



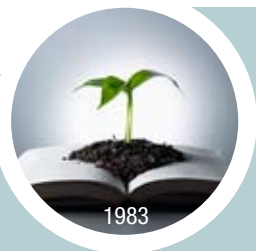
**Magnetotherapy**



**A S A L A S E R**

Research and Therapeutic Solutions

# ASAlaser, research and therapeutic solutions



Since 1983 ASAlaser has been the reference point on a world-wide scale for knowledge, production and development of therapeutic solutions based on laser sources and magnetic fields, thanks to the continuous and multidisciplinary research and the sharing of information among professionals in human and veterinary medical fields.

A commitment and an awareness that are present at any Company level with a specific objective: giving to doctors and medical practitioners advanced instruments able to face and solve effectively pain pathologies in physio kinesitherapy, orthopedics, traumatology, rheumatology, dermatology, sports and rehabilitative medicine. Technologic innovation, reliability and efficiency are the main features of ASAlaser products for Laser Therapy and Magnetotherapy, strictly tested and periodically undergone quality controls, distributed and daily utilized in the best medical centers in more than 50 Countries around the world.

The affirmation of the international leadership of ASAlaser, in knowledge and development of advanced technologies in the field of "pain management", had an important confirmation in 2003 thanks to the partnership with El.En. Group, one of the World main protagonists as for producing laser sources and systems for medical and industrial use. The confirmation of a concrete and forward-looking project of innovation and expansion, open and shared, enhanced by human resources, soul and engine of ASAlaser yesterday, today and tomorrow.

## ASAcampus, the research division of ASAlaser

Overcoming the limits of knowledge, sharing information, making concrete scientific results: the research division of ASAlaser, ASAcampus, directed by Dr. Monica Monici, was born with these objectives. The headquarters is in the Joint Laboratory Department of Experimental and Clinical Biological Sciences University of Florence, where research programs are developed in biomedical field, oriented to deepen the interaction between cells / tissues and physical energies (laser radiation, electromagnetic fields, mechanical and gravity stresses). ASAcampus activity is complemented by an international network of research, involving experts and medical professionals from different scientific fields, a close-knit group that continues to grow, open to new collaborations in Italy and worldwide. ASAcampus is also active in several national and international research projects, communication in conferences, publication of numerous articles in international and indexed journals, and in publishing the official review of ASAcampus, "Energy for Health".

### TWO MAIN OPERATIONAL ROUTES:

- **BASIC RESEARCH**, oriented to the study of new therapeutic instrumental strategies, with the use of new biomedical technologies such as three-dimensional (3D) cell cultures (to simulate what happens in our tissues during a therapeutic treatment), nanoparticles (for the development of more effective therapies and future clinical applications) and stem cell (paving the way to "cell therapy" for the repair of damaged tissues).
- **CLINICAL TRIALS**, aimed at verifying the effectiveness of new therapies in clinical applications and the validation of therapeutic protocols. Particularly rigorous criteria of patient enrolment, methodology, evaluation mode, data analysis, in full compliance with the rules laid down by ethics committees.

# Magnetotherapy

## Studies and Research

ASA has carried out a complete analysis of the literature published on magnetotherapy in order to define which is the most efficient magnetic field to produce and use.

- the analysis considered in vitro, in vivo studies and clinical studies
- the conclusions were treated according to a careful analysis of the study results: basic studies which evidence the action mechanics of the therapy, and clinical studies which evaluate therapeutic effectiveness. Preference was given to examining random double blind clinical studies and reviews, which contain and compare numerous clinical studies.

Regarding the intensity, many studies found values of from 1 to 60 Gauss, with average values of approximately 15 G, to be effective. These results solidly support the use of low intensity fields. The same studies showed the effectiveness of very low frequency fields, with values of between 1-100 Hz, the same that characterise electromagnetic physiological phenomena.

The research results, therefore, evidence the efficiency of ELF (Extremely Low Frequency) and low intensity magnetic fields which pass through the organism, acting on all the tissues (muscle, bone, nerves, epithelium, etc.) and influencing all the organs. The fields work in-depth, are not invasive, do not cause pain, and so far no side effects have been reported.

## The tradition of universal therapy

Magnetotherapy is physical and based on the application of specific magnetic fields on the human body. The magnetic fields carry out an essential function in biological life; just think that the Earth itself is a giant magnet and that many living beings adjust their lives according to the variations of the Earth's magnetism.

Magnetotherapy is indicated for treating pain and also inflammation and oedema, because it has effects on the immunitary system cells and circulation. In addition, clinical studies have shown that magnetotherapy can be efficient for treating osteoporosis and for encouraging both fracture healing and the repair and regeneration of soft tissues. It is used in orthopaedics, sports medicine, physiotherapy and by professionals who use this instrumental physical therapy in different specialist branches. Given its therapeutic effects, it can be used alone or together with other treatments.

In order to optimise both the application method and the therapeutic results a set of several factors must be considered:

- Choice of the magnetic field and the wave shape.
- Application method: contact or targeted, general or total.
- Different applicators.
- Treatment modes: manual or automatic.
- Equipment with different methods for transferring the magnetic field to the tissues.

## Indications

Magnetotherapy was devised for the non-invasive treatment of the musculoskeletal apparatus, acting simultaneously in the oedema-contracture-pain triad, repairing and regenerating the cutaneous, muscular and bone tissues. The indication field is wide because magnetic fields induce numerous biological effects, even in deep-seated tissues.

- **Bone and articulation pathologies**  
osteoporosis, fractures, arthrosis
- **Traumatology**  
contractures, sprains, strains, contusions and fractures
- **Painful states**  
tension type headache, neuralgia
- **Skin lesions**  
burns, ulcers, wounds
- **Inflammatory states**  
arthritis, myositis, tendinitis, epicondylitis, lumbago, adductor syndrome

The therapeutic expectations can be briefly indicated as follows:

- **Non-invasive and painless treatment**
- **Antalgic, anti-inflammatory and draining effect**
- **Repairs tissues, even deep.**



# PMT Qs a new style in Magnetotherapy

**PMT Qs** is the device with an innovative design that is ergonomic, easy to use and equipped with trolley. The pulsed magnetic field generator is controlled by a microprocessor that manages 3 independent channels: each channel has 2 outputs to which 4 solenoids and 2 Flexa applicators can be connected.

PMT Qs, available in the automatic or manual versions, is supplied with couch, ø 80 cm solenoid and 2 Flexa applicators with vibration.

Different configurations can be created with the addition of the optional accessories, for the connection of up to 4 couches, two of which automatic.

The PMT Qs devices apply ELF (Extremely Low Frequency) magnetic fields in parallel to the longitudinal axis of the body using solenoids, or perpendicular to the area to be treated using the Flexa applicators. The flexible applicators are particularly suited for dependant treatment and for healing fractures of the long bones. The smaller solenoids are ideal for carrying out magnetotherapy treatments that are specific for the limbs, while the larger solenoids are perfect for use on more extended areas, up to total body treatment, which is particularly effective for diffused arthrosis and osteoporosis.

All the accessories supplied with PMT Qs can also be used for treating patients who have plates for osteosynthesis, screws, endoprostheses as long as there are no thermal modifications.

## Technical characteristics

- 3 completely independent channels
- 6 outputs (2 for each channel)
- Pre-set programmes that can be modified and saveable programmes
- Frequency from 0.5 to 100 Hz
- Magnetic field intensity variable from 5 to 100%
- Treatment time from 1 to 99 mins and continuous
- Backlit LCD
- Membrane keyboard
- **Power supply:** 90-260V~ 50-60Hz 850 VA max



Generator PMT Qs with Trolley



**cod. C3510**

GENERATOR PMT Qs

**Dimensions and weight:**  
28 x 38 x 13 cm; 3 kg



**cod. C7600**

TROLLEY

**Dimensions and weight:**  
63 x 54 x 85 cm; 16 kg



**cod. C6110**

FLEXA APPLICATORS

Flexible 12 solenoids applicator  
**Dimensions and weight:**  
22 x 37 x 2.5 cm; 1.2 kg



Model PMT Qs AUTOMATIC

**cod. C3514 - PMT Qs AUTOMATIC**

- Generator PMT Qs and trolley
- Couch with ø 80 cm solenoid, automatic sliding
- 2 Flexa applicators



With the automatic version, the electromechanical moving system automatically positions the solenoid on the area to be treated (5 positions), returning to the initial position when therapy has ended. It is also possible to scan automatically and continually between two established positions, or with a defined permanence time on each of the two positions.

**Flexa applicators with vibration effect**

2 Flexa applicators supplied with the machine can be managed simultaneously by the same generator to perform localized treatments.

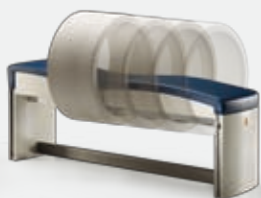
**cod. C3513 - PMT Qs MANUAL**

- Generator PMT Qs and trolley
- Couch with ø 80 cm solenoid, manual sliding
- 2 Flexa applicators

With the manual version, the operator finds it easier to position the solenoid on the area to be treated thanks to the fact that it slides easily on aluminium guides that are closed with a safety block.

**Flexa applicators with vibration effect**

2 Flexa applicators supplied with the machine can be managed simultaneously by the same generator to perform localized treatments.



**cod. C6340**

COUCH WITH MOTORISED SLIDING SOLENOID Ø 80 cm

Electromechanical system for solenoid managed by a microprocessor

**Dimensions and weight:**

Solenoid: Ø 80 cm, h 40 cm; 25 kg  
Couch: 188 x 50 x 72 cm; 55 kg



**cod. C6330**

COUCH WITH MANUAL SLIDING SOLENOID Ø 80 cm

Solenoid slides manually on aluminium runners with safety block.

**Dimensions and weight:**

Solenoid: Ø 80 cm, h 40 cm; 25 kg  
Couch: 188 x 50 x 72 cm; 50 kg



**cod. C6230**

PORTABLE SOLENOID Ø 30 cm

For magnetotherapy treatment of limbs

**Dimensions and weight:**  
Ø 30 cm, h 22 cm; 6.5 kg



**cod. C6240**

PORTABLE SOLENOID Ø 50 cm

For magnetotherapy treatment of body

**Dimensions and weight:**  
Ø 50 cm, h 35 cm; 11.5 kg

# Easy Qs portable magnetotherapy

**EASY Qs** is a practical and portable device, easy to use and intuitive, particularly suitable for targeted treatment. The Flexa applicators supplied with the machine are very flexible and can be adapted to suit all the body surfaces; the magnetic field is kept constant and uniform, and can be issued perpendicular to the application surface.

The Flexa applicators also have an effective vibration, which can be used when the massage is therapeutic and/or enjoyed by the patient.

EASY Qs offers pre-set treatment programmes, allowing the operator to personalize the emission parameters according to the type of patient, pathology, and clinical phase.

## Technical characteristics

- 1 channel with 2 outputs for connecting the Flexa applicators
- Frequency from 0.5 to 100 Hz
- Magnetic field intensity variable from 5 to 100%
- Treatment time from 1 to 99 mins or continuous
- Pre-set programmes that can be modified, saveable programmes
- Backlit LCD
- Membrane keyboard

**Power supply:** 90-260V~ 50-60Hz 300 VA max

**Generator Easy QS:** 28 x 38 x 13 cm; 3 kg

**Flexa applicator:** 22 x 37 x 2.5 cm; 1.2 kg

**Carry bag:** 50 x 38 x 18 cm; 1 kg

cod. **C3411** - Easy Qs

- Generator Easy Qs
- 2 Flexa applicators
- Carry bag
- Weight cod. C3411: 6.5 kg



## FLEXA applicators



The Flexa applicator, with vibration effect, is very flexible and can be adapted to suit all the body surfaces, keeping the magnetic field constant and uniform, allowing that emission is issued perpendicular to the application surface.

The flexible applicators are particularly suited for localized treatment and for healing fractures of the long bones

They are supplied with PMT Qs Automatic/Manual and with EASY Qs



## Treatment protocols

### APPLICATION METHODS

There are two ways of treating patients with magnetic fields:

1. Contact or targeted therapy – with flexible applicators even with vibration or small solenoids for dependant pathologies. Contact therapy is used in painful localised affections, with excellent results even in symptomatology control. In distortions and traumas in general, it influences the control of pain, giving fast patient rehabilitation.
2. General or total therapy - carried out using large-sized portable or sliding solenoids placed on a relative couch, that are used to treat extended areas with general beneficial effects throughout the whole organism.

Further advantages can be obtained by applying both treatment methods.

### CHOOSING THE TREATMENT METHOD

Flexible applicators are excellent for small areas, and in particular the articulations, but they can also be used to treat larger areas thanks to the shapes of the available applicators. The perpendicular magnetic field that is created generates longitudinal microcurrents.

The large-sized portable or sliding solenoids can be used manually or automatically on extended areas and give an effect that involves the whole organism. The magnetic field generated by parallel supply with perpendicular microcurrents is preferable for treating a body region totally, with analgesic, anti-oedema and anti-inflammatory effects.

### PROTOCOLS

The treatment protocols can be targeted or general, with manual or automatic application.

#### MANUAL TREATMENT

With manual treatment the cylinder is positioned by the operator on the area to be treated.

#### AUTOMATIC TREATMENT

In the specific case of automatic application the cylinder slides to cover either the whole body or part of it, or the fixed waiting time can be determined to move automatically from one area to the next as set in the therapy programme.

- According to the direct experience of clinics that have used our equipment, the number of applications can vary from 10 to 15.
- The frequency/intensity/time values should be adapted according to how the patient replies (therapy personalisation).
- Low frequencies should be used for acute inflammation processes.
- Higher frequencies (50 Hz) should be used to favour tissue repair.
- Frequencies of between 5 and 20 Hz are used for pain therapy.
- The best results are obtained with well-timed therapy application.



## ASA srl

### Corporate Headquarters / Registered Office

Via Alessandro Volta, 9  
36057 Arcugnano (VI) - Italy  
[asalaser@asalaser.com](mailto:asalaser@asalaser.com)

t. +39 0444 28 92 00  
f. +39 0444 28 90 80  
[www.asalaser.com](http://www.asalaser.com)

### Research Division / Branch

Joint Laboratory  
Department of Experimental  
and Clinical Biological Sciences  
University of Florence

Viale G. Pieraccini, 6  
50139 Firenze - Italy  
[asacampus@asalaser.com](mailto:asacampus@asalaser.com)

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