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MATERIEL MEDICAL - VENTE & SAV

KLS Martin ME MB 1 Endo

SIMPLE. PERFECT

KLS martin GROUP

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High-frequency in perfection

KLS Martin Electrosurgical Unit ME MB 1 Endo

Safety by easy use.

① High patient safety thanks to the Patient Control System

The integrated KLS Martin Patient Control System (PCS) ensures that no burns can be caused on the patient's skin. The system automatically adjusts to given tissue impedances; it is also able to recognize single and twin-pad neutral electrodes. So if such a neutral electrode with dual contact surfaces has been connected, the system permanently monitors the proper application of the electrode. Whenever the electrode happens to be in insufficient contact with the patient's skin, the user is alerted to this fact by means of an optical signal. The power is cut off.

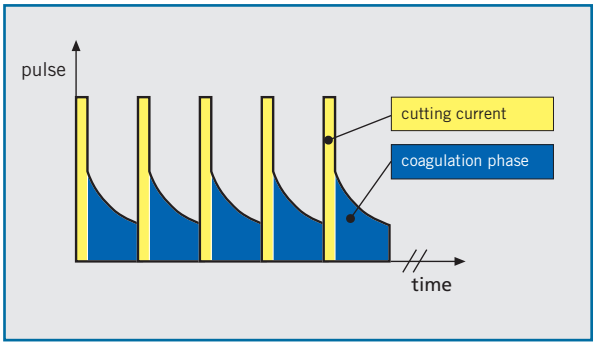
② Functional test

Whenever the unit is switched on, the KLS Martin ME MB 1 performs a self-test. If a fault is detected, no OK signal is emitted and HF power output is blocked immediately. This ensures that the KLS Martin ME MB 1 can be used only when it is in perfect working order and thus fully reliable. Any accessories connected are also checked for proper functioning during the self-test.

③ With Endo-Mode, you have everything under control

Endo-Mode. The time-controlled cutting mode of the ME MB 1 that you can switch on at any time. It offers a fractionated and therefore controlled cut for special applications, especially in endoscopy.

When dealing with pedicled tumors in endoscopic polypectomy or endoscopic papillotomy, you need a short intensive pulse (or peak) when starting the cut, due to the changing impedances during the thermal dissection phase. At the same time, the coagulation capability must be sufficient to guarantee proper hemostasis.



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Types of current provided by the KLS Martin ME MB 1 Endo

Monopolar cutting 1 (pure)
Cutting current allowing smooth, scab-free cuts

Monopolar cutting 2 (blend)
Cutting current allowing a smooth cut with little scab-formation

Endo-Mode
Time-controlled cutting mode

Monopolar contact coagulation
Coagulation current with deep-reaching effects; electrode in direct contact with the tissue. Particularly suitable in TUR

Monopolar spray coagulation
for surface coagulation (fulguration). This type of current is particularly suitable for hemostatic purposes when performing TUR with small-surface electrodes (e.g. loop-type electrodes)

Bipolar coagulation
for a broad range of applications

(4) Connector for monopolar hand switches

The unit ME MB 1 incorporates a connector that allows connection of monopolar hand switches equipped with either a large KLS Martin coaxial connector or a US 3-pin connector. KLS Martin's HF range of accessories provides an extensive selection of handles for various applications.

(5) Progressive power control

In the lower range, the power can be adjusted with high precision thanks to the unit's progressive (non-linear) output characteristic. This function is very helpful, for example, for stopping microvascular hemorrhages. In the upper range, the power can be adjusted on a linear basis. Due to its high power reserve, the unit is universally applicable.

(6) Monopolar cutting and coagulation by means of the foot switch

In the case of the KLS Martin ME MB 1, these buttons allow cutting and coagulating by using only one foot switch.

(7) Bipolar coagulating with foot switch

The power range of the KLS Martin ME MB 1 is rounded off by the "Bipolar coagulation" option. KLS Martin's reliable bipolar coagulation function combines utmost precision with maximum safety that is also guaranteed when coagulating large volumes.

(8) Multifunction connector for bipolar instruments

Bipolar active electrode socket combined for the small coax-plug (KLS Martin standard) or international accessories.

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MABS – KLS Martin Argon Beamer System

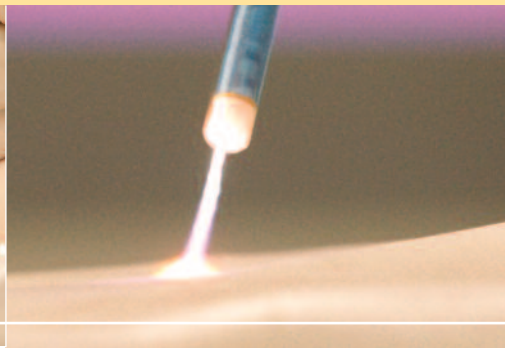
Using the KLS ME MB 1 in conjunction with the Argon Beamer MB 181

opens up a whole new range of applications in open as well as endoscopic surgery.

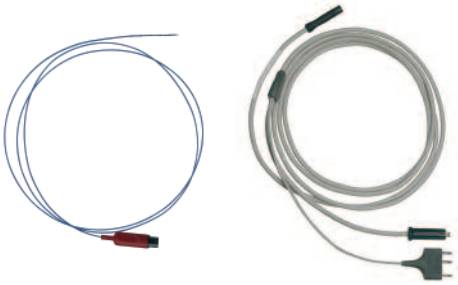
With this coagulation technique, the HF current is applied to the tissue in a non-contact procedure using ionized argon gas. The advantages of this approach include:

- fast and effective coagulation of extended hemorrhages
- tissue-friendly procedure with little blood loss
- coagulation with little carbonization
- low coagulation depth
- fast wound healing

Application Accessories for the KLS Martin Beamer System (MABS)



To connect the KLS Martin ME MB 1 with the beamer
KLS Martin MB 181 use the interface cable 80-181-51-04



Application accessories, rigid

Cat. No.	Description
80-181-02-04	MABS handle for rigid applicators Two pushbuttons for coagulating and cutting Connection cable 4.5 m/15 ft. in length, for HF current and argon gas, autoclavable at 134°C
80-181-10-04	MABS beam electrode for open surgery High-temperature-resistant ignition tip Working length 25 mm
80-181-11-04	MABS beam electrode for open surgery High-temperature-resistant ignition tip Working length 100 mm
80-181-12-04	MABS beam electrode for laparoscopy and pelviscopy, High-temperature-resistant ignition tip Working length 320 mm
80-181-13-04	MABS lancet electrode for open surgery Working length 40 mm, lancet length 14 mm
80-181-14-04	MABS lancet electrode for open surgery Working length 115 mm, lancet length 14 mm
80-181-15-04	MABS needle electrode for open surgery Working length 40 mm, needle length 14 mm
80-181-16-04	MABS needle electrode for open surgery Working length 115 mm, needle length 14 mm
80-181-09-04	MABS needle electrode, adjustable

Application accessories, flexible

Cat. No.	Description
80-181-30-04	MABS connection cable for flexible probes (disposable + reusable), connection cable, 2.5 m, for HF current and argon gas HF-current and gas-flow activation via foot switch Autoclavable at 134°C
80-181-22-04	MABS TBS Probe, reusable, Ø 1.5 mm, Length 1.6 m
80-181-23-04	MABS GIT Probe, reusable, Ø 2.3 mm, Length 2.3 m
80-181-24-04	MABS GIT Probe, reusable, Ø 3.2 mm, Length 2.3 m
80-181-25-04	MABS TBS Probe, disposable, Ø 1.5 mm, Length 1.6 m (10/pack)
80-181-26-04	MABS GIT Probe, disposable, Ø 1.8 mm, Length 3.2 m (10/pack)
80-181-27-04	MABS GIT Probe, disposable, Ø 2.3 mm, Length 2.3 m (10/pack)
80-181-28-04	MABS GIT Probe, disposable, Ø 3.2 mm, Length 2.3 m (10/pack)
80-181-29-04	MABS GIT Probe, disposable, Ø 2.3 mm, Length 3.4 m (10/pack)

All MABS electrodes share the following features:

- Insulated, rigid shaft with a diameter of 5 mm
- Distal ceramic nozzle
- Autoclavable at 134°C

All MABS flexible probes have the following features in common:

- Distal ceramic nozzle
- Scaled probe tip
- Autoclavable at 134°C (only reusable probes)
- Reduced gas consumption (50% lower than previous probes)

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Accessory Sets

80-160-00-04 Standard Set A
(and other units of series 400)

80-221-02-04	10ea	Disposable electrode handle (1 unit = 10 ea)
80-344-06-04	10ea	Disposable dispersive electrodes (1 unit = 10 ea)
80-294-40-04	1	Connection cable KLS Martin for disposable dispersive electrodes
80-811-30-04	1	Foot switch

80-140-00-04 Set accessories hand switch, large

80-140-00-04		Set accessories hand switch, large
80-217-02-04	1	Electrode handle with double finger switch with connection cable of 4 m
80-342-03-04	1	Rubber neutral electrode, 15 x 26 cm, with connection cable, 4 m
80-371-00-04	2	Rubber bands, perforated, 100 cm
80-371-01-04	2	Buttons for rubber band
80-416-00-04	1	Electrode box for 16 electrodes
80-510-04-04	1	Lancet electrode, straight
80-511-04-04	1	Lancet electrode, angular
80-515-04-04	1	Knife electrode
80-520-04-04	1	Needle electrode
80-525-04-04	1	Doz. needle electrodes, extra fine
80-532-00-04	1	Adapter for needle electrodes
80-540-04-04	1	Wire loop electrode, Ø 5 mm
80-542-04-04	1	Wire loop electrode, Ø 10 mm
80-550-04-04	1	Ribbon loop electrode, Ø 10 mm
80-552-04-04	1	Ribbon loop electrode, Ø 15 mm
80-560-04-04	1	Ball electrode, Ø 2 mm
80-562-04-04	1	Ball electrode, Ø 4 mm
80-563-04-04	1	Ball electrode, Ø 5 mm
80-570-04-04	1	Plate electrode, 8 x 10 mm

80-140-01-04 Set accessories foot switch

80-220-00-04	1	Electrode handle without switch, with connection cable of 4 m
80-342-03-04	1	Rubber neutral electrode, 15 x 26 cm, with connection cable of 4 m
80-371-00-04	2	Rubber bands, perforated, 100 cm
80-371-01-04	2	Buttons for rubber band
80-416-00-04	1	Electrode box for 16 electrodes
80-510-04-04	1	Lancet electrode, straight
80-511-04-04	1	Lancet electrode, angular
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80-552-04-04	1	Ribbon loop electrode, Ø 15 mm
80-560-04-04	1	Ball electrode, Ø 2 mm
80-562-04-04	1	Ball electrode, Ø 4 mm
80-563-04-04	1	Ball electrode, Ø 5 mm
80-570-04-04	1	Plate electrode, 8 x 10 mm
80-821-02-04	1	Double foot switch, anti-explosive, with connection cable of 5 m

80-150-00-04 Set bipolar accessories

80-287-53-04	1	Connection cable for bipolar forceps
80-924-16-04	1	Bipolar forceps, straight, blunt, 16 cm/6 ¼"
80-945-20-04	1	Bipolar forceps, bayonet-shaped, blunt, 20 cm/8"
80-925-16-04	1	Bipolar forceps, angled, blunt, 16 cm/6 ¼"
80-925-20-04	1	Bipolar forceps, angled, blunt, 20 cm/8"
80-924-20-04	1	Bipolar forceps, straight, blunt, 20 cm/8"

Technical specifications

Technical specifications of the units

Supply voltage	220-240 V; 50-60 Hz or 100-127 V; 50-60 Hz Selectable via dummy plug located inside the unit by Technical Service
Power input	with no HF power output: approx. 16 VA at max. power output: approx. 800 VA
Class of protection	I
Classified acc. to MDD	II b
Leakage currents LF and HF	in acc. with EN IEC 60601, Part 2-2
Type of equipment	CF; defibrillator-proof
Nominal frequency	450 kHz
Pulse frequency	30 kHz

HF output power:

Type of current	Power	Crest factor	Voltage
Cutting 1	max. 400 W at 300 Ω	1.6 at 300 Ω	max. 2300 V_{pp}
Cutting 2	max. 300 W at 300 Ω	1.9 at 300 Ω	max. 2500 V_{pp}
Endo-Mode	max. 100 W at 200 Ω	1.6 at 200 Ω	max. 2800 V_{pp}
Contact coagulation	max. 250 W at 200 Ω	3.4 at 200 Ω	max. 3200 V_{pp}
Spray coagulation	max. 120 W at 300 Ω	5.6 at 300 Ω	max. 6000 V_{pp}
Bipolar coagulation	max. 100 W at 100 Ω	2.1 at 100 Ω	max. 600 V_{pp}

Duty type	intermittent INT 10 s/30 s, equivalent to a duty factor of 25%
Mains fuses	220-240 V: T 4 A (slow-blow.) 100-127 V: T 8 A (slow-blow.)
Signal level	HF activation: 55 dB (A) (adjustable between 50 dB and 60 dB by Technical Service) Alarm: 65 dB(A)
Weight	8.6 kg
Interference suppression	Limits in conformity with EN 55011, Interference immunity in conformity with IEC 801
Dimensions	405 mm x 135 mm x 380 mm (W x H x D)
CE marking conform with 93/42/EEC	

Ordering Data

80-040-08-04	Electrosurgical unit ME MB1 Endo with mains cable, without accessories