

# TIPCAM®1 Rubina™

The new 4K-3D NIR/ICG videoendoscope



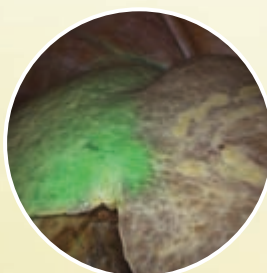
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KARL STORZ — ENDOSKOPE

## The TIPCAM®1 Rubina™ – New Videoendoscope. New Functions.

As part of the RUBINA™ product family, the TIPCAM®1 RUBINA™ provides surgeons with excellent depth perception. This stereoscopic system offering 3D in 4K quality is particularly helpful when performing activities that require spatial vision. Thanks to the modular system design, existing IMAGE1 S™ 2D systems can be upgraded to 3D. Whether for laparoscopy, gynecology, urology or cardiothoracic surgery – the new TIPCAM®1 RUBINA™ features a wide range of applications.

The new TIPCAM®1 RUBINA™ with the new NIR/ICG visualization modes can, for example, be used in the following applications:



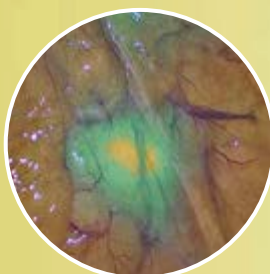
### **Visualization of liver segments**

Source: Prof. Go Wakabayashi,  
Ageo Central General  
Hospital, Japan



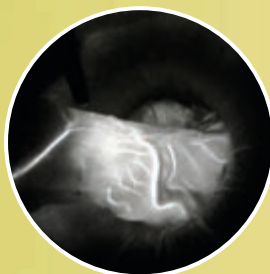
### **Visualization of bile ducts**

Source: Prof. Luigi Boni,  
IRCCS – Ca' Granda,  
Policlinico Hospital,  
Milan, Italy



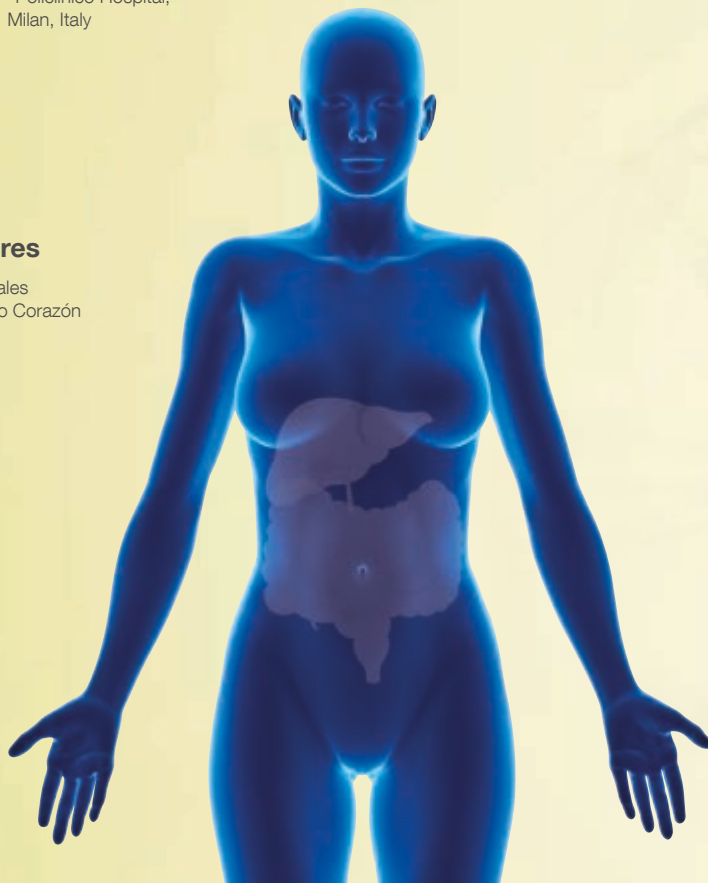
### **Visualization of lymphatic structures**

Source: Prof. Salvador Morales  
Conde, Quirónsalud Sagrado Corazón  
Hospital, Seville, Spain



### **Visualization of bowel perfusion**

Source: Prof. Luigi Boni,  
IRCCS – Ca' Granda,  
Policlinico Hospital,  
Milan, Italy



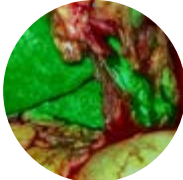
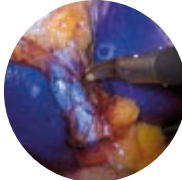

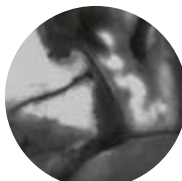
# NIR/ICG Visualization Modes with the TIPCAM®1 Rubina™

The TIPCAM®1 RUBINA™ combined with the POWER LED RUBINA™ offers users various new modes for displaying the NIR/ICG signal. This includes the overlay mode, for example. Here the regular white light image is combined with the NIR/ICG data to generate an overlay image. Green or blue – you decide! Depending on your preferences and the application, the NIR/ICG data can be displayed as a green or blue overlay.

The monochromatic mode allows the display of the NIR/ICG signal alone in white against a black background. This achieves the clearest possible delineation of structures.

The intensity map displays the intensity of the NIR/ICG signal using a color scale in an overlay image.



<b>Overlay</b>	
	
Source: Prof. Carus, Thuine, Germany	Source: Prof. Carlini, Rome, Italy
<b>Intensity Map</b>	<b>Monochromatic</b>
	
Source: Prof. Carus, Thuine, Germany	Source: Prof. Carus, Thuine, Germany

## The New All-in-One Videoendoscope

The TIPCAM®1 RUBINA™ is available with a diameter of 10 mm with 0° and 30° directions of view and combines the latest 4K, 3D and fluorescence imaging technologies (NIR/ICG). It features 4K image quality in both 2D and 3D as well as new NIR/ICG fluorescence modes thanks to the new POWER LED RUBINA™ light source.



- 4K resolution in 2D and 3D
- Very good image quality in both white light and NIR/ICG modes
- Natural color rendition
- S-Technologies in white light and in combination with overlay modes



- 3D technology in 4K
- Enhanced 3D image quality\* due to reworked telescope design
- Easy toggle from 3D to 2D via camera head buttons possible

\* in comparison to previous models



- Automatic horizon control in 2D and 3D for better orientation and handling





- Laser-free LED light source for white light and NIR/ICG
- Excitation of ICG autofluorescence in the near infrared range
- Durability and constant light intensity
- Operation via touchscreen and footswitch



- NIR/ICG modes available in 2D and 3D
- Overlay with NIR/ICG displayed in green or blue
- Intensity map for displaying signal intensity in the overlay image
- Monochromatic mode for the NIR/ICG signal alone





## Overview of IMAGE1 S™ RUBINA™ Components

TC201	<b>IMAGE1 S CONNECT® II</b> , connect module, for use with up to 3 link modules, resolution 3840 x 2160 and 1920 x 1080 pixels, with integrated KARL STORZ SCB or KS HIVE® and digital Image Processing Module, power supply 100-240 VAC, 50/60 Hz
TC304	<b>IMAGE1 S™ 4U-LINK</b> , link module, for use with IMAGE1 S™ 4U camera heads, power supply 100-240 VAC, 50/60 Hz, for use with IMAGE1 S CONNECT® TC200 or IMAGE1 S CONNECT® II TC201
TH121*	<b>IMAGE1 S™ 4U RUBINA™</b> , OPAL1® NIR/ICG, two-chip 4K UHD camera head, S-Technologies available, for NIR/ICG fluorescence imaging in combination with POWER LED RUBINA™, OPAL1® NIR/ICG, progressive scan, low-temperature sterilization, focal length f = 19 mm, 2 freely programmable camera head buttons, for use with IMAGE1 S CONNECT® II and IMAGE1 S™ 4U-LINK
26606ACA	<b>TIPCAM®1 RUBINA™</b> , OPAL1® NIR/ICG, 4K/3D, high-resolution videoendoscope with two distally integrated video chips, for NIR/ICG fluorescence imaging in combination with POWER LED RUBINA™, OPAL1® NIR/ICG and Sync Connecting Cable TL006, direction of view 0°, diameter 10 mm, length 32 cm, <b>autoclavable</b> , S-Technologies available, freely programmable camera head buttons, including video connecting cable, for use with IMAGE1 S CONNECT® II and IMAGE1 S™ 4U-LINK
26606BCA	<b>Same</b> , direction of view 30°
TL400	<b>Cold Light Fountain POWER LED RUBINA™</b> , for NIR/ICG fluorescence imaging and standard endoscopic diagnosis, with two LEDs and one KARL STORZ light cable connection, with integrated unit communication via KS HIVE®, power supply 100-125/220-240VAC, 50/60 Hz
495TIP	<b>Fiber Optic Light Cable</b> , with straight connector, extremely heat-resistant, enhanced light transmission, with safety lock, diameter 4.8 mm, length 300 cm
39501XTC	<b>Wire Tray</b> , for cleaning, sterilization and storage of TIPCAM®1 S 3D videoendoscopes 26605AA/BA or TIPCAM®1 RUBINA™, OPAL1® NIR/ICG, 4K/3D 26606ACA, 26606ABCA, 26616ACA, 26616BCA and one light cable, <b>autoclavable</b> , external dimensions (w x d x h): 640 x 220 x 87 mm
UF101	<b>One-Pedal Footswitch</b> , one-stage
TM450	<b>55" 4K/3D Monitor</b> , screen resolution 3840 x 2160, image format 16:9, power supply 100-240 VAC, 50/60 Hz, wall-mounted with VESA 200 and VESA 300 adaptors
TM009	<b>Signal Converter Set</b> , 12G-SDI – 4x 3G-SDI, for use with 55" 4K/3D Monitor TM450
TM350	<b>32" 4K/3D Monitor</b> , screen resolution 3840 x 2160, image format 16:9, power supply 100-240 VAC, 50/60 Hz, wall-mounted with VESA 100 adaptor

\* For use with HOPKINS® RUBINA™ NIR/ICG telescopes or the VITOM® II ICG exoscope for open surgery

TM003	<b>3D Polarization Glasses</b> , fogless, passive, for use with 3D monitors
9800C	<b>3D Clip-on Glasses</b> , circularly polarized
TM440	<b>58" 4K Monitor</b> , screen resolution 3840 x 2160, image format 16:9, power supply 100-240 VAC, 50/60 Hz, VESA 400 x 400 and VESA 400 x 200 adaptors
TM343	<b>32" 4K Monitor</b> , screen resolution 3840 x 2160, image format 16:9, power supply 100-240 VAC, 50/60 Hz, VESA 100 and VESA 200 adaptors

#### **COR Mobile Stand with Monitor Holder for TM440 and TM450:**

UG804	<b>Subrack</b> , for COR mobile stand, high
UG811	<b>Top Cover Monitor Holder</b>
UG817	<b>Counterweight</b> , for monitors larger than 55"
UG820	<b>Shelf</b> , narrow
UG858	<b>55"/58" Monitor Module</b>

It is recommended to check the suitability of the product for the intended procedure prior to use.  
Please note that the described products in this medium may not be available yet in all countries due to different regulatory requirements.

More than  
**75**  
*Years*

*Shaping the Future  
of Endoscopy with you*

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