# ValleyLab Force FX

## Electrosurgical Generator

## Features Instant Response™ technology for improved performance at lower power settings

**Instant Response Technology:** Instant Response technology provides increased performance at lower power settings, reducing the risk of tissue damage and neuromuscular stimulation, and lowering the need to turn up the generator.

**A Smoother Cut Through All Tissue Types:** The Force FX™ automatically adjusts, responding to tissue changes, maintaining power delivery and minimizing drag.

**Improved Safety and Dependability Minimize Electrosurgical Risks:** Capacitive coupling is lowered by 30-50% when using Instant Response™ technology. The reduction is provided by minimizing the RMS voltage and the high frequency harmonics. Decreased voltage means less neuromuscular stimulation and increased precision of delivery of energy to lower collateral damage.


Refurbished by Avante

## SPECIFICATIONS

**Weight:**
< 18 lbs (< 8.1 kg)

**Height:**
4.38 in (11.1 cm)

**Width:**
14 in (35.6 cm)

**Length:**
17 in (43.9 cm)

**Input Power Requirements:**
Operating range is 85 to 132 AC volts. Maximum current is 7 amperes in Cut and 4 amperes in Coag

**Power Efficiency Rating:**
98

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2601 Stanley Gault Pkwy, Suite 101 • Louisville, KY 40223 USA
800-477-2006 • 502-244-4444 • FAX: 502-244-0369

# SPECIFICATIONS (cont.)

## Output Waveforms

### Bipolar

Precise: 470 kHz sinusoid

Standard: 470 kHz sinusoid

Macro: 470 kHz sinusoid

### Monopolar Cut

Low: 390 kHz sinusoid. Similar to the Pure Cut mode except the maximum voltage is limited to a lower value.

Pure: 390 kHz sinusoid

Blend: 390 kHz bursts of sinusoid, recurring at 27 kHz intervals. 50% duty cycle envelope.

### Monopolar Coag

Desiccate: 240 kHz sinusoid repeated at 39 kHz. 8% duty cycle.

Fulgurate: 390 kHz damped sinusoid bursts with a repetition frequency of 30 or 57 kHz into 500 ohms

Spray: 390 kHz damped sinusoidal bursts with a randomized repetition centered at 28 kHz. Frequencies include 21 kHz

Output power changes by less than 15% or 5 watts, whichever is greater, as the line voltage varies from 104-132 volts and 208- 264 volts (at rated load).

## Low Frequency Leakage (50-60 Hz); source current, patient leads, all outputs tied together

**Normal polarity, intact chassis ground:** <10 µA

**Normal polarity, ground open:** < 50 µA

**Reverse polarity, ground open:** < 50 µA

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

## 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™

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

## High Frequency Leakage

**Bipolar:** Less than 60 mA (rms)

**Monopolar:** Less than 150 mA (rms)

## Output Characteristics

### Bipolar

Precise Mode:
- Maximum P-P Voltage: 450
- Rated Load (OHMS): 100
- Maximum Power (Watts): 70
- Crest Factor* (Typical): 1.5

Standard Mode:
- Maximum P-P Voltage: 320
- Rated Load (OHMS): 100
- Maximum Power (Watts): 70
- Crest Factor* (Typical): 1.5

Macro Mode:
- Maximum P-P Voltage: 750
- Rated Load (OHMS): 100
- Maximum Power (Watts): 70
- Crest Factor* (Typical): 1.5

### Monopolar Coag

Desiccate Mode:
- Maximum P-P Voltage: 3500
- Rated Load (OHMS): 500
- Maximum Power (Watts): 120
- Crest Factor* (Typical): 5

Fulg. High Crest Factor* Mode:
- Maximum P-P Voltage: 8500
- Rated Load (OHMS): 500
- Maximum Power (Watts): 120
- Crest Factor* (Typical): 7.0

Fulg. Low Crest Factor *Mode:
- Maximum P-P Voltage: 6900
- Rated Load (OHMS): 500
- Maximum Power (Watts): 120
- Crest Factor* (Typical): 5.5

Spray Mode:
- Maximum P-P Voltage: 9000
- Rated Load (OHMS): 500
- Maximum Power (Watts): 120
- Crest Factor* (Typical): 8

### CEM™ Mode

Monopolar Cut (Low):
- Maximum P-P Voltage: 1000
- Rated Load (OHMS): 300
- Maximum Power (Watts): 100
- Crest Factor* (Typical): 1.5

### Monopolar Coag (Dessicate)

- Maximum P-P Voltage: 3500
- Rated Load (OHMS): 500
- Maximum Power (Watts): 70
- Crest Factor* (Typical): 5

*Crest Factor is an indicator of a waveform's ability to coagulate without cutting

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