

emotion tecar

BEYOND HEAT



Therapeutic Effectiveness
Repeatability
Safety

www.fremslife.com



fremsLife
technology for health

STATIC ELECTRODES

Thanks to the technology that assures the above performance, **emotion tecar** allows static electrodes to be applied safely.



It is possible to carry out **treatments which are operator independent** and increase the **productivity** of the Centre, reducing the time spent by the operator next to the patient.

It is possible to carry out **treatments on the spinal column** with the patient in supine position, particularly indicated in acute conditions



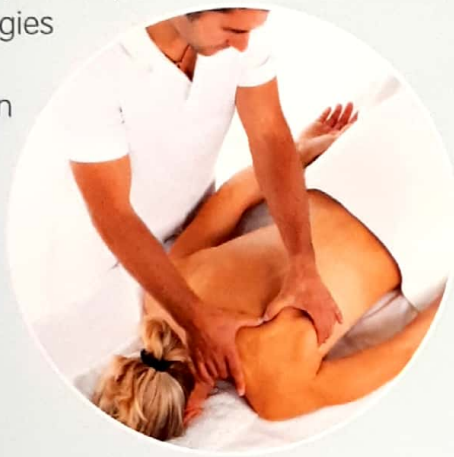
It is possible to carry out a complementary treatment between **manual therapy**, both active and passive, and the **instrumental therapy**



emotion tecar in:

PHYSIOTHERAPY

- Osteoarticular pathologies
- Shoulder, ankle, knee, spine
- Painful pathologies
- Arthrosis and lower back pain



MANUAL THERAPY AND OSTEOPATHY

POST-SURGICAL REHABILITATION

- Re-absorption of oedema
- Pain reduction
- Improvement of wounds and scars
- Stimulation of the healing of ligaments and tendons
- Increase in bone calcification



SPORT MEDICINE

- Muscle oxygenation
- Post-race recovery (lactic acid removal and other build-up from the muscle)
- Quick elimination of contractures
- Particularly suitable in the treatment of sprains, strains, tendinitis, capsulitis, bursitis, pubalgia, haematoma, oedema, meniscal and ligament injuries, distortions, dislocations and fractures



AESTHETIC MEDICINE

- Post-surgical scars

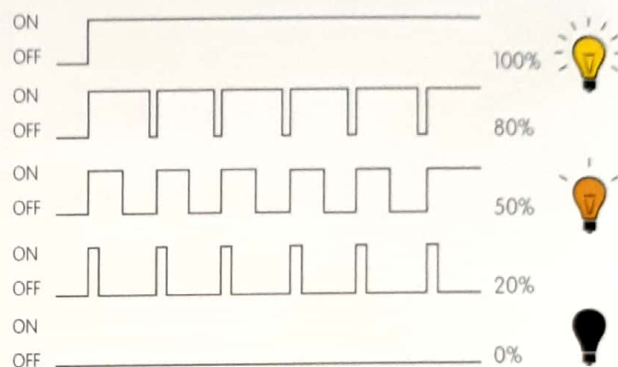
EXCLUSIVE TECHNOLOGIES of *e*motion tecar

PWM TECHNOLOGY

(Pulse Width Modulation)

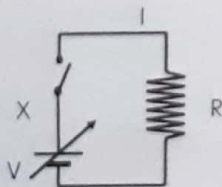
it is a square wave with constant repetition frequency and variable duration (duty cycle) that makes it possible to control, with extreme precision, the power absorbed by an electric load (the treated tissues), varying (modulating) the duty cycle.

SQUARE WAVE DUTY CYCLE



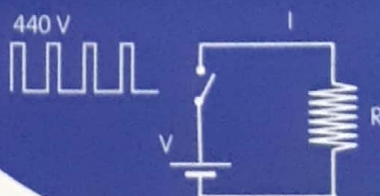
Conventional Tecar devices

To increase the power, resistance (of the tissues) being equal, it is required to increase the voltage applied, but the biological response of the tissues varies with the voltage, which should be kept constant. Furthermore, the increase in voltage leads to an increase in the electrical current, which however generates heat dissipation at the skin level. Since this heat is often unbearable to the patient, the operator is forced to limit the levels of power applied, decreasing the voltage, and consequently affecting the biological effect on tissues and the therapeutic efficacy.



PWM TECHNOLOGY *e*motion tecar

THE DEVICE WORKS AT THE MAXIMUM AND CONSTANT VOLTAGE, IN THE OPTIMAL CONDITIONS FOR INTERACTION WITH TISSUES, BUT IN AN INTERMITTENT MANNER. THE AVERAGE POWER IS THEREFORE ADJUSTABLE BY VARYING THE DURATION OF THE EMISSION PERIOD (DUTY CYCLE).



The **PWM TECHNOLOGY** drastically reduces power dissipation, thus allowing the generation of heat to be kept in check at an acceptable level for the patient, without limiting the average power delivered. In this way, by controlling the heat input associated with the biostimulation effect, which is always there, the operator can selectively promote the vasomotor phenomena which are secondary to thermal input, maximizing interaction with the tissues and the therapeutic effect. Thus, "**cold stimulation**" treatments are possible alongside traditionally thermal ones.



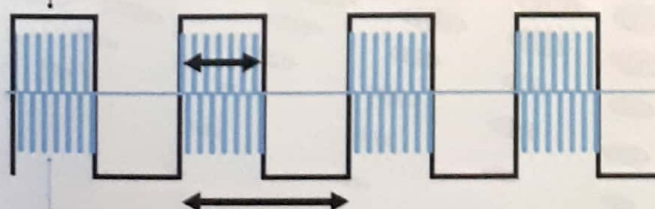
PEMF TECHNOLOGY

(Pulsed Electro Magnetic Field)

The emitted PWM signal is over-modulated with a low frequency signal (hundreds of Hz). This promotes the respiratory mechanisms of the cells, increasing the metabolic reactions and releasing substances (fibroblasts) that stimulate tissue repair processes (Nikolaev 1984).

SECONDARY MODULATION

(300 Hz)



PRIMARY MODULATION

(450 KHz)

PHASE LOCK TECHNOLOGY

Through a special circuit, the working frequency automatically adjusts ($\pm 10\%$) to the tissue impedance variations in order to maintain an optimal sinusoidal wave for better energy transfer.

TRANSDERMAL VEHICULATION OF ACTIVE PRINCIPLES

The voltage applied by **emotion tecar** makes it possible to exploit the skin electroporation phenomenon to promote the absorption of active principles by the tissues underlying the treated area. This is in fact actual mesotherapy, but the one provided by **emotion tecar** affords a more consistent distribution of the active principle across the treated area and better absorption of the same through appropriate control of the delivered power.

e-motion tecar

mod. MT100

SPECIFICATIONS	
Power Supply	100 - 240 Vac, 500 VA
Outputs	4 - neutral - dynamic electrodes (res/cap) - static electrodes (res/cap) with automatic identification
Working Frequencies	2 Frequencies (450 KHz and 680 KHz)
Output Power	350 W RMS capacitive 250 W RMS resistive
Power setting (duty cycle)	0-100% in 1% steps
Safety	Check of output current parameters, patient electrode contact, system abnormalities, causing automatic discontinuation of treatment upon exceeding safety limits
Dimensions	H=210, L= 430, D=400 (mm)
Weight	12 Kg
Colour Touch Display	7"



FUNCTIONAL FEATURES

- Instantaneous power measurement
- Instantaneous impedance measurement
- Duty Cycle Control: 5-100%, 1% steps
- PEMF (Pulsed Electro Magnetic Field) Mode
- Phase Lock Mode
- Automatic protocols of use and customizable programs.

ACCESSORIES

Kit of Capacitive Electrodes

- Short stylus Capacitive Handpiece
- Kit of Capacitive Electrodes
ø20-40-60-80 mm

Kit of Resistive Electrodes

- Short Stylus Resistive Handpiece
- Kit of Resistive Electrodes
ø20-40-60-80 mm

Kit of Static Electrodes:

- Large Static Capacitive Electrode
- Small Static Capacitive Electrode
- Spinal Static Capacitive Electrode
- Large Static Resistive Electrode
- Small Static Resistive Electrode
- Spinal Static Resistive Electrode

Kit of Neutral Electrodes:

- Neutral plate with cable
- 15 Disposable Return Electrodes
- 2 Elastic Bands (1500 mm-600 mm)
- Patient safety button
- 3 tubes of cream (1 Kg)