera head and a compatible USB printer.

The camera head is rated CF-Defibrillation according to EN 60601 allowing cardiac surgery.

The camera head is compatible with the following sterilization methods:

- Sterrad® 100S, NX 100NX
- Steris® System1, V-Pro1
- ETO-Gas Sterilization
- FO Sterilization(H2O2)
- CIDEX, Reset XL HLD

**Consisting of:**

**Digital one-chip 4K UHD camera head with 2 freely programmable camera head buttons, with integrated connecting cable with plug to CCU, compatible with systems with integrated, innovative visualization technology for surgery by shifting the color spectrum and via homogeneous illumination and contrast enhancement.**

Yours sincerely,

KARL STORZ SE & Co. KG

**KARL STORZ SE & Co. KG**  
Dr.-Karl-Storz-Straße 34  
78532 Tuttlingen, Germany  
i.A.

i.A. Brigitte Kroiss

Director Western Europe, Italy, Scandinavian Countries & Baltic States  
Global Sales Administration



### 7.1 Neutral datasheets

#### TC304: IMAGE1 S™ 4U-Link

Digital camera module for operating UHD 4K camera heads.

##### Technical data:

Camera input: 1 x UHD 4K camera head

Maximum resolution: 3840 x 2160 pixels

Output: DisplayPort

Automatic shutter

Automatic Gain Control: Microprocessor-controlled

Connection: Module connecting cable to the video processor module

Dimensions (w x h x d): 305 mm x 54 mm x 320 mm

Weight: Less than 2.5 kg

Operating voltage: 100-120 VAC, 50/60 Hz, 200-240 VAC, 50/60 Hz.

Power consumption: 100 VA

Type: IEC 601-1, 601-2-18, CSA 22.2 No. 601, UL2601-1 and CE according to MDD, safety rating 1/CF defib.

##### Special features:

- Modular design: Operation requires the combination with a video processor module and a compatible camera head.
- When connecting selected camera heads, the following modes can be activated without special light sources or filter systems:
  - Color inversion by shifting the color spectrum
  - Brightening of dark areas in the endoscopic image
  - Contrast enhancement
- Resolution of 3840 x 2160 pixels
- Progressive scan for an extremely steady image without flickering and noise.
- With compatible camera heads, two freely programmable camera head buttons with up to 4 assignable functions, implemented in combination with the IMAGE1 S CONNECT™ module.
- Change of visualization, still image capture, white balance, and setup can be controlled from the sterile area through camera head buttons, implemented in combination with the IMAGE1 S CONNECT™ module.
- Integrated digital image processing module for brightness adjustment in 5 levels and with 2 electronic anti-Moiré filters for fiberscopes.

Consisting of:

**4K UHD camera module**

**Network cable**, length 300 cm

**Link cable**, length 20 cm

Su suderinamomis kameros galvomis, du laisvai programuojami mygtukai keturioms pasirenkamoms funkcijoms. p. 3.3.

capture, white

### Innovative Visualization Modes

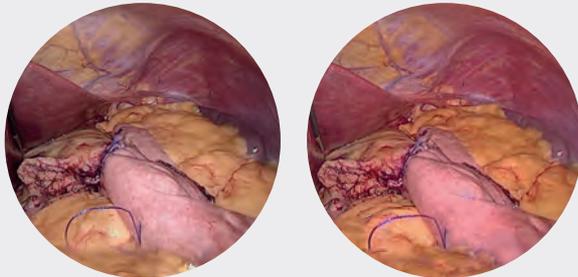
- CLARA: Homogeneous illumination
- CHROMA: Contrast enhancement

CLARA: homogeniškas apšvietimas p. 2.8.1.

- SPECTRA: Color shift and exchange

CHROMA: kontrasto padidinimas p. 3.5.1.

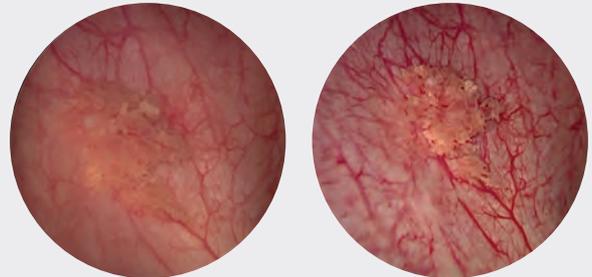
#### CLARA: Homogeneous image illumination



Standard image

CLARA

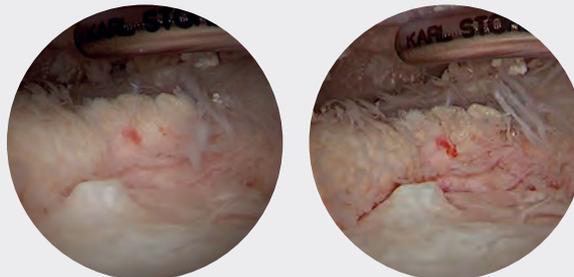
#### CHROMA: Contrast enhancement



Standard image

CHROMA

#### CLARA + CHROMA: Homogeneous image illumination + contrast enhancement

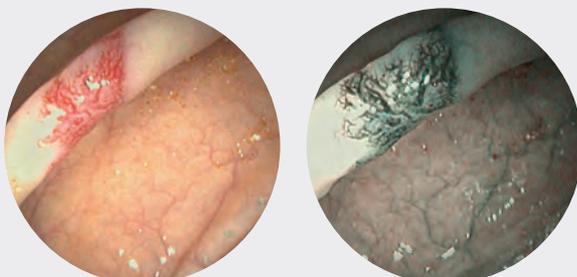


Standard image

CLARA + CHROMA

Spektrinis spalvų iškėlimas ir sukeitimas (išfiltravimas) p. 3.5.2.

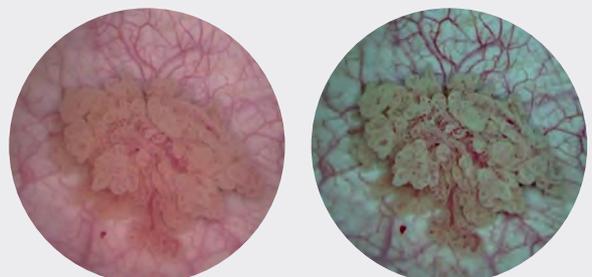
#### SPECTRA A: Spectral color shift and switch (filtering of reds)



Standard image

SPECTRA A

#### SPECTRA B: Spectral color shift (intensification of greens and blues)



Standard image

SPECTRA B

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## TO WHOM IT MAY CONCERN

Your ref.	Date of your letter	Our ref. Exp.E / KB	Date 06.11.2018
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Dear Sirs,

Herewith, KARL STORZ SE & Co. KG., Dr. Karl-Storz-Str. 34, D-78532 Tuttlingen (Germany)

## DECLARES

that our listed products are fully responding technical characteristics as follows:

### TC201EN

**Digital 4K UHD video processor module with integrated documentation function for image and video capturing for use with camera heads and 2D and 3D video endoscopes in combination with compatible camera modules. Modular expendable to future technologies.**

#### Technical data:

##### Connections:

- 2 x Display Port 1.2 output
- 1 x 12/3G-SDI output
- 1 x DVI output
- 3 x camera input for communication with compatible camera modules
- LAN connection

-4 x USB connection (2 x front, 2 x back)

Max. resolution: 3840 x 2160 pixels.

Color space: BT.2020 and BT.709.

Dimensions (wxhxd): 30.5 cm x 5.4 cm x 32.0 cm.

Weight: < 4 kg.

Power supply: 100-240 VAC, 50/60Hz.

Jungtys:  
2 x DisplayPort;  
1 x 12G SDI  
p. 4.4.1., p. 4.4.2.

Raiška: 3840 x 2160 taškų  
p. 4.1.

Power consumption: < 180VA.

Certified to: IEC601-1, 601-2-18, CSA 22.2 No. 601, UL2601-1 and CE acc. to MDD, protection class 1.

Optional: USB to ACC adapter for device control.

**Special features:**

Modular design: For use in combination with at least one camera module.

Modular design: Just in time acquisition based on demand.

Modular design: Expandable to future technologies.

Modular design: Replacement of components instead of complete replacement.

Three different menu structures for optimized settings for service OR personnel and the surgeon.

3D, 2D rigid/flexible, Molecular Imaging representable via one system, dependent on additionally used modules.

Regular software updates for enhanced functionality.

Parallel live display of visualization modes besides white light mode (picture-in-picture).

Up to three different camera modules can be connected to the video processor module.

Integrated picture-in-picture mode of two different camera modules in five different display sizes available.

Primary and secondary signal source change in picture-in-picture mode can be performed easily via camera head buttons.

Integrated communication bus for device control and information display of connected devices.

Resolution of 3840 x 2160 pixels.

→ Integrated documentation unit via USB.

→ Video capturing in FULL HD quality (MPEG4 format).

→ Still image capturing in 4K UHD quality (JPEG format).

Still image (4K UHD quality) and video capturing (FULL HD quality) in picture-in-picture mode for both signal sources simultaneously.

Medical USB printer compatible (plug & play).

Data capturing functions can be released by optional USB footswitch.

Automatic adjustment of light intensity of light source via communication bus.

White balance button on front plate of video processor module.

Control of complete camera system can be realized from camera head from sterile area.

Short learning curve due to familiar handling, which reduces starting time and parameter adjustment.

Grid and pointer can be displayed for improved orientation and communication during surgery.

Grid and pointer can be displayed individually and together in the center of the image.

Possibility of 180° image rotation.

Possibility of vertical and horizontal image mirroring.

Storage of up to 20 individual presets.

Storage of up to 50 individual patient data.

Temporary display of connected video-endoscope and camera head data on the screen.

Display of date and time on the monitor.

Display of brightness and of light source intensity for compatible light sources on the monitor.

System overview is individually configurable and setup status can be directly displayed with intelligent icons.

Number of menu icons can be customized individually for optimal system adjustment for the user.

Modular design for integration of up to 3 camera modules and easy upgradeability with new technologies.

Future ready thanks to integrated and extendable architecture.

Integruota dokumentacija per USB;  
Video įrašymas Full HD kokybe;  
Nuotraukų 4K UHD kokybe.  
p. 4.5., p. 4.6.

# IMAGE1 S™ – Camera Platform

mORe than a camera

IMAGE1 **S**

**STORZ**  
KARL STORZ – ENDOSKOPE

4K ICG standarto kameros galvutė p. 4.2.2.

4K standarto kameros galvutė p. 4.2.1.

3D video-endoscope (10 mm)

VITOM® 3D

4K NIR/ICG camera head

4K camera head

3D video-endoscope (4 mm)

3D endo- and exoscopy IMAGE1 S D3-LINK®

4K endo- and exoscopy IMAGE1 S™ 4U-LINK

4K-3D NIR/ICG videodoscope (10 mm)

3D video endoskopai (4 mm) Q3

Connects all technologies – IMAGE1 S CONNECT®

Open to future technologies

Flexible single-use endoscopes

2D rigid/flexible IMAGE1 S™ X-LINK

BLI in FULL HD

Flexible video-endoscopes

1-chip camera heads

Lankstūs daugkartiniai video endoskopai su Image1 S X-Link. p. 4.2.3.

## AIDA-C (WD-360) Modular and preconfigured system with integrated touch screen for intraoperative documentation of still images and videos.

### Technical Data:

#### - For Documentation System without integrated Touch Screen:

Input Voltage: 100 - 240 VAC.

Input Frequency: 50-60 Hz.

Power consumption: Max. 300 Watt.

Protection class according to IEC 60259: IP20.

CPU: Intel® Core™ i5-9500TE @ up to 3.6GHz.

Internal memory: HDD (1 TB).

Memory RAM: 8GB.

Connections: 2 x 1GB Ethernet (RJ 45), 4 x USB 2.0 and 3 x USB 3.0 rear, 1 x USB 3.0 front.

Outputs: 2 x DP, 3 x RS232, Line I/O, DVI, remote power on, pilot light connection.

Vidinė atmintis: 1 TB  
p. 5.1.3.2.

Image format: BMP, JPG, PNG.

Video format: MPEG-4.

Video signal inputs: 1 x HDMI 2.0.

Color system: BT709

Windows 10 IoT.

Nuotraukų raiška: 1920 x 1080  
p. 5.1.1.

Input resolution up to 1920x1080p@60Hz.

Recorded resolution still images: up to 1920x1080p, native resolution.

Recorded resolution videos: up to 1920x1080p@30Hz.

Color encoding: RGB/YUV.

Video raiška: 1920 x 1080  
p. 5.1.1.

Dimension: 305 mm x 74.5 mm x 355 mm (w x h x d).

Weight: 6,00 kg.

Preinstalled printer: SONY UP-DR80MD.

Type approval: IEC 60601-1-1, EN60601-1, EN60601-2.

Classification: CE, MDD, CSA.

Protection class: 1/B.

Medical device: Yes.

Integruotas lietimui  
jautrus ekranas.  
p. 5.

**- In addition for integrated Touch Screen:**

AC power input power supply: 100VAC - 240VAC.  
Input frequency: 50 - 60 Hz.  
Power consumption: Max.: <=8W  
Power: 8pin power input socket, 12 VDC and via RS232.

Viewable diagonal (inches): 12.5".  
Native resolution: 1920 x 1080.  
Colors: 16.7 Mio. colors (8bits).  
Panel technology: LED/AHVA  
Response time (Tr + Tf): typ. 25 ms (max. 35ms).  
Aspect ratio: 16:9.  
Video connection: Display Port 1.2.  
Brightness (typical): 300 cd/m<sup>2</sup>.  
Dot pitch (mm): 0.144 x 0.144.  
Vertical viewing angle: 170°.  
Horizontal viewing angle: 170°.  
Contrast ratio (nominal): 700:1.  
Lifetime: Typ. 12,000 hrs.  
Touch communication: USB 2.0 Type B  
Other: POAG grounding post.  
Touch points: Multi touch, max. 10 touch points.

Ekranas įstrižainė 12,5"  
p. 5.

Dimensions: 305 mm x 46 mm x 355 mm (w x h x d).  
Weight: 6.60 kg.

**Communication (DICOM) functions:**

Modality Worklist Information Model.  
VL Endoscopic Image Storage.  
Video Endoscopic Image Storage.  
Secondary Capture Image Storage.

Valdymas iš sterilios zonos - kameros  
galvos mygtukais, lietimui jautriu ekranu.  
p. 5.1.2.

**Essential features of the system:**

Full control from the sterile field via camera head buttons, touch screen (with transport lock and retractable), optional foot switch and voice control.

Recording of one image source.  
Recording of still images and videos (optional with audio) in 2D FULL HD.  
Visual and acoustic (external loudspeaker required) feedback when recording still images and videos.  
Water mark feature.  
Automatic detection of active video inputs.

Intelligent, adaptive storage management.  
Storage location is freely definable and configurable.  
Storage on internal memory (1 TB, FIFO, AES 256 Bit encryption), USB storage media via 2.0 and 3.0, network drive, FTP or via DICOM possible.

Išsaugojimas kietajame diske, USB  
laikmenoje arba DICOM sąsaja.  
p. 5.1.3.

Encrypted network transmission via SMB3 Protocol, DICOM security or sFTP possible.  
Automatic storage in the background to reduce the time between the interventions.  
Easy management and overview of open/automatic storage processes.

Capable of being integrated as actor „Acquisition Modality“ in IHE Integration Profile „Scheduled Workflow“.

Supported DICOM functions:

- DICOM Worklist as SCU
- DICOM MPPS as SCU
- DICOM Store as SCU incl. DICOM Storage Commitment

Dicom funkcijos  
Q6

Import of patient data via keyboard or DICOM Worklist.

Intra- and postoperative printing via optional printer (local or network).  
Various adaptable templates for printing to choose from.

Basic functions for the editing of still images and videos.  
Playback of 2D content.

Integrated file-viewer for still images and videos from diverse data sources.

Integrated security software as a protection against malware, independent from security patches of the operating system and it is only possible to run certified software.

Structured and clear user guidance, optimized for control by integrated touch screen.  
Scalable range of functions.

Wireless connection via built-in Wi-Fi antenna.

Different user profiles due to individual settings.

Possibility of adding annotations to still images and videos.

Time synchronization via NTP.

Taking over of existing user management via Active Directory or creation of a new user management.

#### **Delivery contents:**

Basic unit.

Software package.

Recovery software on USB stick.

USB silicone keyboard with touch pad.

2 x ACC connecting cable (to control the system via the camera head buttons), 180 cm.

1 x HDMI-DVI cable, 300cm.

1 x DP 1.2 4K 60fps cable, 180 cm

Power cord EU, 300 cm.

Power cord US, 200 cm

Network-Patch cable, 500 cm.  
User manual.  
Integrated touch screen (including cables).

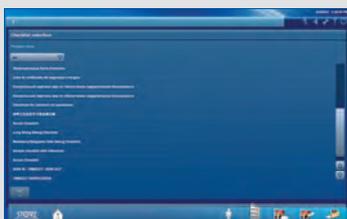
### Workflow-oriented use



#### Patient

Entering patient data has never been this easy.

AIDA® allows seamless integration into existing infrastructures such as HIS and PACS. It enables bidirectional communication and transfer of data via DICOM. All important patient information is just a click away.



#### Checklist

Central administration and documentation of time-out.

The checklist simplifies the documentation of all critical steps in accordance with clinical standards. All checklists can be adapted to individual needs.



#### Record

High-quality documentation through freeze frames and videos in FULL HD, 4K and 3D.

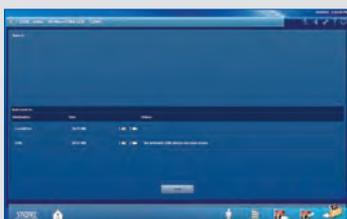
The Dual Capture function allows for the parallel (synchronous or independent) recording of two sources, for example, room camera, endoscopic camera, etc.. All recorded media can be marked for further processing with just one click.



#### Edit

With the Edit module, simple adjustments to recorded still images and videos can be completed very quickly.

Recordings can be rapidly optimized and then directly placed in the report. In addition, freeze frames can be cut out of videos, processed and saved. Markings from the Record module can be used for quick selection.



#### Complete

The completion of documentation has never been easier. AIDA® offers a large selection of storage locations. The data exported to each storage location can be defined. The Intelligent Export Manager (IEM) then carries out the export in the background. To prevent data loss, the system keeps the data until they have been successfully exported.

Siekiant išvengti duomenų praradimo, sistema išlaiko duomenis, kol jie sėkmingai nėra išsaugomi. p. 5.1.3.4.



#### Reference

All important patient information is always available.

Completed procedures including all information, still images, videos, and checklist reports can be easily retrieved from the Reference module.

# LED Cold Light Fountains

POWER LED 175 SCB, LED NOVA 150



	<b>20 1614 01-1</b> <b>Cold Light Fountain POWER LED 175 SCB</b>	<b>20 1612 01</b> <b>Cold Light Fountain LED NOVA 150</b>
	with integrated KARL STORZ-SCB, high-performance LED module and one KARL STORZ light outlet	high-performance LED module, with one KARL STORZ light outlet
<b>including:</b>	<b>Mains Cord</b> <b>SCB Connecting Cable</b>	<b>Mains Cord</b>

**Specifications:**

Illumination technology	LED	
Color temperature	approx. 6400 K	
Average lamp service life	diameter 30,000 h	
Light intensity adjustment	automatic via SCB manual via SCB manual via membrane keyboard	manual
Unit communication	KARL STORZ Communication Bus (2x SCB)	-
Power consumption	110 VA	60 VA
Power supply	110 – 240 VAC	100 – 240 VAC
Power frequency	50/60 Hz	
Dimensions w x h x d	305 x 110 x 233 mm	305 x 84 x 238 mm
Weight	4 kg	2.3 kg
Cleaning	wipe disinfection	
Protection class	1	
Degree of safety	CF	

Reguliuojamas šviesos intensyvumas p. 6.2.

Apšvietimo technologija LED p. 6.1.

## AUTOCON® III 300 High Frequency Surgical Unit

With the AUTOCON® III 300 (UH 300), KARL STORZ has created another high-frequency generator for the HF surgery product family.

**Please note:**

AUTOCON® III 300 will replace AUTOCON® II 200 in future.

**Product description:**

The unit is equipped with 2 socket modules: 1 connection socket for unipolar applications and 1 connection socket for bipolar applications can be activated.

Via the settings menu, the bipolar connection socket can be split to increase the total number of sockets to 2.

An additional connection socket for connecting a neutral electrode is located on the unipolar application side.



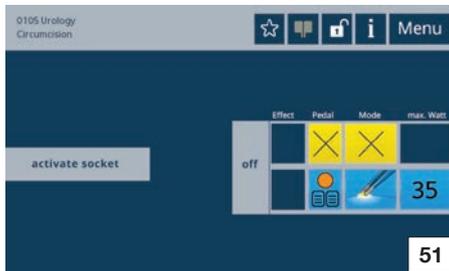
For the cutting and coagulation applications, four different modes are available on the display for universal, everyday use and ease of operation.



### PRODUCT INFO

#### UNITS

*Confidential -  
for internal  
use only!*



**5.11.12 Basis-Programme (Prozeduren)**

Prozeduren sind Programme, in denen Parameter wie Spannung und Leistung, für fachgebiets-spezifische, medizinische Eingriffe festgelegt sind. Sie können entweder eigene Prozeduren/ Programme erstellen (siehe Abschnitt 5.11.8) oder auf von KARL STORZ definierte Prozeduren zurückgreifen. Diese Prozeduren sind unterschiedlichen Fachgebieten, wie z. B. Urologie, Laparoskopie usw. zugeordnet und beginnen mit der Nummer 0100. Standardmäßig (Auslieferungszustand) sind alle fachgebietsspezifischen KARL STORZ Prozeduren/Programme sowie ein Standard-Programm freigeschaltet (sichtbar). Diese Programme sowie neu erstellte können nicht verändert oder gelöscht werden (außer die entsprechende Einstellung im Menü Service-Program Restrictions – Abschnitt 5.11.4 – wurde geändert). In diesem Menü können Sie auch die Fachgebieten-prozeduren »anwendergerecht« ein-/ausblenden. Zur Auswahl siehe Abschnitt 5.11.6 Menü »Programme«.

**i** Der Prozedurname ist jeweils in der Statuszeile angezeigt (siehe Abschnitt 5.2.2).

Beim AUTOCON® III 300 sind die werkseitig eingestellten vordefinierten Prozeduren/Programme in folgende Benutzergruppen eingeteilt:

- Fachgebiet Urologie (0102-0105; siehe Abb. 48 bis 51)
- Fachgebiet Gynäkologie (0200-0208; siehe Abb. 52 bis 58)
- Fachgebiet Laparoskopie (0300-0302; siehe Abb. 59 bis 61)
- Fachgebiet Gastroenterologie (0400-0401; siehe Abb. 62 bis 63)
- Anwendungsbereich offene Chirurgie (0500; siehe Abb. 64)
- Fachgebiet Pädiatrie (0600; siehe Abb. 65)
- Fachgebiet Orthopädie und Sportmedizin (0700; siehe Abb. 66)
- Fachgebiet Hals-, Nasen- und Ohrenheilkunde (0800; siehe Abb. 67)

**i** Eine Übersicht (Screenshots) der vordefinierten Prozeduren finden Sie auf dieser sowie der folgenden Seite.

**5.11.12 Basic programs (procedures)**

Procedures are programs in which parameters such as voltage and output are determined for specialist medical interventions. You can either create your own procedures/ programs (see section 5.11.8) or use procedures defined by KARL STORZ. These procedures are assigned to different disciplines, e.g. urology, laparoscopy and start with the number 0100. All specialist KARL STORZ procedures/programs and a standard program are enabled (visible) as standard (upon delivery). These programs and newly created ones cannot be changed or deleted (unless the corresponding setting in the menu Service – Program Restrictions, section 5.11.4, has been changed). In this menu you can display/ hide the specialist procedures to suit your needs. For selection see section 5.11.6 Menu 'Programs'.

**i** The procedure name is displayed in the status bar (see section 5.2.2).

The predefined procedures/programs set in the factory for the AUTOCON® III 300 are divided into the following user groups:

- Specialization urology (0102-0105; see Fig. 48 to 51)
- Specialization gynecology (0200-0208; see Fig. 52 to 58)
- Specialization laparoscopy (0300-0302; see Fig. 59 to 61)
- Specialization gastroenterology (0400-0401; see Fig. 62 to 63)
- Application open surgery (0500; see Fig. 64)
- Specialization pediatrics (0600; see Fig. 65)
- Specialization orthopedics and sports medicine (0700; see Fig. 66)
- Specialization ENT (0800; see Fig. 67)

**i** An overview (screenshots) of the predefined procedures can be found on this page and the following page.

**5.11.12 Programas básicos (procedimientos)**

Los procedimientos son programas en los que parámetros tales como tensión y potencia se han determinado de forma fija para intervenciones médicas en especialidades específicas. Usted puede generar sus propios procedimientos/ programas (véase la sección 5.11.8) o utilizar los procedimientos definidos por KARL STORZ. Estos procedimientos están asignados a diferentes especialidades, tales como urología, laparoscopia, etc., y comienzan con el número 0100. De forma estándar (estado de suministro) están habilitados (visibles) todos los procedimientos/programas KARL STORZ específicos de especialidades, así como un programa estándar. Estos programas, así como otros creados nuevos, no pueden ser modificados o borrados (salvo que se haya modificado el ajuste correspondiente en el menú Servicio – Restricciones de programa – sección 5.11.4 –). En este menú también puede insertar/ocultar los procedimientos de especialidades conforme a los deseos del usuario.

Con respecto a la selección, véase la sección 5.11.6 del menú "Programas".

**i** El nombre del procedimiento aparece indicado en cada caso en la línea de estado (véase la sección 5.2.2).

Los procedimientos/programas predefinidos ajustados de fábrica en el AUTOCON® III 300 están distribuidos en los siguientes grupos de usuario:

- Especialidad de urología (0102-0105; véase las figs. 48-51)
- Especialidad de ginecología (0200-0208; véanse las figs. 52-58)
- Especialidad de laparoscopia (0300-0302; véanse las figs. 59-61)
- Especialidad de gastroenterología (0400-0401; véanse las figs. 62-63)
- Campo de aplicación de cirugía abierta (0500; véase la fig. 64)
- Especialidad de pediatría (0600; véase la fig. 65)
- Especialidad de ortopedia y medicina deportiva (0700; véase la fig. 66)
- Especialidad de otorrinolaringología (0800; véase la fig. 67)

**i** Una vista general (capturas de pantalla) de los procedimientos predefinidos la encontrará en esta página y en la página siguiente.

**Sritis - laparoskopija** p. 7.1.

**Sritis - atvira chirurgija** p. 7.1.

**3 Beschreibung**

**3 Description**

**3 Descripción**

**3.1 Anzeige- und Bedienelemente**

**3.1 Display and control elements**

**3.1 Elementos de indicación y de mando**

**3.1.1 Bedienelemente der Vorderseite**

**3.1.1 Control elements on the front panel**

**3.1.1 Elementos de mando de la parte delantera**



- ① Standby-Taster
- ② Symbol »Standby Taster«
- ③ Neutralelektrode bei HF von Erde isoliert
- ④ Symbol »Defibrillationsgeschütztes Anwendungsteil des Typs CF«
- ⑤ Symbol »Gebrauchsanweisung befolgen«
- ⑥ Touchscreen mit Aktivierungstasten der Modi
- ⑦ Aktivierungsbalken unipolare Buchse
- ⑧ Aktivierungsbalken bipolare Buchse
- ⓘ Die Aktivierungsbalken (⑦ - ⑧) leuchten gelb oder blau auf, sobald ein Instrument an der zugehörigen Buchse aktiviert wird.

- ① Standby button
- ② Symbol 'Standby button'
- ③ Neutral electrode isolated from ground for HF
- ④ Symbol 'CF type applied part with defibrillation protection'
- ⑤ Symbol 'Observe instruction manual'
- ⑥ Touch screen with mode selection buttons
- ⑦ Activation bar unipolar socket
- ⑧ Activation bar bipolar socket
- ⓘ While activating an instrument, the activation bar (⑦ - ⑧) of the corresponding socket illuminates yellow or blue.

- ① Pulsador standby
- ② Símbolo "Pulsador standby"
- ③ Símbolo "Consultar el Manual de instrucciones"
- ④ Pantalla táctil con teclas de activación de los modos
- ⑤ Barra de activación del conector unipolar
- ⑥ Barra de activación del conector bipolar
- ⓘ La barra de activación (⑦ - ⑧) se enciende de color amarillo o azul tan pronto como se activa un instrumento en el conector correspondiente.

**Lietimui jautrus ekranas.**  
p. 7.2.



Im Menü »Programme« können gespeicherte Programme gelöscht werden (sofern die Funktion unter »Programmeinstellungen« im Abschnitt 5.11.4 freigeschaltet ist).

1. Hierzu in der Programmliste das zu löschende Programm durch Tippen auf den Programmnamen auswählen (siehe Abb. 36 oder 37). Um vertikal in der Programmliste zu navigieren, die entsprechende Taste ▲/▼ drücken.
  2. Um das gewählte Programm unwiderruflich zu löschen, die Taste »Papierkorb« wählen.
- ☛ Das gewählte Programm wird nach Bestätigung einer Sicherheitsabfrage gelöscht.

### 5.11.7 Menü »Favoriten«

Im Menü »Favoriten« können die festgelegten Favoriten ausgewählt werden. Eine Schnellauswahl ist im Hauptbildschirm über das Sternsymbol möglich.

Über die Tasten ◀/▶ im unteren Bildschirmbereich gelangen Sie auf die nächste Seite der Favoritenliste (siehe Abb. 40).

1. Mit »OK« bestätigen, um die Auswahl zu übernehmen.
2. Die Taste »zurück« drücken, um zum Hauptbildschirm zu gelangen.

### 5.11.8 Menü »Programm speichern«

Im Menü »Programm speichern« (siehe Übersicht unter 5.11.1) kann die aktuelle Einstellung unter demselben oder einem anderen Programmnamen abgespeichert werden (siehe Abb. 41). Diese Funktion ist standardmäßig (bei Auslieferung) freigeschaltet; siehe »Programmeinstellungen« im Abschnitt 5.11.4.

Mit einer Tastatur können Programmnamen erstellt werden. Zur Wahl stehen Symbole, Groß- und Kleinbuchstaben, sowie Nummern.

Mit der Taste »Enter« können zweizeilige Programmnamen vergeben werden.

1. Mit »OK« bestätigen, um die Auswahl zu übernehmen.
2. Die Taste »zurück« drücken, um zum Hauptbildschirm zu gelangen.

Saved programs can be deleted in the 'Programs' menu (if the function is enabled under 'Program settings' in section 5.11.4).

1. To this end, select the program to be deleted in the program list by clicking on the program name (see Fig. 36 or 37). To navigate vertically in the program list, press the corresponding button ▲/▼.
  2. To delete the selected program permanently, select the 'recycle bin' button.
- ☛ The selected program is deleted upon confirmation of a prompt.

### 5.11.7 Menu 'Favorites'

The defined favorites can be selected in the 'Favorites' menu. A fast selection of the favorites is possible using the star button in the main screen.

Access the next page of the favorites list using the buttons ◀/▶ in the lower part of the screen (see Fig. 40).

1. Confirm with 'OK' to accept the selection.
2. Press the 'back' button to return to the main screen.

### 5.11.8 Menu 'Save program'

In the 'Save program' menu (see overview under 5.11.1) the current setting can be saved under the same or another program name (see Fig. 41). This function is enabled as standard (upon delivery); see 'Program settings' in section 5.11.4.

Program names can be created using the keyboard. Symbols, capital or small letters or numbers are selection options.

Program names spread over two lines can be assigned using the 'Enter' button.

1. Confirm with 'OK' to accept the selection.
2. Press the 'back' button to return to the main screen.

En el menú "Programas" se pueden borrar programas guardados (siempre que la función correspondiente esté habilitada en "5 Ajustes de programa" según el apartado 5.11.4).

1. Para ello, seleccione dentro de la lista de programas el programa que desee borrar pulsando el nombre del programa correspondiente (véanse las figs. 36 o 37). Para desplazarse verticalmente en la lista de programas, presione la tecla ▲/▼ correspondiente.
  2. Para borrar de forma definitiva el programa seleccionado, presione la tecla "Papelera".
- ☛ Ahora se acepta un mensaje de confirmación y, acto seguido, el programa seleccionado queda borrado.

### 5.11.7 Menú "Favoritos"

En el menú "Favoritos" pueden seleccionarse los favoritos. El símbolo de estrella disponible en la pantalla principal permite efectuar una selección rápida.

Para acceder a la página siguiente de la lista de favoritos, presione las teclas ◀/▶ en el área inferior de la pantalla (véase la fig. 40).

Meniu "Programų išsaugojimas" naudojant la šiamė meniu gali būti išsaugoti nustatymai esamu arba nauju pavadinimu. p. 7.3.

El menú "Guardar programa" (véase la vista general en el apartado 5.11.1) permite almacenar el ajuste actual con el mismo nombre de programa o un nombre de programa diferente (véase la fig. 41). Esta función está habilitada de forma estándar (en el suministro); véase "Ajustes de programa" en el apartado 5.11.4.

Usando el teclado pueden crearse nombres de programa, pudiéndose elegir símbolos, mayúsculas y minúsculas y números.

Con la tecla "Intro" pueden denominarse programas con nombres de dos líneas.

1. Confirme para aplicar la selección pulsando la tecla "OK".
2. Para acceder a la pantalla principal, presione la tecla "Volver".

Netzeingang	220 – 240 V (UH 300)	100 – 127 V (UH 300U)
Min. Leistungsaufnahme	3 W / 40 VA	3 W / 40 VA
Min. Stromaufnahme	200 mA	400 mA
Max. Leistungsaufnahme	700 W / 1150 VA	700 W / 1150 VA
Max. Stromaufnahme	5 A	10 A @100 V 8 A @127 V
Netzsicherung (nur durch autorisiertes Servicepersonal zu wechseln)	2 x 5 AH träge, 250 V	2 x 10 AH träge, 250 V
Eingangsspannungsbereich	198 V bis 264 V	90 V bis 139,7 V
Netzfrequenz	50/60 Hz	50/60 Hz
Anschluss für Potentialausgleich	✓	✓

Power input	220 – 240 V (UH 300)	100 – 127 V (UH 300U)
Min. power consumption	3 W / 40 VA	3 W / 40 VA
Min. current consumption	200 mA	400 mA
Max. power consumption	700 W / 1150 VA	700 W / 1150 VA
Max. power consumption	5 A	10 A @100 V 8 A @127 V
Line fuse (to be changed only by authorized service personnel)	2 x 5 AH slow-blow, 250 V	2 x 10 AH slow-blow, 250 V
Input voltage range	198 V to 264 V	90 V to 139.7 V
Power frequency	50/60 Hz	50/60 Hz
Connection for potential equalization	✓	✓

Entrada de corriente	220 – 240 V (UH 300)	100 – 127 V (UH 300U)
Consumo de potencia mín.	3 W / 40 VA	3 W / 40 VA
Consumo de corriente mín.	200 mA	400 mA
Potencia consumida máx.	700 W / 1150 VA	700 W / 1150 VA
Consumo de corriente máx.	5 A	10 A @100 V 8 A @127 V
Fusible (el recambio debe ser llevado a cabo exclusivamente por personal de servicio técnico autorizado)	2 x 5 AH lento, 250 V	2 x 10 AH lento, 250 V
Margen de tensión de entrada	198 V hasta 264 V	90 V hasta 139,7 V
Frecuencia de red	50/60 Hz	50/60 Hz
Conexión equipotencial	✓	✓

Abmessungen und Gewicht	
Produktabmessungen (HxBxT)	177 x 447 x 457 mm
Nettogewicht	12,5 kg
Verpackungsangaben/-abmessungen Karton (HxBxT)	498 x 530 x 650 mm
Bruttogewicht	18,2 kg

Dimensions and weight	
Device dimensions (HxWxD)	177 x 447 x 457 mm
Net weight	12.5 kg
Packaging information/dimensions (HxWxD)	498 x 530 x 650 mm
Gross weight	18.2 kg

Dimensiones y peso	
Dimensiones del producto (al x an x pr)	177 x 447 x 457 mm
Peso neto	12,5 kg
Indicaciones/dimensiones del embalaje caja de cartón (al x an x pr)	498 x 530 x 650 mm

Programme	
Anzahl der Programmplätze	300
Vorgegebene Fixprogramme	Ja
Individuell programmierbar	Ja
Anzeige von Informationen auf dem Display	Ja

Programs	
Number of programs in the device	300
Default programs, factory set	Yes
Individually programmable	Yes
Information shown on the display	Yes

Programų skaičius įrenginyje - 300.  
Gamyklinės, individualios, informacinės programos.  
p. 7.4.

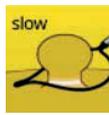
Programas fijos predefinidos	Sí
Programable individualmente	Sí
Indicación de información en pantalla	Sí

Monopoliniai pjovimo režimai.  
p. 7.5.

### Unipolar Cutting Modes



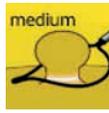
LAPAROSCOPY



GASTRO LOOP 1



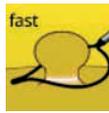
STANDARD



GASTRO LOOP 2



MICRO



GASTRO LOOP 3



RESECTION



GASTRO KNIFE 1



RESECTION C-CUT®



GASTRO KNIFE 2



SUPRALOOP



GASTRO KNIFE 3



DRY



ARGON



### PRODUCT INFO

### UNITS

### Unipolar Coagulation Modes

Monopolinės koaguliacijos režimai.  
p. 7.6.



LAPAROSCOPY



FORCED CUTTING



MODERATE



GASTRO COAG



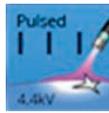
FORCED COAG



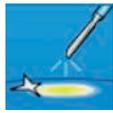
ARGON FLEXIBLE



RESECTION



ARGON FLEX. PULSED



SPRAY

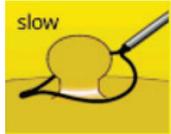


ARGON OPEN



FORCED MIXED

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use only!*

Mode symbol	Designation	CCS	ARC Control	HF voltage form	HF power limitation		Peak voltage	Default values	
					Effect	Power range		Effect	Max. Watt
<b>Unipolar cutting modes</b>									
	SupraLoop	Yes	Yes	sinusoidal constant	1 2 3	300 W 350 W 400 W	650 Vp	1	---
	Dry	Yes	Yes	sinusoidal modulated	1 2 3 4 5 6 7 8 9	1 W – 200 W	1.4 kVp 1.4 kVp 1.5 kVp 1.6 kVp 1.6 kVp 1.6 kVp 1.6 kVp	5	100
	Gastro Loop 1	Yes	Yes	sinusoidal alternating Cut, Coag and Pause phases	1 2 3 4 5	400 W	750 Vp	3	---
	Gastro Loop 2	Yes	Yes	sinusoidal alternating Cut, Coag and Pause phases	1 2 3 4 5	400 W	750 Vp	3	---
	Gastro Loop 3	Yes	Yes	sinusoidal alternating Cut, Coag and Pause phases	1 2 3 4 5	400 W	750 Vp	3	---

Monopolinis pjovimo režimas, 400 W. p. 7.5.

Mode symbol	Designation	CCS	ARC Control	HF voltage form	HF power limitation		Peak voltage	Default values	
					Effect	Power range		Effect	Max. Watt
<b>Unipolar coagulation modes</b>									
	Laparoscopy			sinusoidal modulated	-	1 W – 120 W	1.8 kVp	---	60
	Moderate			sinusoidal constant	1 2 3	1 W – 120 W	250 Vp	2	60
	Forced coag			pulsed modulated	-	1 W – 80 W	3.5 kVp	---	50
	Resection			sinusoidal modulated	-	1 W – 120 W	2.2 kVp	---	60
	Spray			pulsed modulated	1 2 3 4	1 W – 120 W	3.0 kVp 3.8 kVp 4.6 kVp 5.0 kVp	2	80
	Forced mixed			sinusoidal modulated	1 2 3	1 W – 120 W	1.5 kVp 2.0 kVp	2	60
	Forced cutting			sinusoidal modulated	1 2 3 4	1 W – 250 W	1.5 kVp 1.5 kVp 1.3 kVp 1.3 kVp	2	80

Monopolinēs koagulācijas režīmas, 250 W.  
p. 7.6.

Bipolinio pjovimo režimai.  
p. 7.7.

## Bipolar Cutting Modes



BIPOLAR CUTTING



BIPOLAR SCISSORS



ARTHRO VAP CUT

Bipolinės koaguliacijos  
režimai.  
p. 7.8.

## Bipolar Coagulation Modes



ROBI®



STANDARD AUTO



LAPAROSCOPY



BIPOLAR SCISSORS



STANDARD



MICRO



ARTHRO VAP COAG



FORCED

Furthermore, the footswitch can be assigned and activated or deactivated via the “pedal” button. This footswitch can be used to change settings from the sterile area during an operation. Alternatively, the footswitch can be used to control two sockets with separate instruments.

In addition to the 20 standard procedures already stored as presets in the unit, a large number of individual procedures can be created and stored.



## PRODUCT INFO

### UNITS

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Mode symbol	Designation	CCS	ARC Control	HF voltage form	HF power limitation		Peak voltage	Default values	
					Effect	Power range		Effect	Max. Watt
<b>Bipolar cutting modes</b>									
	Bip. cutting	Yes	Yes	sinusoidal constant	-	1 W – 200 W	400 Vp	---	100
	Bipolar scissors			sinusoidal constant	-	1 W – 120 W	200 Vp	---	40
	Arthro VAP CUT	Yes	Yes	sinusoidal constant	1 2 3 4 5	120 W 200 W 200 W 200 W 200 W	290 Vp 330 Vp 380 Vp 440 Vp 500 Vp	3	---

Bipolinio pjovimo režimai, 200 W. p. 7.7.

Mode symbol	Designation	CCS	ARC Control	HF voltage form	HF power limitation		Peak voltage	Default values	
					Effect	Power range		Effect	Max. Watt
<b>Bipolar coagulation modes</b>									
	RoBi®			sinusoidal constant	-	1 W – 100 W	110 Vp	---	40
	Laparoscopy			sinusoidal constant	-	1 W – 120 W	150 Vp	---	50
	Standard			sinusoidal constant	-	1 W – 120 W	150 Vp	---	40
	Arthro VAP COAG			sinusoidal constant	1 2 3	40 W 60 W 80 W	110 Vp 150 Vp 550 Vp	2	---

Bipolinė koaguliacijos režimas, 120 W.  
p. 7.8.

**Specifications:**

<b>Maximum power</b>	
Unipolar	400 W to 100 Ω
Bipolar	200 W to 75 Ω
<b>Power supply</b>	
UH 300	220-240 VAC, 50/60 Hz
UH 300U	110-127 VAC, 50/60 Hz
<b>Connection socket</b>	
1x unipolar	3-pin US type 5 mm socket KARL STORZ/Erbe VIO 4 mm socket (via footswitch)
1x bipolar (can be expanded to 2)	2-pin US type (28.58) 2x KARL STORZ/Erbe VIO
<b>Diverse</b>	
Line voltage	
UH 300	220-240 V
UH 300U	100-127 V
Power consumption	975 VA at max. HF output
Product dimensions (h x w x d)	447 x 177 x 457 mm
Net weight	11.8 kg
Certified to:	IEC 60601-1

**Variants:**

- UH 300            **AUTOCON® III 300**, with KARL STORZ OR1™ SCB control WU 300, power supply 220-240 VAC, 50/60 Hz, incl. mains cord
- UH 300U        **AUTOCON® III 300**, with KARL STORZ OR1™ SCB control WU 300, power supply 100-127 VAC, 50/60 Hz, incl. mains cord

**The following footswitches can be ordered for use with this unit:**

- UF 901            **One-Pedal Footswitch**, with button for switchover function
- UF 902            **Two-Pedal Footswitch**, with button for switchover function

**Replacement:**

UH 300 will replace the following products:

- 20 5322 20        **AUTOCON® II 200**
- 20 5322 20-010 **AUTOCON® II 200**, GASTRO CUT

UH 300U will replace the following products:

- 20 5322 20C      **AUTOCON® II 200**
- 20 5322 20C010 **AUTOCON® II 200**, GASTRO CUT

**27806 US or 27806 UR will replace the following product:**

- 27806            **Neutral Electrode Connecting Cable**

**Market introduction:**

Q3 2017



**PRODUCT INFO**

**UNITS**

Dviejų pedaly kojinis jungiklis, su mygtuku funkcijų perjungimui. p. 7.9.1.

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## Footswitches

	UF 901	<b>One-Pedal Footswitch</b> , with button for switchover function, for use with HF generators
	UF 902	<b>Two-Pedal Footswitch</b> , with button for switchover function, for use with HF generators

## Neutral Electrodes



	27805	<b>Neutral Electrode</b> , of conductive silicone with 2 rubber ties for fastening, contact surface A = 500 cm <sup>2</sup> , for use with Connecting Cable 27806
	27806 UR	<b>Neutral Electrode Connecting Cable</b> , for Neutral Electrode 27805
	27806 US	<b>Neutral Electrode Connecting Cable</b> , for Neutral Electrode 27802
	27802	<b>Neutral Electrode</b> , for single use, contact surface divided into two, A = 169 cm <sup>2</sup> , package of 50, Connecting Cable 27801 required

Jungiamasis laidas neutraliems elektrodams p. 7.9.3.

Neutralūs elektrodai, pak. 50 vnt. p. 7.9.2.





UG 220

**Equipment Cart**, wide, high, rides on 4 antistatic dual wheels equipped with locking brakes, mains switch on cover, energy beam with integrated electrical subdistributors with 12 sockets, grounding plugs,

Dimensions:

Equipment cart: 830 x 1474 x 730 mm (w x h x d),

Shelf: 630 x 25 x 510 mm (w x h x d),

Caster diameter: 150 mm

including:

**Base Module**, equipment cart, wide

**Cover**, equipment cart, wide

**Beam Package**, equipment cart, high

3x **Shelf**, wide

**Drawer Unit with Lock**, wide

2x **Equipment Rail**, long

**Camera Holder**

2x **Mains Cord**, length 100 cm



UG 120

**Equipment Cart**, narrow, tall, rides on 4 antistatic dual wheels equipped with locking brakes, mains switch on cover, energy beam with integrated electrical subdistributors with 12 sockets, grounding plugs,

Dimensions:

Equipment cart: 660 x 1474 x 730 mm (w x h x d),

Shelf: 450 x 25 x 510 mm (w x h x d),

Caster diameter: 150 mm

including:

**Base Module**, equipment cart, narrow

**Cover**, equipment cart, narrow

**Beam Package**, equipment cart, large

3x **Shelf**, narrow

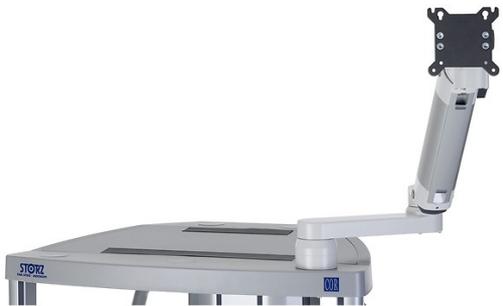
**Drawer Unit with Lock**, narrow

2x **Equipment Rail**, long

**Camera Holder**

2x **Mains Cord**, length 100 cm

Vežimėlis įrangai, siauras, aukštas, važiuoja ant 4 antistatinių dvigubų ratukų su užrakinamais stabdžiais, centrinis jungiklis ant dangčio, sija įvadui su 12 elektros įvadų, komplekte: bazinis modulis, dangtis, sija, 3 lentynos, stalčius su užraktu, 2 bėgeliai įrangai, laikiklis kamerai, 100 cm ilgio maitinimo laidai. p. 8.

Product Number	Quantity	Description
 <p>UG520</p>	1	<p><b>Monitor Holding Arm,</b> long, height and side adjustable, tilting, swivel range up to 320°, reach 760 mm, loading capacity max. 15 kg, with monitor holder VESA 75/100, for use with Equipment Carts UGxxx</p> <p>Alkūnē monitoriaus tvirtinimui. p. 8.8.</p>

# Motor System

UNIDRIVE® Select

Unidrive Select  
Šeiverio sistema  
p. 9.

**STORZ**  
KARL STORZ—ENDOSKOPE

With the UNIDRIVE® Select, KARL STORZ is introducing a multidisciplinary motor system with a modular concept that allows configuration according to customer requirements thanks to software licenses. This technology opens up a wide range of customizable possibilities and also offers synergy effects in cross-speciality integration without disregarding economic efficiency. According to the motto “Power Anywhere”, the UNIDRIVE® Select motors and handpieces are driven with exactly the parameters required for the respective function and indication.

## Multidisciplinary & modular:

- Configuration according to individual requirements at any time thanks to software modules
- Touch screen
- Motor detection with automatically preset program selection

## Special features:

- Shaver handpieces with up to 35,000 rpm
- Micro ear burs
- High-speed micro motors
- High-speed drill handpieces
- Length-adjustable high-speed burs
- Craniotome attachments
- Perforator
- Drill handpiece for spinal endoscopy
- Wireless footswitch

Motorų atpažinimas ir automatinis  
programos parinkimas  
p. 9.3.

Specialiosios ypatybės:  
Šeiverio rankenos, mikro borai ausiai, greitaiegių  
grąžtų rankenos.  
p. 9.1.



It is recommended that the suitability of the products for the intended procedure be checked prior to use. Please note that the products listed here may not yet be available in all countries due to differences in approval requirements.

# UNIDRIVE® Select

System components



Software for use with  
UNIDRIVE® Select UM600  
ENT UM601  
NEURO UM602  
SPINE UM603

Software for use with  
ENDOMAT® Select UP220  
ENT/NEURO/  
SPINE UP611



Shaver Blades,  
reusable



Shaver Blades,  
for single use



Sinus Burrs,  
for single use



362681  
362682  
362683  
362684  
362680

362645

362656  
362657  
362658



262570  
262572

262571

41201FD

41301FD

41301D



## UM600

**UNIDRIVE® Select**, motor system with color display, touch screen control, two motor outputs, power supply 100-240 VAC, 50/60 Hz

Unidrive Select motorinė sistema su lietimui jautriam spalvotam ekranui ir dvejomis jungtimis motorams. p. 9.2., p. 9.4.



## UP220

**ENDOMAT® Select**, suction or irrigation pump, incl. mains cord, power supply 100-240 VAC, 50/60 Hz, with integrated unit communication via KS HIVE

	<p><b>UF201</b></p>	<p><b>Two-Pedal Footswitch, one-stage</b></p>
	<p><b>UF201W</b></p>	<p><b>Two-Pedal Footswitch, one-stage, wireless, including footswitch, receiver, power supply</b></p>
	<p><b>ET92-1414421</b></p>	<p><b>Spare Parts Kit, carrying handle (2-pedal)</b></p>
 <p>STERILE </p>	<p><b>031531-10</b></p>	<p><b>Tubing Set, for irrigation, UNIDRIVE®, sterile, for single use, package of 10, for use with ENDOMAT® Select UP220</b></p>
<p><b>Vienkartinių žarnelių rinkinys p. 10.6.1.</b></p>	<p><b>UP611</b></p>	<p><b>ENT/NEURO/SPINE Software, license, allows irrigation for the UNIDRIVE® Select UM600 motor system, for use with ENDOMAT® Select UP220</b></p>
	<p><b>UM601</b></p>	<p><b>ENT Software, license, allows the use of shaver handpieces, micro ear drills, high-speed and INTRA motors, for use with UNIDRIVE® Select UM600</b></p>
	<p><b>UM602</b></p>	<p><b>NEURO Software, license, allows the use of shaver handpieces, high-speed motors and perforator handpieces, for use with UNIDRIVE® Select UM600</b></p>
	<p><b>UM603</b></p>	<p><b>SPINE Software, license, allows the use of shaver handpieces and high-speed motors, for use with UNIDRIVE® Select UM600</b></p>

Dviejų pedalo kojinių jungiklis p. 9.5.1.

Vienkartinių žarnelių rinkinys p. 10.6.1.

Greičio nustatymas p. 9.4.

## 6.2 Setting the speed

1. Select the handpiece, e.g., **High-speed burr 80k**, see chapter *Selecting the handpiece* [p. 28].

⇒ The handpiece screen appears with the maximum speed value:



Verčių vaizdavimas p. 9.4.

2. Tap the speed value.

⇒ The **Minus** button appears:



3. Tap the **Minus** button to reduce the speed value.

⇒ The **Plus** button appears:



4. Set the desired speed value using the buttons.

## 4 Product description

### 4.1 Description of operation

Endomat Select yra ratukinio tipo pompa. p. 10.1.

The ENDOMAT SELECT is a roller pump that can be used for irrigation and suction of fluids during operations in various disciplines of human and veterinary medicine. It is not possible to combine disciplines of human and veterinary medicine.

The device automatically adapts to suit the type of operation being performed by providing the optimum operating parameters when a tubing set for a specific discipline is attached, provided the product is enabled for the area of application. The product can be configured in such a way that only the areas of application that the user wants to use are displayed. Further disciplines can be retrofitted, and extended setting options are available with the Advanced software package.

In urological and arthroscopic applications, the irrigation pressure can also be increased briefly with a BOOST function. In other applications, either the irrigation flow or the irrigation pressure can be limited.

The product is operated and controlled via a touch screen. The current operating state can be checked by displaying the set and actual values of the irrigation pressure or flow. If the set value deviates continuously, an electronic safety circuit blocks the delivery or suction, and acoustic signals sound. An electronic auto-check system tests the various system components when the product is started and notifies the operator of any failures detected.

- i** The range of functions of the product varies according to the installed software package. For the required accessories for the respective software package, see see chapter *Accessories and spare parts* [p. 66].

### 4.2 Product overview



ENDOMAT SELECT – Front view

- |   |                                      |   |               |
|---|--------------------------------------|---|---------------|
| 1 | STANDBY button                       | 4 | Light barrier |
| 2 | TFT touchscreen                      | 5 | Pump rollers  |
| 3 | Pump lever (cartridge locking lever) |   |               |

### 4.3 Touchscreen



- |   |                                  |   |                         |
|---|----------------------------------|---|-------------------------|
| 1 | Discipline name                  | 4 | Limitation of pressure  |
| 2 | Start/stop irrigation or suction | 5 | Limitation of flow      |
| 3 | Irrigation or suction display    | 6 | Boost pressure increase |

#### Irrigation or suction display

The irrigation or suction function is activated:

- Actual value: orange-colored line
- Set value: white marking

Esamos ir užduotos parametrų reikšmės. p. 10.4.

#### Limitation of pressure or flow

Whether the flow or pressure can be limited depends on the discipline and the installed Advanced software package.

#### Boost pressure increase

Boost pressure increase is only available in the disciplines of arthroscopy and urology. The boost pressure increase can be set with the button or footswitch in 10% steps from 10% to 50%.

# ENDOMAT® Select

For intraoperative cleaning of the front lens



**UP220**

**ENDOMAT® Select**, suction or irrigation pump

ENT (LOR) programinės įrangos paketas  
p. 10.3.

**UP606**

**ENT Software**, license, allows selection of the procedure clearvision®, for use with ENDOMAT® Select UP210 and UP220



**UF102**

**One-Pedal Footswitch**, two-stage

**UF102W**

**One-Pedal Footswitch**, two-stage, wireless



**031529-10**

**Tubing Set for Irrigation**, CV, sterile, for single use, package of 10

STERILE 

The following tubing sets can be used with the system:

Vienkartiniai žarnelių rinkiniai  
p. 10.5.

For pressure-controlled applications, for example, in hysteroscopy, cystoscopy or interventions in arthroscopy and spine surgery.



031523-10 **Tubing Set, Irrigation**, pressure-controlled, for single use, sterile, package of 10, for use with KARL STORZ HAMOU® ENDOMAT® 26331120 and ENDOMAT® SELECT UP 210

For flow-controlled applications, for example, in laparoscopy, thoracoscopy and proctology.



031524-10 **Tubing Set, Irrigation**, flow-controlled, for single use, sterile, package of 10, for use with KARL STORZ HAMOU® ENDOMAT® 26331120 and ENDOMAT® SELECT UP 210

For use during the hysteroscopic removal of tissue with the IBS® shaver system or removal of tissue chips during resection (TUR-B/P)



030647-10 **Tubing Set, Suction**, direct suction, for single use, sterile, package of 10, for use with KARL STORZ ENDOMAT® SELECT UP 210

For use in combination with the CALCUSON lithotripsy unit in urology



031647-10 **Tubing Set, Suction**, bottle suction, for single use, sterile, package of 10, for use with KARL STORZ ENDOMAT® SELECT UP 210

For the ordering process, please use Configuration Flyer 96311002.

Further information is available in the Product Highlight ENDOMAT® SELECT 96311003.

### Availability

The ENDOMAT® SELECT unit as well as the above-mentioned software modules and corresponding single-use tubing sets are now in stock.

More software packages will be available in the near future for utilization of ENDOMAT® SELECT during GI, ENT and NEURO surgeries and for further features regarding the general unit settings as well as the enhancement of certain software modules.



## PRODUCT INFO

### UNITS

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## Reusable Tubing Sets for ENDOMAT® SELECT

Reusable tubing sets for the irrigation or suction of fluids are now available for the multidisciplinary ENDOMAT® SELECT single roller pump.

The following reusable tubing sets are now available for ENDOMAT® SELECT:

- For flow-controlled applications, e.g., in laparoscopy, thoracoscopy and proctology.



UP 007

**Tubing Set**, irrigation, FC,  
reusable, sterilizable, for use with  
ENDOMAT® SELECT SCB UP 210  
and HAMOU® ENDOMAT® SCB  
263311 20-1

- For pressure-controlled applications, e.g., in hysteroscopy, cystoscopy or interventions in arthroscopy and spine surgery



UP 008

**Tubing Set**, irrigation, PC,  
reusable, sterilizable, for use with  
ENDOMAT® SELECT SCB UP 210  
and HAMOU® ENDOMAT® SCB  
263311 20-1

- For use in hysteroscopic tissue ablation with the IBS® shaver system or for the removal of tissue chips during resection (TUR-B/P)



UP 009

**Tubing Set**, suction, DS,  
reusable, sterilizable, for use with  
ENDOMAT® SELECT SCB UP 210



### PRODUCT INFO

#### UNITS

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# Suction and Irrigation Sheaths

For use with ENDOMAT® SELECT

Mova siurbimui ir irigacijai



- 7230AS**      **Suction and Irrigation Sheath 0°**, outer diameter 4.8 x 6 mm, working length 14 cm
- 7230BS**      **Suction and Irrigation Sheath 30°**, outer diameter 4.8 x 6 mm, working length 14 cm
- 7230FS**      **Suction and Irrigation Sheath 45°**, outer diameter 4.8 x 6 mm, working length 14 cm
- 7230CS**      **Suction and Irrigation Sheath 70°**, outer diameter 4.8 x 6 mm, working length 14 cm
- 7230AES**      **Suction and Irrigation Sheath 15°-90°**, outer diameter 4.8 x 6 mm, working length 14 cm

Mova siurbimui ir irigacijai  
p. 10.6.2.



- 7241AS**      **Irrigation Sheath 0°**, outer diameter 4.8 mm, working length 14 cm, with connection facing upwards
- 7241BS**      **Irrigation Sheath 30°**, outer diameter 4.8 mm, working length 14 cm, with connection facing upwards
- 7241FS**      **Irrigation Sheath 45°**, outer diameter 4.8 mm, working length 14 cm, with connection facing upwards

## The DRILLCUT-X® II-35 Shaver Handpiece

DrillCut-X II-35 šeiverio rankena.  
p. 11.

Šeiverio rankena 35000 aps./min  
Q7

Suderinama ašmenimis  
šeiveriui, aps. 10000.  
p. 11.1., p. 11.3.

Compatible with sinus  
burrs, up to 35,000 rpm

Compatible with  
shaver blades,  
up to 10,000 rpm

Suderinama su borais  
sinusams, aps. 35000.  
p. 11.1., p. 11.2.



A handpiece for  
shaver blades and  
sinus burrs

Optional handle, variable  
placement

### Safety/hygiene



- Quick coupling mechanism
- Machine washable

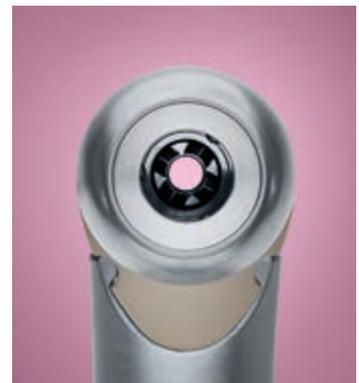
Greito užrakinimo  
mechanizmas.  
p. 11.6.

### Convenience/Ergonomy



- Particularly ergonomic  
thanks to variable handle

### Functionality



- Straight suction channel  
and integrated irrigation

Tiesus kanalas siurbimui ir  
integuota irigacija.  
p. 11.4., p. 11.5.

## Shaver Blades

Benefits of shaver blades

- Available either as a sterile single-use product or as a reusable version
- Straight working attachments, freely rotatable 360°

Various versions available:



## DRILLCUT-X® Handpieces

Cleaning adaptors for all DRILLCUT-X® handpieces and reusable shaver blades

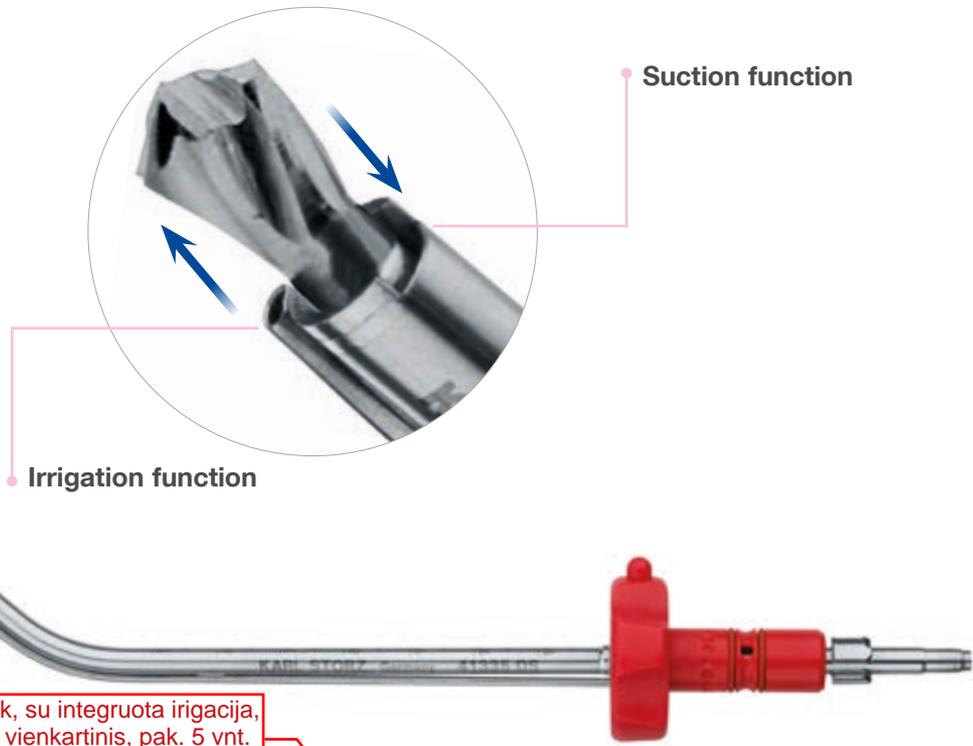


41250RA **Cleaning Adaptor**, LUER-Lock, for cleaning DRILLCUT-X® II/DRILLCUT-X® II-35 handpieces

Adapteris valymui.  
p. 11.7.



41200RA **Cleaning Adaptor**, LUER-Lock, for cleaning the inner and outer blades of DRILLCUT-X® II/DRILLCUT-X® II-35 accessories



Boras sinusams, 35k, su integruota irigacija, ilgis 12 cm, sterilus, vienkartinis, pak. 5 vnt. p. 12., p. 13., p. 14.

Detail	Sinus Burr 35k, with integrated irrigation, length 12 cm, sterile, for single use, package of 5, color code: red		STERILE 
	41335W	curved 40°, cylindrical, burr diameter 3 mm, shaft diameter 4 mm	Lenktas 40 laips., cilindro formos, boro skersmuo 3 mm. p. 14.
	41335RN	curved 15°, bud drill, burr diameter 4 mm, shaft diameter 4 mm	
	41335DW	curved 40°, diamond head, burr diameter 5 mm, shaft diameter 4 mm	Lenktas 40 laip., deimantine galvute, boro skersmuo 5 mm. p. 13.
	41335DT	curved 70°, diamond head, burr diameter 3.6 mm, shaft diameter 4 mm	Lenktas 70 laip., deimantine galvute, boro skersmuo 3,6 mm. p. 12.
	41335DS	curved 40°, diamond-shaped cutting, burr diameter 4 mm, shaft diameter 4 mm	

## Shaver Blades, straight for paranasal sinus and skull base surgery

For use with DrillCut-X® II-35 handpiece



Šeiverio ašmenys,  
tiesūs, sterilizuojami.

Ilgis 12 cm.

### Shaver Blades, straight, sterilizable

Detail	for use with	Shaver Blade, with integrated irrigation for DrillCut-X® handpiece, length 12 cm
	40712035 DrillCut-X® II-35 Handpiece	
	41201KN	serrated cutting edge, rectangular cutting window, diameter 4 mm, color code: blue-red
	41201KK	Dantyti pjovimo kraštai, stačiakampis pjovimo langas, skersmuo 4 mm. p. 15.
	41201GN	concave cutting edge, oval cutting window, diameter 4 mm, color code: blue-green
	41201LN	concave cutting edge, oblique cutting window, diameter 4 mm, color code: blue-black
	41201SN	straight cutting edge, diameter 4 mm, rectangular cutting window, color code: blue-blue
	41201KSA	serrated cutting edge, rectangular cutting window, diameter 3 mm, color code: blue-red
	41201KKSA	double serrated cutting edge, rectangular cutting window, diameter 3 mm, color code: blue-yellow
	41201KKSB	Dantyti pjovimo kraštai, stačiakampis pjovimo langas, skersmuo 3 mm. p. 19.
	41201LSA	concave cutting edge, oblique cutting window, diameter 3 mm, color code: blue-black

# Shaver Blades, curved

## for paranasal sinus and skull base surgery

For use with DrillCut-X® II-35 handpiece



41204KKB

Seiverio ašmenys,  
sterilizuojami.

Ilgis 12 cm.

### Shaver Blades, curved 35°/40°, sterilizable

Detail	for use with	Shaver Blade, with integrated irrigation for DrillCut-X® handpiece, length 12 cm
	40712035 DrillCut-X® II-35 Handpiece	
	41202KN	curved 35°, cutting edge serrated backwards, rectangular cutting window, diameter 4 mm, color code: blue-red
	41204KKF	curved 40°, cutting edge serrated forwards, double serrated, rectangular cutting window, diameter 4 mm, color code: blue-yellow
	41204KKB	curved 40°, cutting edge serrated forwards, double serrated, rectangular cutting window, diameter 4 mm, color code: blue-yellow
	41204KKFA	curved 40°, cutting edge serrated forwards, double serrated, rectangular cutting window, diameter 3 mm, color code: blue-yellow
	41204KKBA	curved 40°, cutting edge serrated backwards, double serrated, rectangular cutting window, diameter 3 mm, color code: blue-yellow

Lenktas 35 laips. kampu, pjovimo kraštai dantyti, stačiakampis pjovimo langas, skersmuo 4 mm. p. 16.

Lenktas 40 laips. kampu, pjovimo kraštai dantyti, stačiakampis pjovimo langas, skersmuo 4 mm. p. 18.

## Shaver Blades, curved for paranasal sinus and skull base surgery

For use with DrillCut-X® II-35 handpiece



41203KKF

Šeiverio ašmenys,  
sterilizuojami.

Ilgis 12 cm.

### Shaver Blades, curved 65°, sterilizable

Detail	for use with	Shaver Blade, with integrated irrigation for DrillCut-X® handpiece, length 12 cm
	40712035 DrillCut-X® II-35 Handpiece	
	41203KNF	curved 65°, cutting edge serrated forwards, rectangular cutting window, diameter 4 mm, color code: blue-red
	41203KNB	Lenktas 65 laipsn. kampu, dantyti pjovimo kraštai, stačiakampis pjovimo langas, skersmuo 4 mm. p. 17.
	41203KKF	curved 65°, cutting edge serrated forwards, double serrated, rectangular cutting window, diameter 4 mm, color code: blue-yellow
	41203KKB	curved 65°, cutting edge serrated backwards, double serrated, rectangular cutting window, diameter 4 mm, color code: blue-yellow
	41203KKFA	curved 65°, cutting edge serrated forwards, double serrated, rectangular cutting window, diameter 3 mm, color code: blue-yellow
	41203KKBA	curved 65°, cutting edge serrated backwards, double serrated, rectangular cutting window, diameter 3 mm, color code: blue-yellow
	41203GNF	curved 65°, cutting edge concave forwards, oval cutting window, diameter 4 mm, color code: blue-green
	41203GNB	curved 65°, cutting edge concave backwards, diameter 4 mm, color code: blue-green

# INTRA Micro Motor 80k

INTRA Drill Handpieces 80,000 rpm, angled and straight



20261033

**INTRA Micro Motor 80k**, for use with UNIDRIVE® Select UM600

**Included in delivery:**

20261133 **INTRA Micro Motor 80k**, without cable

20261233 **INTRA Connecting Cable**

Intra mikro motoras, 80k, naudojimui su Unidrive Select p. 20.1.

Jungiamasis laidas p. 20.3.



262570

**INTRA Drill Handpiece**, angled, 80,000 rpm, 70 mm, for use with INTRA Micro Motor 80k 20261033 and straight shaft burrs

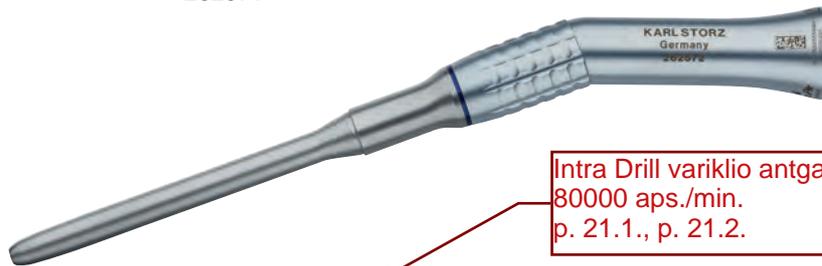


262571

**INTRA Drill Handpiece**, straight, 80,000 rpm, 70 mm, for use with INTRA Micro Motor 80k 20261033 and straight shaft burrs

**Spare Part:**

**ET30-1500096 Irrigation Cannula PM**, length 70 mm, for use with 262570 and 262571



262572

**INTRA Drill Handpiece**, angled, 80,000 rpm, 125 mm, for use with INTRA Micro Motor 80k 20261033 and straight shaft burrs

Intra Drill variklio antgalis, kampinis, 80000 aps./min. p. 21.1., p. 21.2.

**Spare Part:**

**ET30-1500098 Irrigation Cannula PM**, length 125 mm, for use with 2625702

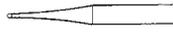
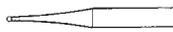
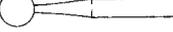
## Specifications

Speed	4,000-80,000 rpm	Length	100 mm
Weight	120 g (without cable)	Torque	max. 40 mNm
Diameter	21 mm	Cable length	295 +/- 5 cm

# INTRA Straight Shaft Burrs

length 70 mm, 80,000 rpm, unsterile, reusable

For use with INTRA Drill Handpieces 262570, 262571

Detailed view	Diameter	Standard	Tungsten carbide	Transverse tungsten carbide	Diamond	Diamond, coarse
	0.6 mm	260006	261006	-	262006	-
	0.7 mm	260007	261007	-	262007	-
	0.8 mm	260008	261008	-	262008	-
	1.0 mm	260010	261010	-	262010	-
	1.4 mm	260014	261014	261114	262014	-
	1.8 mm	260018	261018	-	262018	-
	2.3 mm	260023	261023	261123	262023	262223
	2.7 mm	260027	261027	-	262027	262227
	3.1 mm	260031	261031	261131	262031	262231
	3.5 mm	260035	261035	-	262035	262235
	4.0 mm	260040	261040	261140	262040	262240
	4.5 mm	260045	261045	-	262045	262245
	5.0 mm	260050	261050	261150	262050	262250
	6.0 mm	260060	261060	261160	262060	262260
	7.0 mm	260070	261070	-	262070	262270

Standartiniai tiesūs borai nerūdijantys. p. 23.

**260000**

**Standard Straight Shaft Burr**, stainless, sizes 006-070, length 7 cm, set of 15

**261000**

**Tungsten Carbide Straight Shaft Burr**, stainless, sizes 006-070, length 7 cm, set of 15

**262000**

**Diamond Straight Shaft Burr**, stainless, sizes 006-070, length 7 cm, set of 15

**262200**

**Rapid Diamond Straight Shaft Burr** with diamond coating for precise drilling and abrasion by light hand pressure and generating minimal heat, sizes 023-070, length 7 cm, set of 9 color code: gold

Deimantiniai tiesūs borai, nerūdijantys p. 22.

**280030**

**Rack**, for 36 straight shaft burrs with a length of 7 cm, foldable, sterilizable, size 22 x 11.5 x 2 cm

## The HD Video Rhino-Laryngoscope for Flexible Diagnosis in ENT

The new HD video rhino-laryngoscope from KARL STORZ allows visualization in HD image quality for ENT diagnosis. Moreover, the flexible videoendoscope offers user-friendly handling for performing the planned examination. Depending on the system configuration, both enhanced imaging, thanks to IMAGE1 S™ visualization modes, and stroboscopy are feasible. This makes the endoscope suitable for a wide range of applications.



### The HD video rhino-laryngoscope offers:

- HD image quality
- Flexibility due to the connectivity to the IMAGE1 S™ camera system or TELE PACK+
- Enhanced **IMAGE1 S™ visualization technologies** including SPECTRA\* for supporting the visual detection of tissue and vessels (in conjunction with the IMAGE1 S™ camera system)
- Stroboscopy in HD image quality (in conjunction with TELE PACK+)
- Diameter of 3.7 mm
- Deflection 140°/140°

IMAGE1 S vizualizācijas tehnoloģijas.  
p. 24.8.

\* not for sale in the U.S.

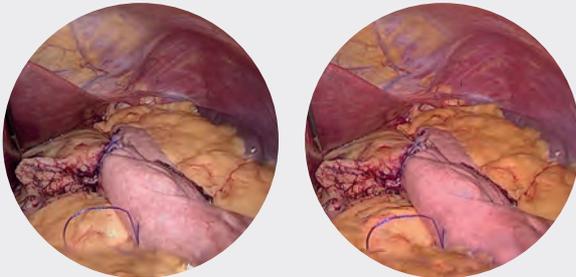
### Innovative Visualization Modes

- CLARA: Homogeneous illumination
- CHROMA: Contrast enhancement
- SPECTRA: Color shift and exchange

CLARA: vienodas apšvietumas Q1

Chroma: kontrasto padidinimas p. 24.8.1.

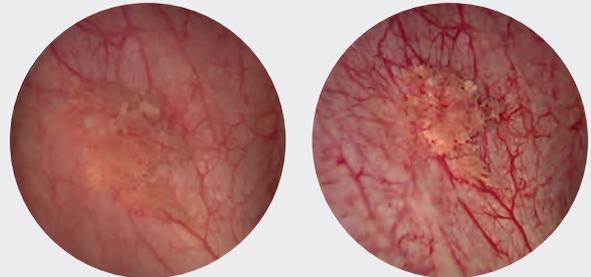
#### CLARA: Homogeneous image illumination



Standard image

CLARA

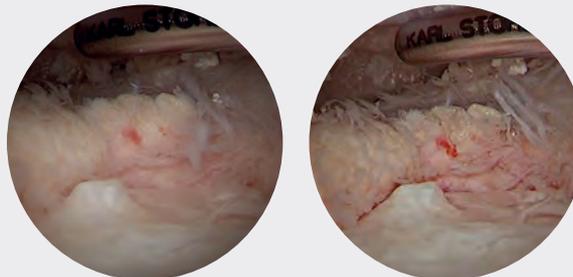
#### CHROMA: Contrast enhancement



Standard image

CHROMA

#### CLARA + CHROMA: Homogeneous image illumination + contrast enhancement

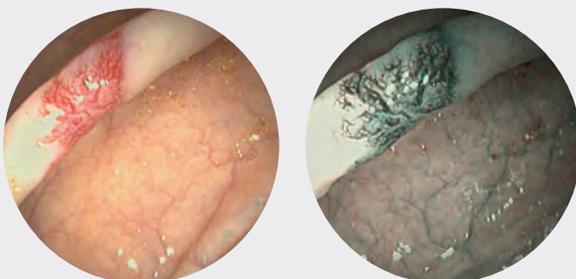


Standard image

CLARA + CHROMA

SPECTRA A: spektrinis spalvų sukeitimas ir perjungimas (raudonos spalvos išfiltravimas). p. 24.8.2.

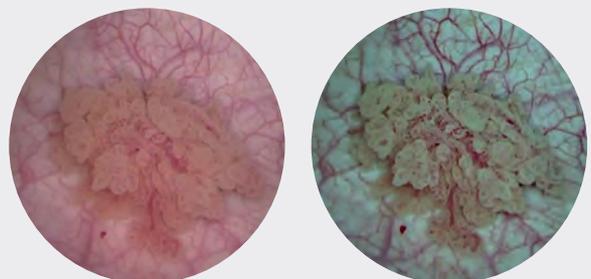
#### SPECTRA A: Spectral color shift and switch (filtering of reds)



Standard image

SPECTRA A

#### SPECTRA B: Spectral color shift (intensification of greens and blues)



Standard image

SPECTRA B

# Compatibility Overview

Suderinamas su Image1 S sistema  
p. 24.2.



HD video rino-laringoskopas, matymo kryptis 0 laips., matymo kampas 100 laips., darbinis ilgis 30 cm, išorinis skersmuo 3,7 mm, lenkimasis 140/140 laips., komplekte: sandarumo matuoklis, slėgių suvienodinimo kamštelis, lagaminas. p. 24.1., p. 24.3., p. 24.4., p. 24.5., p. 24.6., p. 24.7., p.24.9.

## HD Video Rhino-Laryngoscope



11101HDK **HD Video Rhino-Laryngoscope Kit**, direction of view 0°, angle of view 100°, working length 30 cm, outer diameter 3.7 mm, deflection up/down 140°/140°

**The following accessories are included in delivery:**

11101HD **HD Video Rhino-Laryngoscope**, 3.7 mm  
 13242XL **Leakage Tester**  
 11025E **Pressure Compensation Cap**  
 27677SL **Case**

## Accessory Compatibility IMAGE1 S™ Camera System



TC301

**IMAGE1 S™ X-LINK**, link module, for use with flexible videoendoscopes and one-chip camera heads (up to FULL HD), power supply 100-120 VAC/200-240 VAC, 50/60 Hz

including:

**Mains Cord**, length 300 cm

**Link Cable**, length 20 cm

Image1 S X-Link modulis lankstiams video endoskopams. p. 24.2.



TC201EN\*

**IMAGE1 S CONNECT® II**, connect module, for use with up to 3 link modules, resolution 3840 x 2160 and 1920 x 1080 pixels, with integrated KARL STORZ-SCB and digital Image Processing Module, power supply 100-240 VAC, 50/60 Hz

including:

**Mains Cord**, length 300 cm

**DVI-D Connecting Cable**, length 300 cm

**DisplayPort Cable**, length 300 cm

**SDI Cable**, length 300 cm

**SCB Connecting Cable**, length 100 cm

**USB Flash Drive**, 32 GB

**USB Silicone Keyboard**, with touchpad, US



TM220

**27" FULL HD Monitor**, screen resolution 1920 x 1080, image format 16:9, video inputs: 2x DVI, 3G-SDI, VGA, S-Video, Composite, video outputs: DVI, 3G-SDI, Composite, power supply 100-240 VAC, 50/60 Hz, 5 V DC output (1 A), wall mount with VESA 100 adaptor

including:

**External 24 VDC Power Supply**

**Mains Cord**

**Cable Cover**

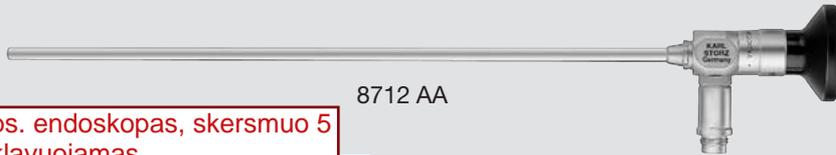
4x **Mounting Screws M4**

\* Available in the following languages: DE, ES, FR, IT, PT, RU

# HOPKINS® II Telescopes

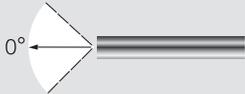
for Rigid Endoscopy associated with Microlaryngeal Surgery (REMS),  
Prof. ANDREA and Prof. DIAS

Kietieji endoskopai mikro  
gerklų chirurgijai



8712 AA

Hopkins II tiesus 0 laips. endoskopas, skersmuo 5 mm, ilgis 24 cm, autoklavuojamas. p. 27.



8712 AA

**HOPKINS® II Straight Forward Telescope 0°**, enlarged view, diameter 5 mm, length 24 cm, **autoclavable**, fiber optic light transmission incorporated, color code: green



8712 BA

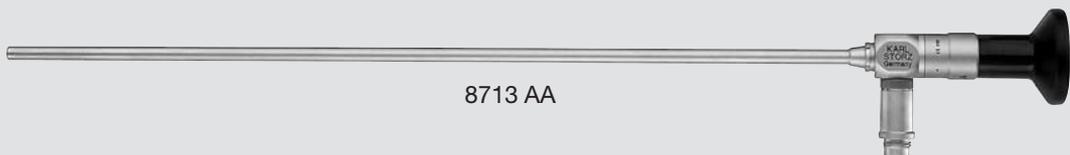
**HOPKINS® II Forward-Oblique Telescope 30°**, enlarged view, diameter 5 mm, length 24 cm, **autoclavable**, fiber optic light transmission incorporated, color code: red



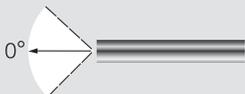
8712 CA

**HOPKINS® II Lateral Telescope 70°**, enlarged view, diameter 5 mm, length 24 cm, **autoclavable**, fiber optic light transmission incorporated, color code: yellow

Hopkins II tiesus 30 laips. endoskopas, skersmuo 5 mm, ilgis 24 cm, autoklavuojamas. p. 26.



8713 AA



8713 AA

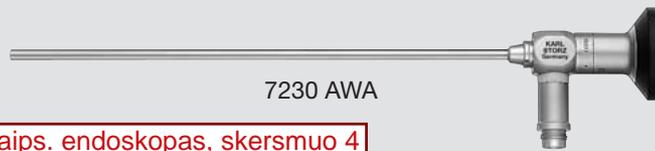
**HOPKINS® II Straight Forward Telescope 0°**, enlarged view, diameter 5 mm, length 29 cm, **autoclavable**, fiber optic light transmission incorporated, color code: green

Hopkins II tiesus 0 laips. endoskopas, skersmuo 5 mm, ilgis 29 cm, autoklavuojamas. p. 25.

# HOPKINS® II Telescopes

for Diagnosis, Surgery and Treatment of Nose and Nasal Sinuses

Diameter 4 mm, length 18 cm

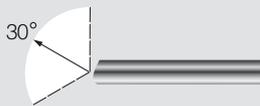


Hopkins II tiesus 0 laips. endoskopas, skersmuo 4 mm, ilgis 18 cm, autoklavuojamas. p. 28.



7230 AWA

**HOPKINS® II Wide Angle Straight Forward Telescope 0°**, enlarged view, diameter 4 mm, length 18 cm, **autoclavable**, fiber optic light transmission incorporated, color code: green



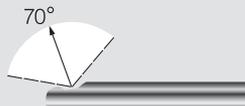
7230 BWA

**HOPKINS® II Wide Angle Forward-Oblique Telescope 30°**, enlarged view, diameter 4 mm, length 18 cm, **autoclavable**, fiber optic light transmission incorporated, color code: red



7230 FWA

**HOPKINS® II Wide Angle Forward-Oblique Telescope 45°**, enlarged view, diameter 4 mm, length 18 cm, **autoclavable**, fiber optic light transmission incorporated, color code: black



7230 CWA

**HOPKINS® II Wide Angle Lateral Telescope 70°**, enlarged view, diameter 4 mm, length 18 cm, **autoclavable**, fiber optic light transmission incorporated, color code: yellow

Hopkins II tiesus 45 laips. endoskopas, skersmuo 4 mm, ilgis 18 cm, autoklavuojamas. p. 29.

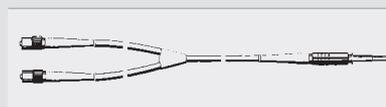
# Fiber Optic and Fluid Light Cables

for Cold Light Fountains



Order No.	Diameter (mm)	Length (cm)	NIR/ICG Applications	Straight Connector	Extremely Heat-resistant	Enhanced Light Transmission	With Safety Lock
495 NT	2.5	180	-	●	-	-	-
495 NTA	2.5	230	-	●	-	-	-
495 NL	3.5	180	-	●	-	-	-
495 NA	3.5	230	-	●	-	-	-
495 NAC	3.5	230	●	●	●	●	●
495 ND	3.5	300	-	●	-	-	-
495 NB	3.5	300	-	●	-	-	-
495 NCSC	3.5	300	-	●	●	●	●
495 NCS	4.8	250	●	●	●	●	-
495 TIP	4.8	300	●	●	●	●	-
495 NE	4.8	300	-	●	-	-	-
495 VIT	4.8	550	●	●	●	●	-

Skersmuo 3,5 mm, ilgis 300 cm, tiesi jungtis



495 UD

**Fiber Optic Light Cable**, with straight connector, 2x diameter 3.5 mm, length 180 cm, for simultaneous light transmission for 2 instruments

## 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

**\*Special endoscopes may deviate.**

**Please note:** The high light concentration at the end of the light cable causes heat to be generated 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.

**Überblick: Aufbereitung**
**Overview: Preparation**
**Vista general - Preparación**

	Manuelle Reinigung und Desinfektion / Manual cleaning and disinfection / Limpieza y desinfección manuales	Maschinelle Reinigung (65 °C*) / Cleaning by machine (65°C*) / Limpieza mecánica (65 °C*)	Maschinelle Reinigung (93 °C*) / Cleaning by machine (93°C*) / Limpieza mecánica (93 °C*)	Dampfsterilisation / Steam sterilization / Esterilización por vapor	Gassterilisation / Gas sterilization / Esterilización por gas	Wasserstoffperoxid Sterilisation / Hydrogen peroxide sterilization / Esterilización con peróxido de hidrógeno (STERRAD 100S/200S/NX)	STERIS
Fiberglas-Lichtkabel / Fiber optic light cable / Cable de luz de fibra de vidrio	•	•	•	•	•	•	•
Fluid-Lichtkabel / Fluid light cable / Cable de luz por medio fluidizado	•	•	---	---	•	•**	•

\* gerätespezifisch/device-specific/según características del aparato  
 \*\* Freigegeben nur für STERRAD 100S/200S/NX/  
 Only approved for STERRAD 100S/200S/NX/  
 Autorizados únicamente para STERRAD 100S/200S/NX

Sterilizacija garais (autoklavavimas) p. 30.5.

**Manuelle Nachreinigung:**

Die Glasflächen (Lichtein- und austritt) mit einem weichen Einmaltuch oder einem Wattestäbchen, getränkt mit 70%igem Alkohol, reinigen. Hartnäckige Verschmutzungen und Beläge auf den Glasflächen werden mit Reinigungspaste (Art.-Nr. 27661) entfernt.



**VORSICHT:** Bei der Anwendung der Reinigungspaste sind die Reinigungs- und Desinfektionsschritte zu wiederholen.

**Manual final cleaning:**

Clean the glass surfaces (light entrance and exit) with a soft disposable cloth or a disinfected cotton swab, soaked with 70% alcohol. Stubborn contaminants and deposits may be removed using cleaning paste (Art. no. 27661).



**CAUTION:** The cleaning and disinfection steps must be repeated when using cleaning paste.

**Limpieza manual posterior:**

Limpie las superficies de vidrio (entrada y salida de luz) con un paño suave desechable o un bastoncillo de algodón, embebidos en alcohol al 70%. Elimine con pasta de limpieza (art. no. 27661) las suciedades persistentes o incrustaciones sobre las superficies de vidrio.



**ATENCIÓN:** Durante la aplicación de la pasta de limpieza deben repetirse los pasos de limpieza y desinfección.

Ist eine Symbolkennzeichnung auf Lichtkabel und Endoskop vorhanden (siehe Tabelle rechts), passende Kombination anhand der Symbole zuordnen.

If there is an identification symbol on the light cable and the endoscope (see table right), assign matching combinations according to the symbols shown.

Si el cable de luz y el endoscopio están provistos de un símbolo identificativo (véase la tabla a la derecha), preste atención a que los símbolos de ambos se correspondan.

**Überblick: Empfohlene Kombinationen\***
**Overview: Recommended combinations\***
**Vista general: Combinaciones recomendadas\***

Ø Lichtkabel / diameter light cable / diámetro cable de luz	Ø Endoskop / diameter endoscope / diámetro endoscopio
4,8 – 5,0 mm	6,6 – 12,0 mm
3,0 – 3,5 mm	3,0 – 6,5 mm
2,0 – 2,5 mm	0,8 – 2,9 mm

\* Spezielle Endoskope können hiervon abweichen

\* Special endoscopes may deviate slightly

\* Los endoscopios especiales pueden diferir de esto

**Betriebs-/Lagerbedingungen**

Betrieb: + 10 °C – +40 °C  
 Lagerung: –20 °C – +60 °C

**Operating/storage conditions**

Operation: + 10°C – +40°C  
 Storage: –20°C – +60°C

**Condiciones de servicio/almacenamiento**

Servicio: + 10 °C – +40 °C  
 Almacenamiento: –20 °C – +60 °C

**Entsorgung**

Bei der Entsorgung von Lichtkabeln sind keine besonderen Maßnahme erforderlich.

**Disposal**

There are no special measures required in the disposal of light cables.

**Gestión de desecho**

Al desechar los cables de luz no es necesario recurrir a medidas especiales.

## Innovative Visualization Tools for Surgery and Diagnosis by Shifting the Color Spectrum

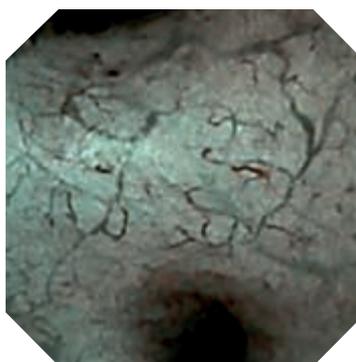
### SPECTRA\*

SPECTRA\* allows recognition of the finest tissue structures. The bright red portions of the visible spectrum are filtered out and the remaining color portions are expanded. This makes it easier to differentiate between tissue types.

SPECTRA\* offers two different modes so that the user can select the display that suits best.



White light image



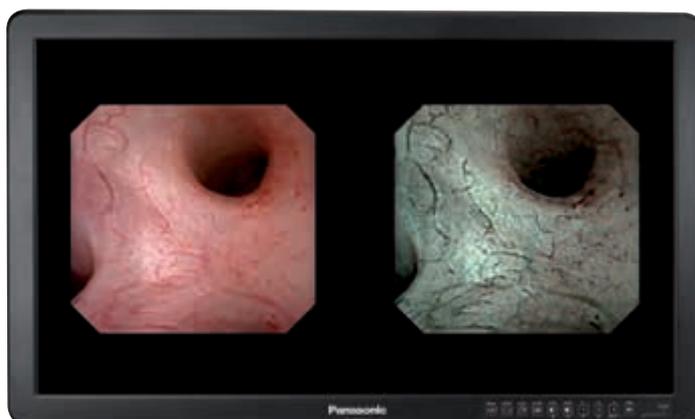
SPECTRA A\*\*



SPECTRA B\*\*\*

### Side-by-side view

#### Simultaneous display of white light and IMAGE1 S™ images



The simultaneous display of a white light image and an image in the visualization mode enables a direct comparison of tissue structures on the monitor during surgery. Side-by-side view thus facilitates diagnosis.

Baltos šviesos ir vizualizacinio režimo vaizdų vaizdavimas vienu metu vienas šalia kito.  
Q4

\* SPECTRA : Not for Sale in the U.S.

\*\* SPECTRA A: Not for Sale in the U.S.

\*\*\* SPECTRA B: Not for Sale in the U.S.