



**ENERTECH**

**Vessel Sealing Systems  
Electro Surgical Generators**



**....Setting The Highest Standards**







## Company Profile

### Welcome to ENERTECH

Enertech healthcare is the market leader and leading manufacturer of Electrosurgical, Endoscopy and LED operation lights in India. Enertech healthcare is a division of Enertech Pvt. Ltd, established in 1988. Enertech healthcare is well- known for its high quality products, practical usability and commitment for delivering the best prices you can find anywhere. It's cost-effective prices leads the way in the International market and it endeavors to become the “hidden champion” among the global manufacturers. Enertech's products are also sold in many countries across the world.

The strength of organization is in it's strong “Research and developments “ capabilities. The group of engineers work together to develop products which are easy to use, having excellent performance and reliability.

The amazing results are the creation and expertise in three broad division of Surgical products like :-

- Electro- Surgical Division: - covering Vessel Sealing system, Electrosurgical generators.
- Endoscopy division: - Consisting of Co2 insufflators, LED Light Source etc.
- LED Operation Theater lights division.

Enertech has been providing the Electrosurgery products where performance, precision and versatility really matters!!! The Endoscopy products are fully featured and compact. The LED operation theater lights are very powerful, with pure white sunlight color temperature, high Intensity lights and wide selection range.

We welcome you to evaluate our products and join our large list of esteemed customers and distributors.



The Chairman and MD of Enertech - Mr. Chetan Shah receiving rare and prestigious honorary award from Dr. Shankar Dayal Sharma-President of India, at Raj Bhavan, Governor's palace, for excellent contribution to India in the field of Research Development and Manufacturing.



### Certificates



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## Vessel Sealing Systems

With Real Time Tissue Impedance measurement Technology



Enertech Vessel Sealing system gives you something that no other electro-surgical tool can- permanent vessel occlusion. This revolutionary technology replaces almost all other hemostatic tools because it doesn't just ligate vessels, it actually fuses vessel walls to create a permanent seal.

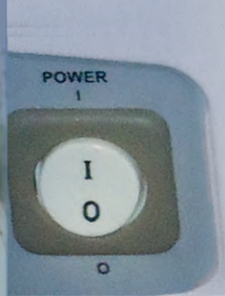
Across the range, Enertech Vessel Sealing technology delivers a unique combination of pressure and energy to create a consistent seal with each application :-

- Shorter operating time - Save almost upto 75 % operating time.
- Permanently fuses vessels upto and including 7mm diameter and tissue bundles without dessication or isolation.
- Faster and safer patient recovery.
- Seals withstand 3 times normal systolic blood pressure .
- Uses bodies own collagen, no requirement to insert foreign material into patient body which can cause complications.
- Feedback controlled response system automatically discontinues energy delivery when the seal is complete, eliminating the guess work.

Each of the devices comprises with high power and low voltage bipolar mode and specialist instruments that combine tissue compression with tissue heating to produce hemostasis in veins or a bundle of tissue.

The Product is delivered through a variety of Instruments for use in both Laparoscopic and open procedures in a range of surgical specialties, including gynecological, colorectal, urology and general surgery.





# Vessel Sealing Systems

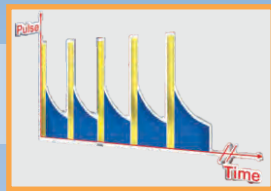
## Fast Seal Plus

### Real Time Tissue Impedance Measurement With Auto - Stop

During the sealing process, the Impedance of the tissue changes. The machine constantly adjusts and changes the power delivery waveform in direct accordance to this change in tissue impedance and stops power delivery automatically on reaching at a pre-determined optimum end - point. The power delivery ends with a stop in audible sound indicating that the sealing has been successfully achieved.

### Self Test On Power

Whenever the unit is switched on, the machine performs a self-test.



### Endo cut mode Time-controlled cutting mode

### Dual functionality advantage

Take advantage of vessel sealing function with other advantages of top end electro surgical units combine. The same systems performs procedures like hysterectomy along with other regular under water surgeries and those requiring Endo - cut functionality. These features are available in Maxseal and Fast Seal Plus Models



### Outputs

- ✓ Four Monopolar cut mode
- ✓ Three Monopolar coagulation mode
- ✓ Bipolar cut, Bipolar coagulation with Auto start / Auto Stop
- ✓ Sealer Mode

## Technical Specification

99 Programs Memory Display	: Graphical LCD
Dimension (W x H x D)	: 300mm x 150mm x 340mm
Weight	: 5.5 Kg.
Manufactured and tested	: IEC 601-1 / EN60601-1 acc. to std.
Input Supply Voltage	: 230 VAC + 15% @ 50/60 Hz (110 V optional.)

## Technical Specification

### Monopolar Mode :-

#### Cut

Mode	Max. Power Watt	Operating Frequency
Pure cut	400 W	480 khz
Blend 1	250 W	480 khz
Blend 2	200 W	480 khz
Endocut	99 W	480 khz

#### Coag

Mode	Max. Power Watt	Operating Frequency
Spray	120 W	480 khz
Fulgurate	150 W	480 khz
Dessicate	150 W	480 khz





## Vessel Sealing Systems

### Best in class sealing performance

Enertech systems offers best in class performance with superior sealing quality at lower and optimum power and thermal levels. The seals are safer, more white, stronger and easy to dissect.



Sealing Performance

### Lowest Lateral Spread and safer and more white seal

The premium quality of machine and instruments ensures that the system offer lowest lateral spread, causing less thermal spread and causing lower levels of charring and dessication. This also ensures a better quality white seal, and least damage to tissue with faster recovery.



Lowest Lateral Spread and safer and more white seal

### Accessories contact quality detection System

Be assured of the proper functioning of the accessories with constant detection and indication of accessories conductivity. The display indicates failure in case of compromised functioning or deterioration.

## Vessel Sealing Instruments

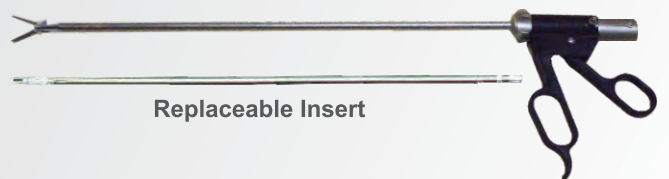


Fig. 1 :The example above shows two parallel sealing actions performed on a tissue bundle. As can be seen,the sealing process changes the nature of the tissue, which typically takes on a parchment-like appearance.



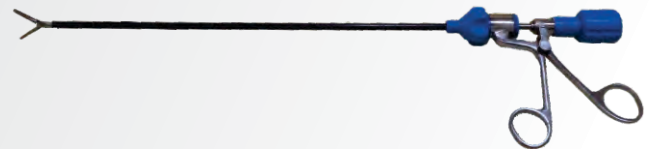
Fig. 2 : The sealed tissue bundle shown in Fig. 1 is simply cut off with a pair of surgical scissors, without any need for additional ligatures or clips.

### Reusable 5.5 mm Laparoscopy Instrument with Replaceable insert German Quality



Replaceable Insert

### Reusable 5.0 mm Laparoscopy Instrument without Replaceable insert



### Reusable Biclamp for Open Surgery



## Technical Specification

### Bipolar Modes:-

Mode	Max. Power Watt	Operating Frequency
Bi-Coag	120 W	480 khz
Bi-Cut	120 W	480 khz

### Sealer Mode

Mode	Max. Power Watt	Operating Frequency
Seal	150 W	480 khz



# Vessel Sealing Systems

## Maxseal

- Touch Screen operation.
- Patient plate conductivity monitoring system (PP - CMS)
- Accessories contact detection during plug-in and operation
- Multiple Modes - 1 Pure Cut, 1 Precise Cut, 5 Blend, 3 Endo Cut, 2 Spray, 2 Fulgurate, 1 Dessicate
- 1 Bi-Cut, 2 Bi-Coag and 1 Seal Mode
- 100 Programs memory



## Technical Specification

100 Programs Memory	: Touch screen
Interface	: 300mm x 150mm x 340mm
Dimension (W x H x D)	: 5.5 Kg
Weight	: IEC 601-1 / EN 60601-1 acc. to std.
Manufactured and tested	: 230 VAC + 15% @ 50/60 Hz (110 V optional)
Input Supply Voltage	

## Monopolar Modes:

Mode	Max. Power Watt	Rated Load (Ohms)	Program	Operating Frequency
Pure Cut	400 W	500	100	480 khz
Precise Cut	300 W	500	100	480 khz
Blend 1	250 W	500	100	480 khz
Blend 2	225 W	500	100	480 khz
Blend 3	200 W	500	100	480 khz
Blend 4	175 W	500	100	480 khz
Blend 5	150 W	500	100	480 khz
Endo Cut 1	150 W	500	100	480 khz
Endo Cut 2	100 W	500	100	480 khz
Endo Cut 3	75 W	500	100	480 khz

Mode	Max. Power Watt	Rated Load (Ohms)	Program	Operating Frequency
Coarse Spray	120 W	500	100	480 khz
Fine Spray	100 W	500	100	480 khz
Coarse Fulgurate	150 W	500	100	480 khz
Fine Fulgurate	150 W	500	100	480 khz
Dessicate	150 W	500	100	480 khz

## Bipolar Modes :

Mode	Max. Power Watt	Rated Load (Ohms)	Program	Operating Frequency
Bi - Cut	120 W	500	100	480 khz
Macro	120 W	500	100	480 khz
Micro	80 W	500	100	480 khz

## Sealer Mode :

Mode	Max. Power Watt	Max. Short Circuit Current	Peak to Peak Voltage	Operating Frequency	Crest Factor
Seal	150 W	4.4 Amps	700 (350)	480 khz	1.5

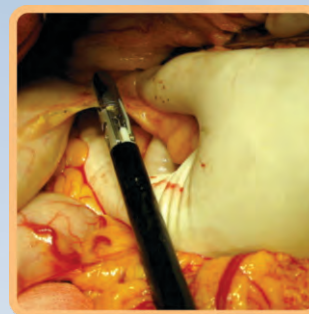


Illustration of Vessel Sealing





# Vessel Sealing Systems

## Ligaseal



- SURGERY:16  
ABDM.HCTOMY-1  
ABDM.HCTOMY-2  
ABDM.HCTOMY-3
- SURGERY:17  
U.HCTOMY(UH)-1  
U.HCTOMY(UH)-2  
U.HCTOMY(UH)-3
- SURGERY:18  
APPNDECTOMY-1  
APPNDECTOMY-2  
APPNDECTOMY-3

## Technical Specifications

Display	: Graphical LCD Display
Dimension (W x H x D)	: 290mm X 110mm X 300mm
Weight	: 3 kg
Keyboard	: Feather Touch
Manufactured and tested	: IEC 601-1 / EN 60601-1 acc. to std.
Input Supply Voltage	: 230 VAC + 15% @ 50/60 Hz (110 V optional)

### Sealer Modes :

Mode	Max. Power Watt	Max. Short Circuit Current	Peak to Peak Voltage	Operating Frequency	Crest Factor
Soft	150	4.4 Amps	560 (280)	480 khz	1.5
Force	150	4.4 Amps	700 (350)	480 khz	1.5

**23 Procedures selection menu.**

**Specific modulated outputs for all procedures across all specialities for unmatched superior performance.**

### Bipolar Modes :

Mode	Max. Power Watt	Max. Short Circuit Current	Peak to Peak Voltage	Operating Frequency	Crest Factor
Bi-Coag	120	2.2 Amps	560 (280)	480 khz	1.5
Bi-Cut	120	2.2 Amps	620 (310)	480 khz	1.5

## Bisealer



## Technical Specifications

Display	: 7 segment LED
Dimension (WxHxD)	: 290 mm x 110 mm x 300 mm
Weight	: 3 kg
Keyboard	: Feather Touch
Manufactured and tested	: IEC 601-1 / EN 60601-1 acc. to std.
Input Supply Voltage	: 230 VAC + 15% @ 50/60 Hz (110 V optional)

### Sealer Modes :

Mode	Max. Power Watt	Max. Short Circuit Current	Peak to Peak Voltage	Operating Frequency	Crest Factor
Soft	150	4.4 Amps	560 (280)	480 khz	1.5
Force	150	4.4 Amps	700 (350)	480 khz	1.5

### Bipolar Modes:

Mode	Max. Power Watt	Max. Short Circuit Current	Peak to Peak Voltage	Operating Frequency	Crest Factor
Macro	120	2.2 Amps	560 (280)	480 khz	1.5
Micro	80	2.2 Amps	480 (240)	480 khz	1.5
Force	120	2.2 Amps	620 (310)	480 khz	1.5



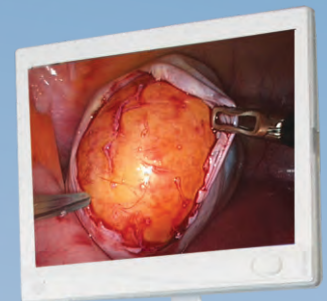
# Electro Surgical Generators

Latest Generation Technology ..... Reliability and High Performance

Enertech providing it's widest range of high performance state of the art COST EFFECTIVE Electro Surgical Generators available today in the market. The machines come with Instant Tissue response technology and Tissue impedance measurement systems. These models offer top of the line features like 99 program modes, multiple blend modes, endocut facility, best monopolar cutting and coagulation performance with precision controlled bipolar output and host of safety features with adherence to EC 60601 guidelines. The range also includes low cost analog models for price conscious customers.

Names of Model	Max. RF PowerWatt	Program	Cut Mode				Coag Mode				Bipolar Mode			
			Pure Cut	Blend 1	Blend 2	Endo Cut	Spray	Fulgurate	Dessicate	Single Mode	Micro	Macro	Cut	Single Mode
Maxima*	400	100	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-
Victor XL Plus	400	99	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-
Victor XL	400	20	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-
Ensurg 400 Pro	400	20	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-
Ensurg 400	400	- NA	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-
Ensurg SSE - TUR Plus	400	- NA	✓	✓	✓	-	✓	✓	✓	-	-	-	-	✓
Ensurg 300	300	6	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	-	-
Simplex - 300	300	- NA	✓	-	-	-	-	-	-	✓	-	-	✓	✓

( Note : For Maxima multiple modes are available for more detail please go through the Technical Specification. )



Fastseal Plus ←

Ensurg 400 Pro ←

LED Light Source ←

Co2 Insufflator ←







# Electro Surgical Generators

## Maxima

Touch Screen operation, patient plate conductivity monitoring system (PP-CMS). Accessories contact detection during plug-in and operation. Multiple Modes - 1 Pure cut , 1 Precise Cut , 5 Blend , 3 Endo Cut, 2 Spray, 2 Fulgurate , 1 Dessicate, 1 Bi-cut, 2 Bi- coag modes & 100 programs Memory.

### Technical Specifications :-

Max Power	: 400 W
Interface	: Touch Screen
Programs	: 100
Monopolar Cut Modes	: 2 Cut, 5 Blend, 3 Endo Cut
Monopolar Coagulation Modes	: 2 Spray, 1 Dessicate, 2Fulgurate
Bipolar Modes	: 1Bi-Cut, 2 Bi-Coag
Tissue Response Circuit	: Present
Patient Plate Monitoring System	: Present
Dimension (WxHxD) & Weight	: 300mm x 150mm x 340mm &5.5kg



## Victor XL Plus

Victor XL Plus is a top of the line micro controller based model with 99 programs, high speed tissue response circuit and host of modes and superior bipolar performance for the customers who demand the best.



Max Power	: 400 W
Display	: 7 Segment Digital
Programs	: 99
Monopolar Cut Modes	: Pure Cut, Blend1, Blend2, Endo Cut
Monopolar Coagulation Modes	: Spray, Dessicate, Fulgurate
Bipolar Modes	: Micro, Macro, Cut
Tissue Response Circuit	: Present
Patient Plate Monitoring System	: Present
Dimension (WxHxD) & Weight	: 300mm x 150mm x 340mm & 5.5 Kg.

### Technical Specifications

## Victor XL

Victro XL is a high performance micro controller based model With 20 programs with host of features and modes for all around superior capabilities. This is the right model for the customers who require all the features and controls at a reasonable price.

### Technical Specifications :-

Max Power	: 400 W
Display	: 7 Segment Digital
Programs	: 20
Monopolar Cut Modes	: Pure Cut, Blend1, Blend2, Endo Cut
Monopolar Coagulation Modes	: Spray, Dessicate, Fulgurate
Bipolar Modes	: Micro, Macro, Cut
Tissue Response Circuit	: Present
Patient Plate Monitoring System	: Present
Dimension (WxHxD) & Weight	: 300mm x 150mm x 340mm & 5.5 Kg.





# Electro Surgical Generator

## Ensurg 400 Pro

Ensurg 400 Pro is a micro controller based model with all the required features. Full power output at low cost. This is the right model for the customers who required basic 400W micro controller based model with 20 programs.

### Technical Specifications :-

Max Power	: 400 W
Display	: 7 Segment Digital
Programs	: 20
Monopolar Cut Modes	: Pure Cut, Blend1, Blend2, Endo Cut
Monopolar Coagulation Modes	: Spray, Dessicate, Fulguration
Bipolar Modes	: Micro, Macro, Cut
Tissue Response Circuit	: Present
Patient Plate Monitoring System	: Present
Dimension (WxHxD) & Weight	: 300mm x 150mm x 340mm & 5.5 Kg.



## Ensurg 400

Ensurg 400 is a micro controller based model with all the required features. Full power output at low cost. This is the right model for the customers who required basic 400W micro controller based model.



Max Power	: 400 W
Display	: 7 Segment Digital
Programs	: NA
Monopolar Cut Modes	: Pure Cut, Blend1, Blend2, Endo Cut
Monopolar Coagulation Modes	: Spray, Dessicate, Fulguration
Bipolar Modes	: Micro, Macro, Cut
Tissue Response Circuit	: Present
Patient Plate Monitoring System	: Present
Dimension (WxHxD) & Weight	: 300mm x 150mm x 340mm & 5.5 Kg.

### Technical Specifications

## Ensurg SSE - TUR Plus

Ensurg SSE- TUR is a 400W analog model with number of cut, blend and coagulation modes with to do under water surgery. This is the model with all around capabilities and simple of operation . It is the lowest cost model in similar class available today in the market.

### Technical Specifications :-

Max Power	: 400 W
Programs	: NA
Monopolar Cut Modes	: Pure Cut, Blend1, Blend2
Monopolar Coagulation Modes	: Spray, Dessicate, Fulguration
Bipolar Modes	: Coag
Tissue Response Circuit	: NA
Patient Plate Monitoring System	: Present
Dimension (WxHxD) & Weight	: 300mm x 150mm x 340mm & 5.5 Kg







# Electro Surgical Generator

## Ensurg 300

Ensurg 300 is micro controller based model with 6 programs, best price performance ratio in similar class of generators offered by other manufactures and can be widely used in procedures including urology , GI, Gynecologic, Orthopedic, Thoracic and Plastic Surgery.

### Technical Specifications :-

Max Power	: 300 W
Display	: 7 segment Digital
Programs	: 6
Monopolar Cut Modes	: Pure Cut, Blend 1, Blend 2, Endo Cut
Monopolar Coagulation Modes	: Spray, Dessicate, Fulgurate
Bipolar Modes	: Micro, Macro
Tissue Response Circuit	: Present
Patient Plate Monitoring System	: Present
Dimension (WxHxD) & Weight	: 300mm x 150mm x 340mm & 5.5 Kg.



## Simplex - 300

Simplex 300 is a 300W analog model with basic cut, coag and bipolar modes with capability of doing most of the surgeries with lowest price



Max Power	: 300 W
Programs	: NA
Monopolar Modes	: Cut, Coagulation
Bipolar Modes	: Cut, Coag
Tissue Response Circuit	: NA
Patient Plate Monitoring System	: NA
Dimension (WxHxD) & Weight	: 3.5" x 13" x 12" & 3 Kg.

### Technical Specifications

## STANDARD ACCESSORIES

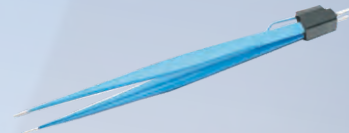
Monopolar Double Pedal Footswitch  
/ Bipolar Single Pedal Footswitch



Patient Plate with Cable Cord  
Autoclavable



Bipolar Forcecup Autoclavable with cable



Chuck Handle with Electrodes  
Autoclavable



Disposable Hand Switch Pencil -  
Imported







# ENERTECH

## LED OT Lights



## Our Other Products :

### ...Setting The Highest Standards



## CO2 Insufflator



## LED Light Source

## Endoscopy Products



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