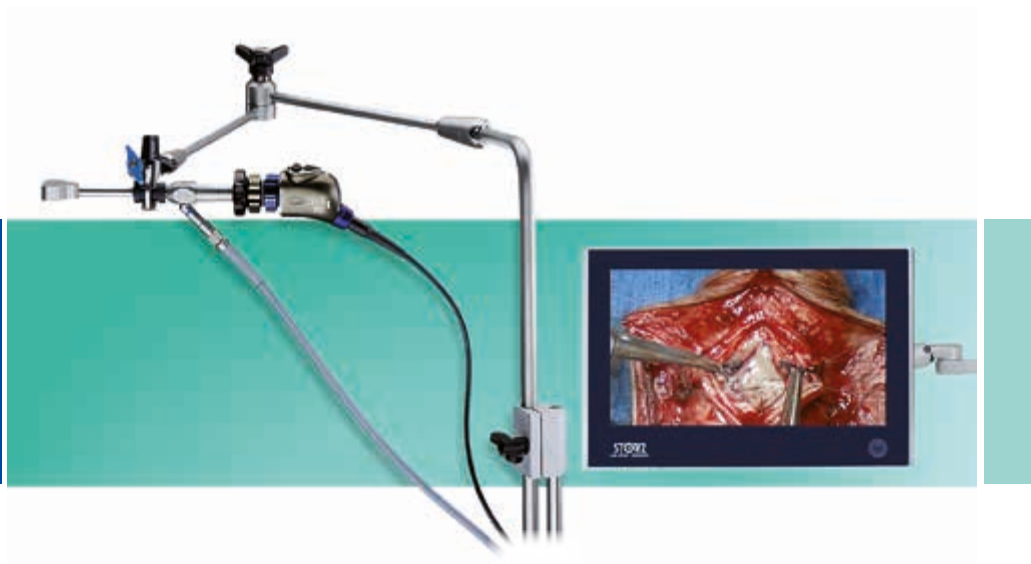




VITOM®

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

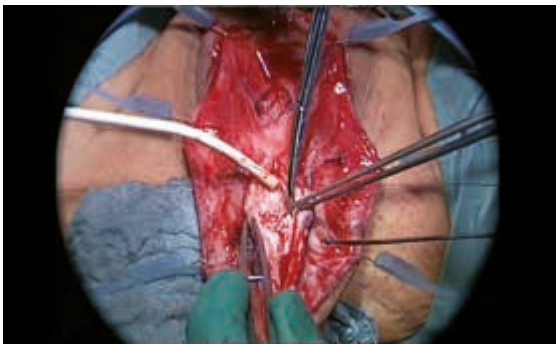
Make training courses more efficient by sharing your view of the OR field. Observers can view proceedings from outside the sterile area – whether in the OR, a conference room or on the other side of the globe – without missing a single step of the surgery.



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



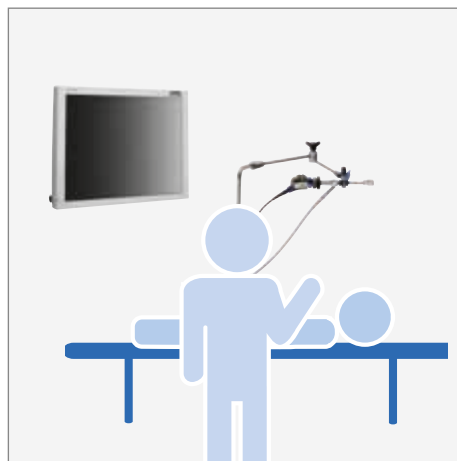
For further information,
please scan the code



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

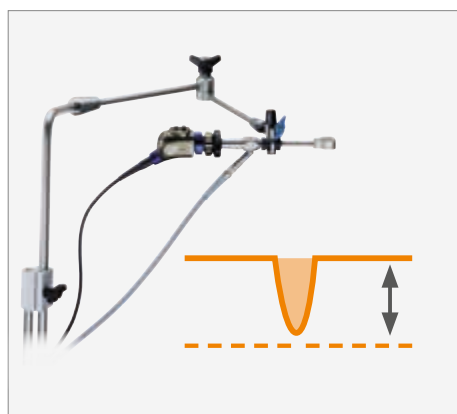
Visualization

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 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 HD camera system and a large HD monitor.

3. Image Quality

The IMAGE1 SPIES™ 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.

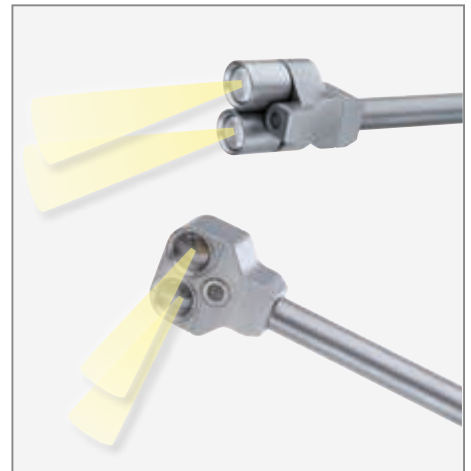
Combining this technology with the high-quality VITOM® system achieves a unique image quality that benefits all surgical disciplines.

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

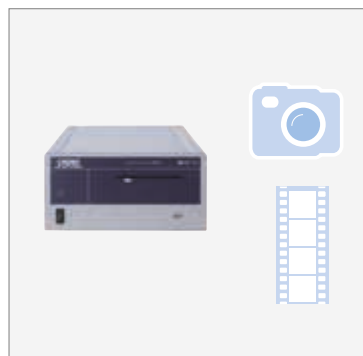
The integrated illumination feature of the VITOM® system provides ideal illumination of the operative field. Flexible alignment possibilities allow smooth illumination of the surgical site so that no details are lost in the shadows.



Documentation

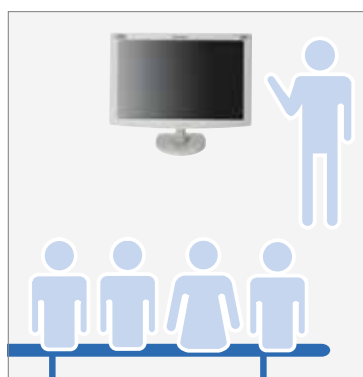
The use of VITOM® enables a surgeon to acquire FULL HD images and video sequences. The KARL STORZ AIDA® documentation system combines all the required functions for integrated and precise documentation during surgery in a single system:

- 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

The diagram shows a surgical camera system with a yellow cone of vision. A vertical double-headed arrow on the left indicates a 'Working Distance' of 25 cm. A horizontal double-headed arrow at the base of the cone indicates an 'Object field' of approximately 5 cm. A vertical double-headed arrow within the cone indicates a 'Depth of field' of approximately 3.5 cm. The camera is mounted on a stand with various adjustment knobs and cables.

Object field approx. 5 cm
with H3-Z camera zoom 1x

Object field approx. 3.5 cm
with H3-Z camera zoom 2x

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

The diagram shows the same surgical camera system but with a larger yellow cone of vision. A vertical double-headed arrow on the left indicates a 'Working Distance' of 75 cm. A horizontal double-headed arrow at the base of the cone indicates an 'Object field' of approximately 15 cm. A vertical double-headed arrow within the cone indicates a 'Depth of field' of approximately 10 cm.

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

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

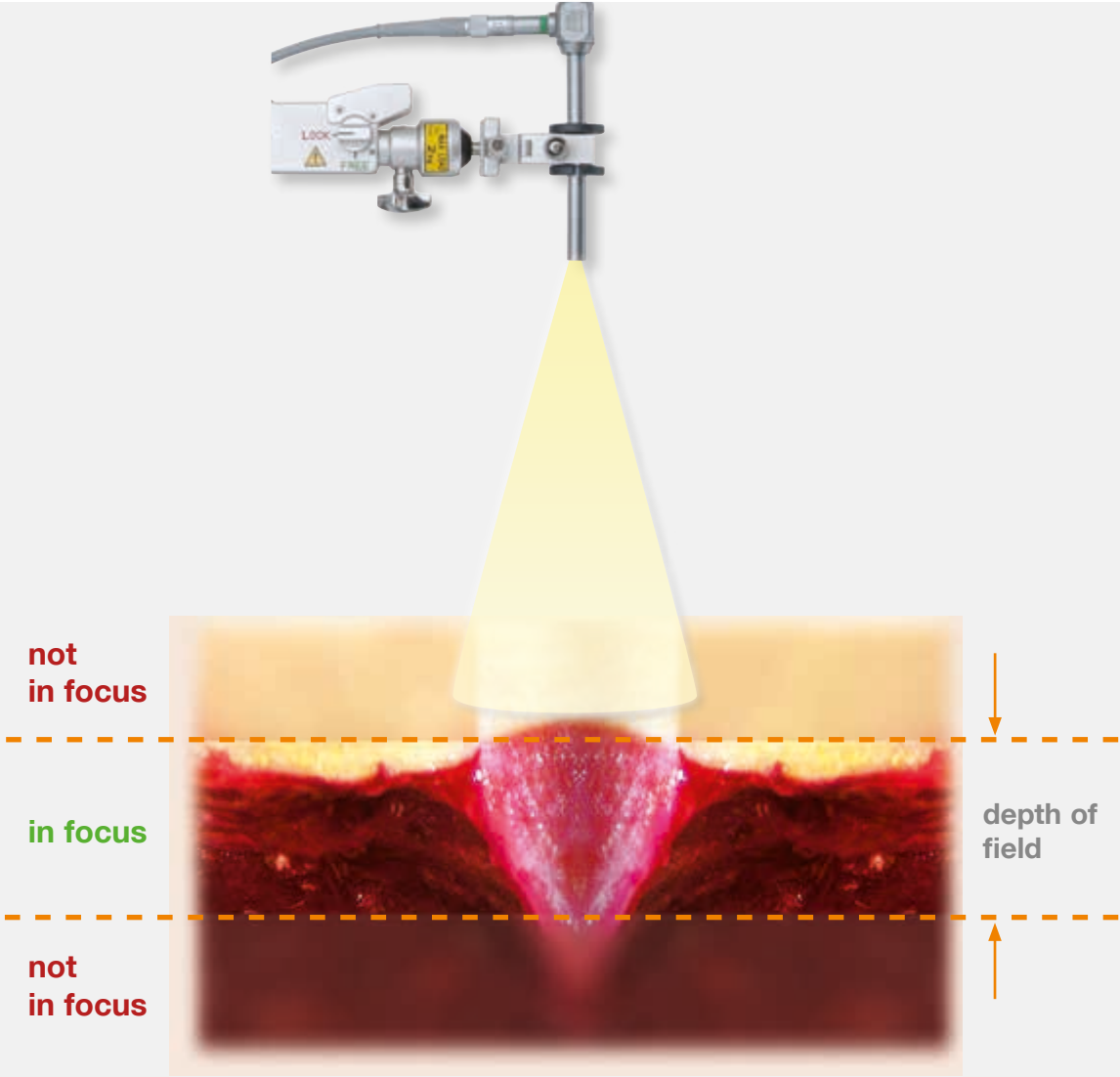
Reproduction scale with

26" Monitor:
H3-Z camera zoom 1x: approx. 3x
H3-Z camera zoom 2x: approx. 6x

42" Monitor:
H3-Z camera zoom 1x: approx. 5x
H3-Z camera zoom 2x: approx. 10.5x

52" Monitor:
H3-Z camera zoom 1x: approx. 6x
H3-Z camera zoom 2x: approx. 12x

Specifications



The diagram illustrates the VITOM system's depth of field. A surgical instrument is shown at the top, emitting a yellow cone of light. Below, a cross-section of tissue is shown with a central illuminated area. Two horizontal dashed orange lines define the 'depth of field'. The area between these lines is labeled 'in focus' in green. The areas above and below these lines are labeled 'not in focus' in red. An arrow on the right points to the dashed lines and is labeled 'depth of field'.

not in focus

in focus

depth of field

not in focus

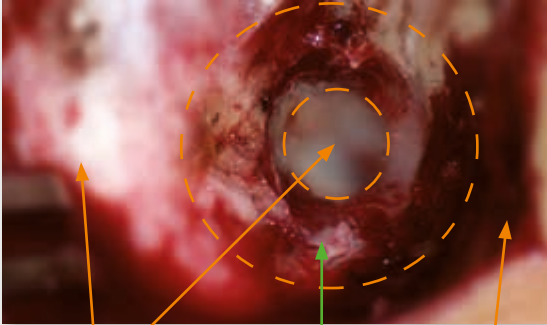
VITOM® – great depth of field



A photograph showing a surgical site with a large, circular, well-defined structure in the center. The entire field of view is sharp and clear.

Entire object field in focus

visualization system with shallow depth of field



A photograph showing a surgical site with a central structure. A dashed orange circle highlights the central area, which is labeled 'in focus' in green. The areas outside this circle are labeled 'not in focus' in red. Arrows point from the text labels to the corresponding areas in the image.

not in focus

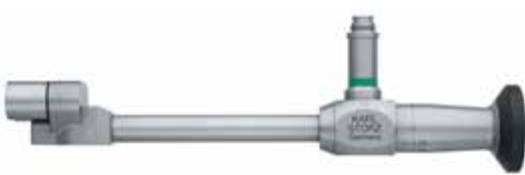
in focus

not in focus

VITOM®

System Components

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



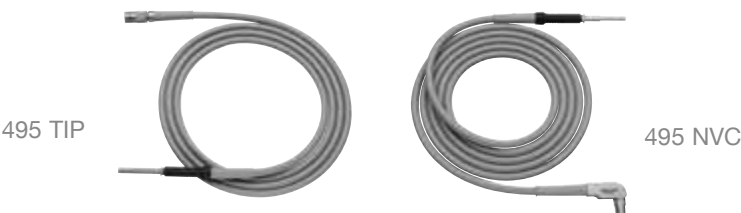


27015 VAA

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:



27015 VDA

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

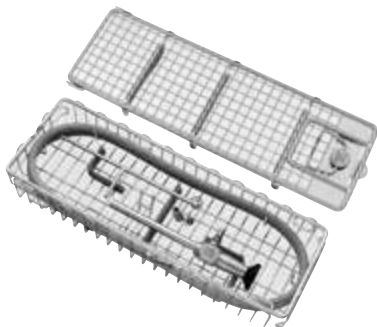
495 TIP

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



20918020

VITOM® 25 Distance Rod, length 25 cm



39501 A2

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



20 1331 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 H3-Z SPIES™ Three-Chip FULL HD Camera Head, progressive scan, soakable, gas- and plasma-sterilizable, with integrated Parfocal Zoom Lens, focal length $f = 15\text{-}31\text{ mm}$ (2x), 2 freely programmable camera head buttons, for use with IMAGE1 SPIES™ and IMAGE 1 HUB™ HD/IMAGE1 HD



TH 104

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

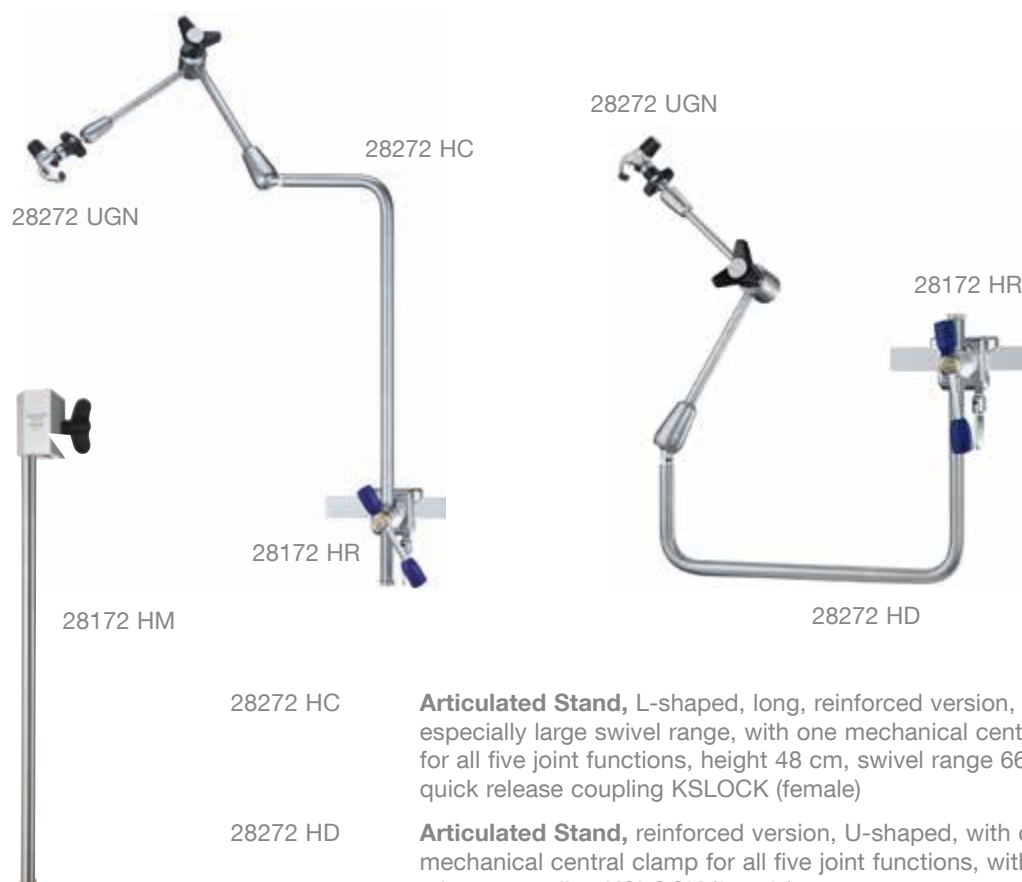
9826 SF

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

*



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E-Mail: info@mtp-tut.com, www.mtp-tut.com

ENDOCRANE® Piezoelectric Holding System



28272 EHM

ENDOCRANE®, 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

*



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 78579 Neuhausen ob Eck/Germany, Tel.: +49 (0)7467 94504-0, Fax: +49 (0)7467 94504-99,
 E-Mail: info@mtp-tut.com, www.mtp-tut.com

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

*



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78579 Neuhausen ob Eck/Germany, Tel.: +49 (0)7467 94504-0, Fax: +49 (0)7467 94504-99,
E-Mail: info@mtp-tut.com, www.mtp-tut.com

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 530mm, 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



Example

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 UGxxx

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



20 0200 83

STOR-E® Transport Cart, for the POINT SETTER® holding arm including:
Subrack, for POINT SETTER®
Accessory Set, for POINT SETTER®
Top Cover
Wire Basket

Notes

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



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