IMAGE1 S™ Rubina® – mORE to discover
Our Opal1® technology for NIR/ICG

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

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

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

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

Patient satisfaction is our priority
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.

- 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 technology in 4K
- Enhanced 3D image quality*
- Autoclavable 3D/2D videoendoscopes
  * compared to previous model

- Automatic horizon control
• 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
KARL STORZ IMAGE1 S™ Rubina®

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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 100-125/220-240 VAC, 50/60 Hz

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

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