

Specificație Tehnică Completată

Modelul: PhysioGo.Lite Sono; Producător: Astar; Țara: Polonia .

Specificația tehnică deplină solicitată de către autoritatea contractantă	Specificația tehnică deplină propusă de către autoritatea ofertantă
Dispozitiv pentru fizioterapie Ultrasonoterapie Dispozitiv cu frecvența de lucru 1.0/3.0 MHz Minim 2 sonde min. 3,5cm ² -7 W și min. 1 cm ² -2 W Modul de emisie CONTINUU sau PULSATIV Frecvența impulsului 100 Hz, 48 Hz, 16 Hz Impuls 1/2 , 1/5 , 1/10 Clasa II da Alimentarea 220V 50Hz	Dispozitiv pentru fizioterapie Ultrasonoterapie Dispozitiv cu frecvența de lucru 1.0; 3.0 MHz Minim 2 sonde 5 cm ² și 1 cm ² cu intensitate maximă de 2/3W/cm ² Modul de emisie CONTINUU sau PULSATIV Frecvența impulsului 10 Hz – 150 Hz, cu pas variabil Impuls 1/2 , 1/5 , 1/10 -pasul este variabil. Clasa II Alimentarea 100-240V 50/60Hz Informația confirmativă se găsește în broșura



PhysioGo.Lite SONO

Ultrasound therapy



Features

5" color touchscreen display	✓
one treatment channel	✓
possibility of two SnG heads operating simultaneously, their total area of head front in dual-section equals 34,6 cm ²	✓
manual mode	✓
treatment programs selected by name or medical field	✓
preset treatment programs database	✓
user-defined programs database	✓
favorite programs	✓
names of user programs and sequences can be edited	✓
built-in encyclopedia with treatment methodology	✓
availability of LIPUS therapy	✓
statistics of performed treatments	✓
buzzer volume adjustment	✓
battery (optional accessory)	✓

Ultrasound therapy

water resistant heads	✓
continuous / pulse emission	✓
lack of contact detection	✓
US head temperature control	✓
US head sensitivity adjustment	✓

Ultrasound heads

GU-1 type - 1 cm ² ; 1/3 MHz	✓
GU-5 type - 5 cm ² ; 1/3 MHz	✓
SnG type - 17,3 cm ² ; 1/3 MHz	✓

Preset treatment programs

preset treatment programs	156
user-defined programs	50 (for each applicator)
favorite programs	✓

Ultrasound therapy technical parameters

General technical parameters

frequency of operation	1 MHz; 3 MHz	dimensions	25 x 27 x 16,5 cm
total area of the head front GU-1; GU-5; SnG	1cm²; 5cm²; 17,3cm²	weight	max. 3 kg
max. ultrasound intensity	2/3 W/cm²	battery type (option)	Li-Ion
frequency in pulse mode	10 - 150 Hz with a variable step for GU-1, GU-5, SnG; 1 kHz LIPUS	battery capacity (option)	2100 mAh
regulated duty factor in pulse mode	✓	mains supply	100 - 240 VAC, 50/60 Hz, 24 VDC, 2,5 A
treatment timer	30 s - 30 minutes		

The biological effect of ultrasounds is the resultant of thermal, mechanical and physicochemical effects and includes:

- agitation of fibroblast activity,
- stimulation of collagen synthesis,
- stimulation of synthesis of non-collagen proteins in fibroblasts (albumin and globulin),
- acceleration of DNA synthesis,
- vasodilation and hyperemia of organs,
- intracellular increase of calcium synthesis,
- degranulation of mastocytes,
- acceleration of angiogenesis,
- agitation of cellular oxidation processes,
- change of cell membrane functions,
- change of nerve fibers conduction rates.

Ultrasounds, due to their biological effects in tissues, are used to:

- treat inflammation,
- reduce pain and swelling,
- increase the flexibility of connective tissue,
- reduce muscle tension,
- accelerate tissue healing, including bone fusion,
- reconstruct and improve circulation.

A low intensity ultrasounds therapy (LIPUS) is a special type of ultrasonic wave incorporated in the device. Generally, they are emitted in pulsed mode with average power density up to 0.1 W/cm^2 (100 mW/cm^2), low frequency (most often 1.5 MHz), short duty cycles (20%), pulse repetition frequency around 1kHz. The low intensity ultrasounds do not cause thermal and destructive effects, they accelerate the healing of open wounds, as well as tendons, nerves and bones.

The ultrasounds in LIPUS mode are used to:

- stimulate bone fusion, tendons and nerve repair,
- support the healing processes in acute and subacute inflammation.

8.1 Standard ultrasound heads (GU-5, GU-1)

Parameters description:

Symbol	Description	Available parameters
	Head type	GU-5 GU-1
	Acoustic working frequency	Available settings: • 1 MHz • 3 MHz • 1/3 MHz – switching frequency every 8 seconds • LIPUS – operation only with a frequency of 1 MHz
	Amplitude	Setting – power density [W/cm^2]: • $0.1 - 3 \text{ W/cm}^2$ – pulse mode • $0.1 - 2.5 \text{ W/cm}^2$ – continuous mode • $0.1 - 0.5 \text{ W/cm}^2$ – LIPUS Regulation step: • 0.1 W/cm^2
	Pulse operation frequency	Available settings: • 10 Hz – 150 Hz, variable step • LIPUS – 1 kHz • cont – continuous mode
	Pulse operation duty factor	Available settings: • 5 – 75%, 5% step – pulse mode • LIPUS – 20% • cont – 100%