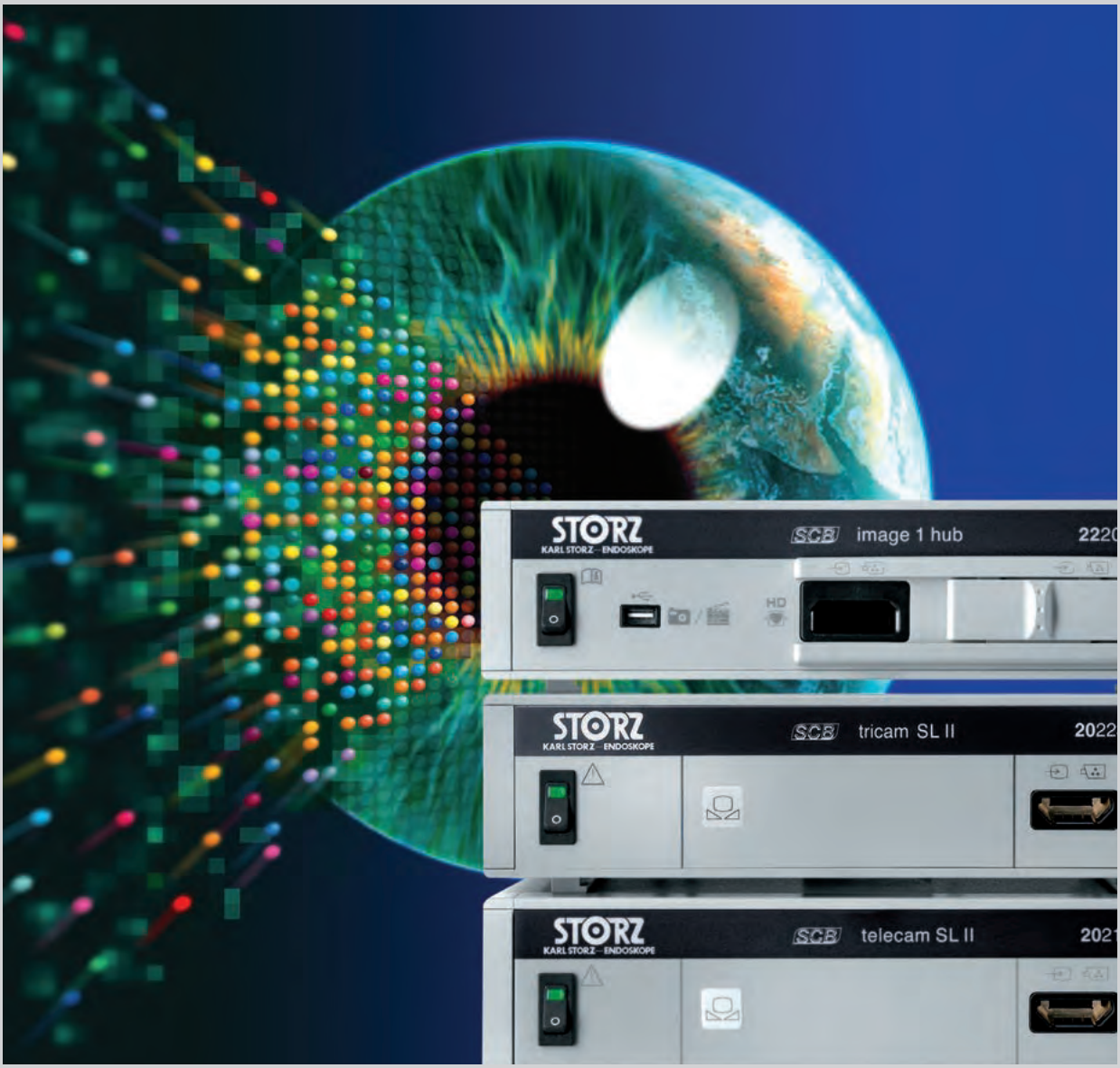
STORZ

THE WORLD OF ENDOSCOPY



TELEPRESENCE

IMAGING SYSTEMS – ILLUMINATION

10th EDITION 2/2012 US

Important information for U.S. customers

Note:
Certain devices and references made herein to specific indications of use may have not received clearance or approval by the United States Food and Drug Administration. Practitioners in the United States should first consult with their local KARL STORZ representative in order to ascertain product availability and specific labeling claims. Federal (USA) law restricts certain devices referenced herein to sale, distribution, and use by, or on the order of a physician, dentist, veterinarian, or other practitioner licensed by the law of the State in which she/he practices to use or order the use of the device.

8-12

KARL STORZ Endoscopy-America, Inc.
TERMS AND CONDITIONS

The following terms and conditions ("Terms") apply to the acquisition of KARL STORZ products.

1. ORDERS. Orders are to be placed with the Customer Support Department or sales force of KARL STORZ Endoscopy-America, Inc. ("KARL STORZ"); however, orders will only be accepted by KARL STORZ's Customer Support Department located in California or Massachusetts. In the event of any conflicting, inconsistent and/or additional provisions in a customer purchase order or other document, these Terms will supersede and prevail and such conflicting, inconsistent and/or additional provisions shall be of no force or effect; KARL STORZ hereby objects to such other provisions or terms proposed by customer. By accepting delivery of products from, and/or the performance of services by KARL STORZ and/or by paying for same, customer accepts and agrees to these Terms, all of which constitute the sole and entire agreement between KARL STORZ and customer.

2. PRICES. Prices are subject to change without notice. Nevertheless, prices in effect at the time that an order is accepted will prevail; provided, however, that quotations, including pricing therein, are valid until the expiration date reflected on the quotation. All applicable taxes, shipping and/or handling charges, will be added to the invoice. If customer is tax exempt, customer shall provide a tax exemption certificate for the "sold to" entity at the time of issuance of the purchase order under these Terms.

3. SHIPPING. Shipments are F.O.B. shipping point, shipping and handling prepaid by KARL STORZ and added to the invoice. However, KARL STORZ will utilize customer-designated third party freight programs for shipment and payment when requested by customer. In such case, customer is solely responsible for all third party freight charges, KARL STORZ handling charges and any loss or damage to products during shipment. If use of a customer-designated third party freight program is not requested by customer, and any loss or damage to products occurs during shipment, KARL STORZ will replace such products at no additional cost. All shipments should be carefully examined upon receipt and, if a product is damaged, customer must promptly notify KARL STORZ of the nature and extent of the damage and return such product to KARL STORZ in accordance with the "Return Policy" below. If shipments are received short, customer must promptly contact KARL STORZ's Customer Support Department. KARL STORZ may make partial shipments on any order with customer's authorization.

4. PAYMENT. Invoices are due and payable upon receipt, net 30 days from date of invoice, which shall not be earlier than the date of shipment. Invoices will be issued on authorized partial shipments and are payable as set forth in this section. A finance charge equal to 1-1/2% per month or the maximum amount allowed by law, whichever is less, may be assessed on all balances outstanding for more than 30 days. Any and all collection expenses, including reasonable attorneys' fees, incurred by KARL STORZ to secure payment of any sums due from customer and/or to effectuate repossession of products purchased from KARL STORZ but not paid for will be borne by customer. Amounts payable to KARL STORZ for the purchase, lease or rental of products and/or the provision of services are not subject to withholding, set-off or counter-claim under any circumstances without the prior written consent of KARL STORZ.

5. SECURITY INTEREST. Until customer has paid KARL STORZ in full for all products purchased pursuant to an order, KARL STORZ shall have, and customer hereby grants to KARL STORZ, a security interest in all products purchased pursuant to such order to secure payment of the entire purchase price for all products sold, shipped and delivered to customer pursuant to such order and all costs, expenses or other charges relating thereto which are payable by customer to KARL STORZ.

6. RETURN MERCHANDISE AUTHORIZATION PROCESS. A return merchandise authorization ("RMA") must be obtained from KARL STORZ's Customer Support Department prior to sending any products to KARL STORZ for any reason. When contacting KARL STORZ for an RMA, the Customer Support Representative must be provided with: (a) the applicable P.O. number; (b) the KARL STORZ catalog number and, if applicable, the serial number for each product; and (c) the reason for the return. KARL STORZ will not be responsible for products returned without an RMA. Returns must be carefully packed and shipped pre-paid to KARL STORZ, Attn: RMA number. KARL STORZ's Customer Support Department will provide the return address and the RMA number. In order to prevent the transmission of disease to the medical facilities' and/or KARL STORZ's personnel, all opened products must be cleaned and then sterilized and/or disinfected before sending to KARL STORZ, which reserves the right to return unclean and contaminated products to customer. Additionally, if any product becomes damaged and is not immediately returned for repair or exchange, KARL STORZ assumes no responsibility or liability for customer's continued use of that damaged product. KARL STORZ does not guarantee the performance of, and may decline to repair or accept for repair/exchange, any product that has been repaired, modified and/or altered by any person or entity other than KARL STORZ or a KARL STORZ authorized repair facility.

7. RETURN POLICY. Full credit will only be issued for products that are received by KARL STORZ within 120 days of date of shipment ("Ship Date") so long as such items are unused and in resalable condition. If products are received by KARL STORZ more than 120 days after the Ship Date, KARL STORZ may, in its sole and absolute discretion, either refuse acceptance of the returned products or require payment of an inspection fee of up to 25% of the invoiced price of the product, which will require a separate P.O. number. Shipping charges will be reimbursed, inspection fees will not be charged and full credit will be given if the return was due to a shipping error on the part of KARL STORZ. Customer must follow the RMA procedure set forth in the "Return Merchandise Authorization Process" above to return products for credit. The following products may not be returned for credit or exchange: (a) products held longer than 120 days from Ship Date (except as provided above); (b) sterile packaged products where the package is opened and/or damaged; (c) products identified and purchased as discontinued products; (d) instruments that are etched or engraved by customer; (e) products damaged by customer; and (f) used products.

8. WARRANTY POLICY. This section ("Warranty Policy") applies to all warranty repairs and exchanges. All products are warranted to be in good working order and free from defects in workmanship and materials on the date of shipment and continuing for a period of one (1) year thereafter, unless otherwise specified in a quotation or product specific literature. All repairs made under this Warranty Policy shall be free from defects in materials and workmanship for the remainder of the original warranty period (if any) or 90 days, whichever is longer. To submit a warranty claim, customer must follow the RMA procedure set forth in the "Return Merchandise Authorization Process" above. Customer must return the defective product within 30 days of issuance of the RMA.

For all warranty claims submitted within the first 30 days of the applicable warranty period ("Advance Replacement Period"), a replacement product will be provided to the customer prior to receipt of the product subject to such warranty claim. KARL STORZ will notify customer if the warranty claim is not valid. In such event, customer must submit a purchase order for the replacement product including any shipping and handling costs. Some limited product categories may qualify for a longer Advance Replacement Period to be confirmed by KARL STORZ's Customer Support Department at the time of issuance of the RMA. For all warranty claims submitted after the Advance Replacement Period, KARL STORZ shall evaluate the warranty claim following receipt of the product from customer and, if valid, shall at its sole discretion either repair or replace the product at no charge to the customer. KARL STORZ will notify customer if such warranty claim is not valid and provide an estimate of the repair cost. In such event, customer must submit a purchase order for the repair.

Damage which might arise or be caused, whether by customer or by any of the users of the products provided by KARL STORZ, as a result of, in connection with, or otherwise attributable to the following is excluded from all product and service warranty coverage: (a) misuse, abuse, mishandling and/or improper operation and/or storage; (b) repairs, servicing, modifications and/or alterations performed by any person or entity other than KARL STORZ or an authorized repair facility of KARL STORZ; (c) use in combination with adaptors, accessories and/or equipment from other manufacturers unless authorized or recommended by KARL STORZ; (d) use in any manner other than those for which such products are designed and are otherwise intended to be used; or (e) a failure to comply with power and grounding specifications provided by KARL STORZ. **THE WARRANTIES SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED AND/OR STATUTORY, INCLUDING, BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS AND/OR OF SUITABILITY FOR A PARTICULAR PURPOSE, WITH RESPECT TO ALL KARL STORZ PRODUCTS AND/OR SERVICES. ANY AND ALL OTHER WARRANTIES, REPRESENTATIONS AND/OR GUARANTEES, OF ANY TYPE, NATURE OR EXTENT, BE IT IMPLIED, EXPRESS AND/OR WHETHER ARISING UNDER OR AS A RESULT OF ANY STATUTE, LAW, COMMERCIAL USAGE, CUSTOM, TRADE OR OTHERWISE, ARE HEREBY EXPRESSLY EXCLUDED AND DISCLAIMED.** Any contrary course of performance by and between the parties will not modify any representations and/or warranties set forth herein. KARL STORZ neither assumes nor authorizes any person to assume for it any other liabilities in conjunction with and/or related to the sale and/or use of KARL STORZ products or provision of services. To ensure proper use, handling and care of KARL STORZ products, customer should consult the product-specific literature, instruction manual and/or labeling included with the product or otherwise available. Repair, modification or alteration of KARL STORZ products performed by any person or entity other than by KARL STORZ or an authorized repair facility of KARL STORZ nullifies and otherwise voids all applicable KARL STORZ warranties. Repair or replacement of a KARL STORZ product shall not extend the term of any applicable warranty. The remedies provided herein are customer's exclusive remedies under this Warranty Policy.

9. REPAIR PROGRAM. This section ("Repair Program") applies to all repairs and exchanges not covered under the Warranty Policy. If such repairs or exchanges become necessary, customer must follow the RMA procedure set forth in the "Return Merchandise Authorization Process" above. All repairs and exchanges shall be subject to KARL STORZ's applicable standard repair or exchange charges. Customer will be advised of the estimated cost of the repair work or a product exchange before it is undertaken. All repairs under this Repair Program carry a 90 day warranty. Any exchange product provided under this Repair Program carries the applicable KARL STORZ new product warranty. If an exchange product is provided and the damaged product is not returned within 30 days of receipt of the exchange product, Customer will be invoiced for the applicable contracted price or the full list price of the exchange product. Subject to the availability of product, KARL STORZ may, provide customer with loaner product while repairs are being made.

10. SOFTWARE OWNERSHIP AND LICENSING. Subject to annual license fees, as applicable, set forth in the applicable quotation, KARL STORZ grants to customer a non-exclusive, limited, non-transferable (except in connection with a transfer of a product), non-sublicensable and irrevocable (except as provided herein) license ("License") to use software (including, but not limited to, programmed logic, computer programs and/or operating information) programmed into and/or embedded in products provided by KARL STORZ or separately provided by KARL STORZ. Such licensed software may be developed by or on behalf of (a) KARL STORZ ("KARL STORZ Software") and/or (b) third party developers (all of whom are considered third party beneficiaries of this section) ("Third Party Software") ("KARL STORZ Software" and "Third Party Software" are referred to collectively as "Software"). The Software is licensed only in the form in which delivered to customer and only for use in accordance with KARL STORZ's written instructions for the Software or the product in which the Software is embedded or to which the Software relates and may be subject to annual license fees as set forth in the applicable quotation. The Software, and all modifications, updates, enhancements and upgrades provided by KARL STORZ, will, at all times, remain the property of KARL STORZ or the applicable third party developer. Customer may not (a) duplicate, copy, reverse-engineer, create, re-create, de-compile or disassemble the Software (or the source code of the Software), (b) create derivatives of the Software, or (c) unless authorized by KARL STORZ in advance, modify or customize the Software. Any and all duplicates, copies and derivatives of the Software, and any and all unauthorized modifications to, or customizations of, the Software will immediately become the sole property of KARL STORZ. Customer acknowledges and agrees that (a) neither the licensing of Software to customer, nor the purchase, lease or other acquisition of products by customer constitutes a transfer of the Software, (b) the Software is the property of KARL STORZ or the applicable third party developer, (c) customer neither owns nor acquires any interest in any copyright, patent or other intellectual property right in or to the Software as a result of the License granted herein or the purchase, lease or other acquisition of any product, and (d) KARL STORZ, or the applicable third party developer, retains and owns all right, title, and interest in and to the Software and the ownership rights therein, at all times, regardless of the form or media in or on which the original or any copy of the Software may exist. In the event of a failure of customer or its agents, employees or representatives to comply with any terms and conditions of the License granted herein, the License will, without any further action by KARL STORZ or any other party, immediately terminate.

11. SOFTWARE AND SECURITY SERVICES. Solely with respect to products for which customer has purchased software licenses and security services, KARL STORZ shall: (a) install security patches for such products connected to customer's network; (b) provide software updates to address bug fixes; (c) provide remote troubleshooting and related services; and (d) provide software upgrades including new features (excluding EHR implementation and interfacing, and hardware upgrades). KARL STORZ shall provide the foregoing services at times and frequency, and in the manner, determined solely by KARL STORZ based upon the critical or non-critical nature of such software patches, updates and upgrades. The services provided by KARL STORZ pursuant to this section do not apply to any related hardware issues, and do not carry a repair warranty or otherwise affect any warranty provided under these Terms. KARL STORZ does not warrant or represent that use of the software application will be uninterrupted or error-free.

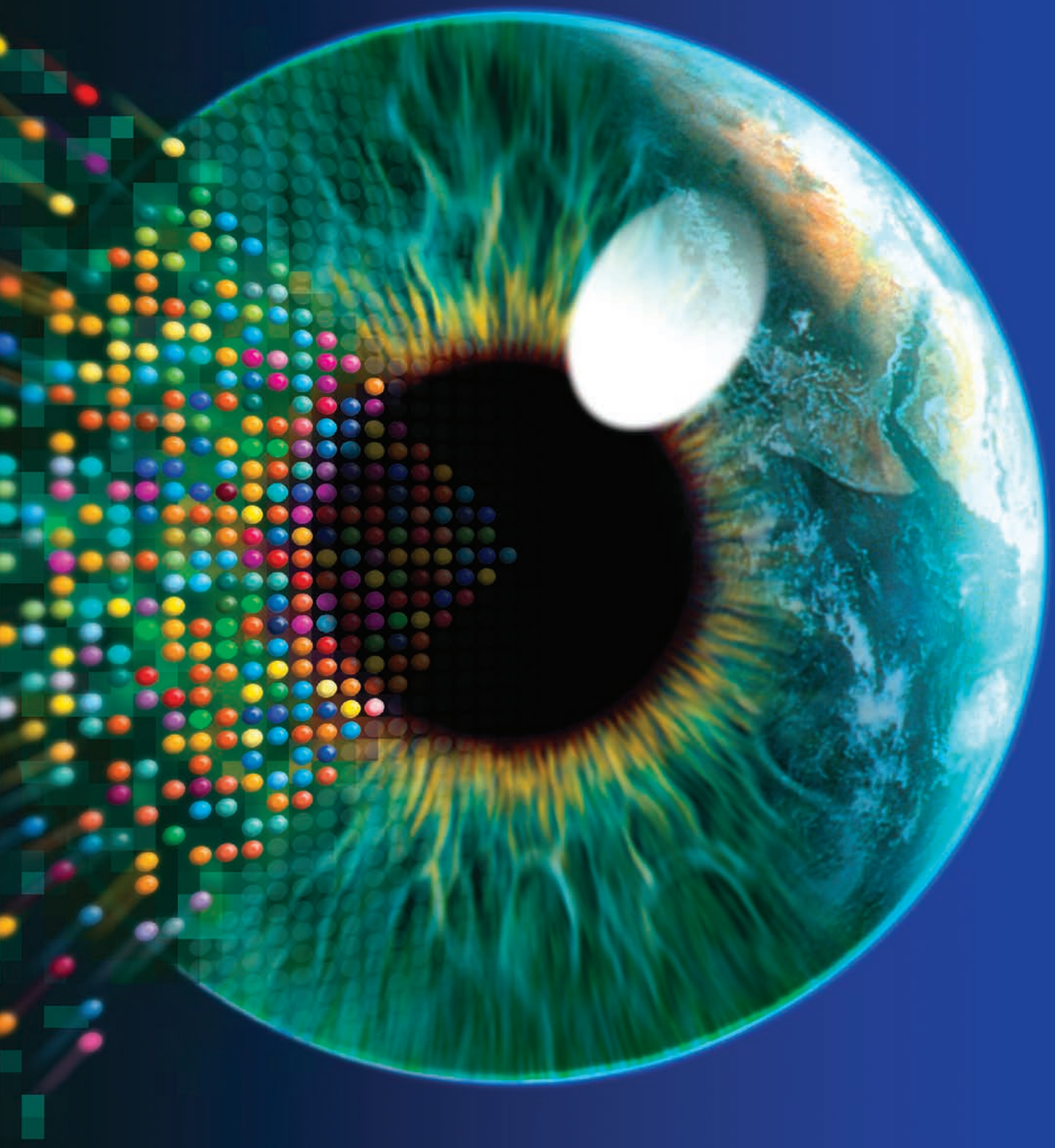
12. DISPUTES. All controversies, disputes and claims, shall be adjudicated by a court of competent jurisdiction within the County of Los Angeles, State of California or the United States District Court, Central District of California, which courts shall have exclusive jurisdiction over such matters. All transactions by and between customer and KARL STORZ shall be governed by and construed in accordance with the laws of the State of California without regard to its conflict of laws principles. The invalidity or unenforceability of any of the within Terms will not affect the validity or enforceability of any other or remaining term or condition hereof.

13. LIMITATION OF LIABILITY. KARL STORZ is not liable for any special, incidental, consequential, punitive, exemplary or indirect damages, from any cause whatsoever in connection with or arising from the purchase, sale, lease, rental, installation, performance or use of KARL STORZ products or services, even if KARL STORZ has been advised of the possibility of such damages. **SOME JURISDICTIONS DO NOT ALLOW EXCLUSIONS AND DISCLAIMERS OF CERTAIN WARRANTIES OR LIMITATIONS OF LIABILITY, SO THE LIMITATIONS AND/OR EXCLUSIONS SET FORTH IN THESE TERMS MAY NOT APPLY. IN THAT EVENT, KARL STORZ'S LIABILITY WILL BE LIMITED TO THE GREATEST EXTENT PERMITTED BY LAW IN THE SUBJECT JURISDICTION.**

14. COMPLIANCE WITH LAWS; DISCOUNT EXCEPTION AND SAFE HARBOR. Customer shall comply with all applicable laws and regulations, including but not limited to the federal health care program anti-kickback statute, 42 U.S.C. § 1320a-7b(b) ("AKS"). Customer acknowledges its obligations to fully and accurately report the discounts, rebates, credits, product replacements (including those related to a warranty, service, or otherwise) and/or other price reductions (collectively "Discounts"), if any, it receives from KARL STORZ, under all applicable laws and regulations, including but not limited to the AKS, the Discount Exception and the Discount Safe Harbor. Customer may be obligated to report and/or provide information concerning any such Discounts provided by KARL STORZ pursuant to 42 U.S.C. § 1320a-7b(b)(3)(A) (the "Discount Exception") and/or 42 C.F.R. § 1001.952(h) (the "Discount Safe Harbor"), other federal or state laws, or agreement with third party payers. Customer should retain documentation of Discounts and make such information available to federal or state health care programs, applicable federal and/or state agencies, and/or third party payors, upon request. KARL STORZ will provide to customer invoices related to purchases, and other reports/documentation as applicable, documenting any Discounts for such products and/or services. Customer is responsible for appropriate allocation and/or apportionment of any Discounts among products and/or services purchased. Customer acknowledges that this section has put customer on notice of its obligations under the AKS, Discount Exception and Discount Safe Harbor and all other applicable laws and regulations.

TELEPRESENCE

IMAGING SYSTEMS – ILLUMINATION



- **Camera Systems**
  - **IMAGE 1 HUB™ HD**
    Brillant Imaging in FULL HD
  - **TRICAM®**
  - NEW **TELE PACK X**
  - **TELECAM**
  - **Overview and Accessories**
  - NEW **C-HUB™ and C-CAM™**
- **HD Imaging with Operating Microscopes**
- **Monitors**
  - **KARL STORZ HD and HD WIDEVIEW™ Monitors**
  - **15" and 19" Touch Screens**
  - NEW **ZeroWire**
- **Light Sources**
  - **XENON and D-LIGHT Systems**
- **Components**
  Spare Parts

Table of Contents

TELEPRESENCE

KARL STORZ — ENDOSKOPE

TABLE OF CONTENTS	
Table of Contents	I-II
Index	III-VI
Numerical Index	V-VI
IMAGE 1 HUB™ HD – BRILLANT IMAGING IN FULL HD	
Brillant Imaging in FULL HD	TP 7
KARL STORZ FULL HD – Highest Standards for Image Input and Image Display	TP 8
IMAGE 1 HUB™ HD – FULL HD Camera Head, FULL HD Camera Control Unit, FULL HD Monitor	TP 9
IMAGE 1 HUB™ HD – FULL HD Camera Control Unit	TP 10-TP 12
IMAGE1 HD – FULL HD Camera Control Unit	TP 13-TP 14
IMAGE1 FULL HD Camera Heads – for Endoscopy	TP 15-TP 17
IMAGE1 FULL HD Camera Heads – for Microscopy	TP 18
IMAGE1 Camera Heads	TP 19-TP 20
IMAGE 1 HUB™ HD, IMAGE1 – Accessories	TP 21-TP 22
TRICAM® – THREE-CHIP CAMERA SYSTEM	
TRICAM® SL II – Three-Chip Camera System, Color Systems PAL/NTSC, Digital Imaging Processor	TP 24
TRICAM® SL II – Camera Control Unit SCB	TP 25
TRICAM® SL II – Camera Heads	TP 26
TRICAM® SL II – Optional Accessories	TP 27
TELE PACK X COMBISYSTEM AND TELECAM ONE-CHIP CAMERA SYSTEM	
TELE PACK X – Documentation Terminal, Compact, Mobile	TP 30
TELE PACK X – Sample Configuration	TP 31
TELE PACK X – Compatible Camera Heads and Video Endoscopes	TP 32
TELECAM	
TELECAM – One-Chip Camera System, Color Systems PAL/NTSC, Digital Imaging Processor	TP 34
TELECAM DX II – Camera Control Unit	TP 35
TELECAM DX II – Camera Heads	TP 36
TELE PACK X, TELECAM – Accessories	TP 37-TP 38
OVERVIEW AND ACCESSORIES	
Camera Heads, Camera Control Unit – Matrix	TP 40-TP 41
Video Endoscopes, Camera Control Unit – Matrix	TP 42-TP 43
Video and SCB Cables	TP 44
Adaptors for Camera Heads	TP 45
C-HUB™ AND C-CAM™	
C-HUB™ and C-CAM™	TP 48
C-MAC® Monitor System	TP 49
HD IMAGING WITH OPERATING MICROSCOPES	
HD Imaging with Operating Microscopes – Direct Adaptation	TP 53
HD Imaging with Operating Microscopes – System Overview	TP 54
HD Imaging with Operating Microscopes – System Components	TP 55-TP 57
VITOM® 25 – Visualization System for Open Surgery with Minimal Access	TP 59-TP 60
VITOM® 25 – System Overview	TP 61
VITOM® 25 – System Components	TP 62-TP 63, TP 65-TP 68
VITOM® 25 – Specifications	TP 64

Table of Contents

TELEPRESENCE

KARL STORZ — ENDOSKOPE

MONITORS	
KARL STORZ FULL HD Monitors	TP 71
KARL STORZ HD, HD WIDEVIEW™ and HD LED Backlight Monitors	TP 72-TP 75
ZeroWire – Wireless FULL HD Video Transmission System	TP 76-TP 77
LIGHT SOURCES	
Light Sources	TP 80
Cold Light Fountains XENON, D-LIGHT Systems	TP 81
Cold Light Fountains XENON, D-LIGHT Systems – Overview	TP 83
Cold Light Fountain XENON 100 SCB – with integrated insufflation pump	TP 84
Cold Light Fountain XENON NOVA® 175	TP 85
Cold Light Fountain XENON 175 SCB	TP 86
Cold Light Fountain XENON 300 SCB	TP 87
D-LIGHT C-System SCB	TP 88
D-LIGHT C/AF System SCB	TP 89
Cold Light Fountains XENON, D-LIGHT Systems – Spare Lamps and Spare Lamp Modules	TP 90
Fluid Light Cables – for Cold Light Fountains	TP 91
Fiber Optic Light Cables – for Cold Light Fountains	TP 92-TP 93
Adaptors – for Light Sources and Light Cables	TP 94
Adaptor Series – for HALOGEN and XENON Light Sources	TP 95
COMPONENTS, SPARE PARTS	TP 97-TP 106

8-12

Index

TELEPRESENCE

1

19" HD Monitor — TP 73, TP 75

2

26" HD Digital Monitor (High Bright with LED Backlight) — TP 73, TP 75, TP 103

26" HD Monitor (High Bright with LED Backlight) — TP 73, TP 75, TP 103

26" HD Monitor with LED Backlight — TP 73, TP 75, TP 103

A

Accessory Set — TP 102

Adaptor — TP 37, TP 45, TP 84, TP 94, TP 95

Adaptor ACC 1 — TP 22, TP 27, TP 37

Air Filter — TP 84

Articulated Stand — TP 67

B

BNC/BNC Video Cable — TP 44, TP 98, TP 99, TP 100, TP 101, TP 103

C

C-CAM™ Camera Head, 6-pin — TP 48

C-CAM™ Camera Head, 8-pin — TP 48

CCD Video Rhino-Laryngoscope — TP 32

C-HUB™ Camera Control Unit — TP 48, TP 101

Clamping Jaw — TP 66, TP 67

C-MOUNT Lens — TP 32, TP 37

Cold Light Fountain D-LIGHT C/AF SCB — TP 89, TP 106

Cold Light Fountain D-LIGHT C/US SCB — TP 88, TP 106

Cold Light Fountain XENON 100 SCB — TP 84, TP 105

Cold Light Fountain XENON 175 SCB — TP 86, TP 105

Cold Light Fountain XENON 300 SCB — TP 87, TP 105

Cold Light Fountain XENON NOVA® 175 — TP 85, TP 105

Connecting Cable — TP 44, TP 98, TP 99, TP 100, TP 101

Connecting Tube — TP 66

D

DCI® II One-Chip Camera Head — TP 32, TP 36

Drape — TP 65, TP 66

DV Connecting Cable — TP 100

DVI-D Connecting Cable — TP 44, TP 98, TP 99, TP 103

E

Extended VESA Holder — TP 77, TP 104

Extension Cable — TP 38

F

Fiber Optic Light Cable — TP 62, TP 92, TP 93

Fluid Light Cable — TP 91

I

IMAGE1 D1 One-Chip DCI® Camera Head — TP 20

IMAGE1 F3 Three-Chip ENT and Arthroscopy Camera Head — TP 19

IMAGE1 H3-FA Three-Chip FULL HD Camera Head — TP 17

IMAGE1 H3-M COVIEW® Three-Chip FULL HD Microscope Camera Head — TP 18, TP 55

IMAGE1 H3-P Three-Chip FULL HD Pendulum Camera Head — TP 16

IMAGE1 H3-ZA Three-Chip FULL HD Camera Head — TP 17

IMAGE1 H3-ZI Three-Chip FULL HD Inline Camera Head — TP 16

IMAGE1 H3-Z Three-Chip FULL HD Camera Head — TP 15

IMAGE1 HD Camera Control Unit SCB — TP 13, TP 99

IMAGE1 HD Camera Control Unit SCB, with ICM module — TP 13, TP 99

IMAGE1 HD Camera Head Cable — TP 21

IMAGE 1 HUB™ HD Camera Control Unit SCB — TP 11, TP 98

IMAGE 1 HUB™ HD Camera Control Unit SCB, with ICM module — TP 10, TP 98

IMAGE 1 HUB™ HD Camera Control Unit SCB, with SDI/ICM module — TP 10, TP 98

IMAGE 1 HUB™ HD Camera Control Unit SCB, with SDI module — TP 11, TP 99

IMAGE 1 HUB™ HD Extension Cable — TP 21

IMAGE1 P3 Three-Chip Pendulum Camera Head — TP 19

IMAGE1 SD Extension Cable — TP 21

IMAGE1 Video Endoscope Adaptor — TP 21

Instruction Manual — TP 104

Integral-Rotating Beamsplitter — TP 45

Iris — TP 57

Irrigation Adaptor — TP 105

Irrigation Bottle Holder — TP 105

K

KARL STORZ Special Beamsplitter — TP 45

KARL STORZ USB Flash Drive — TP 22, TP 38, TP 98, TP 99, TP 100

Keyboard — TP 21, TP 98, TP 99, TP 100

L

Light Adaptor — TP 92

M

Mains Cord — TP 98, TP 99, TP 100, TP 101, TP 103, TP 105, TP 106

Manual — TP 102

Monitor for CMOS Endoscopes — TP 49, TP 101

O

One-Pedal Footswitch — TP 22, TP 27, TP 37, TP 106

Optical Beamsplitter 50/50 — TP 57

P

Plastic Container for Sterilization and Storage — TP 22, TP 27, TP 38

POINT SETTER® — TP 65

POINT SETTER® KSLOCK Adaptor — TP 66

Index

TELEPRESENCE

P

Power Supply	TP 101, TP 103
Power Supply C-HUB™	TP 101

Q

QUINTUS® L 45 TV Adaptor	TP 57
QUINTUS® L 55 TV Adaptor	TP 57
QUINTUS® M 45 TV Adaptor	TP 57
QUINTUS® M 55 TV Adaptor	TP 57
QUINTUS® Z 45 TV Adaptor	TP 57
QUINTUS® Z 55 TV Adaptor	TP 57

R

Receiver	TP 104
Receptacle	TP 94
RGBS Connecting Cable	TP 44
Rotation Socket	TP 67

S

SCB Connecting Cable	TP 44, TP 98, TP 99, TP 100, TP 105, TP 106
Screw Base	TP 94
Silicone Keyboard	TP 38, TP 100
Silicone Tubing Set	TP 105
Spare Lamp	TP 37
Special RGBS Connecting Cable	TP 44, TP 100
Spring Balance	TP 66
STOR-E® Transport Cart	TP 68, TP 102
Subrack	TP 102
S-Video (Y/C) Connecting Cable	TP 44, TP 98, TP 99, TP 100, TP 101
S-Video (Y/C) Extension Cable	TP 44

T

TELECAM C-MOUNT One-Chip Camera Head	TP 32, TP 36
TELECAM DX II Camera Control Unit	TP 35, TP 101
TELE PACK X	TP 31, TP 100
Top Cover	TP 102
Transmitter	TP 104
TRICAM® PDD Three-Chip Pendulum Camera Head	TP 26
TRICAM® SL II Camera Control Unit SCB	TP 25, TP 100
TRICAM® SL II Extension Cable	TP 27

U

USB Connecting Cable	TP 157

V

VESA Holder 24"/26"	TP 77, TP 104
Video Bronchoscope	TP 32
Video Connecting Cable	TP 38
Video Cysto-Urethroscope	TP 32
Video Endoscope Adaptor	TP 21
VITOM® 25 Distance Rod	TP 62
VITOM® 25 HOPKINS® II Straight Forward Telescope 0°	TP 62
VITOM® 25 Illuminator	TP 63

W

Water Bottle	TP 105
Wire Basket	TP 102
Wire Tray for Cleaning, Sterilization and Storage	TP 63

X

XENON 'O' 300 WATT LAMP W/OUT HEAT SINK	TP 90
XENON Spare Lamp	TP 90
XENON Spare Lamp Module	TP 90
XLR Y-Cable for High Bright LED Monitors	TP 77, TP 104

Y

Y-Fiber Optic Light Cable	TP 63

Z

ZeroWire 2ft Spare DVI-D Cable	TP 77, TP 104
ZeroWire 42"/52"/55"	TP 77
ZeroWire Power Supply	TP 77
ZeroWire Radiance Y-Cable 19"/26"	TP 77, TP 104
ZeroWire Table Stand	TP 77
ZeroWire VESA Holder	TP 77, TP 104
ZeroWire Video Transmission Set	TP 77, TP 104

8-12

Numerical Index

TELEPRESENCE

11101 VN	TP 32
11101 VP	TP 32
11272 VN	TP 32
11272 VNU	TP 32
11272 VP	TP 32
11272 VPU	TP 32
11900 BN	TP 32
11900 BP	TP 32
13991 SW	TP 105
13992 BS	TP 105
20010130	TP 106
20014130	TP 22, TP 27, TP 37
20020055	TP 102
20020057	TP 102
20020061	TP 102
20020083	TP 68, TP 102
20030030	TP 84
20040082	TP 100
20040240US	TP 38, TP 100
20040281	TP 22, TP 38, TP 98, TP 99, TP 100
20045001-EN	TP 31, TP 100
20090070	TP 44
20090170	TP 44, TP 98, TP 99, TP 100, TP 105, TP 106
20090270	TP 44
20090370	TP 44
20090470	TP 44
20090570	TP 44
20090670	TP 44
20090770	TP 44
20100031	TP 105
201315-20	TP 85, TP 105
201320-25	TP 90
201320-26	TP 90
201321-20-1	TP 86, TP 105
20132526	TP 90
20132580	TP 84
20132601-1	TP 84, TP 105
201330-26	TP 90
201330-28	TP 90
20133027	TP 90
201331-20-1	TP 87, TP 105
20133601-133	TP 89, TP 106
20133620-134	TP 88, TP 106
20133625	TP 90
20200032	TP 45
20200042	TP 32, TP 37
20200043	TP 32, TP 37
20200130U	TP 21, TP 98, TP 99, TP 100
20200270	TP 38
20203270	TP 44, TP 100
20212034	TP 32, TP 36
20212134	TP 32, TP 36
20213070	TP 38
20220270	TP 27
20221039	TP 26
20221070	TP 44, TP 98, TP 99, TP 100, TP 101
20221075	TP 44
20221139	TP 26
20223011U1	TP 25, TP 100
20230141	TP 37
20230145	TP 37
20233011	TP 35, TP 101
20233070	TP 22, TP 27, TP 37
20260030	TP 37
20260031	TP 37
20262030	TP 32, TP 36
20262130	TP 32, TP 36
20290101	TP 48, TP 101
20290120-PS	TP 101
20290131	TP 48
20290132	TP 48
20916020	TP 62
20917000	TP 63
20918020	TP 62
20923045	TP 57
20923055	TP 57
20925000	TP 57
20933045	TP 57
20933055	TP 57
20953045	TP 57
20953055	TP 57
22200077	TP 21
22200170	TP 21
22200277	TP 21
22201011U1	TP 11, TP 98
22201011U102	TP 11, TP 99
22201011U110	TP 10, TP 98
22201011U112	TP 10, TP 98
22202011U1	TP 13, TP 99
22202011U110	TP 13, TP 99
22220031-3	TP 19
22220033-3	TP 19
22220053-3	TP 16
22220054-3	TP 18, TP 55
22220055-3	TP 15
22220056-3	TP 16
22220060-3	TP 17
22220061-3	TP 17
22220070	TP 21
22220071	TP 21
22220072	TP 21
22220131-3	TP 19
22220133-3	TP 19
22260031-3	TP 20
22260131-3	TP 20
28172 HR	TP 67
28172 WD	TP 65, TP 66
28172 WKS-KT	TP 65
28172 WN	TP 66
28272 ECW	TP 66
28272 HC	TP 67
28272 UA	TP 66
28272 UGN	TP 66, TP 67
28272 UKN	TP 66
29005 AK	TP 102
29020 GN	TP 37, TP 45
29020 GO	TP 37, TP 45
29020 GP	TP 37, TP 45
301513	TP 57
39301 ACT	TP 22, TP 27, TP 38
39301 ACTS	TP 22
39301 HCTS	TP 22
39501 A2	TP 63
400 A	TP 100, TP 103, TP 105, TP 106
400 E	TP 98, TP 99, TP 100, TP 101
40150031	TP 101
487 A	TP 95
487 M	TP 95
487 O	TP 95
487 P	TP 95
487 U	TP 95
487 UO	TP 95
487 VE	TP 95
487 W	TP 95
487 Z	TP 95
495 AD	TP 93
495 BD	TP 93
495 C	TP 94
495 D	TP 94
495 DC	TP 93
495 DV	TP 93
495 E	TP 94
495 EW	TP 92
495 F/3	TP 94
495 FO	TP 91
495 FP	TP 91
495 FQ	TP 91
495 FR	TP 91
495 FS	TP 91
495 FU	TP 94
495 G	TP 94
495 GO	TP 94
495 M	TP 94
495 N	TP 94
495 NA	TP 92
495 NAC	TP 92
495 NAS	TP 93
495 NB	TP 92
495 NCS	TP 92
495 NCSC	TP 92
495 ND	TP 92
495 NE	TP 62, TP 92
495 NL	TP 92
495 NT	TP 92

Numerical Index

TELEPRESENCE

495 NTA	TP 92
495 NTAS	TP 93
495 NTW	TP 92
495 NTXS	TP 93
495 NV	TP 92
495 NVC	TP 62, TP 92
495 NVL	TP 92
495 NW	TP 92
495 NWL	TP 92
495 NWMS	TP 93
495 PA	TP 94
495 Q	TP 94
495 S	TP 94
495 SON	TP 94
495 T	TP 94
495 UD	TP 93
495 UV	TP 63
495 W	TP 94
495 X	TP 94
533 TVA	TP 45
536 ME	TP 44
536 MK	TP 98, TP 99, TP 100, TP 101
536 MN	TP 44
547 DA	TP 44, TP 103
547 RG	TP 44
547 S	TP 44, TP 98, TP 99, TP 100, TP 101
547 SE	TP 44
547 SN	TP 44
547 SR	TP 44
574 A	TP 98
574 DA	TP 98, TP 99
610 AFT	TP 105
81131021	TP 37
8402 ZX	TP 49, TP 101
9318NR-BSDI	TP 44, TP 103
9419 A	TP 73, TP 75
9424 PS	TP 103
9426 L	TP 73, TP 75, TP 103
9426 L-PS	TP 103
9426 LD	TP 73, TP 75, TP 103
9426 LS	TP 73, TP 75, TP 103
9500 RX	TP 104
9500 TX	TP 104
9500 ZW-1	TP 77
9500 ZW-13	TP 77, TP 104
9500 ZW-14	TP 77, TP 104
9500 ZW-15	TP 77, TP 104
9500 ZW-2	TP 77, TP 104
9500 ZW-4	TP 77
9500 ZW-5	TP 77
9500 ZW-6	TP 77, TP 104
9500 ZW-7	TP 77, TP 104
9500 ZW-8	TP 77, TP 104
9500 ZW-9	TP 77
9500 ZW-KT	TP 77, TP 104
9500 ZWIM	TP 104
9530 BD	TP 45
96206358DF	TP 102

8-12

IMAGE 1 HUB™ HD
Brillant Imaging in FULL HD

KARL STORZ — ENDOSKOPE

CAMERA SYSTEMS

Brillant Imaging in FULL HD

IMAGE1 HD

The 16:9 three-chip CCD system in the IMAGE1 FULL HD camera head captures images that can be displayed in natural format without being converted. The implemented progressive scan technology, therefore, enables natural and stress-free viewing of the endoscopic image.

To provide physicians with the ideal conditions for diagnosis, great emphasis was placed on both image quality and an optimal signal-to-noise ratio when designing the IMAGE1 camera head family. A low signal-to-noise ratio is guaranteed even with high light sensitivity, resulting in bright, crystal-clear and ultra-sharp images. The unique combination of easy handling and excellent image quality ensures time efficiency and high patient safety. Consequently, IMAGE1 FULL HD camera heads represent a further milestone in the evolution of endoscopic imaging.

- With a resolution of 1920 x 1080 pixels, IMAGE1 FULL HD camera heads capture ultra-sharp imaging with unsurpassed brilliance.
- The integrated Parfocal Zoom Lens ensures optical magnification and excellent rendition of details without information loss. Digital image processing delivers excellent image quality, even under difficult viewing conditions.

IMAGE1 FULL HD camera heads enable direct control of KARL STORZ units with the KARL STORZ Communication Bus (SCB). The camera, therefore, is the cornerstone of the endoscopic operating environment.

KARL STORZ FULL HD

Highest Standards for Image Input and Image Display

IMAGE 1 HD

Maximum resolution and the consistent use of the 16:9 aspect ratio guarantee FULL HD.

Endoscopic and microscopic camera systems are equipped with three CCD sensors which support the 16:9 input format as well as capturing images with a resolution of 1920 x 1080 pixels.

These factors provide users with significantly better image definition and a correspondingly larger display window.

The benefits of High Definition Technology (HD) for medical applications are:

- Up to 6 times* higher input resolution of the camera delivers more detail and depth of focus.
- Using 16:9 format during image acquisition enlarges the field of vision and supports ergonomic viewing.
- The brilliant color rendition enables optimal diagnosis.
- Lateral view is enhanced by 32% when the endoscope is withdrawn slightly, providing the same image enhancement as a standard system. Any vertical information loss is restored and the lens remains clean.

The KARL STORZ FULL HD full-screen standard has the following resolution:
1080p (progressive); 1920 x 1080 pixels, 16:9 format
16:9 format for input and output!

Further formats available on the market with lower resolution or half-frames:
720p (progressive); 1280 x 720 pixels, 16:9 format
1080i (interlaced); 1920 x 1080 pixels, 16:9 format

The KARL STORZ standard for endoscopic imaging
In contrast to the frequently used interlaced method, the KARL STORZ 1080p HD progressive scan system delivers an extremely stable image, with no flickering or interference.
For medical users this improved image quality virtually eliminates the eye fatigue which can result from working with a monitor.

Image acquisition is a determining factor for resolution and a larger display window.

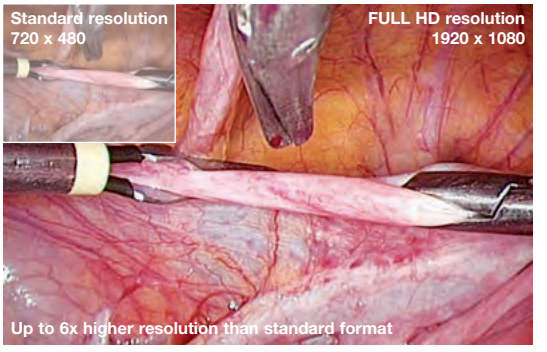
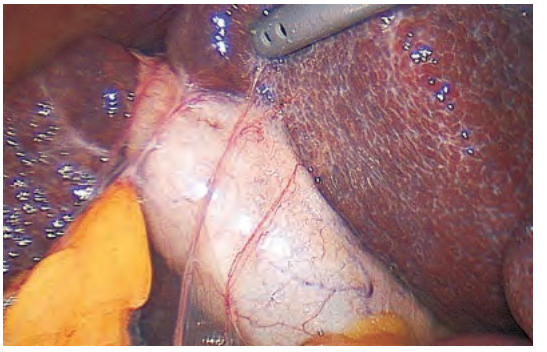


Image rendering in other systems

Interlaced scan (half-frame) displays 25/30* “half-frames” per second.

KARL STORZ image rendering

Progressive scan (full frame) displays 50/60* “full frames” per second.



* depending on the color system (PAL/NTSC) used

3-07$_3$

IMAGE 1 HUB™ HD

FULL HD Camera Head, FULL HD Camera Control Unit, FULL HD Monitor

KARL STORZ — ENDOSKOPE

IMAGE1 HD

Ready for the future

Continuous improvement in standardization is a cornerstone of KARL STORZ camera systems. All IMAGE 1 HUB™ HD products are compatible with previous products, ensuring upward and downward compatibility and securing your investment in the future.

Image acquisition with KARL STORZ IMAGE1 HD

- The High Definition three-chip CCD in the IMAGE1 FULL HD camera head captures images in 16:9 format that can be displayed on WIDEVIEW monitors in the same format without being converted.
- Digital input guarantees the best possible image quality. This eliminates the need to convert analog input signals to digital output formats which can result in a loss of image quality.

IMAGE1 FULL HD Camera Head H3-Z with 16:9 three-CCD chip

IMAGE 1 HUB™ HD Camera Control Unit

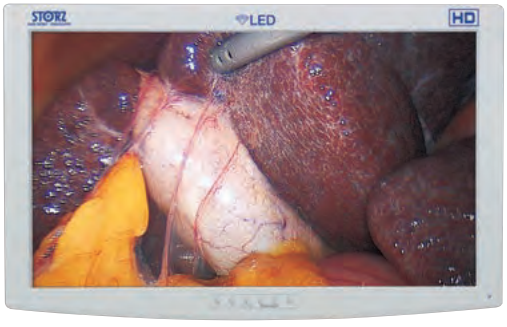
- The update for the IMAGE1 CCU, combined with a new front panel and an extension of the plug-in slots on the back of the unit, enable all IMAGE1 users to experience the advantages of FULL HD.
- The full range of IMAGE1 functions are also available in the FULL HD system.
- **IMAGE 1 HUB™ HD with backward compatibility**
  All existing systems can continue to be used after upgrading the IMAGE1 system to FULL HD. Equipment modules and adaptations to existing infrastructures remain completely compatible.

IMAGE 1 HUB™ HD Camera Control Unit – Update of IMAGE1 CCU

FULL HD Monitor

Image format and image rendering determine quality

- Using 16:9 aspect ratio in place of the conventional 4:3 format provides a larger display window and demonstrably improves the viewing ergonomics.
- KARL STORZ FULL HD produces the highest possible resolution of 1920 x 1080 pixels, providing medical users with improved depth of focus and color contrast for enhanced surgical performance.



KARL STORZ LED Monitor

3-07₃

IMAGE 1 HUB™ HD

FULL HD Camera Control Unit

KARL STORZ — ENDOSKOPE

IMAGE 1 HD

222010 11U110 **IMAGE 1 HUB™ HD Camera Control Unit SCB, with ICM module**

for use with IMAGE1 FULL HD and IMAGE1 standard one- and three-chip camera heads, max. resolution 1920 x 1080 pixels, **with integrated ICM (Image Capture Module), KARL STORZ SCB** and digital Image Processing Module, color systems PAL/NTSC, power supply 100 – 240 VAC, 50/60 Hz

including:

Mains Cord

BNC/BNC Cable

S-Video (Y/C) Connecting Cable

2x **Connecting Cable,** for controlling peripheral units

DVI-D Connecting Cable

SCB Connecting Cable

Keyboard, with US English character set

KARL STORZ USB Flash Drive, 4 GB

222010 11U112 **IMAGE 1 HUB™ HD Camera Control Unit SCB, with SDI/ICM module**

for use with IMAGE1 FULL HD and IMAGE1 standard one- and three-chip camera heads, max. resolution 1920 x 1080 pixels, **with integrated ICM (Image Capture Module) and SDI (Serial Digital Interface) modules, KARL STORZ-SCB** and digital Image Processing Module, color systems PAL/NTSC, power supply 100 – 240 VAC, 50/60 Hz

including:

Mains Cord

BNC/BNC Video Cable

S-Video (Y/C) Connecting Cable

2x **Connecting Cable,** for controlling peripheral units

DVI-D Connecting Cable

SCB Connecting Cable

Keyboard, with US English character set

KARL STORZ USB Flash Drive, 4 GB

3-07₂

Further accessories for IMAGE 1 HUB™ HD see pages TP 21-22

Component Parts see COMPONENTS, SPARE PARTS

IMAGE 1 HUB™ HD

FULL HD Camera Control Unit

KARL STORZ — ENDOSKOPE

IMAGE 1 HD

22 2010 11U1	**IMAGE 1 HUB™ HD Camera Control Unit SCB**

for use with IMAGE1 FULL HD and IMAGE1 standard one- and three-chip camera heads, max. resolution 1920 x 1080 pixels, with integrated **KARL STORZ-SCB** and integrated digital Image Processing Module, color systems PAL/NTSC, power supply 100 – 240 VAC, 50/60 Hz

including:

Mains Cord

BNC/BNC Video Cable

S-Video (Y/C) Connecting Cable

2x **Connecting Cable,** for controlling peripheral units

DVI-D Connecting Cable

SCB Connecting Cable

22 2010 11U102	**IMAGE 1 HUB™ HD Camera Control Unit SCB, with SDI Module**

for use with IMAGE1 FULL HD and IMAGE1 standard one- and three-chip camera heads, max. resolution 1920 x 1080 pixels, **with integrated SDI (Serial Digital Interface) module, KARL STORZ-SCB** and integrated Image Processing Module, color systems PAL/NTSC, power supply 100 – 240 VAC, 50/60 Hz

including:

Mains Cord

BNC/BNC Video Cable

S-Video (Y/C) Connecting Cable

2x **Connecting Cables,** for controlling peripheral units

DVI-D Connecting Cable

SCB Connecting Cable

2-09

Further accessories for IMAGE 1 HUB™ HD see pages TP 21-22

Component Parts see COMPONENTS, SPARE PARTS

IMAGE 1 HUB™ HD

FULL HD Camera Control Unit

KARL STORZ — ENDOSKOPE

IMAGE 1 HD

Specifications:

Signal-to-noise ratio	IMAGE 1 HUB™ HD, three-chip camera systems ≥ 60 dB
AGC	Microprocessor-controlled
Video Output	- FULL HD signal to DVI-D socket (2x) - SDI signal to BNC socket (only IMAGE 1 HUB™ HD with SDI module) (2x) - RGBS signal to D-Sub socket - S-Video to 4-pin Mini-DIN socket (2x) - Composite signal to BNC socket
Input	Keyboard for title generator, 5-pin DIN socket

Control output/input	- KARL STORZ-SCB to 6-pin socket Mini-DIN socket (2x) - 3.5 mm stereo jack plug (ACC 1, ACC 2), - Serial port at RJ-11 - USB port (only IMAGE 1 HUB™ HD with ICM) (2x)
Dimensions w x h x d	305 x 89 x 335 mm
Weight	3.35 kg
Power supply	100-240 VAC, 50/60 Hz
Certified to	IEC 601-1, 601-2-18, CSA 22.2 No. 601, UL 2601-1 and CE acc. to MDD, protection class 1/CF defibrillation-safe

ICM: 2x USB outputs (1x printer output on rear panel, 1x storage medium on the front panel)

SDI: 2x outputs

Recommended storage media:

KARL STORZ 4 GB USB Flash Drive **20** 0402 81

3-07₂

Further accessories for IMAGE 1 HUB™ HD see pages TP 21-22

22 2020 11U110 **IMAGE1 HD Camera Control Unit SCB, with ICM module**

for use with IMAGE1 FULL HD three-chip camera heads, max. resolution 1920 x 1080 pixels, **with integrated ICM (Image Capture Module), KARL STORZ-SCB** and digital Image Processing Module, power supply 100 – 240 VAC, 50/60 Hz

including:

Mains Cord

2x **Connecting Cable,** for controlling peripheral units

2x **DVI-D Connecting Cable**

SCB Connecting Cable

Keyboard, with US English character set

KARL STORZ USB Flash Drive, 4 GB

22 2020 11U1 **IMAGE1 HD Camera Control Unit SCB**

for use with IMAGE1 FULL HD three-chip camera heads, max. resolution 1920 x 1080 pixels, with integrated **KARL STORZ-SCB** and digital Image Processing Modul, power supply 100 – 240 VAC, 50/60 Hz

including:

Mains Cord

SCB Connecting Cable

2x **DVI-D Connecting Cable**

2x **Connecting Cable,** for controlling peripheral units

Further accessories for IMAGE1 HD see pages TP 21-22

Component Parts see COMPONENTS, SPARE PARTS

IMAGE1 HD *NEW*

FULL HD Camera Control Unit

KARL STORZ — ENDOSKOPE

IMAGE1 HD

Specifications:

Signal-to-noise ratio	IMAGE1 HD, three-chip camera systems ≥ 60 dB
AGC	Microprocessor-controlled
Video output	FULL HD signal to DVI-D socket
Input	Keyboard for title generator, 5-pin DIN socket
Control output/input	- USB port (only IMAGE1 HD with ICM) (2x) - Serial port at RJ-11 - 3.5 mm stereo jack plug (ACC 1, ACC 2) - KARL STORZ-SCB to 6-pin Mini-DIN socket (2x)

Dimensions w x h x d	305 x 89 x 335 mm
Weight	3.35 kg
Power supply	100-240 VAC, 50/60 Hz
Certified to	IEC 601-1, 601-2-18, CSA 22.2 No. 601, UL 2601-1 and CE acc. to MDD, protection class 1/CF defibrillation-safe

ICM: 2x USB outputs (1x printer output on rear panel, 1x storage medium on the front panel)

Recommended storage media:

KARL STORZ 4 GB USB Flash Drive **20** 0402 81

8-12

Further accessories for IMAGE1 HD see pages TP 21-22

For use with IMAGE 1 HUB™ HD Camera Control Unit SCB 22 2010 11U1xx and IMAGE1 HD Camera Control Unit SCB 22 2020 11U1xx

22 2200 55-3

22 2200 55-3	**50 Hz** **60 Hz**	**IMAGE1 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 mm (2x), 2 freely programmable camera head buttons, for use with color systems **PAL/NTSC**

Specifications:

IMAGE1 FULL HD Camera Head	**H3-Z**
50/60 Hz	**22** 2200 55-3
Image sensor	3x ⅓" CCD chip
Dimensions (w x h x d)	39 x 49 x 114 mm
Weight	270 g
Optical interface	integrated Parfocal Zoom Lens, f = 15-31 mm (2x)
Min. sensitivity	F 1.4/1.17 Lux
Grip mechanism	standard eyepiece adaptor
Cable	non-detachable
Cable length	300 cm

Further accessories for IMAGE1 FULL HD see pages TP 21-22

IMAGE1 FULL HD Camera Heads NEW

for Endoscopy

KARL STORZ — ENDOSKOPE

For use with IMAGE 1 HUB™ HD Camera Control Unit SCB 22 2010 11U1xx and IMAGE1 HD Camera Control Unit SCB 22 2020 11U1xx

22 2200 56-3

22 2200 56-3	**50 Hz** **60 Hz**	**IMAGE1 H3-P** **Three-Chip FULL HD Pendulum Camera Head**

with pendulum system and fixed focus, progressive scan, soakable, gas- and plasma-sterilizable, focal length f = 16 mm, 2 freely programmable camera head buttons, for use with color systems **PAL/NTSC**

22 2200 53-3

22 2200 53-3	**50 Hz** **60 Hz**	**IMAGE1 H3-ZI** **Three-Chip FULL HD Inline Camera Head**

0° cable exit (inline), progressive scan, soakable, gas- and plasma-sterilizable, with integrated Parfocal Zoom Lens, focal length f = 15 – 31 mm (2x), 2 freely programmable camera head buttons, for use with color systems **PAL/NTSC**

Specifications:

IMAGE1 FULL HD Camera Heads	**H3-P**	**H3-ZI**
50/60 Hz	**22** 2200 56-3 (PAL/NTSC)	**22** 2200 53-3 (PAL/NTSC)
Image sensor	3x ⅓" CCD chip	3x ⅓" CCD chip
Dimensions (w x h x d)	35 x 47 x 88 mm	37 x 48 x 100 mm
Weight	226 g	270 g
Optical interface	pendulum system, fixed focus f = 16 mm	integrated Parfocal Zoom Lens, f = 15-31 mm
Min. sensitivity	F 1.4/1.17 Lux	F 1.4/1.17 Lux
Grip mechanism	standard eyepiece adaptor	standard eyepiece adaptor
Cable	non-detachable	non-detachable
Cable length	300 cm	300 cm

8-12

Further accessories for IMAGE1 FULL HD see pages TP 21-22

IMAGE1 FULL HD Camera Heads NEW

for Endoscopy

KARL STORZ — ENDOSKOPE

For use with IMAGE 1 HUB™ HD Camera Control Unit SCB 22 2010 11U1xx and IMAGE1 HD Camera Control Unit SCB 22 2020 11U1xx

22 2200 61-3

22 2200 61-3	**50 Hz** **60 Hz**	**IMAGE1 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 mm (2x), 2 freely programmable camera head buttons, for use with color systems **PAL/NTSC**

22 2200 60-3

22 2200 60-3	**50 Hz** **60 Hz**	**IMAGE1 H3-FA** **Three-Chip FULL HD Camera Head**

autoclavable, progressive scan, soakable, gas- and plasma-sterilizable, **fixed focus,** focal length f = 17 mm, 2 freely programmable camera head buttons, for use with color systems **PAL/NTSC**

Specifications:

IMAGE1 FULL HD Camera Heads	H3-ZA	H3-FA
50/60 Hz	**22** 2200 61-3 (PAL/NTSC)	**22** 2200 60-3 (PAL/NTSC)
Image sensor	3x ⅓" CCD chip	3x ⅓" CCD chip
Dimensions (w x h x d)	39 x 49 x 100 mm	39 x 49 x 93 mm
Weight	299 g	261 g
Optical interface	integrated Parfocal Zoom Lens, f = 15-31 mm	fixed focus f = 17 mm
Min. sensitivity	F 1.4/1.17 Lux	F 1.4/1.17 Lux
Grip mechanism	standard eyepiece adaptor	standard eyepiece adaptor
Cable	non-detachable	non-detachable
Cable length	300 cm	300 cm

Further accessories for IMAGE1 FULL HD see pages TP 21-22

IMAGE1 FULL HD Camera Heads NEW

for Microscopy

KARL STORZ — ENDOSKOPE

For use with IMAGE 1 HUB™ HD Camera Control Unit SCB 22 2010 11U1xx and IMAGE1 HD Camera Control Unit SCB 22 2020 11U1xx

22 2200 54-3

22 2200 54-3	**50 Hz** **60 Hz**	**IMAGE1 H3-M COVIEW® Three-Chip FULL HD Microscope Camera Head**

progressive scan, with C-MOUNT thread for coupling to microscopes, 2 freely programmable camera head buttons, with detachable camera head cable, length 900 cm, for use with color systems **PAL/NTSC**

Specifications:

IMAGE1 FULL HD Camera Heads	**H3-M COVIEW®**
50/60 Hz	**22** 2200 54-3 (PAL/NTSC)
Image sensor	3x ⅓" CCD chip
Dimensions (w x h x d)	45 x 50 x 60 mm
Weight	240 g
Optical interface	C-MOUNT connection
Min. sensitivity	F 1.9/1.4 Lux
Grip mechanism	C-MOUNT connection
Cable	detachable
Cable length	900 cm

8-12

Components for connecting the H3-M COVIEW® camera head to operating microscopes see pages TP 61-68

Further accessories for IMAGE1 FULL HD see pages TP 21-22

IMAGE1 Camera Heads

For use with IMAGE 1 HUB™ HD Camera Control Unit SCB 22 2010 11U1xx

22 2200 33-3 / **22** 2201 33-3

22 2200 33-3	**PAL**	**IMAGE1 F3 Three-Chip ENT and Arthroscopy Camera Head**
22 2201 33-3	**NTSC**	

color systems **PAL/NTSC,** soakable, gas-sterilizable, fixed focus f = 16.8 mm, 2 freely programmable camera head buttons

22 2200 31-3 / **22** 2201 31-3

22 2200 31-3	**PAL**	**IMAGE1 P3 Three-Chip Pendulum Camera Head**
22 2201 31-3	**NTSC**	

color systems **PAL/NTSC,** soakable, gas-sterilizable, **with pendulum system and fixed focus f = 14 mm,** 2 freely programmable camera head buttons

Further accessories for IMAGE1 see pages TP 21-22

IMAGE1 Camera Heads

For use with IMAGE 1 HUB™ HD Camera Control Unit SCB 22 2010 11U1xx

22 2600 31-3 / **22** 2601 31-3

22 2600 31-3	**PAL**	**IMAGE 1**
22 2601 31-3	**NTSC**	**D1 One-Chip DCI® Camera Head**

color systems **PAL/NTSC,** soakable, gas-sterilizable, fixed focus
f = 16 mm, 2 freely programmable camera head buttons, **for use with DCI® HOPKINS® telescopes**

Specifications:

IMAGE1 Camera Heads	**F3**	**P3**	**D1**
PAL	**22** 2200 33-3	**22** 2200 31-3 f = 14 mm	**22** 2600 31-3
NTSC	**22** 2201 33-3	**22** 2201 31-3 f = 14 mm	**22** 2601 31-3
Image sensor	3x ¼" CCD chip	3x ¼" CCD chip	¼" CCD chip
Pixel output signal H x V	752 x 582 (PAL), 768 x 494 (NTSC)	752 x 582 (PAL), 768 x 494 (NTSC)	752 x 582 (PAL), 768 x 494 (NTSC)
Resolution (horizontal)	min. 700 lines	min. 700 lines	min. 500 lines
Dimensions	diameter 38-34.9 mm, length 85.7 mm	diameter 25.4-30.5 mm, length 88.9 mm	25.4 x 35.5 mm length 91.4 mm
Weight	150 g	170 g	94 g
Min. sensitivity	F 1.4/1.8 Lux	F 1.3 Lux	F 3 Lux
Lens	fixed focus, f = 16.8 mm	pendulum system, fixed focus, f = 14 or 16.8 mm	fixed focus, f = 16 mm
Grip mechanism	standard eyepiece adaptor	standard eyepiece adaptor	DCI® (direct coupling interface) adaptor

Further accessories for IMAGE1 see pages TP 21-22

8-12

	**20** 2001 30U	**Keyboard,** with US English character set, PS/2 connector, including AT-adaptor
	**22** 2200 72	**IMAGE 1 HUB™ HD Extension Cable,** length 520 cm, for use with IMAGE1 HD camera heads (except H3-M/H3-M COVIEW® FULL HD microscope camera heads)
	**22** 2001 70	**IMAGE1 SD Extension Cable,** length 760 cm, for use with IMAGE1 standard camera heads
	**22** 2200 70	**IMAGE1 HD Camera Head Cable,** length 300 cm, for use with H3-M/H3-M COVIEW® FULL HD Microscope Camera Heads **22** 2200 54-3 and **22** 2201 54-3 (spare part)
	**22** 2200 71	**IMAGE1 HD Camera Head Cable,** length 900 cm, for use with H3-M/H3-M COVIEW® FULL HD Microscope Camera Heads **22** 2200 54-3 and **22** 2201 54-3 (spare part)
	**22** 2000 77	**Video Endoscope Adaptor,** color systems **PAL/NTSC,** length 90 cm, for use with GI CCU and IMAGE1
	22 2002 77	**IMAGE1 Video Endoscope Adaptor,** color systems **PAL/NTSC,** length 190 cm, for use with all **KARL STORZ** video endoscopes

39301 ACTS **Plastic Container for Sterilization and Storage** of camera heads **IMAGE1, TRICAM® and TELECAM,** suitable for steam, gas, and hydrogen peroxide sterilization, Sterrad® compatible, external dimensions (w x d x h): 15.48 x 10.1 x 2.64 inches

Please note: The instrument displayed is not included in the plastic container.

Only camera heads marked “autoclave” can be placed in the tray for steam sterilization.

NEW 39301 HCTS **Plastic Container for Sterilization and Storage** of **HD camera heads,** suitable for steam, gas, and hydrogen peroxide sterilization, Sterrad® compatible, external dimensions (w x d x h): 15.48 x 10.1 x 2.41 inches

Please note: The instrument displayed is not included in the plastic container.

Only camera heads marked “autoclave” can be placed in the tray for steam sterilization.

39301 ACT **Plastic Container for Sterilization and Storage,** of camera heads IMAGE1 P3, TRICAM® and TELECAM, **autoclavable,** for use with steam, gas and plasma sterilization

Please note: The instrument displayed is not included in the plastic container.

Only camera heads marked “autoclave” can be placed in the tray for steam sterilization.

(not usable with IMAGE1 FULL HD camera heads)

20 0141 30 **One-Pedal Footswitch,** one-stage, for freeze frame or video recording in combination with IMAGE 1 HUB™ **22** 2010 20-110/-112 and **22** 2000 20-112

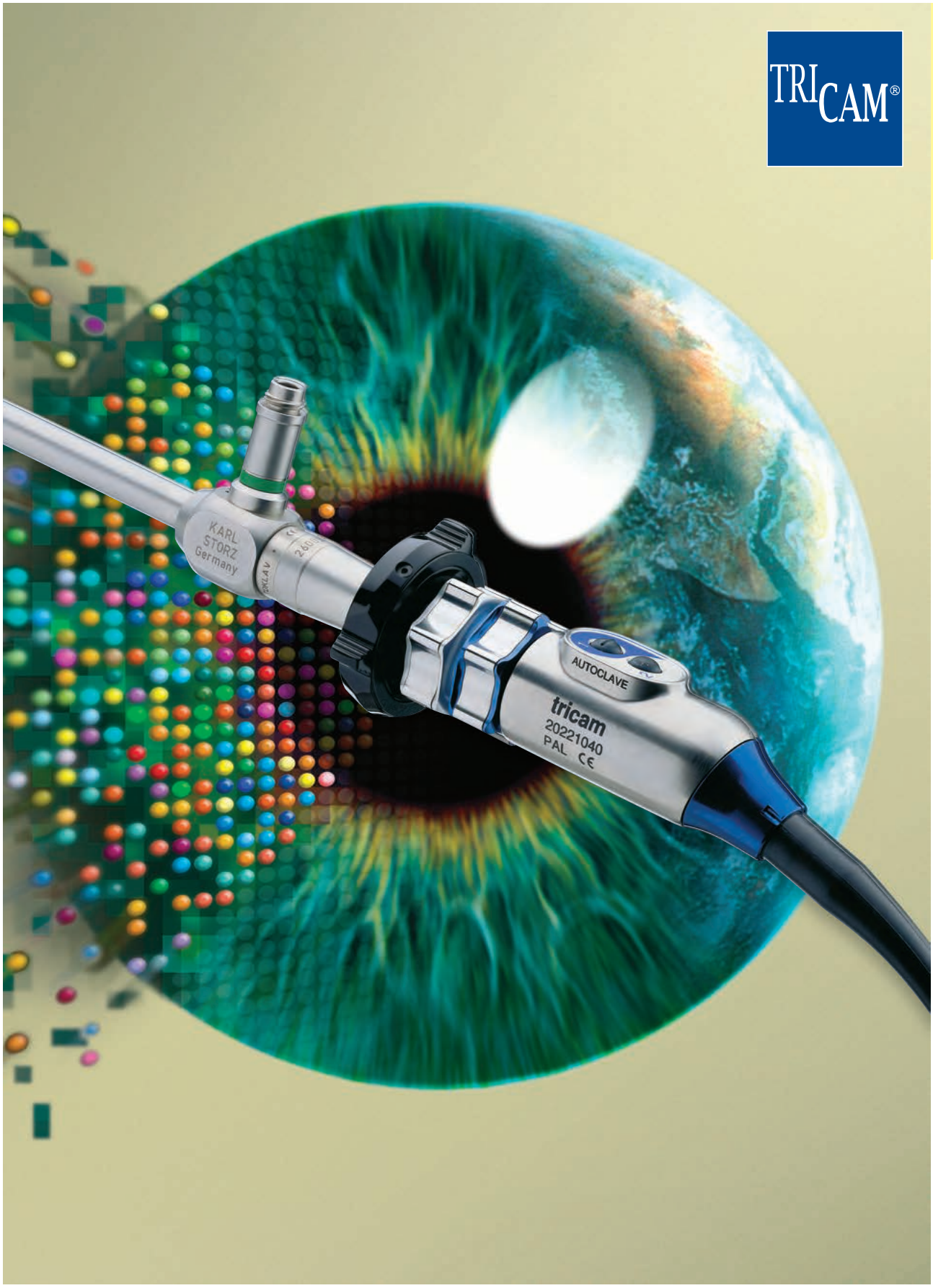
20 2330 70 **Adaptor ACC 1,** for Footswitch **20** 0141 30

NEW **20** 0402 81 **KARL STORZ USB Flash Drive,** 4 GB

8-12

TRICAM® – Three-Chip Camera System

KARL STORZ — ENDOSKOPE



8-05₁

TRICAM® SL II

Three-Chip Camera System, Color Systems PAL/NTSC, Digital Imaging Processor

KARL STORZ — ENDOSKOPE

TRICAM® SL II is the endoscopic video platform offered by KARL STORZ for all endoscopically-assisted applications and video display of the highest image quality.

Thanks to its ergonomic, compact design, this CCD sensor technology separates the optical image of the 3-CCD image sensor into the three primary colors by means of a specially coated color prism.

Each individual CCD sensor receives a specific color with the maximum line representation.

The separate processing of the primary color information red, green, and blue means that all colors can be optimally captured with this process. Furthermore, the use of all three CCD sensors offers up to three times more detail enhancement.

TRICAM® SL II offers a high degree of optoelectronic accuracy and precision.

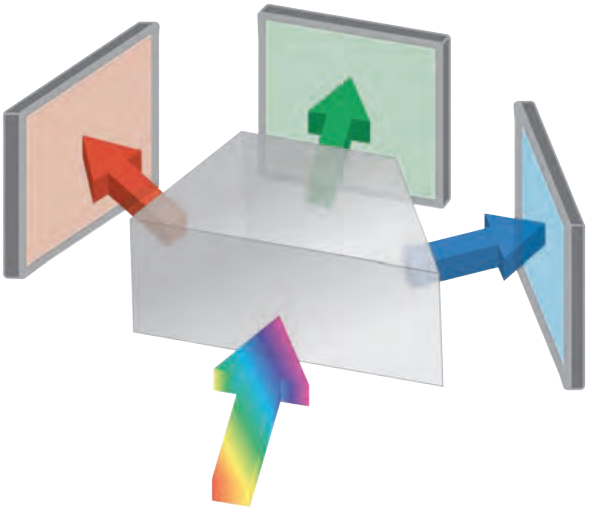
Signals are processed by means of a digital image processor. The endoscopic image is produced true to the original image. The image processor also assumes automatic image optimization during continuously changing illumination and color conditions. Manual adjustment is therefore no longer necessary.

The user has several pre-assigned digital-optimization-filters at his disposal for adjustment to rigid, semi-rigid and flexible endoscopes at the touch of a button.

Video outputs such as Digital-Video (DV) and all analog signal variations are an integral feature of **TRICAM® SL II** standard equipment.

Special Features:

- **Best image quality and display due to 3-CCD sensor chip technology**
- **Enhanced signal quality through Digital Signal Processing (contrast and filter enhancement for rigid, semirigid and flexible endoscopes)**
- **Optimal image size display, regardless of the telescope used, thanks to patented Parfocal Optical Zoom Lens**
- **Simplified operation reduces camera movement to, e.g., prevent damage to or soiling of the lens**
- **Consistent illumination due to the auto-exposure system ensures seamless transitions between images, regardless of imaging area or available light**
- **Functionality at the touch of a button with easy-to-program operating elements via intuitive control of all functions in the sterile area**
- **Parameters of the OR equipment used, light sources, etc. can be displayed and controlled (KARL STORZ Communication Bus) on the monitor**
- **Digital video output (DV) for digital recording**
- **Digital zoom 1 – 2x can be adjusted to 4 levels**
- **“Freeze Frame” function can be activated via camera head buttons or an external footswitch**
- **Fluorescence imaging mode available**



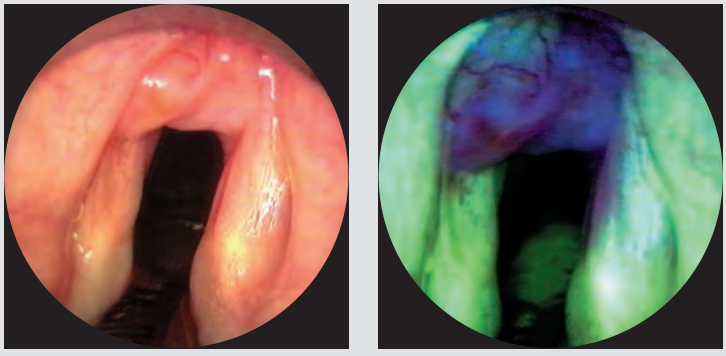
8-05₁

20 2230 11U1 **TRICAM® SL II Camera Control Unit SCB**

color systems **PAL/NTSC,** with **KARL STORZ-SCB** and integrated digital Image Processing Module, power supply 100 – 240 VAC, 50/60 Hz

including:

Mains Cord
Keyboard, with US English character set
2x **Connecting Cable,** for controlling peripheral units
BNC/BNC Video Cable
S-Video (Y/C) Connecting Cable
Special RGBS Connecting Cable
SCB Connecting Cable
DV Connecting Cable, 6 pin to 4 pin



Photodynamic Diagnosis (PDD) with D-LIGHT light sources, left: white light, right: blue light

Specifications:

Video output	- RGBS signal to 4x BNC sockets - S-Video signal to 4-pin Mini-DIN socket (2x) - Composite signal to BNC socket - DV signal to 6-pin DV socket
Input	keyboard input for character generator and control functions, 6-pin Mini-DIN socket
Control out/input	KARL STORZ-SCB to 6 pin Mini-DIN socket (2x), 3.5 mm stereo jack plug (ACC 1, ACC 2)

Camera Control Unit (CCU)	dimensions: 305 x 88 x 254 mm (w x h x d)
Weight	2.7 kg
Power supply	100-240 VAC, 50/60 Hz
Certified to	IEC 601-1, 601-2-18, CSA 22.2 No. 601, UL 2601, and CE acc. to MDD, protection class 1/BF

8-05₁

Further accessories for TRICAM® SL II see page TP 34
Component Parts see COMPONENTS, SPARE PARTS

For use with TRICAM® SL II Camera Control Unit SCB 20 2230 11U1

20 2210 39 / **20** 2211 39

20 2210 39	**PAL**	**TRICAM® PDD Three-Chip Pendulum Camera Head**
20 2211 39	**NTSC**	

color systems **PAL/NTSC,** soakable, gas-sterilizable,
with pendulum system and fixed focus, f = 14 mm,
2 freely programmable camera head buttons,
for photodynamic early diagnosis

Specifications:

TRICAM® Camera Heads	**PDD Three-Chip Pendulum Camera Head**
PAL	**20** 2210 39
NTSC	**20** 2211 39
Image sensor	3x ¼" CCD chip
Pixels output signal H x V	752 x 582 (PAL) 768 x 494 (NTSC)
Resolution (horizontal)	min. 750 lines
Dimensions	diameter 29-37 mm, length 117 mm
Weight	170 g
Min. sensitivity	F 1.4/3 Lux (standard)
Lens	pendulum system, fixed focus, f = 14 mm
Grip mechanism	standard eyepiece adaptor

Further accessories for TRICAM® SL II see page TP 27

8-05$_{1}$

20 2202 70 **TRICAM® SL II Extension Cable,** length 600 cm

39301 ACT **Plastic Container for Sterilization and Storage,** of camera heads IMAGE1 P3, TRICAM® and TELECAM, **autoclavable,** for use with steam, gas and plasma sterilization

Please note: The instrument displayed is not included in the plastic container.

Only camera heads marked “autoclave” can be placed in the tray for steam sterilization.

(except IMAGE1 FULL HD camera heads)

20 0141 30 **One-Pedal Footswitch,** one-stage, for still images, for TELE PACK X and TELECAM

20 2330 70 **Adaptor ACC 1,** for Footswitch **20** 0141 30

CAMERA SYSTEMS

TELE PACK X Combisystem and TELECAM One-Chip Camera System

KARL STORZ — ENDOSKOPE

TELE PACK X NEW

Documentation Terminal, Compact, Mobile

KARL STORZ — ENDOSKOPE

TELE PACK X is a compact, portable and flexible system that has been developed for use in a large number of fields. It can be used in doctors' practices as well as in emergency rooms. TELE PACK X is widely used in various medical disciplines such as gynecology, urology, anesthesiology or plastic surgery.

To enable swift and easy work, TELE PACK X combines all that is needed: monitor, camera and light source. Consideration has also been given to documentation: Integrated data management enables comprehensive recording of examinations or surgical interventions. Multiple USB ports and an SD card slot are available to store the data.

Crystal clear display
- **15" LCD display**
- **Image rotation**
- **24-bit color intensity for natural color rendition**
- **DVI-D video output for connecting HD monitors**

Flexible storage possibilities
- **SD card slot for high storage capacity**
- **USB ports for external hard drives, USB flash drives and post-script printers**
- **Picture gallery for records**
- **Playback of saved videos**
- **Print-ready patient report documentation**

Natural illumination
- **HiLux 50 Watt high-performance light source**
- **Natural colour rendition close to daylight with a color temperature of 5700 K**
- **Up to 1000 hours lamp operating time**

Easy control combined with highest safety
- **Membrane keyboard for wipe-down disinfection**
- **Hot keys for rapid and direct adjustment**
- **Arrow keys for intuitive control**
- **Connection socket for pedal control**

Additional information
- **Sturdy, portable housing**
- **Ergonomically designed handle for convenient transport**
- **Universal power supply unit: 100 – 240 VAC, 50/60 Hz**
- **Dimensions (w x h x d): 450 x 350 x 150 mm**
- **Weight: 7 kg**

8-12

TELE PACK X NEW

Sample Configuration

KARL STORZ — ENDOSKOPE

20 0450 01-EN

20 0450 01-EN	**TELE PACK X**

endoscopic video unit for use with TELECAM one-chip camera heads and video endoscopes, incl. 50 W HiLux light source, 15" LCD TFT screen, USB/SD memory module, color systems **PAL/NTSC,** with integrated Image Processing Module, power supply 100 – 240 VAC, 50/60 Hz

including:

USB Silicone Keyboard, with touchpad, US character set

USB Flash Drive, 4 GB

Mains Cord, US version

Specifications:

Power input	100 W
Power supply	100-240 VAC
Dimensions w x h x d	450 x 350 x 150
Weight	7 kg
Interface	- video interface: DVI-D (in/out) - audio: 3.5 mm phonejack (1x lateral, 1x rear), Line in, Line out - footswitch port: 5-pin socket for two-pedal footswitch - printer port: USB - printer language: PostScript
Light source	- lamp: Metal halid 50 W - color temperature: 5700 K - average service life: approx. 1000 h

Image format	JPG
Video codec	MPEG-4
Video format	PAL/NTSC
Memory interface	USB 2.0; SD memory card (SDHC compatible)
TFT monitor	- screen size: 15" - resolution: 1024 x 768 - contrast: 700:1
Loudspeaker output	2 W

Further accessories for TELE PACK X see pages TP 37-38

Component Parts see COMPONENTS, SPARE PARTS

8-12

TELE PACK X

Compatible Camera Heads and Video Endoscopes

KARL STORZ — ENDOSKOPE

Compatible Camera Heads

20 2120 34	**TELECAM C-MOUNT One-Chip Camera Head,** color system **PAL**
20 2121 34	**Same,** color system **NTSC**
20 2620 30	**DCI® II One-Chip Camera Head,** color system **PAL**
20 2621 30	**Same,** color system **NTSC**

C-MOUNT Video Adapter

20 2000 42	**C-MOUNT Video Adapter,** 30 mm
20 2000 43	**C-MOUNT Video Adapter,** 38 mm

Compatible Video Endoscopes

ENT

11101 VP	**CCD Video Rhino-Laryngoscope,** color system **PAL**
11101 VN	**Same,** color system **NTSC**

Pneumology

11900 BP	**Video Bronchoscope,** color system **PAL**
11900 BN	**Same,** color system **NTSC**

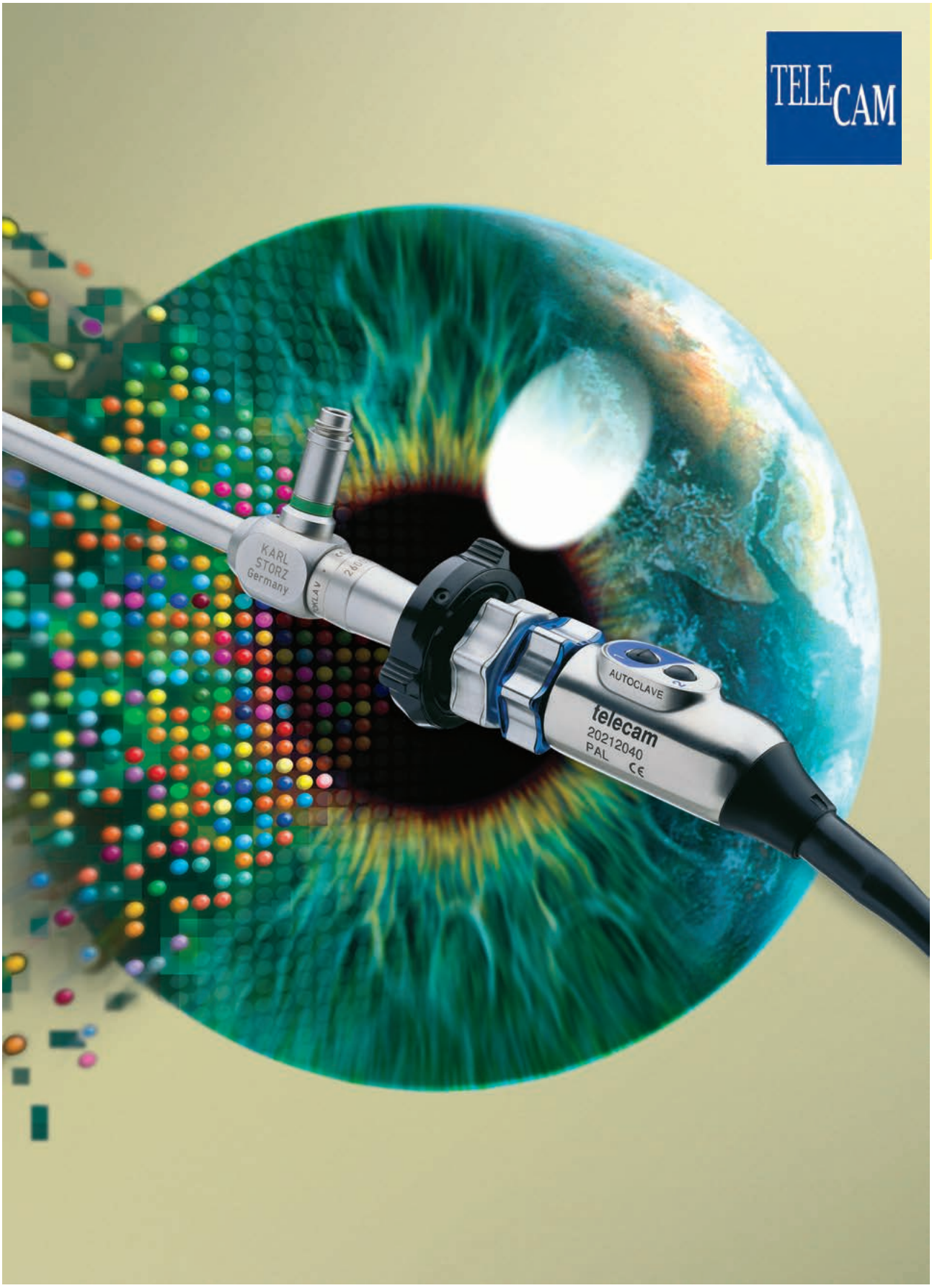
in combination with TELE PACK X Light Adaptor for Video Endoscopes: 20 0450 31

Urology

11272 VP	**Video Cysto-Urethroscope,** color system **PAL**
11272 VN	**Same,** color system **NTSC**
11272 VPU	**Video Cysto-Urethroscope,** with contrapositive deflection, color system **PAL**
11272 VNU	**Same,** color system **NTSC**

8-12

KARL STORZ — ENDOSKOPE



8-05

TELECAM

One-Chip Camera System, Color Systems PAL/NTSC, Digital Imaging Processor

KARL STORZ — ENDOSKOPE

Multifunctional, Cost-Effective Camera System for Doctors' Offices and Clinics

The cost-effective **TELECAM SL II FI, TELECAM SL II** and **TELECAM DX II** camera platforms offer functionality, image quality and high performance, ensuring a high degree of patient safety combined with cost-efficiency.

The one-chip camera system enables a doctor's practice to offer the same level of treatment as a hospital clinic. TELECAM SL II FI, the latest addition to the TELECAM product family, combines economic use with flexibility. This system from KARL STORZ is ideally suited for fluorescence applications with flexible video endoscopes (AF bronchoscope, PDD cystoscope). Consequently, this broadens the range of applications of the TELECAM platform.

TELECAM DX II

Special features

Automatic exposure control for superior image quality and maximum control
Anti-moiré filter
Automatic white balance with memory function
Horizontal resolution of more than 450 lines
Programmable function keys for four camera functions or peripheral devices
Freeze Frame to "freeze" images for the purpose of documenting clinical findings, for diagnostic consultations with colleagues or patients and for patient documentation
Composite and S-Video output
Optical Parfocal Zoom Lens, integrated in all camera heads used

8-05$_2$

TELECAM DX II

Camera Control Unit

KARL STORZ — ENDOSKOPE

20 2330 11 **TELECAM DX II Camera Control Unit**

color systems **PAL/NTSC,** with integrated digital fiberscope filters, power supply 100 – 240 VAC, 50/60 Hz

including:

Mains Cord

2x **Connecting Cable,** for controlling peripheral devices

BNC/BNC Video Cable

S-Video (Y/C) Connecting Cable

Specifications:

Video output	- S-Video signal to 4 pin Mini-DIN socket (2x) - Composite signal to BNC socket
Control output	3.5 mm stereo jack plug (ACC 1, ACC 2)
Control Unit (CCU)	dimensions: 305 x 88 x 254 mm (w x h x d)

Weight	2.7 kg
Power supply	100-240 VAC, 50/60 Hz
Certified to	IEC 601-1, 601-2-18, CSA 22.2 No. 601, UL 2601 and CE acc. to MDD, protection class 1/BF

8-05$_2$

Further accessories for TELECAM DX II see pages TP 37-38

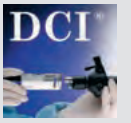
Component Parts see COMPONENTS, SPARE PARTS

For use with TELECAM DX II Camera Control Unit 20 2330 11 and TELE PACK X 20 0450 01-EN

20 2120 34 / **20** 2121 34

20 2120 34	**PAL**	**TELECAM C-MOUNT**
20 2121 34	**NTSC**	**One-Chip Camera Head**

color systems **PAL/NTSC,** soakable, gas-sterilizable, with **C-MOUNT thread** for coupling to microscopes and C-MOUNT lens, 2 freely programmable camera head buttons



20 2620 30 / **20** 2621 30

20 2620 30	**PAL**	**DCI® II**
20 2621 30	**NTSC**	**One-Chip Camera Head**

color systems **PAL/NTSC,** soakable, gas-sterilizable, f = 16 mm, with 2 freely programmable camera head buttons, **for use with DCI® HOPKINS® telescopes**

Specifications:

TELECAM Camera Heads	C-MOUNT One-Chip Camera Head	One-Chip Camera Head
PAL	**20** 2120 34	**20** 2620 30
NTSC	**20** 2121 34	**20** 2621 30
Image sensor	½" CCD chip	¼" CCD chip
Pixels output signal H x V	752 x 582 (PAL), 768 x 494 (NTSC)	752 x 582 (PAL), 768 x 494 (NTSC)
Resolution (horizontal)	min. 450 lines	min. 450 lines
Dimensions	diameter 23-33 mm, length 53 mm	20 x 33 mm (w x h), length 80 mm
Weight	75 g	100 g
Min. sensitivity	F 1.4/3 Lux	F 1.4/3 Lux
Lens	C-MOUNT connection	fixed focus, f = 16 mm
Grip mechanism	C-MOUNT connection	DCI® (direct coupling interface) adaptor

8-05₁

Further accessories for TELECAM DX II see pages TP 37-38

	**20** 2000 42	**C-MOUNT Lens,** f = 30 mm, soakable
	20 2000 43	**C-MOUNT Lens,** f = 38 mm, soakable
	20 2301 41	**C-MOUNT Lens,** f = 25 mm, soakable
	20 2301 45	**C-MOUNT Lens,** f = 12 mm, soakable
	**81** 1310 21	**Spare Lamp,** 50 W, for TELE PACK X
	**20** 0141 30	**One-Pedal Footswitch,** one-stage, for still images, for TELE PACK X and TELECAM
	20 2330 70	**Adaptor ACC 1,** for Footswitch **20** 0141 30
	29020 GN	**Adaptor,** for Olympus fiberscopes, new type
	29020 GO	**Adaptor,** for Olympus fiberscopes, old type
	29020 GP	**Adaptor,** for Pentax and Fujinon fiberscopes
	**20** 2600 30	**Adaptor,** for connection of standard eyepiece telescopes with DCI® camera heads
	20 2600 31	**Adaptor,** for use of DCI® telescopes with standard camera heads

TELE PACK X, TELECAM

Accessories

KARL STORZ — ENDOSKOPE

20 0402 40US **Silicone Keyboard,** with US English character set, USB plug, with touchpad

20 0402 81 **KARL STORZ USB Flash Drive,** 4 GB

20 2002 70 **Extension Cable,** for TELECAM SL II FI, TELECAM SL II and DX II, length 600 cm

20 2130 70 **Video Connecting Cable,** for all KARL STORZ video endoscopes and TELE PACK X, TELE PACK, TELECAM SL II FI, TELECAM SL II, length 60 cm

39301 ACT **Plastic Container for Sterilization and Storage,** of camera heads IMAGE1 P3, TRICAM® and TELECAM, **autoclavable,** for use with steam, gas and plasma sterilization

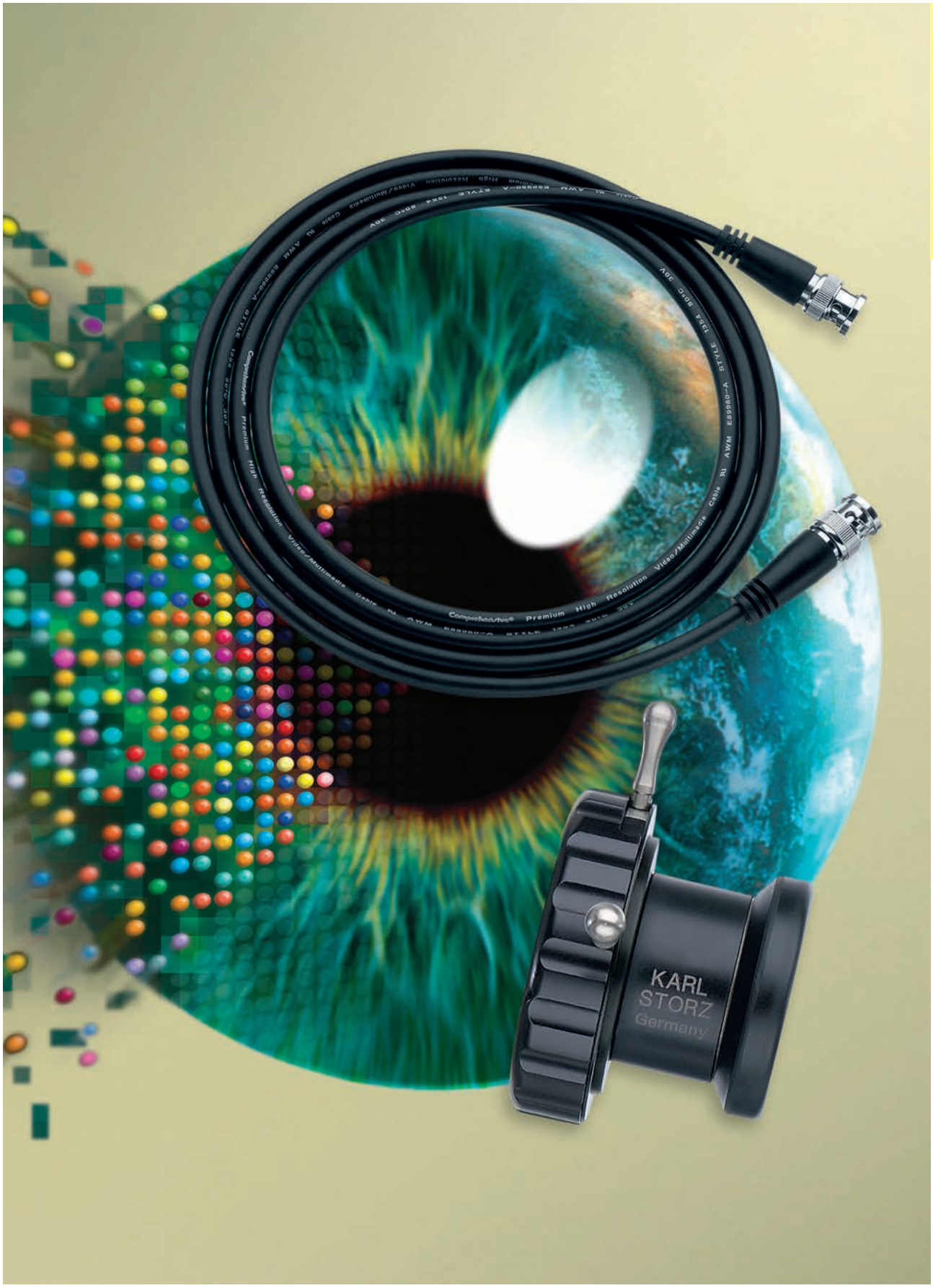
Please note: The instrument displayed is not included in the plastic container.

Only camera heads marked “autoclave” can be placed in the tray for steam sterilization.

(except IMAGE1 FULL HD camera heads)

8-12

Overview and Accessories



Camera Heads, Camera Control Unit

Matrix

Camera Control Units		
Camera Heads	**Cat. No.**	
IMAGE1 FULL HD Camera Heads		
H3-Z	**22** 2200 55-3	
H3-ZI	**22** 2200 53-3	
H3-P	**22** 2200 56-3	
H3-FA	**22** 2200 60-3	
H3-ZA	**22** 2200 61-3	
H3-M COVIEW®	**22** 2200 54-3	
IMAGE1 SD Camera Heads		
F3	**22** 2200 33-3 (PAL) **22** 2201 33-3 (NTSC)	
P3 (f = 14 mm)	**22** 2200 31-3 (PAL) **22** 2201 31-3 (NTSC)	
D1	**22** 2600 31-3 (PAL) **22** 2601 31-3 (NTSC)	
Video Endoscope Adaptor (for connecting video endoscopes with IMAGE1 90 cm cable)	**22** 2000 77 (PAL) **22** 2002 77 (190.5 cm cable)	
TRICAM® Camera Heads		
TRICAM® PDD Pendulum	**20** 2210 39 (PAL) **20** 2211 39 (NTSC)	
TRICAM® PDD	**20** 2210 37 (PAL) **20** 2211 37 (NTSC)	
TELECAM-compatible Camera Heads		
TELECAM C-MOUNT	**20** 2120 34 (PAL) **20** 2121 34 (NTSC)	
TELECAM DCI® II		
C-CAM™		
8-pin C-CAM™	**20** 2901 32	
Video Endoscope Adaptor (for connecting video endoscopes with TELECAM)	**20** 2130 70	8-12

	IMAGE 1 HUB™ HD	IMAGE1 HD	TRICAM® SL II	TELECAM DX II	TELE PACK X	C-HUB™
	22 2010 11U1xx	**22** 2020 11U1-xx	**20** 2230 11U1xx	**20** 2330 11	**20** 0450 01-EN	**20** 2901 01
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Video Endoscopes, Camera Control Unit

Matrix

Camera Control Units		
Camera Heads	**Cat. No.**	
Anesthesiology		
BOEDEKER-DÖRGES C-MAC® Video Laryngoscope MAC #3	8401 AX 8401 BX	
C-MAC® Video Laryngoscope D-BLADE	8401 HX	
BERCI-KAPLAN C-MAC® Video Laryngoscope	8401 AXC 8401 BXC 8401 KXC	
MILLER C-MAC® Video Laryngoscope #0	8401 DXC 8401 GXC	
Electronic Module	8402 X	
ENT		
CMOS Video Rhino-Laryngoscope	11101 CM	
CCD Video Rhino-Laryngoscope	11101 VP 11101 VN	
Video Bronchoscope for Autofluorescence	11900 AP 11900 AN	
Video Bronchoscope	11900 BP 11900 BN	
Gastroenterology		
Gastroscope	13800 PKS/NKS 13801 PKS/NKS 13806 PKS/NKS 13807 PKS/NKS 13820 PKS/NKS 13821 PKS/NKS	
Sigmoidoscope	13901 PKS/NKS	
Coloscope	13905 PKS/NKS 13907 PKS/NKS 13911 PKS/NKS 13925 PKS/NKS	
Urology		
Video Cysto-Urethroscope	11272 VP/VN 11272 VPU/VNU	
Video Uretero-Renoscope FLEX-X C	11278 V 11278 VU	

8-12

* video endoscope adaptor

	IMAGE 1 HUB™ HD	GI	TELECAM DX II	TELE PACK X	C-HUB™
	22 2010 11U1xx	**22** 2030 11-1xx	**20** 2330 11	**20** 0450 01-EN	**20** 2901 01
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	*22 2000 77 *22 2002 77	–	–	*20 2130 70	–
	–	–	–	–	–
	*22 2000 77 *22 2002 77	–	–	*20 2130 70	–
	*22 2000 77 *22 2002 77	*22 2000 77 *22 2002 77	–	–	–
	*22 2000 77 *22 2002 77	*22 2000 77 *22 2002 77	–	–	–
	*22 2000 77 *22 2002 77	*22 2000 77 *22 2002 77	–	–	–
	*22 2000 77	–	–	*20 2130 70	–
	●	–	–	–	–

Video and SCB Cables

	547 DA	**DVI-D Connecting Cable,** length 180 cm
	9318NR-BSDI	**BNC/BNC Video Cable,** length 200 cm
	536 ME	**BNC/BNC Video Cable,** length 760 cm
	536 MN	**BNC/BNC Video Cable,** length 15 m
	547 S	**S-Video (Y/C) Connecting Cable,** length 180 cm
	547 SR	**S-Video (Y/C) Connecting Cable,** length 500 cm
	547 SN	**S-Video (Y/C) Connecting Cable,** length 15 m
	547 SE	**S-Video (Y/C) Extension Cable,** length 500 cm
	547 RG	**RGBS Connecting Cable,** length 180 cm
	20 2032 70	**Special RGB Connecting Cable,** length 180 cm
	**20** 2210 70	**Connecting Cable,** for controlling peripheral units, length 180 cm
	20 2210 75	**Connecting Cable,** for controlling video printers or video recorders, length 15 m
	**20** 0900 70	**SCB Connecting Cable,** length 30 cm
	20 0903 70	**SCB Connecting Cable,** length 60 cm
	20 0901 70	**SCB Connecting Cable,** length 100 cm
	20 0902 70	**SCB Connecting Cable,** length 500 cm
	20 0904 70	**SCB Connecting Cable,** length 750 cm
	20 0905 70	**SCB Connecting Cable,** length 15 m
	20 0906 70	**SCB Connecting Cable,** length 23 m
	20 0907 70	**SCB Connecting Cable,** length 30 m

9-01₁

Adaptors for Camera Heads

533 TVA

533 TVA **Adaptor, autoclavable,** permits telescope changing under sterile conditions

20 2000 32

9530 BD

20 2000 32 **KARL STORZ Special Beamsplitter,** for simultaneous viewing by endoscope and monitor screen. The camera head connector is 120° deflected and can instantly be swiveled to the desired position.

9530 BD **Integral-Rotating Beamsplitter,** for simultaneous viewing by telescope and monitor screen

The image splitter was designed so that the camera head is always located in the 6 o'clock position – regardless of the telescope movement. The monitor image therefore corresponds exactly to the image the operator would see under direct vision.

The coupling piece can also be fixed in the 6 o'clock position along with the camera.

Adaptor for attachment of ENDOVISION® cameras to fiberscopes of other manufacturers:

29020 GN

29020 GN **Adaptor,** for Olympus fiberscopes, new type

29020 GO

29020 GP

29020 GO **Adaptor,** for Olympus fiberscopes, old type

29020 GP **Adaptor,** for Pentax and Fujinon fiberscopes

All adaptors on this page are compatible with all KARL STORZ IMAGE1 FULL HD, IMAGE1, TRICAM® and TELECAM camera heads with standard eyepieces.

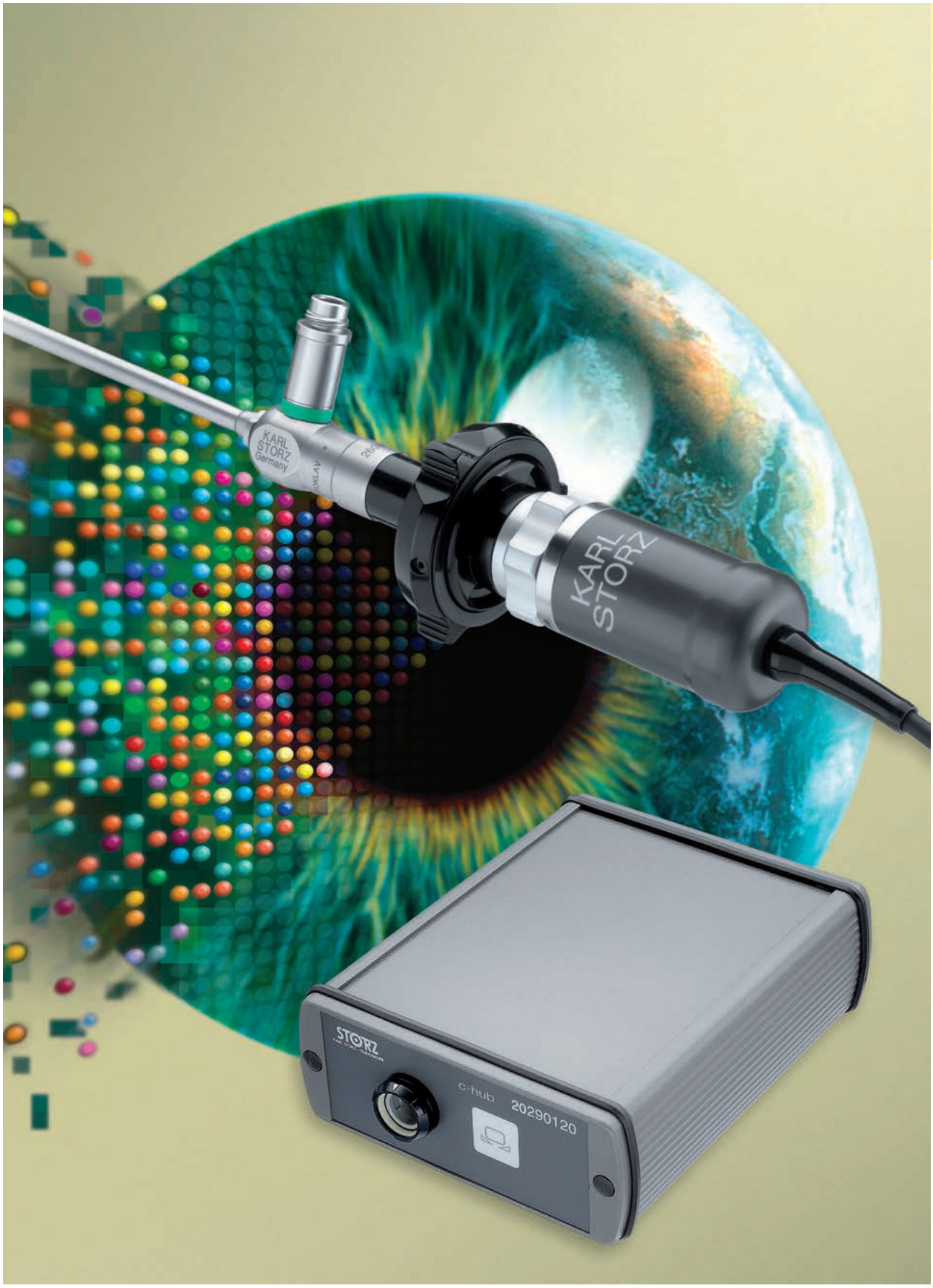
Coupling of cameras to operating microscopes see pages TP 51-57

9-01

CAMERA SYSTEMS

C-HUB™ and C-CAM™ NEW

KARL STORZ — ENDOSKOPE



C-HUB™ and C-CAM™ NEW

Nothing could be easier!

How can a standard doctor's office with table, chair and computer be converted into an effective examination room with an endoscope and a camera? Quite simple: The KARL STORZ C-CAM™ can be directly connected to a USB interface on a Medical PC via C-HUB™.

Thanks to its CMOS sensor, the C-CAM™ camera head is able to provide a resolution of 640 x 480 pixels. The endoscope can be attached as usual with the proven KARL STORZ grip mechanism.

C-HUB™ features an USB interface that can be connected to all Medical PCs, whether desktops or laptops. It also features an S-Video connection for direct transmission of image data to an external monitor.

If the C-HUB™ is connected to a Medical PC, image data or videos can be directly archived on the hard drive and processed with the relevant programs.

All in all, the KARL STORZ C-CAM™ in conjunction with C-HUB™ offers an effective possibility to perform fast and easy endoscopic examinations in any practice.

20 2901 01

20 2901 01	**C-HUB™ Camera Control Unit**

for use with C-CAM™ **20** 2901 32, Electronic Module 8402 X or compatible CMOS video endoscopes, interfaces: USB 2.0, S-Video output (NTSC), power socket

including:

C-HUB™ Power Supply

S-Video (Y/C) Connecting Cable

USB Connecting Cable

20 2901 32/**20** 2901 31

20 2901 32	**C-CAM™ Camera Head, 8-pin**

one-chip CMOS camera head, resolution 640 x 480, focal length f = 20 mm, compatible with C-HUB™ **20** 2901 01 and C-MAC® 8402 ZX

20 2901 31	**C-CAM™ Camera Head, 6-pin**

one-chip CMOS camera head, resolution 640 x 480, focal length f = 20 mm, compatible with C-MAC® 8401 ZX

8-12

Please Note:
C-CAM® for endoscopic application is pending for 510(k) clearance, not available for sale in the U.S.

Component Parts see COMPONENTS, SPARE PARTS

C-MAC® Monitor System NEW

Monitor/Electronic Module

Special Features:

- **Resistant ABS plastic housing**
- **Splash-proof according to IP54**
- **7" TFT wide view angle display with resolution of 800 x 480 pixels**
- **Ready for use within seconds**
- **Documentation of still images (JPEG) and videos (MPEG4) on SD memory card**
- **VESA 75 norm for connecting and attaching racks**
- **Soft keys enable use within seconds**
- **Cinch video output for connecting external monitor**
- **System open for further components**
- **Operating time with lithium-ion batteries of about 2 hours**
- **World power supply 100 – 240 VAC, 50/60 Hz**
- **Operation with line voltage and rechargeable lithium-ion batteries**
- **Processing of the electronic module: Suitable and validated for the following low-temperature reprocessing methods up to bis max. 60 °C: manual/machine cleaning and disinfection, sterilization with Steris® AMSCO V-PRO 1, Sterrad® (50S, 100S, 200S, NX, 100NX) and EtO gas; High-Level Disinfection (HLD) acc. to US standards**
- **Additional standards: RTCA/DO-160F, EMI Test Report (German air rescue service DRF Luftrettung)**

8402 ZX

8402 ZX **Monitor for CMOS Endoscopes,** screen size 7", documentation can be stored directly on SD card, rechargeable Li-Ion batteries, power adaptor for EU, UK, USA and Australia, power supply 110 – 240 VAC, 50/60 Hz, additional standards: RTCA/DO-160F, EMI Test Report (German air rescue service DRF Luftrettung), **suitable for wipe disinfection**

Compatible with 8-pin C-CAM™ Camera Head (**20** 2901 32)
Not compatible with 6-pin C-CAM™ Camera Head (**20** 2901 31)

8-12

CAMERA SYSTEMS

HD Imaging with Operating Microscopes

KARL STORZ — ENDOSKOPE

2-09

HD IMAGING WITH
OR MICROSCOPES

HD Imaging with Operating Microscopes

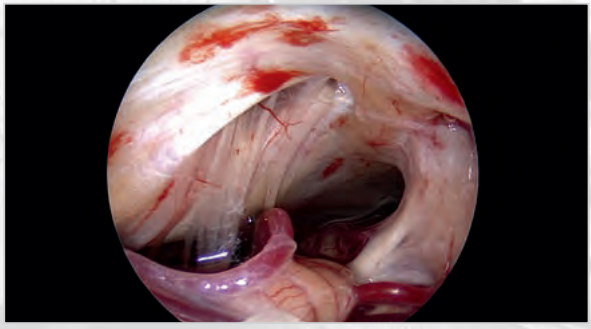
Direct Adaptation

Direct adaption to the VARIO operating microscope from Carl Zeiss Meditec

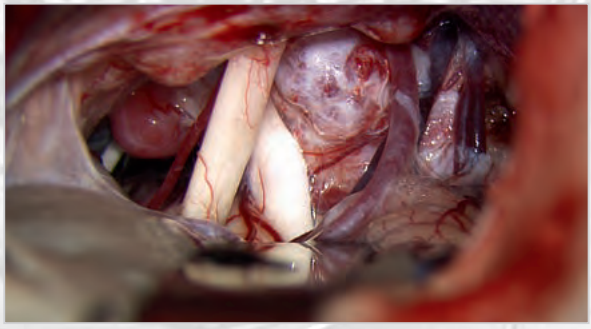
With the operating microscope the surgeon always has a perfect view of the operating field. Assistants, OR nurses and students, however, often experience poor video presentation, especially if FULL HD visualization is not available. KARL STORZ offers solutions from one source that equip operating microscopes from leading manufacturers with advanced FULL HD technology. To achieve optimal results, all components in the video chain – from the camera system to the monitor – must be of the highest quality.

The most straightforward and professional connection between the camera and the microscope is the so-called direct adaption.

Here the H3-M COVIEW® microscope camera and the corresponding QUINTUS® TV adaptor are directly connected to the microscope via the C-MOUNT connection.



FULL HD endoscope image captured by the H3-Z endoscope camera head



FULL HD microscope image captured by the H3-M COVIEW® microscope camera head

Intraoperative recordings courtesy of: *Prof. Dr. med. Henry W. S. Schroeder, Greifswald, Germany*

2-09

Camera and Camera Control Unit

IMAGE 1 HUB™ HD Camera Control Unit

+

H3-M COVIEW® HD Microscope Camera Head

TV Adaptors

QUINTUS® TV Adaptor,
for CARL ZEISS MEDITEC

or

QUINTUS® TV Adaptor,
for LEICA Microsystems

or

QUINTUS® TV Adaptor,
for Möller-Wedel

HD Monitor and ZeroWire

FULL HD WIDEVIEW Monitor

+

ZeroWire Video Transmission Set

Documentation System

AIDA HD Connect

8-12

Camera Control Unit see pages TP 10-14
H3-M COVIEW® HD Microscope Camera Head see page TP 18
HD Monitor and ZeroWire see pages TP 69-77

H3-M COVIEW® HD Microscope Camera Head

For use with IMAGE 1 HUB™ HD Camera Control Unit SCB 22 2010 11U1xx and IMAGE1 HD Camera Control Unit SCB 22 2020 11U1xx

22 2200 54-3

NEW

22 2200 54-3	**50 Hz** **60 Hz**	**IMAGE1 H3-M COVIEW® Three-Chip FULL HD Microscope Camera Head**

progressive scan, with C-MOUNT thread for coupling to microscopes, 2 freely programmable camera head buttons, with detachable camera head cable, length 900 cm, for use with color systems **PAL/NTSC**

Specifications:

IMAGE1 FULL HD Camera Heads	**H3-M COVIEW®**
50/60 Hz	**22** 2200 54-3 (PAL/NTSC)
Image sensor	3x ⅓" CCD chip
Dimensions (w x h x l)	45 x 50 x 60 mm
Weight	240 g
Optical interface	C-MOUNT connection
Min. sensitivity	F 1.9/1.4 Lux
Grip mechanism	C-MOUNT connection
Cable	detachable
Cable length	900 cm

QUINTUS® – High-Performance TV Adaptor for Operating Microscopes

Unleash the full performance of your operating microscope from CARL ZEISS MEDITEC – with FULL HD imaging solutions from KARL STORZ

The new QUINTUS® TV adaptor is the perfect interface between the surgical microscope and the KARL STORZ H3-M FULL HD microscope camera head.

The innovative features of QUINTUS® are easy to use, making it one of the most flexible TV adaptors on the market.

QUINTUS® stands for 5 main features:

- A **rotating C-MOUNT connection** at the QUINTUS® TV adaptor allows immediate adaption of the camera orientation during mounting.
- The **focus control** makes it possible to easily achieve parfocality (perfectly sharp camera and microscope images).
- The **iris control** provides convenient and optimal adjustment of the depth of field.
- **Pan (X) function** enables adjustment of the horizontal position of the camera image.
- **Tilt (Y) function** enables adjustment of the vertical position of the camera image. The pan and tilt functions helps the surgeon to adjust the position of the camera image according to his individual needs.

Focal length of the QUINTUS® TV adaptor:

The QUINTUS® TV adaptor for H3-M COVIEW® HD microscope camera head is available in 2 focal lengths (45 and 55 mm). This provides an optimal FULL HD image in 16:9.

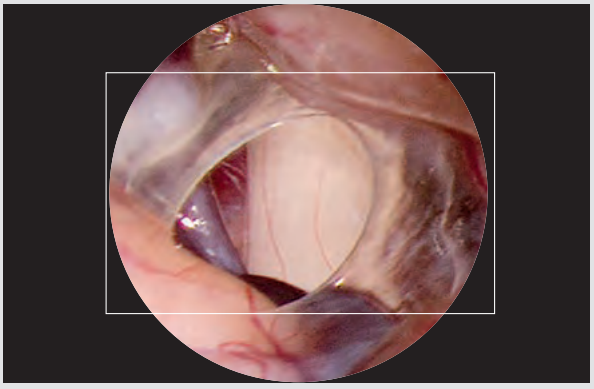


Fig. 1: *Camera image detail with a focal length of 45 mm*

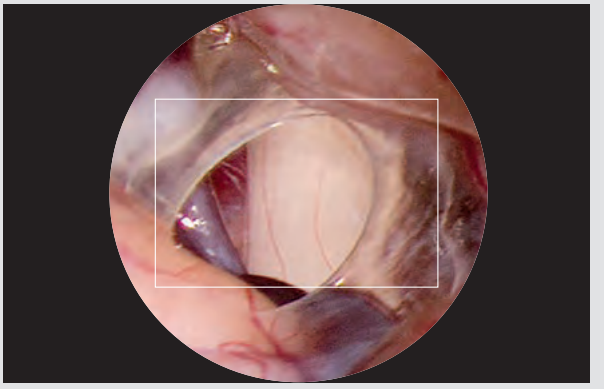


Fig. 2: *Camera image detail with a focal length of 55 mm*

8-12

QUINTUS® TV Adaptor

20 9230 45/**20** 9230 55

20 9230 45 **QUINTUS® Z 45 TV Adaptor,** for CARL ZEISS MEDITEC operating microscopes, f = 45 mm, recommended for IMAGE1 HD H3-M/H3-M COVIEW® camera heads

20 9230 55 **QUINTUS® Z 55 TV Adaptor,** for CARL ZEISS MEDITEC operating microscopes, f = 55 mm, recommended for IMAGE1 HD H3-M/H3-M COVIEW®, H3, H3-Z as well as IMAGE1 S1 and S3 camera heads

20 9330 45/**20** 9330 55

20 9330 45 **QUINTUS® L 45 TV Adaptor,** for LEICA Microsystems operating microscopes, f = 45 mm, recommended for IMAGE1 H3-M/H3-M COVIEW® HD microscope camera heads

20 9330 55 **QUINTUS® L 55 TV Adaptor,** for LEICA Microsystems operating microscopes, f = 55 mm, recommended for IMAGE1 HD H3-M/H3-M COVIEW®, H3, H3-Z and S1, S2 camera heads

20 9530 45/**20** 9530 55

20 9530 45 **QUINTUS® M 45 TV Adaptor,** for Möller-Wedel operating microscopes, f = 45 mm, recommended for IMAGE1 HD H3-M/H3-M COVIEW® camera heads

20 9530 55 **QUINTUS® M 55 TV Adaptor,** for Möller-Wedel operating microscopes, f = 55 mm, recommended for IMAGE1 HD H3-M/H3-M COVIEW®, H3, H3-Z and S1, S2 camera heads

20 9250 00

20 9250 00 **Iris,** for ZEISS Pentero®, iris as a necessary extension between the QUINTUS® TV adaptor and the operating microscope ZEISS Pentero®

301513

301513 **Optical Beamsplitter 50/50,** for use with ZEISS operating microscope or colposcope

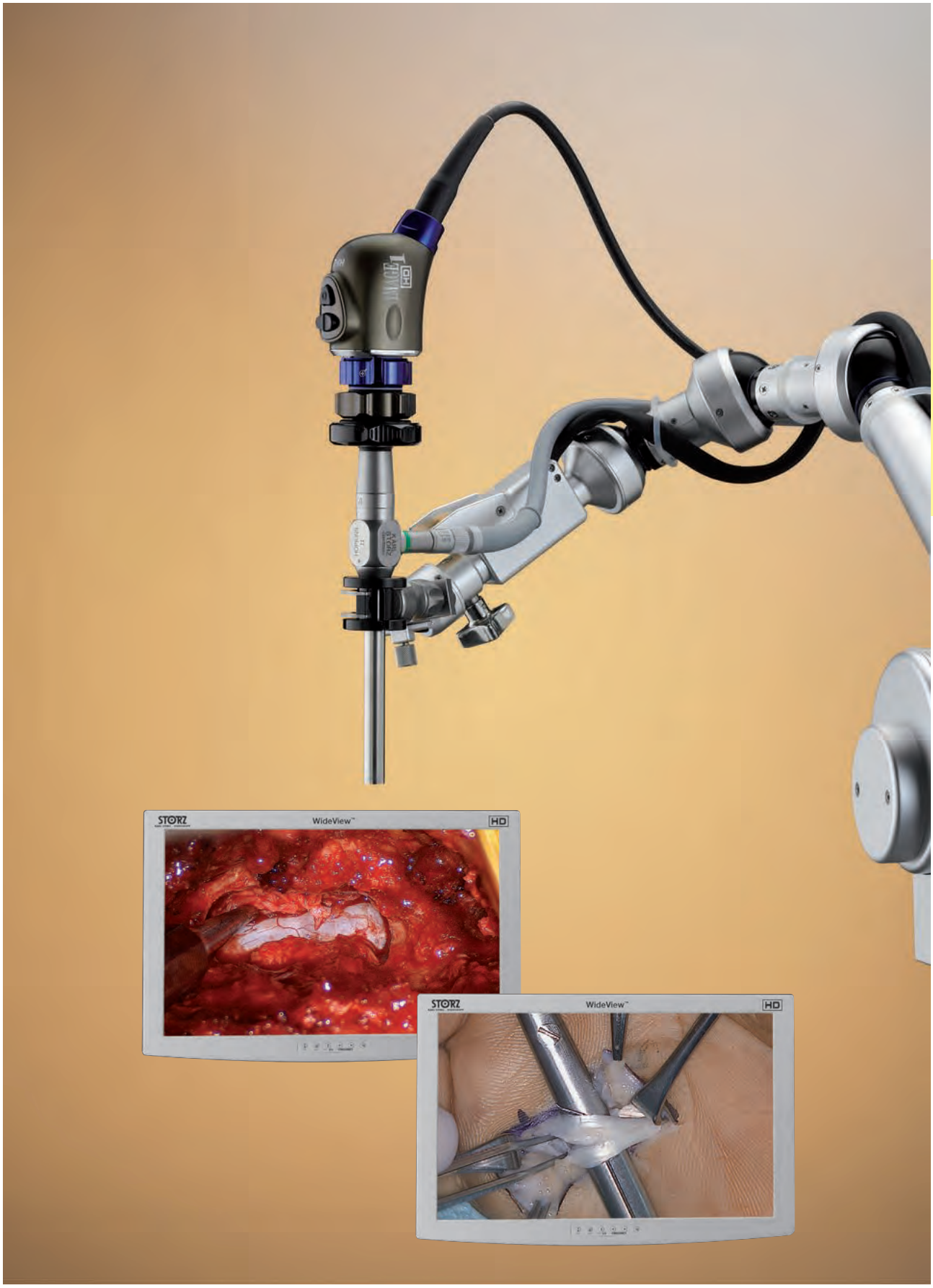
Note: Optical beamsplitters for other operating microscopes (e.g., LEICA or Möller-Wedel) are available directly from the manufacturers.

HD IMAGING WITH
OR MICROSCOPES

VITOM® 25 NEW

Visualization System for Open Surgery with Minimal Access

KARL STORZ — ENDOSKOPE



VITOM® 25 NEW

Visualization System for Open Surgery with Minimal Access

KARL STORZ — ENDOSKOPE

VITOM® 25 from KARL STORZ represents a revolutionary and innovative way of displaying open surgery with minimal access in a high quality and ergonomic manner.

VITOM® 25 is based on the renowned HOPKINS® II rod lens system from KARL STORZ. With the help of a holding system, the VITOM® 25 is placed at a working distance of 25 – 60 cm above the surgical field. This gives the surgeon more room to work.

The small size of the VITOM® 25 reduces space requirements in the OR to a minimum. Due to its slim and compact design, the surgical field is not obstructed and even long instruments can be used with ease. The VITOM® 25 system provides excellent depth of field, optimal magnification, good contrast and excellent color reproduction, which are the requisites for FULL HD display and recording.

The first-class enhanced imaging can be observed via a FULL HD monitor from a convenient distance by the surgeon, the assistant as well as the entire OR team.

The VITOM® 25 system has proven to be an excellent alternative to OR illumination cameras, loupes or operating microscopes in various surgical disciplines.

The VITOM® 25 is equipped with an integrated illumination, which can be supplemented with an optional illuminator.

The system allows further use of existing units. A FULL HD endoscope imaging solution from KARL STORZ can also be used with the VITOM® 25 exoscope.

The VITOM® 25 system offers:

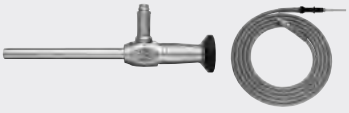
- **Excellent FULL HD image quality**
- **Great depth of view**
- **Large working distance**
- **Ergonomic monitor work**
- **Compact design requiring minimal space in the OR**
- **Use of existing KARL STORZ FULL HD endoscopy system possible**

Using the VITOM® 25 system in hand surgery

OR photographs courtesy of: *Prof. Dr. Christophe Mathoulin, Institut de la Main, Clinique Jouvenet, Paris, France*

8-12

Exoscope and Illumination



VITOM® 25 Exoscope
and Light Cable

+

VITOM® 25 Illuminator
and Y-Light Cable (optional)

+

XENON 300 SCB
Light Source

Camera System and Display

IMAGE1 H3-Z Three-Chip
HD Camera Head

+

IMAGE 1 HUB™ HD
Camera Control Unit

+

IMAGE 1 HUB™ HD
Monitor

Holding System

POINT SETTER® Pneumatic Holding Arm

or

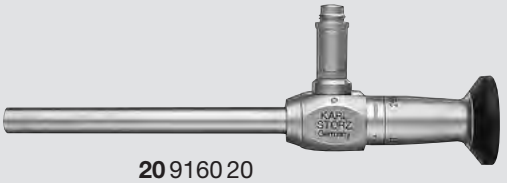
Mechanical Holding Arm

Documentation System

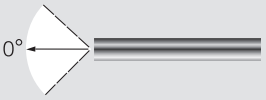
AIDA HD Connect

Camera Control Unit see pages TP 10-14
IMAGE1 H3-Z Three-Chip HD Camera Head see page TP 15
HD Monitor see pages TP 69-77

Exoscope and Illumination
Diameter 10 mm, length 11 cm



20 9160 20



20 9160 20 **VITOM® 25 HOPKINS® II Straight Forward Telescope 0°,** working distance 25 – 60 cm, diameter 10 mm, length 11 cm, **autoclavable,** fiber optic light transmission incorporated, color code: green

Fiber Optic Light Cables 495 NE, 495 NVC or 495 NVC recommended

495 NE

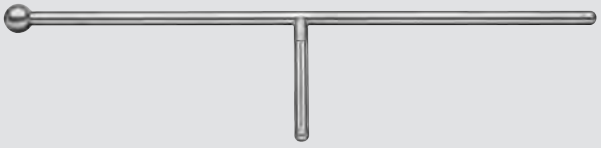
495 NVC

495 NVC

495 NE **Fiber Optic Light Cable,** 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

495 NVC **Fiber Optic Light Cable,** with 90° deflection to the instrument, very narrow radius of curvature, diameter 4.8 mm, length 300 cm



20 9180 20

20 9180 20 **VITOM® 25 Distance Rod,** length 25 cm

8-12

optional:

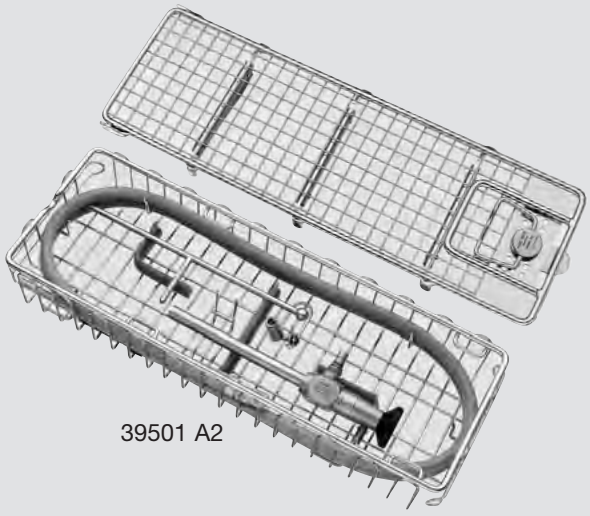
20 9170 00

20 9170 00 **VITOM® 25 Illuminator,** for straight forward telescopes 0°, 2 adjustable lenses with holding device for VITOM® 25, **autoclavable**

Y-Fiber Optic Light Cable 495 UV recommended

495 UV

495 UV **Y-Fiber Optic Light Cable,** 2x diameter 3.5 mm, length 230 cm, for simultaneous connection of two instruments



39501 A2

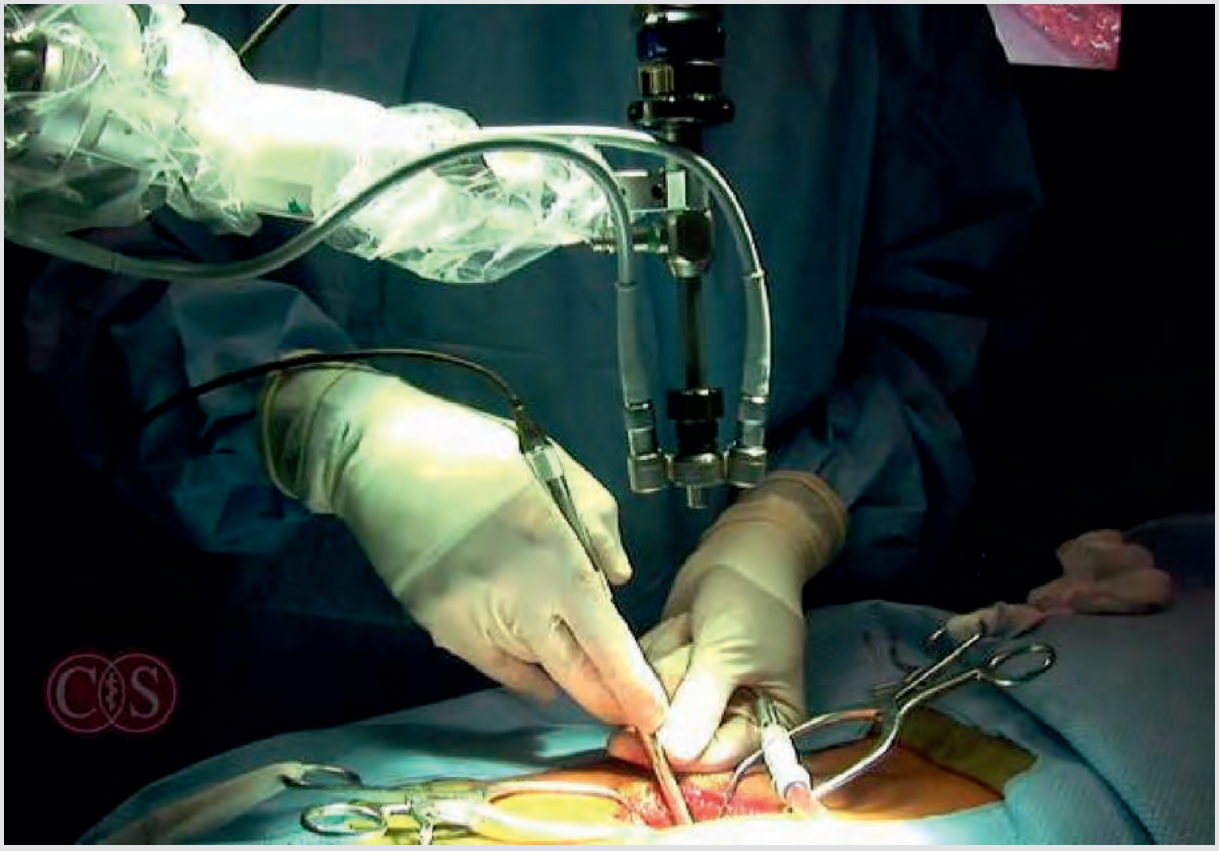
39501 A2 **Wire Tray for Cleaning, Sterilization and Storage** of two rigid endoscopes and one light guide cable, including holder for light post adaptors, silicone telescope holders and lid, external dimensions (w x d x h): 352 x 125 x 54 mm, for rigid endoscopes up to diameter 10 mm and working length 20 cm

VITOM® 25 NEW

Specifications

KARL STORZ — ENDOSKOPE

Working distance:	25 – 60 cm	
Depth of view at working distance of: **Depth of view:**	**25 cm** **approx. 3.5 cm**	**50 cm** **approx. 7 cm**
Field of view at working distance of: H3-Z camera zoom 1x H3-Z camera zoom 2x	25 cm 5 cm 3.5 cm	50 cm 10 cm 7 cm
Reproduction scale at working distance of:	25 cm	50 cm
26" Monitor:		
H3-Z camera zoom 1x H3-Z camera zoom 2x	approx. 8x approx. 16x	approx. 4x approx. 8x
42" Monitor:		
H3-Z camera zoom 1x H3-Z camera zoom 2x	approx. 14x approx. 28x	approx. 7x approx. 14x
52" Monitor:		
H3-Z camera zoom 1x H3-Z camera zoom 2x	approx. 17x approx. 34x	approx. 8x approx. 16x



Spine surgery with the VITOM® 25 system

Technical specifications are subject to change.

OR photographs courtesy of:
Dr. K. Siddique, Cedars-Sinai Medical Center, Los Angeles, CA 90048, USA

8-12

KARL STORZ — ENDOSKOPE

POINT SETTER® Holding System

28172 WKS-KT

28172 WKS-KT **POINT SETTER®,** pneumatic holding system with OR table adaptor including:
Clamping Jaw, for use with all square head scope
Clamping Jaw, intake range 4.8 mm – 12.5 mm
Adapter, for KARL STORZ Clamping Jaws
Schrader Pressure Hose, length 600 cm, for USA and Asia
Drape, for single use, sterile, package of 10

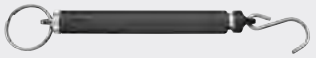
28172 WD **Drape,** for single use, sterile, package of 10

KARL STORZ — ENDOSKOPE

POINT SETTER® Holding System
Alternative and Spare Connecting Tube

	28172 WN	**Connecting Tube,** for POINT SETTER®, Schrader, length 600 cm

Accessories and Expendable Materials

	28272 ECW	**Spring Balance,** loading capacity 25 N
	28172 WD	**Drape,** for single use, sterile, package of 10
	28272 UGN	**Clamping Jaw,** metal, with axial intake, for use with all square-headed KARL STORZ HOPKINS® telescopes, clamping range 16.5 up to 23 mm, with quick release coupling KSLOCK (male)
	28272 UKN	**Clamping Jaw,** metal, with axial intake, for use with instrument, irrigation and telescope sheaths, clamping range 4.8 up to 12.5 mm, with quick release coupling KSLOCK (male)
	28272 UA	**POINT SETTER® KSLOCK Adaptor,** for POINT SETTER® holding system, for connecting KARL STORZ clamping jaws and accessories

8-12

Mechanical Holding System

28272 HC

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)
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 UGN	**Clamping Jaw,** metal, with axial intake, for use with all square-headed KARL STORZ HOPKINS® telescopes, clamping range 16.5 up to 23 mm, with quick release coupling KSLOCK (male)

Transport Cart

20 0200 83 **STOR-E® Transport Cart,** for POINT SETTER® holding arm

including:

Subrack, for POINT SETTER®

Accessory Set, for POINT SETTER®

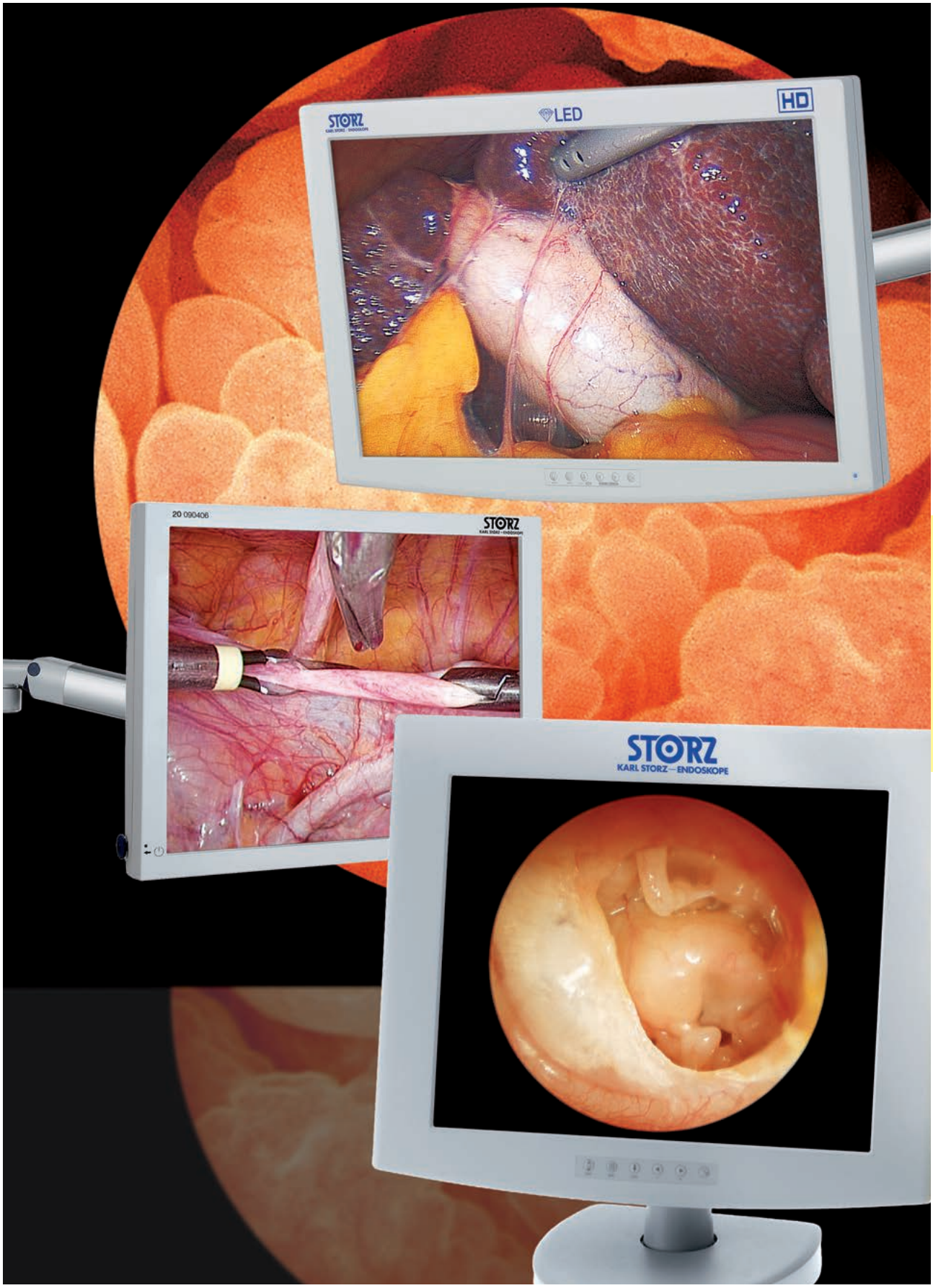
Top Cover

Wire Basket

Manual

Component Parts see COMPONENTS, SPARE PARTS

Monitors



MONITORS

KARL STORZ FULL HD Monitors NEW

KARL STORZ — ENDOSKOPE

Sophisticated Design in Excellent Quality

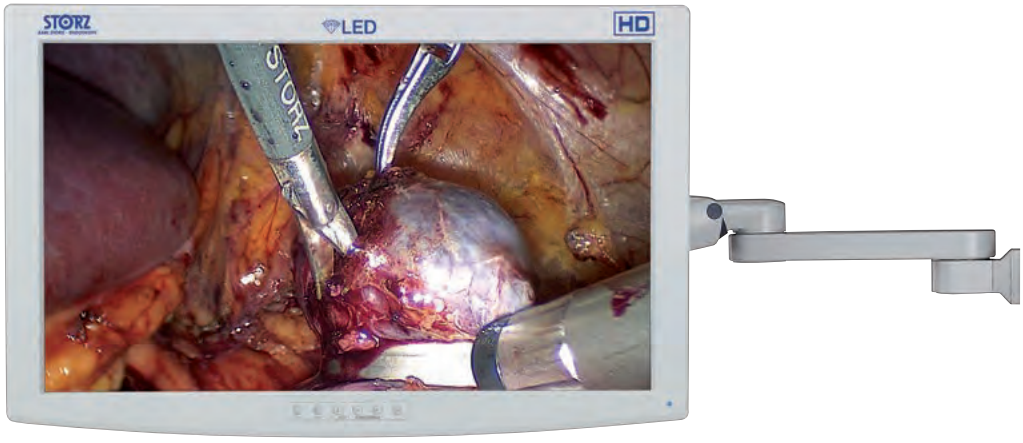
The new KARL STORZ monitor series offers the user superior quality combined with outstanding product characteristics that are optimally matched to FULL HD applications in endoscopy. The high-quality aluminium housing in the exclusive KARL STORZ design has been given a silicium dioxide nanocoating finish. The closed housing enables easy cleaning of the monitor through wipe disinfection and thus guarantees optimal hygiene.

The latest electronic technology provides a Picture-in-Picture function, 90° image rotation as well as horizontal and vertical mirror imaging. Input signals are captured directly and immediately transmitted to the display, saving time in the OR. DVI inputs and outputs guarantee flawless endoscopic FULL HD images with a resolution of 1920 x 1080 pixels in 16:9 format. The pro-gressive scan technology of the KARL STORZ FULL HD system provides imaging with minimal latency, even when there is rapid movement.

The innovative LED backlight technology reduces power consumption and expands the service life of the monitors. Easy and intuitive handling via a ring slider provides immediate feedback on the display. The inbuilt RS 232 interface permits remote control of the monitor, enabling integration of the monitor in the KARL STORZ OR1™ system.

Special Features:

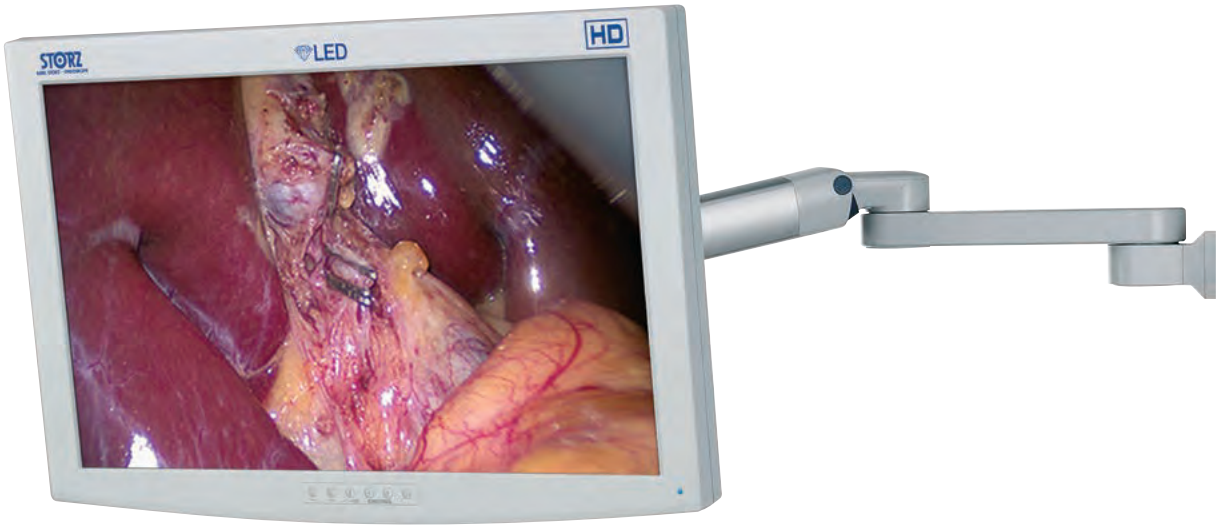
- **1920 x 1080 pixels, 50/60 Hz in progressive mode, 16:9 format**
- **High-quality, fully enclosed housing with nanocoating finish for optimal cleaning and disinfection requirements**
- **Excellent hygiene characteristics with minimum thermal radiation**
- **Intuitive use without function keys via ring slider behind closed glass front**
- **Optional fiber connector available**
- **Easy integration into KARL STORZ OR1™ system**
- **High level of flexibility due to diverse connection possibilities**
- **Low voltage protection via external 24VDC mains power supply**
- **VESA 100 adaptor for flexible installation options**
- **Fast response time for imaging with minimal latency**
- **Premium model with dual video inputs available**
- **Natural color rendition due to optimal integration into the KARL STORZ FULL HD video chain**
- **26" monitor with LED backlight for low energy consumption and longer service life for the monitors**
- **Picture-in-Picture (PiP) and Picture-by-Picture (PbP) display**
- **Special settings for mirror imaging and image rotation**
- **Medical grade FDA, UL and CE approval**



KARL STORZ HD, HD WIDEVIEW™ and HD LED Backlight Monitors

Special Features:

- **FULL HD display in 16:9 HD format, max. resolution of 1920 x 1200 pixels**
- **1080p/50 and 1080p/60 displays possible, PAL/NTSC compatible**
- **Anti-reflection coated front glass**
- **Compact and lightweight design**
- **Easy-to-reach control buttons on the housing front**
- **Dripwater protected, dustproof housing**
- **Low voltage protection via external 24VDC mains power supply**
- **VESA 100 adaptor for flexible installation options**
- **Fast response time for virtually lag-free imaging**
- **Optional fiber optic input for OR1™ integration**
- **Picture-Perfect technology for true-to-life image reproduction that incorporates deinterlacing algorithms**
- **Picture-in-Picture display (PiP)**
- **Up to 5 different user profiles can be stored**
- **Meets the medical requirements for FDA, UL and CE approval**
- **26" monitor with LED backlight for low energy consumption and longer service life for the monitors**



8-12

IMAGE 1 HD

9419 A, 9426 LS/L/LD

	TFT Flat Screens	HD WIDEVIEW Monitors		
	19"	26"		
Wall mounted with VESA 100 adaption	9419 A	9426 LS	9426 L	9426 LD
Inputs:				
SDI	●	–	–	–
3G-SDI	–	●	●	●
RGBS	●	●	●	–
S-Video	●	●	●	–
Composite/FBAS	●	●	●	●
SOG	●	●	●	●
DVI-D	●	●	●	●
Fiber Optic	–	–	–	–
VGA	●	●	●	●
Outputs:				
SDI	●	●	●	●
3G-SDI	–	●	●	●
RGBS	●	●	●	–
S-Video	●	●	●	–
Composite/FBAS	●	●	●	–
DVI-D	●	●	●	●
Signal Format Display:				
4:3	●	●	●	●
5:4	●	●	●	●
16:9	–	●	●	●
16:10	–	–	–	–
Picture-in-Picture	●	●	●	–
PAL/NTSC compatible	●	●	●	●

The following accessories are included:
Mains Cord
External 24VDC Power Supply
Signal cables

8-12

Larger KARL STORZ FULL HD Monitors see catalog KARL STORZ OR1 NEO™
Signal cables see page TP 44

KARL STORZ HD, HD WIDEVIEW™ and HD LED Backlight Monitors

Specifications:

Wall-mounted with VESA 100 adaption	**19"** 9419 A	**26"** 9426 LS	**26"** 9426 L	**26"** 9426 LD
Max. Brightness	300 cd/m²	400 cd/m²	800 cd/m²	800 cd/m²
Max. viewing angle	178° vertical	178° vertical	178° vertical	178° vertical
Pixel distance	0.294 mm	0.3 mm	0.3 mm	0.3 mm
Reaction time	10-16 ms	8 ms	8 ms	8 ms
Contrast ratio	600:1	1000:1	1000:1	1000:1
Mount	100 mm VESA	100 mm VESA	100 mm VESA	100 mm VESA
Weight	6.8 kg	7.3 kg	8.2 kg	8.2 kg
Rated power	65 Watt	120 Watt	150 Watt	150 Watt
Operating conditions	0-38 °C	0-40 °C	0-40 °C	0-40 °C
Storage	-20-60 °C	-20-60 °C	-20-60 °C	-20-60 °C
Rel. humidity	5-85%, non-condensing	20-85%, non-condensing	20-85%, non-condensing	20-85%, non-condensing
Dimensions w x h x d	465 x 400 x 98 mm	73 x 418 x 88 mm	673 x 418 x 88 mm	673 x 418 x 88 mm
Power supply	100-240 VAC	100-240 VAC	100-240 VAC	100-240 VAC

8-12

9419 A	**19" HD Monitor**

wall-mounted with VESA 100 adaption, color systems **PAL/NTSC,** max. screen resolution 1280 x 1024, power supply 100 – 240 VAC, 50/60 Hz

including:

Power Supply

Mains Cord

Signal cables: BNC

LED Backlight Monitors NEW

9426 LS	**26" HD Monitor with LED Backlight**

wall-mounted with VESA 100 adaption, color systems **PAL/NTSC**, max. screen resolution 1920 x 1080, image format 16:9, power supply 100 – 240 VAC, 50/60 Hz

including:

Power Supply

Mains Cord

Signal cables: BNC

9426 L	**26" HD Monitor (High Bright with LED Backlight)**

wall-mounted with VESA 100 adaption, optical input, color systems PAL/NTSC, max. screen resolution 1920 x 1080, image format 16:9, power supply 100 – 240 VAC, 50/60 Hz

including:

Power Supply

Mains Cord

Signal cables: BNC

9426 LD	**26" HD Digital Monitor (High Bright with LED Backlight)**

wall-mounted with VESA 100 adaption, optical input, color systems **PAL/NTSC**, max. screen resolution 1920 x 1080, image format 16:9, power supply 100 – 240 VAC, 50/60 Hz

including:

Power Supply

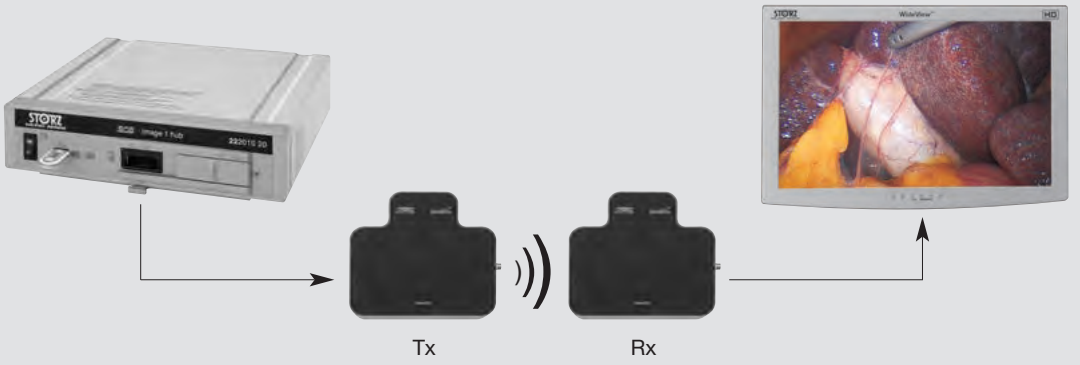
Mains Cord

Signal cables: BNC

Signal Cables see page TP 44
Component Parts see COMPONENTS, SPARE PARTS

ZeroWire NEW

Wireless FULL HD Video Transmission System



The new ZeroWire video transmission system from KARL STORZ enables the wireless integration of secondary monitors into the camera system.

Developed specifically for use in the OR area, ZeroWire replaces the DVI cable between the Camera Control Unit (CCU) and the monitor. The unit simplifies the installation of additional monitors in the OR. ZeroWire optimizes the clinic workflow and reduces preparation time in the operating rooms. ZeroWire offers the user the best FULL HD quality for wireless connections available on the market.

KARL STORZ ZeroWire comprises a transmitter and receiver that transmit FULL HD video signals from IMAGE1 HD CCU to a secondary monitor. Costly and sensitive light fibers or DVI cables are no longer required. ZeroWire delivers 1080p FULL HD imagery with minimal latency which is ensured by the H.264 compression method. This also provides razor-sharp image quality that can barely be distinguished from a conventional DVI connection.

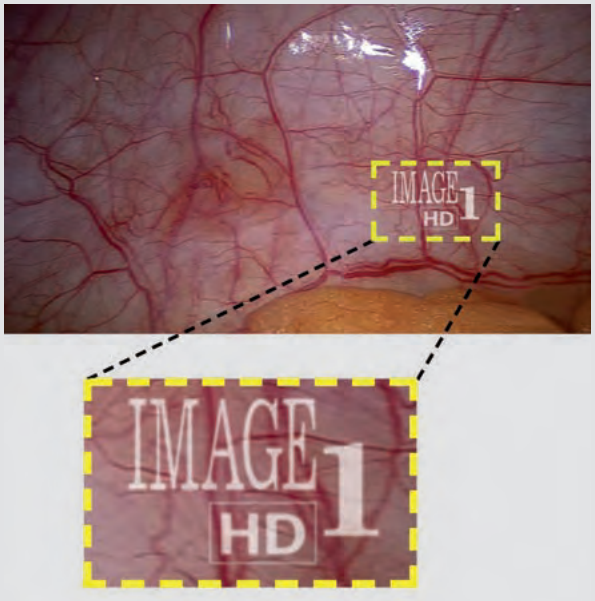
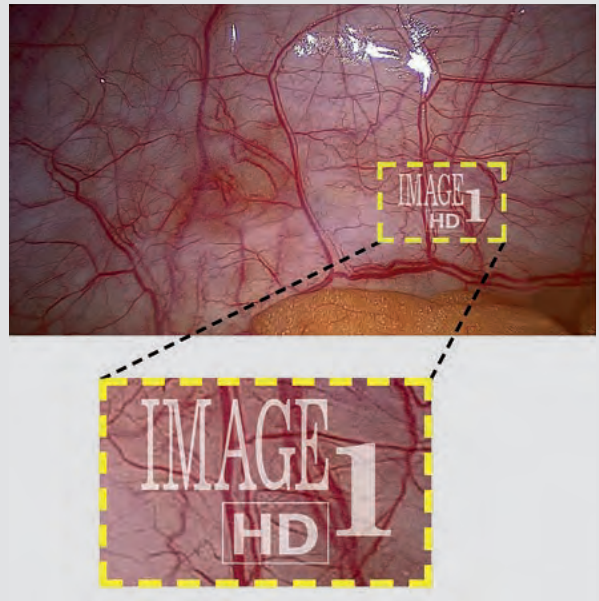


Image quality of a competitor



Very high image quality with ZeroWire

Comparison of the image quality of a competitor with ZeroWire from KARL STORZ. ZeroWire image quality of a transmitted video can barely be distinguished from a DVI connection.

9500 ZW-KT

9500 ZW-KT **ZeroWire Video Transmission Set,** transmitter and receiver
including:
2x **Radiance Y-Cable 19"/26"**
2x **Extended VESA Holder 24"/26"**
2x **Extended VESA Holder 19"/23"**
2x **DVI-D Cable,** for CCU-Tx and Monitor-Rx connection
Instruction Manual

Further Accessories:

9500 ZW-1 **ZeroWire 42"/52"/55",** accessory for video transmission set, with 2ft DVI-D cable, power supply and VESA holder 42"/52"/55"

9500 ZW-2 **ZeroWire 2ft Spare DVI-D Cable,** for CCU-Tx and Monitor-Rx connection

9500 ZW-4 **ZeroWire Power Supply**

9500 ZW-5 **ZeroWire Table Stand**

9500 ZW-6 **ZeroWire Radiance Y-Cable 19"/26",** for looping into the monitor power supply

9500 ZW-7 **ZeroWire VESA Holder,** for mounting a transmitter or receiver to a 19" or 23" monitor (extended VESA holder) or to a 24" or 26" monitor (short VESA holder)

9500 ZW-8 **ZeroWire VESA Holder,** for mounting a transmitter or receiver to a 19" or 23" monitor

9500 ZW-9 **ZeroWire VESA Holder,** for mounting a transmitter or receiver to 42", 52" and 55" monitors

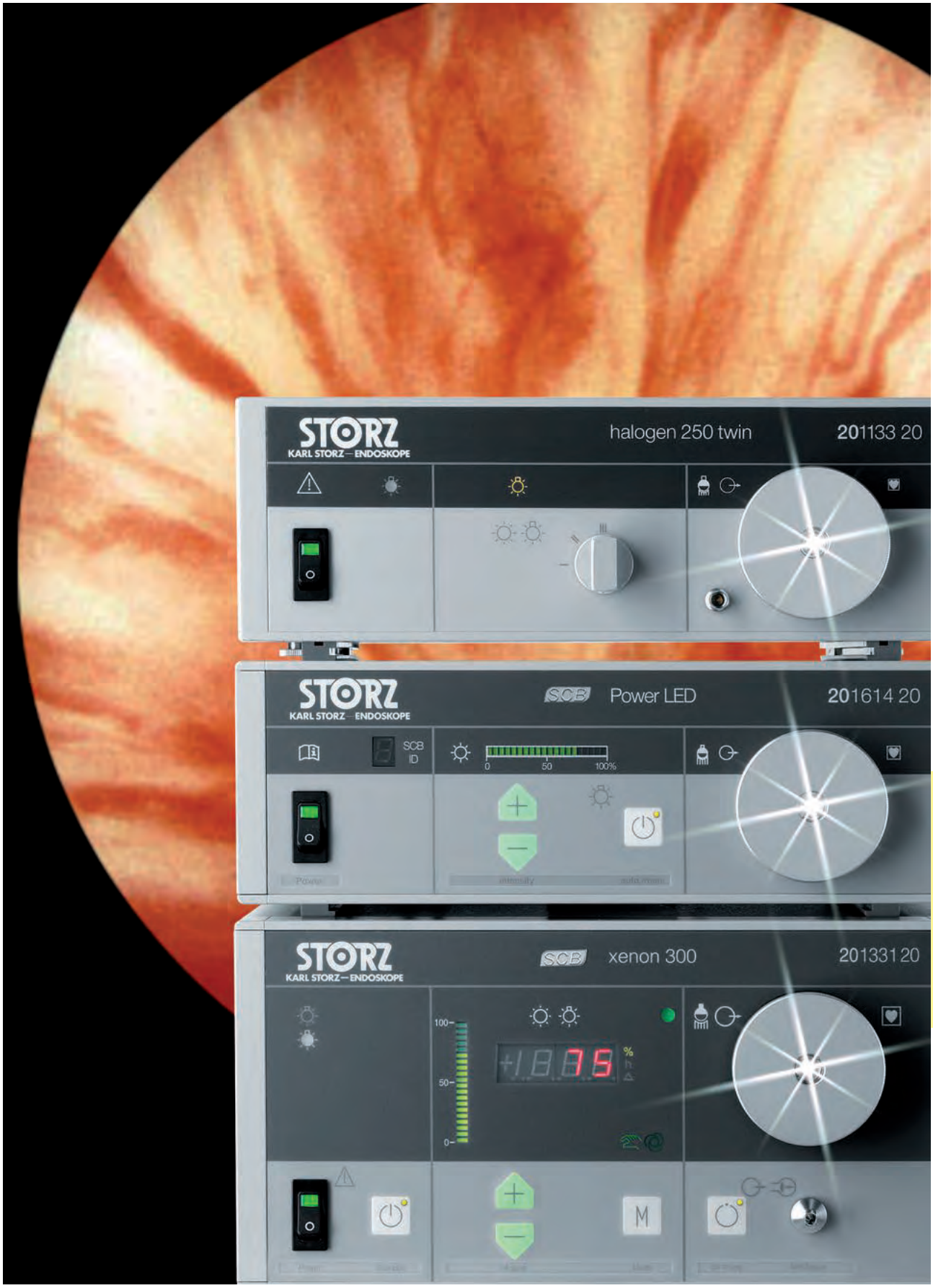
9500 ZW-13 **XLR Y-Cable for High Bright LED Monitors**

9500 ZW-14 **Extended VESA Holder,** for mounting a transmitter or receiver to a 24" or 26" monitor

9500 ZW-15 **VESA Holder,** L-shape, for mounting a transmitter or receiver to a 24" or 26" monitor with center height restrictions due to boom arm

Component Parts see COMPONENTS, SPARE PARTS

MONITORS


STORZ
KARL STORZ — ENDOSKOPE
halogen 250 twin
201133 20
STORZ
KARL STORZ — ENDOSKOPE
SCB
Power LED
201614 20
SCB ID
0
50
100%
STORZ
KARL STORZ — ENDOSKOPE
SCB
xenon 300
20133120
100
50
0
M

8-051

KARL STORZ — ENDOSKOPE

Cold Light

In 1960, Karl Storz discovered that it was possible to transmit light with fiber optic light cables. This discovery marked the birth of cold light endoscopy. From a light source outside the body, light is transmitted via a fiber optic light cable through an endoscope to the examination site. A patent was granted for this new type of light transmission.

Only specific and particularly powerful Halogen, LED or Xenon light sources are used in today's cold light projectors from KARL STORZ.

A widely recognized feature of the KARL STORZ illumination system is the perfectly matched light system, consisting of a lamp and a concave mirror which project light evenly and effectively onto the surface of the light guide.

A vaporized concave mirror, or the so-called cold light mirror, is designed to reflect visible light while allowing the transmission of infrared radiation.

Light and Radiation

"Light" often refers to the portion of electromagnetic radiation visible to the human eye. The sun emits some of the energy powered by nuclear fusion at 4 and 11 million Kelvin from the solar photosphere which has a temperature of approximately 5800 Kelvin. Only those rays with wavelengths exceeding 295 nm reach the Earth's surface. Other rays are absorbed by the ozone layer in the upper atmosphere so that we are provided with relatively good protection against ultraviolet solar radiation.

There are no exact bounds to the optical spectrum as this can only be determined according to the amount of radiation reaching the retina as well as the eye sensitivity of the individual observer. The lower limit is generally considered to be between 360 nm and 400 nm and the upper limit between 760 nm and 830 nm.

Most solar radiation is located in the green part of the spectrum and it is no coincidence that the human eye is most sensitive to light at this wavelength. On the one hand, solar radiation is our most important source of radiation, light and heat and, on the other, it has influenced the development of a highly sensitive light sensor system in humans.

To measure the eye's response to light, all light processes are measured in accordance with the sensitivity curve of the human eye.

Light output or luminous flux is derived from this radiant power, which is expressed in lumens. The lumen is the basic parameter in lighting technology for light intensity, illumination, and luminance.

Although the light output of a lamp, i.e. the ratio between the radiated luminous flux and generated electric power expressed in lumens/watts (light output = lumen/watt), is only one of many features to be considered when choosing a particular lamp for a specific application, it is nevertheless one of the most important parameters. A high light output offers the commercial benefit of low energy costs as well as an ecological advantage of resource conservation. These aspects are becoming increasingly important due to growing environmental consciousness. KARL STORZ also has a strong focus on these environmental values and continues to lead the market in this area.

To achieve high light output, it is necessary that:

- Energy in the lamp is generated by means of highly efficient processes
- Radiance should have a high amount of visible light
- Heat emission to the environment is low by means of good conduction and convection.

Color Temperature

Light output and color temperature are closely related as the human perception of light has undergone a long evolutionary process under the influence of solar radiation. The human eye is most sensitive to light at about 555 nm, i.e. in the green area of the spectrum. Sensitivity drops off at the red and at the blue ends and disappears completely at about 380 nm and 750 nm. Sunshine has a temperature of 5800 Kelvin.

In contrast, light sources subject to the laws of physics have a completely different spectral distribution. Therefore such processes are required that transmit as much radiation as possible to the area of the eye governing sensitivity. The generation of light through thermal radiation is an important feature of illumination technology. This applies to both incandescent and gas discharge lamps so that the color spectrum, i.e. color temperature, can be assigned a single numerical measurement.

In accordance with the latest technology, LED (light-emitting diodes) are also used. In contrast to **incandescent light bulbs,** light-emitting diodes are not **heat generators.** LEDs emit narrow-specturm light, which is virtually **monochrome.**

The following table provides a definition and a classification of color temperatures:

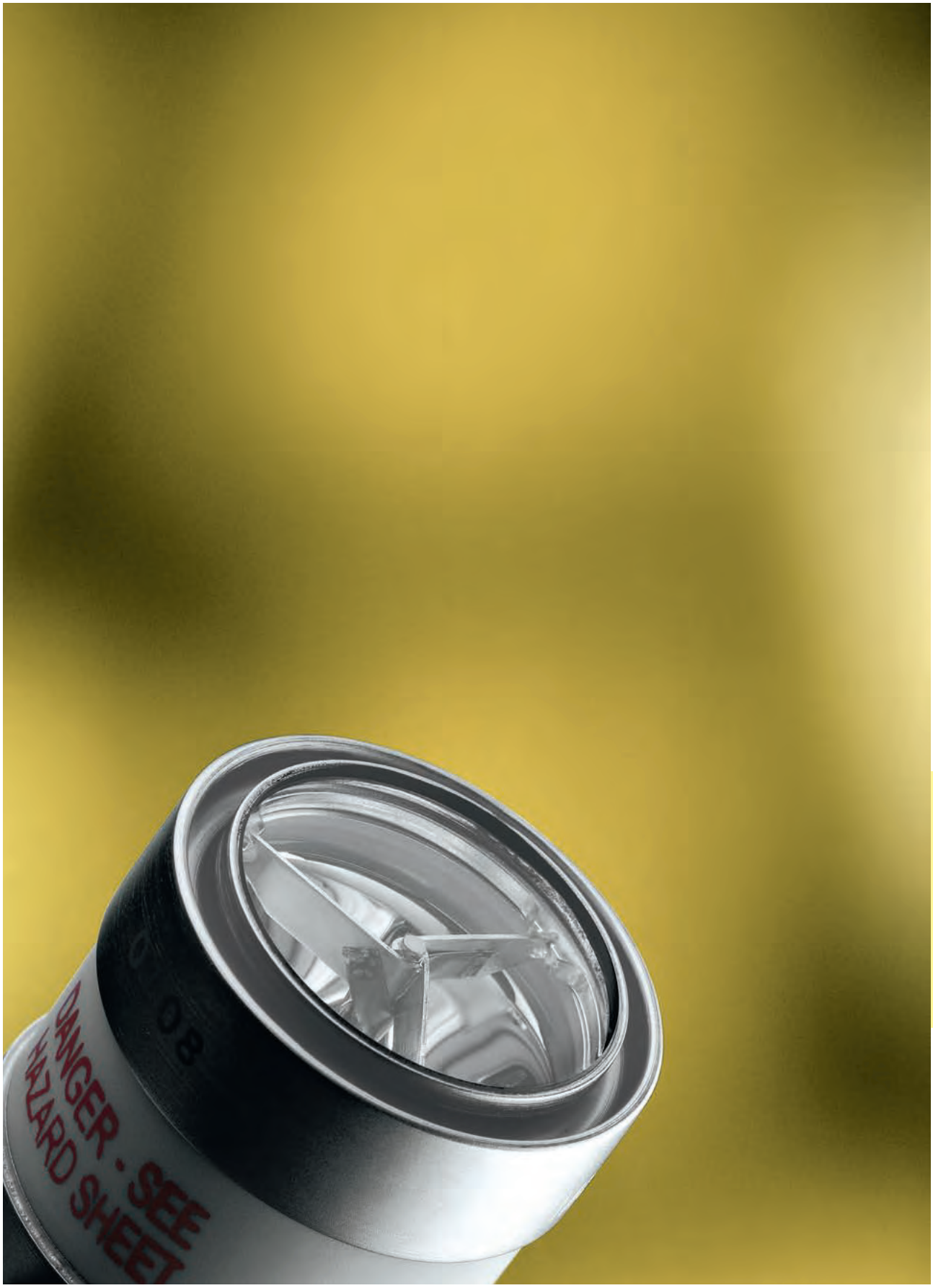
Color Temperature	Color of Light
< 3300 Kelvin	Warm white
3300 – 5000 Kelvin	Neutral white
6000 Kelvin	Daylight white
6400 Kelvin	Daylight white LED

9-011

LIGHT SOURCES

Cold Light Fountains XENON, D-LIGHT Systems

KARL STORZ — ENDOSKOPE



LIGHT SOURCES

8-05

LIGHT SOURCES

Cold Light Fountains XENON, D-LIGHT Systems

Overview

KARL STORZ — ENDOSKOPE

Cold Light Fountain XENON 100 SCB

Cold Light Fountain XENON NOVA® 175

Cold Light Fountain XENON 175 SCB

Cold Light Fountain XENON 300 SCB

D-LIGHT C-System SCB

D-LIGHT C/AF-System SCB

D-LIGHT P-System SCB

NEW

Xenon Cold Light Sources

Xenon technology by KARL STORZ marks the next major development in illumination systems. Xenon cold light sources have two distinct advantages over standard light bulbs: the Xenon lamp produces twice the light output of a modern halogen lamp while consuming 2/3 as much energy. The improved light output provides brighter and wider illumination of the examination site. The natural daylight color temperature of the Xenon light source is accommodating towards the human eye.

In addition to Xenon Cold Light Fountains, KARL STORZ also offers several units at various price ranges to provide optimal customer satisfaction and maximum customer benefits.

The XENON 175 SCB and XENON NOVA® 175 models are operated with a 175 Watt Xenon lamp, providing excellent illumination with a natural color temperature of 6000 Kelvin. A mechanical dimmer allows for continuous manual adjustment of brightness without altering the current to the lamp which ensures maximum lamp life.

Models from the XENON 300 SCB and XENON NOVA® 300 series meet all requirements for endoscopic procedures and also provide optimal image and video documentation. With a natural color temperature of 6000 Kelvin and equipped with a 300 Watt Xenon lamp, these models are particularly suitable for the aforementioned documentation.

The XENON NOVA® 300 has a mechanical dimmer to regulate brightness. With the electronic XENON 300 SCB, light is adjusted via a microprocessor-controlled optomechanical dimmer. The unaltered lamp current also ensures maximum lamp life. Light adjustment can be controlled manually via push button or automatically with the video camera's output signal. The standard XENON 175 SCB, XENON 300 SCB, D-LIGHT P SCB and D-LIGHT C/AF SCB models can be operated with the KARL STORZ-SCB system via touch screen or the VOICE1® voice control function.

An anti-fog pump is also available for endoscopes equipped with a special antifog channel to prevent fogging of lenses.

Cold Light Fountain XENON 100 SCB

with integrated insufflation pump

KARL STORZ — ENDOSKOPE

for use with KARL STORZ video endoscopes

Special Features:

- **Optimal light efficiency**
- **Electronically adjustable light intensity**
- **Powerful ventilation with low noise level**
- **No overheating of environment**
- **Special diaphragm focuses the light onto the field of view**
- **New dielectric heat protection filter improves light efficiency by around 20%**
- **With KARL STORZ Communication Bus (KARL STORZ-SCB)**
- **Problem-free lamp replacement**
- **Integrated insufflation pump**
- **High light intensity**
- **Xenon lamp provides daylight coloration**
- **Display of lamp service life**
- **Insufflation pump with 3 performance levels**
- **100 W Xenon lamp**

20 1326 01-1 **Cold Light Fountain XENON 100 SCB**

incl. integrated insufflation pump, power supply 100 – 240 VAC, 50/60 Hz, for use with KARL STORZ video endoscopes

including:

Mains Cord

Water Bottle, 250 ml

Irrigation Adaptor, for water bottle

Bottle Holder

Accessories:

20 1325 80 **Air Filter,** XENON 100

20 0300 30 **Adaptor,** with insufflation connector

Specifications:

Xenon lamp	- capacity: 100 W - lamp life: approx. 500 h - color temperature: approx. 6000 K
Pump	- pressure levels: 3 - max. pressure: 0.51 bar - max. flow rate: 5 l/min
Operating conditions	- operating temperature: 0 °C-+40 °C - humidity: 30-90%

Power supply	- 230 VAC +/-10%, 50/60 Hz - 115 VAC +/-10%, 50/60 Hz
Dimensions w x h x d	305 x 110 x 380 mm
Weight	5.4 kg
Certified to	- IEC 60601-1, 60601-2-18, UL 2601.1, CSA 22.2, Nr. 601.1-M 90 - mode of operation: continuous

The system can be operated with KARL STORZ-SCB units.

Spare Lamps and Spare Lamp Modules for Cold Light Fountains XENON see page TP 90

Component Parts see COMPONENTS, SPARE PARTS

LIGHT SOURCES

8-05$_2$

Cold Light Fountain XENON NOVA® 175

Special Features:

- **High light intensity due to 175 W Xenon lamp, thus ideally suitable for applications requiring high illumination levels**
- **Continuous manual adjustment of light intensity**
- **Excellent price/performance ratio**

201315-20	**Cold Light Fountain XENON NOVA® 175**

power supply 100 – 125 VAC/220 – 240 VAC, 50/60 Hz
including:
Mains Cord

Specifications:

Lamp type	XENON 15 V, 175 Watt
Color temperature	approximately 6000 K
Light outlets	1
Light intensity adjustment	continuous manual adjustment

Dimensions w x h x d	305 x 110 x 260 mm
Weight	4 kg
Certified to	IEC 601-1, CE acc. to MDD, protection class 1/CF

Spare Lamps and Spare Lamp Modules for Cold Light Fountains XENON see page TP 90
Component Parts see COMPONENTS, SPARE PARTS

8-05

Cold Light Fountain XENON 175 SCB

Special Features:

- **Built-in antifog pump**
- **With integrated KARL STORZ Communication Bus (KARL STORZ-SCB)**

201321-20-1 **Cold Light Fountain XENON 175 SCB**

power supply 100 – 125/220 – 240 VAC, 50/60 Hz
including:
Mains Cord
Silicone Tubing Set, length 250 cm
SCB Connecting Cable, length 100 cm

Specifications:

Lamp type	XENON 15 V, 175 Watt
Color temperature	approximately 6000 K
Light outlets	1
Light intensity adjustment	continuously adjustable, either via a membrane keyboard or KARL STORZ Communication Bus Signal

Dimensions w x h x d	305 x 165 x 260 mm
Weight	7.7 kg
Certified to	IEC 601-1 and UL 544, protection class 1/CF

Spare Lamps and Spare Lamp Modules for Cold Light Fountains XENON see page TP 90

Component Parts see COMPONENTS, SPARE PARTS

8-05₁

Cold Light Fountain XENON 300 SCB

Special Features:

- **Extremely high light intensity due to 300 Watt Xenon lamp**
- **Built-in antifog pump**
- **With integrated KARL STORZ Communication Bus (KARL STORZ-SCB)**

201331-20-1 **Cold Light Fountain XENON 300 SCB**

power supply 100 – 125/220 – 240 VAC, 50/60 Hz
including:
Mains Cord
Silicone Tubing Set, length 250 cm
SCB Connecting Cable, length 100 cm

Specifications:

Lamp type	XENON 15 V, 300 Watt
Color temperature	approximately 6000 K
Light outlets	1
Light intensity adjustment	continuously adjustable, either via a membrane keyboard or KARL STORZ Communication Bus Signal

Dimensions w x h x d	305 x 165 x 335 mm
Weight	7.96 kg
Certified to	IEC 601-1 and UL 544, protection class 1/CF

Spare Lamps and Spare Lamp Modules for Cold Light Fountains XENON see page TP 90

Component Parts see COMPONENTS, SPARE PARTS

8-05₁

D-LIGHT C System SCB

Special features:

- **For photodynamic examination of the bladder in conjunction with HOPKINS® II telescopes 27005 AIA/FIA/BIA/CIA**
- **Facility for switching between reduced white light, high-power white light and Protoporphyrin IX fluorescence mode (optional)**
- **With integrated KARL STORZ Communication Bus (KARL STORZ-SCB)**

20 1336 20-134 **Cold Light Fountain D-LIGHT C/US SCB**

power supply 100 – 125/220 – 240 VAC, 50/60 Hz
including:
Mains Cord
SCB Connecting Cable, length 100 cm
One-Pedal Footswitch, one-stage, for switch function

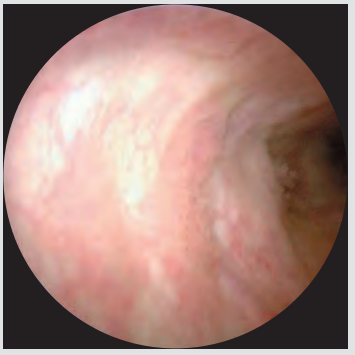


Image in white light mode

Image in blue light PDD mode

Specifications:

Lamp type	XENON 15 V, 300 Watt
Color temperature	approximately 6000 K
Light outlets	1
Light intensity adjustment	continuously adjustable, either via a membrane keyboard or KARL STORZ Communication Bus Signal

Dimensions w x h x d	305 x 165 x 335 mm
Weight	11 kg
Certified to	IEC 601-1 and UL 544, protection class 1/CF

Spare Lamps and Spare Lamp Modules for D-LIGHT Systems see page TP 90

Component Parts see COMPONENTS, SPARE PARTS

8-05₁

D-LIGHT C/AF System SCB

Special Features:

- **For photodynamic early diagnosis in bronchoscopy or photodynamic examination of the bladder**
- **Facility for switching between reduced white light, autofluorescence mode and Protoporphyrin IX fluorescence mode (optional)**
- **With integrated KARL STORZ Communication Bus (KARL STORZ-SCB)**

20 1336 01-133 **Cold Light Fountain D-LIGHT C/AF SCB**

power supply 100 – 125/220 – 240 VAC, 50/60 Hz
including:
Mains Cord
SCB Connecting Cable, length 100 cm

Image in white light mode

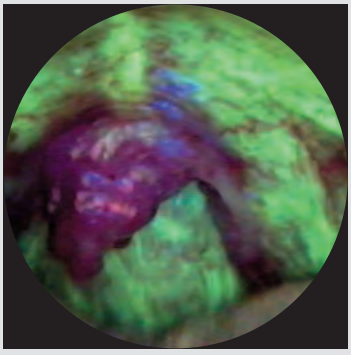


Image in blue light AF mode

Specifications:

Lamp type	XENON 15 V, 300 Watt
Color temperature	approximately 6000 K
Light outlets	1
Light intensity adjustment	continuously adjustable, either via a membrane keyboard or KARL STORZ Communication Bus Signal

Dimensions w x h x d	305 x 165 x 335 mm
Weight	11 kg
Certified to	IEC 601-1 and UL 544, protection class 1/CF

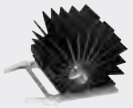
Spare Lamps and Spare Lamp Modules for D-LIGHT Systems see page TP 90
Component Parts see COMPONENTS, SPARE PARTS

8-05₁

Cold Light Fountains XENON, D-LIGHT Systems

Spare Lamps and Spare Lamp Modules

KARL STORZ — ENDOSKOPE

			for use with					
			XENON 100 SCB	XENON NOVA® 175	XENON 175 SCB	XENON 300 SCB	D-LIGHT C SCB	D-LIGHT C/AF SCB
	201320-26	**XENON Spare Lamp,** 175 W, 15 V	–	●	●	–	–	–
	201330-28	**XENON Spare Lamp,** 300 W, 15 V	–	–	–	●	●	●
	**20** 1325 26	**XENON Spare Lamp,** 100 W, 15 V	●	–	–	–	–	–
	201320-25	**XENON Spare Lamp Module,** 175 W, 15 V	–	●	●	–	–	–
	**20** 1330 27	**XENON Spare Lamp Module,** 300 W, 15 V	–	–	–	●	–	–
	**20** 1336 25	**XENON Spare Lamp Module,** 300 W, 15 V	–	–	–	●	●	●
	201330-26	**XENON 'O' 300 WATT LAMP W/OUT HEAT SINK**	–	–	–	●	–	–

LIGHT SOURCES

8-12

Fluid Light Cables

for Cold Light Fountains

KARL STORZ — ENDOSKOPE

495 FO	**Fluid Light Cable,** diameter 3 mm, length 180 cm
495 FP	**Fluid Light Cable,** diameter 3 mm, length 250 cm
495 FQ	**Fluid Light Cable,** diameter 5 mm, length 180 cm
495 FR	**Fluid Light Cable,** diameter 5 mm, length 250 cm
495 FS	**Fluid Light Cable,** diameter 2 mm, length 220 cm

In fluid light cables, light is not transmitted via glass fibers, but through a special fluid inside the light cable. Fluid light cables are stiffer than fiber optic light cables, and also should not be bent too much. However, the light transmitted in them is more intensive than when using fiber optic light cables of comparable diameters. Fluid light cables are therefore preferred for photodynamic diagnosis (PDD) in conjunction with KARL STORZ light sources from the D-Light series.

Please note:

The high light concentration at the end of the light cable causes heat to be generated in the focal point. The end of the light cable should never be placed on the patient's drape or skin as long as the cold light fountain is turned on, since the light intensity could cause burns in the patient or set the drape on fire.

Sterilization and Disinfection:

Fluid light cables can be disinfected in solutions and can also be gas-sterilized. Steam sterilization destroys the fluid light cable. Not autoclavable.

Recommended combination: Light cable with endoscope*

Diameter light cable	Diameter endoscope
4.8 – 5.0 mm	6.5 – 12.0 mm
3.0 – 3.5 mm	3.0 – 6.5 mm
2.0 – 2.5 mm	0.8 – 2.9 mm

9-01$_2$

***Special endoscopes may deviate.**
Adaptor for connecting KARL STORZ fiber optic light cables with endoscopes and light sources from other manufacturers, see page TP 94

Fiber Optic Light Cables

for Cold Light Fountains

KARL STORZ — ENDOSKOPE

Fiber Optic Light Cable with Straight Connector

	495 NE	**Fiber Optic Light Cable,** diameter 4.8 mm, length 300 cm
	495 NCS	**Fiber Optic Light Cable,** extremely heat-resistant, diameter 4.8 mm, length 250 cm
NEW	495 NCSC	**Fiber Optic Light Cable,** extremely heat-resistant, with safety locking device, diameter 4.8 mm, length 250 cm
	495 NB	**Fiber Optic Light Cable,** diameter 4.8 mm, length 180 cm
	495 ND	**Fiber Optic Light Cable,** diameter 3.5 mm, length 300 cm
	495 NA	**Fiber Optic Light Cable,** diameter 3.5 mm, length 230 cm
NEW	495 NAC	**Fiber Optic Light Cable,** with safety locking device, diameter 3.5 mm, length 230 cm
	495 NL	**Fiber Optic Light Cable,** diameter 3.5 mm, length 180 cm
	495 NTA	**Fiber Optic Light Cable,** diameter 2.5 mm, length 230 cm
	495 NT	**Fiber Optic Light Cable,** diameter 2.5 mm, length 180 cm

Fiber Optic Light Cable with 90° Deflection to the Light Source

	495 NWL	**Fiber Optic Light Cable,** with 90° deflection to the cold light fountain on the fountain side, diameter 3.5 mm, length 300 cm
	495 NW	**Fiber Optic Light Cable,** with 90° deflection to the cold light fountain on the fountain side, diameter 3.5 mm, length 180 cm
	495 NTW	**Fiber Optic Light Cable,** with 90° deflection to the cold light fountain on the fountain side, diameter 2.5 mm, length 180 cm

495 NVC 495 NV/NVL

Fiber Optic Light Cable with 90° Deflection to the Instrument

NEW	495 NVC	**Fiber Optic Light Cable,** with 90° deflection to the instrument, very narrow radius of curvature, diameter 4.8 mm, length 300 cm
	495 NVL	**Fiber Optic Light Cable,** with 90° deflection to the instrument, diameter 3.5 mm, length 300 cm
	495 NV	**Fiber Optic Light Cable,** with 90° deflection to the instrument, diameter 3.5 mm, length 230 cm

Light Adaptor, angled 90°

	495 EW	**Light Adaptor,** angled 90°, diameter 4.8 mm, free rotatable, to connect with standard telescopes

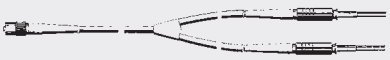
LIGHT SOURCES

9-01₂

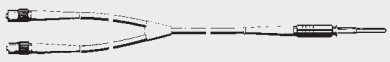
Adaptor for connecting KARL STORZ fiber optic light cables with endoscopes and light sources from other manufacturers, see page TP 94

Fiber Optic Light Cables

for Cold Light Fountains



495 AD/BD



495 UD

495 DC/DV

Fiber Optic Light Cable with Straight Connector

495 BD	**Fiber Optic Light Cable,** diameter 4.8 mm, length 180 cm, for double incidental light radiation in film and TV and when used as demonstration devices
495 AD	**Fiber Optic Light Cable,** diameter 3.5 mm, length 180 cm, for double incidental light radiation in film and TV and when used as demonstration devices
495 UD	**Fiber Optic Light Cable,** 2x diameter 3.5 mm, length 180 cm, for simultaneous light transmission for 2 instruments
495 DC	**Fiber Optic Light Cable,** diameter 3.5 mm, length 320 cm, for use with DCI® Camera Heads **22** 2600 31-3 and **22** 2601 31-3
495 DV	**Fiber Optic Light Cable,** diameter 2.5 mm, length 320 cm, for use with DCI® Camera Heads **22** 2600 31-3 and **22** 2601 31-3

The given diameter is the diameter of the built-in glass fibers on the instrument side.

Fiber Optic Light Cable for Head Lamps

495 NAS	**Fiber Optic Light Cable,** diameter 3.5 mm, length 230 cm
495 NTAS	**Fiber Optic Light Cable,** diameter 2.5 mm, length 230 cm
495 NWMS	**Fiber Optic Light Cable,** with 90° deflection to the cold light fountain, diameter 3.5 mm, length 230 cm
495 NTXS	**Fiber Optic Light Cable,** with 90° deflection to the cold light fountain, diameter 2.5 mm, length 230 cm

Please note:

The high light concentration at the end of the light cable causes heat to be generated in the focal point. The end of the light cable should never be placed on the patient's drape or skin as long as the cold light fountain is turned on, since the light intensity could cause burns in the patient or set the drape on fire.

Sterilization and Disinfection:

The fiber optic light cables can be sterilized in the autoclave at 273 °F (134 °C). Gas sterilization is recommended and chemical disinfection is possible.

Recommended combination: light cable with endoscope*

Diameter light cable	Diameter endoscope
4.8 – 5.0 mm	6.6 – 12.0 mm
3.0 – 3.5 mm	3.0 – 6.5 mm
2.0 – 2.5 mm	0.8 – 2.9 mm

***Special endoscopes may deviate.**

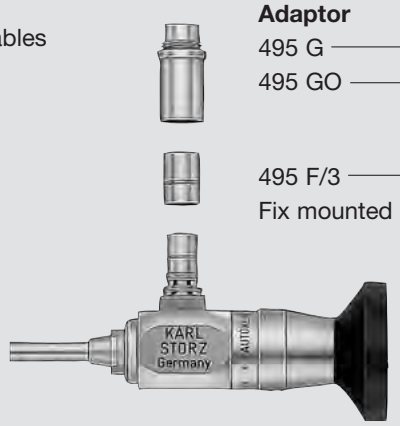
Adaptor for connecting KARL STORZ fiber optic light cables with endoscopes and light sources from other manufacturers, see page TP 94

9-01₃

Adaptors

for Light Sources and Light Cables

HOPKINS® Telescopes with universal connector for light cables



Adaptor	Light Cable
495 G	**KARL STORZ**
495 GO	Olympus/Winter & Ibe
	Olympus/Winter & Ibe with attached lens
495 F/3	Wolf
Fix mounted	ACMI
	Zimmer

Manufacturer	I = Instrument CF = Cold Light Fountain LC = Light Cable	KARL STORZ				
		Light Cable	Cold Light Fountain	Former Instrument	Current Instrument	Special Applications
ACMI	I	495 W	–	–	–	ACMI connector to ACMI connector 495 Y
	CF	495 PA	–	–	–	
	LC	–	495 C	–	–	
Downs	CF	495 PA	–	–	–	
Dyonics	CF	495 Q	–	–	–	
Effner	CF	495 Q	–	–	–	
Fuji	CF	495 FU	–	–	–	
KLI	LC	–	495 C	–	–	
	CF	495 PA	–	–	–	
Olympus	CF	495 SON	–	–	–	Olympus Techno Fountain for KARL STORZ Cable 81495 OT, Olympus Light Cable for KARL STORZ Techno Fountain 81450/81495 OL
	LC	–	495 D	–	–	
Pentax	CF	495 T	–	–	–	
	LC	–	495 D	–	–	
HSW	CF	495 Q	–	–	–	
	LC	–	495 E	495 N	495 N	
Stryker	CF	495 PA	–	–	–	
Richard Wolf	I	495 X	–	–	–	
	CF	495 Q	–	–	–	
	LC	–	495 E	495 M	–	
Olympus/ Winter & Ibe	CF	495 S	–	–	–	**495 S:** The use of KARL STORZ fiberscopes with integrated fiber optic light cable and KARL STORZ light cables with non-graduated distal connection (diameter 7 mm) requires an additional adaptor **495 PWS** to adaptor **495 S**
	LC with attached lens	–	–	495 GO	495 GO	

LIGHT SOURCES

9-01₂

Adaptor Series

for HALOGEN and XENON Light Sources

487 A	**Adaptor,** for KARL STORZ light sources in combination with ACMI light cable
487 M	**Adaptor,** for KARL STORZ light sources in combination with Machida light cable
487 O	**Adaptor,** for KARL STORZ light sources in combination with Olympus light cable
487 VE	**Adaptor,** for KARL STORZ light sources and KARL STORZ video endoscopes in combination with Olympus OES flexible endoscopes
487 P	**Adaptor,** for KARL STORZ light sources in combination with Pilling light cable
487 U	**Adaptor,** for KARL STORZ light sources in combination with KARL STORZ, Wolf, Dyonics, ACMI, Pilling, V. Müller, Stryker light cable
487 UO	**Adaptor,** for KARL STORZ light sources in combination with KARL STORZ, Wolf, Dyonics, ACMI, Olympus, V. Müller, Stryker light cable
487 W	**Adaptor,** for KARL STORZ light sources in combination with Wolf light cable
487 Z	**Adaptor,** for KARL STORZ light sources in combination with Zeiss light cable and Stryker light cable

Adaptor	*XENON 100 SCB*	*XENON NOVA® 175*	*XENON 175 SCB*	*XENON 300 SCB*	*D-LIGHT C SCB*	*D-LIGHT C/AF SCB*
487 A	–	●	●	●	–	–
487 M	–	●	●	●	–	–
487 O	–	●	●	●	–	–
487 VE	–	●	●	●	–	–
487 P	–	●	●	●	–	–
487 U	–	●	●	●	–	–
487 UO	–	●	●	●	–	–
487 W	–	●	●	●	–	–
487 Z	–	●	●	●	–	–

LIGHT SOURCES

Components
Spare Parts

KARL STORZ — ENDOSKOPE

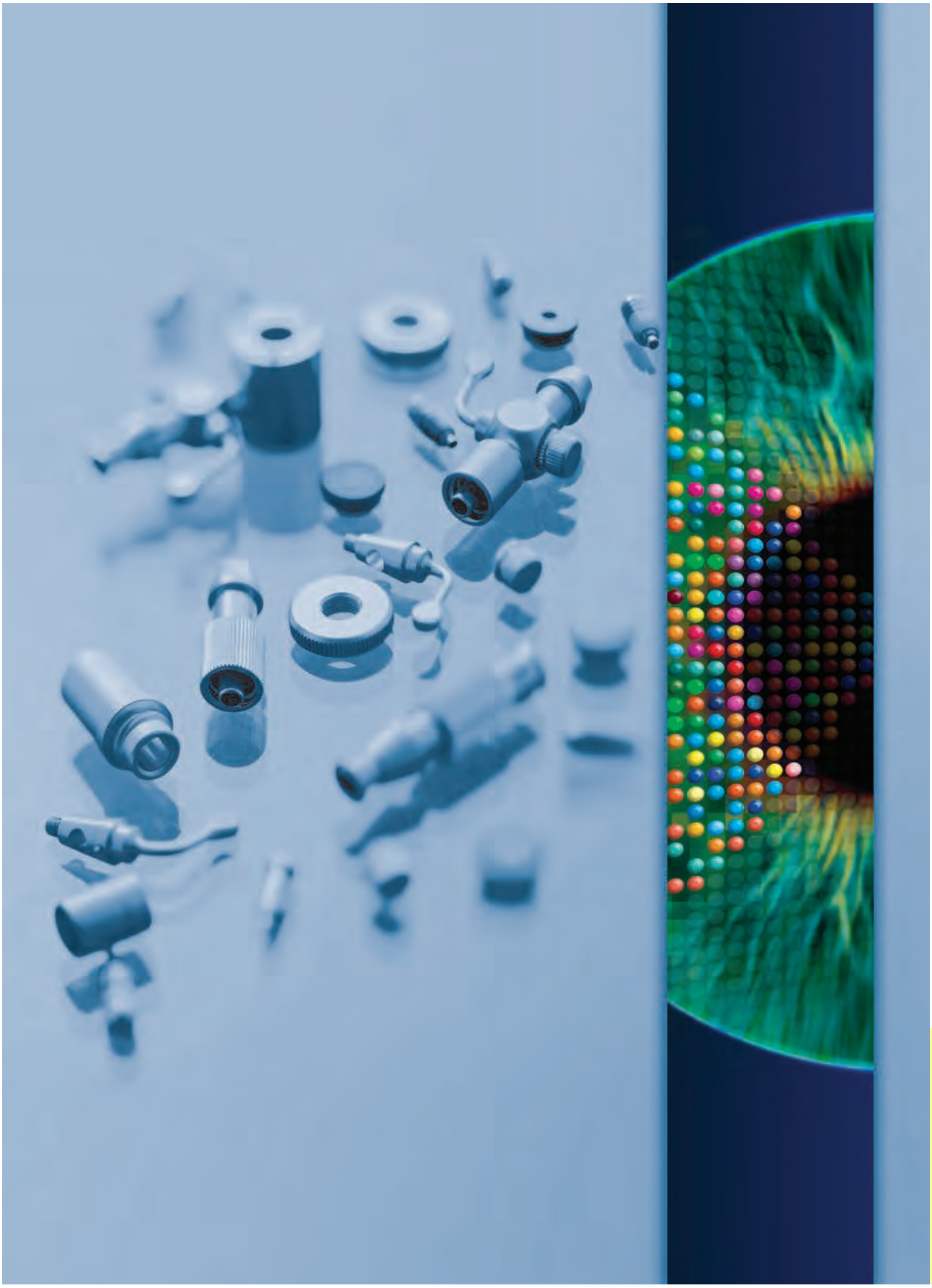


IMAGE 1 HUB™ HD
Camera Control Units SCB

KARL STORZ — ENDOSKOPE

Components / Spare Parts		Catalog page
22201011U110	**IMAGE 1 HUB™ HD Camera Control Unit SCB, with ICM module**	TP 10
400 E	**Mains Cord**	
536 MK	**BNC/BNC Video Cable**	
547 S	**S-Video (Y/C) Connecting Cable**	
20221070	**Connecting Cable,** for controlling peripheral units	
574 DA	**DVI-D Connecting Cable**	
20090170	**SCB Connecting Cable**	
20200130U	**Keyboard,** with US English character set	
20040281	**KARL STORZ USB Flash Drive,** 4 GB	

Components / Spare Parts		Catalog page
22201011U112	**IMAGE 1 HUB™ HD Camera Control Unit SCB, with SDI/ICM module**	TP 10
400 E	**Mains Cord**	
536 MK	**BNC/BNC Video Cable**	
547 S	**S-Video (Y/C) Connecting Cable**	
20221070	**Connecting Cable,** for controlling peripheral units	
574 DA	**DVI-D Connecting Cable**	
20090170	**SCB Connecting Cable**	
20200130U	**Keyboard,** with US English character set	
20040281	**KARL STORZ USB Flash Drive,** 4 GB	

Components / Spare Parts		Catalog page
22201011U1	**IMAGE 1 HUB™ HD Camera Control Unit SCB**	TP 11
400 E	**Mains Cord**	
536 MK	**BNC/BNC Video Cable**	
547 S	**S-Video (Y/C) Connecting Cable**	
20221070	**Connecting Cable,** for controlling peripheral units	
574 DA	**DVI-D Connecting Cable**	
20090170	**SCB Connecting Cable**	

IMAGE 1 HUB™ HD, IMAGE1 HD

Components / Spare Parts		Catalog page
22201011U102	**IMAGE 1 HUB™ HD Camera Control Unit SCB, with SDI module**	TP 11
400 E	**Mains Cord**	
536 MK	**BNC/BNC Video Cable**	
547 S	**S-Video (Y/C) Connecting Cable**	
20221070	**Connecting Cable,** for controlling peripheral units	
574 DA	**DVI-D Connecting Cable**	
20090170	**SCB Connecting Cable**	

Components / Spare Parts		Catalog page
22202011U110	**IMAGE1 HD Camera Control Unit SCB, with ICM module**	TP 13
400 E	**Mains Cord**	
20221070	**Connecting Cable,** for controlling peripheral units	
574 DA	**DVI-D Connecting Cable**	
20090170	**SCB Connecting Cable**	
20200130U	**Keyboard,** with US English character set	
20040281	**KARL STORZ USB Flash Drive,** 4 GB	

Components / Spare Parts		Catalog page
22202011U1	**IMAGE1 HD Camera Control Unit SCB**	TP 13
400 E	**Mains Cord**	
20090170	**SCB Connecting Cable**	
574 DA	**DVI-D Connecting Cable**	
20221070	**Connecting Cable,** for controlling peripheral units	

TRICAM® SL II SCB, TELE PACK X

Components / Spare Parts		Catalog page
20223011U1	**TRICAM® SL II Camera Control Unit SCB**	TP 25
400 E	**Mains Cord**	
20200130U	**Keyboard,** with US English character set	
20221070	**Connecting Cable,** for controlling peripheral units	
536 MK	**BNC/BNC Video Cable**	
547 S	**S-Video (Y/C) Connecting Cable**	
20203270	**Special RGBS Connecting Cable**	
20090170	**SCB Connecting Cable**	
20040082	**DV Connecting Cable,** 6 pin to 4 pin	

Components / Spare Parts		Catalog page
20045001-EN	**TELE PACK X**	TP 31
20040240US	**USB Silicone Keyboard,** with touchpad, US character set	
20040281	**KARL STORZ USB Flash Drive,** 4 GB	
400 A	**Mains Cord**	

TELECAM DX II, C-HUB™, C-MAC® Video Laryngoscope

KARL STORZ — ENDOSKOPE

Components / Spare Parts		Catalog page
20233011	**TELECAM DX II Camera Control Unit**	TP 35
400 E	**Mains Cord**	
20221070	**Connecting Cable,** for controlling peripheral units	
536 MK	**BNC/BNC Video Cable**	
547 S	**S-Video (Y/C) Connecting Cable**	

Components / Spare Parts		Catalog page
20290101	**C-HUB™ Camera Control Unit**	TP 48
20290120-PS	**C-HUB™ Power Supply**	
547 S	**S-Video (Y/C) Connecting Cable**	

Components / Spare Parts		Catalog page
8402 ZX	**Monitor for CMOS Endoscopes**	TP 49

Spare Parts

40150031
Power Supply, for charging and starting up C-MAC® 8401 ZX and 8402 ZX, with 4 adaptors for Europe, Great Britain, USA/Japan and Australia, power supply 100 – 240 VAC, 50/60 Hz

COMPONENTS SPARE PARTS

STOR-E® Transport Cart

Components / Spare Parts		Catalog page
20020083	**STOR-E® Transport Cart,** for POINT SETTER® holding arm	TP 68
20020061	**Subrack,** for POINT SETTER®	
20020055	**Accessory Set,** for POINT SETTER®	
20020057	**Top Cover**	
29005 AK	**Wire Basket**	
96206358DF	**Manual**	

COMPONENTS
SPARE PARTS

8-12

19" and 26" HD Monitors

Components / Spare Parts		Catalog page
9419 A	**19" HD Monitor**	TP 75
9419 PS	**Power Supply**	
400 A	**Mains Cord**	
547 DA	**DVI-D Connecting Cable**	
9318NR-BSDI	**BNC/BNC Video Cable**	

Components / Spare Parts		Catalog page
9426 LS	**26" HD Monitor with LED Backlight**	TP 75
9424 PS	**Power Supply**	
400 A	**Mains Cord**	
547 DA	**DVI-D Connecting Cable**	
9318NR-BSDI	**BNC/BNC Video Cable**	

Components / Spare Parts		Catalog page
9426 L	**26" HD Monitor (High Bright with LED Backlight)**	TP 75
9426 L-PS	**Power Supply**	
400 A	**Mains Cord**	
547 DA	**DVI-D Connecting Cable**	
9318NR-BSDI	**BNC/BNC Video Cable**	

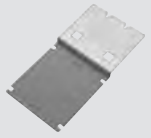
Components / Spare Parts		Catalog page
9426 LD	**26" HD Digital Monitor (High Bright with LED Backlight)**	TP 75
9426 L-PS	**Power Supply**	
400 A	**Mains Cord**	
547 DA	**DVI-D Connecting Cable**	
9318NR-BSDI	**BNC/BNC Video Cable**	

ZeroWire Video Tansmission Set

Components / Spare Parts		Catalog page
9500 ZW-KT	**ZeroWire Video Transmission Set**	TP 77
9500 TX	**Transmitter**	
9500 RX	**Receiver**	
9500 ZW-6	**Radiance Y-Cable 19"/26"**	
9500 ZW-7	**VESA Holder,** extended VESA holder for 19" or 23" monitor, short VESA holder for 24" or 26" monitor	
9500 ZW-8	**VESA Holder 19"/23"**	
9500 ZW-2	**DVI-D Cable,** for CCU-Tx and Monitor-Rx connection	
9500 ZWIM	**Instruction Manual**	
9500 ZW-13	**XLR Y-Cable for High Bright LED Monitors**	
9500 ZW-14	**Extended VESA Holder 24"/26"**	
9500 ZW-15	**VESA Holder 24"/26",** L-shape, with center height restrictions due to boom arm	

9500 TX/RX

9500 ZW-6



9500 ZW-7/ZW-14

9500 ZW-2

COMPONENTS SPARE PARTS

8-12

Cold Light Fountains XENON

KARL STORZ — ENDOSKOPE

Components / Spare Parts		Catalog page
20132601-1	**Cold Light Fountain XENON 100 SCB**	TP 84
400 A	**Mains Cord**	
13992 BS	**Water Bottle,** 250 ml	
13991 SW	**Irrigation Adaptor,** for water bottle	
20100031	**Irrigation Bottle Holder**	

Components / Spare Parts		Catalog page
201315-20	**Cold Light Fountain XENON NOVA® 175**	TP 85
400 A	**Mains Cord**	

Components / Spare Parts		Catalog page
201321-20-1	**Cold Light Fountain XENON 175 SCB**	TP 86
400 A	**Mains Cord**	
610 AFT	**Silicone Tubing Set,** length 250 cm	
20090170	**SCB Connecting Cable,** length 100 cm	

Components / Spare Parts		Catalog page
201331-20-1	**Cold Light Fountain XENON 300 SCB**	TP 87
400 A	**Mains Cord**	
610 AFT	**Silicone Tubing Set,** length 250 cm	
20090170	**SCB Connecting Cable,** length 100 cm	

Cold Light Fountains D-LIGHT Systems

Components / Spare Parts		Catalog page
20133620-134	**Cold Light Fountain D-LIGHT C/US SCB**	TP 88
400 A	**Mains Cord**	
20090170	**SCB Connecting Cable,** length 100 cm	
20010130	**One-Pedal Footswitch,** one-stage, for switch function	

Components / Spare Parts		Catalog page
20133601-133	**Cold Light Fountain D-LIGHT C/AF SCB**	TP 89
400 A	**Mains Cord**	
20090170	**SCB Connecting Cable,** length 100 cm	

COMPONENTS SPARE PARTS

8-12

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- Sinoscopy, Rhinoscopy, Postrhinoscopy	☐
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Plastic Surgery	☐
Anesthesiology and Emergency Medicine	☐
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Gastroenterology	☐
Laparoscopy in Surgery, Gynecology, Urology	☐
- Pediatric Laparoscopy	☐
- Minilaparoscopy	☐
Gynecology	☐
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Urology	☐
Proctology	☐
Arthroscopy, Sports Medicine, Spine Surgery	☐
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Microscopy	☐
Pediatric Surgery	☐
KARL STORZ OR1 NEO™	☐
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Hygiene	☐

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Endoscopes and accessories contained in this catalog have been designed in part with the cooperation of physicians and are manufactured by the KARL STORZ group. If subcontractors are hired to manufacture individual components, these are made according to proprietary KARL STORZ plans or drawings. Furthermore, these products are subject to strict quality and control guidelines of the KARL STORZ group. Both contractual and general legal provisions prohibit subcontractors from supplying components manufactured by order of KARL STORZ to competitors.

Any assumptions that competitors' endoscopes and accessories are acquired from the same suppliers as the KARL STORZ products are not correct. Moreover, endoscopes and instruments provided by competitors are not manufactured according to the design specifications of KARL STORZ. This means it cannot be assumed that these endoscopes and accessories – even if they look identical on the outside – are constructed in the same manner and have been tested according to the same criteria.

Standardized Design and Labeling

KARL STORZ participates both in national and international bodies involved in the development of standards for endoscopes and endoscopic accessories. Standardized design and development therefore have long been implemented consistently by KARL STORZ. The user can rest assured that all products by the KARL STORZ group have been designed and constructed not only in compliance with strict internal quality guidelines, but also with international standards. All data relevant for safe use, such as viewing direction, sizes and diameters, or notes regarding sterilization of telescopes, are applied to the instruments, have been formulated according to international standards, and therefore provide reliable information.

As we constantly seek to improve and modify our products, we reserve the right to make changes in design that vary from catalog descriptions.

Original or Counterfeit

KARL STORZ products are name brand articles renowned around the world and represent the state of the art in important areas of healthcare. A large number of "copy cat" products are currently being offered in many markets. These products are designed intentionally to resemble KARL STORZ products and use marketing strategies that at least point out their compatibility with KARL STORZ products. These products are by no means genuine products, since genuine KARL STORZ products are sold worldwide exclusively under the name of KARL STORZ, which appears on the packaging and the product. In the absence of such labeling, the product is not from KARL STORZ.

KARL STORZ, therefore, is unable to ensure that such products are actually compatible with genuine KARL STORZ products or can be used with them without injury to the patient.

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