

NOMAD 5-Wavelength Class IV Laser Therapy System

CW 42W | ISP 57W | 635 / 810 / 915 / 980 / 1064nm | Portable | FDA Cleared



Front, Touch Screen Interface



Treatment Control UI



Rear Panel, PM5 Handpiece



Trolley System, Full Setup



Portable, Shoulder Strap Carry

DEVICE SPECIFICATIONS AT A GLANCE

Wavelengths

635nm | 810nm | 915nm | 980nm | 1064nm

Max CW Power

42W combined (+ 2W from 635nm aiming beam)

Max ISP Power

57W combined, highest in class

Modes

Continuous Wave (CW) | Pulse | Intense Super Pulse (ISP)

Frequency

0Hz (CW) to 20,000Hz | Duty cycle 0% to 100%

Handpiece

PM5, 5 interchangeable lenses (massage ball, contact, acupuncture, cone)

Battery

11.1V / 9AH Li-Ion | Up to 1 hr full power | Charges in 5+ hrs

Weight

4.2kg without battery | 4.8kg with battery

Dimensions

265 x 270 x 120mm

Input Power

100-240V AC | 50/60Hz | Optional shoulder strap carry

THE 5 WAVELENGTHS, COLOR-CODED QUICK REFERENCE

635nm	Red	Superficial, ~2-5mm	Skin, wounds, surface nerve pain, scar tissue
810nm	Near-Infrared	Mid-depth, ~3-5cm	ATP production, muscle/tendon repair, inflammation
915nm	Near-Infrared	Mid-deep, ~4-6cm	Oxygenation, synergistic with 810nm
980nm	Near-Infrared	Deep, ~5-7cm	Vasodilation, circulation, anti-inflammatory
1064nm	Nd:YAG	Deepest, 7-10cm+	Deep tissue, disc, hip, joint, deep scar remodeling

Laser Safety Guide

The NOMAD is a **Class IV therapeutic laser**, the most powerful category available for clinical use. It produces real, measurable heat in tissue. That heat is part of how it heals, but it must be managed carefully. Follow these protocols every single session, no exceptions.

MANDATORY CHECKLIST, BEFORE EVERY TREATMENT

Safety Goggles, Everyone in the Room

Patient, provider, and all staff must wear laser-rated goggles before powering on. Required rating: 630-660nm (OD2+) and 800-1100nm (OD5+). **Retinal damage from Class IV exposure is immediate and permanent.**

Post Laser Warning Signs on the Door

The treatment room door must display the laser warning symbol any time the device is on. The room interlock can be wired to the door, if it opens mid-treatment, the laser stops automatically.

Confirm Fiber is Clean and Fully Seated

Before power-on, verify the PM5 fiber connector is dry, clean, and fully secured. A contaminated or loose connection will burn the laser diode, **not covered under warranty**. Never remove the fiber while the laser is active. Keep bend radius over 15cm at all times.

Emergency Stop is Popped Out and Accessible

Confirm the red emergency stop button on the front of the unit is in the OUT position before starting. Every person in the room should know where it is and how to activate it.

Return to Standby When Not Actively Firing

Any time the laser is not treating, repositioning, patient break, end of session, switch back to Standby. Never leave the device in Ready mode unattended.

HEAT AWARENESS, MANAGING PATIENT COMFORT

Warmth Is Normal and Expected

A warm to moderately hot sensation means the laser energy is being absorbed. Most patients find it soothing. Acute patients and thin-skinned areas feel heat faster, reduce power or speed up hand movement in those areas.

Move the Handpiece Continuously

Never hold the handpiece stationary on one spot more than 2-3 seconds. Use slow overlapping circles or sweeping passes. Constant motion distributes heat evenly and prevents focal hotspots.

Stop Immediately If Patient Says Hot

The moment a patient says it has shifted from warm to HOT or burning, stop and reposition. High-risk areas: spinous processes, ankle malleolus, shin, and any area with thin tissue.

High-Risk Areas, Slow Down

Use extra caution over bony prominences, dark skin tones, open wounds, thin skin, and areas near superficial metal implants. Reduce power 30-40% or switch to Pulse mode.

CONTRAINDICATIONS, DO NOT TREAT OVER THESE AREAS

Active cancer or suspected malignant lesions | Eyes or directly over the thyroid gland | Pregnant uterus or lower back during pregnancy | Over a pacemaker or implanted neurostimulator | Open wounds with active systemic infection | Patients on photosensitizing medications | Directly over open growth plates in pediatric patients | Areas of active hemorrhage

The 5 Wavelengths, What Each One Does

Think of wavelengths like different tools in a toolbox. Each one travels to a different tissue depth and activates specific biological responses. The NOMAD fires all 5 simultaneously, giving you the full photobiomodulation spectrum in every pass.

635nm Red, Superficial Tissue

Depth: ~2-5mm

HOW IT HEALS: Stimulates skin cells, collagen synthesis, and wound healing. Also activates photoreceptors on sensory nerve fibers, reducing surface-level pain signals. Your surface repair and superficial pain wavelength.

BEST FOR: Wound healing, scar tissue, trigger points, post-surgical incision sites, surface nerve pain.

810nm Near-Infrared, Cellular Energy

Depth: ~3-5cm

HOW IT HEALS: Directly stimulates mitochondria to produce more ATP, the cell's energy currency. The workhorse photobiomodulation wavelength. Drives tissue repair, reduces inflammation, and accelerates cellular recovery across muscles and tendons.

BEST FOR: Tendinopathies, muscle strains, joint inflammation, soft tissue rehab, general photobiomodulation.

915nm Near-Infrared, Oxygenation

Depth: ~4-6cm

HOW IT HEALS: Targets oxyhemoglobin and water in tissue, enhancing oxygen delivery to healing cells. Works synergistically with 810nm, while 810nm generates ATP, 915nm ensures cells have the oxygen supply to sustain that energy production. The fuel delivery line.

BEST FOR: Chronic pain, deep muscle injuries, poor local circulation, conditions needing sustained cellular energy.

980nm Near-Infrared, Circulation

Depth: ~5-7cm

HOW IT HEALS: Absorbed strongly by water in tissue, triggering vasodilation and increased microcirculation. Flushes inflammatory byproducts out and floods the area with fresh oxygenated blood. The primary anti-inflammatory and circulation-driving wavelength.

BEST FOR: Acute edema, post-injury swelling, disc herniation zones, peripheral neuropathy, deep joint inflammation.

1064nm Nd:YAG, Deep Penetration

Depth: 7-10cm+

HOW IT HEALS: The deepest-reaching wavelength in the NOMAD. Passes through skin and superficial tissue with minimal absorption until reaching deep structures. Activates deep pain modulation pathways and stimulates collagen remodeling at depths no other wavelength can reach.

BEST FOR: Lumbar disc pathology, deep hip structures, SI joint, posterior knee, deep scar tissue remodeling.

Understanding the Settings, Plain Language

Every parameter on the NOMAD controls how much laser energy reaches the target tissue and at what rate. Here is what each setting means in plain terms, for your understanding and your assistants'.

WAVELENGTH, nm (nanometers)

Wavelength is which frequency of laser light you are using, measured in nanometers (nm). Lower nm = shallower tissue penetration. Higher nm = deeper penetration.

Simple version: Wavelength = depth selector. The NOMAD lets you activate any combination of its 5 wavelengths per treatment phase, so you treat multiple depths simultaneously.

POWER, W (Watts)

Power is how intense the laser energy is. More watts = more energy per second = faster treatment and more heat generated. Max CW: 42W total. Max ISP: 57W total.

Simple version: Power = intensity dial. More watts = shorter treatment time, but requires closer heat monitoring. Reduce power for acute cases or sensitive areas.

CW, Continuous Wave

CW means the laser fires in a constant, uninterrupted beam. Frequency is set to 0Hz. Maximum sustained energy delivery. Generates the most warmth.

Simple version: CW = laser on full blast, like a garden hose running continuously. Best for chronic conditions, large areas, and deep tissue needing maximum total energy dose.

PULSE MODE

Pulse mode fires the laser in rapid on-off bursts. Tissue cools between pulses, reducing heat buildup while still delivering therapeutic energy. Duty cycle and frequency control the pulse pattern.

Simple version: Pulse = the laser blinks on and off rapidly. Gentler than CW. Best for acute inflammation, sensitive areas, thin-skinned patients, or bony prominences.

ISP, Intense Super Pulse

ISP fires very high peak power in extremely short bursts. The NOMAD reaches 57W in ISP vs. 42W in CW. Short burst duration means peak photon penetration is maximized while average surface heat remains controlled.

Simple version: ISP = camera flash vs. floodlight. Gets energy very deep, very fast, without sustained surface heat. Best for deep targets: lumbar spine, hip, deep knee.

DUTY CYCLE, % (Percent)

Duty cycle is what percentage of each pulse cycle the laser is actually ON. 100% = CW mode (always on). 50% = laser on for half the cycle, off for half.

Simple version: 50% duty = laser fires half the time, rests half the time in each cycle. Lower duty = gentler, less heat per cycle. Higher duty = more aggressive.

FREQUENCY, Hz (Hertz)

Frequency controls how many pulse cycles are delivered per second. 0Hz = CW. Low Hz (20-200) = slow pulses for nerve and neurological conditions. High Hz (1,000-20,000) = fast pulses for ISP and deep tissue stimulation.

Simple version: Frequency = how many times per second the laser blinks. 0Hz = never blinks (CW). 1,000Hz = blinks 1,000 times per second.

APPLIED ENERGY, J (Joules)

Applied energy is the total laser dose delivered during the session, measured in Joules. The NOMAD tracks this live on the main screen. Always document total Joules per session.

Simple version: Joules = total dose received. Acute conditions = lower J totals. Chronic conditions = higher J totals.

Patient Talking Tracks, How Laser Therapy Works

Use these talking tracks when introducing laser therapy, answering questions, and setting expectations. The science section gives you words to explain exactly what the laser is doing inside the body, in terms patients can understand and remember.

THE OPENING EXPLANATION, Introducing Laser Therapy

"What we are doing today is called Class IV laser therapy, also known as photobiomodulation. We are using specific frequencies of light to communicate directly with your cells. Think about how sunlight affects your body, it triggers vitamin D production, affects your mood, and helps your skin. That is light talking to your cells. We are doing the same thing, but with precise wavelengths that trigger healing and pain relief at specific depths in your tissue. The laser enters your body painlessly, reaches the damaged area, and signals those cells to repair, produce energy, increase blood flow, and reduce inflammation. No drugs, no surgery. Just your own biology, accelerated."

THE SCIENCE IN PLAIN TERMS, Three Things Laser Does in the Body

1. It stimulates ATP production, your cells' energy source.

"Think of ATP as the fuel your cells run on, like gasoline in an engine. When tissue is injured or chronically painful, the cells in that area are energy-depleted. They are struggling to repair themselves because they simply do not have enough fuel. The laser light, specifically the 810nm wavelength, is absorbed by the mitochondria inside your cells, which are your cells' power plants. When they absorb that laser energy, they produce significantly more ATP. More ATP means those damaged cells now have the fuel to repair, regenerate, and function the way they are supposed to. It is essentially like plugging a dead battery into a charger, we are not doing the healing, we are giving your cells the power to heal themselves."

2. It increases blood flow and circulation to the injured area.

"One of the main reasons injuries become chronic is that damaged tissue stops getting adequate blood flow. Without good circulation, the area cannot get the oxygen and nutrients it needs to heal, and the inflammatory waste products that cause pain just sit there and keep building up. The 980nm wavelength in this laser triggers vasodilation, it causes the small blood vessels in the treatment area to open up and widen. More vessels open, more blood flows in, fresh oxygen and nutrients arrive, and just as importantly, the inflammatory byproducts contributing to your pain get flushed out. Think of it like unclogging a drain. Once blood flow is restored, your body's own healing system can do its job."

3. It reduces inflammatory proteins, which directly reduces your pain.

"Inflammation is not just swelling and heat, it is a chemical process. Your body releases specific proteins called cytokines, like prostaglandins and interleukins, that are designed to signal injury and drive the inflammatory response. In acute injuries that process is useful. But in chronic pain, those inflammatory proteins stay elevated and keep firing pain signals long after the original injury should have healed. Laser therapy directly reduces the production and concentration of these pro-inflammatory cytokines in the tissue. At the same time, it increases the release of endorphins and serotonin, your body's natural pain-relief chemicals. So the laser is not just masking pain, it is actually turning down the chemical signals that are creating the pain in the first place. That is why many patients feel relief that lasts long after they leave the office."

WHAT IT FEELS LIKE, Setting Expectations on Sensation

"You are going to feel warmth, sometimes mild, sometimes more noticeable depending on the area. That warmth is a good sign. It means the laser energy is being absorbed and the vasodilation response is happening. Think of it like a warm stone massage, but from the inside out. Most patients find it relaxing. If at any point it shifts from warm to HOT, just say the word and I will adjust immediately. The moment you leave today, you can go right back to normal activity."

Patient Talking Tracks, Condition-Specific

Each track below connects the three laser mechanisms, ATP production, increased blood flow, and reduced inflammatory proteins, directly to what the patient is experiencing. Personalize the wording to fit your style.

HOW MANY TREATMENTS, The Honest Conversation

Acute Conditions (6 sessions)

"For an acute injury, something recent like a sprain or strain, we typically see significant improvement in 6 sessions. Your cells are energy-depleted and the inflammation is still active. We give them the ATP boost and blood flow increase they need, and the body takes over from there. Strike while the iron is hot."

Chronic Conditions (12 sessions)

"For a chronic condition, something that has been bothering you for months or years, we plan for 12 sessions as a baseline. Chronic tissue has elevated inflammatory proteins, poor circulation, and energy-depleted cells that took a long time to get that way. We need enough treatments to reverse that cycle. Most patients feel improvement well before session 12."

CONDITION-SPECIFIC TALKING TRACKS, Personalize These

Back and Disc Pain

"Your disc is inflamed and compressed, the inflammatory proteins around that disc are firing constant pain signals. The 980nm and 1064nm wavelengths reach deep enough to reduce those inflammatory cytokines directly at the disc level, open up circulation around the nerve roots, and give those cells the ATP they need to repair the damaged tissue. It is not masking the pain, it is turning off the chemical signals creating it."

Neuropathy

"Neuropathy means the nerve cells are energy-depleted and misfiring. The 635nm and 810nm wavelengths directly stimulate ATP production inside those nerve cells, giving them the fuel to repair and restore normal signal transmission. We also increase blood flow to the nerve tissue, which is often severely restricted in neuropathy. Many patients notice tingling returning, that means the nerves are waking up and healing."

Shoulder and Rotator Cuff

"The rotator cuff heals slowly because those tendons have poor blood supply. Laser solves that directly, it dilates the vessels in the shoulder, drives blood flow and oxygen into tissue that is starved of it, boosts ATP in the tendon cells, and drives down the inflammatory proteins that have been keeping you in pain. We are giving that tissue everything it needs to finally repair itself."

Knee Arthritis

"In an arthritic knee, the joint is flooded with inflammatory proteins, that is the source of your pain and stiffness. Laser reduces those inflammatory cytokines in the joint, increases blood flow and cellular energy in the surrounding tissue, and significantly turns down the pain signals coming from that joint. Most patients notice more range of motion and less stiffness within the first few sessions."

Plantar Fasciitis

"The plantar fascia heals slowly because circulation in the heel is poor, inflammatory proteins build up and stay there, and the cells are energy-depleted from constant stress. Laser opens the blood vessels, flushes out those inflammatory byproducts, and boosts ATP in the fascial cells so they can finally repair. Many patients who have had this for years see real improvement in just a few sessions."

General Pain and Sports Recovery

"The goal is two things working together: first, we drive down the inflammatory proteins that are generating your pain signals right now. Second, we boost ATP and blood flow so the damaged tissue has what it needs to actually repair itself. Most treatments just address one or the other. This laser does both simultaneously, it is not a patch, it is a repair job at the cellular level."

CLOSING TRACK, After the First Treatment

"How are you feeling right now? Good. That warmth you felt was your body responding, blood flow increasing, cells starting to produce more ATP. Some patients feel immediate relief because the inflammatory proteins drop quickly. Others need a few sessions before the benefit builds as the tissue repair accumulates. Either response is completely normal, the process has started. We will check in at session 3 or 4 and fine-tune the protocol if needed. Any questions before you head out?"