Heart and soul for the OR

The best is never good enough, for beyond it lie new discoveries and new solutions. It is our shared passion for a field in which we both excel, each in our own way. And it is this same passion that gives each of us the ability to achieve outstanding accomplishments.

Take advantage of the latest innovations in the field of electrosurgery units with the ARC 350. Discover a high-tech system as an all-purpose base that can be flexibly extended to meet your individual requirements.
Clever innovations for your OR

The ARC 350 is a clever all-in-one-generator that is winning over customers with its clearly understandable operating concept and innovative functionalities. Thus, all device settings are pre-programmed for numerous standard procedures. Inside, processors ensure optimum integrated arc control at all times, while self-checking programs continuously ensure maximum safety. Four separate outputs can be individually configured with ease and operating personnel can check the settings visually at any time.

Ideal applications for the ARC 350 in HF surgery:
- General, visceral, thoracic and paediatric surgery
- Gynaecology
- Gastroenterology
- Urology
- ENT
- Plastic and aesthetic surgery
- Orthopaedic and trauma surgery
- Oral and maxillofacial surgery
- Neurosurgery
- Cardiac surgery

Effective use

Every field has specific requirements, every team works differently and a wide range of diverse instruments are called on to be used. Select the pre-configured indication-orientated standard values or create a program on one of the 350 memory locations for your own specific field or to meet your individual needs.
Assisted operation

Process optimisation and quality assurance in the OR start with the user-friendliness of the systems. The unit’s interactive fingertip operation and touch-assisted glass front panel and clear relationship between the controller and instrument give users a complete overview.

The Plug’n Cut function recognises instruments and Plug’n Cut COMFORT* also automatically preselects the right basic settings for the COMFORT instruments connected.

*Optional
Simply efficient

Its ease of use and safe operation, its special LIGATION function and the ability to connect up to four instruments to the ARC 350 simultaneously save valuable OR time.

The ARC 350 communicates with other system components via standard connections and software can also be easily updated via a USB port, ensuring you can also work efficiently in future.
The interactive touch assistance system securely guides you to the right setting

**Touchpad technology for enhanced assistance in the OR**
With the ARC 350, you have direct fingertip control of all device functions via the interactive glass touchpad. Effects and individualised settings can be selected via the touchscreen area. Messages are issued in plain text supported by graphic symbols, ensuring that the team retains a clear overview at every stage throughout hectic everyday work in the OR.

**Simply intuitive**
Power is to be reset? Simply touch the respective figure with your fingertip. The glass touchpad of the ARC 350 is divided into four quadrants that correspond to the four sockets on the sides: if you attach an instrument to the upper right bipolar socket (3), for example, the upper right socket indicator is brightly lit.

**Always work with the correct socket**
The socket indicator identifies the socket on which the settings are to be altered.

**Not just simpler – more hygienic too**
The ARC 350 display is made of flat, wipe-resistant, shatter- and scratch-proof safety glass. The benefit of this is that the touchpad technology eliminates joints and grooves, thereby ensuring rapid and hygienic cleaning in the OR.

**A wealth of electrosurgical modes and effects**
There are numerous standard modes available to the operator – each pre-set with the recommended power parameters. Moreover, the ARC 350 also offers indication-orientated modes that offer faster and simplified applications alongside the option of coordinating them specifically to your individual needs.

**Application-orientated and individual device profiles**
The base ARC 350 model offers a range of application-orientated profile settings. Use one of the settings as the starting point for your adaptation or save a profile to meet your own individual needs. You can save a total of 350 profiles.

**Intelligent system concept for electrosurgery**
The connection between the unit base and instrument is controlled and monitored by the use of RFID technology. The BOWA COMFORT system ensures the error-free use of instruments in conjunction with the ARC 350, however, the system can of course also be operated with with conventional accessories and existing instruments.

Clarity: Every connected socket – in this photo the upper left and lower right – is clearly assigned to one quadrant of the display
Simple to use: Tap the corresponding field to activate the input menu in the centre of the ARC 350 to adjust effects or power values
100% simplified – thanks to touch-assisted operation

The ARC 350 is simple and safe to operate. The menu opens up merely by tapping the setting to be changed on the display. Select the figure you require with the touch of your fingertip, assisted by the information in the menu field. The active socket is highlighted by the socket number becoming illuminated, providing security and operating convenience.
The COMFORT SYSTEM – process reliability, quality assurance and monitoring

Our COMFORT SYSTEM relies on smart RFID technology – and thus on the new standard for electrosurgical accessories. The COMFORT SYSTEM is the first and optimum system worldwide for process optimisation in the OR – across all electrosurgical applications.

Every ARC 350 can optionally be fitted with the COMFORT SYSTEM, an option that forms part of the GastroCut, LIGATION and Resection packages. Take advantage of intelligent COMFORT instruments and secure for yourself decisive benefits for your workflow in the OR.

Lean processes – more time for what’s important
The COMFORT SYSTEM documents the use of the instruments in the instrument itself. The ARC 350 or the COMFORT BOX reads the information and, at a glance, identifies whether the instrument may still be used, thereby preventing the maximum number of uses being exceeded.

Maximum safety and simultaneous reduction of OR time
The Plug’n Cut functionality of the COMFORT SYSTEM enables the generator to automatically identify the instrument, check it and select the correct device settings. The Plug’n Cut COMFORT function thereby avoids incorrect settings.

Intelligent COMFORT instruments are available for all electrosurgical areas.

- Resectoscope
- Argon-Flex
- Polypectomy loop
- Forceps
- TissueSeal® PLUS
- BiZER®
- ErgoPEN
- Argon operations
- MetraLOOP®
- NightKNIFE®
- LIGATOR®
- ErgoLAP

Plug’n Cut COMFORT: The COMFORT SYSTEM automatically recognises the COMFORT instrument, indicates how many times it may still be used and selects the correct parameters for the procedure.

Plug’n Cut: The ARC 350 automatically detects that a standard instrument is connected.
Work efficiently – on a high-tech basis

Passion is nothing – without the right technology
Excellent results depend on the right technology. In addition to the innovative socket design that allows up to two monopolar and two bipolar instruments to be attached simultaneously and is compatible with all popular standard connections, there are numerous hardware and software components that can also directly affect performance in the OR.

- ARC control arc regulation for reproducible monopolar and bipolar cutting results
- Up to 9 effects per mode
- EASY neutral electrode monitoring with contact monitor, baby mode with automatic power limitation
- Current leakage monitoring
- Short circuit detection
- ISSys permanent system self-testing
- CCS permanent initial cutting support
- Configurable socket design
- Information area for device messages
- CUT modes: e.g. standard, dry, cardiac, GastroCut loop and knife, MetraLOOP, laparoscopy
- Micro-regulations and power forms for plastic and neurosurgery down to 0.1 W
- COAG modes: moderate, forced, spray, cardiac
- Autostart function

Monopolar simultaneous coagulation
With the ARC 350, monopolar simultaneous coagulation permits the simultaneous COAG activation of two monopolar handles for consistent tissue effects. This mode is especially ideal for coagulation and preparation, with the selected power setting being available for both handles. Applications include gynaecology with mastectomies, cardiac surgery with bypasses and surgery with multiple traumas.
A join that conserves resources – LIGATION* with the ARC 350

Rely on an established technique for vessel and tissue sealing: LIGATION. Alongside the advantage of preventing the introduction of foreign bodies into the patient, this method also saves OR time, suture materials and clips. Autoclavable BOWA LIGATION instruments are the first choice for use with the ARC 350.

* LIGATION is optionally available as a LIGATION package for the ARC 350
Costs and benefits – close the gap

ARC 350: the vessel sealing specialist
With the ARC 350 and BOWA LIGATION instruments, such as TissueSeal PLUS for open surgery applications and NightKNIFE also for laparoscopic applications, large-bore veins, arteries and tissue bundles with diameters of up to 7 mm can be sealed permanently and securely by bonding elastin and collagen to each other. The LIGATION sealing technique guarantees procedures free from residues and foreign bodies with sealing reliability of up to 700 mmHg.

Optimum procedural results, thanks to outstanding ergonomics and tactility, are a further bonus for surgical artists. The massive potential for time-saving in the OR, as well as savings in terms of suturing materials and clips and instrument re-usability, are all key features to convince even the strictest cost controller.

LIGATION is a fully automatic mode for the sealing of tissue with BOWA LIGATION instruments.

Two hundred times instead of once
BOWA LIGATION instruments can be reused up to two hundred times. As shown in the graph, there are massive cost benefits over single use instruments, even after only 50 procedures.

Cost benefits of BOWA NightKNIFE® compared to single use instruments after 50 procedures

<table>
<thead>
<tr>
<th>Cost of single use instruments</th>
<th>€ 4,500</th>
<th>€ 10,000</th>
<th>€ 17,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 % cost savings with BOWA NightKNIFE®</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Surgical applications:
- Colectomy
- Gastrectomy
- Liver resection
- Thyroidectomy
- Lobectomy

Gynaecological applications:
- Hysterectomy – open and laparoscopic-assisted vaginal hysterectomy
- TLH: Total laparoscopic hysterectomy
- LASH: Laparoscopic supracervical hysterectomy
- Mastectomy

Urological applications:
- Prostatectomy
- Cystectomy
- Nephrectomy

Literature:

TissueSeal® PLUS
- 160, 190, 230 and 280 mm
- Autoclavable
- Plug’n Cut COMFORT

NightKNIFE®
- 360 and 200 mm
- Ø 10 mm
- Autoclavable
- Replaceable knife
- Plug’n Cut COMFORT

LIGATOR®
- 360 and 110 mm
- Ø 5 mm
- Autoclavable
- Maryland and straight model
- Plug’n Cut COMFORT

TissueSeal®
- 190, 230 and 280 mm
- Base instrument is autoclavable
- Variable single use tips
- Plug’n Cut COMFORT

TissueSeal® COMFORT: flexible snap-on tips for different applications.
Efficient: No instrument change thanks to NightKNIFE Seal’n Cut
ARC 350 and ARC PLUS – the all-purpose workstation for surgery and endoscopy

Argon-assisted electrosurgery offers contact-free work on large surfaces with diffuse bleeding and fine dosage on sensitive structures. ARC 350 with ARC PLUS permits simple application thanks to reliable ignition and offers excellent perforation safety with low power settings.
Contact-free. Reliable. Fast.
An electrical bridge is created between the instrument and the tissue in argon-assisted electrosurgery, with the aid of the ionisation of argon gas. The argon beam produced with ARC PLUS can be administered particularly well and can be used for contact-free haemostasis. Take advantage of enhanced clinical effectiveness for fast contact-free coagulation with maximum perforation safety and simple administration.

Technical features
- Automatic detection of argon instruments and parameter preselection by Plug’n Cut
- Documentation of uses in the BOWA COMFORT instrument
- Automatic control by the ARC 350
- Electronic level indicator and pre-warning
- Flow rates of from 0.1 to 10 l/min, max 2 bar outlet pressure
- Large coverage with 2 argon bottles
- Foot and manual operation
- Simple, space-saving docking of the ARC electrosurgery unit
- 2.0 to 4.5 bar input pressure
- Flow testing and pressure monitoring
- Extensive range of accessories

CUT
for argon-assisted cutting and coagulation with open and laparoscopic applications in surgery and gynaecology:
- Abdominal surgery
- Laparoscopy
- Liver surgery
- Mamma surgery
- Visceral surgery

Advantages of argon-assisted electrosurgery in surgery and gynaecology
- Contact-free coagulation without adherence or sticking in parenchymal tissues, such as the liver
- Fast coagulation of large surfaces
- Carbonisation-free
- Flexible coagulation zone
- Clear vision due to smoke-free coagulation
- Ultra-simple to operate with large ignition gap of >10 mm and easy ignition

Applications (excerpts)
- General surgery
- Liver surgery
- Abdominal plastic
- Transplant surgery
- ENT
Activation of argon modes is also visualised on the ARC PLUS

The green display signals pre-flushing of the connected instruments with argon

Argon FLEX
for internal medical applications with flexible probes

Argon PULSED
with fine regulation across several effect stages

Advantages of argon-assisted electrosurgery in internal medicine
- Safe dosage with power and pulse sequence minimises the risk of perforation
- Particularly fine coagulation is possible from 1 W in gastroenterology
- Clear vision due to smoke-free coagulation
- Low-odour due to reduced smoke gases
- Carbonisation-free
- Flexible, long-lasting coagulation zone
- Ultra-simple to operate with large ignition gap of >10 mm and easy ignition
- Minimal argon flow rates of 0.4 l/min
- Limited penetration depth
- Perforation-free

Applications (excerpts)

- Gastroenterology
  - Superficial and smaller vascular bleeds
  - Tumour reductions
  - Tumour bleeds
  - Devitalisation and coagulation, also in the right colon
  - Stent ingrowth / overgrowth
  - Radiation proctitis
- Interventional bronchology
  - Superficial and smaller vascular bleeds
  - Tumour reduction
  - Tumour bleeding
  - Recanalisation
  - Granulation
  - Fistula conditioning
  - Stent ingrowth / overgrowth
  - Rectoscopy

Safety advantages and perforation safety with low power setting
Energy setting (W) for effective ignition or therapeutic effect

BOWA ARC 350
comparable devices

Literature:
Endo today 2007;
Prospective, randomised evaluation of low-energy argon plasma coagulation with endoscopic haemostasis of the gastrointestinal tract (GIT)
M. Raithel, J. Hänsler, A. Stegmaier, F. Boxberger, J. Maiss, W. Möler, E.G. Hahn
Med. Clinic I University of Erlangen-Nuremberg, Gastroenterology, Endoscopy, Funct. of Tissue Diagnostics, Conference Paper
Special applications – just four of many

**Optional: Bipolar resection for urology**
Bipolar resection with the ARC 350 stands out on account of its extremely reliable initial cutting and high resection speed.

Reduced irritation of the obturator nerve and bipolar technology hugely increase operating safety in this field. Using saline solution as a medium prevents the danger of TUR syndrome.

In addition, monopolar transurethral resection of the prostate (TUR-P), surgical treatment of bladder tumours (TUR-BT) and vaporisation of the prostate tissue (TUR-VAP) can also be carried out with the ARC 350.

**Resection Cut & COAG**
Special modes for the use of bipolar resectoscopes in gynaecology and urology

**Quadruple specialities – functions for cardiac surgery**
Four highly specialised functions for effective work are available for use in the field of cardiac surgery:

- **Monopolar SimCOAG** for simultaneous coagulation and preparation with two monopolar handles
- **Cardiac thorax** for forced coagulation when opening the thorax
- **Cardiac mammaria** for forced coagulation in the area of the mammaries
- **Dry cutting** for strong haemostasis

Innovation: Bipolar resection in urology with ultra-high resection speed
Supporting the division of work in cardiac surgery: simultaneous activation can be selected
Special effect for gynaecology: extremely fast and safe removal of the uterus using the MetraLOOP function

In addition to the modes for vessel sealing and monopolar and bipolar resection, a special function is available in gynaecology for laparoscopic supracervical removal of the uterus (LSH).

This mode – combined with the BOWA MetraLOOP instrument – offers more rapid cutting of the loop for uterus removal. Work can be accomplished safely, rapidly and precisely, even with large loops.

**Gynaecology program**
MetraLOOP

Optional: GastroCut for gastroenterology

With the ARC 350’s GastroCut modes, gastroenterologists can achieve the best results with polypectomy and papillotomy and endoscopic resections with loops or knife electrodes.

Gastroenterologists can adjust the haemostasis level of cutting and coagulation power to three speeds “slow”, “medium” and “fast” as required to meet their needs.

The cut is optimised, the surgeon controls the cut's coagulation effect through the effect in nine steps. This allows the surgeon to work cautiously to avoid complications, as well as proceeding rapidly when the situation allows it.

**GastroCut power type**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 Vp</td>
<td></td>
</tr>
</tbody>
</table>

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Special effect for gynaecology: extremely fast and safe removal of the uterus using the MetraLOOP function

Highly flexible: GastroCut permits 6 cutting types with loops or knife electrodes for up to 9 effects
Accessories – more than the sum of their parts

The ARC 350 is the functional, efficient and modular upgradable generator solution that offers superior performance for all standard instrument families. When used in conjunction with BOWA accessories, the ARC 350 becomes a closed system with outstanding properties – medical as well as economical.
ARC CART – greater mobility

One unit – many options
The ARC 350, ARC PLUS and the ARC CART form a high-performance unit that can be quickly manoeuvred to wherever it is needed in the OR.

Everything is in the right place and can be individually configured in the ARC CART. The basic ARC CART offers four steerable rollers with brakes, cable conduit, power cable detachment prevention device, handle, foot switch holder and a cable holder. The storage shelf is optimised for the ARC generator.

Also available as accessories are shelves, for SHE SHA smoke evacuation systems, drawers, gas bottle holders, equipotential bonding connectors or baskets, thereby greatly increasing mobility.

The foot switches are waterproof (IPX8) and explosion-protected. Pedals are ergonomically arranged to allow for fatigue-free operation over long periods of time.
“Simply safe” is more than just a promise. For us it is the commitment to always think beyond the current standards. This approach leads us to solutions that open up new perspectives and support you as best as possible in your work.

As a specialist HF surgical company, we offer you complete systems as well as complementary individual products.

For a comprehensive overview of our product range, visit us at [www.bowa.de](http://www.bowa.de).

<table>
<thead>
<tr>
<th>Handles and electrodes</th>
<th>Cables, adapters and accessories, Accessory testers</th>
<th>Instruments for laparoscopy – MetraLOOP®, Lap hook, ErgoLAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argon-assisted electrosurgery</td>
<td>Neutral electrodes</td>
<td>ARC system and accessories</td>
</tr>
</tbody>
</table>
Forceps

BIZZER® – bipolar scissors

LIGATION – vessel sealing

ARC CART – equipment trolley and attachments

SHE SHA smoke evacuation

Sets
Update service – simply by USB

Take advantage of the latest developments of the future. The ARC 350 is ready and waiting. Use our Update Service to update your ARC 350 software, simply via a USB stick. The many standard sockets guarantee the future-proofing of your unit and its automated integration into your system landscape – even in the future.
BOWA ARC 350 is designed for use in almost all areas of electrosurgery. ARC generators can be placed on ceiling supply units or on the ARC CART for unrestricted mobility. The device has two monopolar and two bipolar outputs. Hospital technicians can perform simple maintenance work, such as reading off unit information or running software updates that are supplied on a USB stick. Should you wish to connect third-party accessories, this is also possible using a range of different sockets.

### Made in Germany – technical information

BOWA ARC 350 is designed for use in almost all areas of electrosurgery. ARC generators can be placed on ceiling supply units or on the ARC CART for unrestricted mobility. The device has two monopolar and two bipolar outputs. Hospital technicians can perform simple maintenance work, such as reading off unit information or running software updates that are supplied on a USB stick. Should you wish to connect third-party accessories, this is also possible using a range of different sockets.

<table>
<thead>
<tr>
<th>Technical data at a glance</th>
<th>ARC 350</th>
<th>ARC PLUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains voltage</td>
<td>100 – 120 V / 220 – 240 V ± 10 %</td>
<td>100 – 240 V ± 10 %</td>
</tr>
<tr>
<td>Mains frequency</td>
<td>50 / 60 Hz</td>
<td>50 / 60 Hz</td>
</tr>
<tr>
<td>Mains power</td>
<td>Max. 10 A / 5 A</td>
<td>Max. 0.6 A</td>
</tr>
<tr>
<td>Mains fuse</td>
<td>T 10 A / 5 A</td>
<td>T 1 A</td>
</tr>
<tr>
<td>Power consumption in standby mode</td>
<td>40 W</td>
<td>6 W</td>
</tr>
<tr>
<td>Power consumption at max.</td>
<td>550 W</td>
<td>35 W</td>
</tr>
<tr>
<td>Width x Height x Depth</td>
<td>430 x 180 x 475 mm</td>
<td>430 x 90 x 490 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>12.5 kg</td>
<td>7.7 kg</td>
</tr>
<tr>
<td>Classification under EC Directive 93 / 42 / EEC</td>
<td>II b</td>
<td>II a</td>
</tr>
<tr>
<td>Protection class according to EN 60601-1</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Type according to EN 60 601-1</td>
<td>CF</td>
<td>CF</td>
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<td>CE marking</td>
<td>CE0123</td>
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</tr>
<tr>
<td>Item no.</td>
<td>900-351</td>
<td>900-001</td>
</tr>
<tr>
<td>GastroCut / COMFORT option</td>
<td>900-392</td>
<td>-</td>
</tr>
<tr>
<td>Bipolar resection / COMFORT option</td>
<td>900-395</td>
<td>-</td>
</tr>
<tr>
<td>LIGATION / COMFORT option</td>
<td>900-396</td>
<td>-</td>
</tr>
<tr>
<td>Maximum CUT power</td>
<td>350 W</td>
<td>-</td>
</tr>
<tr>
<td>Maximum COAG power</td>
<td>350 W*</td>
<td>-</td>
</tr>
<tr>
<td>Mains frequency</td>
<td>350 kHz / 1 MHz</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Your choice – configuration of sockets

<table>
<thead>
<tr>
<th>monopolar</th>
<th>bipolar</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>2 x 3-pin / Bovie</td>
</tr>
<tr>
<td>Europe</td>
<td>2 x 3-pin / Erbe</td>
</tr>
</tbody>
</table>

* Bipolar resection

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Clear design: compact design, ideal to meet the exacting hygiene conditions in your OR

Communicative interfaces: with USB and network socket – designed for today and tomorrow