

# EXCELL MCDSe



## Electrosurgical unit for monopolar and bipolar surgery

**EXCELL MCDSe** are electrosurgical units for advanced surgery, indicated for all monopolar, bipolar and monopolar techniques with Argon gas flow.

**They are available in 5 models:**

- **EXCELL 400 MCDSe, EXCELL 350 MCDSe, EXCELL 250 MCDSe, EXCELL 200 MCDSe** for electrosurgery
- **EXCELL 400/A MCDSe** both for electrosurgery and for electrosurgery with Argon gas, being equipped with an integrated Argon module

# CURRENTS

## MONOPOLAR CURRENTS

|                |                                                                                          |
|----------------|------------------------------------------------------------------------------------------|
| <b>PURE</b>    | Pure cut without any coagulating effect                                                  |
| <b>BLEND 1</b> | Coagulating cut with medium haemostatic effect                                           |
| <b>BLEND 2</b> | Coagulating cut with strong haemostatic effect, spray type                               |
| <b>ENDO</b>    | Coagulating cut with cut phases alternated to coagulation phases, for flexible endoscopy |

|                         |                                                                                |
|-------------------------|--------------------------------------------------------------------------------|
| <b>FULG FORCED</b>      | Coagulation with strong superficial and deep effect                            |
| <b>PINPOINT CONTACT</b> | Coagulation similar to the previous one, but softer                            |
| <b>SOFT</b>             | Very delicate coagulation, with soft superficial effect and strong deep action |
| <b>SPRAY</b>            | Coagulation without any contact and a very strong superficial effect           |

## BIPOLAR CURRENTS

|                   |                                                                                                                             |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>PURE</b>       | Pure cut with minimum coagulating effect                                                                                    |
| <b>BLEND</b>      | Coagulating cut with strong coagulating effect                                                                              |
| <b>MICRO</b>      | Very delicate coagulation, Micro Precise type, with minimum sticking effect of tissue on the tips of the forceps            |
| <b>MICRO AUTO</b> | Coagulation identical to Micro, but with Impedance Sensing automatic Auto Start/Auto Stop                                   |
| <b>MACRO</b>      | Coagulation Standard type, very rapid and efficacious, ideal for forceps with bigger section (for example, for laparoscopy) |



## TECHNICAL FEATURES

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HF generator compliant with                                     | IEC 60601-1 and IEC 60601-2-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CE Classification                                               | IIb                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| IEC 60601-1 classification and type                             | I CF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| IEC 60601-2-2 output circuit                                    | Floating - protected for the use of a defibrillator (HF dispersion <150 mA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Monopolar and bipolar working frequency                         | 440 kHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Operation check                                                 | Complete self-diagnosis by means of a double microprocessor which performs: <ul style="list-style-type: none"> <li>- <b>Main Self-check</b> when turned on</li> <li>- <b>Standard Self-check</b> during operation and, if any, operation lock (within 100 milliseconds), with alarm signalling to operators through specific <b>Error Codes</b>, in the event of problems concerning: <ul style="list-style-type: none"> <li>- general operation or activation errors (General Error Control)</li> <li>- output power (Output Error Control)</li> </ul> </li> <li>- <b>HF Leakage Control</b>: continuous verification, by means of a specific circuit, of any HF current dispersion to earth and possible automatic power reduction by means of an alarm signal</li> <li>- Storage of the last 32 Error Codes</li> </ul> |
| Power self-adjustment                                           | By microprocessor with: <ul style="list-style-type: none"> <li>- <b>ADC System</b> - Constant power: self-adjusts power, controlling voltage and current, based on real-time feedback (7000 checks/sec) between device and patient's tissue</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Operation memorisation                                          | 10 programs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Outputs                                                         | 2 Monopolar and 1 Bipolar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Foot-operated controls                                          | The EXCELL MCDSe can be equipped with: <ul style="list-style-type: none"> <li>• A double pedal control selectable for monopolar or bipolar functions.</li> <li>• Two double pedal controls, one for monopolar and one for bipolar functions.</li> </ul> The pedals are compliant with IEC 60601-2-2, waterproof (IP67), electric with 12 VDC low voltage power supply.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Micro/macro power adjustment                                    | Monopolar: 0-30 W = 1 W, 30-100 W = 2 W, 100-200 W = 5 W, over 200 W = 10 W<br>Bipolar: 0-10 W = 0.5 W, 10-30 W = 1 W, 30-100 W = 2 W, over 100 W = 5 W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Panel                                                           | Smooth, with digital displays and keys                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Neutral electrode safety circuit NPCC System                    | Control of the connection of the neutral electrode - and of the quality of the contact using double section/split electrodes - with alarm signal and possible lock of delivered power.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Power supply                                                    | 230 or 115 V - 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Power consumption at 230 V                                      | Max power 3.6 A = 828 VA, Stand-by 0.4 A = 92 VA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Cooling                                                         | Convection, without fan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Equipotential bonding                                           | Standard DIN 42801 plug                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Size (LxDxH) and weight                                         | EXCELL 400/A MCDSe: 38x38x16 cm – 16 Kg<br>EXCELL 400 MCDSe, EXCELL 350 MCDSe, EXCELL 250 MCDSe, EXCELL 200 MCDSe: 38x35x16 cm – 15 Kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Argon gas section (only in the EXCELL 400/A MCDSe model)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Supply                                                          | One 5 litre cylinder or with centralised system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Flow                                                            | Max 15 l/min                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Pressure                                                        | Inlet 2.5 atm / Outlet 1 atm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Flow check with Constant flow System                            | From 1 to 15 l/min by means of an electronic sensor with adjustment buttons and visual control on the LED bar. Automatic self-compensation based on the type of electrode used. Alarm if gas is absent.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Pressure check in the Safety gas System circuit                 | Two-stage pressure reducer (on the cylinder and inside, with safety valve). Pressure sensor connected to the electronic control system, with Auto-Check when the gas section is switched on.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Protection of the supplied gas flow                             | Gas outlet equipped with antibacterial filter.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

# OUTPUT POWERS

| Monopolar currents | EXCELL 400 MCDSe                                           | EXCELL 350 MCDSe                                           | EXCELL 250 MCDSe                                           | EXCELL 200 MCDSe                                           | EXCELL 400/A MCDSe                                         |
|--------------------|------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------|
| PURE               | 400 W – 350 Ω<br>3450 Vpp – CF: 1.6<br>M: no – D: no       | 350 W – 350 Ω<br>3450 Vpp – CF: 1.6<br>M: no – D: no       | 280 W – 350 Ω<br>3450 Vpp – CF: 1.6<br>M: no – D: no       | 200 W – 350 Ω<br>3450 Vpp – CF: 1.6<br>M: no – D: no       | 400 W – 350 Ω<br>3450 Vpp – CF: 1.6<br>M: no – D: no       |
| BLEND 1            | 300 W – 350 Ω<br>3600 Vpp – CF: 2.3<br>M: 29 kHz – D: 65%  | 300 W – 350 Ω<br>3600 Vpp – CF: 2.3<br>M: 29 kHz – D: 65%  | 280 W – 350 Ω<br>3540 Vpp – CF: 2.3<br>M: 29 kHz – D: 65%  | 200 W – 350 Ω<br>3500 Vpp – CF: 2.3<br>M: 29 kHz – D: 65%  | 300 W – 350 Ω<br>3600 Vpp – CF: 2.3<br>M: 29 kHz – D: 65%  |
| BLEND 2            | 140 W – 600 Ω<br>7600 Vpp – CF: 8.1<br>M: 19 kHz – D: 9%   | 140 W – 600 Ω<br>7600 Vpp – CF: 8.1<br>M: 19 kHz – D: 9%   | 140 W – 600 Ω<br>7600 Vpp – CF: 8.1<br>M: 19 kHz – D: 9%   | 140 W – 600 Ω<br>7600 Vpp – CF: 8.1<br>M: 19 kHz – D: 9%   | 140 W – 600 Ω<br>7600 Vpp – CF: 8.1<br>M: 19 kHz – D: 9%   |
| ENDO               | 250 W – 350 Ω<br>1880 Vpp – CF: 2.2<br>50% Pure / 50% Coag | 220 W – 350 Ω<br>1880 Vpp – CF: 2.2<br>50% Pure / 50% Coag | 220 W – 350 Ω<br>1880 Vpp – CF: 2.2<br>50% Pure / 50% Coag | 200 W – 350 Ω<br>1880 Vpp – CF: 2.2<br>50% Pure / 50% Coag | 250 W – 350 Ω<br>1880 Vpp – CF: 2.2<br>50% Pure / 50% Coag |
| FULG FORCED        | 150 W – 350 Ω<br>4700 Vpp – CF: 4.5<br>M: 78 kHz – D: 35%  | 150 W – 350 Ω<br>4700 Vpp – CF: 4.5<br>M: 78 kHz – D: 35%  | 150 W – 350 Ω<br>4700 Vpp – CF: 4.5<br>M: 78 kHz – D: 35%  | 150 W – 350 Ω<br>4700 Vpp – CF: 4.5<br>M: 78 kHz – D: 35%  | 150 W – 350 Ω<br>4700 Vpp – CF: 4.5<br>M: 78 kHz – D: 35%  |
| PINPOINT CONTACT   | 250 W – 250 Ω<br>3460 Vpp – CF: 2.6<br>M: 29 kHz – D: 56%  | 250 W – 250 Ω<br>3460 Vpp – CF: 2.6<br>M: 29 kHz – D: 56%  | 250 W – 250 Ω<br>3460 Vpp – CF: 2.6<br>M: 29 kHz – D: 56%  | 200 W – 250 Ω<br>3400 Vpp – CF: 2.6<br>M: 29 kHz – D: 56%  | 250 W – 250 Ω<br>3460 Vpp – CF: 2.6<br>M: 29 kHz – D: 56%  |
| SOFT               | 280 W – 250 Ω<br>3440 Vpp – CF: 2.5<br>M: 29 kHz – D: 56%  | 280 W – 250 Ω<br>3440 Vpp – CF: 2.5<br>M: 29 kHz – D: 56%  | 280 W – 250 Ω<br>3440 Vpp – CF: 2.5<br>M: 29 kHz – D: 56%  | 200 W – 250 Ω<br>3020 Vpp – CF: 2,5<br>M: 29 kHz – D: 56%  | 280 W – 250 Ω<br>3440 Vpp – CF: 2.5<br>M: 29 kHz – D: 56%  |
| SPRAY              | 140 W – 600 Ω<br>7600 Vpp – CF: 8.1<br>M: 19 kHz – D: 9%   | 140 W – 600 Ω<br>7600 Vpp – CF: 8.1<br>M: 19 kHz – D: 9%   | 140 W – 600 Ω<br>7600 Vpp – CF: 8.1<br>M: 19 kHz – D: 9%   | 140 W – 600 Ω<br>7600 Vpp – CF: 8.1<br>M: 19 kHz – D: 9%   | 140 W – 600 Ω<br>7600 Vpp – CF: 8.1<br>M: 19 kHz – D: 9%   |
| Argon Coag         |                                                            |                                                            |                                                            |                                                            | SPRAY + ARGON GAS                                          |
|                    |                                                            |                                                            |                                                            |                                                            |                                                            |
| Bipolar currents   | EXCELL 400 MCDSe                                           | EXCELL 350 MCDSe                                           | EXCELL 250 MCDSe                                           | EXCELL 200 MCDSe                                           | EXCELL 400/A MCDSe                                         |
| PURE               | 140 W – 300 Ω<br>790 Vpp – CF: 1.5<br>M: no – D: no        | 140 W – 300 Ω<br>790 Vpp – CF: 1.5<br>M: no – D: no        | 140 W – 300 Ω<br>790 Vpp – CF: 1.5<br>M: no – D: no        | 140 W – 300 Ω<br>790 Vpp – CF: 1.5<br>M: no – D: no        | 140 W – 300 Ω<br>790 Vpp – CF: 1.5<br>M: no – D: no        |
| BLEND              | 120 W – 300 Ω<br>980 Vpp – CF: 1.8<br>M: 29 kHz – D: 75%   | 120 W – 300 Ω<br>980 Vpp – CF: 1.8<br>M: 29 kHz – D: 75%   | 120 W – 300 Ω<br>980 Vpp – CF: 1.8<br>M: 29 kHz – D: 75%   | 120 W – 300 Ω<br>980 Vpp – CF: 1.8<br>M: 29 kHz – D: 75%   | 120 W – 300 Ω<br>980 Vpp – CF: 1.8<br>M: 29 kHz – D: 75%   |
| MICRO              | 120 W – 100 Ω<br>450 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>450 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>450 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>450 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>450 Vpp – CF: 1.7<br>M: no – D: no        |
| MICRO AUTO         | 120 W – 100 Ω<br>450 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>450 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>450 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>450 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>450 Vpp – CF: 1.7<br>M: no – D: no        |
| MACRO              | 120 W – 100 Ω<br>760 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>760 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>760 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>760 Vpp – CF: 1.7<br>M: no – D: no        | 120 W – 100 Ω<br>760 Vpp – CF: 1.7<br>M: no – D: no        |

## KEY

**W:** DELIVERED POWER  
**Ω:** NOMINAL LOADS  
**Vpp:** PEAK/NO-LOAD PEAK VOLTAGES  
**CF:** CREST FACTORS  
**M:** MODULATION  
**D:** DUTY CYCLE

# DEVICES AND STANDARD ACCESSORIES

**EXCELL 400 MCDSe**, without accessories

**EXCELL 350 MCDSe**, without accessories

**EXCELL 250 MCDSe**, without accessories

**EXCELL 200 MCDSe**, without accessories

**EXCELL 400/A MCDSe**, without accessories

**B610/A** STANDARD ACCESSORIES SERIES including:

1 DS/E Double pedal control, electric, waterproof

1 NP/A Stainless steel neutral electrode, 2.5 m cable

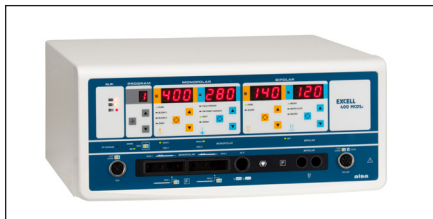
1 FGE Fixing belt for electrodes

2 MPE/E Sterilisable electrode holder, 3.5 m cable

1 SEL/E Series of 8 active electrodes (2 E1 - Straight blade electrode, 2 E5 – Thick needle electrode, 1 E7 - Fine needle electrode, 1 E12 - Straight ball electrode Ø 2.5 mm, 2 E14 - Straight ball electrode Ø 4 mm)

**B610/B** STANDARD ACCESSORIES SERIES identical to B610/A, but with NP/GA flexible conductive rubber neutral electrode for adults

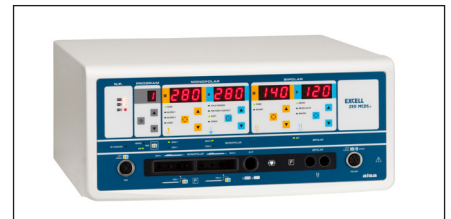
**B610/P** As above, with neutral paediatric electrode NP/GP



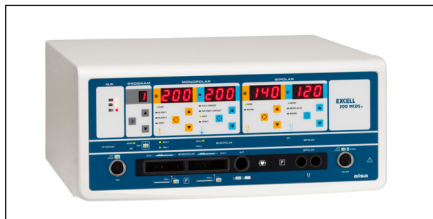
EXCELL 400 MCDSe



EXCELL 350 MCDSe



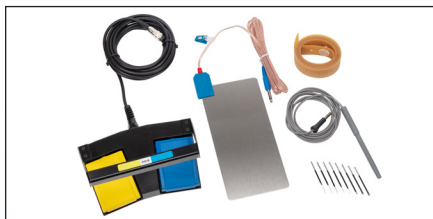
EXCELL 250 MCDSe



EXCELL 200 MCDSe



EXCELL 400/A MCDSe



B610/A



B610/B