

en

**qmd**<sup>®</sup>  
by **Hakomed Italia**

physiotherapy  
equipment

laser  
cryo-thermal  
cryo thermal PT  
ultrasound cryo thermal





## qmd<sup>®</sup> - qualified medical device

The **qmd<sup>®</sup>** brand represents a line of **medical** and **aesthetic devices** that stand out for their high technological content, valuable materials and sophisticated design, but which at the same time are characterized by their simplicity of use. In-depth studies of the scientific literature convinced us, initially, that the greatest development potential could be obtained in **therapeutic lasers**. We saw further potential in the **cryo- and thermotherapy**, among the most widespread therapies in central-

northern Europe. The next step was the development of a **portable cryo-thermal** combined with an innovative **ultrasound**. Reading and studying the bibliography led to the development of **qmd<sup>®</sup> Sélene** and **qmd<sup>®</sup> Sélene PT**, cryo-thermal devices for the aesthetic sector, with particular focus on the reduction of adipose tissue. From the synthesis of these considerations the **qmd<sup>®</sup>** products were born.

# characteristics of **qmd**<sup>®</sup>

The electro medical devices **qmd**<sup>®</sup> are characterized by:

- **versatility**, they allow to solve many different problems with a single device
- **specificity**, each program is designed to specifically address the patient's problem, like a drug
- **ease of use**, the use of the software and the treatment delivery are intuitive
- **personalization**, they allow the user an individual application, however, guided by the software
- **rapid treatment**, just a few minutes to achieve the desired therapeutic goal
- **integration**, ability to integrate the different devices of the same **qmd**<sup>®</sup> line
- **originality**, in the design and therapeutic programming





# 1 qmd<sup>®</sup> laser

## laser therapy

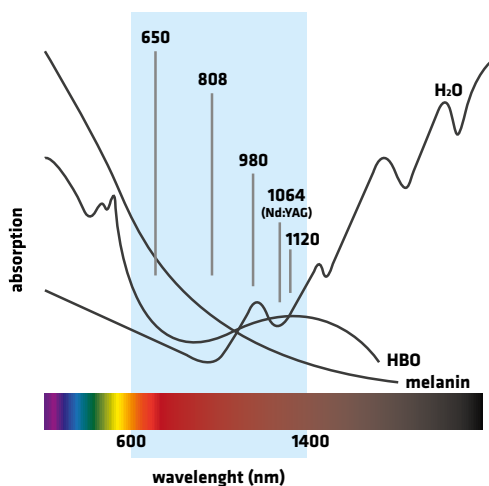
The laser is a source of electromagnetic bright radiation. Thus, the laser therapy is based on the possibility of providing electromagnetic energy to tissues in the form of photons, with recognized therapeutic effects.

Laser devices are finding increased use in rehabilitation medicine thanks to the solidity of the scientific demonstrations about the biological and therapeutic effects of this form of energy. This has recently given a great impulse to the research for further technical developments, which were referred to the realization of high-power devices, which allow deeper penetration of energy and a

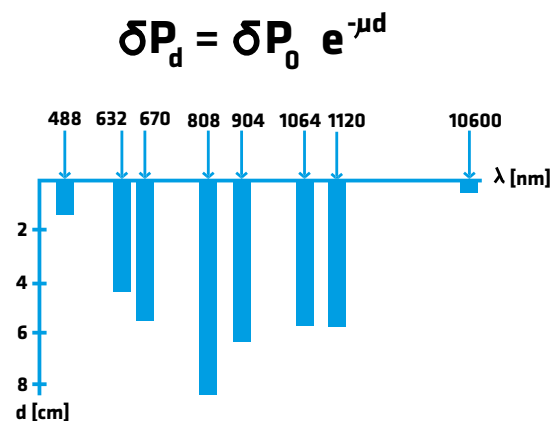
more rapid and more enduring effect on the pain, on inflammation and on stimulation of reparative processes.

In particular, studies conducted by the group of Prof. Karu have shown that within the therapeutic window (the wavelength band that allows the absorption of electromagnetic radiation by the tissues, or 600 - 1200nm), the stimulation with different wavelengths reaches and activates selectively different triggering receptors. Consequently, we obtain different biological effects.

## therapeutic window



## Beer-Lambert law



## qmd® laser devices

The **qmd®** laser device can provide light in all modes currently possible:

- continuous wave
- pulsed wave
- superpulsed wave
- and a particular form, the frequency scanning, called **qmd® harmonic** pulsation, an exclusivity of **qmd®**

So, the **qmd®** devices don't produce only analgesic effects by a superpulsed mode, but by being able to dispense in all modes, they produce the following effects:

- anti-inflammatory on articulation and muscles
- analgesic on nerve fibers
- bio-stimulating and regenerating on soft and connective tissues

- vasodilating on the microcirculation (thus, improves peripheral circulation)
- anti-inflammatory and anti-edemigulous (you achieve an immediate resorption of inflammation mediators and of any liquid accumulation)

**Thanks to their versatility, the qmd® devices can be used for various pathologies, such as:**

- rheumatoid arthritis
- chronic neck pain
- articulation pains (for example in the shoulder area, elbow, wrist)
- carpal tunnel syndrome
- back pain
- arthrosis
- but especially inflammation of tendons and ligaments





Whereas all **qmd**® laser are equipped with the particular 1064nm wavelength, the most advanced models have additional wavelengths. Moreover, they also differ regarding the transmitting power.

All models have a large color touch screen of 10.1" and an intuitive and easy-to-use software. They dispense in continuous mode, pulsed mode, super pulsed mode and in the frequency scanning, called **qmd**® harmonic pulsation, an exclusivity of **qmd**®.

# The lasers **qmd**<sup>®</sup> are available in the following models:

## **qmd**<sup>®</sup> **eos**

Therapeutic laser 1064nm, 8W, complete with trolley for easy movement, equipped with standard kit.

## **qmd**<sup>®</sup> **eos plus**

Therapeutic laser 1064nm 15W, with more power and faster and more effective treatments, equipped with trolley and standard kit.

## **qmd**<sup>®</sup> **ares**

2 wavelengths individually controllable allow more targeted treatments: lasertherapy 808+1064nm 18W, equipped with trolley and standard kit.

## **qmd**<sup>®</sup> **helios**

The top of the **qmd**<sup>®</sup> range: therapeutic laser 808 + 1064 + 1120nm 24W, complete with trolley and standard kit.

The three wavelengths are individually controllable. Thus, for example, in an analgesic treatment, a wavelength issues a superpulsed stimulus (most of the laser devices make only this!); the second wavelength issues, simultaneously, a pulsed

stimulus of the same frequency of the molecule / target mediator; and the third issues a scanning of the frequencies to hit at the same time all mediators and molecules marginally involved. In this way, we are able to treat pain with triple simultaneous actions. Another special feature of this device is the wavelength 1120nm, which acts primarily on serotonin, on dopamine (pain neurotransmitter) and on P substance (muscles).

## **kit**

The unit is completed with the S and M spacers, the footswitch and two pairs of goggles. The device is equipped with USB ports to allow remote assistance and remote software updates without having to remove the device from your medical office.

## **accessories**

- **qmd**<sup>®</sup> **laser arm** including spacer L and handpiece with manual stop button;
- **qmd**<sup>®</sup> **cryo-thermal module**;
- **qmd**<sup>®</sup> **bag** for easy and safe movement of your pc unit from your **qmd**<sup>®</sup> device.

## 2 qmd<sup>®</sup> cryo-thermal



### **cryo therapy and thermo therapy**

With the qmd<sup>®</sup> cryo-thermal device it is possible to generate the cryo effect (hypothermia from -15° C to +15° C), the thermal effect (hyperthermia from +30° C to +45° C), the thermal shock (the temperature drops in a short time by 30° C) and contrast therapy<sup>®</sup> (application of alternating hot and cold cycles).

**the innovative device** qmd<sup>®</sup> cryo-thermal, thanks to its latest generation of technology, does not need gas loading or draining of condensation water. Also, by taking advantage of direct contact with the skin, it is possible to provide different therapies.

### **cryo therapy** ❄️

The cryo therapy is a physical therapy performed by the cold and is used in the treatment of recent trauma, after-effects of trauma, bursitis, arthrosynovitis, tendonitis and inflammatory arthropathy.

### **thermo therapy** 🔥

The thermo therapy instead is a physical therapy performed by the heat. The heat increases blood flow, promotes the elimination of metabolic by-products produced in the tissues, increases oxygenation, accelerates biochemical reactions of the body and has an analgesic and myorelaxing effect.

### **contrast therapy**<sup>®</sup> ❄️ 🔥 ❄️ 🔥

The contrast therapy<sup>®</sup> is a physical therapy consisting in the application of hot and cold cycles and it is found to be an important indication in the treatment of edema, pain, muscle contractures, inflammation of the ligaments, aponeurosis and periostasis.

### **thermal shock** ❄️ 🔥

The thermal shock consists of lowering the temperature of 30 °C over a time period of 45 seconds and is used in the treatment of osteoarthritis, muscle problems, acute injuries and post-operative recovery.

### **pathologies treatable with the thermal shock are:**

- rheumatoid arthritis and inflammatory diseases in general
- back pain
- osteoarthritis
- muscle problems
- acute injuries
- post-operative convalescence

Exploiting the effects of heat and cold it is possible to treat many other pathologies.

### **modules**

The qmd<sup>®</sup> cryo-thermal device can be supplied as a module combined with a qmd<sup>®</sup> laser device, or provided as an independent therapeutic instrument, complete with trolley and PC unit.



# 3 HPC therapy

## high performance combination

An in-depth study of the scientific bibliography and years of experience has enabled our researchers to develop the **HPC therapy**, called **“high performance combination”**, which arouses particularly good effects on inflamed tissues. HPC therapy consists of the combination of laser, cryo, and thermotherapy.

In the acute phase, an initial reduction of the edema improves the effect of the laser. The application of cryo at the end increases further the analgesic and inflammatory effect. The chronic phase, instead, requires an increase in microcirculation, and therefore at the end a thermal application.



## 4 qmd® cryo thermal PT



qmd® enlarges the appliance family! After the success of the studio version, thanks to its innovations and ease of use, we decided to satisfy even more the needs of our customers. We introduced the portable version of our cryo-thermal: **qmd® cryo thermal PT**.

The **qmd® cryo thermal PT** is a portable therapy system for the application of cryotherapy, thermotherapy, thermal shock and the exclusive **contrast therapy®**. With an ergonomic handpiece that allows direct skin contact, the desired therapeutic effects can be specifically obtained.

### design

qmd® cryo thermal PT does not betray the qmd® philosophy and always maintains its unmistakable design, which is characterized by simple, essential and innovative lines.



### therapeutic possibilities

Even in the portable version, the applicable therapies are not reduced:

- cryo therapy ❄️  
(-2 °C up to +15 °C)
- thermo therapy 🔥  
(+30 °C up to +42 °C)
- contrast therapy® ❄️🔥❄️🔥  
(alternation of heat and cold)
- thermal shock ❄️🔥

### functionality

We made a device with really small dimensions. It can be easily transported, even outside your studio, and is able to meet any expectation.

### pathologies treatable with the cryo thermal PT are:

- rheumatoid arthritis and inflammatory diseases in general
- back pain
- osteoarthritis
- muscle problems
- acute injuries
- post-operative convalescence

Exploiting the effects of heat and cold it is possible to treat many other pathologies.

### technical data

- dimensions 24x34x22 h cm
- weight 7.5 kg
- 10.1" display
- water cooling system
- USB input to update your software
- ethernet input for remote control
- no condensation water, no gas and no jet of air

### modularity

We wanted to maintain modularity as one of the important features of our brand: qmd® cryo thermal PT can be upgraded at a later stage with the **qmd® ultrasound** module.

# 5 qmd<sup>®</sup> ultrasound cryo thermal



Our qmd<sup>®</sup> cryo thermal PT combined with ultrasound. In pursuit of continuous development and improvement, we present an innovative and complete device. To achieve even better therapeutic effects, we combine various functionalities. Our **qmd<sup>®</sup> ultrasound cryo thermal** represents a single system with the following treatment options:

- ultrasound therapy
- cryo + thermal therapy
- ultrasound + cryo + thermal

## **ultrasound therapy**

Ultrasound therapy is a non-invasive therapeutic method that uses sound wave energy, which penetrates deeply through human soft tissue. The sound waves create thermal and mechanical effects.

- **thermal effects** are mainly obtained with the continuous mode (ultrasounds produce heat through vibration, impact and friction of the cellular and intercellular structures that compose the traversed tissues). Thermal elevation generates an increase in cellular metabolism and vasodilation.
- **mechanical effects** mainly concern acoustic cavitation (= phenomenon consisting of the formation, growth and implosion of gas bubbles within the fluid subjected to an ultrasonic field). We obtain them with pulsed waves.

## **cryo-thermal**

A small portable device that allows the following treatment options:

- cryo therapy (-2 °C up to +15 °C)
- thermo-therapy (+30 °C up to +42 °C)
- contrast therapy<sup>®</sup> (alternation of heat and cold)
- thermal shock

## **the combination of ultrasound with cryo**

- allows a greater energy delivery of the US, without causing excessive tissue heating
- promotes better penetration of the US

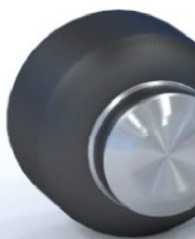
## **the combination of ultrasound with thermal**

Improves the treatment effects of:

- chronic inflammations (increases microcirculation)
- degenerations (improves microcirculation and oxygenation)
- muscle strains (through application of heat)

## **an additional advantage only with qmd<sup>®</sup>**

The combination of ultrasound and contrast therapy<sup>®</sup> (alternating cycles of heat and cold) promotes the emulsion of large molecules and their reabsorption, ideal for post-traumatic oedemas and haematomas.



## qmd® ultrasound cryo thermal

With the qmd® ultrasound cryo thermal you achieve even better results in:

- fracture repair
- repair of tendon injuries
- treatment of scar tissues (making them more elastic)
- relief of joint and muscle pain (with increasing temperature)
- acceleration in wound healing
- greater extensibility of soft tissues
- reduction of swelling

## technical information

- dimensions 34 x 24 x 22 h cm
- weight 7.5 kg
- 10.1" display
- USB input to update your software
- ethernet input for remote control

ultrasound:

- emission mode: continuous, pulsed and the innovative programmes thynk1 and thynk2
- frequency: 1 and 3 Mhz

cryo-thermal:

- water cooling system
- no condensation water, no gas and no jet of air



## 6 accessories for portable devices

### qmd® trolley light

practical and functional trolley for a better organisation of your devices in your studio

### qmd® US arm

adjustable arm for static ultrasound treatments

### qmd® bag

bag for easy and safe transport of your qmd® device



# qmd<sup>®</sup> - qualified medical device

## ① clinical studies

**Hakomed Italia** and its **qmd<sup>®</sup>** team support scientific research. We have been collaborating with Universities and Research Institutes for quite some time and there are several scientific studies in place.

## ② qmd<sup>®</sup> respects the environment

All **qmd<sup>®</sup>** products are made of recyclable materials and are respecting the environment. Thanks to the introduction of the automatic standby in the **qmd<sup>®</sup>** devices we can give our small contribution to energy saving and to a conscious use of the resources.

## ③ certifications

The **qmd<sup>®</sup>** products are manufactured and supplied in accordance with provisions of law currently in force.



UNI EN ISO 9001:2015  
REG. H. 13707-A



UNI OEI EN ISO 13485:2016  
REG. H. 13707-M



**MTIC INTERCERT S.r.l.**

# qmd<sup>®</sup> - qualified medical device

## laser devices

- **art. Q-0102 qmd<sup>®</sup> eos**  
therapeutic laser 1064nm, 8W, complete with trolley
- **art. Q-0103 qmd<sup>®</sup> eos plus**  
therapeutic laser 1064nm, 15W, complete with trolley
- **art. Q-0104 qmd<sup>®</sup> ares**  
therapeutic laser 808+1064nm 18W, complete with trolley
- **art. Q-0105 qmd<sup>®</sup> helios**  
therapeutic laser 808 + 1064 + 1120nm 24W, complete with trolley

## cryo-thermal devices

- **art. Q-0201 qmd<sup>®</sup> cryo-thermal - only module**  
therapeutic system to produce the effect of heat, cold, thermal shock and contrast therapy<sup>®</sup>
- **art. Q-0202 qmd<sup>®</sup> cryo-thermal - complete system**  
therapeutic system to produce the effect of heat, cold, thermal shock and contrast therapy<sup>®</sup> complete with trolley and PC unit
- **art. Q-0203 qmd<sup>®</sup> cryo thermal PT**  
portable therapeutic system to produce the effect of heat, cold, thermal shock and contrast therapy<sup>®</sup>

## ultrasound device

- **art. Q-0305 qmd<sup>®</sup> ultrasound cryo thermal**  
a portable therapeutic combination system of ultrasound, cryo and thermal

## combined devices

- **art. Q-0301 qmd<sup>®</sup> eos cryo-thermal**  
complete system of therapeutic laser 1064nm 8W and the module qmd<sup>®</sup> cryo-thermal
- **art. Q-0302 qmd<sup>®</sup> eos plus cryo-thermal**  
complete system of therapeutic laser 1064nm 15W and the module qmd<sup>®</sup> cryo-thermal
- **art. Q-0303 qmd<sup>®</sup> ares cryo-thermal**  
complete system of therapeutic laser 808+1064nm 18W and the module qmd<sup>®</sup> cryo-thermal
- **art. Q-0304 qmd<sup>®</sup> helios cryo-thermal**  
complete system of therapeutic laser 808+1064+1120nm da 24W and the module qmd<sup>®</sup> cryo-thermal

## accessories

- **art. Q-7002 qmd<sup>®</sup> laser arm** comprehensive of spacer L and handpiece with manual stop button
- **art. Q-7003 qmd<sup>®</sup> bag** for easy and safe transport of your qmd<sup>®</sup> device
- **art. Q-7011 qmd<sup>®</sup> trolley light** practical and functional trolley for a better organisation of your devices in your studio
- **art. Q-7012 qmd<sup>®</sup> US arm** adjustable arm for static ultrasound treatments

to feel better  
**qmd**  
medical device

delivered by

biomedical products  
**HAKOMED**  
**Italia**

Production and distribution:  
Hakomed Italia, 39044 Egna (BZ)  
Tel. +39 0471 820 583  
www.qmd-medicaldevice.com  
info@qmd-medicaldevice.com

