

Endopor®

mattioli engineering

Endoporation® is performed by the new multipurpose Mattioli Engineering device **Endopor®** to obtain:

- An increased absorption speed of active substances by means of special patented pulsed electrical currents which increasing either transdermal and inner dermal permeability.
- High peak power acoustical waves with high content of harmonics in ultrasound frequency range with a fat dissolving action.

Both technologies can be used contemporarily. The ultrasound cavitation function can be totally shut down while the electric emission function always remains active, even if current level can be regulated at very low intensities (500 μ A). Both electric and ultrasound pulse stimulation are distributed in different contiguous time ranges: electric pulses trains are interspersed to ultrasound pulses trains with a repetition pattern of 20 ms per each one.

The device provides an impedance indicator to allow a clear impedance levels' visualization on the LCD color display. That's very useful because the delivery process efficiency is deeply linked to impedance influence; thus a continuous monitoring chance of its value allows operators to get under control one of the most important process parameters.

The operation principle of skin absorption

acceleration process is similar to the ionophoresis one but, at the same time, it results different because of the low-intensity pulsed currents use (instead continuous ones) and a totally different electrodes configuration.

Mattioli Engineering Italia has developed a special pulse sequence and a peculiar coupling electric-skin circuit which allows to maximize the delivery effect while limiting current values to be totally safe, damage-less and with any side effects risk.



Applications

- Cellulite and fat reduction treatments.
- Mesotherapy applications.
- Skin rejuvenation treatments.
- Wrinkles and Rhytids treatments.
- Pre and post laser treatments.
- Pre and post plastic surgery sessions.
- Skin withering treatments.
- Steroids applications.
- Medical aesthetic applications.
- Hyperhidrosis and Mesobotox.

Advantages

- **Dermoelectroporation®** Proprietary patented technology integrated in to the system.
- Wide band acoustical waves, electroporation pulses and drug for better fat dissolving.
- 100% Real time control on accuracy and delivery into the body.
- 100% Real time control on amount to be delivered, time of delivery and patient's feedback.
- Flexible device to treat all skin types for many different applications.
- Synergy of drug with device treatment.

DATA SHEET



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a new science
in skin care®

TECHNICAL SPECIFICATIONS

Supply: 230-240 VR, 0,5 A

Mean current of impulse: from 0,5 mA, to 4 mA by steps of 0,5 mA

Allowed charge resistance: from 0 to 15 K Ω

Pulses frequency: 2200 Hz

Pulses length: 228 μ s per phase

Electric pulses train length: 10 ms

Acoustic waves train length: selectable from 0,5 (5%) to 10 ms (100%)

Cadence output electrical and wave trains: 20 ms

Mechanical vibration frequency: 50Hz, 100Hz, selectable

Skin impedance view: from 1 to 20 kW digital/analogical

Peak power of acoustic waves: 40 W max, selectable from 1 to 100%

Wave emission surface: 18 cm² (\pm 4,8 cm)

Operation choices: STANDARD, ADVANCED

Outputs: 3, selectable singularly

Control system: double microprocessor, PC technology

Software management system: OS WINDOWS XP Embedded e Software Proprietary

Screen: 5,7" LCD TFT, colours, 640x480 pixel, LED backlight

Keyboard: 4 keys with multipurpose function

Operative environment conditions: temp. 18°C, 38°C; humidity 45%, 75%

Operative storage conditions: temp. 0°C, 50°C; humidity 30%, 85%

Dimensions: 50 cm (d) x 128 cm (h) x 45 cm (w)

Weight: 25 kg

Endoporation®

The new technology of **Endoporation®** combines the proprietary transdermal delivery technology **Dermoelectroporation®** with wide-band acoustical waves ranging from 50 Hz to 30 KHz together with Chirp waveforms.

Ultrasound waves are responsible for a well-known physic phenomena called **cavitation** which consists in cyclical generation and implosion of air micro-cavities inside fluids. Applied to the subcutaneous adipose tissue, cavitation promotes the mechanical braking of adipocytes, decreasing their numbers and causing a mobilization of their fat contents.

This process called **ultrasound lipo-cavitation**, known since middle 90s and initially designed to assist liposuction techniques, is now used exclusively in new frontiers of aesthetic medicine to perform **fat sculpturing** with high efficiency results, especially in **cellulite** and **localized adipe deposits** treatment. Thanks to the synergy of ultrasound/acoustical waves, electrical electroporation pulses and appropriate fat-mobilizing drugs delivery, Mattioli Engineering **Endopor®** is the best solution for a safe, visible and lasting **body-shaping**, assisted by our twenty years professional experience

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