VITOM®
A Unique Visualization System for Open Surgery with Minimal Access in Urology
Preface

In open surgical procedures for the treatment of congenital or acquired disorders of the urethra and external genitalia, most surgeons operate with a loupe or the unaided eye. So far there has been no easy or convenient way of documenting these cases or for the teaching and training of residents and scrub nurses. The innovative VITOM® system from KARL STORZ solves both problems. It is positioned 25-75 cm above the surgical field. It allows for documentation by storing still images and FULL HD movies from the surgical procedure. In addition, FULL HD images can be displayed within the OR to any of the available monitors.

We use the VITOM® system in our national and international workshops so that we can offer all participants a front-row view!

As the VITOM® system is based on endoscopic components from KARL STORZ, it is also a very economical solution.

We have tested the VITOM® system in urethroplasty and Peyronie’s disease and have achieved very positive results.

Prof. Darko Kröpfl, Director of the Clinic for Urology, Pediatric Urology and Urological Oncology, Evang. Huyssens-Stiftung/ Knappschaft GmbH, Essen, Germany
VITOM®

A Unique Visualization System for Open Surgery with Minimal Access

The VITOM® system is a complementary solution to OR illumination cameras, loupes and operating microscopes. It offers an innovative way of displaying surgical procedures in a high quality manner. Moreover, the VITOM® system is an excellent teaching and training aid and is ideal for documenting surgical procedures.

The VITOM® system can be used for the following procedures in urology:

- Urethral reconstruction
- Hypospadia/epispadia correction
- Artificial sphincter implants
- Open prostatectomy
- Orchidopexy
- Penile deviations
- Penile prostheses
- Phimosis
- Sacropexy
- “Male sling” implants
- Circumcision
What is VITOM®?

Visualization

See more than expected. VITOM® displays surgical procedures in a revolutionary new way that provides excellent illumination and magnification in FULL HD quality. Enjoy an unprecedented view of the surgical procedure and share your impressions with others.

Documentation

Record everything you see and do while performing a surgical procedure in an easy way from a unique perspective.

Teaching and Training

Make training courses more efficient by sharing your view of the OR field. Observers can view proceedings from outside the sterile area – whether in the OR, a conference room or on the other side of the globe – without missing a single step of the surgery.

Ergonomics

Protect your spine by performing surgery in an ergonomically correct posture. Surgeons and OR staff can customize the position of monitors depending on their own position around the OR table.
Example Fields of Application for the VITOM® System:
Urethroplasty

For further information, please scan the code

Courtesy of:
Prof. Darko Kröpfl, Director of the Clinic for Urology, Pediatric Urology and Urological Oncology, Evang. Huysens-Stiftung/ Knappschaft GmbH, Essen, Germany
Visualization

VITOM® provides excellent depth of field, magnification, contrast and color brilliance for a FULL HD experience. The surgical field is visualized with an autoclavable HOPKINS® telescope with a built-in fiber optic light guide and a 1080p IMAGE1 FULL HD camera.

1. Depth of field

VITOM® offers a great depth of field so that the entire surgical site is brought into clear focus and frequent refocusing is avoided.

2. Magnification

High magnification is achieved with the optical zoom of the IMAGE1 FULL HD camera system and a large HD monitor.
3. Image Quality

The IMAGE1 S camera system supports an output signal of 1920 x 1080p and, consequently, offers the highest FULL HD video standard in medical imaging.

With an image refresh rate of 50 or 60 Hz, progressive scanning delivers crystal-clear images with smooth motion, even if there is rapid movement. The 3-chip sensor technology in the camera head ensures a particularly natural color rendition.

Combining this technology with the high-quality VITOM® system achieves a unique image quality that benefits all surgical disciplines.

For urologists, high-resolution video recording means more anatomically relevant details are captured. Tissue structures are perfectly visualized.

HD imaging also provides an unmatched sense of depth to improve anatomical orientation. Overall, urologists see more and better.

4. Illumination

The integrated illumination feature of the VITOM® system provides ideal illumination of the operative field. Flexible alignment possibilities allow smooth illumination of the surgical site so that no details are lost in the shadows.
Documentation

The use of VITOM® enables a surgeon to acquire FULL HD images and video sequences. The KARL STORZ AIDA® documentation system combines all the required functions for integrated and precise documentation during surgery in a single system:

- AIDA™ records still images and video sequences in HD quality via touch screen, voice control, footswitch or camera head buttons.
- Before archiving, the saved data can be viewed, selected and stored.
- Once a procedure is completed, AIDA™ automatically stores the data on CDs, DVDs, external devices or uploads it to a network.

Training and Education

VITOM® is extremely useful for training and educational purposes. The system offers trainees and visitors inside and outside the operating room an unrestricted and magnified view of the surgical site in HD quality.

Ergonomics

VITOM® is an extracorporeal optical system that is positioned at 25 to 75 cm above the surgical site, giving the surgeon plenty of working space. The VITOM® telescope is thereby held by a mechanical holding device.

Due to the slim and compact design of VITOM®, the surgical field is not blocked and even long instruments can be used with ease.

Open procedure

Open procedure using VITOM®
VITOM®
System Overview

- exoscope
- camera system, monitor and illumination
- holding systems
- documentation system
- unit and transport cart
Specifications

Object field approx. 15 cm with H3-Z camera zoom 1x
Object field approx. 10.5 cm with H3-Z camera zoom 2x

Working Distance 75 cm

Depth of field approx. 10 cm

Reproduction scale with
26" Monitor:
H3-Z camera zoom 1x: approx. 8x
H3-Z camera zoom 2x: approx. 16x
42" Monitor:
H3-Z camera zoom 1x: approx. 14x
H3-Z camera zoom 2x: approx. 28x
52" Monitor:
H3-Z camera zoom 1x: approx. 17x
H3-Z camera zoom 2x: approx. 34x
Specifications

VITOM® – great depth of field

Entire object field in focus

visualization system with shallow depth of field

not in focus

in focus

not in focus

depth of field

not in focus

in focus

not in focus
VITOM®

System Components

Exoscope and Illumination, length 11 cm – VITOM® telescope of the 2nd generation:

27015 VAA

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 condensor lenses, color code: green

Note: The scope used in this set is assigned the order no. 20916025 AA.

Recommended fiber optic light cables: 495 TIP or 495 NVC

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
Exoscope and Illumination, length 11 cm – VITOM® telescope of the 2nd generation:

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 condensor lenses, color code: blue

Note: The scope used in this set is assigned the order no. 20916025 DA.

Recommended fiber optic light cable: 495 TIP

Fiber Optic Light Cable, with straight connector, extremely heat-resistant, enhanced light transmission, diameter 4.8 mm, length 300 cm

VITOM® 25 Distance Rod, length 25 cm

Wire Tray for Cleaning, Sterilization and Storage
of two rigid endoscopes and one light guide 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
Light Source

**201331 01-1** Cold Light Fountain XENON 300 SCB, with KARL STORZ-SCB, with integrated anti-fog pump, 300 Watt Xenon bulb and KARL STORZ light connection, power supply 100-125/220-240 VAC, 50/60 Hz

including:

**Mains Cord**

**SCB Connecting Cable**, length 100 cm

---

Camera System and Monitor

**TH 100** IMAGE1 S H3-Z Three-Chip FULL HD Camera Head, progressive scan, soakable, gas- and plasma-sterilizable, with integrated Parfocal Zoom Lens, focal length \( f = 15-31 \text{ mm (2x)} \), 2 freely programmable camera head buttons, for use with IMAGE1 S and IMAGE 1 HUB™ HD/IMAGE1 HD

**TH 104** IMAGE1 S H3-ZA Three-Chip FULL HD Camera Head, autoclavable, progressive scan, soakable, gas- and plasma-sterilizable, with integrated Parfocal Zoom Lens, focal length \( f = 15-31 \text{ mm (2x)} \), 2 freely programmable camera head buttons, for use with IMAGE1 S and IMAGE 1 HUB™ HD/IMAGE1 HD

**533 TVB** Adaptor, with ergonomic swivel, autoclavable, permits telescope changing under sterile conditions

**040112-40** Camera Cover, folded inside out, 13 x 242 cm, sterile, for single use, package of 40, for use with all standard endoscopic video camera systems

**040112-160** Camera Cover, folded inside out, 13 x 242 cm, sterile, for single use, package of 160, for use with all standard endoscopic video camera systems
Camera System and Monitor

TC 200EN*  IMAGE1 S CONNECT, connect module, for use with up to 3 link modules, resolution 1920 x 1080 pixels, with integrated KARL STORZ-SCB and digital Image Processing Module, power supply 100-120 VAC/200-240 VAC, 50/60 Hz including:
Mains Cord, length 300 cm
DVI-D Connecting Cable, length 300 cm
SCB Connecting Cable, length 100 cm
USB Flash Drive, 32 GB
USB Silicone Keyboard, with touchpad, US

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 200EN including:
Mains Cord, length 300 cm
Link Cable, length 20 cm

9826 NB   26" FULL HD Monitor, color systems PAL/NTSC, max. screen resolution 1920 x 1080, image format 16:9, video inputs: 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

9826 SF   Monitor Stand, suitable for 26" and other monitors, basic monitor stand, tiltable, rotation +/-30, disinfectable, color white, e.g. for use with 26" FULL HD Monitor 9826 NB or 26" 3D Monitor 9826 NB-3D

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

Mechanical Holding System

28272 HC  **Articulated Stand**, L-shaped, long, reinforced version, only, 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)

28272 HD  **Articulated Stand**, reinforced version, U-shaped, with one mechanical central clamp for all five joint functions, 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

28172 HM  **Extension Rod**, 50 cm, with lateral clamp for height adjustment of the articulated stand, for use with Articulated Stands 28272 HA/HB/HC and Sockets 28172 HK/HR

28272 UGN  **Clamping Jaw**, metal, clamping range 16.5 up to 23 mm, with fastener: KSLock (male), for use with all square headed KARL STORZ HOPKINS® telescopes

Alternative to 28272 UGN:

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 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.
VERSACRANE™ Holding System

28272 GS  VERSACRANE™ Holding Arm, low, for use in the lithotomy position, spring-supported, with quick release coupling KSLOCK, for use with Mobile Stand 28272 GM and KARL STORZ clamping jaws. The VERSACRANE™ holding arm is intended for use with VITOM® scopes/exoscopes.

28272 GM  Mobile Stand, for use with VERSACRANE™ Holding Arm 28272 GS

28272 UGN  Clamping Jaw, metal, clamping range 16.5 up to 23 mm, with quick release coupling KSLOCK (male), for use with all square-headed KARL STORZ 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. For use with Clamping Jaw 28272 UGN/UGK and POINT SETTER® universal adaptor 10-15 mm.

Note: For a fully functional system, an order must be placed for all four components. Should the need arise, a sterile drape may be used for the VERSACRANE™ holding arm.

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

041150-80*  Same, package of 80
ENOCRANE® Piezoelectric Holding System

28272 EHM

ENOCRANE®, piezoregulated holding arm, including stand including:
Socket, to clamp to the OR table
Control Unit
Cover*, elasticated, sterile, package of 20
Spring Balance
Mains Cord
Case

28272 UGN

Clamping Jaw, metal, clamping range 16.5 up to 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. For use with Clamping Jaw 28272 UGN, 28272 UGK and POINT SETTER® universal adaptor 10-15 mm.

041150-20*

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

041150-80*

Same, package of 80

*
POINT SETTER® – Pneumatic Holding System

28172 WKS  POINT SETTER®, pneumatic holding arm, set including:
POINT SETTER® Arm
OR Table Adaptor
KSLOCK Adaptor, for KARL STORZ clamping jaws
KARL STORZ Clamping Jaw, large
KARL STORZ Clamping Jaw, small
KARL STORZ Clamping Jaw, for fiberscopes
Pressure Regulator, 7 bar
Cover, elasticated, 42 x 164 cm, package of 20

Note: Compressed air tubing is required to operate the POINT SETTER® arm. Please select the appropriate tubing and add it to your order.

Pressure hoses and accessories for the POINT SETTER®:
28172 WA  Connecting Tube, for POINT SETTER®, Dräger, max. pressure 8 bar/115 psi, length 600 cm
28172 WB  Connecting Tube, for POINT SETTER®, Dräger air motor, max. pressure 8 bar/115 psi, length 600 cm
28172 WC  Connecting Tube, for POINT SETTER®, compressor, max. pressure 8 bar/115 psi, length 600 cm
28172 WN  Connecting Tube, for POINT SETTER®, Schrader, max. pressure 8 bar/115 psi, length 600 cm
28172 WO  Connecting Tube, for POINT SETTER®, with open end, max. pressure 8 bar/115 psi, length 600 cm
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, 28272 UGK and POINT SETTER® universal adaptor 10-15 mm.
041150-20*  Cover, elasticated, 42 x 164 cm, for single use, sterile, for use with KARL STORZ holding systems, package of 20
041150-80*  Same, package of 80
Documentation System

**WD200-EN**  
**AIDA™**, Documentation System, for recording still images and videos, dual channel up to FULL HD, 2D/3D, power supply 100-240 VAC, 50/60 Hz

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

**20090519**  
**19" Touch Screen**, 24V, wall mounting, RS 232, VGA, resolution max. 1280 x 1024 (SXGA mode), including RS 232 cable, SVGA cable, mains cord and external power supply, power supply 100-240 VAC, 50/60 Hz

**UG 510**  
**Monitor Holding Arm**, height and side adjustable, tilting, can be mounted either on the left or on the right side, swivel range up to 320°, reach 530 mm, loading capacity max. 15 kg, with monitor holder VESA 75/100, for Equipment Carts 29005 xx

**041265-20**  
**Sterile Cover**, for 19" KARL STORZ touch screens
Equipment and Transport Carts

**UG 220**  
*Equipment Cart,*  
wide, high, rides on 4 antistatic dual wheels equipped with locking brakes, mains switch on cover, central beam with integrated electrical subdistributors with 12 sockets, grounding plugs,  
Dimensions in mm (w x h x d):  
Equipment Cart: 830 x 1474 x 730,  
Shelf: 630 x 25 x 510,  
Caster diameter: 50 mm

**UG 500**  
*Monitor Holder,* height adjustable, swiveling and tilting, central mount, swivel range approx. 360°, loading capacity max. 18 kg, with monitor mount VESA 75/100, for use with Equipment Carts UGxx

**UG 310**  
*Isolation Transformer,* 200-240 V, 2000 VA, with 3 special mains socket, automatic cutout, 3 grounding plugs,  
Dimensions in mm (w x h x d): 330 x 90 x 495, for use with Equipment Carts UGxx

**UG 410**  
*Earth Leakage Monitor,* 200-240 V, for mounting to equipment carts, control panel dimensions: 44 x 80 x 29 mm (w x h x d), for use with Isolation Transformer UG 310

**20020083**  
*STOR-E® Transport Cart,* for the POINT SETTER® holding arm  
including:  
Subrack, for POINT SETTER®  
Accessory Set, for POINT SETTER®  
Top Cover  
Wire Basket
It is recommended to check the suitability of the product for the intended procedure prior to use.