

# Electrosurgery



maxium®



*maxium*®

INGENUITY IS ALWAYS QUITE SIMPLE

**KLS** martin  
GROUP

## Reduction is perfection

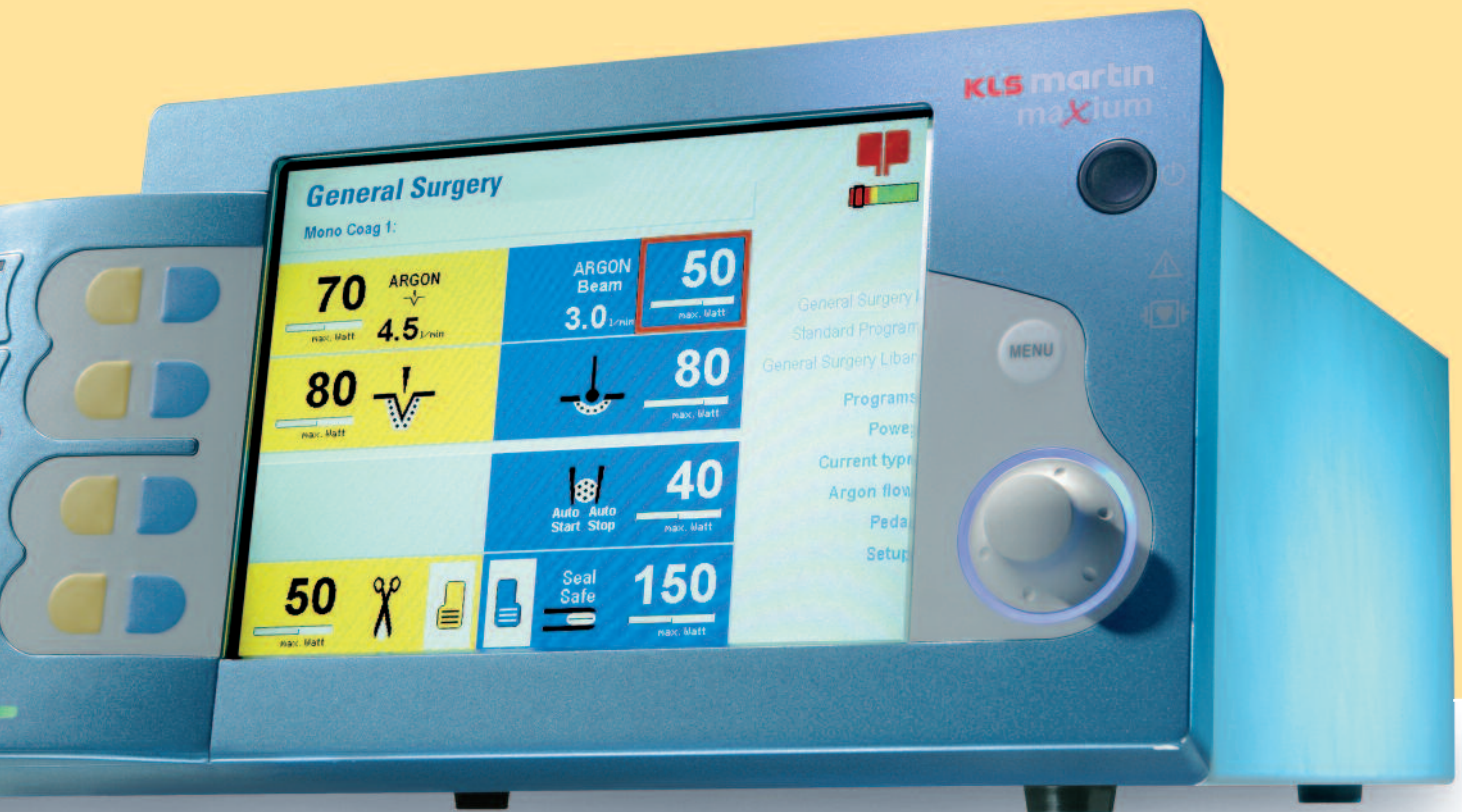
*Nowadays, a trend towards “simplified dialog”, i.e. improved communication with the user, is clearly underway in all technical fields. While ever more complex background processes are going on inside the “box”, the foreground is increasingly shaped by demands for straightforward operation and easy control.*

# maxium®



Particularly in the OR, where every look and every hand counts, this development is more than just desirable. For it is not only in stressful situations that the surgeon and his team want to have at their finger tips just those functions and information that they really need for their current task.

The maxium® is KLS Martin's answer to this trend. It introduces a future-oriented generation of HF units that sets new standards in terms of ease of use and perfect control. And as can be expected from KLS Martin, the heart of the system consists of sophisticated technology capable of giving you an unsurpassed level of performance.



marTronic® series of electro-surgical units: maxium®

The new “high-end reference system” in the field of multifunctional HF surgery. The aims of its developers and designers were a direct translation of user demands. An innovative symbiosis of uncompromising technology and a whole range of user-friendly assets:

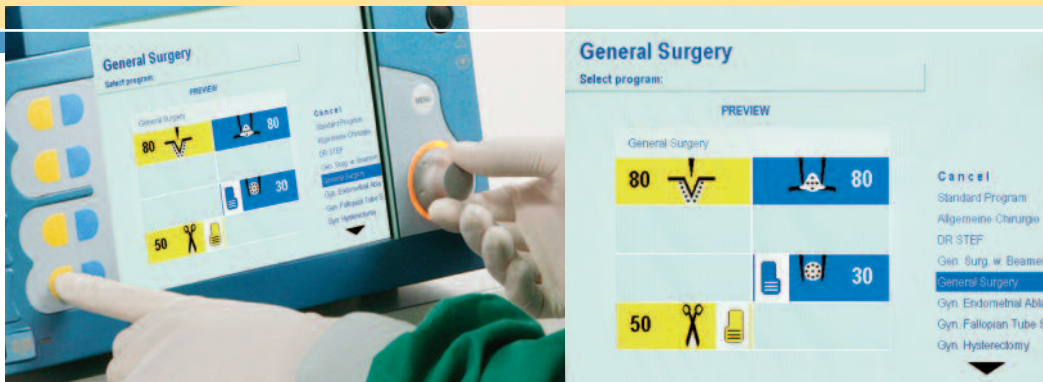
- ✗ ergonomics
- ✗ simplicity
- ✗ speed
- ✗ precision
- ✗ versatility
- ✗ safety

marTronic® – maxium®: a system that impresses with numerous advantages:

utmost ease of operation thanks to the optically-supported “Quick Step” control, perfect overview thanks to the new “maxi-display”, absolute flexibility thanks to personal programmability, and unsurpassed efficiency thanks to supreme functionality and ergonomics.

## Control takes just a turn

# maxium®

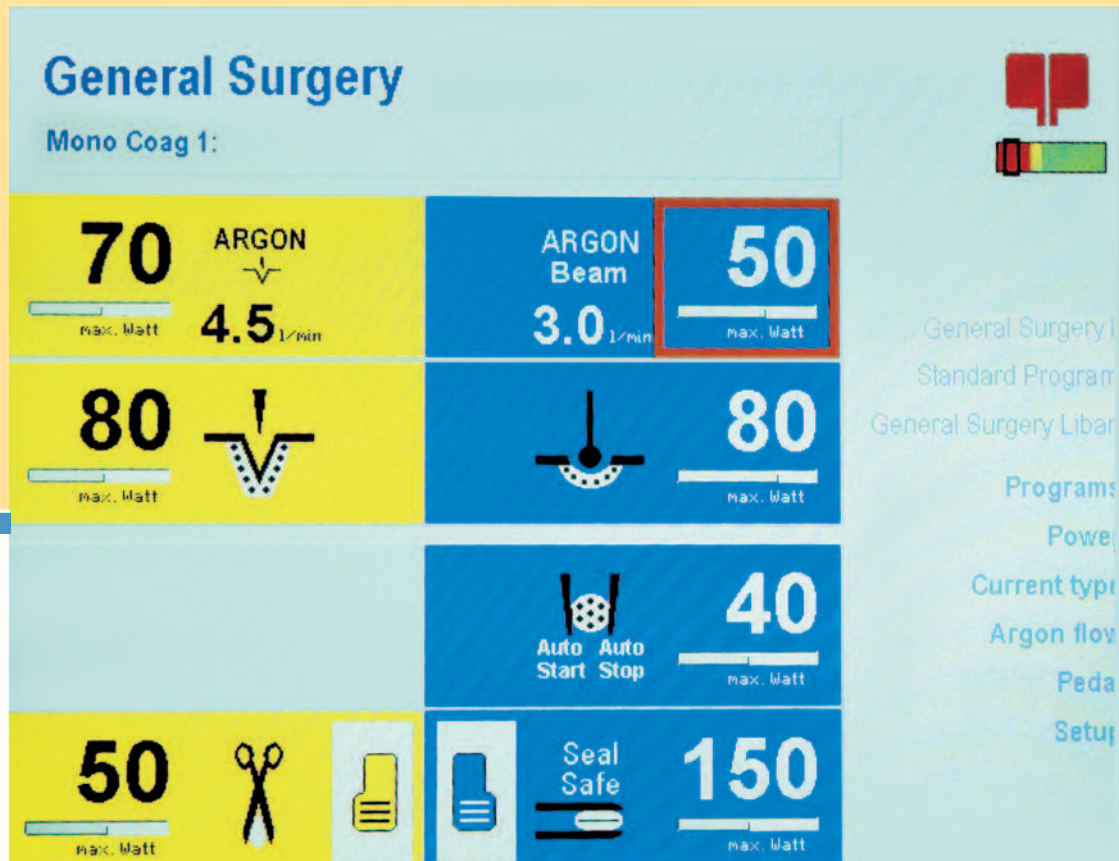


The “turn” of the maxium®:  
the optically-supported “Quick Step” control

The maxium®’s rotary switch allows you to operate the system fast, single-handedly and with utmost convenience. All HF parameters can be set and changed anytime with a quick movement of the hand. In each case, the current operating state is immediately recognizable by the backlight, a status-indicating system specially developed and patented by KLS Martin. The code is easy:

yellow = cutting, blue = coagulation, white = menu, off = inactive

The system’s memory offers you 99 storage positions for user-defined programs, plus a preset standard program. These can be stored under the respective medical specialization, the specific indication or your name – just as you prefer. The list of favorites enables you to access the “last used programs” (LUPs) with ease and call them up in a second when you need them.



The new “maxi-display” – the highly useful “eye-catcher” of the maxium®.

It allows you to check at a glance which type of program you are currently using (monopolar, bipolar, cutting, coagulating), the set output power, the selected type of current, the chosen switching mode (hand switch or foot-switch), the selected neutral (i.e. dispersive) electrode – all of this simultaneously and constantly for all four working channels.

Therefore, you always have the total picture.

In addition to the characteristics control guaranteeing an optimal and reproducible cut even in critical situations, the maxium® also offers so-called “arc-controlled” currents that ensure optimal power adjustment at any time.

As much as necessary, as little as possible – utmost safety for both the patient and the user.

## Concentration on what's essential

# maxium®



**"m" version**  
maxium® with socket module  
for KLS Martin accessories



**"i" version**  
maxium® with socket module  
for international accessories



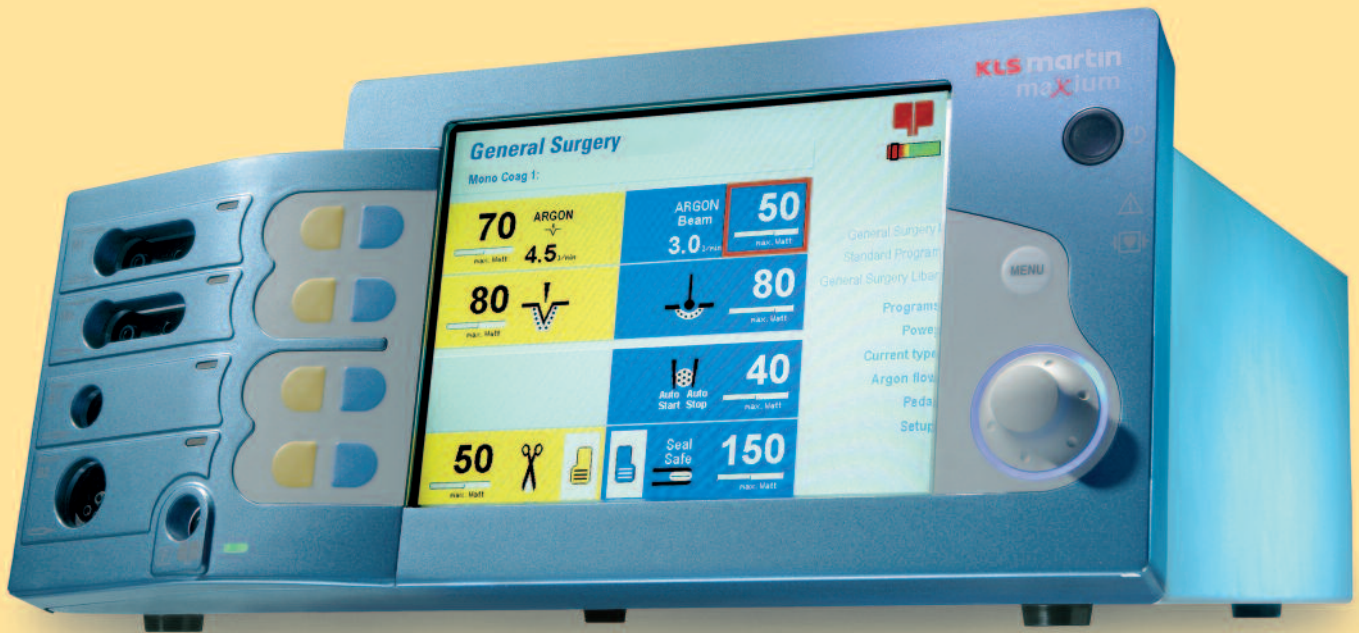
**"e" version**  
maxium® with socket module  
for 5-mm accessories

### Modularity and individuality

The maxium® offers four working channels as standard features – two monopolar outputs and two bipolar ones. These are available in three different configurations (or socket modules): "m" version, "i" version, and "e" version.

Each of the four outputs can be selected individually, either via the channel selector button or with the rotary switch.

You have the choice – and the flexibility to meet your specific needs.



### The advantages at a glance

- ✗ Extremely easy to operate, thanks to the optically-supported “Quick Step” control
- ✗ Straightforward maxi-display
- ✗ User-oriented program philosophy, with 99 individual memory locations
- ✗ Two monopolar and two bipolar outputs
- ✗ More than 40 different types of current for all medical fields
- ✗ Monopolar, arc-controlled cutting with up to 400 watts
- ✗ Bipolar cutting with marCut® and Forflex
- ✗ Monopolar and bipolar coagulating with auto functions
- ✗ Fractionated currents for use in endoscopy
- ✗ marClamp® bipolar vessel sealing system
- ✗ Argon plasma coagulation with maxium® Beamer
- ✗ Special range of “baby” NEs for use in pediatrics
- ✗ A single system configuration for all medical fields
- ✗ High cost-effectiveness
- ✗ Different socket modules (“m”, “i” or “e” version)
- ✗ Future-oriented system that can be both updated and upgraded
- ✗ maxium® Cart equipment carrier, suitable for all marTronic® units
- ✗ CANopen interface for integration into intelligent OR systems
- ✗ “Night design” socket illumination

## A single unit for all applications

*The maxium® offers more than 40 precisely regulated currents, enabling you to create a whole range of customized programs in any medical field.*

# maxium®



Monopolar and bipolar cutting

The maxium® is an electrosurgical unit that, due to its uniqueness, constitutes a class of its own at the “high end” of the spectrum. It offers you a multitude of different cutting currents that enable you to cope with any surgical demands encountered in advanced operating rooms. In addition to the “Pure Cut” and “Blend Cut” standard currents, special currents are available, e.g. for bipolar cutting or for endoscopic procedures.



Monopolar and bipolar coagulating

A comprehensive range of coagulation currents guarantees safe coagulating in open as well as endoscopic surgery. And if used in conjunction with the KLS Martin Argon Beamer, the system additionally offers you all the advantages of argon plasma surgery, both “open” and endoscopic.





**marClamp**<sup>®</sup>



**marCut**<sup>®</sup>



### marCut<sup>®</sup> bipolar scissors

KLS Martin's marCut<sup>®</sup> provides you with bipolar scissors that enable fast and safe tissue dissection while ensuring sufficient hemostasis at the same time, thanks to the Forflex current.

The bipolar marCut<sup>®</sup> scissors are available in two different versions:

- marCut<sup>®</sup> standard
- marCut<sup>®</sup> SL (slim line)

Please feel free to order our separate marCut<sup>®</sup> brochure (90-215-02-04)!



### marClamp<sup>®</sup> forceps for bipolar vessel sealing

Using the maxium<sup>®</sup> system in conjunction with the marClamp<sup>®</sup> forceps provides ideal conditions for sealing blood vessels or tissue bundles permanently, rapidly and safely without causing any lateral thermal tissue damage. With the maxium<sup>®</sup>'s SealSafe current, KLS Martin offers you perfect and reliable HF ligatures.

A separate marClamp<sup>®</sup> brochure is available free of charge under 90-237-02-04!



## The multifunctional HF system: maxium® + maxium® Beamer

*maxium®, maxium® Beamer and maxium® Cart constitute a system currently unrivaled in the field of argon plasma surgery, both “open” and endoscopic.*

maxium®



Argon plasma surgery ensures excellent coagulation results. As the high-frequency current ionizes the argon gas, the eschar produced is extremely uniform and just as elastic. This is also supported by the fact that the laser beam is automatically drawn to the bleeding, still uncoagulated tissue areas. One result is fast hemostasis – a capability of particular importance when dealing with diffuse hemorrhages. Further benefits include reduced blood loss and significantly shortened operating times. Effective endoscopic use is guaranteed as well, thanks to the availability of special, low-voltage currents that are ideal for application with gastrointestinal and tracheobronchial probes. This gives you safety and efficiency in one.

All maxium® Beamer applications are “non-contact”, which means significantly less tissue carbonization, better wound healing and a much lower perforation risk. We provide the technology to put you in control – with just the right type of current and the right argon gas flow in accordance with the indication and the instrument used.

The new maxium®, the maxium® Beamer and the maxium® Cart give you a unique multifunctional HF system that is a must for any state-of-the-art operating room.

maxium® Cart, the new equipment carrier that comes in the innovative maxium® design. It allows you to store the maxium® and maxium® Beamer safely and ergonomically in a compact arrangement. Needless to say, this new Cart can also accommodate any other marTronic® or ME unit belonging to KLS Martin's line of major electro-surgical systems.





### Technical Data maxium®

#### Mains connection

Power requirements	100–240 V ± 10 %
Mains current	max. 6.3 A
Mains fuse	6.3 A
Nominal frequencies	300/400/600 kHz
Power input in standby mode	40 watts
Max. power input	600 watts

#### Output power

Cutting power	max. 400 watts
Coagulation power	max. 320 watts

#### Safety system

Safety system	PCS and NE indicator (LED)
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#### Weight and dimensions

Weight	8.3 kg
Width x height x depth	390 x 182 x 435 mm

#### Standards

Classification acc. to MDD	II b
Protection class acc. to DIN EN 60-601-1	I
Type of applied part	CF; defibrillation-proof
Approval/mark of conformity	CE 0297, in compliance with 93/42/EEC

### Technical Data maxium® Beamer

Power supply	via maxium® unit
Device fuse	M 1.6 A
Power input	max. 40 watts
Protection class	I
Classification acc. to MDD	II b
Argon gas flow, CUT	0.1 to 12 l/min ± 20%; 0.0 l/min = off
Argon gas flow, COAG	0.1 to 12 l/min ± 20%; 0.0 l/min = off
LF leakage currents	complying to IEC 601, Part 1 (testing in connection with maxium® HF generator)
Type of applied part	CF; defibrillation-proof
Duty type	INT 10 s/30 s (= duty factor of 25%)
Weight	3.5 kg
Dimensions	Width 390 mm
	Height (w/o ball-head bolts) 108 mm
	Depth 425 mm
Approval/mark of conformity	CE 0297, in compliance with 93/42/EEC

### Order numbers

80-042-00	maxium® with socket module for KLS Martin accessories, "m" version
80-042-02	maxium® with socket module for international accessories, "i" version
80-042-04	maxium® with socket module for 5-mm accessories, "e" version
80-044-00	maxium® Beamer
80-046-00	maxium® Cart equipment carrier

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