

IMPORTANT INFORMATION

This quick guide is a brief summary of the most important working steps and information. It does not replace the instructions for use. For detailed information, please read the instructions for use for the ARC 350 generator carefully.

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1.1 | AREAS OF APPLICATION OF HF SURGERY

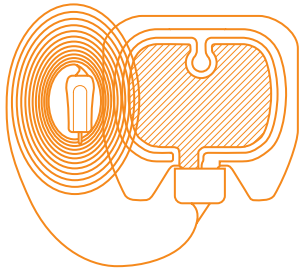


HF surgery employs alternating currents with a frequency of at least 200 kHz, with the thermal effect dominating. HF surgery can be utilized to coagulate and dissect tissue.

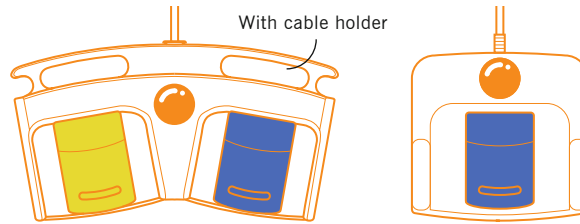
Areas of application:

- General surgery
- Gastroenterology
- Gynaecology
- Hand surgery
- ENT
- Cardiac surgery (including open heart surgery)
- Neurosurgery
- Pediatric surgery
- Plastic surgery/dermatology
- Thoracic surgery
- Orthopedics
- Urology, including transurethral resection (TUR)

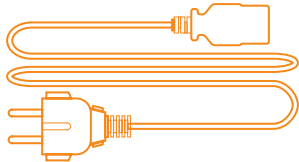
1.2 | REQUIRED FOR OPERATION



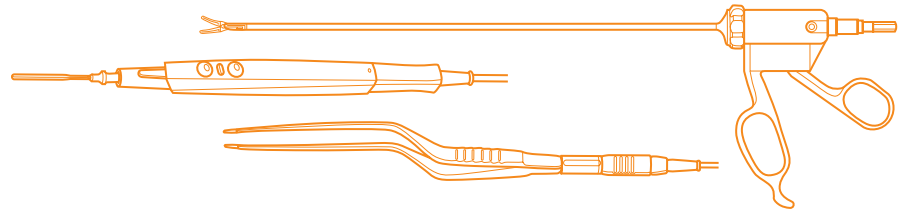
Neutral electrode
for monopolar applications



Foot switch



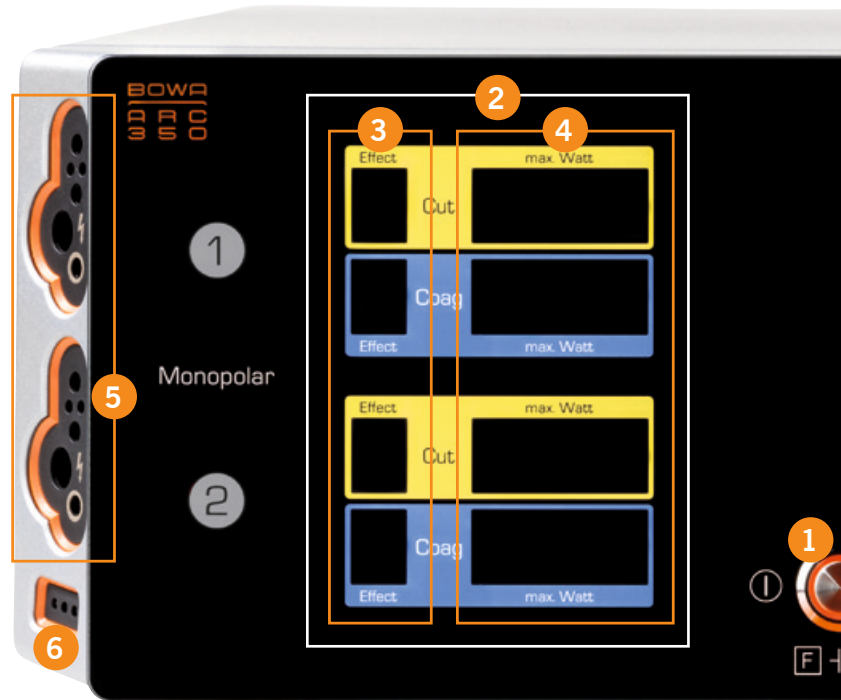
Mains cable

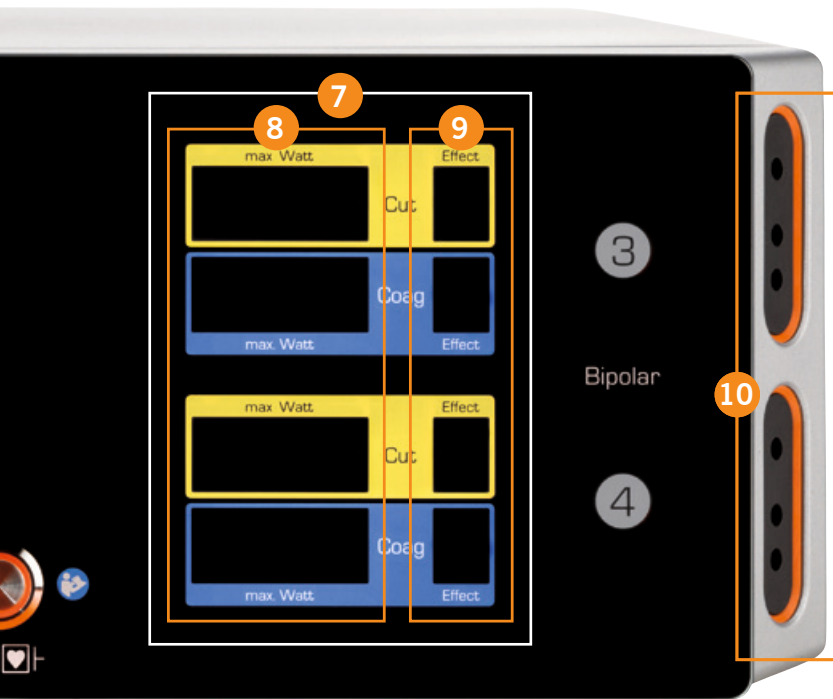


Instruments (monopolar and bipolar)
+ connecting cable

2.1 | FRONT OF THE GENERATOR

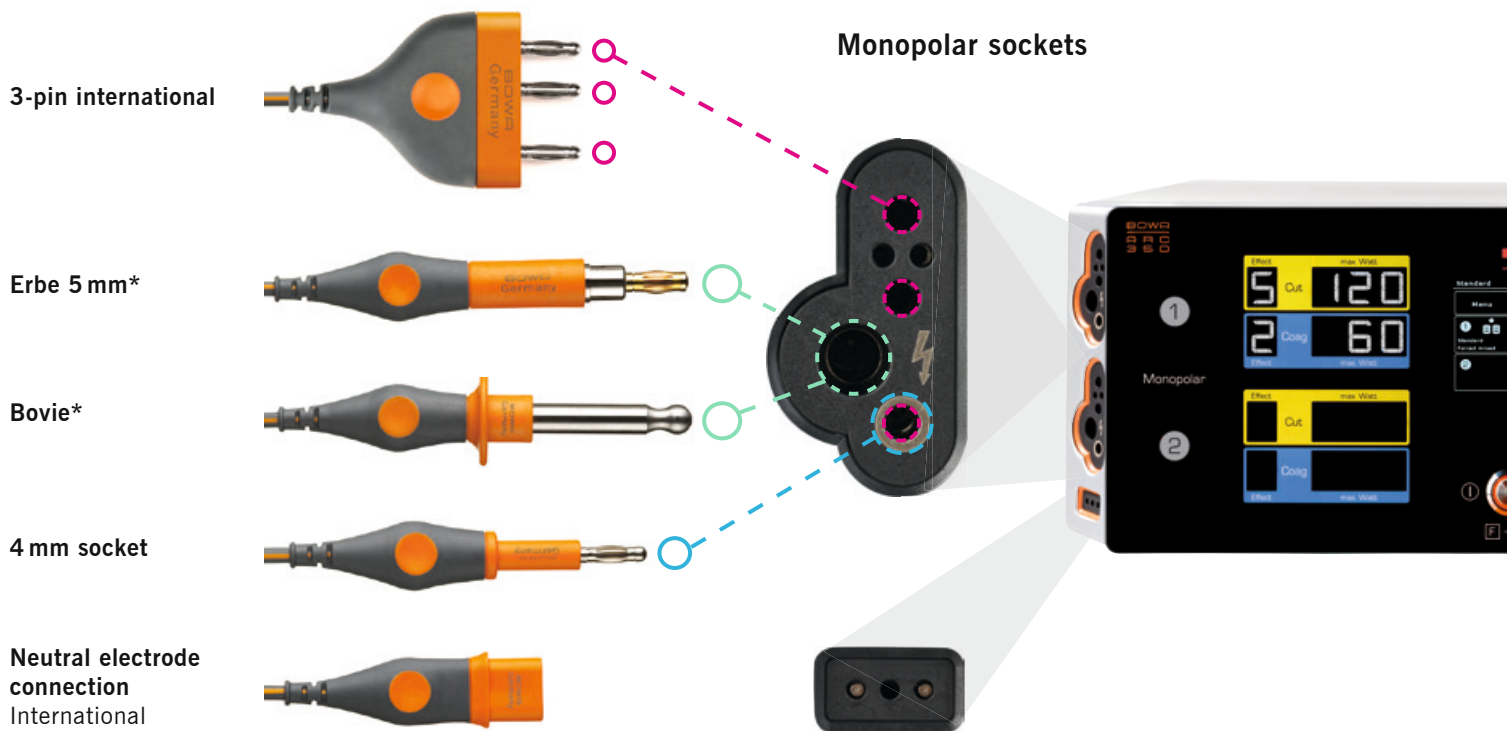
- 1 On/off button
- 2 Monopolar activation indicator
- 3 Monopolar “Effect” button
- 4 Monopolar “Maximum output power” button
- 5 Monopolar sockets
- 6 Neutral electrode connection



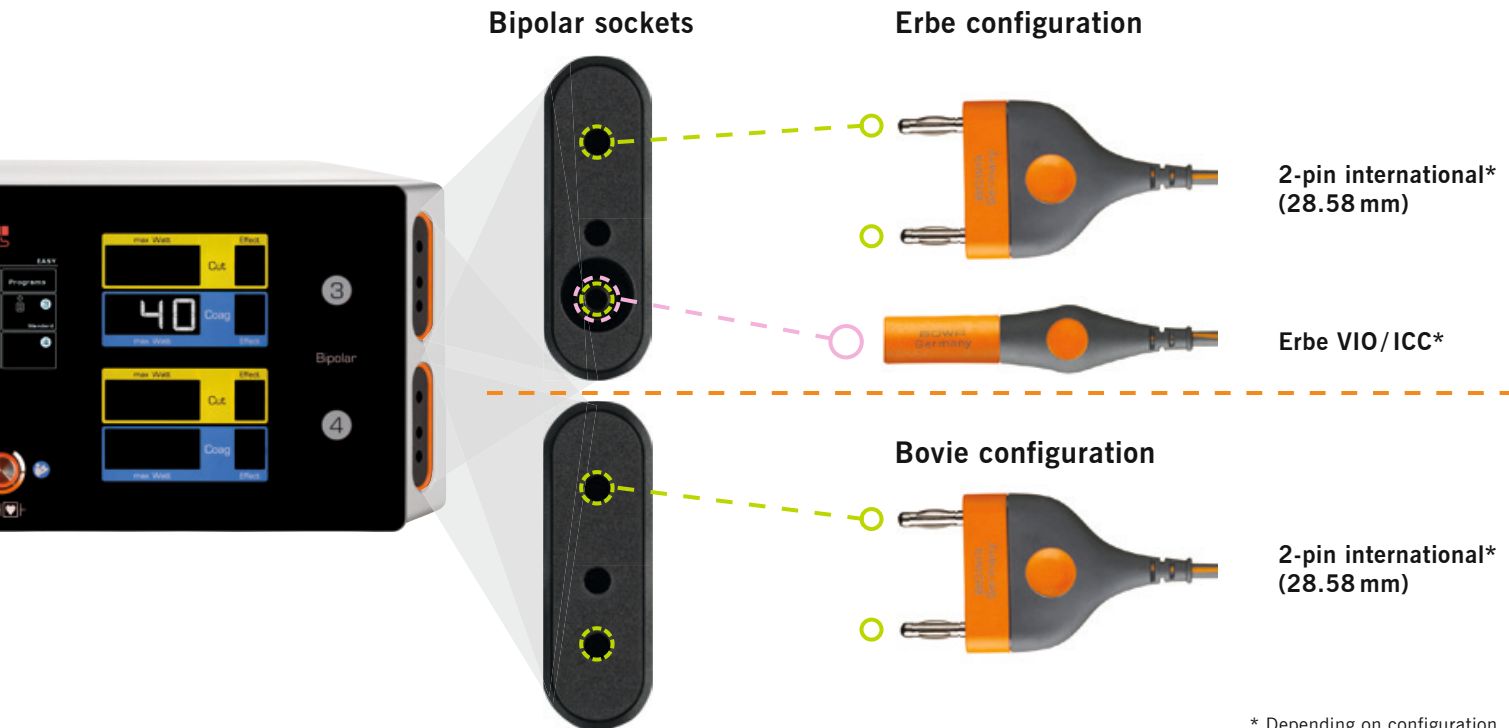


-
- 7 Bipolar activation indicator
 - 8 Bipolar “Maximum output power” button
 - 9 Bipolar “Effect” button
 - 10 Bipolar sockets
-

2.2 | CONNECTION SOCKETS FOR INSTRUMENTS



* Depending on configuration



Bipolar sockets

Erbe configuration

**2-pin international*
(28.58 mm)**

Erbe VIO/ICC*

Bovie configuration

**2-pin international*
(28.58 mm)**

* Depending on configuration

2.3 | BACK OF THE GENERATOR

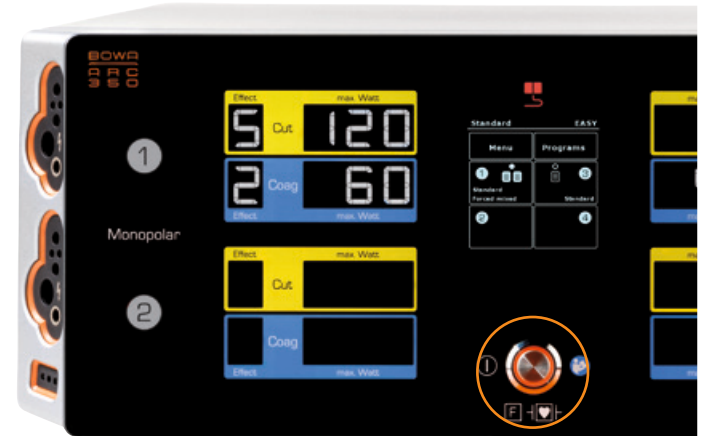


- 1 Connection socket 1 for foot switch
- 2 Connection socket 2 for foot switch
- 3 Connection for equipotential bonding
- 4 Mains power supply
- 5 Fiber optic cable signal input socket
- 6 Fiber optic cable signal output socket
- 7 Ethernet connection
- 8 Mains power switch

The following connections should only be used by service technicians and for training:

- 9 USB port
- 10 Not assigned
- 11 UART communication interface

3.1 | SWITCHING ON THE DEVICE



Switching on the HF device:

1. Mains power switch on the back of the device
2. On/off button on the front panel

The HF device runs a self test.

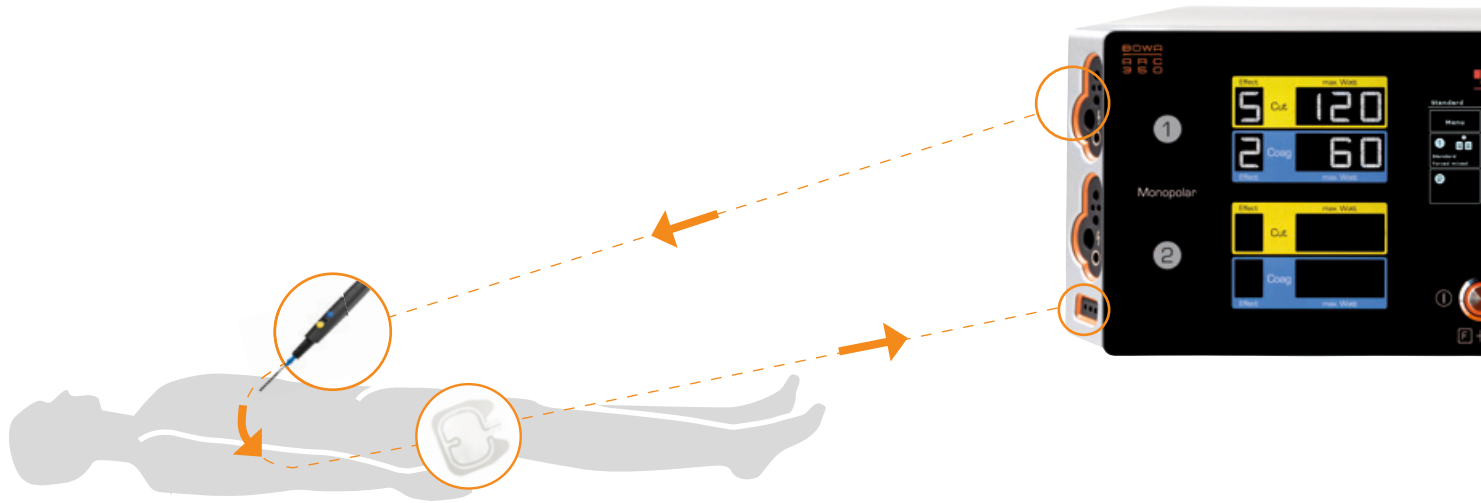
The main display screen appears.

A message appears explaining how to operate the device.

The ARC 350 is ready for operation.

The parameters of the last saved program are shown on the display.

3.2 | MONOPOLAR APPLICATION

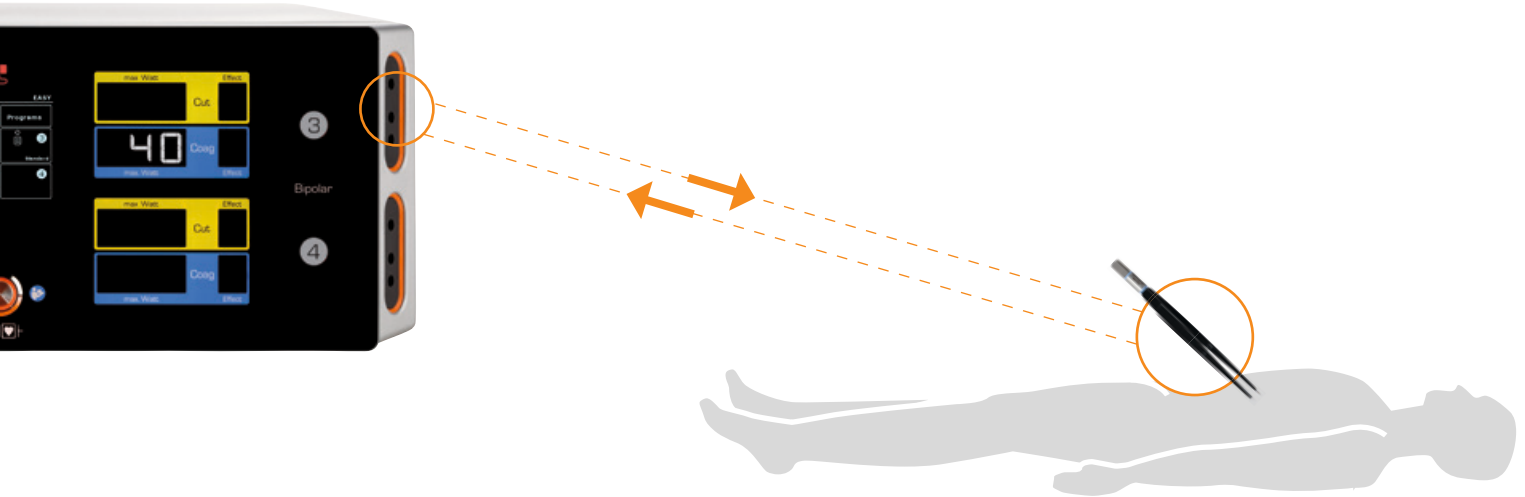


Monopolar:

- Insert the neutral electrode cable in the corresponding socket.
- Connect the electrode handpiece up to one of the two monopolar sockets.

- The foot switch must be connected when instruments without a finger switch are used.

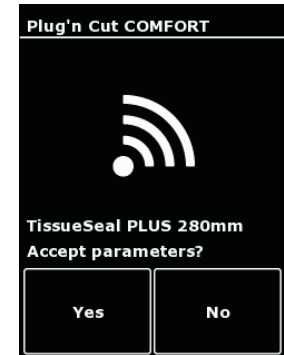
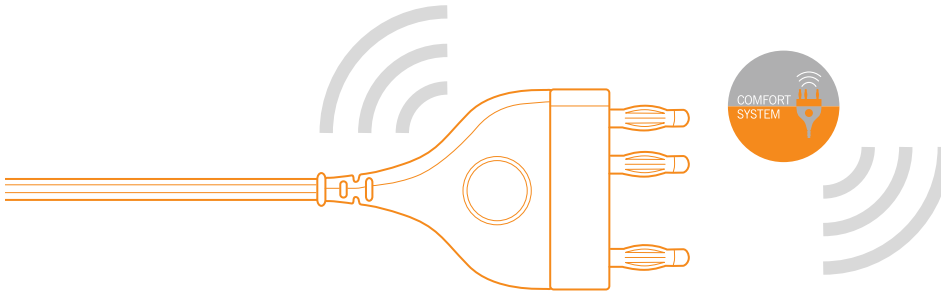
3.3 | BIPOLAR APPLICATION



Bipolar:

- Insert an instrument with a bipolar connecting cable into one of the two bipolar sockets.
- Connect the foot switch.

3.4 | PLUG & CUT COMFORT



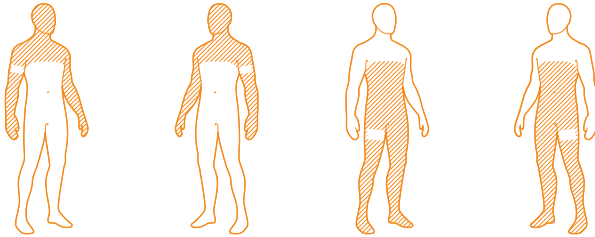
Insert the COMFORT instrument into one of the sockets on the ARC 350.

- The instrument's data are read.
- The parameter selection for the recognized instrument is displayed.
- Confirm the selection of the preferred parameter.
- BOWA COMFORT instruments are available in monopolar and bipolar versions.

BOWA COMFORT function is available for:

- BOWA COMFORT instruments **with** adjustable parameters. Preset values are available and can be individually adjusted.
- BOWA COMFORT instruments **without** adjustable parameters, e.g., vessel sealing instruments. The ideal setting for the instrument is loaded and cannot be adjusted.

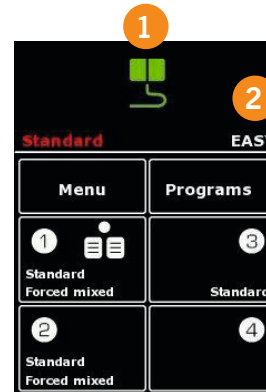
3.5 | SELECTING THE NEUTRAL ELECTRODE



Neutral electrode application

Select the application site for the neutral electrode in such a way that the current paths between the active and neutral electrodes are as short as possible and run lengthways or diagonal to the body (as muscles boast higher conductivity in the direction of the fibrils).

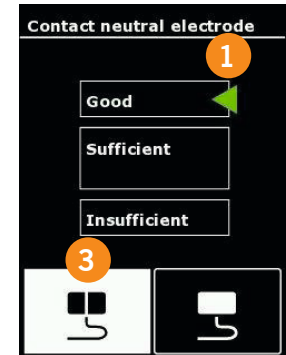
- EASY: For monitoring of split neutral electrodes
- BABY: For monitoring of split pediatric electrodes
- MONO: For selection of one-piece neutral electrodes



- 1 Display of neutral electrode contact quality
- 2 Type of neutral electrode: EASY, BABY, MONO



When **pediatric electrodes** are selected, the **maximum power** of the monopolar current type is reduced to **50 watts**.



- 3 Selected neutral electrode is highlighted in white

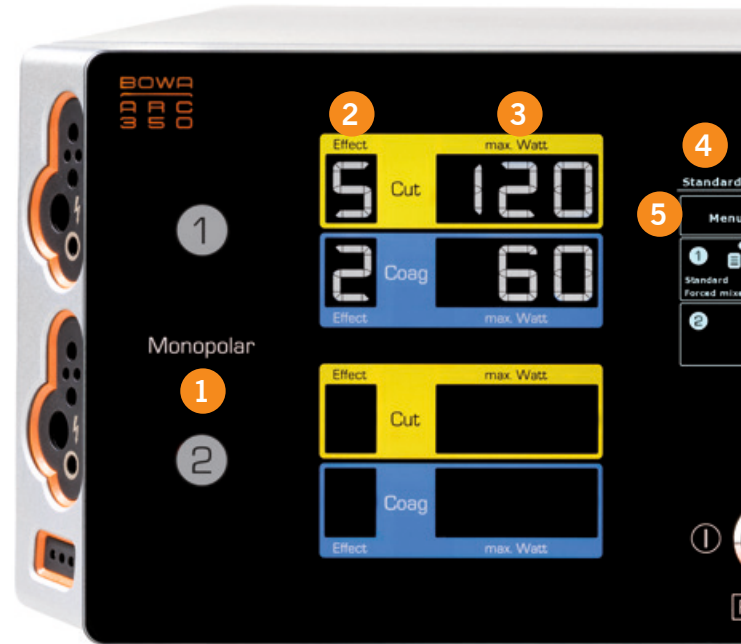
Display of contact quality



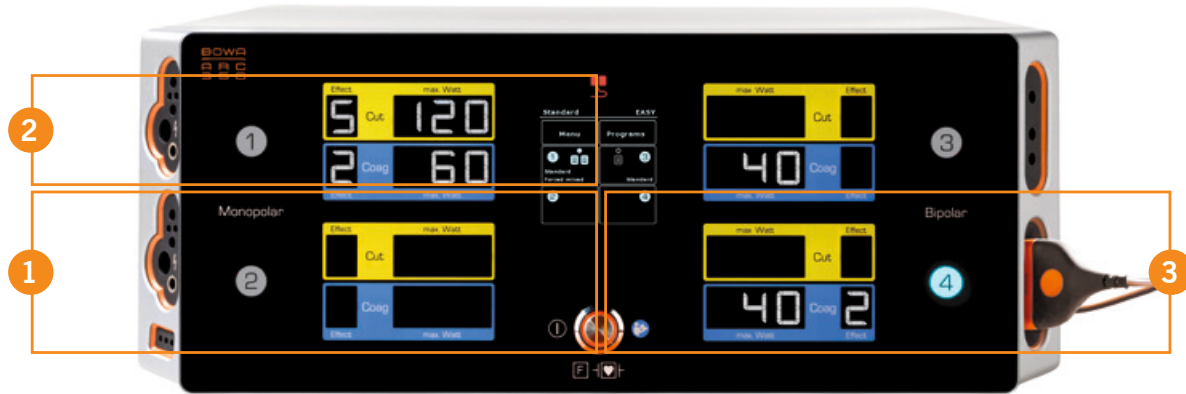
4.1 | OPERATION

- 1 The **monopolar activation indicator** lights up yellow or blue as soon as an instrument is activated in the respective socket. If an instrument is connected but not activated, the indicator lights up white. The indicator starts to flash when settings are changed.
- 2 **Effect**
The effect of the electrosurgical dissection or coagulation can be set using the “Effect” button.
- 3 **Max. Watt**
Press “max. Watt” to adjust the maximum output power.
- 4 **Program name**
- 5 The basic settings can be adjusted in the **menu**.

Key lock



4.2 | SWITCHING SOCKETS ON AND OFF



1 Deactivated socket

- To activate sockets which are deactivated, insert a connecting cable **or** press the activation indicator for the assigned socket.
- A selection field appears. The corresponding socket lights up white.

2 Unused socket

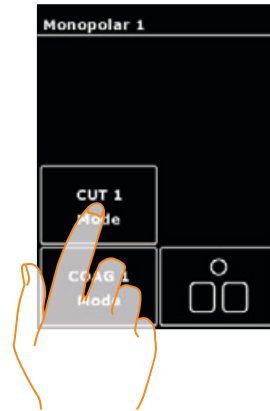
- If there is no instrument connected to the socket or an instrument is pulled out, it is shown in grey.
- To hide sockets, press the activation indicator for the corresponding socket.
 - The effect and maximum power output parameters are shown darker.

3 Activated socket

- If an instrument is inserted, the activation indicator lights up white. When the active socket is used, the current type is displayed in the activation indicator in blue and yellow.

4.3 | SELECTING THE MODE

- The current type is selected by pressing the relevant socket menu.
- The available modes and an overview for selection of the foot switch allocation appear.
- The current mode is selected by pressing the “Mode” button.
- If no parameters have been set for the desired socket yet, press the corresponding “Maximum output power” button or “Effect” button to enter the mode selection directly.



Monopolar cutting modes

NAME	APPLICATION	SUITABLE INSTRUMENT
Standard	<ul style="list-style-type: none"> - Cutting with low electrical tissue resistance - Cutting or preparation of fine structures 	<ul style="list-style-type: none"> - Needle electrodes - Knife electrodes - Spatula electrodes - Snare electrodes
Micro	<ul style="list-style-type: none"> - Pediatric surgery - Neurosurgery - Plastic surgery 	<ul style="list-style-type: none"> - Micro needle electrodes
Dry	<ul style="list-style-type: none"> - Cardiac surgery - Hemostasis of receding blood vessels in the area of the sternum 	<ul style="list-style-type: none"> - Knife electrodes

NAME	APPLICATION	SUITABLE INSTRUMENT
MetraLOOP	- Gynaecology: Laparoscopic removal of the uterus	- Gynaecological snares
Resection	- Hysteroscopy - Transurethral resection of the prostate (TURP) - Transurethral Resection of the Bladder (TURB) - Vaporization of prostate tissue (TUR-VAP)	- Resectoscope (monopolar) - Resection snare - Rollerblade electrode
Laparoscopy	- Laparoscopy - Arthroscopy	- Arthroscopy electrodes - Laparoscopy electrodes
Argon*	- Visceral surgery	- Rigid argon electrodes - Argon handle
GastroLOOP 1 ^G	- Removal of polyps with polypectomy snares via flexible endoscopes	- Polypectomy snares
GastroLOOP 2 ^G	- Removal of polyps with polypectomy snares via flexible endoscopes - Dynamic pulse sequence for practiced users	- Polypectomy snares
GastroLOOP 3 ^G	- Removal of polyps with polypectomy snares via flexible endoscopes - Dynamic pulse sequence for seasoned users	- Polypectomy snares
GastroKNIFE 1 ^G	- Incision of papillae with a papillotome via flexible endoscopes - Resection with needle knives - Slow pulse sequence for cautious work	- Papillotomes - Needle knives
GastroKNIFE 2 ^G	- Incision of papillae with a papillotome via flexible endoscopes - Resection with needle knives - Dynamic pulse sequence for practiced users	- Papillotomes - Needle knives
GastroKNIFE 3 ^G	- Incision of papillae with a papillotome via flexible endoscopes - Resection with needle knives - Dynamic pulse sequence for seasoned users	- Papillotomes - Needle knives

Monopolar coagulation modes

NAME	APPLICATION	SUITABLE INSTRUMENT
Moderate	<ul style="list-style-type: none"> - Coagulation with high penetration depth - Little adhesion of tissue to electrode 	<ul style="list-style-type: none"> - Electrodes with large contact area, e.g., ball electrodes
Forced non cutting	<ul style="list-style-type: none"> - Rapid coagulation with low penetration depth 	<ul style="list-style-type: none"> - Ball electrodes - Knife electrodes - Spatula electrodes
Forced mixed	<ul style="list-style-type: none"> - Rapid coagulation with low penetration depth and moderate cutting tendency 	<ul style="list-style-type: none"> - Knife electrodes - Spatula electrodes - Insulated monopolar, forceps
Forced cutting	<ul style="list-style-type: none"> - Rapid coagulation with low penetration depth and excellent cutting tendency 	<ul style="list-style-type: none"> - Knife electrodes - Spatula electrodes - Needle electrodes
Spray	<ul style="list-style-type: none"> - Coagulation of diffuse bleeding 	<ul style="list-style-type: none"> - Ball electrodes - Knife electrodes - Spatula electrodes - Needle electrodes
Laparoscopy	<ul style="list-style-type: none"> - Laparoscopy - Arthroscopy 	<ul style="list-style-type: none"> - Arthroscopy electrodes - Laparoscopy electrodes
Argon*	<ul style="list-style-type: none"> - Visceral surgery 	<ul style="list-style-type: none"> - Rigid argon electrodes - Argon handle
Argon flexible* ^G	<ul style="list-style-type: none"> - Gastroenterology - Homogeneous surface coagulation 	<ul style="list-style-type: none"> - Flexible argon probes
Argon flex. Pulse* ^G	<ul style="list-style-type: none"> - Gastroenterology - Homogeneous surface coagulation 	<ul style="list-style-type: none"> - Flexible argon probes

* These modes are to be used in combination with the additional argon device ARC PLUS (900-001).

^G This mode is available with the Argon/GastroCut (900-391) option.

NAME	APPLICATION	SUITABLE INSTRUMENT
Gastro Coag	<ul style="list-style-type: none"> - Following bleeding in combination with polypectomies - Papillotomies 	<ul style="list-style-type: none"> - Polypectomy snares - Papillotomes
Resection	<ul style="list-style-type: none"> - Hysteroscopy - Transurethral resection of the prostate (TURP) - Transurethral resection of the bladder (TURB) - Vaporization of prostate tissue (TUR-VAP) 	<ul style="list-style-type: none"> - Resectoscope (monopolar) - Resection snare - Rollerblade electrode
Cardiac Mammary	<ul style="list-style-type: none"> - Breast surgery - Cardiac surgery 	<ul style="list-style-type: none"> - Knife electrodes
Cardiac Thorax	<ul style="list-style-type: none"> - Thoracic surgery 	<ul style="list-style-type: none"> - Knife electrodes
SimCoag	<ul style="list-style-type: none"> - Simultaneous coagulation and dissection, e.g., cardiac and breast surgery 	<ul style="list-style-type: none"> - Ball electrodes - Knife electrodes - Spatula electrodes

Bipolar cutting modes

NAME	APPLICATION	SUITABLE INSTRUMENT
Standard	- Laparoscopic cutting	- Laparoscopic instruments
Bipolar resection ^R	- Hysteroscopy - Transurethral resection of the prostate (TURP) - Transurethral resection of the bladder (TURB) - Vaporization of prostate tissue (TUR-VAP)	- Resectoscope (bipolar) - Resection snare
Bipolar scissors	- Dissection - Coagulation and cutting of tissue	- Bipolar scissors
Vaporization ^R	- Hysteroscopy - Transurethral resection of the prostate (TURP) - Transurethral resection of the bladder (TURB) - Vaporization of prostate tissue (TUR-VAP)	- Resectoscope (bipolar) - Vaporization electrode

^R These modes are available with the bipolar resection option (900-395).

Bipolar coagulation modes

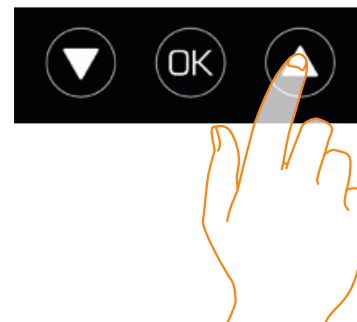
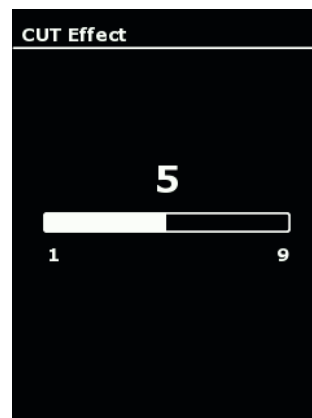
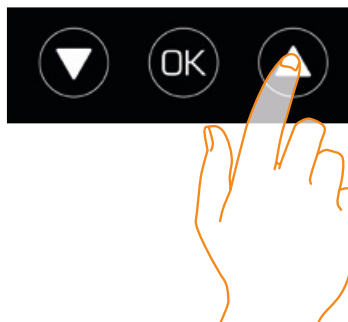
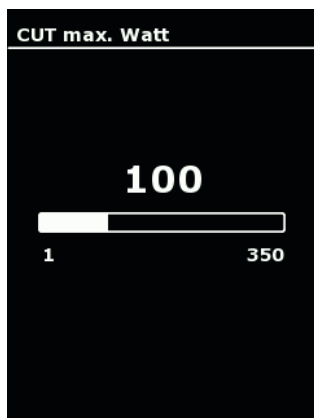
NAME	APPLICATION	SUITABLE INSTRUMENT
Standard forceps	- Bipolar coagulation	- Bipolar forceps
Standard forceps AUTO	- Bipolar coagulation with AUTOSTART	- Bipolar forceps
Micro forceps	- Bipolar coagulation, e.g., pediatric surgery, neurosurgery, plastic surgery	- Bipolar forceps - Micro forceps
Forced forceps	- Rapid bipolar coagulation	- Bipolar forceps
LIGATION ^L	- Bipolar vessel sealing, open and laparoscopic	- TissueSeal [®] PLUS - NightKNIFE [®] - LIGATOR [®] - ERGO 310D - ERGO 315R
ARCSeal ^L	- Bipolar vessel sealing, open and laparoscopic	- ERGO 310D - ERGO 315R
TissueSeal PLUS ^L	- Vessel sealing, open	- TissueSeal PLUS [®]
Bipolar scissors	- Dissection, coagulation and cutting of tissue	- Bipolar scissors
Laparoscopy	- Laparoscopic coagulation	- Bipolar laparoscopic instruments
Laparoscopy Micro	- Laparoscopic coagulation	- Fine bipolar laparoscopic instruments

NAME	APPLICATION	SUITABLE INSTRUMENT
Bipolar resection ^R	<ul style="list-style-type: none"> - Hysteroscopy - Transurethral resection of the prostate (TURP) - Transurethral resection of the bladder (TURB) - Vaporization of prostate tissue (TUR-VAP) 	<ul style="list-style-type: none"> - Resectoscope - Resection snare - Rollerblade electrode
Vaporization ^R	<ul style="list-style-type: none"> - Hysteroscopy - Transurethral resection of the prostate (TURP) - Transurethral resection of the bladder (TURB) - Vaporization of prostate tissue (TUR-VAP) 	<ul style="list-style-type: none"> - Resectoscope - Rollerblade electrode - Vaporization electrode

^R These modes are available with the bipolar resection option (900-395).

^L These modes are available with the LIGATION option (900-396).

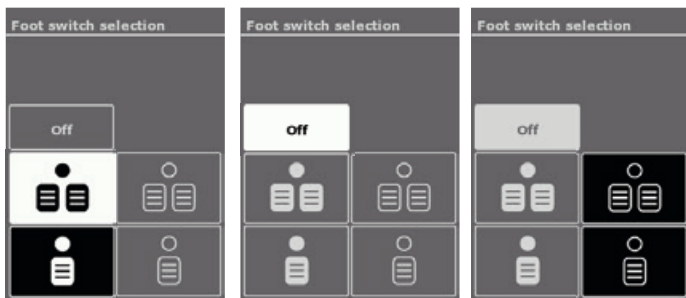
4.4 | SELECTING THE POWER LIMIT AND EFFECTS



- Press the parameters below **max. Watt** or **Effect** display to select the maximum power.
- Set the power in individual steps using the ▲ and ▼ buttons.

- Press **OK** to confirm your selection.
- Press any key outside the selection field to return to the main screen without changing the selection.

4.5 | ASSIGNING THE FOOT SWITCH



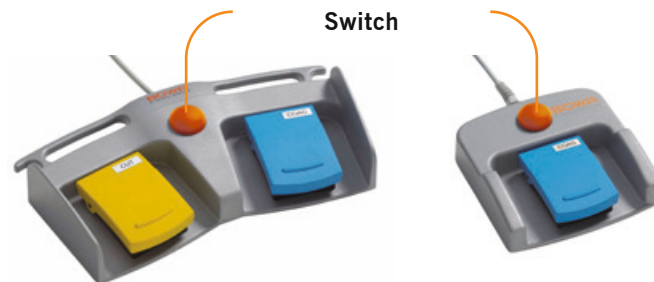
**Foot switch
ACTIVE**

**Foot switch
DEACTIVATED**

**Foot switch
INACTIVE**
Changeover from
active to inactive
possible.

Same method as for
single foot switch.

The foot switch is assigned for the
complete socket.

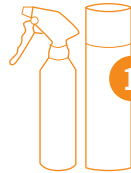
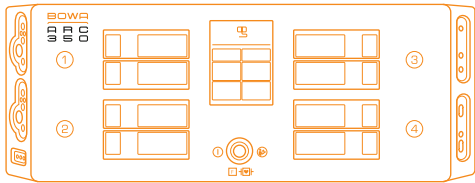


It is possible to connect a double foot switch and/or a single foot switch with a switch. The switch allows changing between the foot switch levels.

- Press the setting for the respective socket.
- Call up the selection menu for the foot switch.
- Select the desired foot switch by pressing the corresponding button.
- Confirm your selection with "OK".
- The foot switch can be used to change between the foot switch levels. Press the orange switch and change the socket.

The activation is visualized by the coloring.

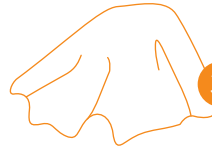
5 | DISINFECTION AND CLEANING



1 Cleaning agents and disinfectants



2 Wipe with a sponge or cloth moistened with clean water



3 Dry with a clean, lint-free cloth

Never sterilize the ARC 350 HF device. Clean or disinfect it.

Risk of electrocution and fire hazard!

- Disconnect the power supply before cleaning.
- Use cleaning agents and disinfectant approved by the manufacturer for surface cleaning.
- Make sure that no liquid enters the device.
- Make sure that the AUTOSTART function is disabled.

6 | TECHNICAL DATA

Overview of technical data	ARC 350
Mains voltage	100–127 V/220–240 V
Mains frequency	50/60 Hz
Max. current consumption	Max. 5 A @ 240 V Max. 10 A @ 100 V Max. 8 A @ 127 V
Power fuse	2 x 5 AH slow-blow/2 x 10 AH slow-blow
Min. power input	3 W/40 VA
Max. power input	700 W/1,150 VA
Width x height x depth	430 x 180 x 475 mm
Weight	12.5 kg
Classification according to EU Directive 93/42/EEC	IIb
Protection class according to EN 60601-1	I
Type of applied part according to EN 60601-1	CF
CE mark as per EU Directive 93/42/EEC	CE0123
REF	900-351
Bipolar resection option	900-395
Argon/GastroCut option	900-391
LIGATION option	900-396
Max. MONOPOLAR power	400 W (at 100 Ω)
Max. BIPOLAR power	400 W (at 75 Ω)
Output frequency	350 kHz/1 MHz

BOWA

A C A D E M Y

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