IMAGE1 S™ Rubina® – mORe to discover

Our Opal1® technology for NIR/ICG

Discover new technologies
that change the way you look at your patients

STORZ
KARL STORZ — ENDOSKOPE

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The primary goal of any surgeon is to achieve optimal surgical results. To meet this objective, the visualization and display of significant and critical structures is of crucial importance to the surgical workflow.

The rapid development of camera technology in the past has led to ever greater insights in the surgical field as well as an increasingly broader range of treatments in minimally invasive surgery and, ultimately, to a potentially better outcome for the patient.

There is a growing interest in 3D technology with its spatial visualization of the surgical site; in 4K technology which provides increased resolution and a wider color space; and fluorescence diagnostics with NIR/ICG offering imaging possibilities for, e.g., the bile ducts or perfusion.

Guiding surgeons
to better outcomes

NIR/ICG visualization modes

The Rubina® components offer users various new modes for visualizing the NIR/ICG signal. This includes the overlay of NIR/ICG data onto the standard white light image or alternatively the monochromatic visualization of the infrared signal alone.
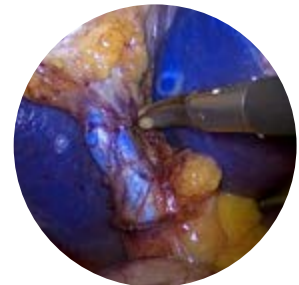
Overlay

In overlay mode, the regular white light image is combined with the NIR/ICG data to generate an overlay image.

Source: Boni, Milan, Italy

Patient satisfaction
is our priority
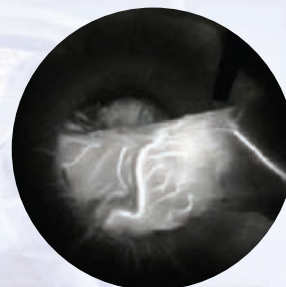
Green or blue - you decide

Depending on your preferences and application, the NIR/ICG data can be displayed as a green or blue overlay.

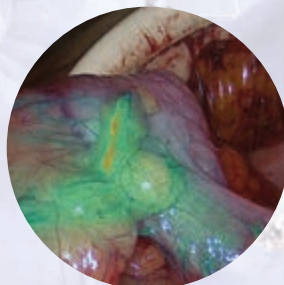
Source: Carlini, Rome, Italy

Monochromatic

In this mode, the NIR/ICG signal alone is displayed in white on a black background to achieve the greatest possible differentiation.

Source: Boni, Milan, Italy

Intensity Map

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

Source: Zuend, Baar, Switzerland

All-in-one solutions

Thanks to modular architecture, new 4K, 3D, NIR/ICG, and LED components can be added to the existing IMAGE1 S™ camera platform. The IMAGE1 S™ Rubina® components offer users new options and a series of advantages to support them in their daily routine.

4K

- Native 4K resolution
- 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
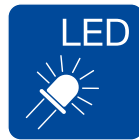
3D

- 3D technology in 4K
- Enhanced 3D image quality*
- Autoclavable 3D/2D videoendoscopes

* compared to previous model

AUTOMATIC HORIZON CONTROL

- Automatic horizon control

LED

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

OPAL1® NIR/ICG

- Opal1® NIR/ICG technology
- Overlay with NIR/ICG displayed in green or blue
- Intensity Map for displaying signal intensity in the overlay image
- Monochromatic mode for NIR/ICG signal alone
- New and optimized NIR/ICG telescopes

Continuous development
to optimize clinical care

IMAGE1 S™ Rubina® – mORe to discover

**The diamond standard for
NIR/ICG fluorescence imaging**

KARL STORZ counts on the diamond standard in
imaging and therefore stands for high image quality
in the white light mode and, with Rubina®, in the near infrared
range. The name of the imaging technology,
IMAGE1 S™ Rubina®, is derived from the ruby
precious stone.

Once we accept our limitations
we can go beyond them

Further information on IMAGE1 S™ Rubina® is available at
www.karlstorz.com

Overview of IMAGE1 S™ Rubina® components

TC201	**IMAGE1 S CONNECT® II,** connect module, for use with up to 3 link modules, 4K technology, 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	**IMAGE1 S™ 4U-LINK,** 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*	**IMAGE1 S™ 4U Rubina®,** 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	**TIPCAM®1 Rubina®,** 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, **autoclavable,** 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	**Same,** direction of view 30°
TL400	**Cold Light Fountain Power LED Rubina®,** 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, 50/60Hz
UF101	**One-Pedal Footswitch,** one-stage
TM450	**55" 4K/3D Monitor,** screen resolution 3840 x 2160, image format 16:9, power supply 100-240 VAC, 50/60 Hz, 100-240 VAC, 50/60 Hz, wall mount with VESA 200 and VESA 300 adaptors
TM009	**Signal Converter Set 12G-SDI - 4x3G-SDI,** for use with 55" 4K/3D Monitor TM450
TM350	**32" 4K/3D Monitor,** screen resolution 3840 x 2160, image format 16:9, power supply 100-240 VAC, 50/60 Hz, wall mount with VESA 100 adaptor
TM003	**3D Polarization Glasses,** fogless, passive, for use with 3D monitors
9800C	**3D Clip-on Glasses,** circularly polarized
TM440	**58" 4K Monitor,** 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	**32" 4K Monitor,** 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	**Subrack,** for COR mobile stand, high
UG811	**Top Cover Monitor Holder**
UG817	**Counterweight,** for monitors larger than 55"
UG820	**Shelf,** narrow
UG858	**55"/58" Monitor Module**

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

More than
75
Years

Shaping the Future
of Endoscopy with you

STORZ
KARL STORZ—ENDOSKOPE

FOLLOW KARL STORZ

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