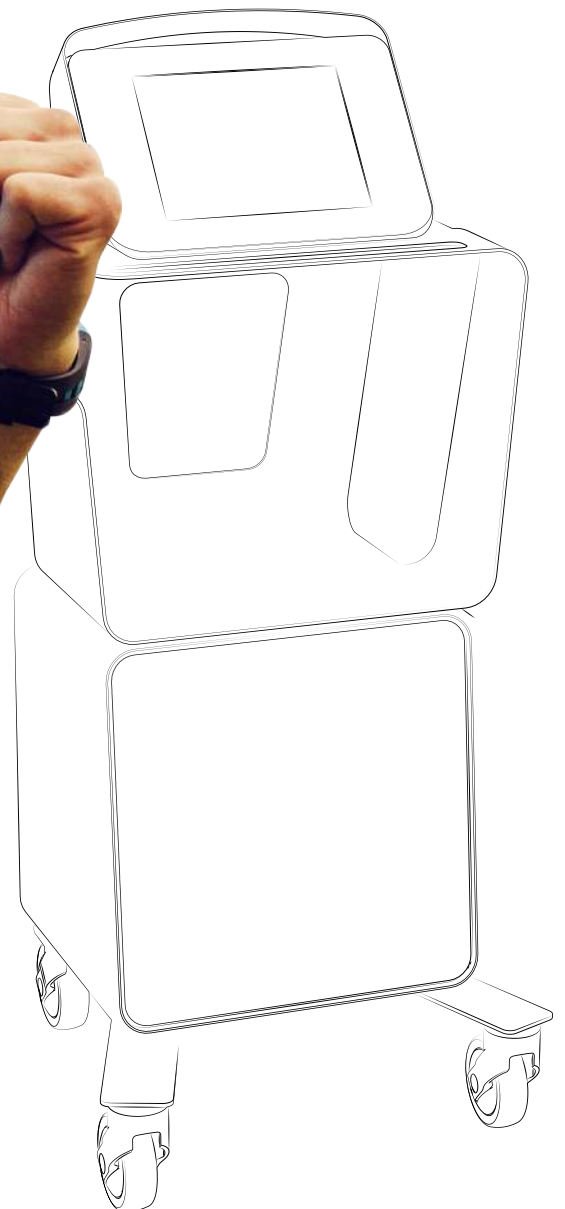


to feel better
qmd
medical device

qmd[®] - qualified medical device

Laser - cryo-thermal



Characteristics of **qmd**[®]

The electro medical devices **qmd**[®] are characterized by:

- **versatility**, they allow to solve many different problems with a single device
- **specificity**, each program is designed to specifically confront 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**[®] line
- **originality**, in the design and therapeutic programming





qmd[®] laser

laser therapy

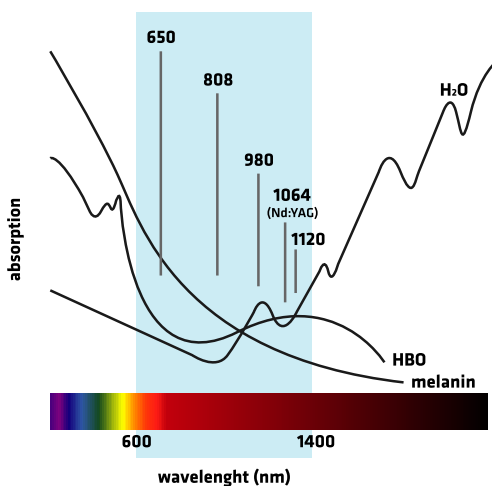
The laser is a source of electromagnetic bright radiation. Thus, the laser therapy is based on the possibility of providing electromagnetic energy to tissues in the form of photons, with recognized therapeutic effects.

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

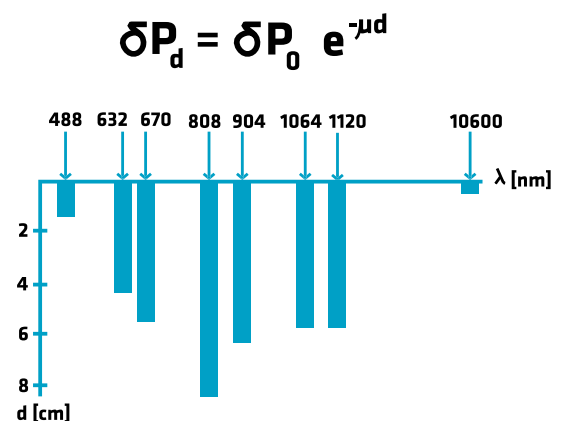
and a more rapid and more enduring effect on the pain, on inflammation and on stimulation of reparative processes.

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 devices 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

- vasodilator 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 ligament



The lasers **qmd**[®] are available in the following models:

qmd[®] helios (8W)

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

qmd[®] helios (15W)

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

qmd[®] helios (18W)

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

qmd[®] helios (24W)

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

The three wavelengths are individually drivable. 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 neuro-transmitter) 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.

optional accessories

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

qmd[®] cryo-thermal



cryo therapy and thermo therapy

With the **qmd[®]** 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[®] (application of alternating hot and cold cycles).

the innovative device qmd[®] 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, provides the elimination of waste accumulated in the tissues, increases oxygenation, accelerates all the biochemical reactions of the organism and it has an analgesic and myorelaxing effect.

contrast therapy[®]

The contrast therapy[®] 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 °Cover 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[®]** cryo-thermal device can be supplied as a module combined with a **qmd[®]** laser device, or provided as an independent therapeutic instrument, complete with trolley and PC unit.

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.



qmd[®] - qualified medical device

laser devices

- **art. Q-0101 qmd[®] helios (8W)**
therapeutic laser 1064nm, 8W, without trolley
- **art. Q-0102 qmd[®] helios (8W)**
therapeutic laser 1064nm, 8W, complete with trolley
- **art. Q-0103 qmd[®] helios (15W)**
therapeutic laser 1064nm, 15W, complete with trolley
- **art. Q-0104 qmd[®] helios (18W)**
therapeutic laser 808+1064nm 18W, complete with trolley
- **art. Q-0105 qmd[®] helios (24W)**
therapeutic laser 808 + 1064 + 1120nm 24W, complete with trolley

devices qmd[®] cryo-thermal

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

combined devices

- **art. Q-0301 qmd[®] helios (8W) cryo-thermal**
complete system of therapeutic laser 1064nm 8W and the module **qmd[®] cryo-thermal**
- **art. Q-0302 qmd[®] helios (15W) cryo-thermal**
complete system of therapeutic laser 1064nm 15W and the module **qmd[®] cryo-thermal**
- **art. Q-0303 qmd[®] helios (18W) cryo-thermal**
complete system of therapeutic laser 808+1064nm 18W and the module **qmd[®] cryo-thermal**
- **art. Q-0304 qmd[®] helios (24W) cryo-thermal**
complete system of therapeutic laser 808+1064+1120nm da 24W and the module **qmd[®] cryo-thermal**
- **art. Q-0305 ultrasound cryo thermal**
a portable therapeutic combination system of ultrasound, cryo and thermal

optional

- **art. Q-7002 qmd[®] fixed arm**
comprehensive of spacer L and hand piece with manual stop button
- **art. Q7003 qmd[®] laser bag**
for easy and safe movement of your pc unit from your qmd[®] device

combinable equipment

- **art. Q-5003 qmd[®] thermocamera 2.0**
infrared camera with tablet unit control, that enables easy location of the inflamed areas

to feel better
qmd
medical device

delivered by

biomedical products
HAKOMED
Italia

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

