



ENDOFLATOR® 50

The New High-Performance Insufflator with Integrated Heating Element from KARL STORZ

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The new high-performance insufflator from KARL STORZ offers optimal user comfort combined with maximum patient safety.

A modern 7" touch screen on this unit displays the precise monitoring data of the CO₂ gas insufflation process. The set values can be precisely adjusted on the touch screen at any time and can, therefore, be optimally adapted to the patient's specific conditions.

For particularly sensitive areas, such as pediatric applications, the unit offers the SENSITIVE mode. Its control systems feature a lower insufflation pressure as well as safety limits for pressure (up to max. 15 mmHg) and flow (up to max. 15 l/min). This serves to ensure the safety of delicate patients such as neonates or small children.

The heating element provides additional user comfort. The integrated gas heater enhances the endoscopic view as it greatly minimizes telescope fogging. Furthermore, the filament in the insufflation tube ensures that there is no heat loss in the tube during the insufflation process and that CO₂ gas flows into the operative field at a temperature of 37 degrees Celsius.

With a max. 50 l/min in the high-flow mode, the ENDOFLATOR® 50 enables rapid creation of a cavity without compromising safety, which is ensured by the new pressure regulation and the SECUVENT® safety system.

The completely redeveloped control concept ensures rapid generation and stable maintenance of the cavity. In the event of a loss of gas during the procedure (e.g. due to an instrument change or during smoke evacuation), automatic pressure control prevents collapse of the pneumoperitoneum by means of an electronic control.

Furthermore, the SECUVENT® safety system guarantees constant intra-abdominal pressure. Any overpressure is immediately detected and indicated by visual and acoustic warnings and is released automatically after a selected time period (5-99 seconds) if the user does not intervene.

The insufflator from KARL STORZ can be integrated very simply and in a user-friendly manner in the intelligent OR of the future, OR1™, via SCB (Storz Communication Bus).

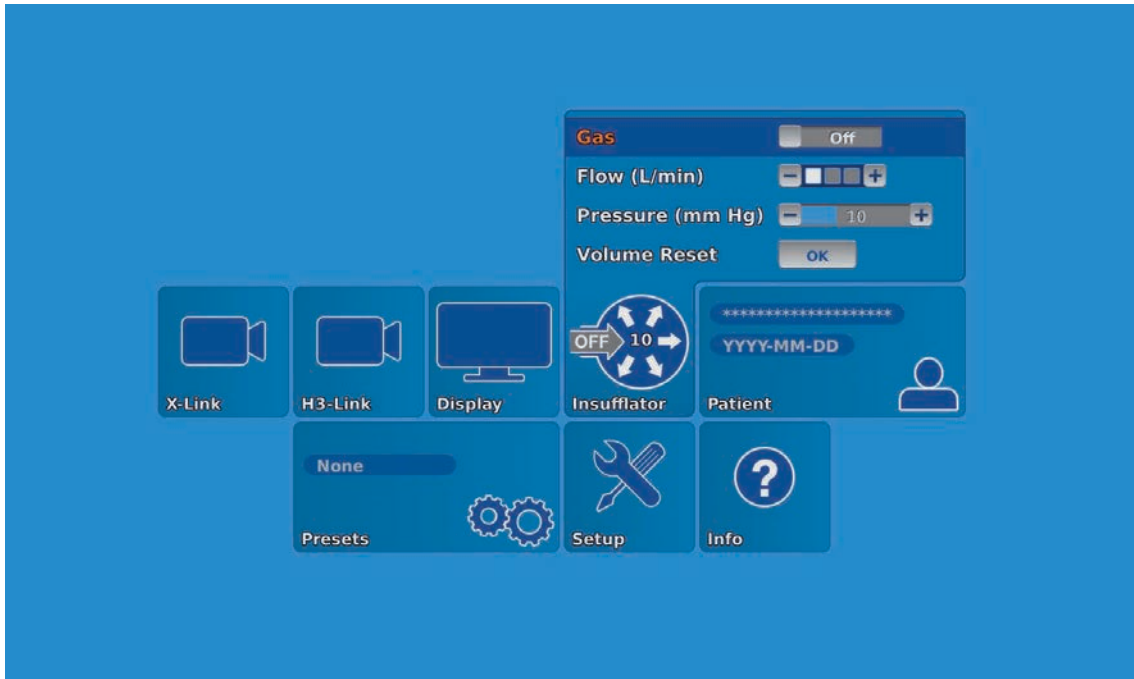
The storage of personalized procedures with individual pre-set values also helps to make the application faster and more intuitive. Not only does this shorten setup times during the system start, but it also prevents errors and thus increases safety.

Thanks to OR integration, all safety-relevant data can be displayed in the video image to improve ergonomics and convenience for the surgeon. In combination with an SCB-supported camera system, this function can also be used without an SCB computer.

The smooth user interface is ideal for wipe-down disinfection so that the insufflators meet the highest hygiene standards.

ENDOFLATOR® 50 in combination with IMAGE1 S

When combined with the SCB-supported KARL STORZ IMAGE1 S camera control unit and an IMAGE1 camera head, the ENDOFLATOR® 50 can be operated directly via the preprogrammed camera head buttons in future.



The following functions can be programmed on the keys:

- Gas on / off
- Choice between HIGH FLOW / SENSITIVE mode
- Flow control:
 - SENSITIVE: 0.5 / 2 / 10 l/min
 - HIGH FLOW: 2 / 20 / 50 l/min
- Pressure control:
 - SENSITIVE: 5 / 8 / 10 / 12 mmHg
 - HIGH FLOW: 8 / 10 / 12 / 15 mmHg
- Volume reset

Flow properties

For optimal flow results, the entire insufflation chain and not just the unit itself must be considered. Many factors within the chain reduce the flow supplied by the unit. Right at the start of the insufflation chain, many filters significantly reduce the flow. The LUER-Lock connector is a further bottleneck that decreases the flow. Additional instruments and endoscopes in the trocar reduce the flow even further.

The high-flow accessories such as the HICAP® trocars from KARL STORZ and the suggested filters, however, can easily achieve a maximum flow of 50 l/min throughout the entire insufflation chain right up to the patient.

ENDOFLATOR® 50

The ENDOFLATOR® 50 is an insufflation unit for universal use in endoscopic examinations and operations. With its CF classification, this insufflator can also be used without any difficulty in cardiac surgery for room air displacement or for endoscopic vein harvesting.



- UI 500 S1 **ENDOFLATOR® 50 SCB**, with integrated SCB module, power supply 100-240 VAC, 50/60 Hz including:
Heatable Insufflation Tubing Set, with gas filter, sterile, for single use, package of 3
Universal Wrench
SCB Connecting Cable, length 100 cm
HICAP® Trocar, size 11 mm

Insufflation Tubes with Filters for ENDOFLATOR® 50

For optimal flow results, the entire insufflation chain and not just the unit itself must be considered. Maximum flow is largely dependent on the connected accessories; inappropriate elements can have an adverse effect on insufflator performance. Our newly developed tubing sets are the perfect link for the insufflator systems offered.

These mtp insufflation tubes and filters guarantee the flow rate of ENDOFLATOR® 50 and, combined with the HICAP® trocars from KARL STORZ, ensure an unimpaired CO₂ gas flow up to 50 l/min.

Even when smaller LUER-Lock trocars are used, KARL STORZ ensures that high gas flow rates are maintained. Bifurcated insufflation tubes are available that enable parallel insufflation via two trocars without having to reduce the flow.




	031210-10	<p>Heatable Insufflation Tubing Set, with gas filter, for single use, hydrophobic on both sides, with 3 m insufflation tube and male LUER-Lock, sterile, package of 10, for use with insufflation units with a maximum gas flow of 50 l/min</p>
	031122-25 UI 004	<p>For joint use:</p> <p>Gas Filter, ISO connector, hydrophobic on both sides, sterile, for single use, package of 25, for use with insufflation units with a maximum gas flow of 50 l/min</p> <p>Insufflation Tube, sterilizable, inner diameter 9 mm, length 250 cm, for use with ENDOFLATOR® 40 UI 400 or ENDOFLATOR® 50 UI 500</p>
	031200-10	<p>Insufflation Tubing Set, with gas filter, for single use, hydrophobic on both sides, with 3 m insufflation tube and male LUER-Lock, sterile, package of 10, for use with insufflation units with a maximum gas flow of 50 l/min</p>
	031622-10	<p>Insufflation Tubing Set, bifurcated, with gas filter, for single use, hydrophobic on both sides, with 4 m insufflation tube, two patient-side tube connections with rotatable male LUER-Lock, sterile, package of 10, for use with KARL STORZ insufflation units</p>

The perfect combination

The right accessories are essential to take full advantage of the insufflator's excellent flow properties.

ENDOFLATOR® 50, in conjunction with the new KARL STORZ S-PILOT™ (UP 501), provides the basis for excellently coordinated smoke evacuation. For further information, please see ENDOWORLD® UNITS 12 (96212020).









KARL STORZ recommends the following configuration for high-flow CO₂ insufflation in laparoscopy:

	UI 500	ENDOFLATOR® 50 SCB , with integrated SCB module, power supply 100-240 VAC, 50/60 Hz
	031210-01	Heatable Insufflation Tubing Set , with gas filter, for single use, hydrophobic on both sides, with 3 m insufflation tube and male LUER-Lock, sterile, for use with insufflation units with a maximum gas flow of 50 l/min
	26120 JL	VERESS Pneumoperitoneum Needle , with spring-loaded blunt inner cannula, LUER-Lock, autoclavable , diameter 2.1 mm, length 13 cm
	30103 HA	HICAP® Trocar , with blunt tip, with HICAP® insufflation stopcock, oval design, size 11 mm, working length 10.5 cm, color code: black-green including: Cannula Trocar only Multifunctional Valve
	30103 HC	Same , with conical tip
	30103 HP	Same , with pyramidal tip

The perfect combination

Even in small cavity surgery in Transanal Endoscopic Operations (TEO®), for instance, the ENDOFLATOR® 50 creates a stable surgical field (“pneumorectum”) through high-precision pressure control and thus ensures ideal working conditions. For active smoke evacuation, we particularly recommend the use of a high-flow adaptor (see 24943 S) to ensure a high insufflation flow rate.

KARL STORZ recommends the following configuration for CO₂ insufflation in proctology:

	UI 500	ENDOFLATOR® 50 SCB, with integrated SCB module, power supply 100-240 VAC, 50/60 Hz
	031210-01	Heatable Insufflation Tubing Set, with gas filter, for single use, hydrophobic on both sides, with 3 m insufflation tube and male LUER-Lock, sterile, for use with insufflation units with a maximum gas flow of 50 l/min
	24942 T	TEO® Operating Rectoscope Tube, outer diameter 40 mm, working length 15 cm, with handle for holding system, LUER-Lock connector for vapor evacuation
	24942 TK	Same, working length 7.5 cm
	24942 TKG	TEO® Operating Rectoscope Tube, outer diameter 40 mm, working length 7.5 cm, straight distal end, with handle for holding system, LUER-Lock connector for vapor evacuation
	24943 S	TEO® High-Flow Adaptor, for S-PORT® seal
	23030 SA	S-PORT® Seal, 4x access 3 mm, 5 mm or 13-15 mm
	24944 TS	D-PORT, DAPRI operating rectoscope system including: DAPRI Operating Rectoscope Tube Obturator Seal, complete

The perfect combination

In endoscopic vein harvesting, the insufflator's excellent flow performance creates excellent visibility and therefore distinctly improves the working field for the surgeon.

KARL STORZ recommends the following configuration for CO₂ insufflation in endoscopic vein harvesting:



UI 500

ENDOFLATOR® 50 SCB, with integrated SCB module, power supply 100-240 VAC, 50/60 Hz



031210-01

Heatable Insufflation Tubing Set, with gas filter, for single use, hydrophobic on both sides, with 3 m insufflation tube and male LUER-Lock, sterile, for use with insufflation units with a maximum gas flow of 50 l/min



49205 FC

BISLERI Endoscopic Artery Retractor, for harvesting of the arteria radialis, distal width 20 mm, working length 27.5 cm with integrated U-shaped instrument guiding channel, with integrated channel for smoke evacuation, with integrated guide in the handle to be used with a fiber optic light cable, **autoclavable**, for use with HOPKINS® Telescope 49205 FA

Accessories

Recommended accessories

Product	Order No.
Heatable Insufflation Tubing Set , with gas filter, for single use, hydrophobic on both sides, with 3 m insufflation tube and male LUER-Lock, sterile, package of 10, for use with insufflation units with a maximum gas flow of 50 l/min	031210-10
Insufflation Tube , sterilizable, inner diameter 9 mm, length 250 cm	UI 004
Gas Filter , for single use, sterile, package of 25	031122-25
Insufflation Tubing Set , with gas filter, for single use, hydrophobic on both sides, with 3 m insufflation tube and male LUER-Lock, sterile, package of 10, for use with insufflation units with a maximum gas flow of 50 l/min	031200-10
Insufflation Tubing Set , bifurcated, with gas filter, for single use, hydrophobic on both sides, with 4 m insufflation tube, two patient-side tube connections with rotatable male LUER-Lock, sterile, package of 10, for use with KARL STORZ insufflation units	031622-10
VERESS Pneumoperitoneum Needle , with spring-loaded blunt inner cannula, LUER-Lock, autoclavable , diameter 2.1 mm, length 10 cm	26120 J
Same , length 13 cm	26120 JL
Same , length 7 cm	26120 JK
Same , length 15 cm, for setting up pneumoperitoneum employing DOUGLAS puncture for adipose patients	26120 JF
CO₂ High Pressure Tube , American connection/German connection, length 55 cm	20 4000 21
Same , length 102 cm	20 4000 27
CO₂ High Pressure Tube , American connection/Pin-Index connection, length 55 cm	20 4000 22
Same , length 102 cm	20 4000 28
High Pressure Tube , two American connections, length 102 cm	20 4000 25
Same , length 55 cm	20 4000 29
CO₂ High Pressure Tube , American connection/ISO connection, length 102 cm	20 4002 22
CO₂ Bottle , empty, with German connection	26 4000 90
CO₂ Bottle , empty, with Pin-Index connection	26 4000 91
Low Pressure Tube , for the central CO ₂ gas supply, length 150 cm	UI 001
Same , length 300 cm	UI 002
Same , length 600 cm	UI 003
High Pressure Inline Gas Filter	20 4000 32
Bottle Holder , fold-away, holder for CO ₂ gas bottles 1000 ml, including attachments	UI 005

Technical Data

ENDOFLATOR® 50

Item no.	UI 500
Set pressure HIGH FLOW mode	1-30 mmHg
Set pressure SENSITIVE mode	1-15 mmHg
Pressure unit	selectable: mmHg/hPa
Gas flow HIGH FLOW mode	0-50 l/min
Gas flow SENSITIVE mode	0.1-15 l/min selectable: 0.1-2 l/min: 0.1 l/min increments 2-10 l/min: 0.5 l/min increments 12-15 l/min: 1 l/min increments
Gas type	Med. CO ₂
Connection options	Central gas supply/cylinder
Modes	SENSITIVE / HIGH FLOW
Display	7" touch screen
Features	Optimized control for particularly sensitive applications, high flow rates of 50 l/min, intuitive use via touch screen interface, SCB, active overpressure through SECUVENT® safety valve
Dimensions	305 x 164 x 315 mm

Overview of applications

ENDOFLATOR® 50

Laparoscopy	●
Thoracoscopy	●
Proctoscopy (TEO®)	●
Endoscopic vein harvesting	●
Open, endoscopically assisted cardiac surgery	●

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



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