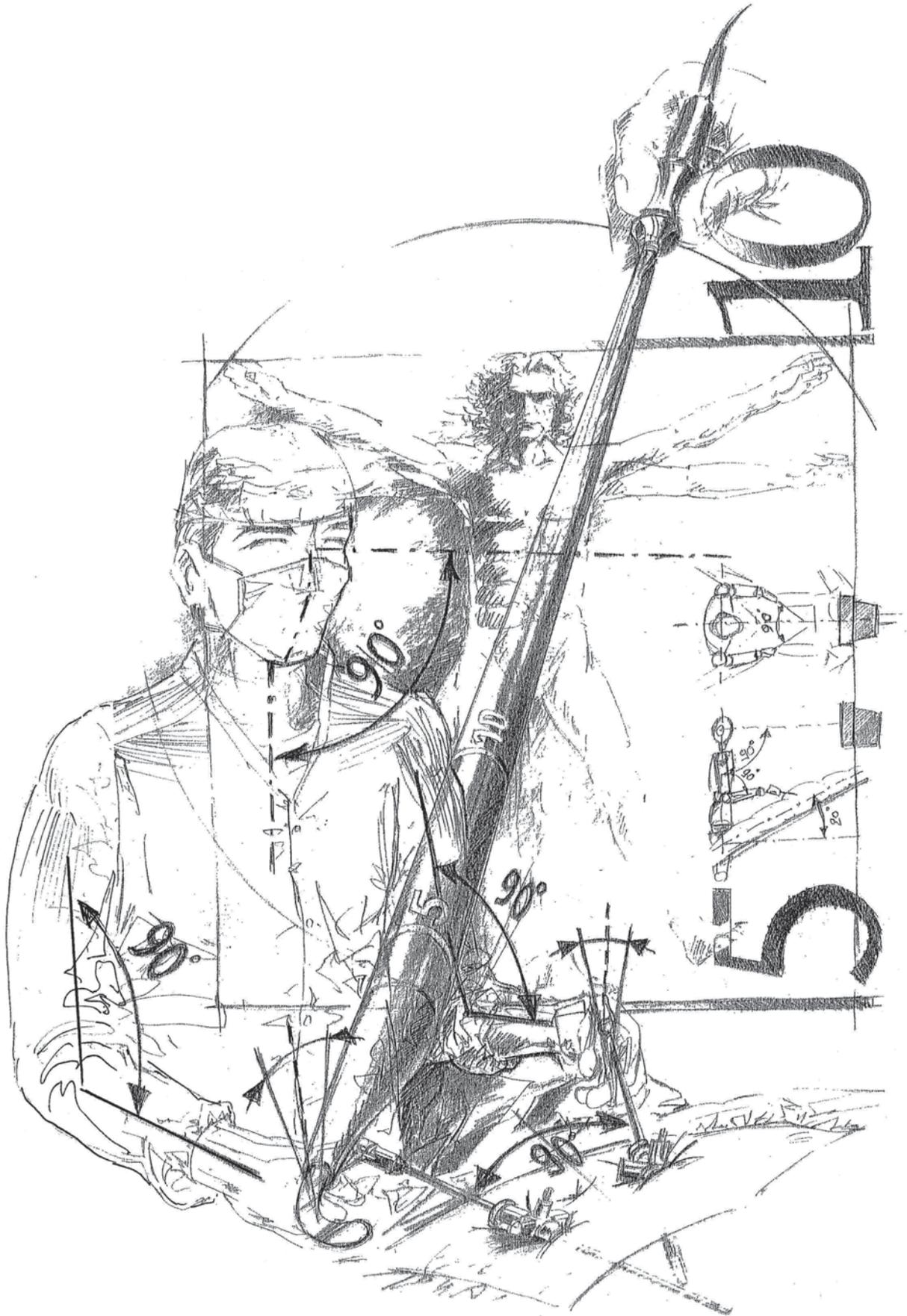


## Laparoscopic Obesity Surgery CADIERE 5/10 Instrument Set





# Laparoscopic Obesity Surgery

## CADIERE 5/10 Instrument Set

### Introduction

Obesity has become an epidemic problem in developed countries. Obesity is associated with co-morbidities which are responsible for over 2.5 million deaths per year worldwide. The loss of life expectancy due to obesity is significant. Obesity is rapidly becoming one of the major medical problems of the developed world.

Currently surgery is the only long term effective treatment for morbid obesity. Laparoscopic bariatric surgery is associated with less pain, shorter hospital stay and quicker return to normal activity as compared to open techniques.

The laparoscopic approach is less invasive which in the physiologically fragile obese patient induces lower stress, cardiopulmonary burden, blood loss and hence a better outcome. Laparoscopy allows faster patient mobilization, which translates to a reduced risk of pulmonary embolism and atelectasis.

Laparoscopic obesity surgery is also associated with a lower incidence of wound related problems such as incisional hernia and abscesses. Laparoscopy also induces fewer adhesions resulting in a reduced incidence of bowel obstruction.

The laparoscopic access improves the accuracy of the surgical task due to a better view, a good ergonomic position and following the achievement of a learning curve, an improved suturing accuracy as compared to open surgery.

The instruments need to be designed in a way that allow the surgeon to work without constraints in an ergonomical and fatigue-free position. Furthermore the instruments in the set have been marked with 5/10 cm measurement marks on the shaft which enable precise intra-operative measurements.

As a rule, the surgeon operates two-handed in the most ergonomic position, and never actually holds the camera himself. With his dominating hand the surgeon dissects, cuts, coagulates, suctions and sutures. The non-dominating hand grasps tissue for suturing or dissecting and will usually manipulate the grasping forceps.

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# General Principles of Laparoscopic Obesity Surgery

The quality of a surgical procedure depends largely on the surgeon's skills and know-how, as well as on the quality and variety of the instruments and of the image guiding the surgeon's actions. Documentation of the OR procedure will be of high importance.

The technique of obesity surgery relies on simple but essential principles and actions:

- Patient and surgeon's position.
- Placement of trocars, optics and laparoscopic instruments.
- Knowledge about the specific laparoscopic anatomy.
- Ability to suture and tie knots intra- and extracorporeally.

## Position of the Patient, Surgeons and Trocars

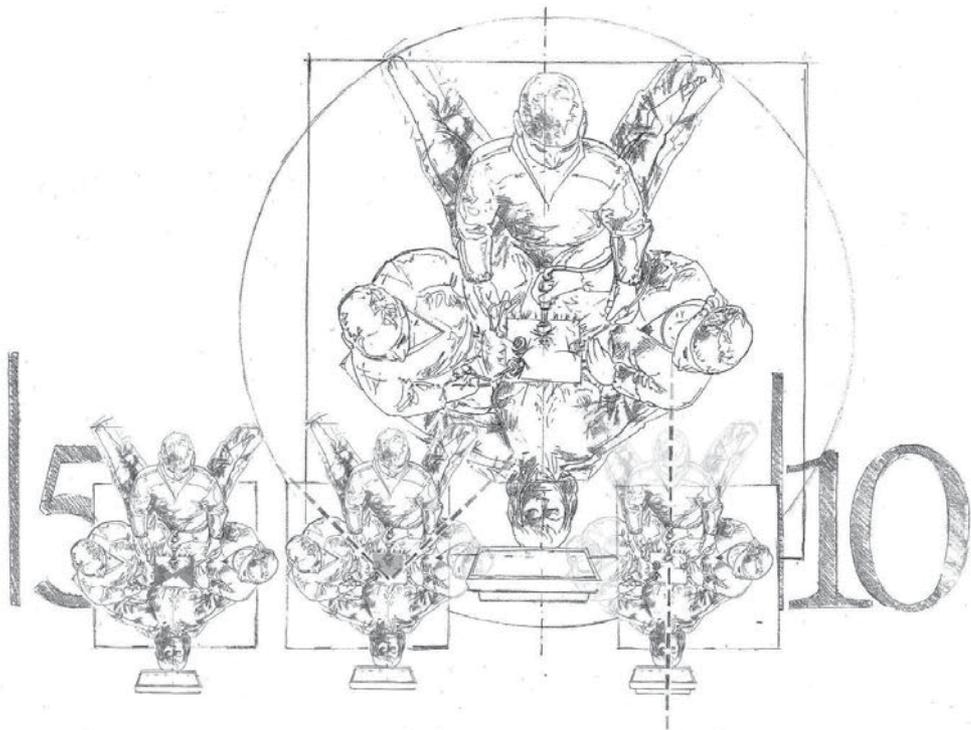
The first rule in laparoscopy concerns the position of instruments, surgeon's head, patient's operative field and video screens. Ideally, the latter three should be separate points on one axis.

The second rule in laparoscopy concerns the trocar placement: there is a distinction between operative or working and assisting trocars. The operative trocars, manipulated by the surgeon, should be at a right angle with the optical system at the bisector of this angle.

The ancillary tools, harboured by the assisting trocars, are placed outside the triangle outline by the operating and optical trocars.

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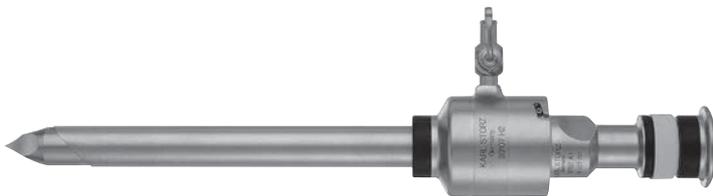
# CADIERE 5/10 Instruments



# CADIERE Requirements on Laparoscopic Instruments

## Trocars

- Should be simple to use and as slimline as possible.
- Should be airtight and allow good sliding of the instruments.
- Should be easy to introduce into the abdomen.
- A reducer is necessary for the use of a 5 mm instrument through a 13 mm trocar, in order to maintain the pneumoperitoneum.



- 30160 AP **Trocar**, with pyramidal tip, insufflation stopcock, automatic valve, size 6 mm, working length 10.5 cm, color code: black, including:  
**Cannula**, without valve  
**Trocar only**  
**Automatic Valve**
- 30103 AP **Same**, size 11 mm, color code: green
- 30107 AP **Same**, size 13 mm, working length 11.5 cm, color code: black



- 30141 HB **Reducer**, 13/5 mm and 13.5/5 mm

## Optical System

- This system must allow a precise vision at a distance from the operative site without loss of focus or light intensity.
- This results in less camera motions and in a wider optical field.
- A 30° telescope allows inspection from different angles through one trocar site.



**HOPKINS® Forward-Oblique Telescope 30°**, enlarged view, diameter 10 mm, length 31 cm, **autoclavable**, fiber optic light transmission incorporated.  
color code: red

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# Instruments for the Dominating Hand

## Unipolar Hook

- The unipolar hook with 5/10 cm marks on the shaft allows precise measurements.
- The hook is designed for dissection, for isolating structures and for transection-coagulation.
- The distal end is formed as a semi-circle: the outer curvature is thick for safe dissection; the inner one is sharp allowing prompt dissection with minimal side coagulation.
- The grip is hatched for better grasp.
- The length of the hook allows ergonomic conditions.



26775 C CADIÈRE **Coagulating and Dissecting Electrode**, L-shaped, with cm-marking, distal tip tapered, with connector pin for unipolar coagulation, size 5 mm, length 36 cm

## Needle Holder

- Must be strong and stable, in order to hold the needle tightly.
- The handle must be along the same axis in order to allow pronation – supination.
- The tip must be curved in order to facilitate knot tying.



26173 CN CADIÈRE **Needle Holder**, with tungsten carbide insert, straight handle, with ratchet and large Handle Attachment, size 5 mm, length 33 cm

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## Scissors

- The scissors marked with 5/10 cm measurement marks on the shaft enables precise measurements when required.
- The rotating axis allows abduction-free pronation and supination.



- 34351 MSC **CLICKLINE METZENBAUM Scissors**, rotating, insulated, with connector pin for unipolar coagulation, double action jaws, curved, length of jaws 12 mm, size 5 mm, length 36 cm including:  
**Plastic Handle**, without ratchet  
**Metal Outer Sheath**, insulated, with cm-marking  
**Scissors Insert**

## Suction Device

- Allows minute and accurate motions which are helpful for dissecting.
- The tube cross section and the side holes are designed so as to minimize loss of pneumoperitoneum.



- 37360 LH **Suction and Irrigation Tube**, with lateral holes, size 5 mm, length 36 cm, for use with suction and irrigation handles



- 031135-10 **Adaptor**, for single use, sterile, with Luer-Lock connector and tube olive for suction and irrigation, package of 10, for use with Suction and Irrigation Handle 38112 C
- 38112 C **CADIERE Suction and Irrigation Handle**, for suction and irrigation, **autoclavable**, for use with 3 mm, 5 mm and 10 mm irrigation tubes with thread on the instrument side, LAP Tubing Sets 031118-10 or 031119-10 for irrigation and Tubing Set 031136-10 for suction as well as tubes with a Luer adaptor
- 031118-10 **LAP Tubing Set**, for irrigation, for single use, sterile, package of 10
- 031119-10 **Tubing Set**, for irrigation, sterile, for single use, with two puncture cannulas, package of 10
- 031136-10 **Adaptor and Suction Tube**, for single use, sterile, package of 10, with Luer-Lock connector and tube olive, for use with Suction and Irrigation Handle 38112 C

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## Grasping Forceps in the Non-Dominating Hand

- The grasper marked with 5/10 cm measurement marks on the shaft enables precise measurements when required.
- The grasper is fenestrated, hence atraumatic in nature.
- The grasper's jaws are both short and strong enough in order to hold suture and needle in a stable fashion.
- One end allows for measurement in a precise way.
- The 110° angle facilitates good ergonomics of the non-dominating hand.
- In order to avoid interference with the optical system the handles are kept short and the window is kept as small as needed for the surgeon's tasks.

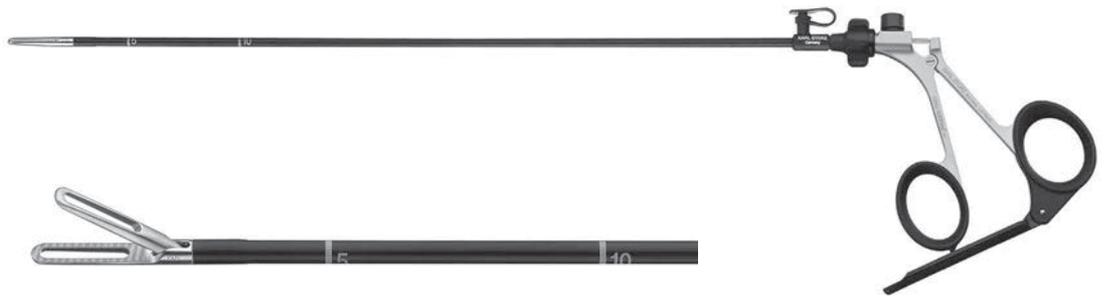


33351 ONC **CLICKLINE Grasping Forceps**, rotating, with connector pin for unipolar coagulation, single action jaws, atraumatic, fenestrated, size 5 mm, length 36 cm  
including:  
**Plastic Handle**, without ratchet  
**Metal Outer Sheath**, insulated, with cm-marking  
**Forceps Insert**

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## Grasping Forceps for the Assistant

- The grasper has measurement marks 5/10 cm on the shaft.
- It should serve for retraction; therefore it needs to be solid.
- The grasper is fenestrated, hence atraumatic in nature.
- The reticulating axis allows for pronation-supination without the need for arm abduction.



33362 ONC **CLICKLINE Grasping Forceps**, rotating, dismantling, without connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, single action jaws, with especially fine atraumatic serration, fenestrated, size 5 mm, length 36 cm

including:

**Metal Handle**, with MANHES style ratchet

**Metal Outer Sheath**, insulated, with cm-marking

**Forceps Insert**

# IMAGE 1 HUB™ HD

## FULL HD Camera Control Unit

### Special Features:

- Maximum resolution and the consistent use of the 16:9 aspect ratio guarantee FULL HD (High Definition).
- Endoscopic camera systems have to be equipped with three CCD chips that support the 16:9 input format, as well as capturing images with a resolution of 1920 x 1080 pixels.

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

- Up to 6 times higher input resolution of the camera delivers more detail and depth of field.
- Using 16:9 format during image acquisition enlarges the field of view.
- The 16:9 format of the widescreen monitor supports ergonomic viewing.
- The brilliant color rendition enables optimal diagnosis.
- Progressive scan technology provides a steady, flicker-free display and helps eliminate eyestrain and fatigue



22201011U102 **IMAGE 1 HUB™ HD Camera Control Unit SCB, with SDI Module**

for use with IMAGE 1 FULL HD and IMAGE 1 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 digital Image Processing Module, color systems **PAL/NTSC**, power supply 100 – 240 VAC, 50/60 Hz including:

- Mains Cord**
- BNC Video Cable**
- S-Video (Y/C) Connecting Cable**
- Special RGBS Connecting Cable**
- 2x Connecting Cables**, for controlling peripheral units
- DVI-D Connecting Cable**
- SCB Connecting Cable**
- Keyboard**, with US English character set

### Specifications:

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

Control output/input	Dimensions w x h x d (mm)	Weight (kg)	Power supply	Certified to:
- KARL STORZ-SCB to 6-pin Mini-DIN socket (2x) - 3.5 mm stereo jack plug (ACC 1, ACC 2), - Serial port at RJ-1	305 x 89 x 335	3.35	100-240 VAC, 50/60 Hz	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

**SDI – Serial Digital Interface:** optimized for medical display on flat screens, routing with OR1™ and digital recording with AIDA-DVD-M



# IMAGE 1 HD

## FULL HD Camera Head



22 2200 55-3	50 Hz 60 Hz	<b>IMAGE 1 H3-Z, Three-Chip FULL HD Camera Head</b>
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max. resolution 1920 x 1080 pixels, 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:

Image sensor	3 x 1/3" CCD chip
Pixel output signal H x V	1920 x 1080
Dimensions (w x h x d)	39 x 49 x 114 mm
Weight	270 g
Min. sensitivity	F 1.4/1.17 Lux
Lens	Integrated Parfocal Zoom Lens, f = 15-31 mm (2x)
Grip mechanism	Standard eyepiece adaptor
Cable	Non-detachable
Cable length	300 cm

KARL STORZ HD Flat Screens Color systems PAL/NTSC	Version	Order No.	Screen diagonal	Max. screen resolution	Video input				
				1920 × 1080	<i>Composite signal to BNC socket</i>	<i>S-Video to 4-pin Mini-DIN socket</i>	<i>VGA to 15-pin HD-D-Sub socket</i>	<i>DVI to DVI-D socket</i>	
	Wall-mounted with VESA 100 adaptation	9626 NB	26"	●	●	●	●	●	
	Pedestal	9626 SF							

## Data Management and Documentation

KARL STORZ AIDA® COMPACT NEO ADVANCED  
Continuous first-class documentation!



*AIDA COMPACT NEO: Recording screen*

### Data Acquisition

Still images, video sequences and spoken comments can easily be recorded during an examination or intervention using the touch screen, footswitch, or camera head buttons. All images are displayed in the right-hand bar in thumbnail size so that still images can be previewed before archiving. Patient data can be entered via an onscreen or standard keyboard. The system also offers the possibility to manage all relevant patient data via a DICOM worklist or a link to the HIS system, eliminating the need for manual entry in the patient entry screen.



*AIDA COMPACT NEO: Review screen*

### Flexible Review and Documentation, Efficient Data Export

Still images or video sequences can be previewed, edited or deleted before final storage on the review screen. KARL STORZ AIDA® COMPACT NEO automatically stores the data on DVD, CD, USB flash drive, external/internal hard drive and/or the relevant network on a FTP server. It is also possible to save the data directly on the PACS and/or HIS servers via the HL7/DICOM interface package. Data that cannot be stored successfully remains in a cache until final archiving is possible.



*AIDA COMPACT NEO: Patient data*

## Features and Benefits

- From still images to FULL HD – video recordings through to FULL HD or 720p / SD with AIDA COMPACT NEO ADVANCED (DVI, S-Video, Composite)
- Picture-In-Picture Function AIDA COMPACT NEO ADVANCED: Recording possible during simultaneous fade-in from channel 2 (SD) to channel 1 (FULL HD)
- Support for KARL STORZ 19" touchscreen **NEW:** Support for KARL STORZ SMARTSCREEN (20 0480 20)
- "Direct Print"- automatically prints imaging material after 1-12 images
- Includes DICOM/HL7 interface package
- Scalable watermark with more information
- AIDA Restore Configuration supports the simple import and export of system settings
- Flexible User Interface
- Support for OR1™ CHECKLIST V1.1
- High-quality function and switching of image and video quality without going to settings
- Ergonomic operation via touch screen, camera head buttons, and/or footswitch
- Burns DVDs, reads Blu-ray
- Data export to DVD/CD, USB flash drive, internal or external hard drives, network path or FTP server
- Compatible with the KARL STORZ Communication Bus (SCB) and with KARL STORZ OR1™ AV NEO and KARL STORZ VOICE1®



20 0409 13-XX\*

### KARL STORZ AIDA® COMPACT NEO ADVANCED,

FULL HD documentation system for digital storage of still images, video sequences and audio files, power supply 115/230 VAC, 50/60 Hz

\* available in various languages

### Specifications:

Video Systems	- PAL - NTSC
Signal Inputs	- S-Video (Y/C) - Composite - RGBS - SDI - HD-SDI - DVI
Image Formats	- JPG - BMP

Video Formats	- MPEG2
Audio Formats	- WAV
Storage Media	- DVD+R - DVD+RW - DVD-R - DVD-RW - CD-R - CD-RW - USB flash drive

## Touch Screen Monitors



20090407

**19" KARL STORZ Touch Screen, 24V,**  
wall mounting, RS 232, VGA, DVI-D,  
resolution max. 1280 x 1024 "SXGA mode",  
incl. 3 touch screen covers,  
power supply 100 VAC – 240 VAC, 50/60 Hz,  
including:

**RS 232 Connecting Cable,** length 300 cm  
**SVGA Monitor Cable,** length 300 cm



20090408

**19" KARL STORZ Touch Screen, 24V,**  
Desktop, RS 232, VGA, DVI-D,  
resolution max. 1280 x 1024 "SXGA mode",  
incl. 3 touch screen covers,  
power supply 100 VAC – 240 VAC, 50/60 Hz,  
including:

**Pedestal**

## CADIERE 5/10 Instrument Set

Qty	Item No.	Description
1	26120 JLL	<b>VERESS Pneumoperitoneum Needle</b>
1	30103 AP	<b>Trocar</b> , with pyramidal tip, size 11 mm, automatic valve
2	30160 AP	<b>Trocar</b> , with pyramidal tip, size 6 mm, automatic valve
2	30107 AP	<b>Trocar</b> , with pyramidal tip, size 13 mm, automatic valve
2	30141 HB	<b>Reducer</b> , 13/5 mm and 13.5/5 mm
1	26003 BA	<b>HOPKINS® Forward-Oblique Telescope 30°</b> , diameter 10 mm, length 31 cm
1	26775 C	CADIERE <b>Coagulating and Dissecting Electrode</b> , L-shaped, size 5 mm, length 36 cm
1	26173 CN	CADIERE <b>Needle Holder</b> , size 5 mm, length 33 cm
1	34351 MSC	<b>CLICKLINE METZENBAUM Scissors</b> , size 5 mm, length 36 cm
1	37360 LH	<b>Suction and Irrigation Tube</b> , size 5 mm, length 36 cm
1	38112 C	CADIERE <b>Suction and Irrigation Handle</b>
1	031135-10	<b>Adaptor</b> , for single use, sterile, with LUER-Lock connector and tube olive for suction and irrigation, package of 10, for use with Suction and Irrigation Handle 38112 C
1	031118-10	<b>LAP Tubing Set</b> , for irrigation, for single use, sterile, package of 10
1	33351 ONC	<b>CLICKLINE Grasping Forceps</b> , size 5 mm, length 36 cm, plastic handle without ratchet
3	33362 ONC	<b>CLICKLINE Grasping Forceps</b> , size 5 mm, length 36 cm, metal handle with MANHES style ratchet

# European School of Laparoscopic Surgery



The courses in laparoscopic surgery at the Saint-Pierre University Hospital have existed for more than 10 years and it is one of the oldest and most important schools for laparoscopic surgery in Europe. The very best experts of the world have come to teach and since its beginning over 5000 surgeons and fellows have followed the course. For years these courses have been endorsed by the society of American Gastrointestinal and Endoscopic Surgeons (SAGES) and by the European Association for Endoscopic Surgery (EAES). The courses are also transmitted at distance in University Centers around the world including Third World Countries. All the workshops aim to offer the laparoscopic surgeon all the details (tricks and pitfalls) needed in performing advanced laparoscopic procedures.

This form of teaching is based on live procedures performed by expert surgeons (highly qualified individuals with technical and teaching expertise). Opportunities to interact with the operative surgeon are provided directly in the operation room. International experts moderate the live surgical procedures either on-site or by video-conferencing.

Every subject is classically approached by 4 steps:

- Laparoscopic anatomy by virtual reality
- Illustration of the procedure's principles
- Live demonstrations
- Discussion on technical details that can be reviewed on CD/DVD

Saint-Pierre University Hospital – Department of Gastrointestinal Surgery

European School of Laparoscopic Surgery

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