ARC 400
ELECTROSURGICAL DEVICE
PERFORMANCE – AT YOUR FINGERTIPS

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. Discover the new generation of electrosurgical units with the ARC 400. Discover real passion and maximum performance in your OR.
Our passion.
Your performance.

Every field has specific requirements, every team works differently and every procedure is individual. This is why the ARC 400’s interactive touchpad allows you to freely configure the user interface according to your requirements. Select the pre-configured indication-orientated standard values or create your own individual preferred settings for your field and work style.

Attain real performance by working intuitively. The intuitive fingertip operation of the touchscreen and clear relationship between the controller and instrument give users a complete overview – in every situation. The Plug’n Cut function recognises instruments and Plug’n Cut COMFORT also automatically preselects the right basic settings for whichever COMFORT instruments are connected.

Ideal applications for the ARC 400 in HF surgery:
- General, visceral, thoracic and abdominal surgery
- Gynecology
- Gastroenterology
- Trauma
- ENT
- Plastic and aesthetic surgery
- Traumatological and trauma surgery
- Oral and maxillofacial surgery
- Neurosurgery
- Cardiovascular surgery

Ideal applications for the ARC 400 in non-HF surgery:
- General, abdominal, thoracic and vascular surgery
- Orthopedic and trauma surgery
- Oral and maxillofacial surgery
- Neurosurgery
- Cardiac surgery

The ARC 400 communicates rapidly with other system components and software is updated simply via USB and several standard connections, ensuring that you can also work efficiently in the future.
Intuitive handling
Smart touchpad technology

Touchpad technology allows enhanced intuition in the OR.

With the ARC 400, you have fingertip control of all functions via the interactive touchpad, using clearly designed symbols. Effects, functions, and individualized settings can be easily and clearly selected. Menu depth is generally limited to only two levels, because you want to be working, not searching.

A logically-constructed user interface

The large, high-definition display 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, for example, the upper right quadrant of the display is activated and you immediately know where you need to make your adjustments.

What You See is What You Get

The icons behave according to the WYSIWYG (What You See Is What You Get) principle. These clear graphic symbols have a preview mode. If you adjust the desired effect to your individual requirements, the preview changes.

Always work with the correct socket

The touch pad provides outstanding operating convenience with its underlying functions and the display. When adjustments are made to the display, the corresponding instrument socket flashes, offering just the right support in the darkened environment in the OR.

More than an interface: videos on the display

Simply use the touchpad display to brief and train new employees. Insert the USB drive with the introductory video, and a presenter begins demonstrating the functions of the ARC 400.

Smart – and hygienic – display

The ARC 400 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 fast, hygienic cleaning in the OR.

Intuitive handling
Smart touchpad technology

Operation of the ARC 400 is intuitive and fast with the touchpad. Each instrument signal is related to the display quadrant directly adjacent. Activated parameters are framed in green and the socket for the corresponding instrument begins to flash, thereby providing security and ease of use.

Would you like to work with your own personal device settings on every ARC 400, in every OR, in every clinic? It’s easy with Dr. Dongle. You can have your individual device settings available in your pocket at all times. Simply store your perfect settings and use them with every ARC 400.

Dr. Dongle® was awarded:
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 provides a high level of reliability when used in the OR and is therefore ideal for process optimisation in the OR – across all electrosurgical applications. The ARC 400 is equipped with the COMFORT SYSTEM and thus with the standard of the future. The advantages 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 in the instrument itself. The ARC 400 or the COMFORT BOX reads the information and you can see at a glance how many times it may still be used and selects the correct parameters for the procedure. COMFORT instrument, indicates how many times it may still be used and selects the correct device settings. The Plug’n Cut COMFORT 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 functionality of the COMFORT SYSTEM thereby avoids incorrect settings.

Maximum safety and circumscription reduction of OR time

The Plug Cut functionality of the COMFORT SYSTEM enables the generator to automatically identify the instrument, check it and select the correct device settings. The Plug Cut COMFORT function thereby avoids incorrect settings. The ARC 400 offers a wide range of electrosurgical standard or indication-oriented power formats. Select a power profile with a tap of your finger, and refine it if necessary using the effect settings.

Freedom of choice

Effects and foot switches can be freely assigned; no symbols are shown for unused sockets. Alternatively you can store up to 400 device settings. If you want your favorites to travel with you everywhere, we recommend our Dr. Dongle storage drive, which can be easily inserted into any ARC 400 unit. If you want your favorites to travel with you everywhere, we recommend our Dr. Dongle storage drive, which can be easily inserted into any ARC 400 unit. You can store up to eight personal favorite settings and call them up with a tap of your finger in the favorites menu.

Intelligent COMFORT instrument is available for all electrosurgical accessories. The COMFORT SYSTEM documents the use in the instrument itself. The COMFORT BOX reads the information and you can see at a glance how many times it may still be used. The Plug’n Cut COMFORT 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.

Work efficiently – on a high-tech basis

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Personalised configuration – Your experience is the best standard

Choose your favourites

Nothing can replace experience – especially in surgery. This is why, in addition to its many pre-set power formats, the ARC 400 offers the possibility of optimising standard values according to your own personal experience. You can store up to eight personal favourite settings and call them up with a tap of your finger in the favorites menu.

If you want your favourites to travel with you everywhere, we recommend our Dr. Dongle storage drive, which can be easily inserted into any ARC 400 unit. Alternatively you can store up to 400 device settings.

Direct to your specific application

To help the OR team operate without losing time, the ARC 400 offers a wide range of electrosurgical standard or indication-oriented power formats. Select a power profile with a tap of your finger, and refine it if necessary using the effect settings.

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A join that conserves resources – LIGATION with the ARC 400

With the ARC 400 and BOWA LIGATION instruments, such as TissueSeal PLUS for open surgery and NightKNIFE 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 reusability, are all key factors to convince even the strictest cost controller.

Surgical applications:
- Colectomy
- Gastrectomy
- Thyroidectomy
- Cholecystectomy
- Gynecological applications:
  - Hysterectomy – open and vaginal
  - Laparoscopic-assisted vaginal hysterectomy
  - TLH: Total laparoscopic hysterectomy
- Urological applications:
  - Prostatectomy
  - Cystectomy
  - Nephrectomy

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

Cost of single use instruments

| € 4,500 | € 10,000 | € 17,500 |

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

75% cost savings with BOWA NightKNIFE

Cost of single use instruments

€ 4,500 € 10,000 € 17,500

Literature:


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

TissueSeal®
- 190, 230 and 280 mm
- Base instrument is autoclavable
- Variable single use tips
- 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® COMFORT: flexible snap-on tips for different applications

Efficient, no instrument change needed in NightKNIFE® Tube’s Cut

LIGATION is a fully automatic mode for the sealing of tissues 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.

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

Cost benefits of BOWA TissueSeal PLUS compared to single use instruments after 50 procedures

Cost of single use instruments

| € 4,500 | € 10,000 | € 17,500 |

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

75% cost savings with BOWA NightKNIFE

Cost of single use instruments

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- 160, 190, 230 and 280 mm
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TissueSeal®
- 190, 230 and 280 mm
- Base instrument is autoclavable
- Variable single use tips
- Plug’n Cut COMFORT

Title: The LIGATION choice opens up new potential procedures and all settings are entered automatically

Title: The ARC 400: the vessel sealing specialist

With the ARC 400 and BOWA LIGATION instruments, such as TissueSeal PLUS for open surgery and NightKNIFE 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 reusability, are all key factors to convince even the strictest cost controller.
endoscopy, permitting ultra-simple application thanks to reliable ignition and, at the same time, offering excellent perforation safety with low power settings.

The clearly laid out user interface allows the straightforward and fast adjustment of the most diverse argon parameters.

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 calibration by the ARC 400: Electronic level indicator and pre-warning
- Foot and manual operation
- Flow rates of from 0.1 to 10 l/min, max 2 bar outlet pressure
- Large coverage with 2 argon bottles
- 2.0 to 4.5 bar input pressure
- Flow testing and pressure monitoring
- Extensive range of accessories
- 2.0 to 4.5 bar input pressure
- Flow testing and pressure monitoring
- Extensive range of accessories
- ARC PLUS – the ground-breaking addition with argon support
- A number of probes are available for the various argon-assisted applications
- Activation of argon modes is also visualised on the ARC PLUS
- The green display signals pre-flushing of the connected instruments with argon

Applications (excerpts)
- Internal medical applications with flexible probes

Argon FLEX
- Superficial and smaller vascular bleeds
- Tumour reductions
- Tumour bleeding
- Recanalisation
- Granulation
- Fistula conditioning
- Stent ingrowth/overgrowth
- Interventional bronchology

Argon FLEX / Argon FLEX 90°
- Gastroenterology
- Superficial and smaller vascular bleeds
- Tumour reductions
- Tumour bleeding
- Devitalisation and coagulation, also in the right colon

Applications (excerpts)
- Endo today 2007; Prospektive, randomisierte Evaluation der Niedrig-Energie-Argonplasmakoagulation bei der endoskopischen Blutstillung am Gastrointestinaltrakt (GIT)
- M. Raithel, J. Hänsler, A. Stegmaier, F. Boxberger, J. Maiss, W. Müller, E.G. Hahn

Safety advantages and perforation safety with low power setting
- Energy setting (W) for effective ignition or therapeutic effect
- Automatic detection of argon instruments and parameter preselection by Plug’n Cut
- Documentation of uses in the BOWA COMFORT instrument
- Automatic detection and calibration by the ARC 400
- Electronic level indicator and pre-warning
Special applications – just four of many

**Bipolar resection for urology**
Bipolar resection with the ARC 400 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 400.

- Resection CUT
- Resection COAG

**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 mamma for forced coagulation in the area of the mammares
- Dry cutting for strong haemostasis

**For gynaecology: faster removal**
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.

- MetraLOOP

**GastroCut for gastroenterology**
With the ARC 400'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>
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</tbody>
</table>

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Innovation: Bipolar resection in urology with ultra-high resection speed
Practical with bypasses: simultaneous activation
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 400 is the new generation of electro-surgical units, offering maximum performance for all standard instrument families. When used in conjunction with BOWA accessories, the ARC 400 becomes a closed system with outstanding properties – medical as well as economical.

ARC CART – greater mobility

One unit – many options:
The ARC 400, 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. The result is much greater 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.
BDWA ARC 400 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 three 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.

Update service – simply by USB

Take advantage of the latest developments of the future. The ARC 400 is ready and waiting. Our update service lets you update your ARC 400’s software simply using 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.

Made in Germany – technical information

An innovative socket system for all connections and up to five instruments:

- **monopolar**: 2 x 3-pin & Bovie or 2 x 3-pin & Erbe
- **bipolar**: 2 X 2-pin or 1 x 2-pin & 2 x Erbe

<table>
<thead>
<tr>
<th>Technical data at a glance</th>
<th>ARC 400</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 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>
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<tr>
<td>Power consumption at max.</td>
<td>550 W</td>
<td>25 W</td>
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<tr>
<td>Width x Height x Depth</td>
<td>430 x 180 x 475 mm</td>
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<td>Maximum CUT power</td>
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<tr>
<td>Maximum COAG power</td>
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<td>-</td>
</tr>
<tr>
<td>Mains frequency</td>
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