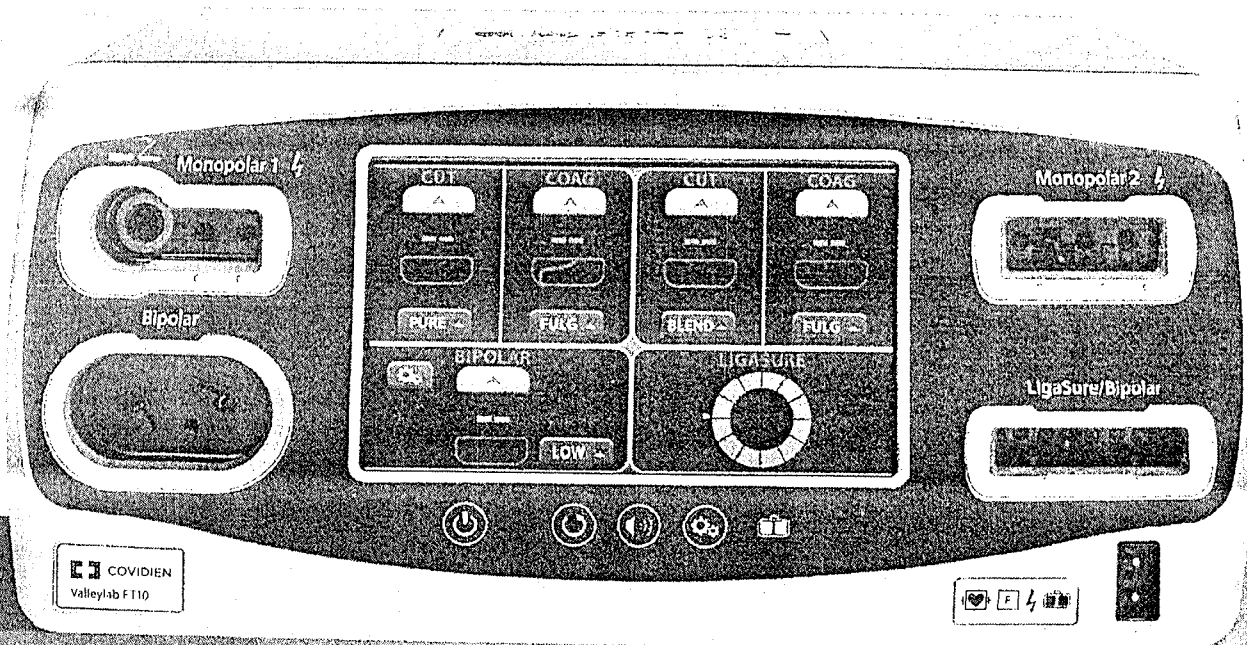


TRUSTED PRECISION. A HISTORY OF INNOVATION.

The Valleylab™ energy portfolio offers the most comprehensive suite of energy-based devices in the industry¹ — ranging from a series of trusted electrosurgical tools to advanced vessel-sealing instruments and an energy platform that powers it all.

Introducing the Valleylab™ FT10 energy platform: our latest innovation built on a history of trusted precision.



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1. The Valleylab FT10 Energy Platform

Introduction

The Valleylab FT10 FT Series Energy Platform (VLFT10GEN) provides RF energy for monopolar and bipolar surgical applications, and tissue-fusion and vessel-sealing applications. It features a touchscreen divided into four sections for viewing and user input of settings and options available for any application. The energy platform automatically detects coded handsets and configures the energy platform accordingly. Safety and diagnostic functionality include automatic fail-safe functions.

The VLFT10GEN, applied parts (patient return electrodes and active instruments) are designed to work as a system. Covidien offers a selection of patient return electrodes and active instruments that are fully compatible with this energy platform.

- Refer to each instrument's instructions for use (IFU) for indications, warnings, and specific contraindications.
- When considering other manufacturers' patient return electrodes and/or active instruments, customers should seek detailed user instructions and warning information from the manufacturer.

The generator is intended for use in general surgery and such surgical specialties as urologic, vascular, thoracic, plastic, gynecologic, reconstructive, and colorectal surgery.

Indications for Use

2.1

The Valleylab FT10 is a high frequency electrosurgical generator intended for use with monopolar and bipolar accessories for cutting and coagulating tissue. When used with compatible sealing devices, it is indicated for sealing vessels up to and including 7 mm, tissue bundles, and lymphatics.

2.2

The generator can also be used with compatible resectoscopes for endoscopically controlled removal or coagulation of tissue using 0.9% NaCl solution as the irrigation medium.

The tissue fusion function has not been shown to be effective for tubal sterilization or tubal coagulation for sterilization procedures. Do not use this function for these procedures.

Contraindications

None known.

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Output Waveforms

2.3

TissueFect Tissue Sensing Technology, an automatic adjustment, controls all modes and effects. As tissue resistance increases from zero, the energy platform outputs constant current, followed by constant power, followed by constant voltage. The maximum output voltage is controlled to reduce capacitive coupling and video interference and to minimize sparking.

Bipolar

LOW	434 kHz sinusoid continuous
MEDIUM	434 kHz sinusoid continuous
HIGH	434 kHz sinusoid continuous

Monopolar CUT

CUT	434 kHz sinusoid continuous
BLEND	434 kHz bursts of sinusoid, recurring at 27.13 kHz intervals 50% duty cycle

VALLEYLAB

VALLEYLAB	434 kHz bursts of sinusoid, recurring at 27.13 kHz intervals 25% duty cycle
-----------	--

Monopolar COAG

SOFT	434 kHz sinusoid continuous
FULGURATE	434 kHz damped sinusoidal bursts with a repetition frequency of 27.13 kHz 6.25% duty cycle
SPRAY	434 kHz damped sinusoidal bursts with a randomized repetition centered at 20.67 kHz 4.76% duty cycle

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Valleylab FT10 Energy Platform User's Guide

COVIDIEN ENERGY.

Performance Amplified.

Valleylab™ FT10 Energy Platform

Specification Guide

TISSUEFFECT™ TECHNOLOGY

Accommodate various tissue types consistently and respond to the changes in tissue as the device seals. This is TissueFect™ technology that responds at 430,000X per second.

FAST SEALING

1-4 second seal time**

3.1, 3.3

INTUITIVE CONTROLS

Four-quadrant touch screen with enhanced ease of use for quick settings of surgeon preferences and easy to understand error alerts.



3.2

SMART CONNECTION

Recognizes which type of instrument is being used and automatically configures energy output for quick, consistent results.

LIGASURE™ TECHNOLOGY

Monopolar and Bipolar (Ligasure and Ligasure II)

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3.4

	Mode	Rated Load (l)	Rated Output Power (W)	Peak Voltage	Current RMS Max	Crest Factor*	Duty Cycle
3.4.1							
3.4.1.1	PURE	300	300	910	1.25	1.42	100%
3.4.1.2	BLEND	300	200	1100	1	2.5	50%
3.4.1.3	VALLEYLAB	300	200	1549	1	3.8	25%
3.4.1.6							
3.4.1.4	FULGURATE	500	120	3135	1	5.7	6.25%
3.4.1.5	SPRAY	500	120	3575	1	6.5	4.76%
3.4.2	SOFT	100	120	240	1.55	1.42	100%
3.4.2.1	LOW (1-15 W)	100	15	86	1	1.42	100%
3.4.2.2	MEDIUM (16-40 W)	100	40	143	2	1.42	100%
3.4.2.3	HIGH (45-95 W)	100	95	310	2	1.42	100%
3.4.3							
3.4.4	LIGASURE	20	350	163	5.5	1.42	N/A
3.4.4.1	CUT	500	375	495	2.4	1.42	100%
3.4.4.2	COAG	100	175	212	3.2	1.42	100%

TissueFect™ Tissue Sensing Technology, an automatic adjustment, controls all modes. As tissue resistance increases from zero, the energy platform outputs constant current followed by constant power followed by constant voltage. The maximum output voltage is controlled to reduce capacitive coupling and video interference and to minimize sparking.

1. Based on Covidien memo: TissueSure Data Sources for VLT100 device papers, 12 September 2015 REF00254 Rev. 2.
2. Data from product validation testing. Covidien report: R0254457 TissueSure - Real-World Burst Pressure Evaluation of the ValleyLab FT100, May 29, 2015.
3. Based on Covidien In vivo GLP Acute report: Validation - Report: GLP Acute Acute Lab: TissueSure - Preclinical Evaluation of Safe Vial - FT100, May 19, 2015, REF0005503, Report page 4, Attachment pp. 23-29.
4. Based on product validation testing. Covidien report: Product Validation of ValleyLab FT100 Surgeon & Nurse Evaluation in Simulated Use, May 26, 2015, REF0005441 Rev. A, pg. 11.



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#10-01, Visioncrest
Commercial
Singapore 238467

Covidien.com/Surgical

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DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
9200 Corporate Boulevard
Rockville MD 20850

Valleylab, a Division of Tyco
Healthcare Group LP
% Mr. Philip E. Ake
Senior Regulatory Associate
5920 Longbow Drive
Boulder, Colorado 80301

MAR 06 2007

Re: K070162

Trade/Device Name: Force Triad™ Electrosurgical Generator
Regulation Number: 21 CFR 878.4400
Regulation Name: Electrosurgical cutting and coagulation device and accessories
Regulatory Class: II
Product Code: GEI
Dated: January 16, 2007
Received: January 17, 2007

Dear Mr. Ake:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set

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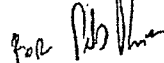
Page 2 - Mr. Philip B. Ake

forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of Compliance at (240) 276-0115. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (240) 276-3150 or at its Internet address: <http://www.fda.gov/cdrh/industry/support/index.html>.

Sincerely yours



Mark N. Melkerson
Director
Division of General, Restorative
and Neurological Devices
Office of Device Evaluation
Center for Devices and
Radiological Health

Enclosure

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SUMMARY OF SAFETY AND EFFECTIVENESS INFORMATION

K 070162

Page 1 of 2

LigaSure™ Vessel Sealing System

1. Submitter Information

Valleylab
A Division of Tyco Healthcare Group LP
5920 Longbow Drive
Boulder, CO 80301
Contact: Philip E. Ake
Senior Regulatory Associate
Telephone: 303-581-6808
Fax: 303-530-6313
E-mail: Philip.Ake@TycoHealthcare.com

MAR 06 2007

Date summary prepared: January 16, 2007

2. Name of Device

Trade or Proprietary Name: ForceTriad™ Electrosurgical Generator

Common/Classification Name: Electrosurgical Cutting and Coagulation Device and Accessories

3. Predicate Devices

The ForceTriad™ Electrosurgical Generator is substantially equivalent to the following legally marketed medical devices:

- ForceTriad™ Electrosurgical Generator (K051644)

4. Device Description

The ForceTriad™ generator is a full-featured electrosurgical generator with monopolar, bipolar, and Valleylab LigaSure™ vessel sealing outputs. This 510(k) only applies to the LigaSure™ Vessel sealing portion of the generator. The generator is electrically isolated, microcontroller-based device, incorporating closed-loop control for all output modes implemented in the microcontroller firmware. The generator incorporates Instant Response™ technology to constantly measure the electrical impedance of the tissue and instantaneously adjust the generator output to maintain the desired power.

3.4.3

The generator is used with a selection of instruments designed for use with the ForceTriad and the LigaSure Vessel Sealing generator. All of the instruments are capable of sealing vessels up to, and including, 7mm, and tissue bundles as large as can fit in the jaws of each instrument. When a LigaSure™ instrument is applied to a vessel or tissue bundle and RF energy is applied, the collagen and elastin in the tissues are reformed by heat and pressure to fuse vessel walls, thereby forming a permanent seal. The microprocessor in the generator monitors the tissue properties, stops the

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K070162

Page 2 of 2

application of energy, and allows a brief period of cooling before indicating that the seal cycle is complete.

No changes are being made to the design or operation of any of the devices within the current system. The change as proposed in this 510(k) notification is to the intended use as described above and the resulting labeling changes.

5. Intended Use

The ForceTriad™ is a full-featured electrosurgical generator intended for open and laparoscopic surgical procedures where the surgeon requires electrosurgical cutting, coagulation, or vessel sealing (tissue fusion). The generator is intended for use in general, laparoscopic and gynecologic surgical procedures where ligation of vessels, pulmonary vasculature, or lymph vessels, is desired. The system creates a vessel ligation (seal) by the application of bipolar electrosurgical RF energy (coagulation) to vessels interposed between the jaws of the device. The generator can also be used with standard bipolar devices where bipolar cutting or coagulation is desired.

The indications for use include general (including urologic, thoracic, plastic and reconstructive), laparoscopic, and gynecological procedures where electrosurgical cutting and coagulation of tissue, and sealing (fusion) of vessels, including pulmonary vessels, and tissue bundles is performed, including such procedures as bowel resections, hysterectomies (both vaginal and abdominal), laparoscopic cholecystectomies, laparoscopically assisted vaginal hysterectomies, gall bladder procedures, Nissen fundoplication, adhesiolysis, oophorectomy, etc. The devices can be used on vessels (arteries; veins, pulmonary arteries, pulmonary veins, lymph) up to 7mm and bundles as large as will fit in the jaws of the instruments.

The LigaSure tissue fusion function has not been shown to be effective for tubal sterilization or tubal coagulation for sterilization procedures. Do not use this function for these procedures.

6. Summary of Technological Characteristics

The technological characteristics of the ForceTriad Electrosurgical generator have not been modified.

7. Performance and Clinical Data

Pre-clinical studies (acute and chronic) and bench testing have shown that the ForceTriad Electrosurgical Generator effectively seals pulmonary vasculature, producing seals with burst pressures substantially greater than the physiologic pressures in the vessels.

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Table II
Comparison of laparoscopic splenectomy series using endovascular stapling and LigaSure™

	Patients	Age	Operation time (min)	Hemostasis	Conversion rate (%)	EBL (ml)	Spleen weight (gr)	Hospital stay (days)
Delaitre, 2002 (4)	209	41	144	Endovascular stapler	17.2	—	194	6.1
Brodsky, 2002 (5)	100	51	170	Endovascular stapler	5	180	375	3.3
Pomp, 2005 (3)	131	45	170	Endovascular stapler	6	—	—	3
Romano, 2002 (2)	10	24	120	LigaSure™	10	80	485	3.5
Yüney, 2005 (7)	10	36	93	LigaSure™	0	100	—	4.3
Barbaros, this series	29	35	71	LigaSure™	3	85	250	2.8

EBL : Estimated Blood Loss.



Fig. 2
Hilar dissection and vascular ligation with LigaSure™

Although the clips are easily placed, they can be dislodged. Application of sutures is tedious and time consuming in laparoscopic surgery. Standard bipolar and ultrasonic coagulation can be used for small blood vessels (1-3 mm in diameter). Ultrasonic coagulation is expensive as well.

3.4.3

The LigaSure™ Vessel Sealing System can be used for vessels up to 7 mm of diameter. Seals withstand a minimum of three times of normal systolic pressure (8). LigaSure™ system offers some advantages like minimal thermal spread (less than 2 mm); reduced operative time as it grasps, coagulates and transects; and avoidance of accidental injuries (9-11).

LigaSure™ has been successfully used in gastrointestinal surgery, liver resections, thyroidectomy, pulmonary resections, nephrectomy, prostatectomy, cystectomy, and abdominal hysterectomy (12-19).

Two small series report the experience with LigaSure™ in laparoscopic splenectomy (2, 7).

The mean operative time ranged between 93 and 120 min with a mean blood loss of 60 to 80 ml. Bleeding

from the splenic hilum was the main cause of conversion to open surgery. There were no complications associated with the use of LigaSure™. LigaSure™ system has an advantage in terms of operative time compared to ultrasonic coagulation and vascular endostapler device (6).

In our study, the amount of blood loss in LS was similar to the reported series in literature, but the operative time was shorter. Hemostasis and dissection can be easily done with the blunt probe of LigaSure™. This allows the surgeon to use a limited number of trocars and save time. In our series, three trocars were used in the majority of the patients. Five trocars were used in three patients to perform simultaneous cholecystectomy.

The main principle of using LigaSure™ during LS is to perform coagulation and dissection as close as possible to the splenic edge in order to prevent bleeding and pancreatic injury.

In conclusion, the use of LigaSure™ in LS provides a shorter operative time and safe and sufficient hemostasis with easy application. Further studies, including randomized controlled studies, are needed to precisely document the superiority of LS over open splenectomy.

References

- URANCES S., ALINOGU O. Laparoscopic surgery of spleen. *Surg Clin N Am*, 2005, 85 : 75-90.
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Return Electrodes – REM Contact Quality Monitoring System

Notice

Only contact-quality-monitoring-system patient return electrodes can be used with the VLFT10GEN.

Patient Return Electrode Considerations

Warning

It is not possible to foresee what combination of current and duty cycle may be safely used in every situation—for example, when higher currents and/or longer duty cycles are used on procedures such as tissue lesioning, tissue ablation, tissue vaporization; and procedures where conductive fluid is introduced into the surgical site. Under these conditions a greater risk may exist that the heating under a fully applied return electrode may be high enough to injure the patient.

When using a Covidien energy platform or a patient return electrode during these types of surgical procedures, the user should seek written guidance in the form of detailed user instructions from the manufacturer of the active accessory regarding the currents and duty cycles that can be expected. In some instances, the application of additional patient return electrodes may help mitigate the increased risk.

During monopolar electrosurgery, a patient return electrode is always required to safely recover the current that flows through the patient's body and return it to the energy platform. A reduction in surface area contact or poor conductivity between the patient and the return electrode can cause the current to become concentrated, potentially resulting in burns at the return-electrode site.

During a surgical procedure, the amount of current delivered in a given time determines the amount of heating that occurs under the return electrode. REM Polyhesive patient return electrodes are designed for use during conventional electrosurgical procedures and duty cycles (on time compared to off time). Users should consult Chapter 10, *Technical Specifications* for the recommended maximum duty cycle specifications.

3.4.5 How the REM System Works

The VLFT10GEN uses the REM contact-quality monitoring system to monitor the quality of electrical contact between the patient return electrode and the patient. The REM system is designed to reduce the risk of burns at the return electrode site. A non-REM return electrode is not to be used with the VLFT10GEN.

The REM system continuously measures the resistance at the return electrode site and compares it to a standard range of safe resistance (between 5 Ω and 135 Ω), thus eliminating intermittent false alarms that could result from small changes in resistance.

The REM system also adapts to individual patients by measuring the initial contact resistance between the patient and the patient return electrode and lowering the baseline resistance if the contact resistance drops.

Monopolar

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A REM alarm sounds and the system stops producing output power when **either** of the following occurs:

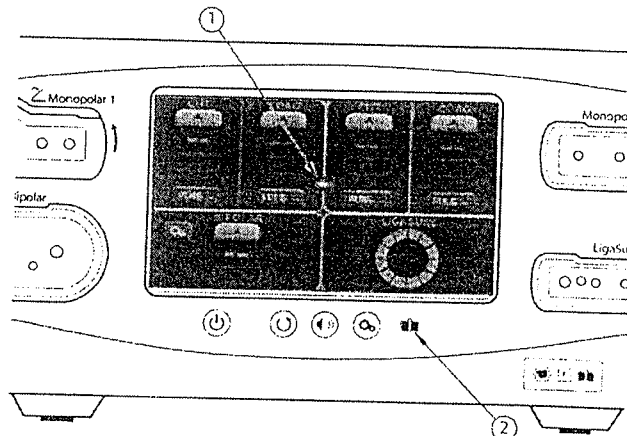
- The measured resistance is below 5 Ω or above 135 Ω , the limits of the standard range of safe resistance.
- An increase in contact resistance is greater than 40% from the baseline measurement.

3.4.5

Patient Return Electrode Setup



The REM icon appears on the main screen each time the FT10 system is started. When the power-on self-test is complete, the icon remains if a REM return electrode is not connected to the energy platform or incorrectly attached to a patient. The icon is removed when the return electrode is correctly attached to the system and patient.



- ① REM icon
- ② REM LED indicator

A REM indicator, located below the touchscreen also displays the status of the return electrode by illuminating red when not connected or improperly applied to the patient.

The REM indicator illuminates green when the system senses that the patient return electrode is properly connected to the energy platform and patient.

Warning

The safe use of monopolar electrosurgery requires proper placement of the patient return electrode. To avoid electrosurgical burns beneath the patient return electrode, follow all directions on the product package and the instructions for use for proper return electrode placement and use.

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VLFT10GEN Specifications

General

3.5

Output configuration	Isolated output
Cooling	Natural convection and fan
Display	7 in. LCD touchscreen
Connector receptacles	LED illuminated connector readers on the 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	7.0 in. (17.78 cm)
Width	14.5 in. (35.8 cm)
Length	18.2 in. (46.2 cm)
Weight	22.3 lb. (10.1 kg)

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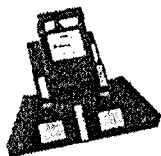
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Hardware Accessories

Footswitches

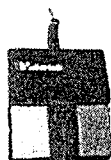
4.1



Monopolar Footswitch

Compatible with all Force™ Series and SurgiStat™ II Generators.

- 4.6m (15ft) cord



Monopolar Footswitch

Compatible with all Force™ Series and SurgiStat™ II Generators.

- 4.6m (15ft) cord

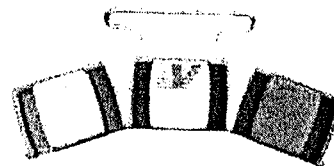
4.2



Standard Bipolar Footswitch

Compatible with all Force™ Series Generators.

- 4.6m (15ft) cord

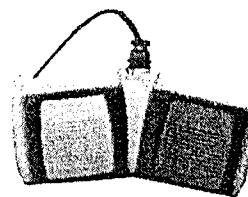


ForceTriad™ Energy Platform Three-Pedal Footswitch

Compatible with ForceTriad™ Energy Platform only.

- Enables foot activation of Cut, Valleylab™ Mode² and Coag
- Activate Valleylab™ Mode² and Force TriVerse™ Electrosurgical Device
- Enables foot activation of Cut and Coag on standard electrosurgical pencils
- 4.6m (15ft) cord

New



Bipolar Resection Footswitch

- Activates the bipolar resection – resection in saline
- 4.6m cord
- To be used with the ForceTriad™ Energy Platform

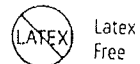
All footswitches are water resistant.

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๑.ลงชื่อ.....ประธานกรรมการ

๒.ลงชื่อ.....กรรมการ

๓.ลงชื่อ.....กรรมการ



GENERATORS AND HARDWARE ACCESSORIES

Hardware Accessories Footswitches



FT6003

1 EACH

ForceTriad™ Energy Platform Three-Pedal Footswitch

Compatible with ForceTriad™ energy platform only

- Enables foot activation of Cut, Volleysafe™, and Coag
- Activates Volleysafe™ and all ForceTriad™ electrosurgery modes
- Enables foot activation of Cut and Coag on powered electrosurgery system
- 4.5 m (15 ft.) cord



FT6009

1 EACH

Bipolar Resection Footswitch

Compatible with the Valleylab™ FT10 and ForceTriad™ Energy platforms

- Activates the bipolar resection resection system
- 4.5 m (15 ft.) cord



E6008B

1 EACH

Monopolar Footswitch

Compatible with SurgiStat™, Valleylab™ FT10 and all Force™ Series generators

- 4.5 m (15 ft.) cord

4.3



LS0300 (PURPLE)

1 EACH

LigaSure™ Single Pedal Footswitch

- 4.5 m (15 ft.) cord



LF0500 (ORANGE)

1 EACH

LigaSure™ Single Pedal Footswitch

Compatible with ForceTriad™ energy platform only

- 4.5 m (15 ft.) cord



E6019

1 EACH

Dome Bipolar Footswitch

Compatible with Valleylab™ and FT10 and all Force™ Series generators

- 4.5 m (15 ft.) cord



E6009B

1 EACH

Standard Bipolar Footswitch (version B)

Compatible with Valleylab™ FT10 and all Force™ Series generators

- 4.5 m (15 ft.) cord

ENERGY PRODUCT CATALOGUE 2018

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๑.ลงชื่อ.....ประธานกรรมการ

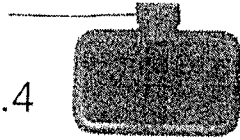
๒.ลงชื่อ.....กรรมการ

๓.ลงชื่อ.....กรรมการ

Ch

Patient Return Electrodes, Non-Sterile, Single Use Corded

4.4



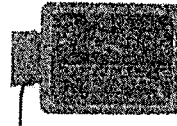
E7507

50 UNITS/CASE

Adult REM PolyHesive™ II Patient Return Electrode

For use with RECOM generators

- For patients: 10 to 15.5 kg
- 2.7 in (70 mm)



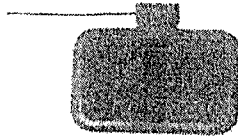
E7510-25DB

25 UNITS/CASE

Infant REM PolyHesive™ II Patient Return Electrode

For use with RECOM generators

- For patients: 10 to 12.5 kg
- 2.7 in (70 mm)



E7507-DB

50 UNITS/CASE

Adult REM PolyHesive™ II Patient Return Electrode

For use with RECOM generators

- For patients: 10 to 15.5 kg
- 2.7 in (70 mm)



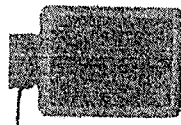
E7512

12 UNITS/CASE

Neonatal REM PolyHesive™ II Patient Return Electrode

For use with RECOM generators

- For patients: 1 to 6.5 kg
- 2.7 in (70 mm)



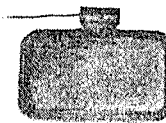
E7510-25

25 UNITS/CASE

Infant REM PolyHesive™ II Patient Return Electrode

For use with RECOM generators

- For patients: 10 to 12.5 kg
- 2.7 in (70 mm)



E7506-

50 UNITS/CASE

Standard Adult PolyHesive™ Patient Return Electrode

For use with non-RECOM generators

May require lead set

- For patients: 10 to 15.5 kg
- 2.7 in (70 mm)

RECOM = Return Electrode Contact Quality Non-Coming

ENERGY PRODUCT CATALOGUE 2018

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๑.ลงชื่อ.....ประธานกรรมการ

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4.5

50 UNITS/CASE

E2516

SOUNDSCAPE

- Staples and the clothing store are not related
- 30% of the cost

$$\begin{aligned}
 & \cdot \text{Stress} \propto \text{strain} \propto (x - x_0) \propto \Delta L \propto \Delta L_0 \propto \Delta L_0 / L_0 \\
 & \cdot \text{Strain} \propto \Delta L / L_0
 \end{aligned}$$

50 UNITS/CASE

E2516H

SOUNDSCAPE

- Standardized structure: four components, each to one page
- Introduction
- Brief history of the group

[illegible]

SOUNDITS/CASE.

E2516H-DA

50 JUNE 2005

- Standard steel reinforcement bars
- H-beams
- 3 or 10 ft long

- $\mathcal{H} = \{ \langle \langle \mathbf{X}_i, \mathbf{Y}_i \rangle \rangle_{i=1}^n, \langle \langle \mathbf{X}_i, \mathbf{Y}_i \rangle \rangle_{i=1}^n \}$
- $\mathcal{H} = \{ \langle \langle \mathbf{X}_i, \mathbf{Y}_i \rangle \rangle_{i=1}^n \}$
- $\mathcal{H} = \{ \langle \langle \mathbf{X}_i, \mathbf{Y}_i \rangle \rangle_{i=1}^n \}$

50 UNITS/CASE

- Strömungs- und Druckverhältnisse
- Höhe
- 4.6 m (110' ca.)

Manuscript accepted 24 November 2010; first published online 25 January 2011

ENERGY PRODUCT CATALOGUE 2018

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๑.ลงชื่อ.....นาย.....ประธานกรรมการ

๒.ลงชื่อ.....กรรมการ

๓.ลงชื่อ.....Ons.....กรรมการ

Electrosurgical Pencils, Sterile, Single Use With Stainless Steel Electrode

E2515HS

25 UNITS/CASE

Rocker Switch Pencil

- Stainless steel hemispherical blade electrode
- AccuVac™ smoke evacuation attachment
- Holder
- 3 m (10 ft) long
- 3.0 x 2.0 x 1.5 mm (0.39" x 0.79" x 0.59")

4.6

E2504

50 UNITS/CASE

Foot Switching Pencil

Not compatible with Safety Sleeve™ electrodes or AccuVac™ smoke evacuation attachment

Requires E9502-1 monopolar adapter

- Stainless steel hemispherical blade electrode
- 3 m (10 ft) long



E2510H

10 UNITS/CASE

Rocker Switch Pencil

- Insulated
- Artbrox™ electrode with 1.0 mm diameter
- Stainless steel
- Total length 21.5 cm (8.5")
- 3 m (10 ft) long
- 3.0 x 2.0 x 1.5 mm (0.39" x 0.79" x 0.59")
- Holder
- 3 m (10 ft) long

E2516HS

25 UNITS/CASE

Button Switch Pencil

- Stainless steel hemispherical blade electrode
- AccuVac™ smoke evacuation attachment
- Holder
- 3 m (10 ft) long

E2504H

50 UNITS/CASE

Foot Switching Pencil

Not compatible with Safety Sleeve™ electrodes or AccuVac™ smoke evacuation attachment

Requires E9502-1 monopolar adapter

- Stainless steel hemispherical blade electrode
- Holder
- 3 m (10 ft) long

Sanitex Inc. 10000 Highway 108

ENERGY PRODUCT CATALOGUE 2018

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๑.ลงชื่อ.....ประธานกรรมการ

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[Handwritten initials]

Electrosurgical Accessories, Non-Sterile, Reusable
Adapters

 $\vdash A(x)$

- Accounts Standardising monthly reports to year to date up to 6mm



LEADS

Compatible with Valleylab® and most electrosurgical generators for foot switching activation

E0005-3C

$$i \in \mathcal{N} \cup \{0\}$$

E0504-2

1 E.4C.1

See Patient Return Electrode Adapter Quick Reference Index on page 37 for a list of compatible generators.



E0507-B

31 AUG 1994

For use with all Valleylab REM-equipped generators

* *Chlorophyll a* and *Chlorophyll b* were determined by the method of Lichtenthaler (1987).

[illegible]

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๓.ลงชื่อ.....กรรมการ

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