

AUTOCON® III 400 – Innovative, Intelligent, Intuitive



AUTOCON® III 400 –

Everything at a glance for unipolar and bipolar applications in HF surgery

Maximum User Comfort

- High-resolution, color touch display
- Intuitive use through signs and symbols
- Stored presettings for standard procedures
- User is able to create and save individual procedures
- Favorites list possible
- Best hygiene conditions thanks to wipe-, impact- and scratch-resistant safety glass
- Integration into OR1™

RFID (radio-frequency identification)

- System coding allows clear identification of the instrument and application with suitable cable connection
- Generator creates automatic program configuration
- Select cables are equipped with a RFID chip, e.g. cable for bipolar resection UH 801

Additional Information

- Product dimensions (h x w x d) 177 x 447 x 457 mm
- Net weight 12.5 kg
- Line frequency 220-240 V 50/60 Hz (UH 400/UH 401)
- Line frequency 100-127 V 50/60 Hz (UH 400U/UH 401U)
- Maximum unipolar and bipolar power 400 W

Neutral Electrode Monitoring

2 types of neutral electrodes are monitored:

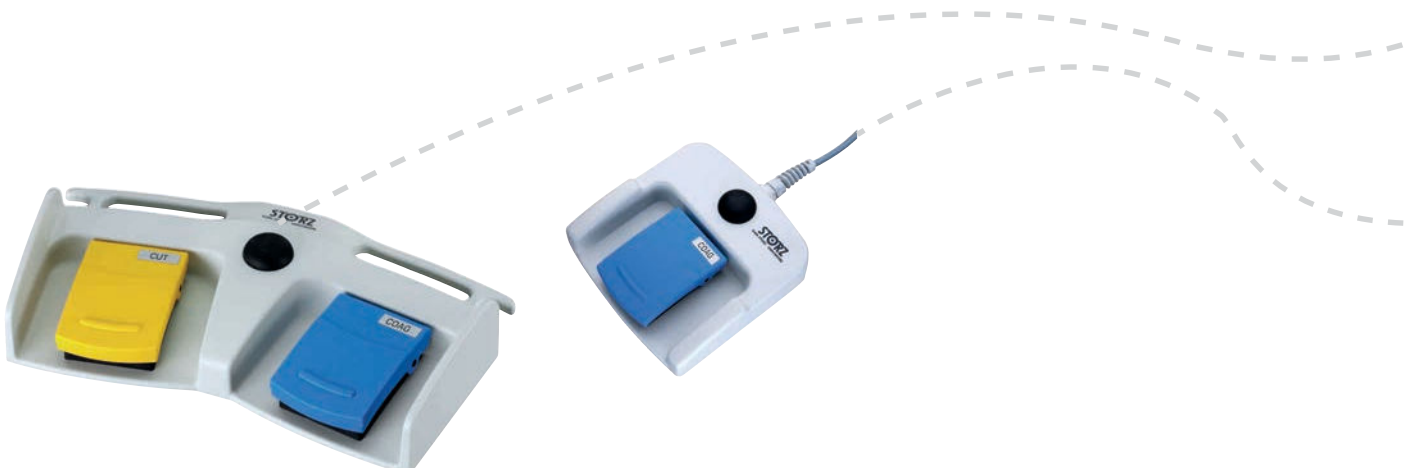


Split neutral electrode



Split baby neutral electrode

The EASY neutral electrode monitoring function measures changes in the resistance between the patient and the HF unit and requests intervention.



Provides all functions with improved properties for diverse applications

- 18 unipolar and bipolar cutting modes such as, for example, bipolar resection
- 25 unipolar and bipolar coagulation modes such as ROBI® and the BIVASCULARSAFE mode



Various models

- UH 400 High-End Generator, suitable for universal use
- UH 401 High-End Generator, also suitable for vessel sealing

Generator Applications

The AUTOCON® III 400 is a multidisciplinary HF unit that can be used in practically all surgical disciplines:

- Neurosurgery
- Otorhinolaryngology
- Thorax
- Gastroenterology
- Laparoscopy
- Gynecology
- Urology
- Arthroscopy and Sports Medicine
- Spine Surgery



New technologies have been integrated into the current generation of the AUTOCON® family

- For bipolar resection, the energy output has been enhanced and expanded
- For the ROBI® mode, a performance setting has been defined so that the instruments are not overtaxed with incorrect settings
- The BIVASCULARSAFE mode for sealing arteries, veins and tissue has been integrated into version UH 401

AUTOCON® III 400

The new high-frequency generator with perfected settings



The introduction of the new AUTOCON® III 400 marks a new era in HF surgery for KARL STORZ. The experience and know-how accumulated over many years was incorporated into the development of this unit in order to provide new, optimized modes for bipolar resection, ROBI® instruments and vessel sealing. The AUTOCON® III 400 series features two different models. The difference between UH 400 / UH 400U and UH 401 / UH 401U is that the UH 401 model is equipped with the additional BIVASCULARSAFE mode for vessel sealing.

AUTOCON® III 400 – Innovative, Intelligent and Intuitive with a maximum output of 400 Watt

**Innovations and enhancements were added to the technology,
particularly with regard to modes.**

1. Bipolar Resection

Mode for the bipolar removal of tissue

The new HF generator from KARL STORZ has been further enhanced and optimized, particularly with regard to the performance of bipolar applications. It therefore ideally complements the KARL STORZ systems for bipolar resection. Precise initial cutting and exactly coordinated power regulation enables the unit to deliver optimal energy for bipolar resection and thus leads to perfect results.

2. ROBI®

Mode for rotating bipolar instruments ROBI®

The ROBI® mode is used with bipolar laparoscopic instruments for coagulation. In contrast to the previous generation, the peak voltage of the AUTOCON® III 400 has been limited to 110 Vp to avoid causing damage to the sensitive bipolar instruments.

3. BIVASCULARSAFE

Mode for the bipolar sealing of vessels

The BIVASCULARSAFE mode is used for the permanent sealing of veins, arteries and tissue bundles and is integrated in the UH 401 model. Conventional instruments cannot be used in this mode.

How intelligent is the AUTOCON® III 400?

Automatic instrument recognition and assignment is just one factor that reflects the intelligence of the HF generator. The unipolar and bipolar sockets flash to clearly indicate to the user that the connection is correct. Once the socket and cable are connected successfully, the socket light goes out and the selection panel of the socket lights up on the touch display. The user-friendly signs and symbols can be used to access the required setting. If the socket is connected to a RFID cable, e.g., for bipolar resection, the settings are transmitted automatically without touching the user surface. The unit recognizes the connecting cable used and automatically selects the correct parameters for the connected instruments. In addition, the tiny RFID chip in the cable informs the user about the number of times the cable can be used and provides an explanation of the application. The AUTOCON® III 400 can be easily integrated into the OR1™ operating room. Consequently, the unit can be controlled directly from the sterile area and the settings can be adjusted swiftly and smoothly as required.

How intuitive is the AUTOCON® III 400?

The high-resolution touch display of the HF generator allows intuitive use and is therefore very user-friendly. In addition to standard procedures, which are already stored in the unit, the user is able to create and save individual procedures. The informative symbols of the AUTOCON® III 400 allow an intuitive selection of modes and programs. Furthermore, the user-friendly quick access function allows the required settings to be activated with a maximum of two clicks.

Bipolar Resection

With the bipolar resectoscope and the new loop design, KARL STORZ has revolutionized resection in saline in the fields of urology and gynecology.



Bipolar Treatment Methods in Urology

Although technical progress has been made in recent years in the various non-ablative treatment options, transurethral resection (TUR) remains the gold standard in the treatment of benign prostatic syndrome (BPS) and in the resection of bladder tumors.

The new bipolar concept from KARL STORZ sets new standards in terms of effectiveness, economic efficiency, patient safety, and system reliability and therefore revolutionizes the treatment of BPS and bladder tumors.

Real bipolar system

Current returned via the electrode and not the resectoscope sheath

Maximum tissue ablation with minimal current flow

Controlled tissue penetration; significantly reduced obturator nerve stimulation

Precise cutting

Controlled initial cutting and application of energy to the tissue with pinpoint accuracy

Use of saline solution

Reduced risk of TUR syndrome; significantly longer operating time possible

Improved hemostasis

Enables resection of patients with anticoagulants and antiaggregants

Additional bipolar techniques

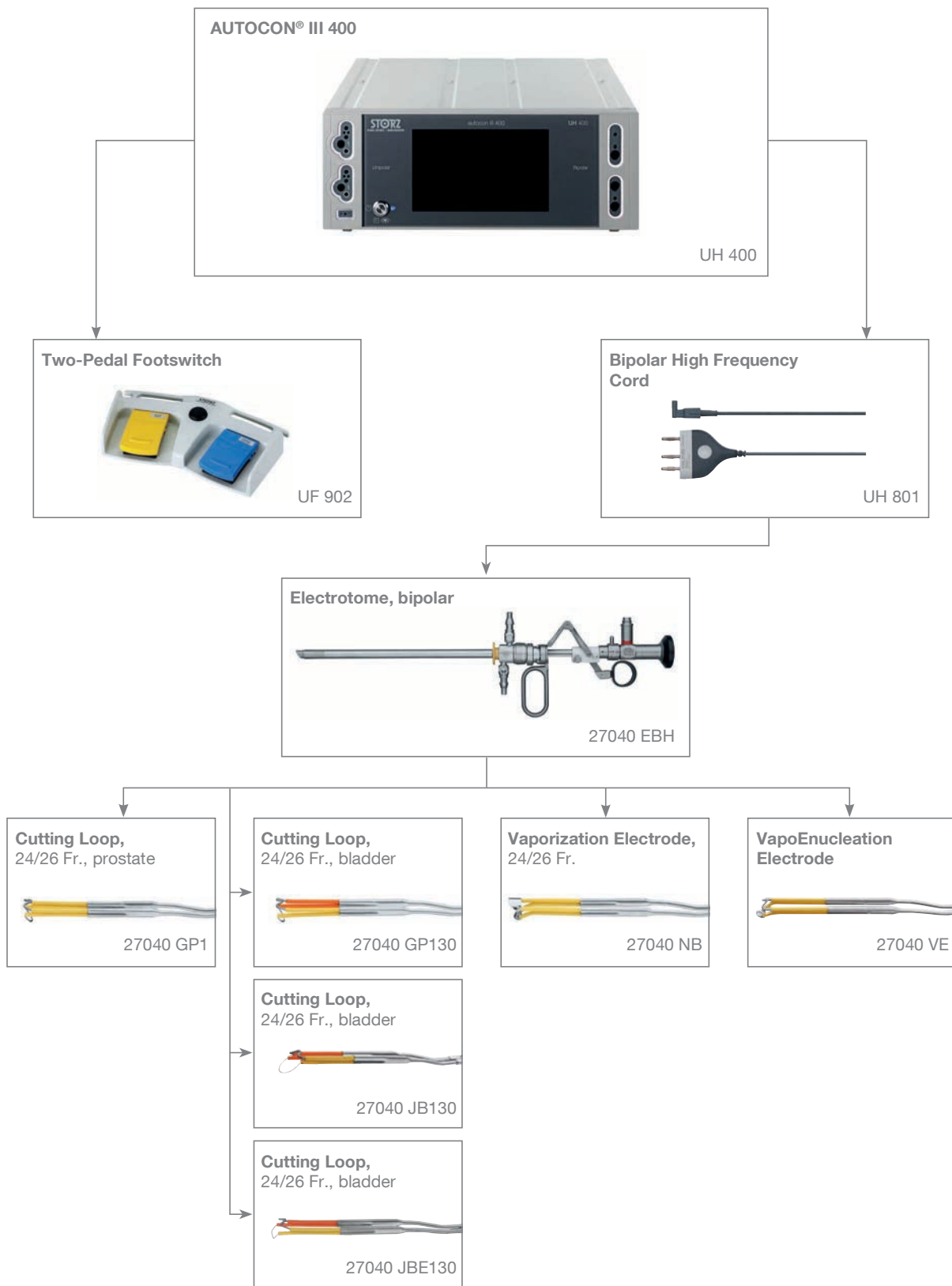
Bipolar enucleation and vaporization

Testimonials

While previous experiences with other bipolar resection systems did not convince us to change our resection approach, the new KARL STORZ bipolar system features such impressive intraoperative handling and cutting and coagulation behavior that bipolar resection has become our standard procedure for specialists and senior physicians as well as in the training of residents and fellows.

Thomas R. W. Herrmann, M.D.,
Clinic for Urology and Urological Oncology,
Medizinische Hochschule Hannover (MHH),
Hanover, Germany

Bipolar Resection in Urology – System Overview



Bipolar Treatment Methods in Gynecology

In addition to applications in urology, the bipolar resection mode can also be used in gynecology.

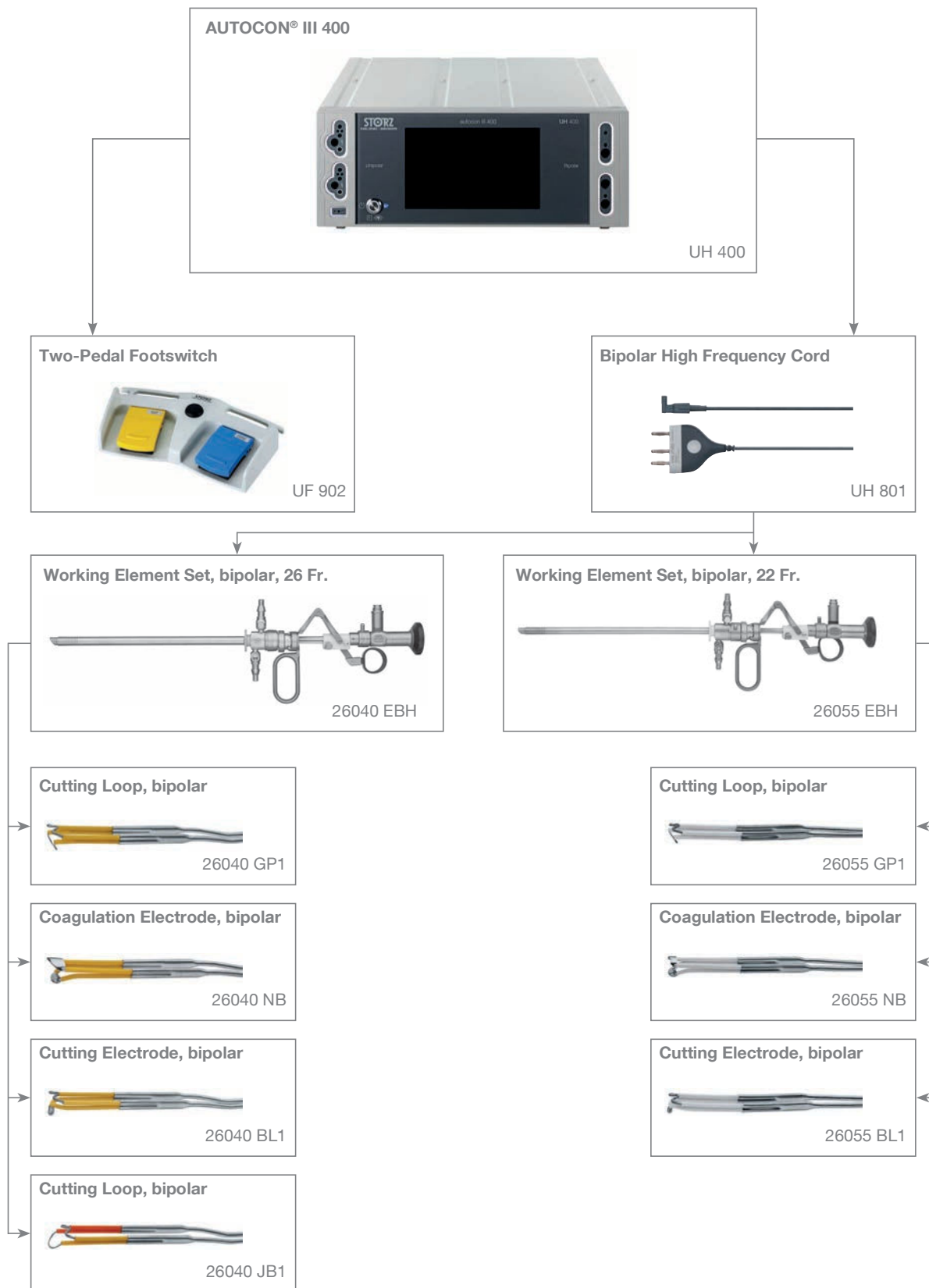
Bipolar Resection	Unipolar Resection
Limited current flow through tissue • Restricted to the area between the electrode's loop • In the operating surgeon's field of vision • Less risk of thermal damage to distant organs due to direct contact with the instruments	Current flows through several layers of tissue • Current flows uncontrolled through the body of the patient via neutral electrodes placed on the patient's skin before returning to the generator
Less risk of interference with other electronic equipment , e.g. ECG, which are connected to the patient	Increased risk of interference with other electronic equipment • Voltage in unipolar resection is always higher as the current has to travel longer through the body
Less stimulation of nerves	With this technique, there is more stimulation of the nerves as the current flows through the entire body
Advantage: Physiological saline solution as distension medium • Result: Easily processed by the body, non-toxic, more cost-efficient	Concern: Fluid absorption of non-physiological irrigation fluid • Result: Hyponatremia, hypervolemia, glycine intoxication

Testimonial

In our experience and also in the analysis of published data, it appears very clear that the bipolar resectoscope offers considerable advantages in comparison to a unipolar one. The bipolar system is technically superior, more cost-effective and safer in comparison to the unipolar system.

Prof. Dr. Luca MENCAGLIA,
Scientific Director
Centro Oncologico Fiorentino,
Florence, Italy

Bipolar Resection in Gynecology – System Overview



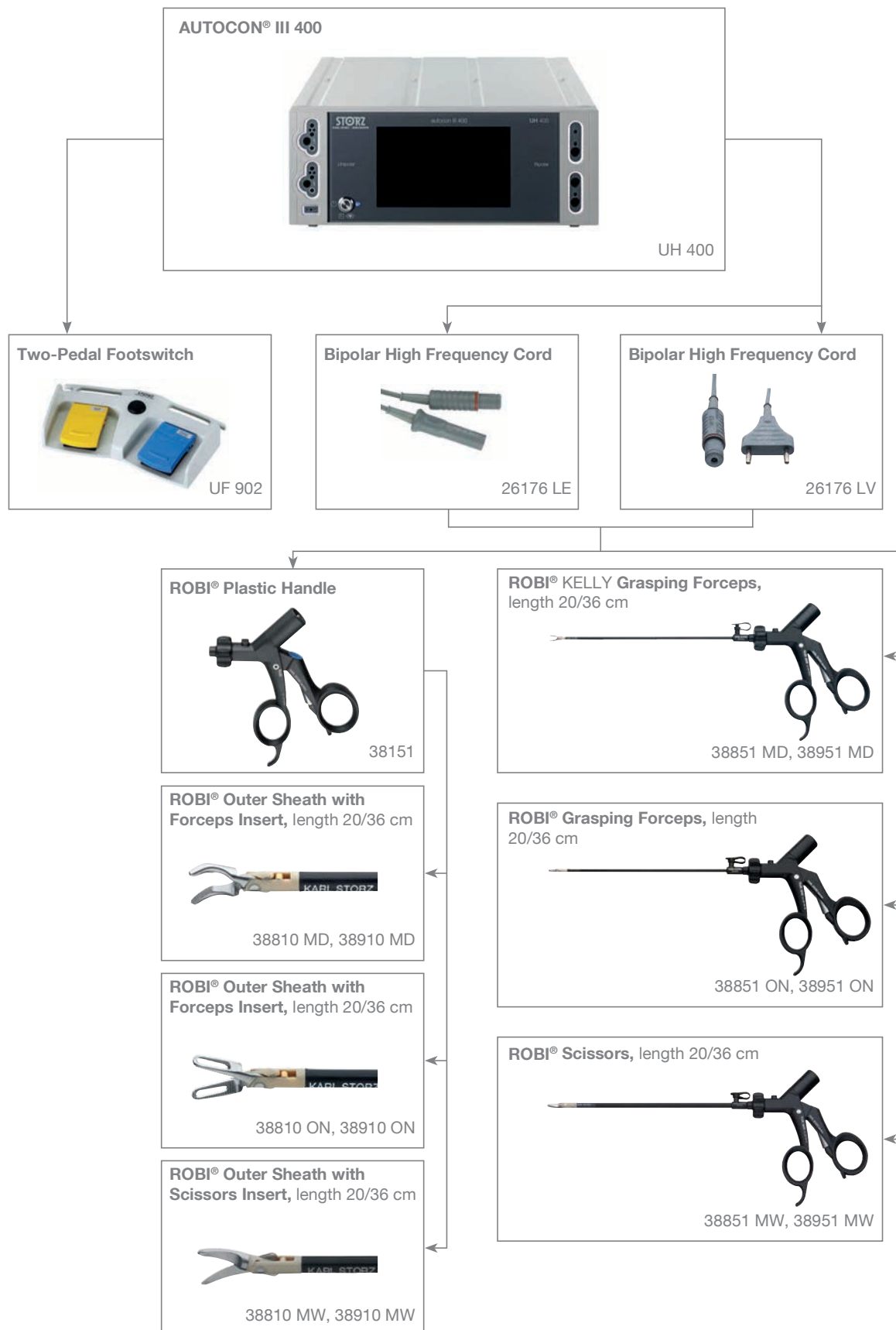
ROBI® Mode for Rotating Bipolar Instruments

By limiting the maximum power setting in the ROBI® mode, KARL STORZ has significantly reduced the risk of damage to bipolar instruments during use. Consequently, the user can now select all possible performance settings to achieve the desired surgical outcome without the risk of overloading the instrument with too much power.

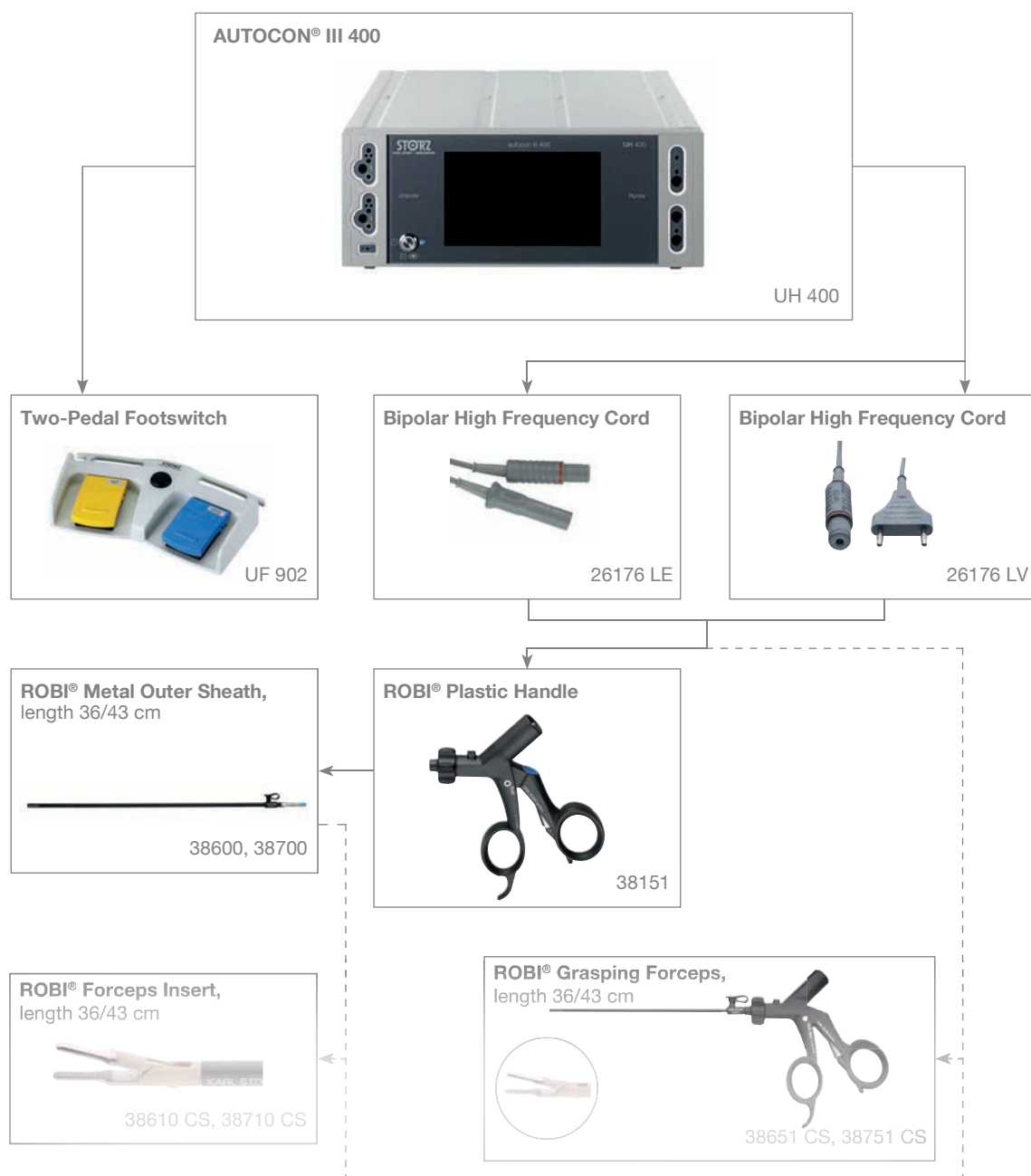
With the rotating, bipolar instruments for minimally invasive surgery in 3.5 mm and 5 mm in conjunction with the AUTOCON® III 400 generator and components for an optimal imaging chain, KARL STORZ offers a modular system that provides safety, stability and precision. All instruments in the ROBI® range feature a modular construction and can be rotated 360°. They are easy to use, easy to clean, and autoclavable.

Combining the ROBI® instruments with the ROBI® mode of the HF generator allows the optimization of minimally invasive laparoscopic interventions to make them more straightforward, faster and safer. As the adjustable maximum voltage is limited in the ROBI® mode, damage caused by too high a voltage can be prevented. This leads to significantly lower repair costs.

ROBI® 3.5 mm for Minimally Invasive, Laparoscopic Surgery – System Overview



ROBI® 3.5 mm for Minimally Invasive, Laparoscopic Surgery – System Overview



For further inserts and instruments please see the following pages

Inserts and Complete Instruments with Single Action Jaws

ROBI® Forceps Insert, length 36/43 cm  38610 CS, 38710 CS	ROBI® Grasping Forceps, length 36/43 cm  38651 CS, 38751 CS
ROBI® Forceps Insert, length 36 cm  38610 CL	ROBI® Grasping Forceps, length 36 cm  38651 CL
ROBI® Forceps Insert, length 36 cm  38610 KF	ROBI® Grasping Forceps, length 36 cm  38651 KF
ROBI® Forceps Insert, length 36/43 cm  38610 KL, 38710 KL	ROBI® Dissecting and Grasping Forceps, length 36/43 cm  38651 KL, 38751 KL
ROBI® Scissors Insert, length 36 cm  38610 MT	ROBI® Scissors, length 36 cm  38651 MT
ROBI® Scissors Insert, length 36 cm  38610 MZ	ROBI® Scissors, length 36 cm  38651 MZ

Inserts and Complete Instruments with Double Action Jaws



The mode for permanent vessel sealing – BIVASCULARSAFE

During the development of the AUTOCON® III product family, the optimization of HF coagulation led to the creation of a further discipline, the so-called vessel sealing. This process allows a high-frequency current to flow through the vessel in combination with optimal pressure delivery. The heat generated by the energy input in the tissue changes the structure of the collagen and elastin fibers. These then re-form to create a plastic-like sealing zone. Vessel sealing enables the sealing of larger vessels that can withstand high burst pressure.

Vessel sealing produces the same effects as coagulation. With the energy input into tissue, the intra- and extracellular fluids slowly begin to vaporize and the collagen fibers denature. The heat-resistant elastin fibers also denature with rising temperatures. Sealing prevents a rapid increase in vaporization as well as carbonization so that the tissue structure is largely maintained during sealing. The pressure exerted compresses the vessel walls until the collagen and elastin fibers fuse with the remaining tissue to form a seal zone.

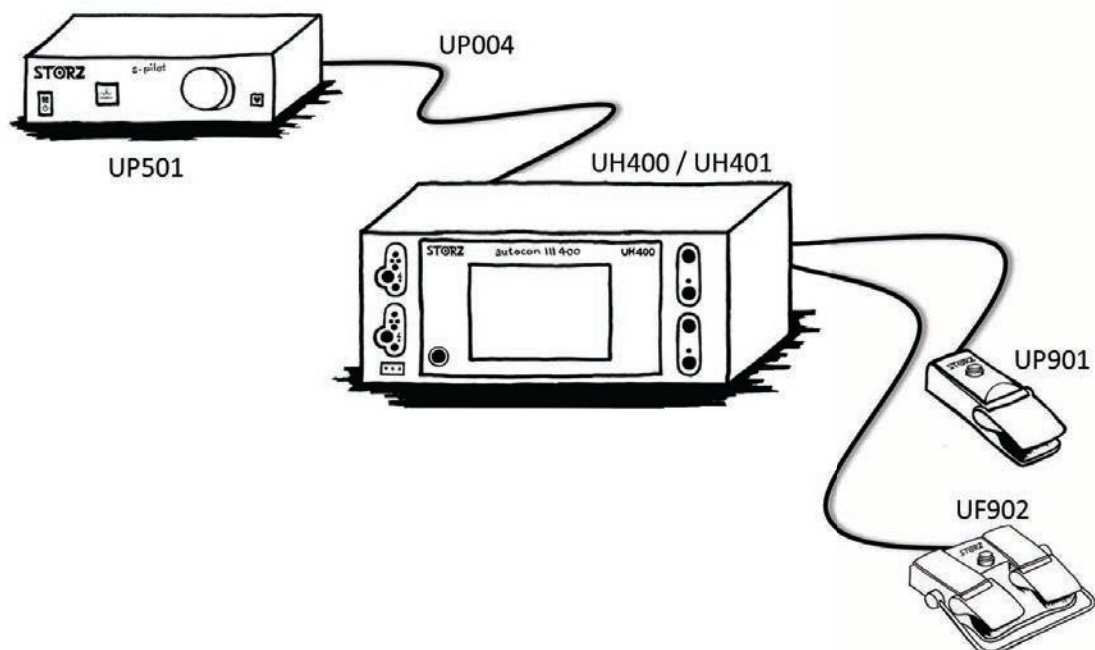
The technology of the future – Benefits of permanent vessel sealing – BIVASCULARSAFE

- Shorter OR times as compared to conventional technologies such as, for example, sealing with clips or sutures
- Shorter surgery times and faster recovery means less costs
- High-frequency procedures eliminate the need for foreign materials so these do not remain behind in the body
- Less mechanical stress on the surrounding tissue

Hug B, Haag R
(3. Auflage) Medizintechnik (Medical Technology)
Offprint of the chapter
“Hochfrequenzchirurgie (High Frequency Surgery)”
28: 533-538

Combination with Other Units

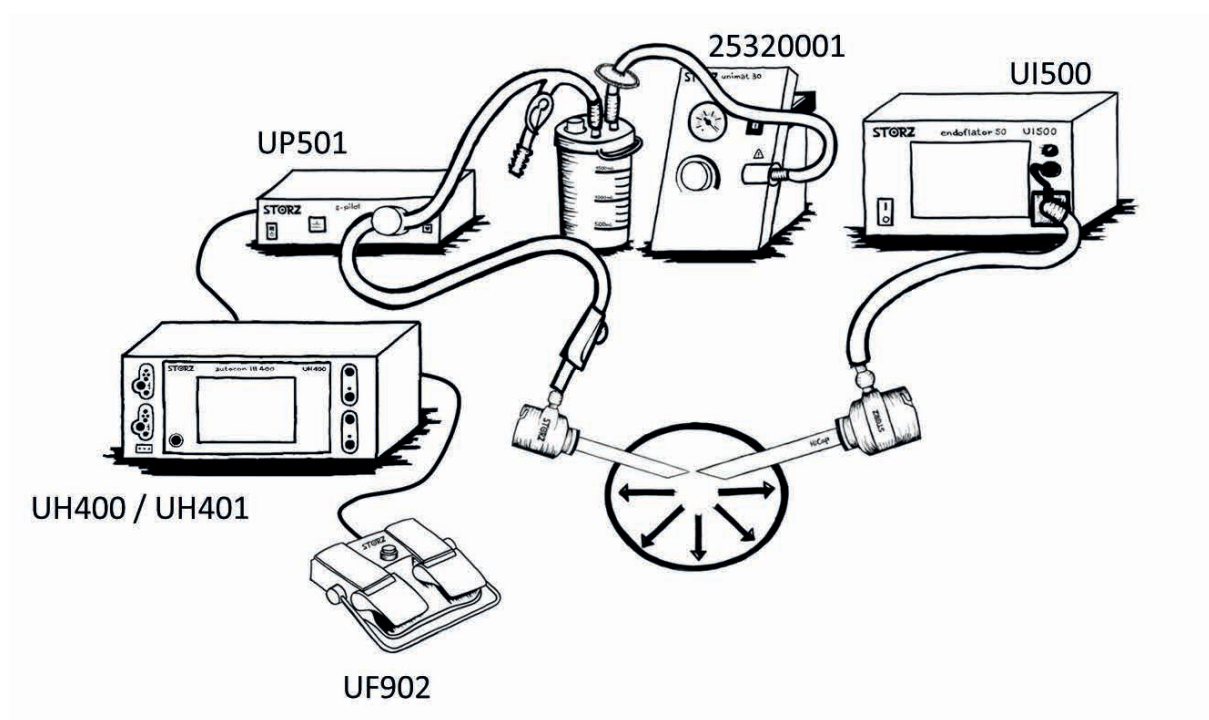
High-frequency units have now become indispensable tools in modern medicine. Numerous interventions are performed every day that require the use of energy application systems. Thermal energy from HF units generates surgical smoke and unpleasant odors which can cause the OR staff to suffer headaches and nausea. Furthermore, the generated smoke disturbs endoscopic visualization and presents a further risk of hindering surgeons in their work. The S-PILOT™ from KARL STORZ, with corresponding smoke evacuation filters, provides excellent visibility through effective smoke evacuation and protects personnel from exposure to unpleasant odors.



UP 501 **S-PILOT™**, pinch valve, with integrated SCB module, incl. mains cord, power supply 100-240 VAC, 50/60 Hz, System requirements:
SCB control NEO system with integrated SCB control NEO
Software Release 20090001-46 or higher

UP 004 **S-PILOT™ Connecting Cable**, diameter 3.5 mm, length 300 cm, for use with AUTOCON® III 400, ConMed System 2450 or 5000

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 insufflators ENDOFLATOR® 40 and ENDOFLATOR® 50 offer this reliability. The S-PILOT™ is always connected to a vacuum source, e.g., the UNIMAT® 30. This forms an interface which is able to control the underpressure generated in the tube and the suction container. Thus, the UNIMAT® 30 is used as a vacuum source and container and allows fluid suction and smoke evacuation in parallel. As an alternative to the UNIMAT® 30, an on-site central vacuum can be connected to the suction container.



25320001 UNIMAT® 30, Suction Pump Set, power supply 230 VAC, 50/60 Hz
including:
Bacterial Filter
Secretion Bottle
Bottle Cap
Connecting Tube, short
Patient Tube
Overflow Case
Mains Cord, length 300 cm

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

AUTOCON® III 400



UH 400 **AUTOCON® III 400 High-End,**
power supply 220-240 VAC,
50/60 Hz
including:
Mains Cord

UH 401 **AUTOCON® III 400 High-End,**
BIVASCULARSAFE,
power supply 220-240 VAC,
50/60 Hz
including:
Mains Cord

UH 400U **AUTOCON® III 400 High-End,**
power supply 100-127 VAC,
50/60 Hz
including:
Mains Cord

UH 401U **AUTOCON® III 400 High-End,**
BIVASCULARSAFE,
power supply 100-127 VAC,
50/60 Hz
including:
Mains Cord

Specifications:

Insulation Type / Classification	
EMC	IEC 60601-1-2
Degree of protection provided by the housing	IP 21
Protection class according to EN 60601-1	I
Applied part type according to EN 60601-1	CF
Classification according to EU Directive 93/42/EEC	IIb
Mains Connection	
Power consumption in standby mode	40 W / 85 VA
Power frequency	50/60 Hz
Max. power consumption at max. HF power output of 400 Watt	550 W / 975 VA
Connection for potential equalization	yes
Voltage Range 230 V	
Input voltage range	198 V to 264 V
Mains fuse	2 x 5A slow blow
Voltage Range 100 V, 115 V	
Input voltage range	100 V to 130 V
Mains fuse	2 x 10A slow blow

Accessories for AUTOCON® III 400

	Art. No.	Description
	UF 901	One-Pedal Footswitch , with button for switchover function, for use with HF generators
	UF 902	Two-Pedal Footswitch , with button for switchover function, for use with HF generators
	UH 801	Bipolar High Frequency Cord , 400 cm with coding system, for use with KARL STORZ bipolar resectoscopes, and AUTOCON® III 400 units
	27805	Neutral Electrode , of conductive silicone with 2 rubber ties for fastening, contact surface A = 500 cm ² , for use with Connecting Cable 27806 UR
	27806 UR	Connecting Cable , for connecting Neutral Electrodes 27805 and 860021 E, length 300 cm
	27802	Neutral Electrode , for single use, contact surface divided into two, A = 169 cm ² , package of 50, Connecting Cable 27806 US required
	27806 US	Connecting Cable , for connecting single-use Neutral Electrode 27802, length 500 cm
	26520043	Electrode Handle , with 2 buttons for activating the unipolar generator, yellow button: unipolar cutting, blue button: unipolar coagulation (High Frequency Cord 26520045 required).
	26520045	High Frequency Cable , for Electrode Handle 26520043, length 500 cm
	26520046	Electrode Handle , without buttons, with integrated connecting cable, length 300 cm; activation of the high frequency surgical unit via footswitch

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



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