ValleyLab Force EZ

Electrosurgical Generator

Refurbished by Avante

ESU with with Instant Response™ Technology

Instant Response technology provides surgeons with improved performance at lower power settings, minimizing the risk of tissue damage and neuromuscular stimulation, and decreasing the need to “turn up the generator.”

The Force EZ generator adjusts automatically, responding to tissue changes, maintaining power delivery, and minimizing drag.

FEATURES

- Instant Response technology ensures that the power delivered remains virtually constant, regardless of the tissue type
- Improved performance at lower power settings minimizes the risk of tissue damage and neuromuscular stimulation
- Three internal microcontrollers reduce system reaction time and increase the system’s processing speed
- Easy to use, cost effective system when performance is required and price is of equal concern
- Two cut modes, both controlled by Instant Response technology, offer surgeons a variety of choices:
  - Pure Cut for a clean, precise cut
  - Blend for cutting with hemostatsis
- Two primary coag modes:
  - Low for lower voltage contact coagulation suitable in laparoscopic and delicate tissue work
  - High for efficient noncontact coagulation in most applications
- Standard bipolar mode: Standard mode is controlled by Instant Response technology and utilizes low voltage to prevent sparking
- Versatile system that is uniquely compatible with other devices, including:
  - Force Argon IITM and Force GSU argon coagulation system
  - OptiMummTM smoke evacuator, through a direct cable link
- A Power Efficiency Rating (PER) of approximately 97 for accurate and consistent cut performance
- Separate monopolar and bipolar footswitch connectors on rear panel for easy set up
- Convenient design for boom applications: Additional front mounted footswitch connector is switchable, allowing monopolar or bipolar activation by a monopolar footswitch

SPECIFICATIONS

Weight:
< 15 lbs (6.8 kg)

Height:
5 inches (12.7 cm)

Width:
16 inches (40.6 cm)

Length:
15.6 inches (39.5 cm)

110-120Vac:
Operating Range: 85-140Vac
Max Current Cut: 8A
Max Current Coag: 4.2A

220-240Vac:
Operating Range: 170-280Vac
Max Current Cut: 4A
Max Current Coag: 2.1A

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2601 Stanley Gault Pkwy, Suite 101 • Louisville, KY 40223 USA
800-923-8413 • 502-244-6345 • FAX: 502-244-0369

www.avantevet.com

Avante Animal Health

Output Waveforms

Bipolar:
470 kHz sinusoid

Monopolar Cut:
Pure: 393 kHz sinusoid
Blend: 393 kHz bursts of sinusoid, recurring at 27 kHz intervals. 50% duty cycle envelope

Output power changes by less than 15% or 5 watts, whichever is greater, as the line voltage varies from 90-135 volts (into a 300 ohm load).

Monoplar Coag:
Desiccation:
Low 1: 240 ± 40 kHz sinusoid recurring at 39 kHz. 8% duty cycle
Low 2: 393 kHz sinusoid
Low 3: 393 kHz sinusoid
Fulgaration:
High 1: 470 ± 40 kHz damped sinusoidal bursts with a repetition frequency of 57 kHz
High 2: 470 ± 40 kHz damped sinusoidal bursts with a repetition frequency of 30 kHz

Low Frequency Leakage (50-60 Hz)

Source current, patient leads, all outputs tied together.

Normal polarity, intact chassis ground: < 10µA

Normal polarity, ground open: < 50µA

Reverse polarity, ground open: < 50µA

Sink current, 140V applied, all inputs: < 50µA

REM™ Contact Quality Monitoring System

Measurement Frequency:
80 kHz ± 10 kHz

Measurement Current:
Less than 10 µA

Acceptable Resistance Ranges:
REM pad – 5-135 ohms
Non-REM pad – less than 20 ohms

Acceptance range is 5-135 ohms after REM PolyHesive II return electrode is applied

Adaptive REM:
EM trip is baseline impedance plus 40%. For example, if the baseline impedance is 30 ohms, the upper level trip is approximately 42 ohms. If the pad-patient impedance falls below the baseline impedance, a new baseline is established.

Power Readouts

Agree with actual power into rated load to within ± 15% or 5 watts, whichever is greater. Dosage error monitor.

PER = 97

PER (Power Efficiency Rating) is the measure of an electrosurgical generator's ability to accurately deliver the selected power into a wide range of tissue types.

High Frequency Leakage

Bipolar: Less than 60 mArms

Monopolar: Less than 150 mArms

Output Characteristics

	Mode	Maximum P-P Voltage	Rated Load (OHMS)	Maximum Power (Watts)	Crest Factor (Typical)*
Bipolar	Standard	300	100	70	1.5
Monopolar Cut	Pure Blend	2000 34000	300 300	300 200	1.5 2.1
Monopolar Coag	Desiccate Low 1 Low 2 Low 3 Fulgurate High 1 High 2	3500 660 1100 6200 8500	500 300 300 500 300	120 120 120 120 120	5.0 1.5 1.5 5.0 7.0

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