



# fisioline **RADIANT**<sup>®</sup>

MONOPOLAR - BIPOLAR - TRIPOLAR SYSTEMS  
for T.E.C.A.R. Therapy



# fisioline RADIANT®



## DESIGN AND TECHNOLOGY R&D FISIOLINE® Manufacturers of advanced Technologies for over 30 years

**FISIOLINE RADIANT®** is the latest **Fisioline®** innovation in the field of **T.e.c.a.r. Therapy**, derived from **over 30 years of scientific research, design and made in Italy production** at the forefront in the field of electromechanical Physical Therapy.

As a result of dynamic and constantly evolving path, **Fisioline®** is **renowned nationally and internationally** in Physical and Rehab therapy Centres, Multispecialty Centers and Clinics, Nursing Homes and Residential Care Facility, Hospital facilities, Sports Medicine Institutes, Sports club.

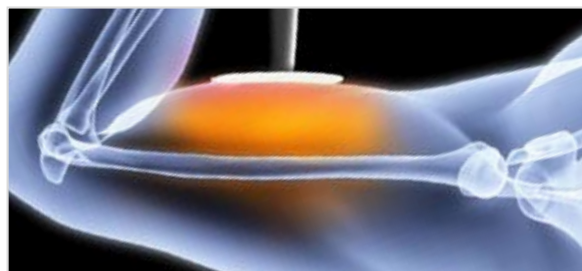
**FISIOLINE RADIANT®** is a **radiofrequency generator** which administers energy via the passing of an electrical current with **monopolar, bipolar and tripolar, capacitive or resistive effects**.

The basic principle of radiofrequency is **heat induction by means of the administration of electromagnetic waves** to stimulate natural rehabilitation and anti-inflammatory processes within biological structures.

Applying energy to biological tissue at a correct intensity, one can obtain **charge mobilisation by induction**, similar to that which takes place in a **physical capacitor model**. This is a device made up of two metal components (plates) separated by insulating material (dielectric).

Using a **CAPACITIVE electrode (INSULATED ceramic crystallization)** charge movement and concentration develops mainly in the underlying surface facing the insulated disc.

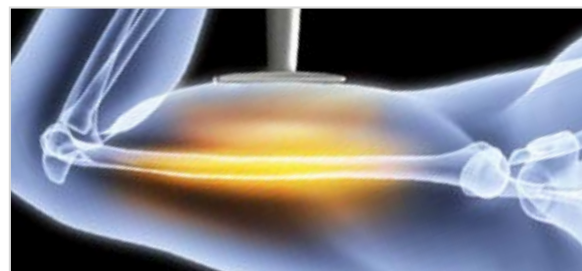
Using a **RESISTIVE applicator (NOT INSULATED)**, with the same output power, charge movement is obtained in the areas of tissue with higher resistance between the disc and the return electrode. These locations are generally bones, tendons, ligaments and muscle-tendon areas.



### CAPACITIVE MODE

Medium-low levels: Acute Pathologies – muscular traumatology – edema treatment  
Higher levels: Chronic pathologies  
Pain treatment

**The different modes of thermal energy generation and transmission**, capacitive and resistive, related to the target tissue typology and to the therapeutic objectives, **allow the therapist the optimal ways to use the analgic, trophic and mechanical properties of the checked administration of the heat**, in the different phases post-traumas until the complete functional and anatomical recovery.



### RESISTIVE MODE

Osteoarticular pathologies  
General and Sports traumatology  
Arthrosis – enthesitis  
Tendinitis – Capsulitis – Bursitis

# TRIPLE effectiveness

MONOPOLAR - BIPOLAR - TRIPOLAR



## Resistive Bipolar and Tripolar handpieces

An exceptional feature of Fisioline Radiant® are the circular and sphere resistive bipolar handpieces and the tripolar handpieces. Fisioline Radiant® has been one of the first devices for T.e.c.a.r. Therapy to opt for resistive bipolar handpieces. This application technique, which does not require the reference electrode, allows to define the treated area with resistive method. Pathologies such as Achilles tendonitis, patellar tendonitis, temporomandibular dysfunction can be treated by concentrating the energy exclusively on the affected area. In the same way, with this method, it is possible to treat areas of the body such as the head and the neck which are untreatable with the monopolar method.

Fisioline Radiant® allows to opt for tripolar resistive handpieces as an alternative to resistive bipolar handpieces that, in particular applications, allow to optimize the distribution of the energy.



RESISTIVE BIPOLAR SPHERE HANDPIECE



RESISTIVE BIPOLAR CIRCULAR HANDPIECE



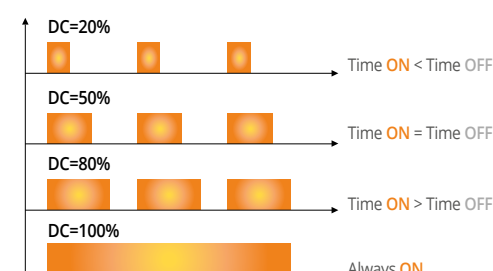
RESISTIVE TRIPOLAR CIRCULAR HANDPIECE (OPTIONAL)

## Continued and Pulsed Emission

Fisioline Radiant® combines the continued and pulsed emission keeping under control the hyperthermia effects. Necessary in the treatment of musculoskeletal pathologies in the acute phase or in those treatments that have to be mainly athermic such as recent traumatic injuries.

The pulsed mode allows the operator to set the DUTY-CYCLE (adjustable from 10% up to 90%) and therefore erogation and pause times, customizing the therapy to the needs of each patient.

Duty-Cycle =  $\frac{\text{turn on time}}{\text{turn on time} + \text{turn off time}}$



- 1 Ease of use and maximum comfort
- 2 The whole delivered energy concentrated on the treated area
- 3 Total safe operability without the use of conductive cream



CAPACITIVE BIPOLAR APPLICATORS OF Ø 53 mm AND Ø 70 mm

## Automatic mode

Beside the traditional manual therapy, Fisioline Radiant® is provided with the automatic mode, both capacitive and resistive, allowing the automatic application of the radiofrequency without the continuous intervention of the operator.



CAPACITIVE SCANNING APPLICATORS (OPTIONALS)



RESISTIVE SCANNING APPLICATORS (OPTIONALS)



# THE ENERGY is EVERYTHING WHEN CONTROLLED AND MEASURED

## Energy Power Bar

An interactive system between the operator and the energy

### Electronic meter, Energy Power Bar and right contact

Fisioline Radiant® are radiofrequency devices extremely versatile and intuitive. They allow to freely manage and keep under control the quantity of energy transferred to the tissues, through the automatic erogation of the parameters relating to the treated area and to acute or chronic phases of pathologies presented by patients.

Fisioline Radiant® devices are equipped with an electronic meter to measure the patient's tissue impedance and, together with the Energy Power Bar, to keep under constant control the energy absorbed by tissues. For a safety and proper use, the device is equipped also with a protection device which detects the contact of the reference electrode through audio-visual check.

Fisioline Radiant® devices are equipped with an electronic meter that, through constant measure of the tension and current that flows to the patient, calculates the impedance of the treated area. The impedance measured in "Ohm" ( $\Omega$  symbol) is constantly monitored during treatments and the energy transferred to tissues is displayed through an Energy Power Bar. This bar is divided into three sectors.

The central sector (NORMOTHERMIA, green indicator) indicates an optimal energetic transfer.

The filling of this Energy Power Bar is inversely proportional to the measured impedance, so the more the impedance decreases, the more the bar is filled (third sector, HYPERTHERMIA, red indicator). Vice versa, the bar remaining in the first sector (HYPOTHERMIA, blue indicator) indicates high impedance.

The gradual bar filling graphically shows the gradual lowering of the impedance of the treated area, therefore the tissue is progressively supplied with blood in order "to evacuate" the heat in excess produced by the radio frequency.



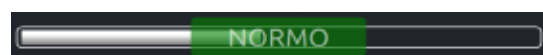
### Hyperthermia

When the Energy Power Bar overcomes the third sector abundantly, this means that it is a phase of hyperemia (excessive diminution of the impedance and consequent increase of heat on the treated area).



### Normothermia

When the Energy Power Bar prevalently stays into the central sector, it means that it is a phase of normothermia.



### Hypothermia / Athermal mode

When the Energy Power Bar stays into the first sector, it means that it is a phase of hypothermia.



# WE ARE THE ONLY ONES TO HAVE 7 FREQUENCIES

because they work at different depths  
because they treat different tissue typologies  
because they allow the maximum flexibility  
because they allow different operating modes  
because they personalize the therapies

### Multifrequency

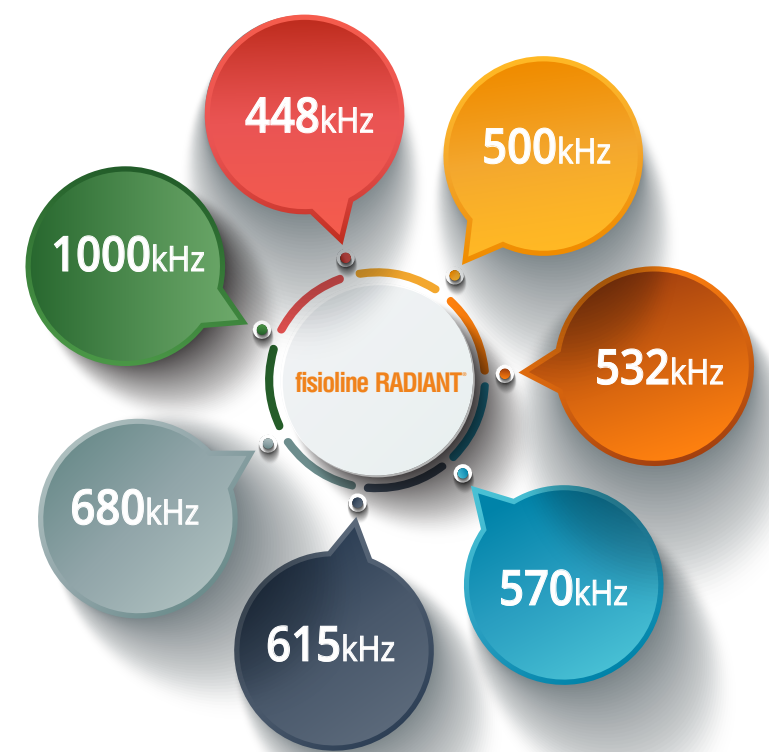
Fisioline Radiant®, unique in its kind, offers the opportunity to choose up to 7 frequency adjustments, which are selectable even during the treatment, both in resistive and capacitive methods, based on the depth of tissues which are to be treated.

Operating with more frequencies allows to use different protocols from scientific publications and represents a foundation towards future clinical applications.

### Automatic scanning of frequencies with Switching modality

The automatic scanning of the frequencies (from 448kHz up to 1000kHz or from 1000kHz up to 448kHz) offers the operator the opportunity to use at the same time the 7 available frequencies during the treatment, both in capacitive and resistive modes.

The automatic switching mode carries out a focused action on the different tissue depths bidirectionally, from the deepest to the most superficial tissue and vice versa.



more than **80%**  
of EFFICENCY

- 1 Nearly zero energy release
- 2 Concentrating all energy delivered on the treated area
- 3 Total safe operability

### Spectral purity and perfection of the radiowave

The spectral purity and the perfection of the sinusoidal radiowave allow more comfortable and total safe treatment.

### Power, efficiency and multifrequency

Fisioline Radiant® are equipped with an innovative synthesizer to create biphasic sinusoidal waves set off against extremely precise frequency. Furthermore, the adoption of a class E amplifier allows Fisioline Radiant® to obtain an efficiency exceeding 80% between the absorption and the transformation of energy on patients' tissue.

# THE FUTURE is WIZARD

## your PERSONAL TUTOR in every phase

WIZARD

### Wizard and the Library of pathologies

A unique feature of **FisioLine Radiant®** is the **Wizard**, a **step-by-step digital guide** to use the device. Thanks to an **intuitive software**, the Wizard leads the Doctor and the Physiotherapist in selecting **over 80 therapeutic preset protocols** dedicated to both severe and chronic pathologies. Each preset protocol can be composed of several phases.

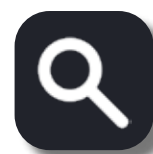
Thanks to the **Wizard** the operator can **select, modify and keep always under control** the functions and the operative parameters. **FisioLine Radiant®** also offers the operator the possibility to **create personalized programs** designed for a patient and indicated for the specific pathologies and areas to be treated for **rapid and efficient therapies**.

### MORE THAN 80 PRESET PROTOCOLS



- ▶ TENDINITIS .....
- NECK PAIN .....
- BACK INJURY .....
- ▼ DISTORTION .....

### RAPID RESEARCH WITH THE INNER FINDER



- 1 PATHOLOGY .....
- 2 AREA OF THE BODY .....
- 3 N. PROGRAM .....

### SELECTION FREE PROTOCOL



- ▶ OPERATIVE MODE .....
- HANDPIECE AND DISC .....
- FREQUENCY .....
- ▼ DURATION .....

### CREATION OF PERSONALIZED PROGRAMS



- SAVING DATAS .....
- 100 FREE STORAGE LOCATIONS .....
- UP TO 4 PHASES .....

The interface of **FisioLine Radiant®** displays the parameters on a **large Touch Screen 7" display** that allows to **remotely read** and gives to the operator the possibility to **keep under control the correct device performance**.



# RADIANT® ASSISTANT

ASSISTANT

## your PERSONAL COACH

Crash course of T.e.c.a.r. Therapy available in your technology

## more than 70

### Multimedia videos associated to treatments

**FisioLine®** presents an important innovation: the matching of preset therapeutic protocols to illustrating video tutorials, always available, updatable and usable directly from the device console, showing details the steps to be followed by operator and patient during the therapy.

These training materials allow for a rapid use even for operators with no particular experience in the use of T.e.c.a.r. Therapy.





# Indications for effective, safe and customizable therapy

## Rehabilitation, Physiotherapy, Traumatology and Sports Medicine



### ANTI-INFLAMMATORY

Articular and Tendinous pathologies. Acute tendinitis and relapse phases of chronic tendinopathy. Degenerative and traumatic capsular and ligamentous inflammation. Acute inflammatory arthritis characterized by alternating phases of spontaneous exacerbation and remission (excellent anti-edema effect), pain and phlogosis in degenerative chronic arthropathy (arthrosis, rheumatic, etc.), bursitis, plantar fasciitis.

### PAIN THERAPY antalgic effect

Neck, shoulder and back pain, back injury, sciatica, and general radicular syndromes of inflammatory and biomechanical origin. Articular and periarticular pain (direct and indirect antalgic effect for antiinflammatory action). Inflammatory and degenerative neuritis and neuropathies. Muscle contractures and myofascial trigger areas.



### POST-TRAUMATIC

Post-traumatic edema, traumatic origin capsular and ligamentous inflammation, sprains and muscle strain, distortions, contusions, fractures and fibrillary rupture.

### SPORTS MEDICINE

Direct and indirect traumas, muscular cool-down, physical preparation.

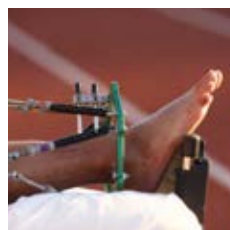


### ANTI-EDEMA

Reduction of localized edema in the paravertebral area or in the area surrounding herniated discs.

### REHABILITATION THERAPY

Post surgery (arthroscopy, arthroplasty,..) Post-surgery therapy, motor joint rehabilitation after removal of plaster casts or orthopedic surgery. Counteracts the formation of edemas through the replenishment in the lymphatic system, getting a more effective antalgic effect.



The double and triple polarity, the 7 emission frequencies, as well as the optimal power level make Fisioline Radiant® an instrument that is essential for Traumatology, Rehabilitation, Physical therapy, Sports medicine, Aesthetic medicine and Veterinary professionals.

## Physioaesthetics and Aesthetic Medicine



Treatment with radiofrequency diathermy counteracts sagging tissues caused by aging. The treatment causes the contraction of the skin with a visible plumping and lifting effect from the first few sessions, with a gradual improvement of the treated areas. The aesthetic effects are visible anytime between a few days and several weeks.

**Fisioline Radiant®** is recommended for treating wrinkles. It has a toning effect and is also an excellent cell antioxidant.

**Fisioline Radiant®** has vasodilating and draining effects that promote the elimination of stagnant fluids, increasing the supply of oxygen to cells.

**Fisioline Radiant®** restores cell activity, encouraging increased production of elastin and collagen fibres, generating a revitalising effect and improving skin colour, density and elasticity.

# 4 models of T.e.c.a.r Therapy suitable to meet the needings of each operator

**Fisioline RADIANT® 200-300-400**  
High technology in 3  
powerful and versatile models.

Available versions:  
Fisioline Radiant® 200: 200W - 350VA of power  
Fisioline Radiant® 300: 300W - 400VA of power  
Fisioline Radiant® 400: 400W - 450VA of power

**Fisioline RADIANT® Mobile**  
a dynamic, compact and  
portable T.e.c.a.r. Therapy.

Fisioline Radiant® Mobile: portable version with 200W  
- 350VA of power and a practical Carrying case.



FLEXIBLE REFERENCE PLATES



HANDPIECE WITH CAPACITIVE  
RADIANT DISCS



HANDPIECE WITH RESISTIVE  
RADIANT DISCS



RESISTIVE BIPOLAR SPHERE  
HANDPIECE



CAPACITIVE BIPOLAR APPLICATOR  
Ø 53 mm (OPTIONAL)



CAPACITIVE BIPOLAR APPLICATOR  
Ø 70 mm (OPTIONAL)



HANDPIECES JOINTS  
(OPTIONAL)



RESISTIVE BIPOLAR CIRCULAR  
HANDPIECE



RESISTIVE TRIPOLAR CIRCULAR  
HANDPIECE (OPTIONAL)

## Fisioline RADIANT®

TECHNICAL FEATURES	
Technical classification	electromedical equipment Class I type BF
Commercial classification	instrument for diathermy via radiofrequency with capacitive and resistive energetic transfer
Medical device class	class IIb (Dir. 93/42/EEC, modified by the Dir. 2007/47/EC)
Emission frequency	from 448 kHz up to 1 MHz ± 1%
Switching mode	automatic scanning of the 7 frequencies
Output channels	number 3 (1 capacitive, 1 resistive and 1 multipolar)
Absorbed power	FISIOLINE RADIANT® MOBILE: 250VA FISIOLINE RADIANT® 200: 250VA FISIOLINE RADIANT® 300: 380VA FISIOLINE RADIANT® 400: 500VA
No-load peak-peak voltage max	Max 850V
Microprocessor management	Embedded system
Power supply voltage	230V (115 upon request)
Network frequency	50-60Hz
Capacitive mode power	FISIOLINE RADIANT® MOBILE: 200W - 350VA FISIOLINE RADIANT® 200: 200W - 350VA FISIOLINE RADIANT® 300: 300W - 400VA FISIOLINE RADIANT® 400: 400W - 450VA
Resistive mode power	FISIOLINE RADIANT® MOBILE: 200W FISIOLINE RADIANT® 200: 200W FISIOLINE RADIANT® 300: 300W FISIOLINE RADIANT® 400: 400W
Smart Interface	large Touch Screen colour TFT 7" display
Programmable Digital Electronical Timer	1-99min with digital visualization
Acoustic and visual warning	right contact, electrode check and end treatment
Custom program storages	large preset protocols database for the main pathologies
User programs	customizable programs with up to 4 phases
Training Video tutorials	audio-video system
Upgradable via USB port	(USB to upgrade system / protocols / audio-video)
Fisioline Radiant® Mobile dimensions	350x265x150mm
Fisioline Radiant® 200-300-400 dimensions	320x430x980mm
Fisioline Radiant® Mobile weight	7Kg
Fisioline Radiant® 200-300-400 weight	30Kg

STANDARD ACCESSORIES	OPTIONAL ACCESSORIES
N° 1 Resistive handpiece	Capacitive Bipolar applicator Ø 53 mm
N° 1 Capacitive handpiece	Capacitive Bipolar applicator Ø 70 mm
N° 1 Resistive Bipolar sphere handpiece	Radiant circular Capacitive disc Ø 80 mm
N° 1 Resistive Bipolar circular handpiece Ø 32 mm	Handpieces joints
N° 3 Resistive circular radiant discs Ø: 35 - 60 - 85 mm	Resistive Bipolar circular handpiece Ø 50 mm
N° 3 Capacitive circular radiant discs Ø: 25 - 35 - 60 mm	Resistive Tripolar circular handpiece Ø 32 mm
N° 1 protection plastic disc Ø 60 mm	Resistive Tripolar circular handpiece Ø 50 mm
N° 1 protection plastic disc Ø 80 mm	Kit Automatic multichannel capacitive scanning applicators
N° 1 reference electrode 120x150mm	Kit Automatic multichannel resistive scanning applicators
N° 1 reference electrode 150x200mm	Resistive dynamic kit-free hands
Adhesive reference electrodes 132 cm²	Wifi remote control
Adhesive reference electrodes 78 cm²	
Carrying case for mod. Fisioline Radiant® Mobile	

REFERENCE STANDARDS	
EN 60601-1 (IEC 60601-1), CEI EN 60601-2-2 (IEC 60601-2-2)	
EN 60601-1-2 (IEC 60601-1-2), EN 60601-1-6 (IEC 60601-1-6)	

CE mark : device complying with Directive 93/42/EEC  
modified by the Directive 2007/47/EC.

UnipolSai  
FISIOLINE® equipment is insured for manufacturer's product liability with UNIPOLSAI.



RICERCA SPERIMENTAZIONE E PRODUZIONE  
  
MADE IN ITALY

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