

Specification Guide

Valleylab™ FT10 vessel sealing generator

Trust in performance, reliability, and safety.

TissueFect™ technology

TissueFect™ sensing technology monitors changes in tissue impedance 434,000 times a second and adjusts energy output accordingly to deliver the appropriate amount of energy for the desired tissue effect.¹

Upgrade-ready

Add electrosurgery technology to this energy platform at any time with the Valleylab™ electrosurgery feature kit.²



Easy-to-read control panel

The Valleylab™ FT10 vessel sealing generator is an intuitive system to use, and the error alerts are easy to understand.^{3,†}

Smart connectors

The Valleylab™ FT10 vessel sealing generator is a plug-and-play system with automatic device detection and power setting.⁴

LigaSure™ technology

The Valleylab™ FT10 vessel sealing generator has an average sealing/fusion cycle time of 1-4 seconds.^{5,‡} LigaSure™ devices, when used with the Valleylab™ FT10 vessel sealing generator, minimize thermal spread to surrounding tissue.^{5,§}

†Total of 32 surgeons and 39 nurses interviewed. Product validation testing January 27-30 and February 24-27, 2015.

‡Bench testing model used to evaluate burst pressure and activation time of renal arteries. May not be indicative of clinical performance.

§Testing performed on an in-vivo porcine model. Tissue types included isolated vasculature and A/V bundles. Using LigaSure™ devices: LF1212A, LF1637, LF4318 and LS1037. May not be indicative of clinical performance.

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Technical specifications



General

Output system	Isolated output
Cooling	Natural convection and fan
Display	17.8 cm (7.0 in) LCD touchscreen 16,777,216 colors with 24-bit data signal ⁶
Connector terminal	1 LigaSure™/bipolar receptacle
Enclosure	Magnesium
Mounting	<ul style="list-style-type: none"> Valleylab™ universal generator cart (VLFCRT) Operating room boom systems Any stable, flat surface such as a table or cart top
Operating system	Linux

Dimensions and weight

Height	17.8 cm (7.0 in)
Width	36.8 cm (14.5 in)
Depth	46.2 cm (18.2 in)
Weight	10.1 kg (22.3 lb)

Input power

	Nominal line voltage		Units
Line ranges	100-127	220-240	VAC
Line voltage full regulation range [†]	90-140	198-264	VAC
Line frequency [†]	47-63	47-63	Hz
Max VA nominal line voltage [§]	950	950	VA
Max mains current [§]	9.5	4.8	A _{RMS}
Max heat dissipation	180	180	W
Fuses	10 Fuses (2): 5 mm × 20 mm 10 A, 250 V, fast-blow	6.3 Fuses (2): 5 mm × 20 mm 6.3 A, 250 V, fast-blow	A
Power cord	NEMA 3-prong hospital-grade connector		

[†]Includes margin per IEC 60601-1.

[‡]Includes margin on the international range of 50-60 Hz.

[§]Max VA and current are based on nominal line voltages.

Environmental parameters for operation

Ambient temperature range	10-40°C (50-104°F)
Relative humidity	15-85% non-condensing
Atmospheric pressure	700-1060 millibars

Environmental conditions for transport and storage^{†,‡}

Ambient temperature range	-10 to +60°C (14 to 140°F)
Relative humidity	15-90% non-condensing
Atmospheric pressure	500-1060 millibars

[†]The system can be stored for up to one year without performance degradation upon use.

[‡]If the energy platform is stored at a temperature outside the normal operating range of 10 to 40°C, the system is ready for use after at least one hour at ambient temperature 20°C ± 5°C.

Duty cycle

The Valleylab™ FT10 vessel sealing generator is capable of operating a duty cycle of 25%, defined as 10 seconds active and 30 seconds inactive, in any mode for a period of 4 hours.

Internal memory

Real-time clock battery	Battery type: Lithium CR1620 or CR1632 Battery capacity: 75 mAh (minimum)
Storage capacity	8 GB

This generator retains calibration data and statistical data if the power is turned off and if the device is unplugged.

Radio-frequency identification (RFID)

Frequency range	13.56 MHz
RF output power	< 42.0 dBuA/m @ 10 meters
Type of antenna	Integral loop antenna
Modulation	Amplitude-shift keying (ASK)
Mode of operation (Simplex/Duplex)	Duplex

Ethernet

Connected speed	10/100/1000BASE-T
Standards	IEEE 802.3, IPv4
Protocols	SFTP (for file transfer through port 22), UDP (non-file transfer), TCP/IP

USB

The USB connection is located on the back of the generator. The intended use of the USB port is to perform service operations on the generator (bidirectional communications).

Energy output characteristics

Mode	Rated load (Ω)	Rated output power (W)	Max peak voltage (V)	Current nominal max (A)	Typical crest factor [†]	Duty cycle
LigaSure™ technology						
LIGASURE	20	350	244	5.5	1.9	100%

[†]At rated load.

References:

1. Based on internal memo #RE00256209 rev A, Valleylab™ FT10 memo control system resolution in VLFT10GEN. March 2020.
2. Based on report #PT00176414 rev C, Valleylab™ FT10 energy platform User Guide. 2019.
3. Based on internal report #RE00005401, Product validation of Valleylab™ FT10 surgeon & nurse evaluation in simulated use. January–February 2015.
4. Based on internal report #R0030689 rev Y, System requirements document VLFT10GEN SPH65-3366, SRD-1040. December 2014.
5. Based on internal memo #RE00025819 rev A, LigaSure™ data sources for VLFT10 white papers. September 2015.
6. Based on report #TCG070WVLQEPNN-AN00 (KYOCERA) display specification. 2023.

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Leakage

Leakage currents and patient auxiliary currents (IEC 60601-1)

Touch current	<100 μ A NC, <500 μ A SFC
Earth leakage current	<500 μ A NC, <1000 μ A SFC
Patient auxiliary current (<1 kHz)	<10 μ A NC, <50 μ A SFC
Patient auxiliary current (>1 kHz)	Scaled with frequency per IEC 60601-1, but does not exceed 10 mA NC/SFC
Patient leakage current	<10 μ A NC, <50 μ A SFC
Total patient leakage current	<50 μ A NC, <100 μ A SFC

NC: Normal condition.

SFC: Single fault condition (as defined in IEC 60601-1).

Total patient leakage current: Measurement of patient leakage current with all patient outputs connected together.

High frequency leakage (IEC 60601-2-2)

LigaSure™/BPR measured directly at the ESU terminals	<100 mA _{RMS}
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Audio tones

Activation tones	Tone	Duration	Volume
LigaSure™	440 Hz \pm 5%	Entire activation duration	User adjustable from 45 dBA to 65 dBA (-0/+6 dBA @ 1 m)

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