

Rehabilitation

EMS in Sports and Rehabilitation: Electrical Muscle Stimulation is a widespread and generally recognized method that has been used for years in sports and rehabilitation medicine. EMS uses external electrical impulses that act through the skin to stimulate the nerves supplying a specific muscle group.

EMS is used in the treatment of medical conditions involving:

- Muscle wastage (including: neuromuscular facilitation; muscle re-education muscle training; prevention/slowing of atrophy/hypertrophy; preventing postoperative muscle weakness; reduction of spasticity; maintaining or increasing range of motion; training of partial peripheral nerve damage with signs of re-innervation treatment of scoliosis)
- Muscle relaxation (in order to loosen up muscular tension, improve muscular fatigue symptoms; accelerate muscle regeneration after high muscular performance). For sports, the benefit is to increase the effect of training and enhance performance. Typical uses are: muscle training to improve endurance performance; muscle training to support the strengthening of certain muscles or muscle groups in order to achieve desired changes to body proportions; sports training, covering - warm-up, strength, speed, power, resistance, endurance and recovery; rehabilitation in relation to sports injury). The effect on muscle tone of electrical stimulation (EMS) is generally only noticeable after regularly repeated application.

What is IFT? Interferential Therapy (IFT) is known to be used for the symptomatic relief and management of chronic (long-term) intractable, post traumatic and post surgical pain. In addition to providing pain relief by the same mechanism that TENS uses Interferential Therapy's major role is to accelerate the inflammatory or healing rate.

How does IFT work? Interferential Therapy delivers an electrical stimulation into the affected tissue and utilises two of the medium frequency currents, passed through the tissues simultaneously, where they are set up so that their paths cross and they literally interfere with each other. This interaction gives rise to an interference current (or beat frequency) which has the characteristics of low frequency stimulation – in effect the interference mimics a low frequency stimulation. Low frequency nerve stimulation is known to be physiologically effective (as with TENS and NMES) and this is the key to IFT intervention. Unlike TENS however, which delivers intermittent pulses to stimulate surface nerves and block the pain signal, IFT delivers continuous stimulation deep into the affected tissue by using a 4000Hz carrier wave to overcome the skin impedance.

IFT is believed to work by stimulating parasympathetic nerve fibres to give increased blood flow and oedema reduction and by passing currents across cell membranes; these currents vary depending upon the tissue involved. By using particular frequencies in the range, different systems within the body can be stimulated or used to increase the blood supply, which in turn fastens the healing rate.

Treatable Conditions: IFT is used to treat inflammatory conditions. For example, sports injuries, arthritic conditions, bruising and swelling, back pain, and muscular pain. Many practitioners use a “Sweep” treatment which uses constantly changing interference pulse frequency. Practical clinical experience suggests therapeutic benefits for these sweeps, in addition to those of conventional nerve stimulation. Low frequency nerve stimulation is known to be physiologically effective (as with TENS and EMS) and this is the key to IFT intervention. Unlike TENS however, IFT delivers continuous stimulation deep into the affected tissue by using a 4000 Hz carrier wave to overcome the skin impedance. IFT is believed to work by stimulating parasympathetic nerve fibres to increase blood flow and reduce oedema reduction, by passing currents across cell membranes; these currents vary depending upon the tissue involved. By using specific frequencies in the range, different systems within the body can be stimulated or used to increase the blood supply, which in turn hastens the healing rate.

How Does MIC work? MIC is a physiological electric modality that increases ATP (energy) production in the cells of your body. Micro-current stimulation delivers tiny electrical impulses that mirror the body’s own natural bio-electrical field. In most cases, treatment is virtually sub-sensory, with just a slight electrical tingling sensation. MIC is a very faint

current that is so small, it is measured in millionths of an amp (microamps). Human cells generate a current that is in the micro amp range which is why some can't feel it - the current is so low it doesn't stimulate the sensory nerves. This dramatically increases the tissue's healing rate. The immediate response to the correct MIC frequency suggests that other mechanisms are involved as well. The exact effects or changes in the tissue can be noticeable; scars can suddenly soften; trigger points often become less painful when the "correct" frequency is applied.

MIC in Sports and Rehabilitation: Microcurrent has shown to give very effective pain relief. In patient surveys over 90% of patients reported significant improvement. In many situations the changes can be long lasting and even permanent in some cases. The results of MIC can be seen after only a minute or so of treatment in most people. At the cellular level, microcurrent therapy stimulates a dramatic increase in ATP, the energy that fuels all biochemical functions in the body. It also bumps up protein synthesis, which is necessary for tissue repair. The ensuing enhancement in blood flow and decrease in inflammation translates into reductions in pain and muscle spasms, as well as increased range of motion. Unlike TENS, which also use electrical currents to relieve pain, microcurrents are so weak that they don't stimulate the sensory nerves, so you feel no shock-like sensations.

Originally developed for treating facial palsy Microcurrent therapy is now also used widely in physiotherapy for pain control and in hospitals for wound healing. As an aesthetic treatment micro-current stimulation has been shown to have a number of other cosmetic benefits:

- Re-educates muscles,
- Increases blood and lymph circulation ,
- Enhances the penetration of the active ingredients of skin care formulations
- Increases the production of collagen and elastin
- Increases protein synthesis, gluconeogenesis and cell membrane transport
- Increases mitochondria activity , adenosine triphosphate (ATP)

It is commonly used by professional and performance athletes with acute pain and / or muscle tenderness as it is drug-free and non-invasive, thus avoiding testing and recovery issues.

Perfect EMS

Rehabilitation



DIMENSIONS _____ 120 x 60 x 20 mm
WEIGHT _____ 120 grams
AMPLITUDE _____ 90 mA (max)
FREQUENCY _____ TENS: 1 - 120 / EMS: 1 - 80 (Hz)
PULSE WIDTH _____ TENS: 50 - 250 / EMS: 50 - 350 μ s
WAVE FORM _____ Asymmetrical Bi-phasic
POWER SUPPLY _____ x2 AA
PRODUCT CODE _____ K-PEMS

Overview

Perfect EMS unit provides muscle toning, shaping and rehabilitation through EMS, with additional pain relief programmes using TENS to relieve pain from injuries and muscle strain. Muscle wastage: neuromuscular facilitation, muscle re-education, muscle training, prevention/slowing of atrophy/hypertrophy and reduction of spasticity. Sports training: warm up, strength, speed, power, resistance, endurance and recovery.



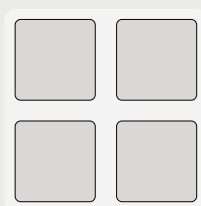
Features

- 2 independent channels with 4 electrode pads to treat 2 areas at the same time.
- 6 preset EMS programmes including warm up, endurance, power and bulk.
- 2 manual TENS and 2 manual EMS programmes that can be defined to experiment and save preferred settings.
- Comfortable stimulation with 90 small steps of intensity.
- Memory functions saving the number of uses and time of usage.
- Programme retention (automatically starts in the last programme used).
- Beauty applications: reduction in the appearance of wrinkles and cellulite.

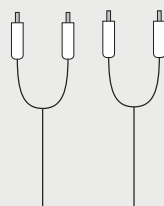
Kit Contents



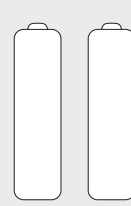
x1 Device



x4 Electrodes



x2 Lead Wires



x2 AA Batteries

Flexistim

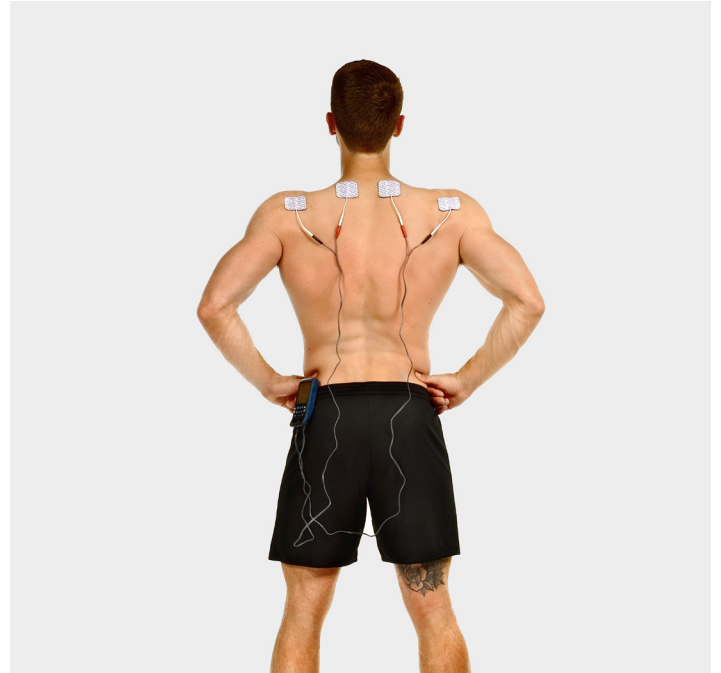
Rehabilitation



DIMENSIONS _____ 123 x 61 x 22 mm
WEIGHT _____ 160 grams
AMPLITUDE _____ TENS 99 mA / EMS 99 mA / IFT 60 mA / MIC 700 µA
FREQUENCY _____ TENS 2 - 150 Hz / EMS 10 - 120 Hz / IFT 2 - 160 Hz / MIC 0.5 - 50 Hz
PULSE WIDTH _____ TENS 50 - 250 Hz / EMS 100 - 350 Hz / IFT 125 µs / MIC 10 - 999 ms
WAVE FORM _____ Asymmetrical Bi-phasic
POWER SUPPLY _____ Li-ion 3.7 V
PRODUCT CODE _____ K-FLEXM

Overview

Flexistim features 4 therapeutic modes: TENS for pain relief, EMS for muscular training, MIC for wound healing and IFT for relief of intractable pain. TENS: back pain, osteoarthritis, rheumatoid arthritis, osteoporosis and spondylitis. EMS: muscle rebuilding and toning, neuromuscular facilitation, muscle re-education and muscle training.



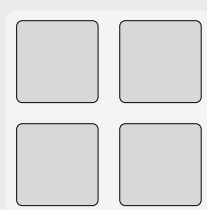
Features

- 2 independent channels with 4 electrode pads to treat 2 areas at the same time.
- 10 preset TENS, 27 preset EMS, 3 preset IFT and 3 preset MIC programmes.
- 2 manual TENS, 6 manual EMS, 1 manual IFT, 1 manual.
- Comfortable stimulation with small steps of intensity (EMS progs. have 3 phases).
- Option to operate the unit through external mains power adaptor.
- IFT: ankylosing spondylitis, reduction in bruising and swelling, postoperative pain, epicondylitis, carpal tunnel and plantar fasciitis, constipation.
- MIC: gentle stimulation for tissue healing process and pain relief.

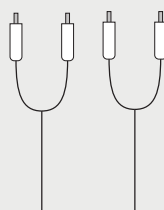
Kit Contents



x1 Device



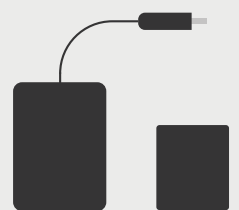
x4 Electrodes



x2 Lead Wires



x1 UK & EU Plug



x1 Charger

Sports TENS 2

Rehabilitation



DIMENSIONS _____ 114 x 56 x 23 mm

WEIGHT _____ 90 grams

AMPLITUDE _____ 99 mA (max)

FREQUENCY _____ TENS: 2 - 150 Hz / EMS: 3 Hz - 120 / Massage: 1 - 250 Hz

PULSE WIDTH _____ TENS: 50 - 300 / EMS: 20 - 350 / Massage: 25 - 300 µs

WAVE FORM _____ Asymmetrical Bi-phasic

POWER SUPPLY _____ Li-ion, 900mAh, 3.7 V

PRODUCT CODE _____ K-ST2

Overview

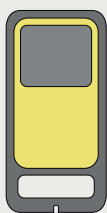
The Sports TENS is a muscle stimulator and a pain relief unit with additional massage programmes to provide relaxation and de-stressing. Muscle wastage: neuromuscular facilitation, muscle re-education, muscle training, prevention/slowing of atrophy/hypertrophy and reduction of spasticity. Sports training: warm up, strength, speed, power, resistance, endurance and recovery.



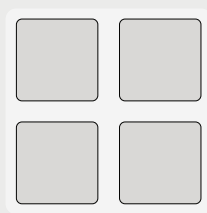
Features

- 2 independent channels with 4 electrode pads to treat 2 areas at the same time.
- 10 preset TENS, 27 preset EMS, 10 preset massage programmes.
- 2 manual TENS and 6 manual EMS programmes that can be defined to experiment and save preferred settings.
- 99 small steps of intensity.
- EMS programmes have 3 phases (warm up, work and cool down).
- Muscle relaxation: loosening up of muscular tension, improving muscular fatigue symptoms as well as accelerating muscle regeneration.
- History of daily usage by programme and by time (up to 90 days of usage).

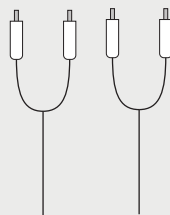
Kit Contents



x1 Device



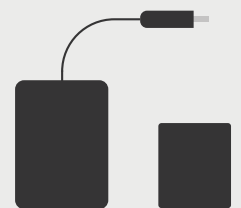
x4 Electrodes



x2 Lead Wires



x1 UK & EU Plug



x1 Charger

Shockwave

Rehabilitation



DIMENSIONS	290 x 240 x 130 mm
WEIGHT	2.22 kg
POWER LEVELS	10 - 185 mJ
FREQUENCY	1 - 22 (Hz)
TECHNOLOGY	Electromagnetic
APPLICATORS	6 / 15 / 25 mm
POWER SUPPLY	Mains
PRODUCT CODE	K-SHOCKWAVE

Overview

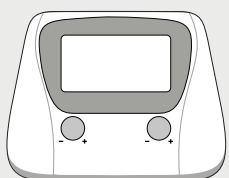
This portable Shockwave therapy device is a non-surgical technique developed for the treatment of musculoskeletal disorders. The treatment utilizes a unique set of proprietary acoustic pressure waves that are delivered through the body and focused on the site of pain or injury. It stimulates the metabolism, enhances blood circulation, and accelerates the healing process, allowing damaged tissues to regenerate and recover.



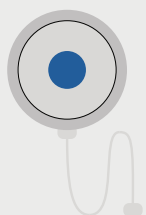
Features

- 7 preset programmes with adjustable settings to suit the patients needs with more than 30 illustrated preset treatment recommendations.
- Comfortable stimulation and short treatment time.
- Compressor free ballistic radial Shockwave therapy-system with electromagnetic generator as projectile accelerator.
- Touch-screen for all software operations, rotary control for energy level and for frequency, hand piece operation with multi-directional foot switch.
- 7" colour touch screen: plug & play system with a user friendly and reliable software

Kit Contents



x1 Device



x1 Footswitch



x2 Therapeutic
Handle



x1 UK Plug