VIEWLIGHT
POWERED BY INNOVATION

Bipolar Cautery

MANUAL

BP-200

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Before use this instrument, be sure to read this manual

PRODUCT DESCRIPTION

Diathermy is the treatment process by which cutting, coagulation, etc…, of tissues are obtained. When high frequency current is applied, heating of the tissue take place.

During the passage of high current through the tissue, the tissue is heated locally. So that the tissue is melted instantaneously and sealing of the capillary and other blood vessels is taking place. Thus the coagulation of the tissues takes place.

The use of high frequency current is to avoid the intense muscle activity and the electrocution hazard which occurs if low frequencies are used.

Coagulation:

When the electrode is kept near the skin, high frequency current is sent through the tissue in the form of bursts and heating it locally so that it coagulates from inside.

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QUALITY, RELIABILITY AND SAFETY

The Instrument is designed to perform as per the declared Intended for use with safer and reliable.

- Electrical installation of the room or building in which the equipment is to be used must comply with regulations specified by the country in which the equipment to be used as well the specified in the specification.
- The repair / service will be taken care by a qualified technical person **from factory**
- Read and follow the instructions, caution and warnings before installing the Instrument.

WARNING

Warnings are intended to alert you to importance of following the correct operating procedures where risk of injury to the patient or system user exits.

- No modification of this equipment is allowed.
- Use only the type of power source that indicated on label.
- Connect the Equipment to properly grounded power outlets.
- Unplug the Equipment before servicing / cleaning it.
- Confirm the AC power cord meets the relevant local safety standards.
- Don't use damaged power cord.
- Only trained personal service / handle the equipment.
- Remove the plug of Equipment from wall outlet before changing the Fuse.
- Check the electrical connections periodically; any defects noticed, like loose connections, damaged to insulation in the electrical wires etc., should be rectified immediately.
- To avoided risk of electric shock this Instrument must be connected to supply mains & Protective earth.

Calibration process

If the customer needs any calibration please send the equipment for calibration purpose.

CLEANING THE EQUIPMENT

Caution:	To avoid electric shock, do not remove the cover. Ask the serviceman to repair the instrument.
Note:	Do not wipe the parts with volatile solvent. To prevent the plastic parts from discoloring or deteriorating, do not use benzine, thinner, ether or gasoline. When the external cover or operation panel is stained, wipe it with a dry cloth at regular interval.

⚠ IMPORTANT SAFETY & MAINTENANCE INSTRUCTIONS

Maintenance by user

- Bipolar Coagulator is an electric instrument. Use this instrument according to the instruction manual
- Handle the Equipment carefully.
- Before switch off, turnoff regulator.
- Cover the Equipment when not in use.
- Don't spill liquid into the Equipment.
- Don't use any hazardous solvents to clean the optics and parts.
- When using the instrument after a prolonged period of inactivity, confirm normal and safe operation beforehand
- Please kept standby Instrument in case of failure of Coagulation so that it can be used to continue the Coagulation
- The operators are instructed not to touch the footswitch and the patient simultaneously.
- Forceps & Forceps Cord must clean after surgery before sterilization.
- Forceps must sterilization before surgery
- Forceps cord must kept in pharmalin chamber before and after surgery.
- Unplug the Equipment and refer servicing to qualified service personnel under the following condition
    - If the product isn't able to use after done all the troubleshooting in this manual.
    - If the liquid has been spilled into the optics / Equipment.
      If the product has been exposed to rain or water.

SAFETY PRECAUTIONS

Safety pointers for the manual and the device described therein are depicted according to the following categories. Carefully read these sign codes & follow them when necessary.

The following code categories describe the degree of danger or damage likely to be incurred in the event of user error made in ignorance of these codes.	
	This symbol is placed on bulb housing part to indicate that they may be hot. Allow sufficient time to cool before touching the parts or changing the bulb. In the event of user error, it is possible to injury.
 **WARNING**	In the event of user error, death or serious injury is Possible
	This icon denote cautions
	This icon represents the productive earth
	This icon represents Alternating current
	This icon represents the power switch is turned OFF
	This icon represents the power switch is turned ON
	Equipotential Connection
	Type B applied part
LABELING INFORMATION	
SN	Number following this symbol indicate the serial number of the Equipment
REF	Character following the symbol indicate the catalog number of the Equipment
Classification	CE-Regulation 2007/42/EEC - Class IIB

Disposal

Dispose of the instrument according to local disposal and recycling laws.

⚠ CAUTION FOR USE

Cautions are intended to alert you to importance of following the correct operating procedures where risk of injury to the patient or system.

Do not handle the plug with wet fingers (To avoid electric shock)

The operators are here by instructed not to touch the equipment and the patient simultaneously.

GENERAL SPECIFICATION

Equipment classification

Mode of operation : Intermediate
Degree of mobility : Portable

Type of protection against
Electrical shocks - Class I (IEC 60601-1)

Degree of protection against
Electrical shocks - Type 'B'

Power Requirements

AC Input	I/P: 110V AC /220V AC, 60Hz / 50Hz
Fuses	1A Slow Blow
Power Consumption:	25W

Safety Rules:

The series family ultrasound machines are designed to comply with the following safety aspects.

- Leakage current to ground less than 0.5mA in normal condition.
- Leakage current to ground less than 1.0mA in single fault condition.
- Isolation voltage between ground and mains wires greater than 1500V.

Emission and susceptibility requirements for class A. equipment as per IEC 60601-1-2 standards.

ENVIRONMENTAL CONDITIONS FOR USE

Operating Temperature: 0°C ~ 50°C

Humidity : 35% ~ 95% (without dew condensation)

Air Pressure : 700kPa ~ 1060hPa

STORAGE, USAGE PERIOD AND OTHERS

1. Environmental conditions for installation (without package)
   Temperature: -5°C ~ 50°C

   Humidity : 30% ~ 95% (without dew condensation)

   Air Pressure : 700kPa ~ 1060kPa

2. When storing the instrument, ensure that the following conditions are met.
   a) The instrument should not be splashed with water.

   b) Store the instrument where air pressure, temperature, humidity, ventilation, sunlight, dust, salty/sulfurous air, etc. do not give any negative side effect.

   c) Do not store or transport the instrument on a slope or uneven surface or in an area where it is subject to vibrations or instability.

   d) Do not store the instrument where chemicals are stored or gas is generated.

ENVIRONMENTAL CONDITIONS FOR PACKAGING IN TRANSPORTATION

Temperature : -20°C ~ 70°C

Humidity : 10% ~ 95%

TECHNICAL SPECIFICATION

Bipolar Coagulator is compressed a solid state circuitry. It will work under wet field. So It is called wet field bipolar coagulator. It has the following features.

Features:

- Operates under wet field.
- LED indicator for power output during operation.
- Disposable / autoclavable cords for use of forceps, erasers.
- Wide selection of bipolar forceps and hemostatic erasers to facilitate most ophthalmic surgical procedures.
- It operates 110V / 220V, 60 Hz ,50HzAC power supply.

Electrical Input : 220V / 110V AC, 50Hz . 60 Hz
Power level indicator – Green LED*

Test Completed : EMI / EMC Compiled as per IEC 60601-1-2:2007
General Safety: IEC 60601-1:2005

INSTRUMENT DIMENSIONS

Height : 85 mm
Width : 190 mm
Depth : 170 mm
Weight : Net – 1.470* Kgs ,
Gross – 2.510 *Kgs (Approximately)

Standard Accessories : Forceps Card – 2 No's
Forceps – 1 No
User's Manual
Optional Accessories at Extra Cost : Forceps, erasers

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*Specifications and design are subject to change without notice for improvement.

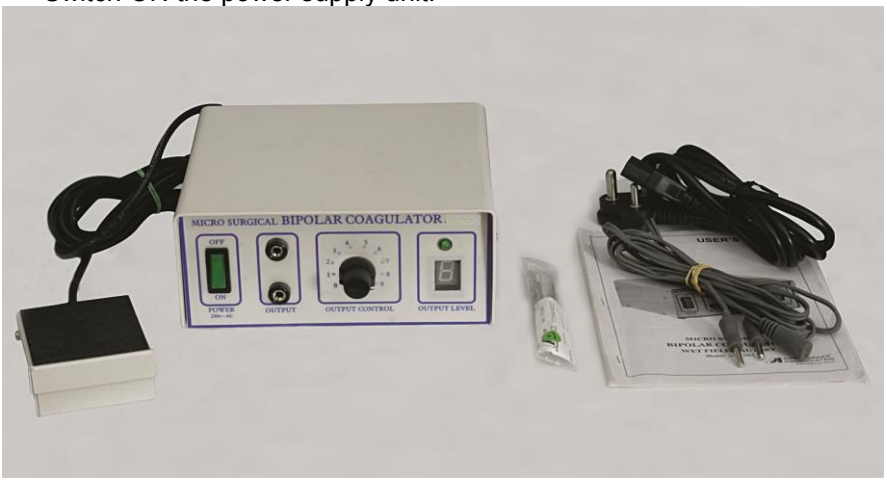
UNPACKING & INSTALLATION

Unpack the Instruments and save all packing materials. They are specially designed to protect the Instrument and will make repacking easy if you ever need to ship your Bipolar Coagulator

INSTALLATION

- The initial installation will be done by Trained Engineers only.
  Nobody is authorized to install the Medical Equipment except factory Engineers.

- Connect the Output of the power supply to the Bipolar Coagulator.
- Ensure the intensity control in minimum position.
- Connect it to supply mains.
- Do not position the medical equipment to make it difficult to operate the disconnection devices. (appliance coupler)
- Switch ON the power supply unit.



Bipolar Coagulator

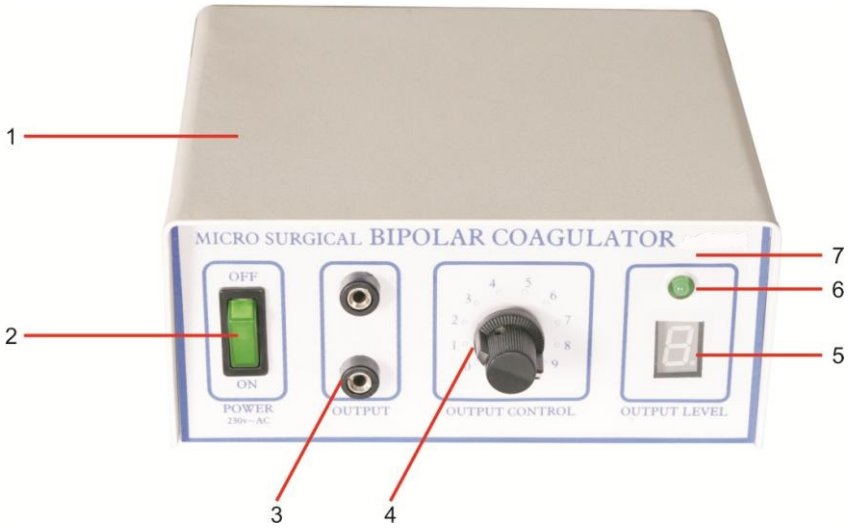
1. Foot Switch
2. Forceps
3. Forceps Card
4. Power Card
5. User's Manual

Power Cord:

For use of equipment in rated voltage less than 125VAC, 10A, Type SJT, 18/3 AWG, max 3.0 m long, One end with Hospital Grade Type, NEMA 5-15P plug and other end with appliance coupler, with Ground Reliability Marking.

PART NOMENCLATURE

BIPOLAR COAGULATOR



Front View

Back View

Foot Switch

Part List

1. Outer Cover
2. ON/OFF Switch
3. Output Pins
4. Output Control Knob
5. Output Level Display
6. Output Indicator
7. Front Cover
8. Fuse Holder
9. AC Inlet
10. Buzzer Volume Control Knob
11. Back Cover
12. Connection to Foot switch

FUNCTION OF THE PARTS

Power:

This is the power ON / OFF switch located left extreme of the front panel.

Output:

This two insertion points are used to insert forceps while surgery, using by the surgeon. These are in front side of the panel.

Output Level:

It is a seven segment display, to display the output power level. It is located at the right extreme of the front panel. One GREEN LED located above the seven segment display, to display output delivery.

Output Control:

It is a rotary step switch used to set the power output level desired by the surgeon.

Input:

This is the input of the power supply. Connect the AC power cord from wall AC outlet.

Fuse Holder:

It is located at the rear side of the panel.

Buzzer Volume Control Knob:

This control knob used to adjust the buzzer volume. It is located at the rear side of the panel.

OPERATING PROCEDURES

- Connect the AC power cord to 230V 50 Hz Ac Power supply.
- Connect the output cord into connector socket.
- Connect the forceps (or) eraser into the cord.
- Switch ON the power.
- Output level indicator indicates present power setting.
- Set the output control knob into desired power level.
- Press the Foot Switch, to check the output, (The GREEN LED indicates output delivery and also hear the buzzer sound) by using wet cotton or wet soap.
- During surgery, bring the two electrodes of the forceps as close as possible (without contacting them). Then only it delivers maximum preset power.

TROUBLE SHOOTING

WARNING:	To avoid electric shock, do not attempt disassembling, rebuilding and/or repairs on your own. Ask your dealer or company service personnel for repairs.
WARNING:	To avoid electric shock, do not remove the covers or open the equipments.

When any trouble occurs, review the check list below.

If, after following the instructions below, you still cannot restore the instrument to a normal condition or if the problem does not fall into any of the categories below, contact your dealer or your nearest regional office of Appasamy Associates.

Problem Reported	Possible Causes and Remedy
➢ Instrument does not function on switching power ON	❖ Check the power input to the equipment. ❖ Disconnect the equipment from outlet and check the fuse. If fuse needs replacing and blows immediately on reconnection do not replace again.
➢ GREEN LED not glow when pressing the foot switch	❖ Check the foot switch
➢ LED glows when pressing the foot switch, but no output power when testing the forceps under wet cotton	❖ Check the cord or change the cord ❖ Change the forceps

SCHEMATIC Diagram

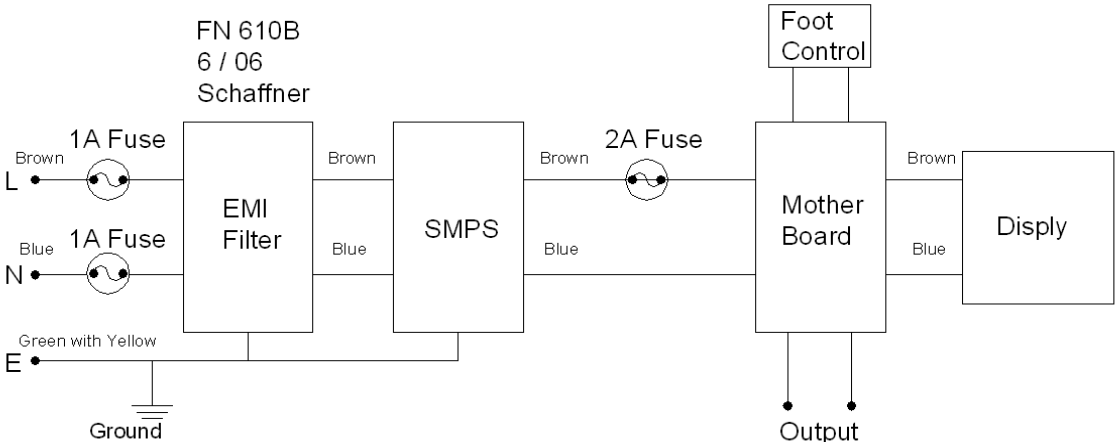
WARNING

Refer to the rating plate for voltage and check that the Equipment voltage corresponds to the supply voltage.

Important: Wire color code defined as follows

From Main Line to Input of Power Supply:

Red Wire - Line, Black Wire - Neutral, Green Wire - Earth
All other wires color are indicated in the below Schematic diagram.



FUSE REPLACEMENT

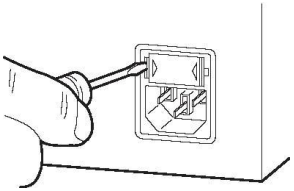
The power supply fuses are located at the rear of the power supply assembly.

First disconnect the mains power from your Indirect ophthalmoscope.

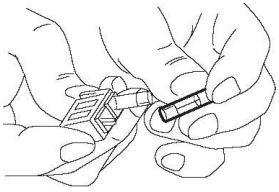
- ☞ Having first disconnected your indirect ophthalmoscope from the mains power supply, remove the fuse holder assembly by pull out the holder or by using external tools.
- ☞ Carefully withdraw the holder from the power supply.
- ☞ A visual inspection will indicate a blow fuse, or a circuit continuity tester may be used.
- ☞ Replace the blown fuse.
- ☞ Replace the fuse holder.
- ☞ Re-connect the mains power to the Slit Lamp, switch ON and check the bulb glow.

1 Make sure that the power of the instrument is OFF and then unplug the power cord.

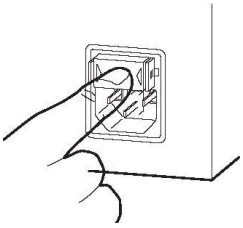
2 Push the claws at the both ends of fuse holder with a slotted screwdriver and remove the fuse holder.



3 Replace the fuse with a new accessory fuse.



4. Push in the fuse holder until "click" is heard



WARRANTY AND LIMITATION OF LIABILITY

factory Warrants that our equipment BIPOLAR COAGULATOR is free from manufacturing defects in material or workmanship for a period of **ONE YEAR** from the date of installation.

Terms and Conditions:-

1) The failure of electrical and components like bulb, Switch etc., are not covered by this warranty.

2) Warranty becomes void in the following cases,

   - If the equipments is modified and or serviced by persons not authorized by factory
   - If the equipments is handled / used by persons other than qualified ophthalmologist or technicians.
   - In case damages occurred due to accident, negligence and power fluctuations.
   - In case of improper handling and improper maintenance of equipments.

Disposal: Dispose of the instrument according to local disposal and recycling laws

	This symbol is applicable for EU member countries only. To avoid potential negative consequences for the environment and possibly human health, this instrument should be disposed of (i) for EU member countries - in accordance with WEEE (Directive on Waste Electrical and Electronic Equipment), or (ii) for all other countries, in accordance with local disposal and recycling laws.

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Caution: (Federal) Law restricts the device to only sale by or on the order of the Physician or Practitioner