



## BRUDER LAPAROSCOPY

### ENDO-TEST UNIT & TESTING INSTRUCTIONS

With the rapidly increasing use of electrosurgical instrumentation during laparoscopic procedures, the risk of injuries to patient and surgeon has multiplied. Many surgeons, familiar to open surgery, often do not appreciate that laparoscopic procedures, employing high-frequency current, require different waveforms and techniques. This oversight has led to many injuries with severe legal consequences.

**BRUDER has been at the forefront of creating safer electrosurgical instrumentation for laparoscopic procedures. Based on over 20 years of experience, we have developed and produced laparoscopic generators and many safety innovations in collaboration with leading laparoscopic surgeons.**

The ENDO-TEST was developed as a simple portable testing device for use in the sterile operating room field or in the instrument cleaning and maintenance departments.

The ENDO-TEST is a 9 volt battery Insulation and Continuity Tester that will aid in determining whether the insulation integrity of the laparoscopic instrument is in good condition or in need of insulation repair. It will also help the surgeon select the proper wave form, which is even more important.



LIST NO. ARO5685

ALSO AVAILABLE:  
ENDO-TESTER W/ CABLE  
TESTER  
ARO5686



#### ENDO-TEST UNITS:

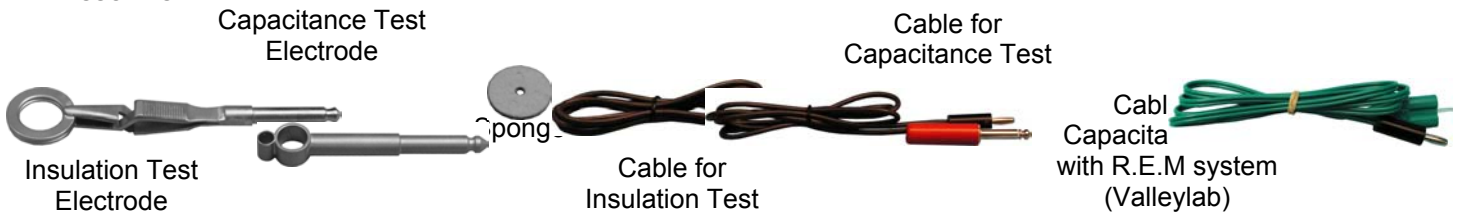
LIST NO.	ENDO-TEST UNIT
<b>ARO5685</b>	COMPLETE PACKAGE INCLUDES: AUTOCLAVABLE TEST ELECTRODES (CAPACITANCE TEST & INSULATION TEST); 3MM SPONGES (5), 5MM SPONGES (5) & 10MM SPONGES (5); TEST CABLES (INSULATION TEST & CAPACITANCE TEST). *PLEASE SPECIFY CABLE FOR VALLEYLAB UNITS IF REQUIRED – ORDER EXTRA
<b>ARO5686</b>	ENDO-TEST UNIT WITH MONOPOLAR & BIPOLAR CABLE TESTER CIRCUIT COMPLETE PACKAGE INCLUDES SAME AS #ARO5685 PLUS ADAPTERS & CABLE REQUIRED FOR CABLE TEST

#### ACCESSORIES:

<b>ARO568501</b>	ELECTRODE FOR CAPACITANCE TEST
<b>ARO568502</b>	ELECTRODE FOR INSULATION TEST
<b>ARO568503</b>	5 MM SPONGE INSERT FOR INSULATION TEST (10/PKG.)
<b>ARO568504</b>	10 MM SPONGE INSERT FOR INSULATION TEST (10/PKG.)
<b>ARO568505</b>	TEST CABLE FOR INSULATION TEST WITH 4 MM FEMALE CONNECTOR
<b>ARO568506</b>	TEST CABLE FOR CAPACITANCE TEST WITH ¼" PHONO PLUG
<b>ARO568507</b>	*TEST CABLE FOR CAPACITANCE TEST FOR VALLEYLAB UNITS
<b>ARO568508</b>	3 MM SPONGE INSERT FOR INSULATION TEST (10/PKG.)

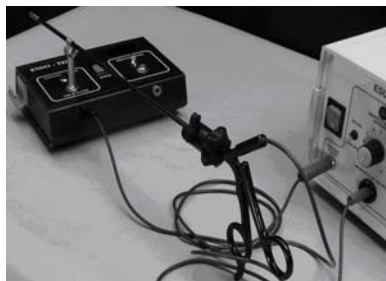
# ENDO-TEST UNIT TESTING INSTRUCTIONS

## ACCESSORIES:



## !!! IMPORTANT !!!

Instrument insulation must be inspected visually for damages.  
Insulation test with the Endo-Test Unit is intended as an aid to visual inspection.



## THE ENDO-TEST SERVES TWO DISTINCTIVE TEST PURPOSES:

- A) INSULATION INTEGRITY TEST
- B) PROPER WAVEFORM TEST

### A) INSULATION INTEGRITY TEST:

1. Slide the **sponge** into the **insulation test electrode** by pressing the middle part of the electrode using the thumb and the index finger.
2. Moisten the sponge with water and squeeze out excess water. Insert the **insulation test electrode** into the aperture labeled as "Insulation Test" on the **Endo-Test Unit**.
3. Take the **insulation test cable** and insert the **male banana** end into the red socket located at the front end of the **Endo-Test Unit** and connect the female end of the cable on to the Endoscopic Instrument (the instrument which needs to be tested).
4. Switch **ON** the **Endo-Test Unit**.
5. Slowly insert the Endoscopic Instrument tip first through the **sponge**. There will be a sharp BEEP when the metal tip passes through the sponge. Slide the entire length of the instrument through the **sponge** slowly and evenly. (Make sure the shaft is in constant contact with the sponge.)

**NOTE:** A sharp beep sound at the insulated section of the instrument indicates bad insulation. No beep sound indicates that the instrument's insulation is in working order.

**REMINDER:** Replace sponge if the hole gets enlarged or elongated.

### B) PROPER WAVEFORM TEST:

1. Plug the **capacitance test electrode** into the **Endo-Test Unit** side marked "Capacitance Test." Connect the black male plug of the capacitance test cable into the black socket on the front side of the **Endo-Test Unit**. Plug the other side of the cable into the patient plate output socket of the generator being used as the power source in the test. (Units with R.E.M. patient plate circuit require cable #ARO568507 – not part of the system package.)
2. Connect the instrument to be used and tested to your ESU with your connecting cable. **Important:** Make sure the instrument being used in the test does not have defective insulation.
3. Switch **ON** the **Endo-Test Unit**.
4. Set your monopolar intensity to the level you would use in the surgery. Activate your generator on the monopolar mode.

**NOTE:** A sharp BEEP sound from the **Endo-Test Unit** at the insulated section of the instrument indicates the wattage level is too high. (High excess voltage is being produced and is leaking through the insulation. This is very dangerous. It can cause patient burns around the trocar sleeve or in proximity to other instruments.) Adjust the intensity setting down on the generator to where no alarm sounds. No BEEP sound indicates that the appropriate wattage has been selected. There is no stray RF leakage through the insulated shaft of the instrument.

Save and buy direct from the manufacturer.  
We design, manufacture & sell the tools the surgeons use.

BRUDER specializes in the design and manufacture of new and innovative instruments, the repair of all competitive products and a fast turn-around time on repairs.



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