

TT
DUAL
PARALLEL
ACTION





TT is the new technique developed by **ASAlaser** capable of combining the specific laser source for **Hilterapia®** (pulsed Nd:YAG) to a skin temperature regulation system, called **SmartCooler**, for an innovative, **dual and parallel treatment** that combines the very high intensity of the laser (3 kW and 15,000 W/cm²) to the effectiveness of the thermal exchange. Such synergy allows the target area to be irradiated with evident and long-lasting results.

TT Advantages and Innovations



INTERVENTION
IMMEDIACY



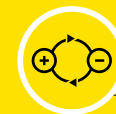
1 OPTIC FIBRE
3 MODES



SAFETY



+ INTENSITY + DEPTH



DUAL AND PARALLEL
ACTION



Hilterapia®



ASAlaser effective innovation

We have been building up our experience day by day since 1983, successfully dedicating ourselves to the development of therapeutic solutions for Pain Management and Tissue Repair.

Our tireless research has made possible the production of effective medical devices for laser therapy (Hilterapia® and MLS® Laser Therapy) and Magnetotherapy in physiotherapy, orthopaedics, traumatology, rheumatology, dermatology, sports and rehabilitation medicine.

HIRO TT

TT is the ultimate application of Hilterapia®, creating new and innovative possibilities in the treatment of painful pathologies of the musculoskeletal system.

TT combines the Nd:YAG pulsed laser source to a cooling system of skin temperature regulation, called SmartCooler, capable of producing a dual and parallel action based on the principle of thermal exchange, which allows you to treat with superior efficacy the pathologies of the patient, from superficial conditions to deeper ones.



Science at the service of health

Hilterapia® is an innovative therapeutic technique based on high-intensity laser emission. While being absolutely safe for the patient, it provides extremely effective action in depth.

HIGH INTENSITY LASER THERAPY

Hilterapia®

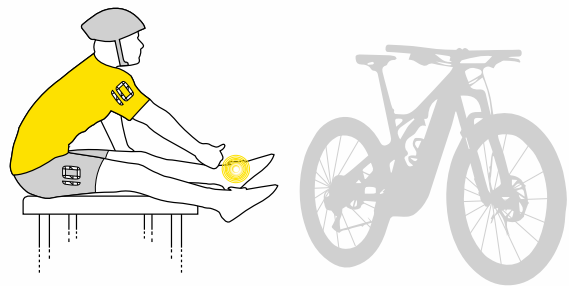
A therapy at the forefront of effectiveness and intensity thanks to the revolutionary HILT® laser pulse patented in the United States. The targeted, anti-inflammatory, analgesic, and biostimulant action of Hilterapia® is able to show results already from the first session, initiating the rehabilitation process for **a long-lasting pain relief.**

Hilterapia® occupies today a position of utmost importance in the field of scientific research worldwide, thanks to the results obtained in the treatment of painful pathologies for joints, tendons, ligaments, and muscles: with no side effects nor pain during the treatment, it is a rapid and safe solution for the physical recovery of the patients.

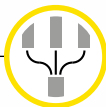
// INTERVENTION IMMEDIACY



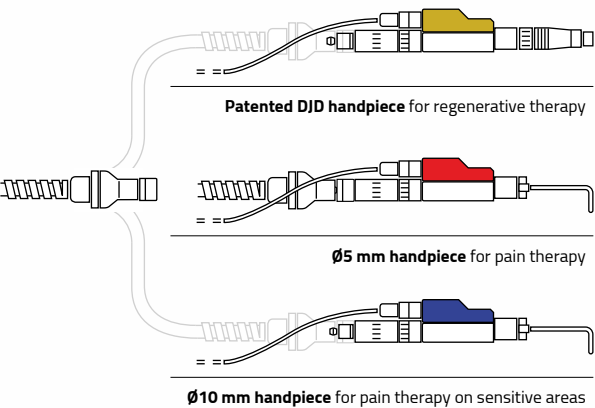
The exclusive **TT** technology allows immediate intervention on the target area by virtue of the combined action of the skin temperature regulation system, called **SmartCooler**, and the laser emission, triggering a temperature drop that makes it possible to apply the therapy immediately after the trauma.



// 1 OPTIC FIBRE - 3 MODES



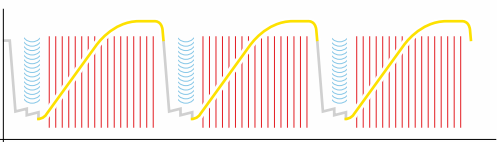
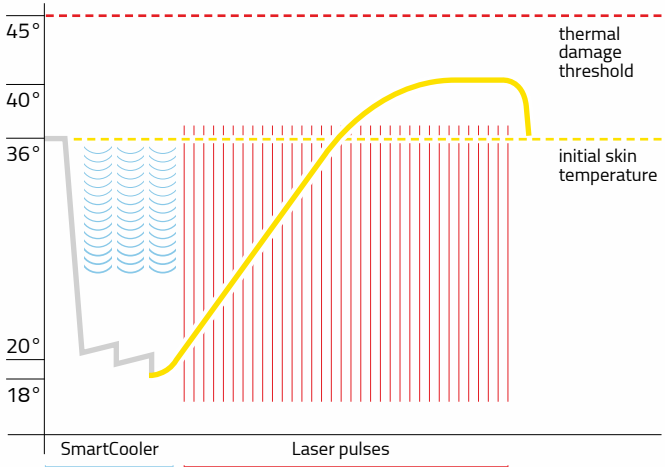
TT has been designed to connect all three handpieces with a single optic fibre, thus optimising the change of handpiece with a quick and easy connection to ensure ease of use, multifunctionality, and rapidity.



// SAFETY



The proven safety of the HILT® pulse, enhanced by the localised and intermittent action of the thermal exchange, ensures compliance with the thermal relaxation time of the skin tissues even at high energy doses and on sensitive areas, thus avoiding damaging overheating effects.

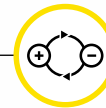


// + INTENSITY + DEPTH

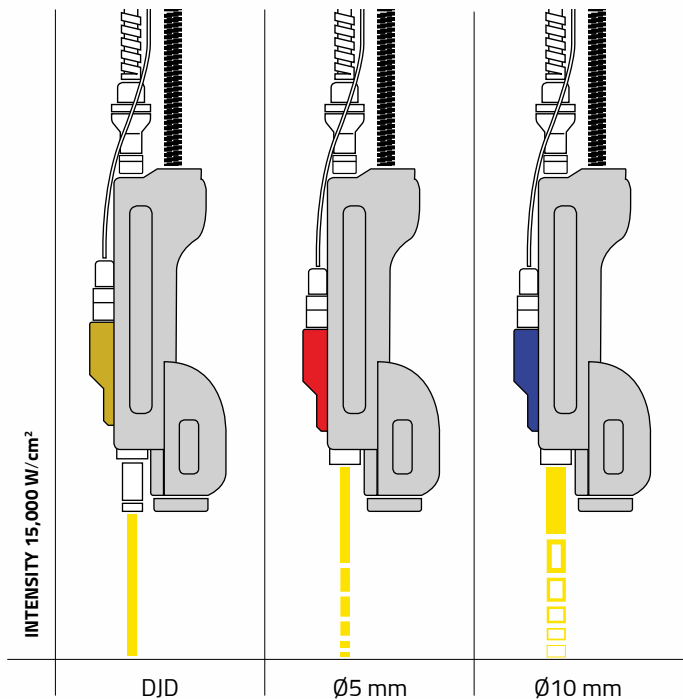


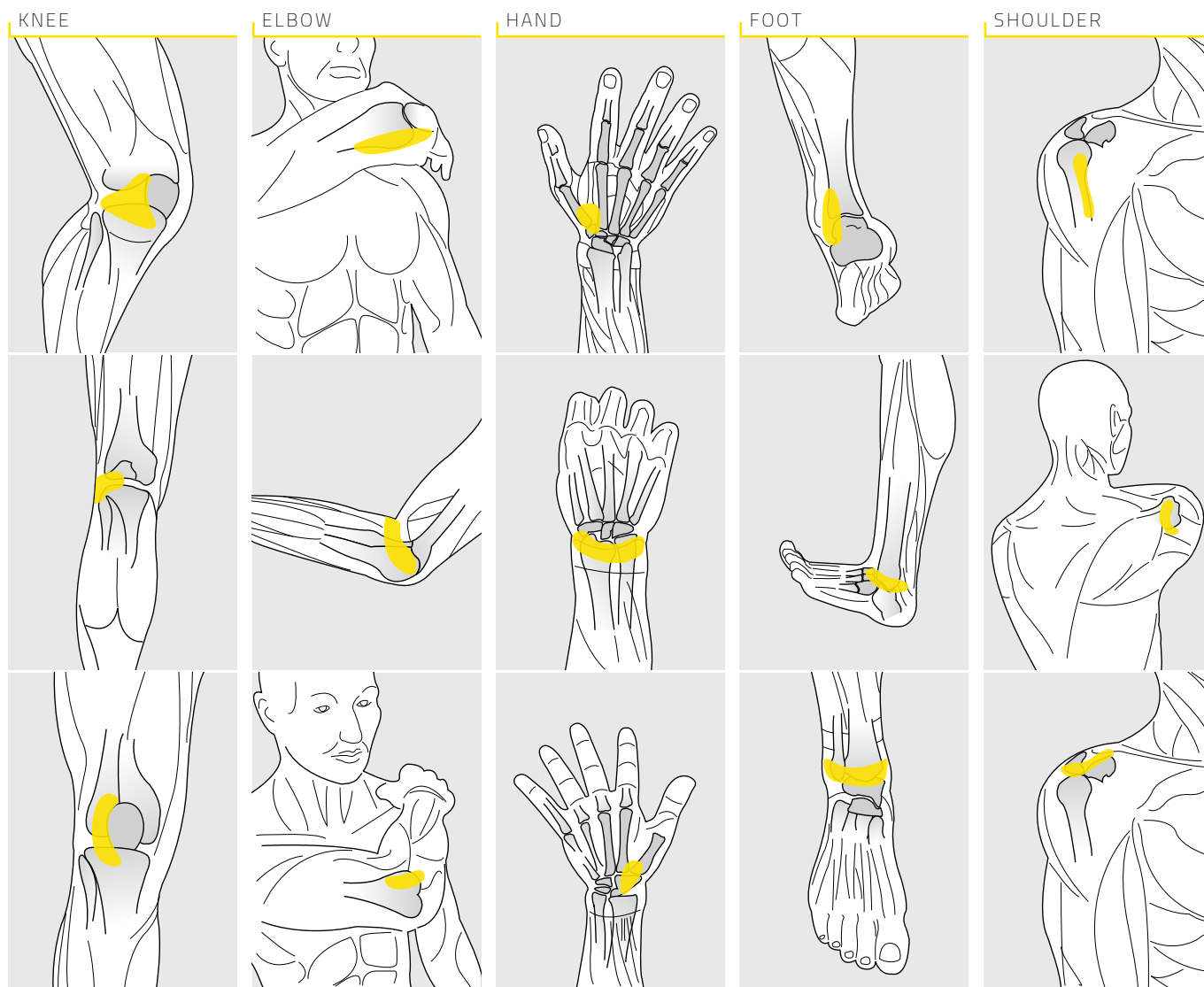
The SmartCooler skin temperature regulation system allows you to make the best out of the high intensity of the laser emission, transmitting more photons faster and deeper. Hilterapia® reaches intensities up to **15,000 W/cm²**, unprecedented for laser technology applied therapeutically. The Nd:YAG laser pulsed at 1064 nm has in fact a remarkable penetration capability that combines with the high pulse peak power **reaching 3 kW** for an effective action even in deeper tissues.

// DUAL AND PARALLEL ACTION



The thermal exchange triggered by the SmartCooler skin temperature regulation system and the laser source shows more considerable and longer-lasting results.





THE EFFICACY OF THERMAL EXCHANGE

Thermal exchange is achieved through the intermittent application of a cooling skin temperature regulation system, called SmartCooler, which allows a thermal excursion down to 18°C: this translates into a measured decrease of temperature in the treated area, followed by the laser emission which causes it to increase.

The thermal gradients (ΔT), that are created between tissues at different depths, trigger chain reactions that enhance Hilterapia® therapeutic effects, with even more immediate and effective analgesic, anti-inflammatory and anti-edema action.

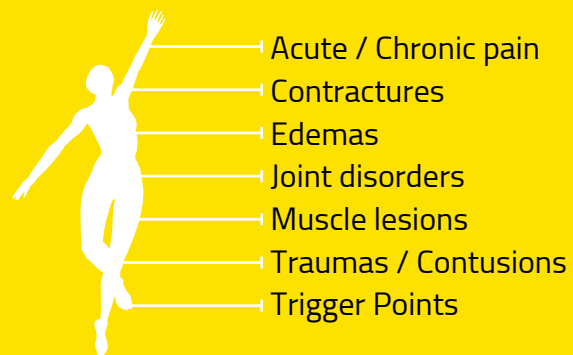
The alternating and intermitted application of the sources which generate the thermal exchange is particularly suitable to stimulate the reactivation of microcirculation and biological healing process, to facilitate edema resorption, and to promote muscle relaxation and pain inhibition.

Additionally, the cooling action is dosed to mitigate inflammation, restore tissue homeostasis and favour early interventions on trauma and acute lesions.

The SmartCooler cooling range is optimal to trigger the beneficial effect and enhance the laser action, without originating excessive thermal shocks that may have counter-productive and side effects.

By virtue of its characteristics, TT effects are immediate and durable in the treatment of numerous pathologies including: osteoarthritis and periartthritis, muscle contractures, traumas, edema, contusions, tendinitis, and in post-surgical rehabilitation (with or without wounds).

TT DUAL PARALLEL ACTION



1. SHOULDER

- A-C JOINT OSTEOARTHRITIS
- GLENOHUMERAL OSTEOARTHRITIS
- ROTATOR CUFF TENDINOPATHIES
- TENOSYNOVITIS OF THE LONG BICEPS

4. NECK

- CERVICOBRACHIAL PAIN
- NECK OSTEOARTHRITIS
- WHIPLASH

7. KNEE

- GONARTHROSIS
- ILIOTIBIAL BAND SYNDROME
- MENISCOPATHIES
- PATELLOFEMORAL SYNDROME
- PES ANSERINE TENDINOPATHY
- TENDINOPATHIES

2. ELBOW

- GOLFER'S ELBOW
- OLECRANON BURSITIS
- OLECRANON IMPINGEMENT
- TENNIS ELBOW
- TRICEPS TENDONITIS

5. BACK

- DORSAL OSTEOARTHRITIS
- DORSAL PAIN
- LUMBAR OSTEOARTHRITIS
- LUMBAR PAIN
- LUMBOSCIATIC PAIN

8. ANKLE - FOOT

- ACHILLES TENDINOPATHY
- HALLUX OSTEOARTHRITIS
- PLANTAR FASCIITIS
- TIBIOTARSAL SPRAIN

3. WRIST - HAND

- CARPAL TUNNEL SYNDROME
- DE QUERVAIN SYNDROME
- RADIOCARPAL OSTEOARTHRITIS
- RHIZARTHRITIS
- TENDINOPATHIES

6. HIP - PELVIC GIRDLE

- COXARTHROSIS
- COXITIS
- PIRIFORMIS SYNDROME
- RECTUS ADDUCTOR SYNDROME
- SACROILIAC OSTEOARTHRITIS
- TROCHANTERIC ENTHESOPATHY

ENHANCEMENT OF THE PHOTOMECHANICAL EFFECT

The significant temperature gradient created in the thermal exchange triggered by **TT** can enhance the photomechanical effect which is already a distinguishing feature of Hilterapia®: this enhanced effect acts on microcirculation, can create an important signal for the cellular component of the tissues, and can induce the activation of various biological processes, including tissue repair ones.



EFFECTIVE

Arthrosis and degenerative processes

Bursitis, synovitis, capsulitis, epicondylitis, impingement syndrome

Tendinitis and tenosynovitis

Edema and trauma ematomas

Contractures

Acute muscle injuries

Post-trauma pathologies, also due to over-loading

Adductors syndromes, tibio-tarsal sprains, insertional inflammations, patellar chondral conditions, in sport traumatology

BECAUSE

Joints

Reduces joint inflammation

Stimulates regeneration

Muscular system

Quick muscle relaxation

Provides instant, long-lasting pain relief

Circulatory and Lymphatic system

Promotes nutrients supply and the activation of biological processes (e.g. tissue repair)

It boosts microcirculation and the re-absorption of edema



Immediate treatment after trauma

Speed, safety and ease of application

Immediate relief from the first sessions

Long-lasting benefits

Dual and parallel action, more effective and targeted

High capability of tissue penetration

Hilterapia® results recognised and validated by the international scientific community

Front view



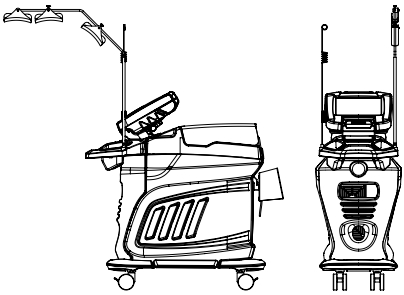
Side view



TECHNICAL FEATURES

- /// Laser system employing the patented HILT® pulse
- /// High Intensity pulsed Nd:YAG Laser
- /// Peak Power (max): 3 kW
- /// Intensity (max): 15,000 W/cm²
- /// Energy per pulse (max): 350 mJ
- /// Frequency: 10-30 Hz
- /// Average power (max): 10.5 w
- /// Fluence (max): 1780 mJ/cm²
- /// Pulse duration: ≤ 100 µs
- /// SmartCooler Cooling system: 18°-28°C
- /// User interface with graphic color touch screen display 10"
- /// Body area pre-set protocols
 - /// Standard protocol
 - /// Fast protocol
 - /// Focused Protocol (by pathology)
- /// Programs to modify and save personal parameters
- /// Emitted energy calculated automatically according to selected functions

TT THE SCIENTIFIC FRONTIER FOR YOUR HEALTH



ALARMS AND SAFETY FEATURES

- /// Acoustic signal during the therapy
- /// Date and time
- /// Language option
- /// Machine status signals and alarms
- /// Emergency stop button for laser emission
- /// Laser emission warning light
- /// Interlock
- /// Fibre Test
- /// Pedal or button-controlled emission

SIZE AND WEIGHT

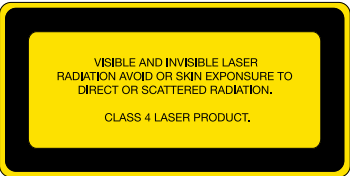
- /// 40 x 85 x 103 cm (width x depth x height)
- /// 45 kg

POWER SUPPLY

- /// 230Vdc 50-60Hz 1,840VA

ACCESSORIES INCLUDED

- /// Standard Ø5 mm handpiece for pain therapy
- /// Standard Ø10 mm handpiece for pain therapy on sensitive areas
- /// Patented DJD handpiece for regenerative therapy
- /// SmartCooler Applicator
- /// N.2 Antenna fiber holder
- /// N.2 Laser Safety goggles



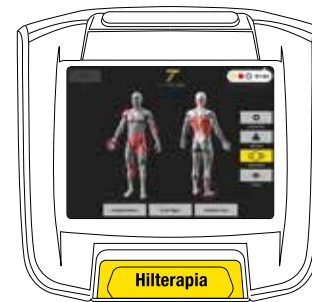
TT SOFTWARE

TT is equipped with a user-friendly graphic interface with a large 10" touch screen display for a clear and immediate visualization of all the therapy parameters.

The software allows you to manage different operating modes including the *standard* protocol (for general pain treatment), the *fast* protocol (for a specific action on trigger points, contractures, intra-articular windows, oedemas), and the *focused* protocol, dedicated to the specific treatment of the most common pathologies afflicting the different anatomical regions.

Each protocol is graphically supported by sequences of images and videos depicting the target areas and the location of the pathology that requires treatment.

TT allows the treatment to be fully customised according to the morphometric characteristics of the patients and the colour of their skin, making it possible to calibrate the energy and optimize treatment times, maintaining high standards of safety and efficacy.





Hilterapia®





Hilterapia®



Corporate Headquarters / Registered Office

ASA srl

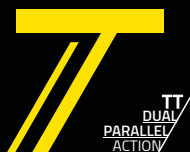
Via Alessandro Volta, 9
36057 Arcugnano (VI) - Italy
asalaser@asalaser.com
asalaser.com
t. +39 0444 28 92 00
f. +39 0444 28 90 80

Research Division / Branch

Joint Laboratory
Department of Experimental and Clinical
Biomedical Sciences
University of Florence

Viale G. Pieraccini, 6
50139 Firenze - Italy
asacampus@asalaser.com

CE
0123



FOLLOW US



HILTERAPIA-TT.COM