High power and biostimulation laser therapy

**Polaris HP S**

This is one of the few units which allows for carrying out treatment procedures with the use of high power and biostimulation laser radiation.

The effectiveness of the therapy with the use of Polaris HP unit is based on the application of two wavelengths. A combination of quick and efficient thermal effect as well as slower but long-lasting effect of biostimulation impact is achieved thanks to this application.

Built-in laser sources allow for the operation with peak power reaching up to 18 W in pulse mode. Maximum average power is limited to 10 W, which is still regarded as a very high value which might cause excessive thermal effect. At the time of exceeding the average power of 4W, the unit displays an additional warning to prevent excessive overheating.

In order to enable efficient and precise deep intratissue laser therapy, a special DILA adapter has been developed (Deep Intratissue Laser Adapter). It is specifically designed optical system allowing for laser beam formation in such a way to compensate the power loss in the surface tissues. The application of adapter reduces the thermal effect in the skin and subcutaneous tissue. Another advantage is more precise location of the treatment site. DILT method and DILA adapter are unique solutions of ASTAR company and they are covered by registered trademark property protection.

In order to reduce thermal effect, pulse mode is applied. Then the laser high power is applied, while the average power is reduced. This solution allows for simultaneous deep tissue penetration and protection against overheating.

In manual mode, there is a possibility to set power, frequency and duty factor independently for each of the high power laser sources.

Apart from DILA adapter it is possible to use two types of application adapters which give 1 cm² or 5 cm² treatment radiated area.

The unit is compatible with all types of low level laser applicators manufactured by ASTAR company. It is possible to connect point probes, scanning and cluster laser applicators.

By this option, the unit may be used for performing biostimulation laser therapy treatment procedures.

Starting laser therapy procedures, we may take advantage of the encyclopedia, ie. built-in list of preset programs with an extensive description of the treatment methodology. Therapist may also create own programs as well as treatment sequences and save them in the unit’s internal memory.

Comfort of operation is provided by a large, 7” inch touch screen and an applicator equipped with a key to start and stop laser emission.

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**SPECIFICATION**

**LASER THERAPY**
- built-in high power laser sources – 808 nm/8 W and 980 nm/10 W
- three application adapters: 1 cm², 5 cm², DILA
- cooperation with: scanning applicators, cluster laser applicator and point probes
- power adjustment
- radiation modes: continuous, pulse and super pulse
- duty cycle or pulse time setting
- automatic treatment time calculation on the basis of treatment area
- dedicated modes for operation with optical fiber applicators

**SCANNING APPLICATOR (optional)**
- emitter power measured on output
- two available version with different powers
- 2-level power regulation
- three ways of covering the treatment area: ellipse, line and curves within rectangle boundaries
- automatic calculation of treatment time depending on the size of treated area
- scanner arm height adjustment range 60 – 140 cm
- setting of the scanning head in two axes
- pneumatic actuator that holds the arm
- high quality wheels with brakes
- shelf for the controller and protective goggles

**POINT PROBES (optional)**
- diversified power: 80 mW for 660 nm, and 400 mW for 808 nm
- 4-level laser power adjustment
- power stabilization of the laser beam radiation
- frequency and duty factor settings
- readiness rate and work signalization
- dedicated mode for operation with optical fiber applicators

**CLUSTER LASER APPLICATOR (optional)**
- opportunity to operate with different modes: cluster R 5 x 40 mW, cluster IR 4 x 400 mW, cluster R+IR 5 x 40 mW+4 x 400 mW or with single radiation sources
- regulation of treatment parameters

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MANUAL MODE
complete control over parameters for advanced users

TREATMENT PROGRAMS
- simplification of the unit operation
- treatment programs chosen by name
- 50 programs for high power laser therapy treatment
- 58 programs for point probes
- 26 programs for scanning applicator
- 55 programs for cluster laser applicator
- 250 user-defined programs
- 8 programs with Nogier frequency
- 30 programs with Voll frequency
- favorite program list for each applicator
- illustrated therapeutic encyclopedia

TREATMENT SEQUENCES
- simplification of the unit operation
- 50 user-defined sequences
Polaris HP S

Technical specification

ERGONOMICS
• large, 7” inch color touch screen
• therapeutic encyclopedia with treatment description
• operation mode: program/manual
• power stabilization and adjustment
• the ability of treatment automatic repetition
• counter of laser applicator operation
• statistics of performed treatments
• automatic laser power measurement test
• list of favorite programs
• buzzer volume setting
• emergency laser stop key
• easy replacement of adapters
• independent parameter settings for both sources
• pilot beam indicating application area
• edition of user-defined programs
• self test – systematic control of the unit

TECHNICAL PARAMETERS
radiation mode continuous, pulse
waveform rectangular, triangular (super pulse)
duty factor 1 – 90 %, pulse 50 us
frequency 1 – 10 000 Hz
peak output power max. 18 W
average output power max. 10 W
treatment timer max. 100 min.
mains supply 230 V, 50 – 60 Hz, 130 W 150 VA
dimensions 36,1 x 30,4 x 15,1 cm
weight 6 kg

STANDARD ACCESSORIES
• mains cable
• HP probe (1 pc.)
• application adapter – 1 cm²
• application adapter – 5 cm²
• measurement adapter for HP probe (1 pc.)
• protective goggles (2 pcs.)
• touch screen pen (1 pc.)
• spare fuses WTA-T 2 A/250 V (2 pcs.)
• user guide (1 pc.)
• point probe holders (2 pcs.)
• HP probe holder (1 pc.)
• touch screen cleaning cloth (1 pc.)
Polaris HP S

Technical specification

OPTIONAL ACCESSORIES
• Deep Intratissue Laser Adapter
• point probe – R 660 nm/80 mW with holder
• point probe – IR 808 nm/400 mW with holder
• scanning applicator – R+IR 50 mW + 400 mW with a stand
• scanning applicator – R+IR 100 mW + 450 mW with a stand
• cluster laser applicator CL 1800 5R x 40 mW + 4IR x 400mW with holder
• optical fiber applicator, straight, Ø 6 mm
• optical fiber applicator, angled 45°, Ø 6 mm
• optical fiber applicator, angled 45°, Ø 6 mm narrowed for laser puncture
• fiber holder Ø 6 mm
• bag for the unit and accessories
• Versa trolley

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