



Physio hyperthermia

# Delta



# Delta

The device for an in-depth and intensity controlled performance of hyperthermia.

Delta is a device for Physio Hyperthermia, the only method that enables to heat a musculoskeletal district while controlling the depth and intensity of the thermal stimulation (dose).

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which revolutionized the concept of traditional thermo therapies. Physio Hyperthermia is a method consisting in the simultaneous application of endogenous heat and a cooling exogenous source to stabilize skin temperature.

The therapeutic effects induced by this method translate into a strong local hyperemia which in turn activates a powerful regenerative and repairing local stimulus.

Thanks to the protocols of reference, with Delta, you can set up a specific treatment by selecting the most appropriate parameters of depth and intensity for each individual case and specific district.

# Caratteristiche



- Endogenous source, generating electromagnetic waves
- Exogenous source for the thermoregulation of surface layers
- Thermometric system for therapeutic temperature control
- Maintaining a stable hyperthermic condition for the entire duration of the treatment
- Measurement and control of the given energy
- Homogeneity of heating of the affected area
- Independence from the operator during the application of the treatment
- Repeatability of treatment conditions
- Preset and manually customizable protocols
- Medical certification



In the field of physical rehabilitation, hyperthermia is defined as the thermo therapy able to treat the tissues in the narrow temperature range in which the heat optimizes its therapeutic efficacy.

The range of temperature in which the heat has therapeutic potential extends from 37°C (physiologic of the human body) to approx. 44.5°C (threshold for thermal damages).

The optimization of the therapeutic efficacy of heat occurs when the rise in temperature is such as to cause a strong and lasting increase of blood perfusion in the treated area (Hyperemia), an extremely beneficial process for a wide range of diseases related to the musculoskeletal system.

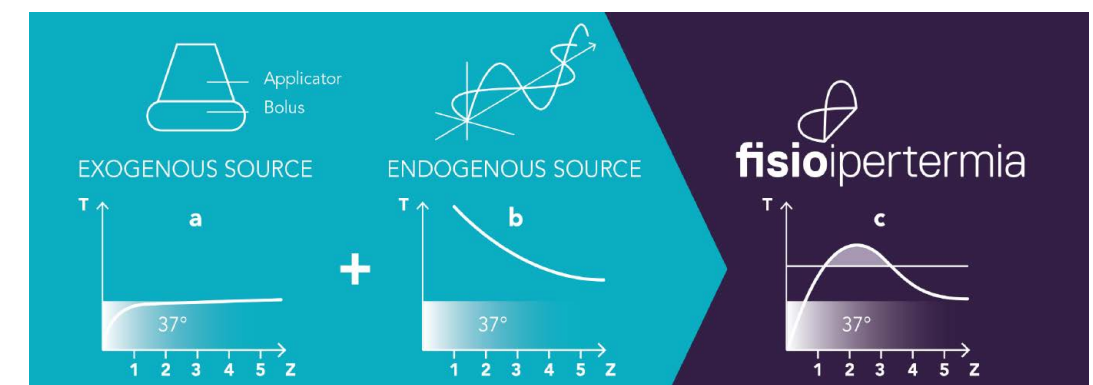
A device for the performing of physiotherapeutic Hyperthermia must be accurate in controlling the heat and in predictably delivering the right amount of temperature to the desired areas.

The best way to achieve this precision is the combined use of an endogenous heat source (the electromagnetic wave at 433 MHz) whose aim is to heat in depth and induce a superficial overheating, and an exogenous source ensuring an adequate cooling of the cutaneous tissues.

In our case, the exogenous source consists in a temperature-controlled water bolus of deionized water that circulates continuously and always stays in contact with the skin of the patient.

The result is that the maximum of the temperature is propelled from the surface to the inside, in a wide area where the temperatures are at hyperthermal levels close to the maximum.

By dosing the “intensities” of the two sources, exogenous and endogenous, it is possible to generate all the conditions of hyperthermia needed to treat musculoskeletal diseases at different depths.



# Technical features

## Operating configuration

Delta unit with microprocessor control and 10" touch screen display

Conical Horn applicator type with diameter of radiating opening 100 mm and maneuvering arm

Variable volume bolus containing deionized water for patient application

## Electromagnetic source

Work frequency 433.125 MHz

Maximum power Pmax 100 W (+5/-15%)

Power adjustment 0 ÷ Pmax

Delivered power indicator

Reflected power indicator

## Skin temperature control

Constantan-copper T-type thermocouple

Measurement of the DeltaT difference  
(=T skin - T liquid)

Adjustable range of temperature of DeltaT

## Electrical features

Voltage 230 V

Frequency 50/60 Hz

Maximum absorbed power 4 A

## Size and weight

Height (with arm in resting position): 114 cm

Width (with arm in resting position): 49 cm

Depth: 70 cm

Weight: 84,5 kg

## Installation requirements

Room temperature: [+20; +30] °C

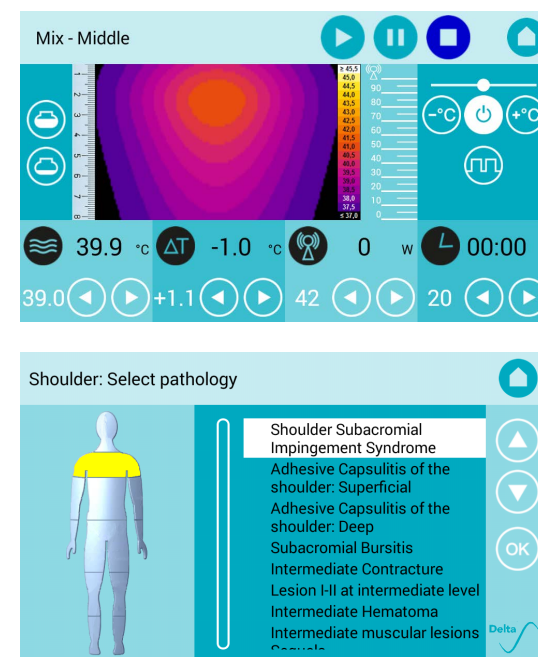
Relative humidity (without moisture): [0; +75] %

Atmospheric pressure: [700; 1060] mbar

## Certification

Delta is a medical device compliant with  
European Union Regulation 2017/745

## Touch control software and preset protocols



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CERTIFIED QUALITY  
SYSTEM ISO 13485

Rehabilitation  
Technology.