

# Highlights 2019

## Microscopy





## VITOM® 3D – 3D Visualization for Microsurgery and Open Surgery

The VITOM® 3D system provides many surgical disciplines with a revolutionary solution for the visualization of microsurgical and open surgical interventions.

Application possibilities are similar to that of the operating microscope. The most important functions are controlled via the IMAGE1 PILOT, which is mounted on the OR table in the direct vicinity of the surgeon.

- Smaller, lighter and more compact than an operating microscope
- Lower acquisition costs and creates synergistic effects with endoscopy by using the same video tower – thus combining the benefits of endoscopy and microscopy
- Ergonomic work – the user is not confined to the eyepiece
- Improved workflow – the OR team can view the procedure in the same image quality as the surgeon


Overview

Holding Arm, for VITOM® 3D



28272 HSP

VITOM® 3D  
with integrated illuminator



TH 200

Sterile Cover for  
VITOM® 3D



TH 001\*

Fiber Optic Light Cables



495 VIT

IMAGE1 PILOT  
IMAGE1 PILOT Sterile Cover



TC 014  
041150-20\*

IMAGE1 S™ Camera System



TC 201  
TC 302

Cold Light Fountain POWER LED 300 SCB



TL 300

Holding Arm, for IMAGE1 PILOT



28272 HB  
28172 HR

3D Monitors



TM 350, TM 330

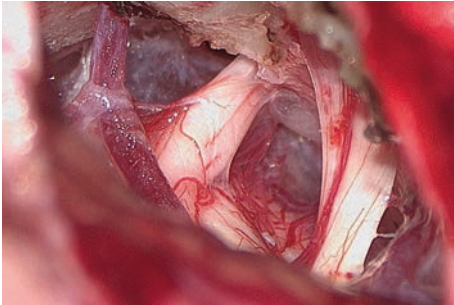
3D Polarization Glasses,  
3D Clip-on Glasses



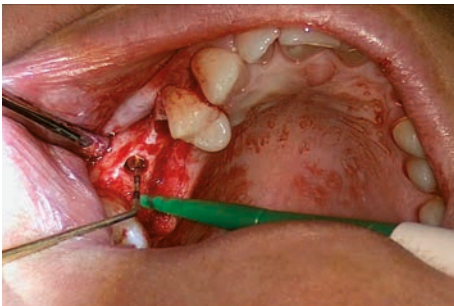
TM 003  
9800 C

## VITOM® 3D – Potential Applications

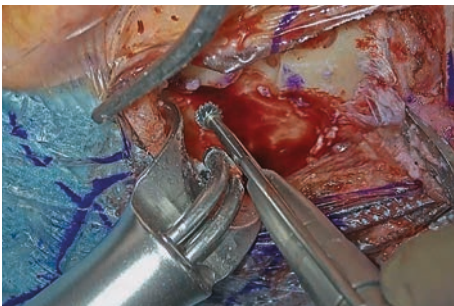
The VITOM® 3D was specifically developed for the classic applications of surgical microscopes (neurosurgery, ENT, spine surgery, hand surgery, and plastic surgery). Furthermore, it can be used in classic open surgery.



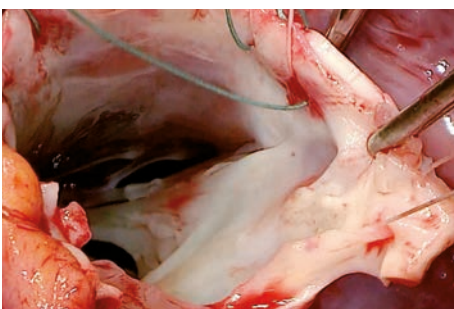
NEUROSURGERY, e.g. tumor biopsy, tumor resection, nerve decompression, intracranial bleeding, vascular surgery



ORAL AND MAXILLOFACIAL SURGERY, e.g. dysgnathia surgery, flap plasty, orbital surgery

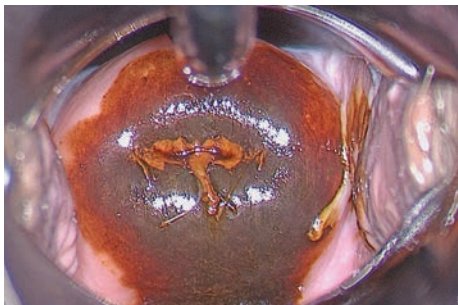


ENT, e.g. tumor resection, tympanoplasty, laryngeal surgery, adenotomy, blepharoplasty, septoplasty, open rhinoplasty, thyroplasty, thyroidectomy, eardrum paracentesis, tympanostomy tubes, cochlear implants



CARDIAC SURGERY, e.g. mitral valve surgery, pediatric cardiac surgery

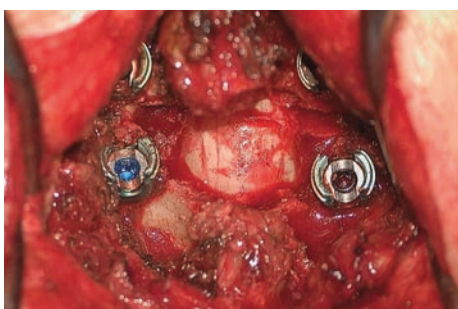
Potential applications range from the visualization of the surgical field to documentation and training. The VITOM® 3D is supported by the IMAGE1 S™ camera platform and therefore offers all functions and advantages such as the S-Technologies CLARA, CHROMA, and SPECTRA\* in 2D and 3D.



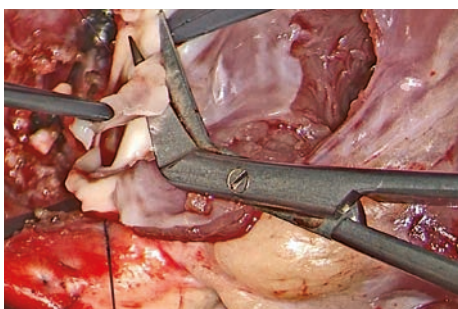
GYNECOLOGY, e.g. colposcopy, conization



HAND SURGERY and PLASTIC SURGERY,  
e.g. reconstructive surgery, median nerve neurolysis,  
Dupuytren's contracture, ulnar shortening osteotomy,  
ulnar head prosthesis, arthroplasty, ganglion resection,  
correction of trigger finger and mallet finger, four-corner  
arthrodesis



SPINE SURGERY, e.g. herniated disks, spinal stenoses,  
spondylodeses, vertebral fracture



PEDIATRICS, e.g. hypospadias, anorectal malformation,  
atrial septal defect

\*not for sale in the U.S.



VITOM® 3D – 3D visualization for microsurgery and open surgery



TH 200      **VITOM® 3D**, with zoom and focus function, integrated illumination and horizontal alignment, working distance 20-50 cm, fiber optic light transmission incorporated, suitable for wipe disinfection, for use with IMAGE1 S D3-LINK® TC 302 and IMAGE1 PILOT TC 014



TC 014      **IMAGE1 PILOT**, control unit with 3D wheel, 4 programmable function keys and USB port, for intuitive control of camera systems and connected units, for use with IMAGE1 S™ and VITOM® 3D TH 200

**IMAGE1 PILOT is required for the use of VITOM® 3D.**  
**VITOM® 3D and IMAGE1 PILOT are always used with a holding system.**  
**Please note that special clamping jaws are required to mount VITOM® 3D to the holding system.**

**Specifications:**

Image sensor	2-chip, 4K
Zoom	infinitely variable
Working distance (WD)	20-50 cm
Magnification (WD 30 cm with 32" 3D monitor)	approx. 8-30 x
Cleaning	wipe disinfection

## VERSACRANE™ holding system for the convenient positioning of VITOM®



28272 HSP **VERSACRANE™ Holding Arm**, high, mobile, spring-supported, with quick release coupling KSLOCK, for use with KARL STORZ clamping jaws.  
including:

**Mobile Stand**, with height adjustment

**WARNING:** The **VERSACRANE™** holding arm cannot be used with rigid endoscopes!

## Accessories



28272 VTK **VITOM® 3D Clamping Jaw**, with ball joint and quick release coupling KSLOCK (male), for use with VITOM® 3D and KARL STORZ holding systems with quick release coupling KSLOCK



28272 VTP **VITOM® 3D Clamping Jaw**, for POINT SETTER, with dovetail connector, for use with VITOM® 3D and POINT SETTER holding system



495 VIT **Fiber Optic Light Cable**, with straight connector, extremely heat-resistant, enhanced light transmission, diameter 4.8 mm, length 550 cm

**Note: The 550 cm long Light Cable 495 VIT is a necessary requirement for the VERSACRANE™.**



TH 001\* **Cover**, for VITOM® 3D, sterile, for single use, package of 10



**Please note: The instruments displayed are not included in the wire tray.**





TH 002     **VITOM® 3D Illuminator**, additional lighting for VITOM® 3D, with 1 adjustable lens, **autoclavable**, for use with VITOM® 3D and light cable



TH 003     **Protective Cover**, for VITOM® 3D

Wire tray for reprocessing the VITOM® 3D illuminator



- Set 2B**
- 39502 ZH     **Wire Tray**, stackable, with hole place walls
  - 39502 LH     **Lid**
  - 39100 SH     **Silicone Grid Insert LARGE DIAMOND GRID**
  - 39100 PS     **Fixation Pin**, package of 12
  - 39360 AS     **Silicone Tie-downs**, package of 12

## IMAGE1 PILOT with holding system for fixation to the operating table



TC 014

**IMAGE1 PILOT**, control unit with 3D wheel, 4 programmable function keys and USB port, for intuitive control of camera systems and connected units, for use with IMAGE1 S™ and VITOM® 3D TH 200



28172 HR

**Rotation Socket**, to clamp to the operating table, with one mounted Butterfly Nut 28172 HRS, for European and US standard rails, with lateral clamp for height and angle adjustment of the articulated stand



28272 HB

**Articulated Stand**, reinforced version



04 1150-20\*

**Cover**, elasticated, 42 x 164 cm, sterile, for single use, package of 20, for use with KARL STORZ holding systems and IMAGE1 PILOT



Monitor



TM 350      **32" 4K/3D Monitor**, color systems PAL/NTSC, screen resolution 3840 x 2160, image format 16:9



TM 330      **32" 3D Monitor**, color systems PAL/NTSC, screen resolution 1920 x 1080, image format 16:9



9826 SF      **Monitor Stand**, basic monitor stand, tiltable, rotation +/-30°, disinfectable, color white, with VESA 100 adaptor, for use with all monitors with VESA 100 adaptors up to 12 kg



9832 SFH      **Monitor Stand**, for professional use, height-adjustable, tiltable, rotation +/-30°, disinfectable, color white, with VESA 200 adaptor, for use with 32" monitors up to 15 kg



TM 003      **3D Polarization Glasses**, fogless, passive, for use with 3D monitors



9800 C      **3D Clip-on Glasses**, circularly polarized



## VERSACRANE™ Holding System – for the Convenient Positioning of VITOM® Systems

- VERSACRANE™ is a versatile holding system that was especially designed for use with the VITOM® system. It enables easy and precise positioning of the VITOM® system for many specialties.
- Ready for immediate use – the VERSACRANE™ holding arm is mounted on a mobile stand so that it can be quickly transported to the operating room and positioned before surgery.
- Individual adjustment – thanks to its gas-spring-supported arm, the VERSACRANE™ holding arm offers weight compensation for the VITOM® system. The braking force of each joint can also be adjusted individually.
- Single hand use – an outstanding feature of the VERSACRANE™ system is its straightforward use. The VITOM® system can easily be positioned with one hand.
- Can be used with VITOM® 2D and 3D.

28272 HSP **VERSACRANE™ Holding Arm**, high, mobile, spring-supported, with quick release coupling KSLOCK, for use with KARL STORZ clamping jaws. The VERSACRANE™ holding arm is intended for use with VITOM® telescopes.

including:

**Mobile Stand**, with height adjustment

**WARNING:** The VERSACRANE™ holding arm cannot be used with rigid endoscopes!

#### Clamping Jaws and Accessories for VITOM® 3D

28272 VTK **VITOM® 3D Clamping Jaw**, with ball joint and quick release coupling KSLOCK (male), for use with VITOM® 3D and KARL STORZ holding systems with quick release coupling KSLOCK

TH 001 **Cover**, for VITOM® 3D, sterile, for single use, package of 10



TH 003 **Protective Cover**, for VITOM® 3D

#### Clamping Jaws and Accessories for VITOM® 2D

28272 UGK **Clamping Jaw**, with ball joint, large, clamping range 16.5-23 mm, with quick release coupling KSLOCK (male), for use with all square-headed HOPKINS® telescopes

28272 CN **Clamping Cylinder**, folding, for flexible mounting of 10 mm telescopes to telescope sheath, **autoclavable**. The clamping cylinder allows vertical movement and rotation of the telescope.

041150-20\* **Cover**, elasticated, 42 x 164 cm, sterile, for single use, package of 20, for use with KARL STORZ holding systems and IMAGE1 PILOT





## VITOM® ICG – Fluorescence Imaging in Open Surgery

VITOM® ICG from KARL STORZ offers a system for fluorescence imaging that can be used for both minimally invasive and open surgery. Only the telescope must be exchanged, depending on the application. This makes the system particularly flexible and economical. Of course, the high-quality visualization under white light is also preserved with VITOM® ICG telescopes.

- Perfusion assessment
- Visualization of sentinel lymph nodes
- Compatible with the IMAGE1 S™ camera platform



## Telescope

**20 9160 25 AGA VITOM® II NIR/ICG Telescope 0°**, with integrated illuminator and observation filter for fluorescence diagnostics with ICG, HOPKINS®, working distance 25-75 cm for white light, 20-30 cm for fluorescence applications, length 11 cm, **autoclavable**, with fiber optic light transmission incorporated and condenser lenses color code: green

## Holding System

**28272 CN Clamping Cylinder**, folding, for flexible mounting of 10 mm telescopes to telescope sheath, **autoclavable**. The clamping cylinder allows vertical movement and rotation of the telescope. For use with Clamping Jaw 28272 UGN/UGK and POINT SETTER universal adaptor 10-15 mm.

**28272 UGK Clamping Jaw**, with ball joint, large, clamping range 16.5 to 23 mm, with quick release coupling KSLOCK (male), for use with all square-headed KARL STORZ HOPKINS® telescopes

**28272 HC Articulated Stand**, L-shaped, long, reinforced version, especially large swivel range, with one mechanical central clamp for all five joint functions, height 48 cm, swivel range 66 cm, with quick release coupling KSLOCK (female)

**28172 HR Rotation Socket**, to clamp to the operating table, with one mounted Butterfly Nut 28172 HRS, for European and US standard rails, with lateral clamp for height and angle adjustment of the articulated stand

## Camera System

**TC 201EN\* 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 and digital Image Processing Module, power supply 100-240 VAC, 50/60 Hz

**TC 300 IMAGE1 S™ H3-LINK**, link module, for use with IMAGE1 FULL HD three-chip camera heads, power supply 100-120 VAC/200-240 VAC, 50/60 Hz

**TH 102 IMAGE1 S™ H3-Z FI Three-Chip FULL HD Camera Head**, for perfusion diagnosis of tissues and organs with indocyanine green (ICG) in conjunction with light source D-LIGHT P, progressive scan, with integrated Parfocal Zoom Lens, focal length f = 15-31 mm (2x), 2 freely programmable camera head buttons, for use with IMAGE1 S™ and IMAGE 1 HUB™ HD/IMAGE1 HD

**TM 220 27" FULL HD Monitor**, screen resolution 1920 x 1080, image format 16:9

## Light Source and Light Cables

**20 1337 01-1 Cold Light Fountain D-LIGHT P SCB**, with integrated KARL STORZ-SCB, high-performance light unit for perfusion assessment, autofluorescence, and standard endoscopic diagnosis, including a 300 Watt Xenon bulb and KARL STORZ light cable connection, power supply 100-125/220-240 VAC, 50/60 Hz

**495 NCSC Fiber Optic Light Cable**, with straight connector, extremely heat-resistant, enhanced light transmission, with safety lock, diameter 4.8 mm, length 250 cm

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



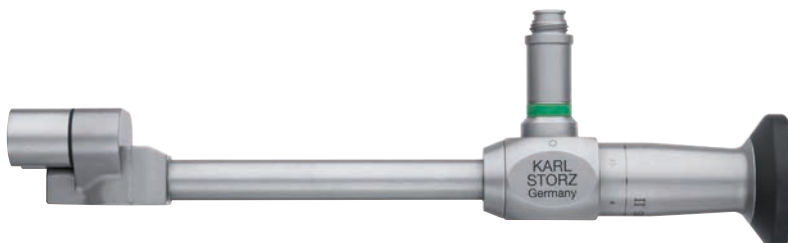
## VITOM® – Visualization System for Open Surgery with Minimal Access

With its high depth of field, optimal magnification, good contrast, and excellent color reproduction, the VITOM® system is ideal for the optimal visualization of open surgeries.

The magnified image of the open procedure can be conveniently viewed by the surgeon, assistants, and the entire surgical team on a monitor. This provides everyone in the OR with the best possible view of the surgical site.

- Perfectly suited for documentation in open surgery
- Ergonomic work
- Ideal for teaching and training
- Enhanced light in the field of view due to the integrated illuminator
- Compact design requiring minimal space in the OR
- Compatible with IMAGE1 S™ camera platform
- Excellent alternative to in-light cameras, loupes and colposcopes

## Telescopes



- 20916025 AA VITOM® Telescope 0° with Integrated Illuminator**, VITOM® HOPKINS® straight forward telescope 0°, working distance 25-75 cm, length 11 cm, **autoclavable**, with fiber optic light transmission incorporated and condenser lenses, color code: green
- 20916025 DA VITOM® Telescope 90° with Integrated Illuminator**, VITOM® HOPKINS® telescope 90°, working distance 25-75 cm, length 11 cm, **autoclavable**, with fiber optic light transmission incorporated and condenser lenses, color code: blue
- 39501 A2 Wire Tray for Cleaning, Sterilization and Storage** of two rigid endoscopes and one light cable, including holder for light post adaptors, silicone telescope holders and lid, external dimensions (w x d x h): 352 x 125 x 54 mm, for rigid endoscopes up to diameter 10 mm and working length 20 cm

## Holding System

- 28272 CN Clamping Cylinder**, folding, for flexible mounting of 10 mm telescopes to telescope sheath, **autoclavable**. The clamping cylinder allows vertical movement and rotation of the telescope. For use with Clamping Jaw 28272 UGN/UGK and POINT SETTER universal adaptor 10-15 mm.
- 28272 UGK Clamping Jaw**, with ball joint, large, clamping range 16.5 to 23 mm, with quick release coupling KSLOCK (male), for use with all square-headed KARL STORZ HOPKINS® telescopes
- 28272 HC Articulated Stand**, L-shaped, long, reinforced version, especially large swivel range, with one mechanical central clamp for all five joint functions, height 48 cm, swivel range 66 cm, with quick release coupling KSLOCK (female)
- 28172 HR Rotation Socket**, to clamp to the operating table, with one mounted Butterfly Nut 28172 HRS, for European and US standard rails, with lateral clamp for height and angle adjustment of the articulated stand

## Camera System



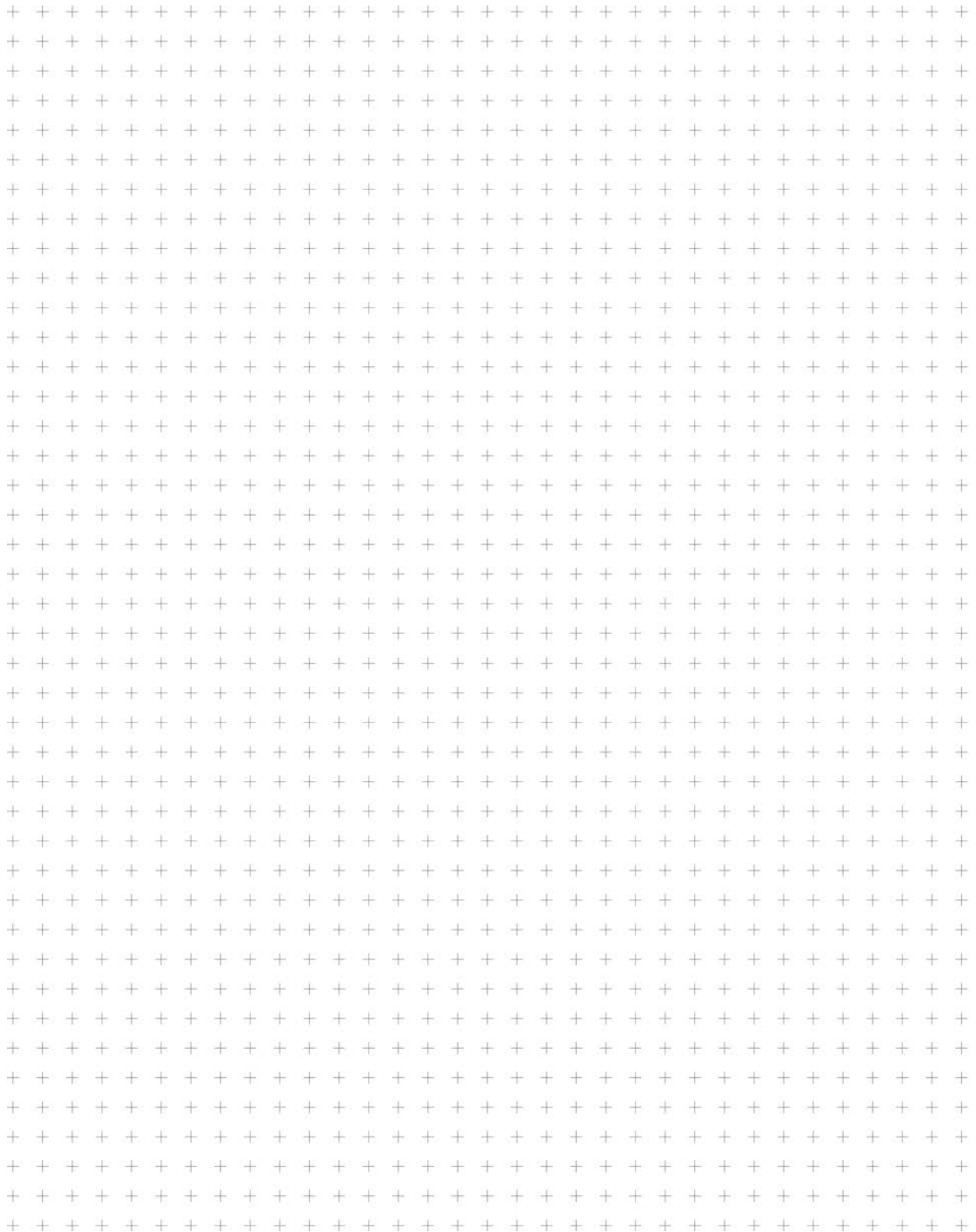
- TC 201EN\* **IMAGE1 S CONNECT® II**, connect module, for use with up to 3 link modules, 4K technology, resolution 3840 x 2160 and 1920 x 1080 pixels, with integrated KARL STORZ-SCB and digital Image Processing Module, power supply 100-240 VAC, 50/60 Hz
- TC 304 **IMAGE1 S™ 4U-LINK**, link module, for use with IMAGE1 S™ 4U camera heads, power supply 100-120 VAC/200-240 VAC, 50/60 Hz, for use with IMAGE1 S CONNECT® TC 200 or IMAGE1 S CONNECT® II TC 201
- TC 300 **IMAGE1 S™ H3-LINK**, link module, for use with IMAGE1 FULL HD three-chip camera heads, power supply 100-120 VAC/200-240 VAC, 50/60 Hz, for use with IMAGE1 S CONNECT® TC 200 or IMAGE1 S CONNECT® II TC 201
- TH 120 **IMAGE1 S™ 4U One-Chip 4K UHD Camera Head**, S-Technologies available, progressive scan, soakable, EO sterilization, H<sub>2</sub>O<sub>2</sub> (hydrogen peroxide), focal length f = 18 mm, 2 freely programmable camera head buttons, for use with IMAGE1 S™ 4U-LINK
- TH 100 **IMAGE1 S™ H3-Z Three-Chip FULL HD Camera Head**, 50/60 Hz, S-Technologies available, progressive scan, soakable, EO sterilization, H<sub>2</sub>O<sub>2</sub> (hydrogen peroxide), with integrated Parfocal Zoom Lens, focal length f = 15-31 mm (2x), 2 freely programmable camera head buttons, for use with IMAGE1 S™ and IMAGE 1 HUB™ HD/IMAGE1 HD

- TM 342      **31" 4K Monitor**, screen resolution 3840 x 2160, image format 16:9,  
Video inputs: DP 1.2a, 2x DVI-D, 12G-SDI, 3G-SDI, USB Type B, RS-232C, GPI,  
Video outputs: DVI-D, 12G-SDI, 3G-SDI, power supply 100-240 VAC, 50/60 Hz,  
wall mount with VESA 100 and VESA 200 adaptors
- TM 220      **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

### Light Source and Light Cables

- TL 300      **Cold Light Fountain POWER LED 300 SCB**, with integrated KARL STORZ-SCB,  
high-performance LED module and one KARL STORZ light outlet,  
power supply 100-240 VAC, 50/60 Hz
- 495 TIP      **Fiber Optic Light Cable**, with straight connector, extremely heat-resistant,  
enhanced light transmission, diameter 4.8 mm, length 300 cm
- 495 NVC      **Fiber Optic Light Cable**, with 90° deflection to the instrument, very narrow radius of curvature,  
diameter 4.8 mm, length 300 cm

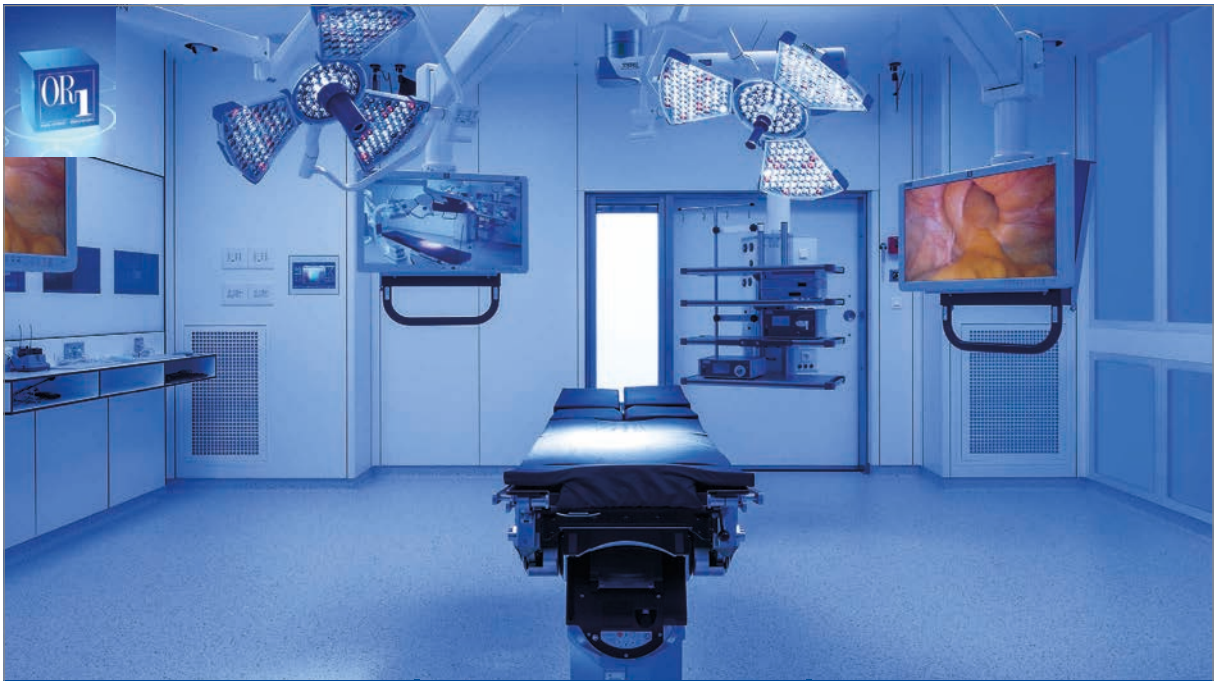
## Notes





A 20x20 grid of plus signs (+) on a white background. The grid is composed of 20 rows and 20 columns, totaling 400 plus signs. The plus signs are evenly spaced and form a uniform pattern across the entire grid.

## Imaging and OR Integration



Storage and  
administration of image  
and video data



SCENARA® .store

Flexible support for  
image sources

3D

IMAGE  
HD 1

4K

Centralized communication  
interface



SCENARA® .connect

# KARL STORZ OR1™

Future-oriented integration meets innovative  
data management

**STORZ**  
KARL STORZ — ENDOSKOPE  
THE DIAMOND STANDARD

KARL STORZ SE & Co. KG, Dr.-Karl-Storz-Straße 34, 78532 Tuttlingen/Germany  
[www.karlstorz.com](http://www.karlstorz.com)

Further information and an overview  
of Microscopy products from KARL STORZ  
can be viewed on



[www.karlstorz.com](http://www.karlstorz.com)  
in the Human Medicine section,  
Microscopy

**It is recommended to check the suitability of the product for the intended procedure prior to use.**

