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## Электрохирургическая установка ME MB 3



## ME MB 3

The efficient solution for the OR



ME MB 3 – The efficient solution for the OR.

## The HF surgical unit **ME MB 3** from KLS Martin The efficient solution for the OR

With its ME MB 3, KLS Martin presents an HF surgical unit that utilizes proven technology for the best ergonomics and handling. Power setting is conveniently done with a rotary knob. The required current type can be selected easily on the front side.

A high standard of patient safety, a straightforward design and superior application versatility round off a user-friendly profile. Yet a special highlight is still to mention, as different connecting sockets are available to ensure that you can continue to use your existing accessories.

In short, the KLS Martin ME MB 3 is the efficient solution for your OR.

## KLS Martin electrosurgical unit The main features



### ① Display

Power setting constantly under visual control

### ② High patient safety thanks to PCS NE monitoring (Patient Control System)

In high-frequency surgery, the thermal effect must be strictly limited to the point of application of the active electrode. In other words, no heat must be allowed to develop underneath the neutral electrode (NE). To ensure this, HF units from KLS Martin are equipped with NE monitoring functions designed to keep the neutral electrode under constant control, blocking monopolar HF energy output as soon as an NE problem occurs due to lack of skin contact. A split neutral electrode is required for this function.

The PCS system, in fact, continuously monitors correct attachment of the NE to the patient's skin. If the NE detaches in any way, the user is immediately alerted – well before critical situations could arise.

### ③ Functional test

Each time the unit is turned on, the KLS Martin ME MB 3 performs a self-test. If an error or malfunction is detected, no acknowledgement signal is emitted and HF current output is automatically blocked. This ensures that the KLS Martin ME MB 3 can be used only under perfect operating conditions.

### ④ Monopolar handle connections

In the "m" version, the KLS Martin ME MB 3 allows you to connect handles with a KLS Martin plug or a US 3-pin plug. The "i" version, in turn, is designed for connection of monopolar handles with Bovie plug or US 3-pin plug.

The KLS Martin HF accessories program offers you a wide selection of handles for various applications. For details, please refer to our special HF Accessories Catalog.



ME MB 3, "m" version  
for KLS Martin accessories



ME MB 3, "i" version  
for international accessories



⑤ **Progressive power adjustment**

This function allows you to adjust the power output precisely to your specific needs when working in the lower power range. This is particularly useful for the hemostatic treatment of delicate vessels, for example. In the upper range, however, the ME MB 3 provides a steadily increasing power output. It is this high “power reserve” that warrants the universal applicability of the KLS Martin ME MB 3.

⑥ **Monopolar cutting and coagulation**

using the foot switch

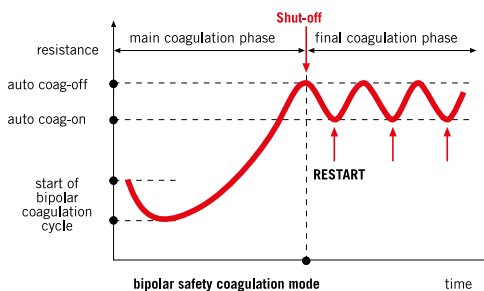
The double-pedal foot switch (for cutting/coagulation) can be used for monopolar as well as bipolar operation.

⑦ **Bipolar coagulation with the foot switch**

The power spectrum of the KLS Martin ME MB 3 is rounded off by the “Bipolar Coagulation” option used in conjunction with the foot switch. This reliable bipolar coagulation function from KLS Martin allows you to combine high-precision work with large-volume yet safe coagulation.

⑧ **Bipolar ON/OFF automatic function**

Button for bipolar coagulation with automatic start/stop function in manual operation using the handle. With this function, bipolar safety coagulation is automatically performed as soon as the electrodes make tissue contact. The pulse-type follow-up coagulation phase ensures the best possible coagulation result.



⑨ **Multifunctional connector for bipolar instruments**

This is a bipolar combination socket for active electrodes, allowing you to connect the small coaxial plug (KLS Martin standard) or international accessories from other manufacturers.

## KLS Martin electro surgical unit Types of current



**m**

"m" version, ME MB 3  
for KLS Martin accessories



**i**

"i" version, ME MB 3  
for international accessories



### Monopolar Cut 1 (Pure Cut)

for a smooth cut with minimal eschar formation. This so-called "pure cut" comes closest to the classic scalpel cut, thus providing the best basis for effective wound healing.



### Monopolar Cut 2 (Blend Cut)

for a pure cut with some more eschar formation compared to pure cut.



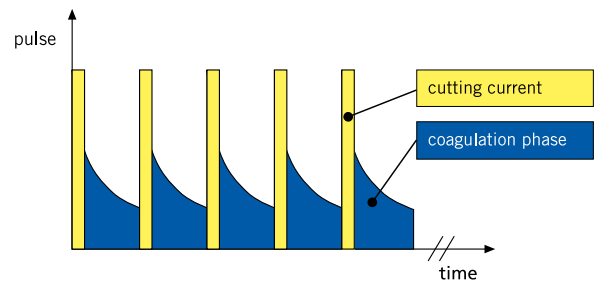
### Monopolar Cut 3 (Super Blend Cut)

Super Blend is a cutting current with even stronger eschar formation compared to Blend Cut. As the wound edges are simultaneously coagulated during the cutting process, bleeding from dissected capillary vessels is stopped at once and extended hemorrhages are prevented.



### ENDO Mode

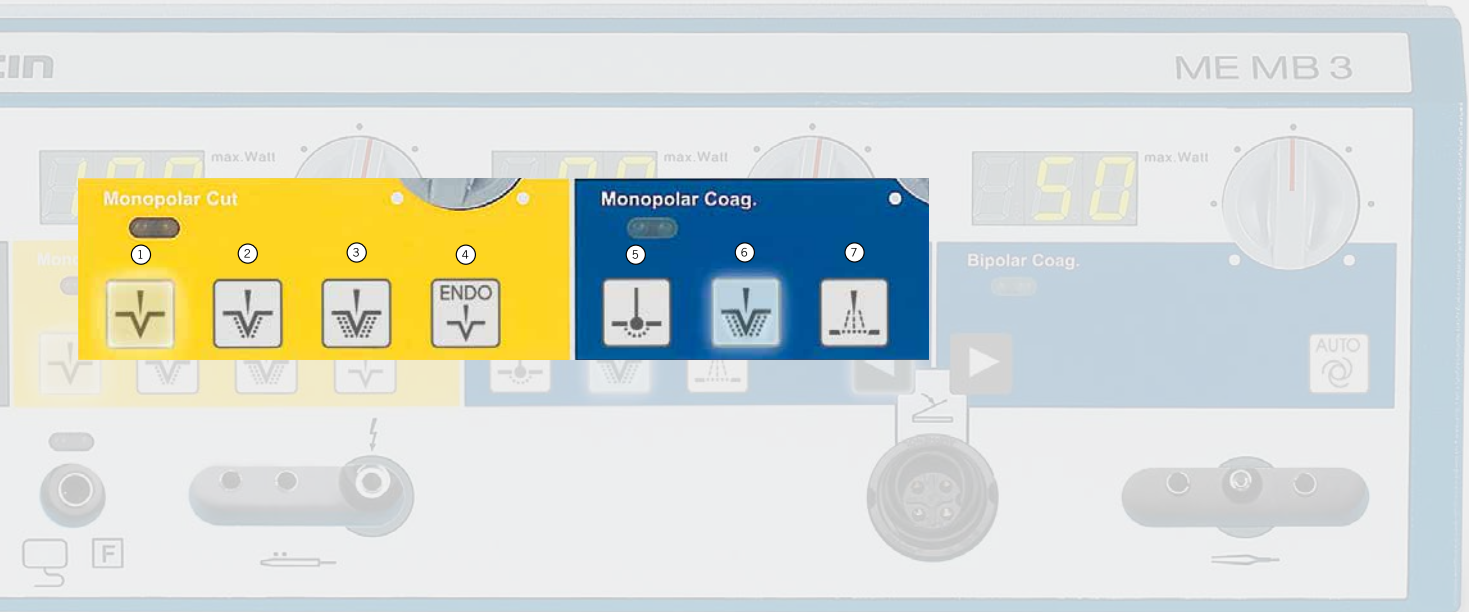
This is a time-controlled cutting mode offering a fractionated and therefore controlled cut intended for special applications, e.g. for endoscopic papillotomy and endoscopic polypectomy.



### Power Peak – the power boost for "cutting under water"

This function provides an increased HF power level to facilitate starting the cut. It is intended for use in urology/gynecology (cutting in liquid environments\*)

\* Power Peak just when activation is carried out per foot switch



### Monopolar Contact Coagulation

Coagulation current with depth effect (electrode in direct contact with the tissue).



### Monopolar Spray Coagulation

Coagulation current for surface coagulation (fulguration). It is especially suited for hemostasis during TUR procedures using small-surface electrodes (e.g. loop electrodes).



### Forced Prep

Forced coagulation current enabling fast coagulation. An ideal current for dissecting tasks because it provides effective cutting capability despite its dominant coagulation feature.

### Bipolar Coagulation

KLS Martin offers users a wide range of bipolar accessories:

- marCut® instruments
- nonStick-red-forceps
- nonStick-flush-forceps
- marLap instruments



## HF trolleys



maXium® smart Cart





HF trolley

## Accessory sets and ordering information



smartPen

80-160-00-04	Standard Set A for ME MB 3, "m" version (and other major HF units from KLS Martin)
80-221-02-04	1 Disposable electrode handles, SU = 10/pack
80-344-09-04	1 Disposable DuoSafe neutral electrodes, SU = 50/pack
80-294-40-04	1 KLS Martin connection cable for disposable neutral electrodes
80-505-00-04	1 Cleaning pad for electrodes, sterile packed, SU = 100/pack
80-811-30-04	1 Foot switch

80-160-01-04	Standard Set B for ME MB 3, "i" version
80-221-02-04	1 Disposable electrode handles, SU = 10/pack
80-344-09-04	1 Disposable DuoSafe neutral electrodes, SU = 50/pack
80-294-44-04	1 Valleylab connection cable for disposable neutral electrodes
80-505-00-04	1 Cleaning pad for electrodes, sterile packed, SU = 100/pack
80-811-30-04	1 Foot switch

80-140-00-04	Large Set of monopolar accessories for hand activation for ME MB 3, "m" version
80-217-13-04	1 smartPen Electrode handle with two pushbuttons for 4-mm electrodes, with KLS Martin plug
80-342-03-04	1 Rubber neutral electrode, 15 x 26 cm, with connection cable, 4 m
80-371-00-04	2 Rubber bands, with holes, 100 cm
80-371-01-04	2 Buttons for rubber band
80-416-00-01	1 Electrode container for 16 electrodes
80-505-00-04	1 Cleaning pad for electrodes, sterile packed, SU = 100/pack
80-510-04-04	1 Lancet electrode, straight
80-511-04-04	1 Lancet electrode, angled
80-515-04-04	1 Knife electrode
80-520-04-04	1 Needle electrode
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

## Technical data ME MB 3







80-140-01-04	Large Set of monopolar accessories for foot activation for ME MB 3, "m" version	
80-220-02-04	1	smartPen electrode handle without pushbuttons for 4-mm electrodes, with KLS Martin plug
80-342-03-04	1	Rubber neutral electrode, 15 x 26 cm, with connection cable, 4 m
80-371-00-04	2	Rubber bands, with holes, 100 cm
80-371-01-04	2	Buttons for rubber band
80-416-00-01	1	Electrode container for 16 electrodes
80-505-00-04	1	Cleaning pad for electrodes, sterile packed, SU = 100/pack
80-510-04-04	1	Lancet electrode, straight
80-511-04-04	1	Lancet electrode, angled
80-515-04-04	1	Knife electrode
80-520-04-04	1	Needle electrode
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
80-830-00-04	1	Double-pedal foot switch, anti-explosive, with connection cable of 5 m

80-150-00-04	Set of bipolar accessories, for ME MB 3, "m" version	
80-287-53-04	1	Connecting cable for bipolar forceps
80-924-16-04	1	Bipolar forceps, straight, blunt, 16 cm/6 1/4"
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 1/4"
80-925-20-04	1	Bipolar forceps, angled, blunt, 20 cm/8"
80-924-20-04	1	Bipolar forceps, straight, blunt, 20 cm/8"

80-150-01-04	Set of bipolar accessories with nonStick red forceps, for ME MB 3, "m" version	
80-287-53-04	1	Connection cable for bipolar forceps
80-986-17-04	1	Bipolar forceps, nonStick red, straight, blunt, 16 cm/6 1/4"
80-992-20-04	1	Bipolar forceps, nonStick red, bayonet-shaped, blunt, 20 cm/8"
80-987-17-04	1	Bipolar forceps, nonStick red, angled, blunt, 16 cm/6 1/4"
80-987-20-04	1	Bipolar forceps, nonStick red, angled, blunt, 20 cm/8"
80-986-20-04	1	Bipolar forceps, nonStick red, straight, blunt, 20 cm/8"

## Ordering information for HF units and accessories

		Ordering information	
		80-040-11-04	ME MB 3 electro-surgical unit, with mains cable, without accessories, KLS Martin ("m") version, 220–240 V
		80-040-11-10	ME MB 3 electro-surgical unit, with mains cable, without accessories, KLS Martin ("m") version, 100–127 V
		80-040-12-04	ME MB 3 electro-surgical unit, with mains cable, without accessories, international ("i") version, 220–240 V
		80-040-12-10	ME MB 3 electro-surgical unit, with mains cable, without accessories, international ("i") version, 100–127 V

# Technical data

## ME MB 3 from KLS Martin

ME MB 3 technical data	
Power requirements	220–240 V, 50–60 Hz; or 100–127 V, 50–60 Hz (adjustable by Technical Service via plug-in jumper inside unit)
Power input	without HF output: approx. 26 VA at max. power output: approx. 800 VA
Protection class	I
Classification acc. to MDD	II b
Leakage currents	LF and HF in compliance with IEC 60601-1 and 2-2
Type	CF; defibrillation-proof
Nominal frequency	450 kHz
Modulation frequency	30 kHz

HF output power:			
Type of current	Power	Crest factor	Voltage
Cut 1 (pure)	max. 400 W at 300 Ω	1.6 at 300 Ω	max. 1,500 Vp
Cut 2 (blend)	max. 300 W at 300 Ω	1.9 at 300 Ω	max. 2,000 Vp
Cut 3 (super blend)	max. 200 W at 300 Ω	2.4 at 300 Ω	max. 1,600 Vp
Forced Prep	max. 120 W at 200 Ω	4.9 at 200 Ω	max. 2,100 Vp
Endo Mode	max. 100 W at 200 Ω	1.6 at 200 Ω	max. 1,200 Vp
Contact coagulation	max. 250 W at 200 Ω	3.4 at 200 Ω	max. 2,100 Vp
Spray coagulation	max. 120 W at 300 Ω	5.6 at 300 Ω	max. 4,400 Vp
Bipolar coagulation	max. 100 W at 100 Ω	2.1 at 100 Ω	max. 350 Vp
Duty type	intermittent 10 s / 30 s = duty factor of 25%		
Line fuses	220–240 V: T 4 A (slow-blow) 100–127 V: T 8 A (slow-blow)		
Sound level	HF current activation: 40 - 65 dB (adjustable) Alarm: 65 dB(A)		
Weight	8.6 kg		
Interference suppression	Limits in conformity with EN 55011 Interference immunity in conformity with IEC 801		
Dimensions	Width: 405 mm; height: 135 mm; depth: 380 mm		
CE-marking	according to 93/42/EEC		



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- ✓ Effective
- ✓ Ergonomic
- ✓ Safe



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