High-frequency surgery unit GN 060
CLASSIFIED BY UNDERWRITERS LABORATORIES INC.
WITH RESPECT TO ELECTRIC SHOCK, FIRE AND MECHANICAL HAZARDS ONLY IN ACCORDANCE WITH UL 2601-1
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Symbol on the front panel
- Power-ON key
- General symbol for danger, read through instructions for use exactly before putting into operation.
- Switch over from Micro to Macro and vice versa
- Illuminated display for MICRO mode
- Illuminated display for MACRO mode
- Switch-over key for automatic/foot switch mode
- Illuminated symbol for automatic activation of HF
- Illuminated symbol for foot switch mode
- Reduce dosage
- Increase dosage
- Key for storing a unit setting
- Memory keys
- Foot switch symbol
- Illuminated display for HF ON
- Output isolated from ground
- Symbol for "unit of type CF" with defibrillator protection

Symbol on the rear panel
- Connection point for equipotential bending line
- CE marking according to Directive 93/42/EEC
- Symbol for fuse

Survey
1.1 Front panel layout
1. Key for power on (unit ready for operation)
2. Light-emitting diode: unit prepared for switching on (power on)
3. Light-emitting diode: power on (unit ready for operation)
4. Micro display
5. Macro display
6. Key for micro-macro mode switch-over
7. Symbol for automatic activation of HF
8. Key for switch-over from automatic mode to foot switch mode
9. Symbol for foot switch mode
10. Key for dose reduction
11. Dose display
12. Key for increasing dose
13. Display: prepare memory for storage of displayed dose setting
14. Key: preparation for storage
15. Indicators for selected memory
16. Memory keys 1-4
17. Display HF-ON
18. Socket for bipolar cable with banana connector (USA cable)
19. Socket for bipolar cable
20. Socket for foot switch

1.2 Rear-panel layout
31. Mains input socket with 2 fuse holders
32. Potential equalization connector
33. Rating plate
2. Indications for use
AESCULAP's Bipolar Coagulator GN 060 is intended for use in surgery to generate electrical power for bipolar instruments. Bipolar coagulators are used in neurosurgery, ENT surgery, urology, laparoscopy and plastic surgery.

2.1 Caution:
Keep the voltage/power as low as possible to achieve the desired affect.

2.2 Operating modes
The unit has two operating modes with an adapted load curve in each case:
- "MICRO" operating mode: maximum of 10 Watt at approx. 50 Ohm.
- "MACRO" operating mode: maximum of 50 Watt at approx. 100 Ohm.

The operating mode is changed each time key ③ is pressed.

2.3 Activation modes
The unit possesses two HF activation modes:
a) Activation by means of foot switch
b) Automatic HF activation (with "automatic switch-on function" option).

Further to a): The HF generator is switched on when the foot switch is operated.
Further to b): The HF generator switches on if the tissue resistance between the two tips of the coagulation forceps falls below a certain value or if the two forceps tips touch.

The activation mode is changed each time key ③ is pressed.

3. Preparation, putting into operation
Caution: Before putting the unit into operation, it must be checked whether the voltage specified on the mains plug of the unit agrees with the actual mains voltage. If not, refer to Chapter 11.

The coagulator GN 060 must be operated only with AC with a frequency of 50-60 Hz. The mains voltage may be between 100 and 120 V or 220 and 240 V. The voltage range is preselected at the mains input connector on the rear of the unit. For further information, refer to Chapter 11. The mains cable must only be plugged into a properly installed grounding socket outlet (also refer to VDE 0107).

In order to prepare the unit so that it is ready for operation, please perform the following steps:
1. Connect the unit with the mains voltage by means of the mains cable (signal ① lights up).
2. Connect the bipolar cable to socket ④ (⑤).
3. Connect the foot switch to socket ③.
4. Press key ② (Signal lamps ④ and ③ light up).

4. Function test
4.1 The green signal lamp ① must light up after unit connection to the mains voltage.
4.2 After operation of the "Power On" key ⑦, the signal lamp ① must light up. All signal lamps and illuminated symbols on the display panel light up briefly.

On units with the option "automatic switch-on function", the display "AU" appears automatically in the dose display field ⑤.

4.3 The unit is operable, starting from the basic setting, approx. 1 sec after operation of the "Power On" key ⑦. The symbols ④ and ⑤ light up on the display panel.
   "0.1" must be displayed as the dose value.

4.4 It must be possible to increase the dose display up to a value of 9.9 by pressing the "+" key ⑥.

4.5 After this, it must be possible to reduce the dose value to 0.1 again by pressing the "-" key ⑧.

4.6 Press key ⑥. The symbol "MACRO" ⑦ must now light up on the display panel. "01" must now be displayed as the dose value.

4.7 Refer to 4.5 and 4.6 for instructions on how to check the "MACRO" dose setting. Here, however, max. "50" and min. "01" apply as the limit dose values.

4.8 If the option "automatic switch-on function" is installed, the activation mode must change when key ③ is pressed.

4.9 The memory functions must be checked in accordance with Sections 5.2.4 and 5.2.5.

4.10 Connect the foot switch to socket ③ and operate. The audible and visual operation indicator ⑤ must be triggered.

5. Mode of operation
5.1 General description
The bipolar coagulator GN 060 is a microprocessor-controlled unit with corresponding operating convenience and extensive module functions. The unit is operated by means of an easy-to-clean membrane keyboard. The unit can be operated in the voltage ranges 100-120 V and 220-240 V (+/-10%). Refer to Chapter 11 for instructions on voltage preselection.

The unit has two operating modes with an adapted load curve in each case:
- "MICRO" operating mode: maximum of 10 Watt at approx. 50 Ohm.
- "MACRO" operating mode: maximum of 50 Watt at approx. 100 Ohm.

The dosage is set on a counter with the keys "+" and "-". There are two counting speeds, so that dosage values which are not close together can be set rapidly and exactly.

In addition, the unit offers the possibility of reliably storing 4 dosage values (empirical values) and of activating these values at any time by simply pushing a button (refer to Section 5.2.4).

The stored values are preserved for a long period (approx. 10 years) even when the unit is switched off.

With option "automatic switch-on function":

- The HF generator can be switched on in two ways:
  a) by means of the foot switch
  b) automatic

- The HF generator switches on when the tissue resistance between the two arms of the coagulation forceps falls below a certain value or if both forceps arms touch.

With "remote control" option:
- The dose value memory can be addressed with the remote control, i.e. stored dose values can be called up.
- The unit performs a self-test each time it is switched on. Tests are performed continuously at 1 ms intervals during operation and HF output.
- If any fault or errors occur, the unit immediately assumes a safe operating condition, i.e. the HF generator is switched off.
- The faults or errors recognized by the microprocessor are shown on the display in the form of an error code. Also refer to the section on error messages 10.1.
5.2 Unit operation

5.2.1 Switching on the unit
The green signal lamp ① lights up when the unit is connected to the mains voltage. The unit is switched on by pressing the "Power On" key ②. The green signal lamp ③ lights up when the unit is switched on. When the unit has been switched on, all symbol lightening diodes and all illuminated symbols on the display panel light up for approx. 1 second. The display "AU" appears briefly in the display panel on units with the option "Automatic switch-on function". The unit possesses the following basic setting approx. 1 second after switching on:
- Operating mode: "Micro"
- Activation mode: "Foot switch"
- Dose: "0.1"

5.2.2 Operating mode selection
The operating mode is preselected with "Micro-Macro" key ⑥. The operating mode changes each time this key is pressed. The corresponding symbol "Macro" ⑦ or "Micro" ⑧ lights up. The lowest dose in each case is set and shown on the display ⑩ after each operating mode change.

5.2.3 Activation mode selection
The activation mode is preselected with key ⑪. The activation mode changes each time this key is pressed. The corresponding symbol ⑩ or ⑦ lights up on the display panel.

5.2.4 Dose setting
The dose can be increased with the key "+" ⑫ or reduced with the key "-" ⑬. This is only possible between the respective minimum and maximum values. The dosage value display changes by 0.1 per counting step in "micro" mode and by 0.1 in "macro" mode. The counting frequency is increased after the third counting step. If the key is released and pressed again, the next three counting steps take place slowly again. In this way, the required dosage can be set rapidly and exactly. The dosage can also be changed by calling up a stored value. Also, refer to Section 5.2.5.

5.2.5 Displayed dose values
The displayed dose values correspond to the power in Watt at nominal load, e.g. the displayed dose value "43" corresponds to a power output of 43 W when the unit is loaded with 100 Ohm (also refer to the power diagrams in Chapter 5.1.3).

5.2.6 Storing a dose value
Four memories are available for storing dose values (empirical values). These can be filled as desired with "micro" and "macro" dose values. Storage: The dose value memory is released for storage by pressing the key ⑭. This is indicated by illumination of the signal lamp ⑮. The displayed dose value is stored after subsequent operation of one of the four memory keys ⑯. Illumination of the corresponding signal lamps ⑰ above the pressed memory key indicates that storage has taken place correctly. An already existing value is overwritten by each storage operation. The stored values are preserved for a long time (approx. 10 years) even when the unit is switched off, but can be changed as required at any time.

5.2.7 Calling a stored dose value
It is only necessary to press the desired memory key "1-4" ⑭ in order to call a stored dose value. If this operation is performed correctly, a signal lamp ⑱ lights up above the operated key. The memory content is transferred to the display ② and the corresponding operating mode is set and displayed.

Or course, this dosage value can be changed with the "+" and "-" keys. However, if this operation is made after the symbol over the selected memory key goes off because the indicated dosage value no longer agrees with the called value.
5.2.7 Operation with IR remote control (only with option “remote control”)

Only stored dose values can be called with the IR remote control GN 064 (also refer to the instructions for use of the remote control).
The "remote control" option consists only of the IR transmitter GN 064. The corresponding components on the receive side are
installed as standard in the GN 060 so that it is not necessary to make any modifications for interventions on the unit.

5.2.8 Operating example

It is wished to store the dosage value "43" in memory "3" in "macro" operating mode.
The unit is connected to the mains ready for operation and is
switched on (green LED ① and ② lights up).
Please press the following keys in succession:

<table>
<thead>
<tr>
<th>Key</th>
<th>Display</th>
<th>Symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Macro/Macro&quot;</td>
<td>&quot;01&quot; &quot;43&quot;</td>
<td>&quot;Macro&quot; lights up</td>
</tr>
<tr>
<td>&quot;+&quot;</td>
<td>&quot;01&quot; to &quot;43&quot;</td>
<td>&quot;Macro&quot; lights up</td>
</tr>
<tr>
<td>&quot;Input Key&quot;</td>
<td>&quot;43&quot;</td>
<td>&quot;Macro&quot; and ③</td>
</tr>
<tr>
<td>&quot;Memory Key 3&quot;</td>
<td>&quot;43&quot;</td>
<td>&quot;Macro&quot; and ② over key &quot;3&quot;</td>
</tr>
</tbody>
</table>

5.2.9 HF activation

The HF output can be activated with a foot switch or automatically with the coagulation forceps (with the option "automatic switch-on function"). Activation of HF is signaled audibly by a tone generator. The tone pitch differs for each operating mode and is
725 Hz for "micro" and 850 Hz for "macro".
HF output is also indicated visually with signal lamp ④ at the HF output socket ⑤ (⑥).
If HF output is activated, the unit does not react to operation with the membrane keyboard (except for the Power On key ⑦).
The unit can be switched off at any time. HF output is also impossible as long as a membrane key is pressed.

6. Protection against maloperation

6.1 Continuous key operation

If a membrane key is pressed for longer than 15 seconds, this is interpreted as continuous contact and thus as a fault. The error message "F2" appears on the display. This prevents, for example, an object which is accidentally pressing against a control key from going unnoticed.
The same error message appears if a membrane key is already pressed when the power is switched on. HF output is not possible during display of an error message.
When the cause of the fault has been remedied, it is possible to continue working normally.

6.2 Multiple key operation

The error message "F1" appears on the display if two or more keys are pressed simultaneously.

6.3 Interlock function

In order to prevent undesired manipulation, it is not possible to change the unit setting during HF activation. Conversely, HF activation is also not possible while the unit setting is being changed.
The foot switch must be released and the two forceps arms must not touch during switch-over from foot switch mode to automatic mode.
All membrane keys and the foot switch must be released when the mains power is switched on.

IF these conditions are not observed, the error message "F2" is shown on the display.
Normal work or unit operation are possible only when the fault conditions have been remedied.

6.4 Continuous activation

If the foot switch is pressed for too long (20s) or if there is a
gummed contact in the foot switch or a short-circuit in the foot
switch cable, this is interpreted as a fault and the error message for
continuous activation is displayed.

If the automatic switch-on function is used:
If the unit is activated for longer than 20 seconds by the automatic
switch-on function, this is also indicated as an error message for
continuous activation. The cause of the error message might also
be gummed forceps of a faulty bipolar cable.
In this case, the HF generator is switched off and the error message
"F3" is shown on display.
It is possible to continue working normally when the cause of the
fault has been remedied (e.g. by releasing the pedal).

6.5 Input key activation

If only the key "input" ③ was pressed, then no HF output is possible.
There are three possibilities of achieving normal operating condition:
1. Storage of a dosage value in a memory.
2. Renewed pressing of the key "Input" ③.
3. The unit automatically assumes normal operating condition
after approx. 10 seconds.

7. Protection against incorrect dosage

7.1 Microprocessor self-test

Since fault-free operation of the microprocessor is a precondition for
Fault-free operation of the unit and all control and monitoring
functions, a so-called selftest is performed each time the power is
switched on. This test includes CPU, RAM, EEPROM and
watchdog test.

7.2 Program run monitor

A watchdog timer is provided for monitoring or correcting timed
program execution. This watchdog timer must be triggered at
regular intervals during the normal program run. If this trigger signal
does not occur for longer than 10 ms, HF activation is blocked via a
second channel.

7.3 Dose monitoring

The actual values of the parameters decisive for the applied power
(voltage and pulse duty factor) are recorded continuously during HF
activation and compared with corresponding limit values.
If an error is detected in this setpoint/actual value comparison, HF
output is immediately blocked via several channels. The
corresponding error code is also shown on the display, depending
on the fault detected in each case.
It is possible to continue working only after switching the unit off and
then back again.

7.4 Monitoring of RAM values

The setpoints entered on the membrane keyboard (dose, operating
mode and activation mode) are stored twice in the RAM memory
and are checked continuously. The corresponding values must be
the same and lie within the permitted value range.

7.5 Monitoring of memory values

The setpoints (dose and operating mode) belonging to the stored
dose values are stored twice in a non-volatile memory (EEPROM)
and are checked after a memory call. The corresponding values
must be the same and lie within the permitted value range.
8. Cleaning, disinfection

<table>
<thead>
<tr>
<th>Designation</th>
<th>Manual wipe cleaning</th>
<th>Steam sterilization at 3 bar (approx. 143°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Foot switch</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Coagulation Cable</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Forops</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

1) Important: pull out the mains plug before cleaning the unit.
2) Use only cleaning agents and disinfectants which are approved for surface disinfection in accordance with the V- list of the DGfM. Wipe off the cleaning agent or disinfectant using a sponge or rag moistened in clean water and then dry the unit with a cloth.

9. Maintenance, maintenance intervals

The bipolar HF unit GK 55 is maintenance-free. Only in Germany the periodic safety checks of the MedGV must be performed. The technical safety checks in accordance with § 11 MedGV must be carried out annually. The inspection work must be performed only by persons who can execute such checks properly on the basis of their training, knowledge and experience gained through practical work and who do not require instructions to perform inspection. The scope of the inspection work is defined in the enclosed "Test record for inspection in accordance with § 11 MedGV.

10. Fault detection

10.1 Error messages

<table>
<thead>
<tr>
<th>Display</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Multiple key operation</td>
<td></td>
</tr>
<tr>
<td>F2</td>
<td>Membrane key was pressed</td>
<td></td>
</tr>
<tr>
<td>F3</td>
<td>The pedal was pressed for longer than 15 s</td>
<td></td>
</tr>
<tr>
<td>F4</td>
<td>EEPROM write error</td>
<td></td>
</tr>
<tr>
<td>F5</td>
<td>EEPROM read error</td>
<td></td>
</tr>
<tr>
<td>E1</td>
<td>Test power section voltage, standby</td>
<td></td>
</tr>
<tr>
<td>E2</td>
<td>Test power section voltage, pulsing</td>
<td></td>
</tr>
<tr>
<td>E3</td>
<td>Test HF automatic</td>
<td></td>
</tr>
<tr>
<td>E4</td>
<td>Test HF</td>
<td></td>
</tr>
<tr>
<td>E5</td>
<td>Test HF-0</td>
<td></td>
</tr>
<tr>
<td>E6</td>
<td>Test HF-1</td>
<td></td>
</tr>
<tr>
<td>EF</td>
<td>Microprocessor error</td>
<td></td>
</tr>
</tbody>
</table>

10.2 Fault rectification

Code Remedy

F1  If the error message is still displayed in spite of clearance of the fault condition (e.g. object pressing against keyboard), there is probably a fault in the keyboard. Please submit the unit for repair.
F2  As for F1
F3  Release pedal and operate again. HF output can be switched on for max. 20 s each time the pedal is operated. If the error message is displayed in spite of the fact that the pedal is not pressed, there is probably a fault in the pedal, cable or connector.
F4  Switch off the unit and then switch back on again. If the error message is still displayed, there is an error in the EEPROM. Please submit unit for repair.
F5  As for F4

11. Repair, fuse replacement, voltage preselection

The warranty is rendered void by unauthorized opening of the unit. Repairs to the unit and accessories must be performed only by the manufacturer or an agent expressly authorized by him. AESCULAP is responsible for the safety, reliability, performance of the unit only if:
- Readjustments, changes or repairs are carried out by persons authorized by us only and
- The electrical installation the corresponding area complies with the requirements of IEC regulations and
- The unit is used according to the instructions for use.

In the case of changes or repairs of the electrical equipment in the unit, the operator must demand a certificate of the type and scope of the repair from the repairer, if necessary also with details of changes to the nominal data or the operating range. Furthermore, the certificate must contain the date of execution as well as company name with signature.

Fuse replacement

Caution: Pull out the mains plug before replacing the fuses. If the fuses blow frequently, have the unit repaired by the manufacturer or an agent authorized by him. Open the cover of the fuse compartment using a screwdriver. Also, unlock the two fuse holders with a screwdriver. Remove both fuse holders. Now replace the fuses and push the fuse holders back into the retaining clips. Close the cover.

Caution: Only use fuses with the designation "G fuse link 3, 15 A DIN 41571". They are available from the manufacturer under the part number TA 220720.

Voltage preselection

Before putting the unit into operation, the voltage shown on the mains input socket on the rear of the unit must be compared with the actual mains voltage under all circumstances.

If the indicated value does not agree with the mains voltage, the preselected voltage must be changed.

Caution: The following work must be performed only when the mains cable is disconnected!

Open the cover of the fuse compartment with a screwdriver (refer to the picture for fuse replacement).

Also detach the voltage selector from the holder using a screwdriver (see picture).

Fit the voltage selector again so that the mains voltage agrees with the value visible from the rear. Close the cover of the fuse compartment again.
11.1 Stacking units

- Ensure that a maximum stacking height of 475 mm is not exceeded, and that the supporting object (bench, hanging lamp etc.) is sufficiently stable.
- Remove the feet of the topmost unit by hand or by means of a screwdriver.
- Remove covering caps off the stacking cone.
- Mount the upper unit in such a way that it exactly covers the lower appliance, thus permitting the two stacking cones to lock into the stacking sockets when the upper unit is pushed downwards.
- If the upper unit fails to lock in position, turn the threaded rod clockwise with a screwdriver up to the limit stop and then replace the unit in position so that it exactly covers the lower unit.
- Now lock the unit in position by turning the threaded rod clockwise up to the limit stop.
- By gently raising the stack, check that the units are connected securely and demonstrate the required stability.

Disassembling a stack of units

- You can disassemble a unit stack by turning the threaded rod clockwise with a screwdriver up to the limit stop.
- Then remove the upper unit in each and screw back in the unit feet.

12. Technical data

- **Unit type**: GN 60
- **Voltage ranges**: 100 to 120 V AC and 220 to 240 V AC
- **Power consumption**: 1.2a/110 V, 0.5 A/230 V
- **HF output power**: for "Micro": 10 W (Load 50 Ohm) for "Macro": 50 W (Load 100 Ohm)
- **Frequency**: 450 kHz
- **Operating mode**: Int. 10 s/30 s, Equipment fuse: M 2.15 A (E)
- **Weight**: 4.7 kg
- **Dimensions (W x D x H)**: 305 x 305 x 82 mm
- **Type**: CF
- **Class of protection**: I

13. General information

13.1 Information and advice on bipolar coagulation

This technique, which has been known in neurosurgery for a long time, is growing in importance in other special surgical fields as well thanks to its particular advantages. Both poles of the power source are insulated against earth.

Current can therefore flow only if both poles of the bipolar instrument touch the wound. The current then flows only from one instrument tip to the outer tip via the tissue, thus reducing the risk of accidental burning quite considerably.

Furthermore, the required high-frequency power is only approx. 20 to 30% of that for monopolar coagulation to achieve the same coagulation results. The considerable advantage of bipolar coagulation lies in the fact that the current flow through the tissue is restricted to the area between the two instrument tips only. This advantage is particularly useful for operations where there is a fear of adjacent tissue parts being damaged, e.g. in neurosurgery, urology, orthopedics, ENT surgery, pediatric surgery and in eye surgery.

The operator should wear gloves for high dosage values because an unpleasant feeling of heat may be caused as a result of the high HF current through the hands. Perfect functioning is guaranteed only with clean, metallically bright forceps tips. It is not possible to achieve satisfactory results with encrusted bipolar forceps. This precondition is fulfilled most reliably, conveniently and gently by continuously wiping with a damp swab. The wire brush GK 289 may be used to remove heavy encrustation.

Direct contact of the two forceps tips shorts out the power source and naturally prevents any coagulation, but does not damage the unit.

13.2 The following information is given on the basis of the currently valid IEC regulations:

This unit is not intended for operation in areas where there is risk of explosion. The foot switch circuit is, however, designed to be explosive-proof and is approved for operation in "medical environments" in accordance with IEC 601.

The use of explosive anaesthetics, nitrous oxide (N₂O) and oxygen should be avoided if an operation is performed in the region of the thorax or head, unless these substances are extracted. Combustible cleaning agents and disinfectants or solvents in adhesives should have evaporated before HF-surgery is performed. There is a risk of collection of combustible fluids under the patient or in body depressions such as the umbilicus or body cavities such as the vagina. Any fluid which collects in these areas should be wiped off before the unit is used. A warning should be issued with respect to the danger of ignition of endogenous gases. Materials such as cotton wool and gauze may be ignited by sparks generated by normal use of the HF surgical unit if they are saturated with oxygen. There is a probability of interference with other elektromedical appliances during operation of the HF surgical unit.

The active surgical electrode must not be used near ECG electrodes (minimum distance 150 mm). If injection cannulas are used as ECG electrodes, the metal cone must not touch the skin; the same applies to the supply leads to monitoring instruments.

If injection cannulas are used as ECG electrodes, the metal cone must not touch the skin; the same applies to the supply leads to monitoring instruments.

The supply leads to the high-frequency electrodes should be as short as possible and should be routed so that they touch neither the patient nor other lines. The high-frequency power should be set as low as possible for the respective application.

Note: If a poor effect is achieved with a normal setting, this may be due to extremely soiled working electrodes or poor contact in the plug-and-socket connection, for example. This must be checked before a higher power is set.

In the case of patients with implanted heart pacemakers or electrodes, inoperable damage to the pacemaker or influence of the pacemaker function and ventricular flutter must be expected as a result of high-frequency surgery. If in doubt, the cardiological departments should be contacted for advice.

Operation of the coagulator may interfere with other equipment, particularly ECG equipment.

Manufacturer's certificate:

It is hereby certified that the High-frequency surgical unit type GN 060 is radio-interference-suppressed in agreement with the regulations of Official Gazette Decree No. 1046/1984 (corresponding to CISPR 11).

The German Federal Post Office has been notified of the fact that this unit has been put into circulation and been granted the right of checking series production for observation of the applicable regulations.

AESCULAP AG
14. Accessories
Foot switch GK 222 and 224
Coagulation cable GN 73, GN 74, GN 75

Bipolar coagulation forceps:
- GK 590, GK 591, GK 595, GK 596, GK 597, GK 604, GK 605
- GK 606, GK 614, GK 615, GK 616, GK 620, GK 621, GK 624
- GK 625, GK 654, GK 656, GK 657, GK 658, GK 660, GK 670
- GK 671, GK 675, GK 677, GK 679, GK 690, GK 693, GK 694, GK 695
- GK 700, GK 701, GK 703, GK 711, GK 713, GK 719, GK 720, GK 722
- GK 723, GK 724, GK 726, GK 730, GK 731, GK 752, GK 754, GK 756
- GK 757, GK 760, GK 761, GK 762, GK 763, GK 764, GK 765, GK 766
- GK 767, GK 768, GK 769, GK 770, GK 771, GK 772, GK 773, GK 774
- GK 775, GK 777, GK 780, GK 781, GK 785, GK 788, GK 789, GK 790
- GK 791, GK 793, GK 800, GK 910, GK 912, GK 914, GK 916, GK 918, GK 920
- GK 930, GK 840, GK 842, GK 844, GK 846, GK 848, GK 850, GK 960
- GK 970, GK 972, GK 974, GK 976, GK 978, GK 980, GK 960, GK 580
- GK 630, GK 631

More accessories see brochure C-252

15. Spare Parts
Mains cable: TA 021 169
Foot switch: GK 222, GK 224
Plug for foot switch: TA 020 515
Coagulation cable: TA 020 326

HF cable (meter goods): TA 020 287
HF connector: TE 657
(equipment side)
Forceps connector: TE 429
for cable GN 74:
Forceps connector: TE 429
for cable GN 73:

Spare parts list for unit repair: refer to service documents.
Use original parts only for repairs!

AESCULAP
Aesculap, Inc.
3773 Corporate Parkway
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BRAUN

SOP-AIC-5000240
(419-04-0308)