

S-PILOT™

The solution for smoke evacuation



S-PILOT™

The solution for smoke evacuation from KARL STORZ

Do not wait
for the smoke to settle.



Endoscopy has become an indispensable tool in modern medicine. Numerous interventions are performed every day that require the use of energy application systems such as HF units or lasers.

Thermal reactions, particularly during HF surgery, may cause unpleasant odors or surgical smoke. These are often inhaled for hours at a time, depending on the type of procedure performed. It is not uncommon for OR personnel to experience headaches, nausea or nose and throat irritation.

The toxicity of the pollutants in this mixture is still controversial. It is clear, however, that the protective masks worn are unable to filter all particles.

Furthermore, the generated smoke disturbs endoscopic visualization which presents further risks. The view of the OR field is obstructed and the surgeon is thus hindered in their work.

To avoid these problems, the S-PILOT™ from KARL STORZ is a compact device that ideally complements the existing product range for endoscopic interventions.

The S-PILOT™ provides excellent visibility through effective smoke evacuation and extracts unpleasant odors. This creates pleasant working conditions without disturbing noises.

In general, the S-PILOT™ can also be activated via a separate footswitch. This allows application wherever ultrasound, HF, motor systems and laser applications are used in surgical interventions.

CF classification allows the unit to be used for multiple application possibilities.

Thanks to its smooth surface, the S-PILOT™ also meets the most demanding hygiene requirements.



Prof. Luigi Boni

The combination of ENDOFLATOR® 50 and S-PILOT™ represents a substantial improvement of viewing conditions for transanal procedures.

Even with continuous smoke evacuation the system provides a reliable stability of the pneumorectum.

These benefits, along with the fog-free viewing provided by heated insufflation gas, make my everyday surgical tasks significantly easier.

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S-PILOT™



- UP 501 S1 **S-PILOT™**, set incl. footswitch
including:
One-Pedal Footswitch
Suction Tubing Set, sterile,
for single use, package of 5
SCB Connecting Cable, length 100 cm
- UP 501 S3 **S-PILOT™**, set
including:
Suction Tubing Set, sterile,
for single use, package of 5
SCB Connecting Cable, length 100 cm

Installation and startup

Despite its modest exterior, this new unit offers a feature-rich functionality.

After pressing the on/off key, the S-PILOT™ starts and performs a self-test – this only takes a moment. As soon as the S-PILOT™ is ready to start, a confirmation signal is emitted.

The “open/close valve” button opens the pinch valve. Activate this button to insert the Tubing Set (031447-01).

Once the tube is in position, the “open/close valve” button is pressed again to close the valve.

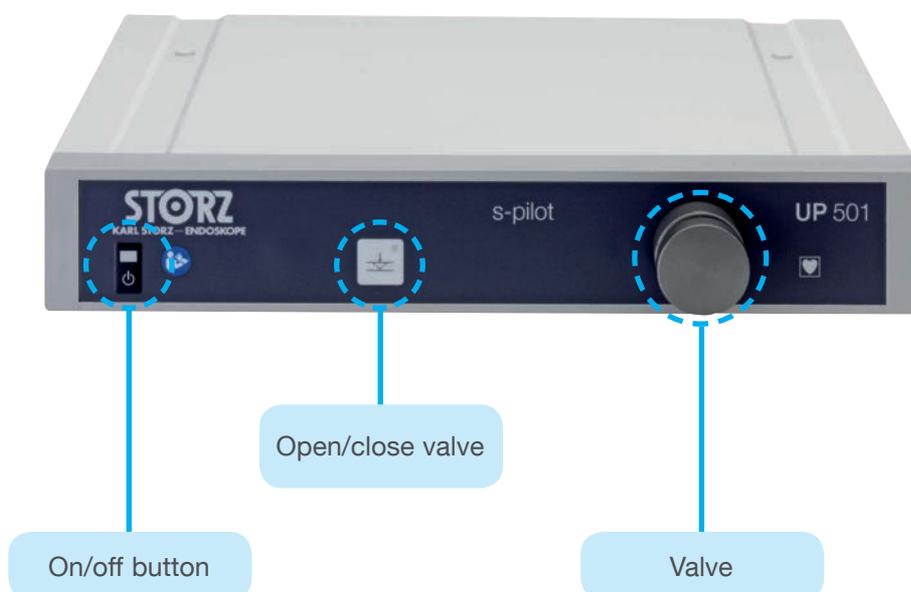
The distal end of the tubing set is connected via a LUER-Lock connector to the appropriate trocar in the OR field whereas the other end is connected with the suction container.

The tubing set furthest from the patient is equipped with a Y-tube. This allows fluid and smoke to be suctioned in parallel and directed to the same collecting container.

Depending on the application, the connection to the appropriate HF generator must be established, alternatively, the device can also be operated via a separate footswitch.

If an additional footswitch is used, the camera assistant is put in charge of imaging in many operating rooms. This means that the assistant is not only responsible for camera guidance but can also decide when smoke is to be evacuated from the OR field.

Please note: If the unit is directly activated via a footswitch, the valve closes as soon as activation of the footswitch stops. If coupled with HF units via SCB, the valve closes briefly after HF activation stops this way smoke can be completely removed from the cavity and tubing set.



Tubing Set for S-PILOT™

This tubing set was specially designed for use with the S-PILOT™.

Optimal suction performance without adverse effects such as damage or deformation is only guaranteed in conjunction with the recommended tubing set. Using any other tubing set may cause improper clamping so that a sealed system cannot be guaranteed.

Parallel Suction of Fluid and Smoke

The Y-tube ① attached to the tube end furthest from the patient allows fluid suction and smoke evacuation in parallel. This means that the S-PILOT™ tubing set can be connected to the suction container already available in the OR without the need for additional accessories. The universal adaptor ② is connected to the suction container whereas the tubing set for fluid suction is attached to the Y-tube.

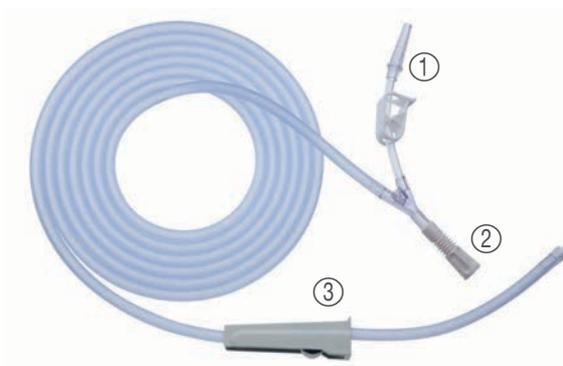
The underpressure for smoke evacuation is now generated in the tubing set and, when the valve of the S-PILOT™ is opened, disturbing smoke plumes are removed from the OR field. At the same time, fluid suction is regulated as usual via the suction/irrigation instrument.

If parallel suction is not required, the Y-port can be simply closed off with a clamp.

Flow Regulation

Depending on whether a pump or the central gas supply is used for suction or how much underpressure is generated in the respective system, the pneumoperitoneum varies when smoke evacuation is activated.

A roller clamp ③ at the distal end of the S-PILOT™ tube can be used to regulate the speed at which the smoke is removed from the cavity. The surgeon is therefore able to adjust the suction flow and the existing system according to individual preferences directly from the sterile field.



S-PILOT™ in combination with the ENDOFLATOR® 50

As smoke evacuation often leads to a loss in pressure, a reliable unit is required to restore gas loss safely and securely and to ensure that a stable cavity is maintained.

The new KARL STORZ insufflators – ENDOFLATOR® 40 (UI 400) and ENDOFLATOR® 50 (UI 500) – offer this reliability.

A new control concept in conjunction with an extremely high flow rate paves the way for smoke evacuation that functions perfectly. The sensitive unit algorithm immediately detects and reacts to any loss of pressure caused by suction. Pressure is restored with careful monitoring of the insufflation process.

High-flow accessories such as the HICAP® trocars from KARL STORZ can easily achieve a maximum flow of 40 or 50 l/min right up to the patient whereas standard trocars with LUER-Lock connectors may physically limit the flow to approx. 20 l/min.

A max. of 50 l/min in the high-flow mode and an integrated gas heater makes the ENDOFLATOR® 50 the insufflator of choice. During longer interventions, gas in the cavity has to be constantly replaced due to smoke evacuation and the patient cools down quickly. The ENDOFLATOR® 50 and its heatable tubing set reduces this effect. Furthermore, the heated gas greatly minimizes telescope fogging.

With their CF classification, the ENDOFLATOR® 40 and ENDOFLATOR® 50 in combination with the equally CF-classified S-PILOT™ offers a multitude of potential application possibilities.



Suction

A functioning smoke evacuation depends on the vacuum generated in the suction container. This can be generated in various ways:

- Vacuum pump from KARL STORZ
- Central vacuum

As an alternative to the on-site central vacuum, KARL STORZ has two suitable vacuum pumps in its portfolio. The UNIMAT® 30 (25320001) is a very powerful and quiet-running, medical-grade suction pump with a performance rate of 30 l/min.

For laparoscopic procedures, the S-PILOT™ can be used with the new HAMOU® ENDOMAT® (26331101-1). The pressure-controlled suction/irrigation pump stands out due to its high suction and irrigation performance as well as convenient handling.

When using a pump to create underpressure, the use of a smoke evacuation filter (031111-10) is recommended in order to prevent contamination of the unit through evacuated gas.

The suction container forms the interface between the central vacuum and/or the pump and the S-PILOT™. In this case, we recommend the use of the MEDELA suction system. It offers canisters of 1,5 and 2,5 liters.

The tube of the S-PILOT™ (031447-01) is attached to the suction bag which is in turn connected with the vacuum.



S-PILOT™ in combination with HF generators

The AUTOCON® III 400 is connected with the S-PILOT™ via the connecting cable UP 004 during installation. Information on combination with other HF units can be found on the following pages.

The S-PILOT™ is able to communicate with the AUTOCON® II 400 and all HF generators which can be integrated in the SCB. With this combination, the pinch valve (and hence suction) is automatically opened when the HF generator is activated.

As soon as the footswitch of the HF generator is activated, the S-PILOT™ valve automatically opens and the smoke plume is removed via the connected vacuum.

As soon as activation of the generator stops, the valve shuts off as well. To ensure optimal visibility, a short delay is implemented so that smoke can be completely removed from the cavity and the tubing set.

In general, the S-PILOT™ can be manually activated via the Footswitch (200141 30). This allows universal use, independent of the connected unit.



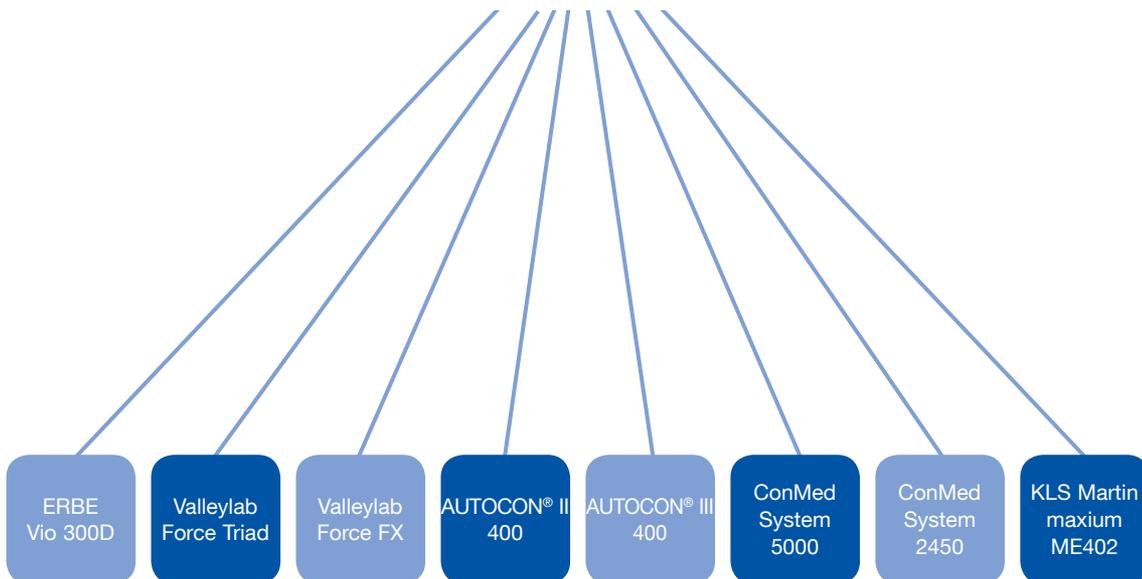
Automatic Smoke Evacuation with the S-PILOT™

The S-PILOT™ can easily communicate with HF units integrated in an OR1™. In this case, the unit utilizes the information available in the intelligent OR environment and activates smoke evacuation as soon as energy is applied with the HF generator.

This has the advantage that it enables the surgeon to focus fully on the task at hand while being able to rely on a clear endoscopic image.

To connect the S-PILOT™ with HF generators that have already been implemented in an OR1™, the unit is simply incorporated in the OR1™ system via SCB.

Automatic smoke evacuation with the
S-PILOT™
in combination with HF units already integrated in an OR1™

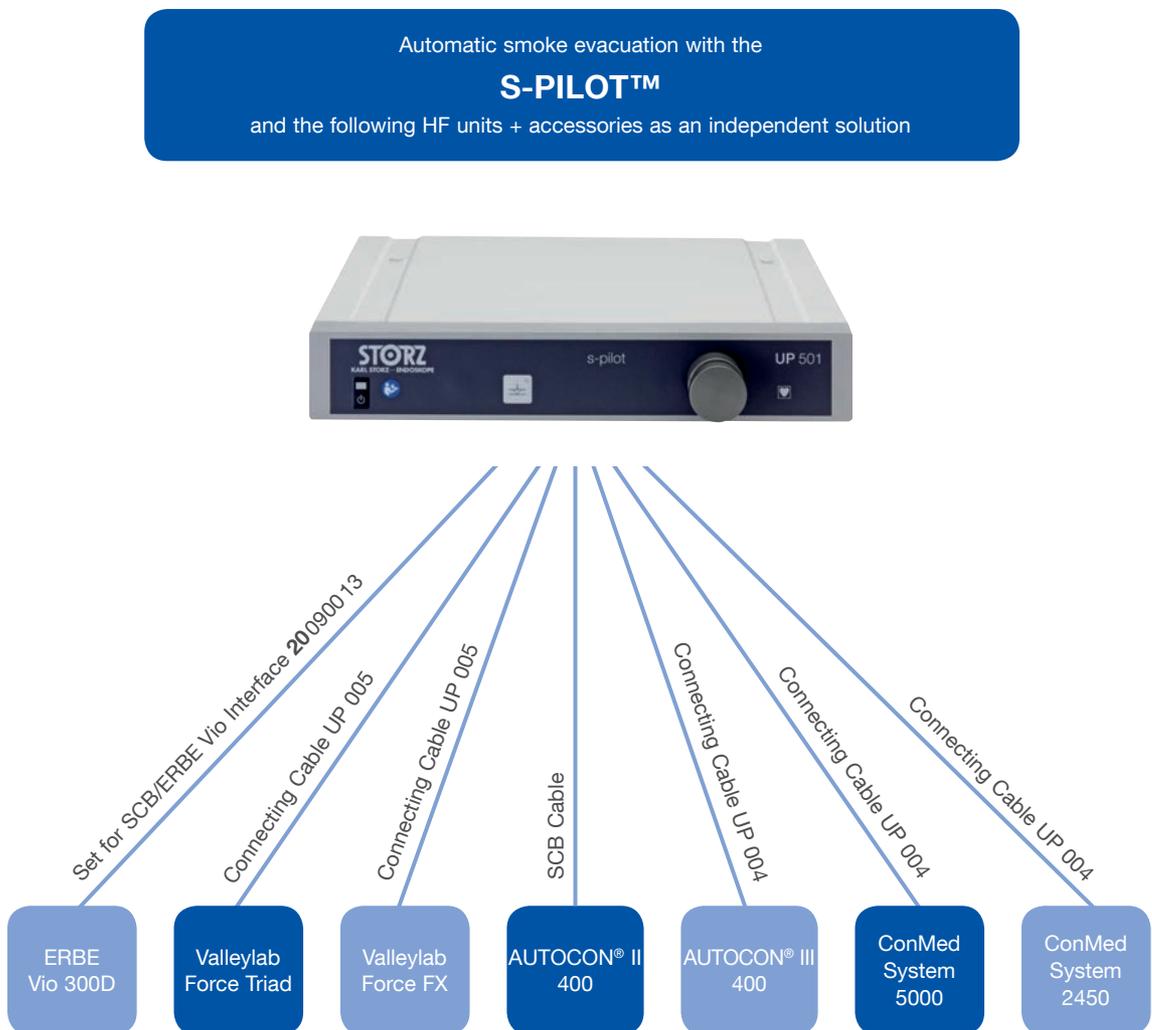


Automatic Smoke Evacuation with the S-PILOT™

The S-PILOT™ can be directly connected to HF units as an independent solution. This makes use of intelligent smoke evacuation.

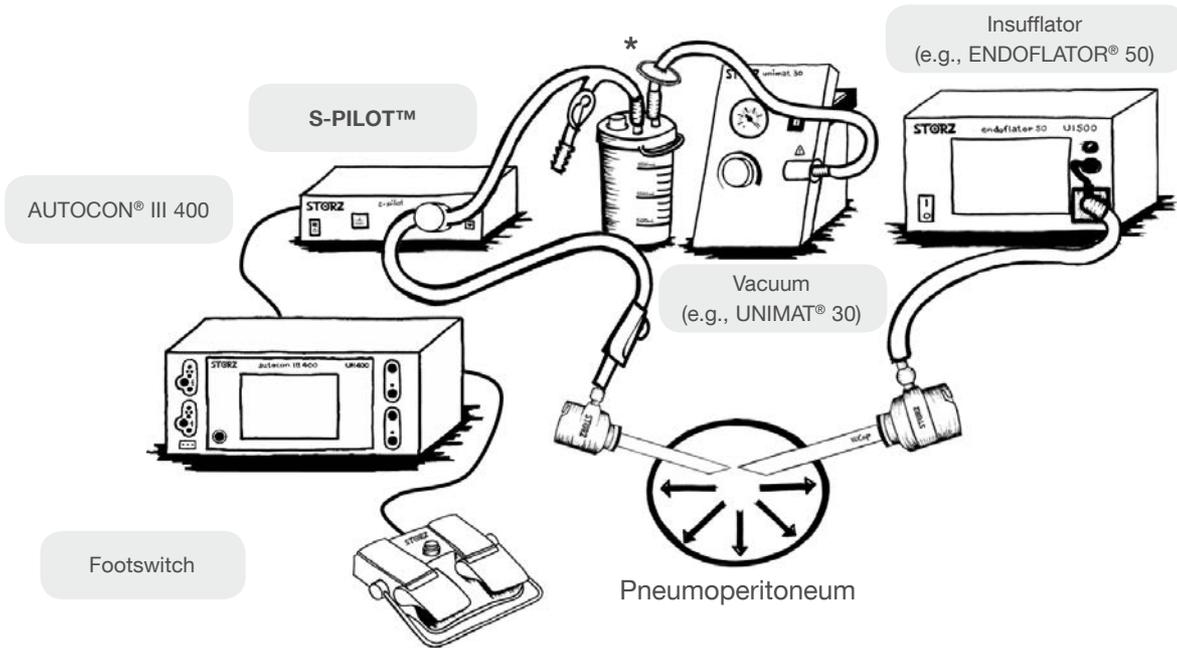
Depending on the model and manufacturer of the HF generator, only a connecting cable or interface box is required to establish communication between both units.

This wide range of options makes individual integration of the S-PILOT™ possible in many settings and provides a rapid and reliable method for smoke evacuation.

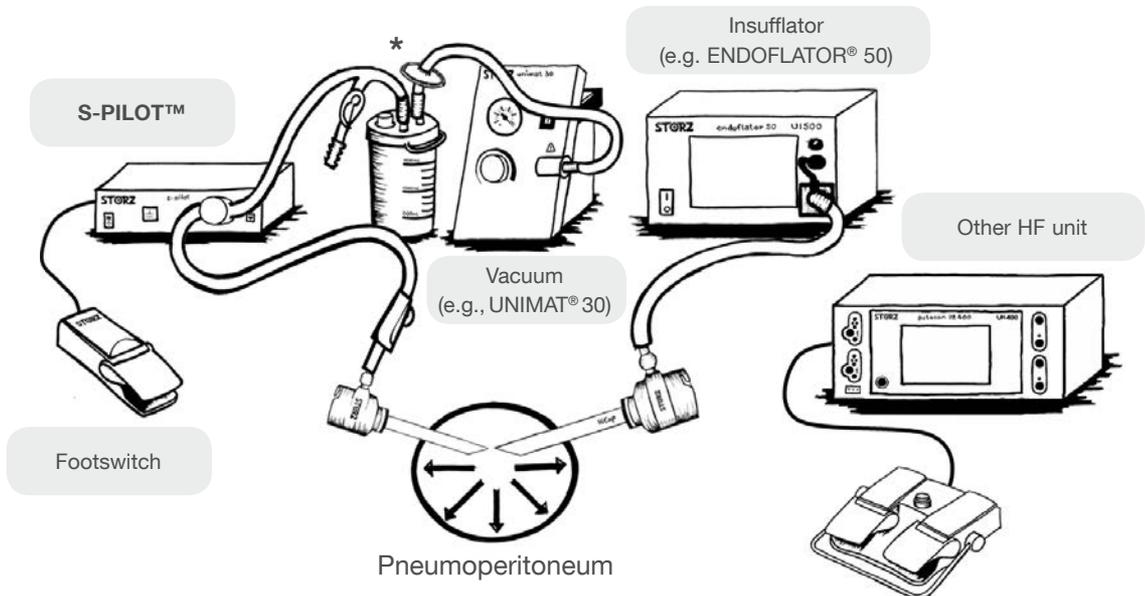


System Overview S-PILOT™

Direct connection of S-PILOT™ to a HF unit



Activation of S-PILOT™ via footswitch



* If using a pump for suction, the use of a smoke evacuation filter (031111-10) is recommended.



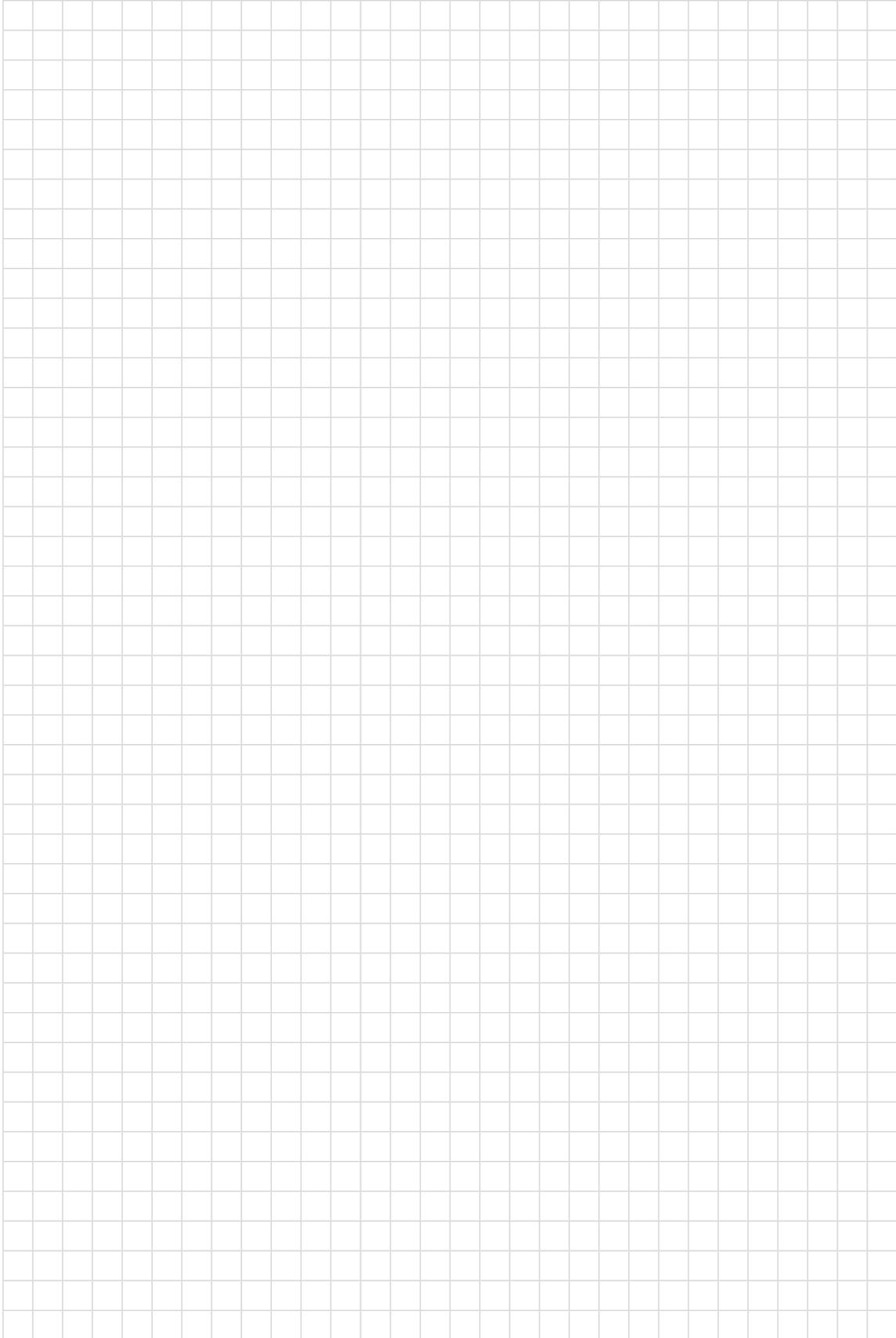
Recommended accessories

Product	Order No.
Tubing Set , for smoke, gas and fluid suction, sterile, for single use, package of 10	031447-10
Smoke Evacuation Filter , unsterile, for single use, package of 10	031111-10
Secretion Container , 2.5 l	030320-40
Secretion Container , 2.5 l	030302-01
Clampholder, standard , plastic	030350-05
Connecting Tube , short, for use with UNIMAT® 30	25 3200 83
One-Pedal Footswitch	20 0141 30
SCB Connecting Cable , length 100 cm	20 0901 70
S-PILOT™ Connecting Cable , diameter 3.5 mm, length 300 cm, for use with AUTOCON® III 400, ConMed System 2450 or 5000	UP 004
S-PILOT™ Connecting Cable , diameter 2.5 mm, length 300 cm, for use with Valleylab Force Triad or Valleylab Force FX	UP 005
Set for SCB/ERBE VIO Interface Box	20 0900 13
Mains Cord , length 300 cm	400 A
Mains Cord , US version, length 200 cm	400 B
User Manual	96116047D

Specifications S-PILOT™

Line voltage	100...240 V
Power frequency	50/60 Hz
Power consumption	30 W
Dimensions (w x h x d)	305 mm x 50 mm x 320 mm

Notes



STORZ
KARL STORZ—ENDOSKOPE

THE DIAMOND STANDARD

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