



Western Surgical

SHORTWAVE DIATHERMY UNIT USER MANUAL



Western Surgical
AN ISO 9001 : 2008 CERTIFIED COMPANY

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GENERAL INFORMATION

The Short-wave diathermic current is a High-Frequency alternating current which usually has a frequency of 27, 120,000 cycles per second and sets up wireless waves with a wave-length of 11 meters. The intensity of the current can be great enough to produce a direct heating effect on the tissues, similar to the heating effect of the current on any other conductor, and the term diathermy means 'through heating'.

The Principal effect of the short-wave diathermic current on the body is the production of heat in the tissues and the physiological effects result from the rise of temperature. Rise in temperature induces relaxation of muscles and increases the efficiency of their action. The increases blood supply ensure the optimum condition for muscle contraction.

Short-wave diathermy may be of value in the treatment of bacterial infections such as boils, carbuncles and abscesses. It is found that a mild degree of heating is effective in relieving pain presumably as a result of a sedative effect on the sensory nerves.

TECHNICAL SPECIFICATIONS

	GALVOTHERM 250 (TABLE)	GALVOTHERM 500 (TROLLEY)	GALVOTHERM 500 PULSE (TABLE)	GALVOTHERM 1000W PULSE (TROLLEY)
POWER OUTPUT	250W	500 W	500 W	1000 W
FREQUENCY	27.12 Mhz	27.12 Mhz	27.12	27.12 Mhz
WAVELENGTH	11 Meters	11 Meters	11 Meters	11 Meters
OPERATING MODE	CONTINUOUS	CONTINUOUS	CONTI. & PULSE	CONTI. & PULSE
SUPPLY	220-240 VAC,50/60Hz	220-240 VAC,50/60Hz	220-240 VAC,50/60Hz	220-240 VAC,50/60Hz
FUSE	5 A	10 A	5 A	10 A
H.F.SOURCE TUBE	VACCUM TUBE	VACCUM TUBE	VACCUM TUBE	VACCUM
TIMER	DIGITAL	DIGITAL	DIGITAL	DIGITAL
DIMENSION	40x28x30cm	45x40x80cm	40x28x30cm	45x40x80cm
WEIGHT	14 KG	30 KG	14 KG	30 KG

NOTE : PULSE MODES: 20, 50, 100, 150,200

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STANDARD & OPTIONAL ACCESSORIES

STANDARD

1. A pair of pads with cable, felt & cover (5" x 8")
2. Power cord
3. Operating Manual
4. Patient Handswitch (Only for Trolley Model Units)

OPTIONAL

1. Mobile Trolley with shelf.
2. Small Pad with felt & cover (3" x 5") with cable
3. Long Pad with felt & cover (4" x 14") with cable
4. Disc Electrodes with Arms & supports
5. Sinus Pad with cable
6. Rectal/Vaginal electrode with cable

OPERATING FEATURES

1. **ON / OFF Switch** : A toggle switch is provided on front panel of the equipment either 'ON' or 'OFF' position. It must be on 'OFF' position when the equipment is not in use. Red Lamp indicates the presence of main supply and the equipment is 'ON'.
2. **Main Socket (3 pin)** : Power cord is to be connected with it, to give mains supply to the equipment.
3. **Timer** : Indicates treatment time in minutes.
4. **Power Control** : To regulate the intensity of power output.
5. **Tuning Control** : To match the impedance of the equipment and patient's body, to achieve max-power output resonance point.
6. Instrument cooling fan is provided to increase life of the valve tube & equipment.

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TECHNIQUE OF OPERATION

1. Connect the Power cord to the equipment.
2. Make sure that ON / OFF switch is in the 'OFF' position.
3. Turn Power regulator to Minimum position.
4. Connect the two cables of pads to the output terminals of the side panel of the equipment.
5. Put mains ON / OFF switch to 'ON' position
6. Turn Timer clockwise to the desired time interval treatment time
7. Turn power regulator clock wise till desired power output is selected.
8. For the selected power, tune it for maximum reading on the meter (for Resonance) to get maximum power output.
9. After the completion of operation, keep mains ON / OFF switch to 'OFF' position, turn the power regulator to its minimum position.
10. PULSE DIATHERMY MODE: First set required power control setting, tune it in continuous mode then put 'ON' to pulse mode.

PULSED SHORTWAVE DIATHERMY:

PULSED SHORTWAVE DIATHERMY employs the same operating frequency as traditional SWD ie. 27.12 Mhz. The output from the machine is pulsed such that the 'on' time is considerably shorter than the 'off' time, thus the mean power delivered to the patient is relatively low even though the peak power (i.e. during the on pulses) can be quite high (peak power goes up to 500W/1000W)

ADVANTAGES

With regular continuous SWD the patient gets heating effect continuously at one position/area only and in some cases the patient may get overheated, due to which the particular area becomes red. Unknown to the patient does not know about its dosage. In Pulse Diathermy the patient gets pulsed heat at the required level of pulsed, hence the possibility of excess heat, over dosage is avoided.

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APPLICATIONS

Shortwave diathermy has several applications including treatment of Bursitis, Capsulitis Fractures Osteomyelitis injuries, Strains, Sprains and Dislocations Branchial Plexus Neuritis, Fibrositis Myositis, Myalgia, Rheumatism, Varicose, Ulcers, Sinusitis, Otitis media etc.

PRECAUTIONS

In order to obtain deep heating it is necessary to avoid overheating the skin, as the resulting sensation of warmth limits the current tolerated. In most cases the aim is to achieve as even a field as possible in the deep and superficial tissues. Both electrodes should be of the same size. If they are of different size they form a condenser with different sized plates and different quantities of electricity are required to charge them to the same potential. This puts an uneven load on the machine and may give rise to difficulties in tuning.

The position of the electrodes should be chosen with the aim of directing the electric field through the structure to be treated.

Metallic parts, rings, chain, watch, ornaments etc. must be removed at the time of treatment near the treatment area.

The two cables of pads should not cross each other during treatment and patient should be standstill throughout the treatment time. If a lead approaches very close to the patient's tissues, heat is produced in the area and may be sufficient to cause a burn. The action of cardiac pace makers, hearing aids and other electronic devices may be effected disturbances up by the short wave diathermic current. Patients with such devices should not be treated with short-wave diathermy or allowed to come in close proximity to the apparatus. Leads may be damaged by over heated if they are allowed to make contact with a conductor and should there be break in the continuity of the wire or a crack in an electrode, sparking may occur with consequent overheating.

The heating of the tissues by the diathermic current causes dilatation of blood-vessels, so it should not be employed directly

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after an injury or in any case where haemorrhage has recently occurred. Diathermy should not be applied to parts which have a defective arterial blood supply. Diathermy should be applied to the abdomen or pelvis during pregnancy. It is safer to avoid the application of diathermy to areas where there is loss of skin sensation. Shortwave diathermy should not be applied in the region of malignant growths.

This devitalizes the tissues and renders them more susceptible to damage. So shortwave diathermy should not be applied to areas recently exposed to therapeutic dose of X-rays. It is unsafe to apply short-wave diathermy to patients who are unable to understand the degree of heating required and the necessity of reporting if it should become excessive. For this reason small children and mental defectives are not suitable for treatment. Similarly it is not safe to treat unconscious patients or those who are liable to lose consciousness, such as epileptics.

IMPORTANT PRECAUTIONS

1. Make Sure that vacuum tube is fixed properly in the socket and not damaged in transit, please open the back cover & check the same .
2. The equipment is to be used on 220-240 V.A.C. Mains supply .
3. The user should make sure of the available mains supply before connecting the equipment and ensuring the proper earth (ground) point of mains supply.
4. In the event of any fault whatsoever in the operation of the equipment being discovered , the equipment should not be used till the fault is removed. Increases in intensity from zero position should be done carefully till the user become familiar with raising currents. These would avoid unpleasant current intensity being given to the patient.
5. To avoid voltage fluctuation problem voltage stabilizer of 1 kva with automatic cut of on HV side must be used with this equipment.
6. Write us giving the model and serial number of the equipment with fullest possible details or whenever service required .

OUR RANGE OF ELECTROMEDICAL EQUIPMENT

- Electrosurgical Diathermy Micro Controller Based Solid State (200, 300 & 400W)
- Aerosol Disinfectant/ FOGGER ULV
- Formalin Vaporisers
- Suction Apparatus
- Vertical Autoclaves
- CTG - NST unit
- LED Spot light
- Halogen Spot Light
- Fetal Dopplers
- Vascular Doppler
- Cervical (Hot) Cautery
- Portable Cryo Surgery
- Electroskin Cautery Unit
- Premature Baby Incubators
- Radiant Heat Warmer
- Mobile Phototherapy Unit
- Foot - Suction
- Shortwave Diathermy
- Ultrasonic Therapy Unit
- Muscle Stimulators
- Electronic Traction Unit
- C.P.M.
- Interferential Therapy
- T. N. S. (Tense)
- Paraffin Wax Bath
- Portable Shoulder Wheel
- Portable IR / UV Lamp
- Slimming Units

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7.3 WARRANTY CERTIFICATE

western surgical product is warranted to be free from electrical and mechanical defects in material and workmanship, under normal use. The western surgical product must not have been moved from the site of original installation. A new or remanufactured part to replace the defective part will be provided without charge for the part itself, through an authorized western surgical service dealer. The replacement part assumes the unused portion of the warranty.

WESTERN SURGICAL WILL NOT BE RESPONSIBLE FOR:

1. Damage or repairs required as a consequence of faulty installation or application by others.
2. Damage or repairs needed as a consequence of any misapplication, negligent handling, improper servicing, unauthorized alteration, or improper operations.
3. Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service.
4. Damage as a result of floods, winds, fires, lightning, accidents, corrosive atmosphere, or other conditions beyond the control of western surgical
5. Parts not supplied or designated by western surgical.

Date of Installation	Installed By
Model No.	Serial No.
Warranty Period	
Name of Doctor & Address :	

Customer Sign. With Stamps

Marketed By: Western Surgical
Sign. With Stamps

No Claim Warranty :

- 1) Any Defect Throughtout Power Supply
- 2) Any Physical Damage

3) Under Warranty Standby Unit Not Provide

4) Under Warranty When Company Send Parts or Machine we Imidiat send to Buyer.

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OUR OTHER PRODUCTS RANGE



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