

The LigaSure* Vessel Sealing System

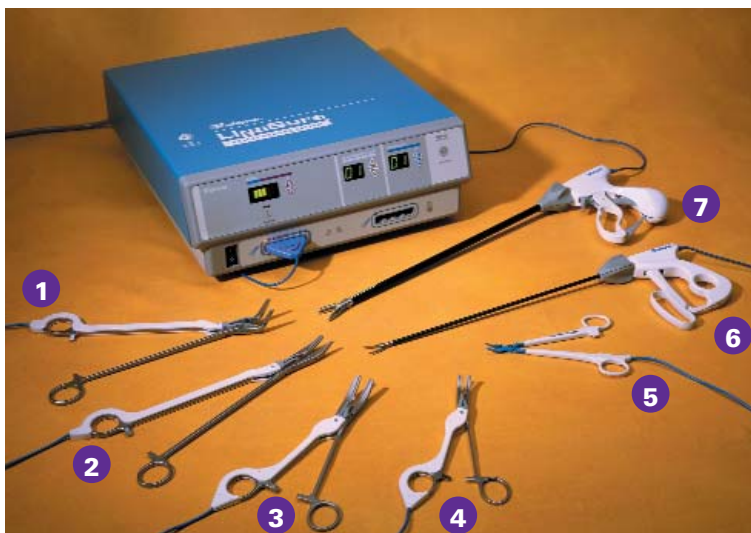
FUSES VESSEL WALLS TO CREATE A PERMANENT SEAL.

Ordering Information

REF	Description	Ordering Quantity
LS1000	LigaSure* Lap single use laparoscopic device, 32 cm	6/case
LS1100	LigaSure Atlas* single use laparoscopic device, 37 cm	6/case
LS1200	LigaSure Precise* single use instrument, 16.5 cm	6/case
LS2070	LigaSure* Std reusable handpiece, 18 cm	1 each
LS2071	LigaSure* Std single use snap-in electrode, compatible with LS2070	12/case
LS2110	LigaSure* Axs reusable handpiece, 27 cm	1 each
LS2111	LigaSure* Axs single use snap-in electrode, compatible with LS2110	12/case
LS3090	LigaSure* Max reusable handpiece, 23 cm	1 each
LS3091	LigaSure* Max single use snap-in electrode, compatible with LS3090	12/case
LS3110	LigaSure* Xtd reusable handpiece, 28 cm	1 each
LS3111	LigaSure* Xtd single use snap-in electrode, compatible with LS3110	12/case
LigaSure	LigaSure* Generator with Instant Response* technology	1 each
LS0200	Sterilizer case for reusable LigaSure* handpieces	1 each

Valleylab's LigaSure* Vessel Sealing System consists of an electro-surgical generator and seven handpieces. The unique energy output fuses vessel walls to create a permanent seal. The LigaSure* Vessel Sealing System seals isolated vessels and tissue bundles in a single application.

- 1 LigaSure* Axs
- 2 LigaSure* Xtd
- 3 LigaSure* Max
- 4 LigaSure* Std
- 5 LigaSure Precise*
- 6 LigaSure* Lap
- 7 LigaSure Atlas*



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LigaSure* Vessel Sealing System



When Edison
invented
the lightbulb, it
revolutionized
the way we see

The LigaSure*
System will
revolutionise
the way you
operate



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Valleylab Introduces Permanent Vessel Occlusion

No matter what vessel, artery, or tissue bundle you're likely to encounter in gynaecologic and general surgery, Valleylab's LigaSure* Vessel Sealing System can seal it. This revolutionary haemostasis product works by fusing the collagen in vessel walls to create a permanent seal.

THE LIGASURE* SYSTEM PRODUCES A CONSISTENT, RELIABLE, PERMANENT SEAL TO VEINS, ARTERIES, AND TISSUE BUNDLES YOU'RE LIKELY TO ENCOUNTER IN SURGERY.

THE LIGASURE* SYSTEM IS A UNIQUE FORM OF ELECTROSURGERY:

- Can be used with confidence on vessels up to 7 mm
- Seals tissue bundles without dissection and isolation
- Causes minimal thermal spread, precisely confining its effect to the target tissue
- The unique energy output results in virtually no sticking

THE LIGASURE* SYSTEM DELIVERS THE BENEFITS OF OTHER HEMOSTASIS TOOLS WITHOUT THE DRAWBACKS:

- Reduced sticking and charring
- Minimised need for multiple applications
- No dislodged clips
- No foreign material left behind



7 mm



6 mm



5 mm



4 mm



3 mm



2 mm



1 mm

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Product line

The LigaSure* Vessel Sealing System includes a generator and a choice of seven instruments.

LigaSure Atlas* NEW!

is a laparoscopic device that seals and divides vessels up to and including 7 mm in diameter and tissue bundles.

LigaSure* Lap

is a single-use laparoscopic instrument for all general and gynaecological laparoscopic procedures.

LigaSure Precise* NEW!

is a single-use instrument specifically designed to provide permanent vessel occlusion to structures that require fine grasping.

LigaSure* Std

is a reusable instrument for all general surgery open procedures.

LigaSure* Max

is a reusable gynaecology instrument for open procedures. The instrument's textured surface provides improved grasping capability for thick tissues.

LigaSure* Axs NEW!

is a reusable instrument that has extra length and angled jaw to allow better access in deep cavities.

LigaSure* Xtd

is a reusable instrument for deep cavity procedures. The longer instrument allows the surgeon to comfortably hold the device outside the surgical site.



Clinical Articles & Presentations

J.S. Kennedy, P.L. Stranahan, K.D. Taylor, J.G. Chandler, "High-burst-strength, Feedback-controlled Bipolar Vessel Sealing", *Surg Endosc* (1998) 12:876-878.

E.D. Crawford, J.S. Kennedy, V. Sieve, "Use of the LigaSure™ Vessel Sealing System in Urologic Cancer Surgery", *Grand Rounds in Urology* (1999), Vol. 1, Issue 4.

S.L. Peterson, P.L. Stranahan, D. Schmaltz, C. Mihaichuk, N. Cosgriff, "Comparison of Healing Process following Ligation with Sutures and Bipolar Vessel Sealing", *Surgical Technology International* (1999).

D.Y. Chan, J.T. Bishoff, L.R. Kavoussi, T.W. Jarrett, "Endovascular Gastrointestinal Stapler Device Malfunction During Laparoscopic Nephrectomy: Early Recognition and Management", *Journal of Urology* (2000).

B.T. Heniford, R.Sing, G. Matthews, F. Greene, "Initial Results with an Electrothermal Bipolar Vessel Sealer", *SAGES Congress* (2000).

B. Levy, "Use of New Vessel Ligation Device during Vaginal Hysterectomy", *FIGO World Congress* (2000).

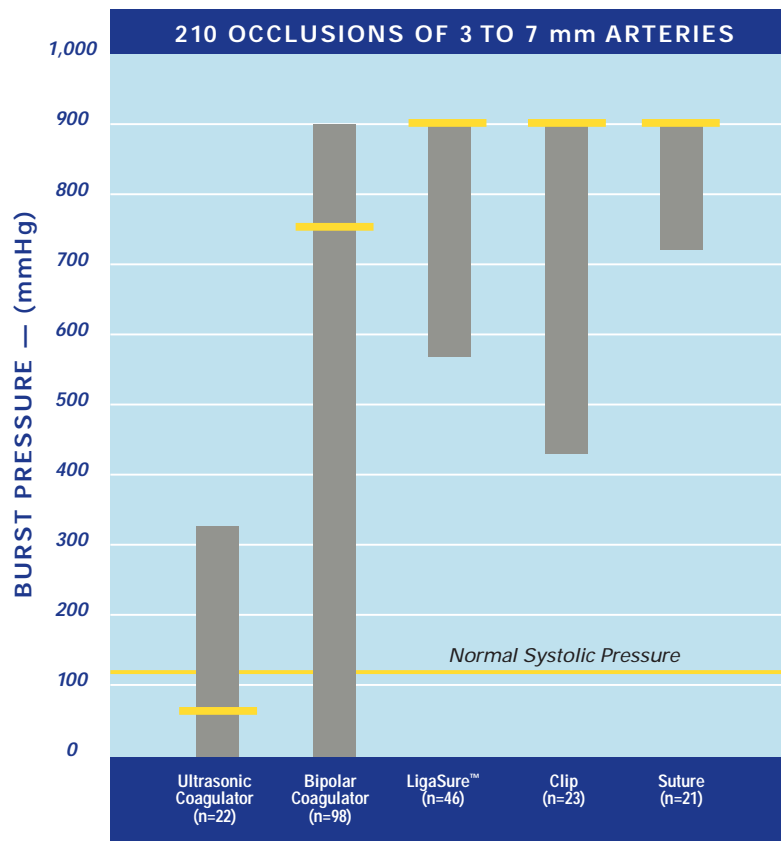
R. McLellan, C. Anania, A. Shapter, A. Dick, J. Hurd, R. Bruno, "Vessel Sealing for Hemostasis during Pelvic Surgery", *FIGO World Congress* (2000).

Increased Burst Strength

Vessel Sealing actually fuses the vessel walls and obliterates the lumen, changing the nature of the tissue. The fusion mechanism results in strong burst strength characteristics in comparison to standard bipolar and ultrasonic coagulating instruments.

THE LIGASURE* VESSEL SEALING SYSTEM:

- Creates seals that can withstand more than 3 times normal systolic pressure
- Gives visual assurance of a successful seal – you may see the tissue’s translucence, indicating no blood flow
- Does not rely on a proximal thrombus



The study showed that the LigaSure* System's burst strength is statistically higher than that of both bipolar and ultrasonics, and statistically comparable to clips and sutures.

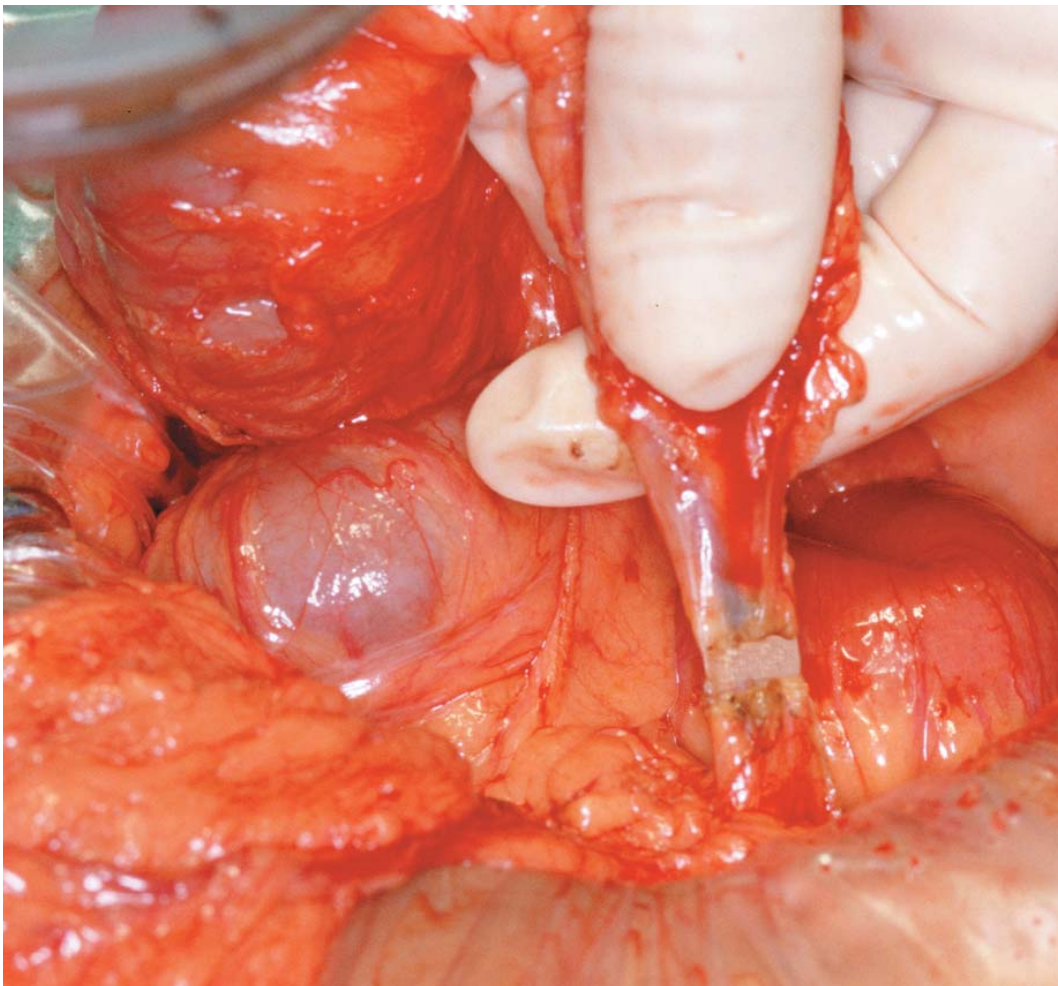
Yellow Bar – Median Burst Pressure
Purple Bar – 95% of sealed arteries burst within this pressure band.

Results of in vitro study comparing ligation techniques on renal arteries*. Seal strength was quantified by measuring the pressure required to burst the occlusion.

* Animal models

Now that's a bright idea.

**Permanent vessel occlusion of any vein, artery,
or tissue bundle you encounter in
surgery.**



Mesentery sealed with the LigaSure® System

Mechanism of Fusion

HOW IT WORKS

Valleylab's patented Instant Response* technology diagnoses the type of tissue in the instrument jaws and delivers the appropriate amount of energy needed to effectively seal it. The patented Smart Generator* technology minimises seal time and maximises reliability.

THE SEAL ZONE:

- Appears as a distinctive, possibly translucent area of reformed collagen
- Has plastic resistance to deformation, making it permanent

THE LIGASURE™ VESSEL SEALING SYSTEM USES STATE-OF-THE-ART BIOMEDICAL ENGINEERING. AN OPTIMISED COMBINATION OF PRESSURE AND ENERGY CREATE THE SEAL.

THE SEAL CYCLE

The seal mechanism uses the body's collagen to actually change the nature of the vessel walls and obliterate the lumen. The collagen and elastin within the tissue melt and reform to create the seal zone



Longitudinal sections of carotid arteries*: (left) Artery sealed with the LigaSure™ Vessel Sealing System. The fused lumen indicates the seal, stopping blood flow. (right) Artery coagulated using standard bipolar. The lumen is open and a proximal thrombus is present.



The seal zone. Note the fused lumen of the vessel walls.

H & E stained longitudinal section of sealed renal artery*.

* Animal models

Advantages of the LigaSure Systems

REDUCED THERMAL SPREAD

Vessel sealing produces significantly reduced thermal spread compared to existing bipolar instruments. The LigaSure* System precisely confines its effects to the target tissue or vessel with virtually no charring, and with minimal thermal spread to adjacent tissue.

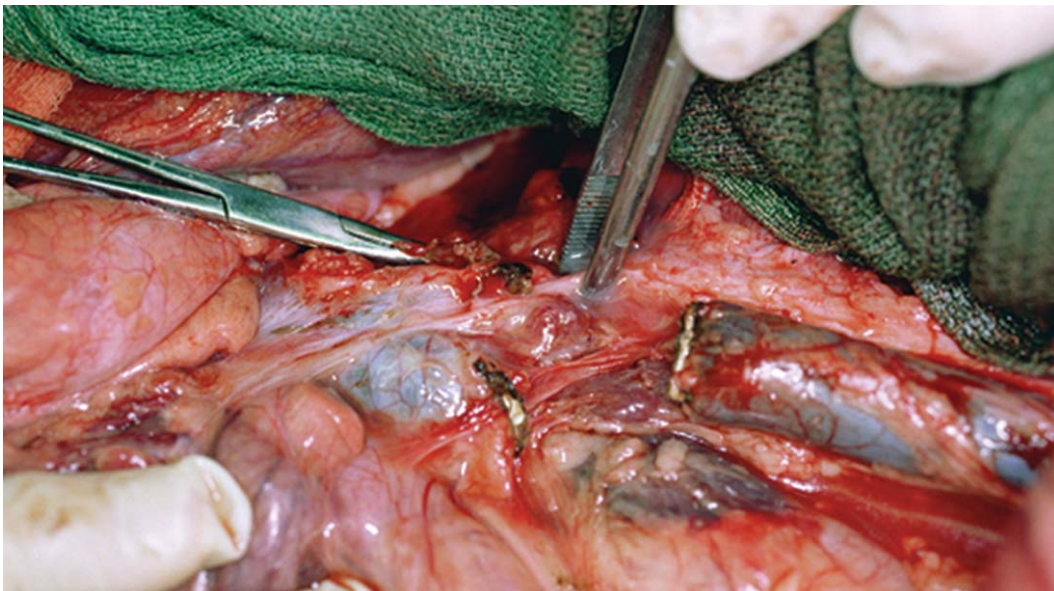
LEAVE NOTHING BEHIND BUT THE SEAL

The LigaSure* System leaves no foreign material behind to potentially interfere with future diagnosis. The system uses the body's own collagen to reform the tissue, creating a permanent seal which resists dislodgement.

NO MORE AWKWARD SUTURING

Some surgical procedures make sutures a tedious option. Vessel sealing may save critical time because each seal cycle takes only seconds to complete.

THE LIGASURE* SYSTEM REPLACES VIRTUALLY ALL OTHER HEMOSTATIC DEVICES – YOU ONLY NEED ONE INSTRUMENT FOR AN ENTIRE PROCEDURE.



Sealing of an Inferior Vena Cava (porcine animal model).