



Magnetotherapy



A S A L A S E R

Research and Therapeutic Solutions

ASAlaser: valid innovation

We have increased our experience day after day since 1983, successfully dedicating ourselves to therapy solutions in Pain Management and Tissue repair. Our tireless research means that we can produce effective medical devices for Laser Therapy (Hilterapia® and MLS® Laser Therapy) and Magnetotherapy in the physiotherapy, orthopaedic, traumatology, rheumatology, dermatology, sports medicine and rehabilitation therapy fields.

ASAcampus: research and solutions.

The ASAcampus laboratory (managed by Dr. Monica Monici) created from the synergy between ASAlaser and the Department of Experimental and Clinical Biomedical Sciences of Florence University - Italy.



SEE HOW VALID OUR WORK IS AT ASACAMPUS

Working closely with an international network of researchers, ASAcampus has allowed us to demonstrate the validity of our work by:

- extensively studying the photochemical, photothermal, photomechanical effects resulting from the interaction between physical therapies, in particular Laser and Magnetotherapy and biological tissue
- investigating, up to a molecular level, the mechanisms that are at the base of the biological reply
- evaluating the therapeutic effects.



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Magnetotherapy

STUDIES AND RESEARCH

The Scientific Research Division of ASAlaser 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 Gauss, 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 edema, 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 edema-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.

The therapeutic expectations can be briefly indicated as follows:

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

1. OSTEOARTICULAR DISEASES

- Bone fractures consolidation delay
- Femoral head avascular necrosis
- Senile and post-menopausal osteoporosis
- Osteochondrosis
- Sudek's atrophy (reflex sympathetic dystrophy syndrome)
- Degenerative arthropathy: arthrosis (knee, hip bone, hand, foot, rachis)
- Inflammatory arthropathy (spondylitis, arthritis, fibromyalgia)
- Soft tissue and periarticular diseases (tendons, ligaments, bursitis)
- Acute and chronic articular and myotendinous affections (back pain, neck pain, tendinitis, painful shoulder)
- Distortions

2. NEUROMUSCULAR DISEASES

- Muscle sprains and distractions
- Muscle fatigue from overuse
- Neuropathies
- Peripheral nerve lesions
- Carpal tunnel syndrome

3. VASCULAR DISEASES

- Trophic vascular ulcers
- Diabetic vasculopathy
- Varix
- Hematomas
- Post-traumatic edemas

4. TISSUE REPAIR

- Pressure ulcers
- Cutaneous wounds



PMT Qs the 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 localized 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)
- Frequency from 0.5 to 100 Hz
- Magnetic field intensity variable from 5 to 100%
- Treatment time from 1 to 99 mins and continuous
- Pre-set programmes that can be modified and saved
- Backlit LCD
- Membrane keyboard

• **Power supply:** 100-240V~ 50-60Hz 850 VA



Generator PMT Qs with Trolley



cod. C3510

GENERATOR PMT Qs

Size and weight:
36 x 28 x 10 cm 6 kg



cod. C7B00

TROLLEY

Size and weight:
63 x 54 x 85 cm 16.5 Kg



cod. C6110

Flexa APPLICATORS

Flexible 12 solenoids
applicator

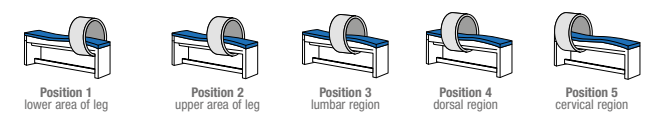
Size and weight:
36 x 21 x 2 cm 1.2 Kg



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.

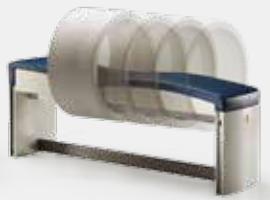
cod. **C3513** - **PMT Qs MANUAL**

- Generator PMT Qs with 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
Size 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.
Size 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
Size and weight:
 Ø 30 cm, h 21 cm 8 kg



cod. C6240
 PORTABLE SOLENOID Ø 50 cm
 For magnetotherapy treatment of body
Size and weight:
 Ø 50 cm, h 34 cm 11 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 programs, 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 and saved
- Backlit LCD
- Membrane keyboard

Power Supply: 100-240V~ 50-60Hz 300 VA

Generator: 36 x 28 x 10 cm 5 kg

Flexa applicator: 36 x 21 x 2 cm; 1,2 Kg

Carry bag: 50 x 18 x 36 cm; 1 Kg

cod. **C3411** - Easy Qs

- Generator Easy Qs
- 2 Flexa Applicators
- Carry Bag



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 the emission to be 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



Protocols Treatments

APPLICATION METHODS

There are two ways of treating patients with magnetic fields

- **Contact or targeted therapy** - with flexible applicators even with vibration or small solenoids for dependant pathologies. Contact therapy is used in painful localized affections, with excellent results even in symptomatology control. In distortions and traumas in general, it influences the control of pain, giving fast patient rehabilitation.
- **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-edema 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 25 Hz are used for pain therapy.
- The best results are obtained with well-timed therapy application.

ASA
A S A L A S E R
Research and Therapeutic Solutions

Hilterapia®

MIS
Multiwave
Locked System

Qs
Magnetotherapy

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