

FiberLase CR

Laser for Pain Therapy and cartilage regeneration

NEW PRODUCT



FiberLase CR is based on a fiber laser with a wavelength of 1.55 microns and a diode laser with a wavelength of 0.98 microns and is designed for pain therapy, as well as for use in neurosurgery (vertebrorology), traumatology and orthopedics.



APPLICATION

- ▶ PAIN THERAPY
- ▶ INTERVERTEBRAL DISC RECONSTRUCTION
- ▶ CARTILAGE REGENERATION OF JOINTS



DISTINCTIVE FEATURES

- ▶ RELIEF OF PAIN SYNDROME OF DIFFERENT LOCALIZATION
- ▶ WIDE RANGE OF APPLICATORS FOR THE TREATMENT OF PAIN
- ▶ MINIMALLY INVASIVE SURGERY
- ▶ OUTPATIENT SURGERY OPTION
- ▶ SHORTER HOSPITAL STAYS

APPLICATORS FOR CONTACT WORK


∅ – Spot size ⇩ – Exposure depth




FREEZABLE APPLICATOR
∅ – 15 mm ⇩ to 50 – 60 mm



SPACER APPLICATOR
∅ – 15 mm ⇩ to 20 mm




CONTACT APPLICATOR B1
∅ – 20 mm ⇩ to 20 mm



CONTACT APPLICATOR B2
∅ – 35 mm ⇩ to 20 mm

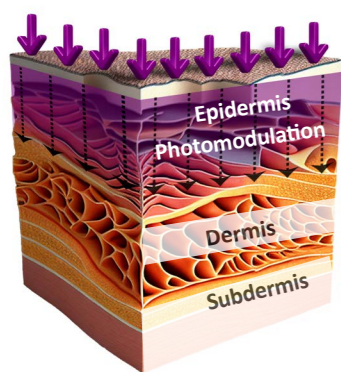
NON-CONTACT APPLICATOR



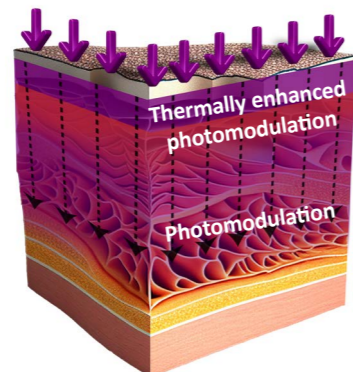
TUNABLE APPLICATOR
Located at a distance of 15 cm from the patient's skin, pre-designated spot size from 35 mm to 130 mm.

ADVANTAGES OF THE TECHNOLOGY

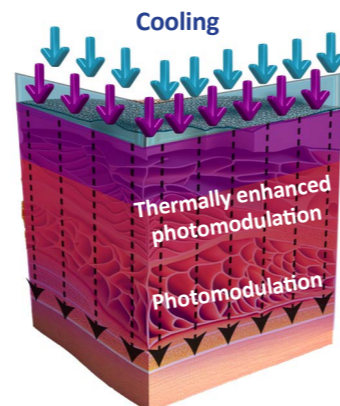
FIBERLASE CR feature is the possibility to maximize the effective penetration of laser radiation into the tissue in order to eliminate the pain syndrome.



Low Intensity laser therapy

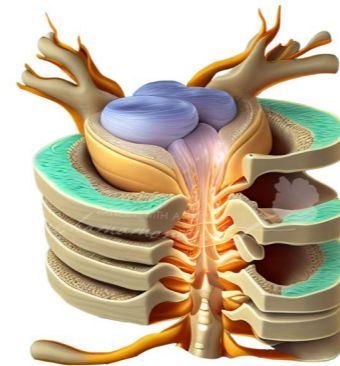


High Intensity laser therapy



High Intensity Laser Therapy with Cooled Applicator

LASER RECONSTRUCTION OF THE INTERVERTEBRAL DISCS (LRD)

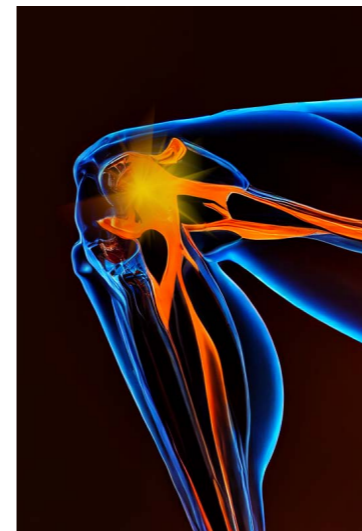


LRD - cartilage reconstruction by creating laser-induced microdamages in the cartilage tissue, provoking an increase in synthetic activity of chondrocytes.

BENEFITS:

- minimally invasive procedure
- performed under local anesthesia
- can be performed on all parts of the spine
- minimal rehabilitation period
- intervention time < 25 minutes
- performed as a preventive measure in early stages
- cartilage tissue regeneration

LASER RECONSTRUCTION OF CARTILAGE IN THE KNEE JOINTS (LRC)



LRC is a minimally invasive surgical intervention that can be under spinal or local anesthesia, in order to restore cartilage of the joint. The FiberLase CR has specific parameters of laser radiation, after exposure to which it is possible:

- 1) To stimulate the production of cartilage cells (chondrocytes)
- 2) To improve nutrition of cartilage tissue by creating micro channels
- 3) As a result, the cartilage tissue of the joints is restored

BENEFITS:

- minimally invasive procedure
- minimal recovery time
- intervention time < 30 minutes
- no incisions and no scars
- cartilage tissue regeneration

OPTICAL CHARACTERISTICS

Wavelengths, μm	0,98	1,55
Max power, W	25	10
Pilot wavelengths, μm	0,65	0,52

TECHNICAL CHARACTERISTICS

Fiber diameter, μm	365 ... 550
Supply voltage, V	220 ± 10%
Dimensions (H × W × D), mm	272 × 272 × 273
Weight, kg	10



THE WORLD LEADER IN LASER INDUSTRY

IRE-Polus Ltd. is a Russian company created by Valentin Gapontsev, a prominent Soviet scientist, and is the founder and one of the base companies of IPG Photonics Corporation, an international scientific and technical corporation.

IRE-Polus Ltd. develops and serially manufactures high performance fiber lasers and amplifiers, optical components, assemblies, modules, devices, sub-systems and systems for:

- **Industrial complexes for laser cutting, welding, cladding, hardening, heat treatment, marking, and cleaning;**
- **Scientific research;**
- **Fiber optics, atmospheric and satellite optical communications, and cable television;**
- **Surgery and biomedicine;**
- **Optical location, remote monitoring of industrial facilities and the atmosphere;**
- **Control and measurement systems, sensors.**

In order to introduce innovative laser technologies into production, **IRE-Polus Ltd.** has been actively cooperating for many years with the leading domestic machine-building, metallurgical, railway and motor transport enterprises and supplies its customers with over 600 types of ultra-technological laser equipment. Many devices and systems have no analogues in the world market of high technologies. All key components of fiber laser technology are manufactured in-house, which provides:

- **Rapid product development**
- **Efficient production methods**
- **Industry-leading delivery times**
- **More advanced and higher quality solutions**
- **Highest efficiency from the socket, reducing overall energy consumption and costs**



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1991

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TYPES
OF PRODUCTS



350
PATENTS
450 MORE BEING
PREPARED

>100K
SYSTEMS SUPPLIED



13 MILLION
TONS LESS
OF GLOBAL CO₂ EMISSION
FROM IPG LASERS



>66% OF GLOBAL
FIBER LASERS