



Sonopuls 492

Complete device for:
Ultrasound therapy,
Electrotherapy and
Combination therapy

Sonopuls 492

The top device of the 4 series is the Sonopuls 492. This complete unit ensures that you can apply ultrasound therapy, electrotherapy and combination therapy. You will have a solution for every disorder at your fingertips with both 1 MHz and 3 MHz ultrasound, with a small and/or a large ultrasound treatment head and with all modern and effective current types that are fully integrated!

The neatly arranged touch screen operating panel makes operation extremely easy and fast. All information that you may need is displayed in a very well-organised manner. Selecting the correct parameters is also easy. Thanks to the integrated evidence-based protocols, the best recommendations will be made. The graphic help screens that display localisations and anatomic representations guarantee the correct execution of the therapy.

The Sonopuls 492 can be used as a mobile device thanks to the battery (optional). In addition to using it with a mains power supply, the equipment can also be used in a clinic, next to the bed of a patient or at home. Thus the multifunctional Sonopuls 492 can also become your assistant wherever you may go.



Sonopuls 492

The Sonopuls 492 can be expanded with the Vacotron 460 suction module. With this Vacotron, that can be integrated beautifully with the Sonopuls 492, you can easily position electrodes. A combination that will make your job even easier and faster to accomplish. The Sonopuls 492: the complete, easy-to-use, fast and responsible choice for ultrasound therapy, electrotherapy and combination therapy!

Ultrasound therapy

Equipment for therapy using high frequency sound waves. The high frequency vibrations can cause a mechanical and thermal effect in the tissue. Ultrasound therapy promotes the body's capacity for self-healing and tissue repair.

Electrotherapy

Equipment for pain management, muscle stimulation and/or diagnostics. Electrotherapy applications for fast pain relief without side effects. Muscles can be stimulated to improve the function of soft tissue. Electrotherapy can be used to measure differentiated tissue response to stimulation, to provide a diagnosis about tissue quality.

Combination therapy

Equipment for electrotherapy and ultrasound therapy. This type of therapy can be applied side-by-side and at the same time, providing a very efficient therapy. Pain reduction in combination with ultrasound therapy provides rapid post-traumatic treatment, resulting in tissue repair in a minimum of time.



Dual Channel Ultrasound: Save time – save money – extend your therapeutic capabilities!

Up to 4 (four) treatments at the same time with 1 (one) device

The Enraf-Nonius Sonopuls 492 is available now, offering 4 completely independent channels. You will have 4 independent therapy units available for the price of 1! With just 1 unit you can apply 4 different therapies or treat on 4 different areas independently and simultaneously. Save time and money!

Perform DUAL CHANNEL ULTRASOUND: treat patients with 2 independent channels, either conventional or with the unique handsfree StatUS™. Plus, at the same time, the availability of 2 channels of electrotherapy, also perfectly suitable for combination therapy (combining ultrasound and electrotherapy).

Just one unit provides you with:

- All electrotherapy modalities for effective pain relief and muscle stimulation
- Dynamic ultrasound for rapid tissue regeneration
- Static handsfree ultrasound (StatUS™) for the most efficient application and the least time consuming method of ultrasound therapy including bone-healing
- Combination therapy for diagnostics (the best way to find for example deep triggerpoints) and for treatment of soft tissue injuries
- Various pain management treatments simultaneously





Sonopuls 492 Dual Channel Ultrasound

1 unit – 4 channels – 1 patient

With the Sonopuls 492 you can treat different areas or different localisations at the same time. An example is ultrasound treatment of the deep tissues of the hip. Traditional treatment consists of a session at the ventral side of the hip, the lateral approach and finally the dorsal side.

1 unit – 4 channels – 4 treatment areas

The Sonopuls 492 with 4 independent channels also offers the possibility of treating 4 different areas at the same time. For example treat one area with dynamic ultrasound and one with handsfree StatUS™. The two remaining electrotherapy channels can be used to reduce pain or to stimulate muscle tissue. Double the result in less time! Just place the applicators, set the protocol and you are ready to start!



Sonopuls 492: Dual channel ultrasound

Sonopuls 492 devices are

- standard equipped with 4 fully independent channels
- including Dual Channel Ultrasound *¹
(simultaneous application of 2 ultrasound treatments)
- offering you up to 4 different therapeutic options:
 - Electrotherapy
 - Ultrasound therapy (dynamic ultrasound)
 - StatUS™ therapy (static ultrasound)
 - Combination therapy



| Channel 1 | Channel 2 | Channel 3 | Channel 4 |
|-----------|---------------------|--------------------------|------------------|
| ET | ET | US | US |
| ET | ET | US | StatUS™ |
| ET | Combination therapy | | not available |
| ET | ET | (StatUS™) * ² | US |
| ET | ET | (StatUS™) * ² | StatUS™ |
| ET | Combination -> (ET) | not available | ... therapy (US) |

*¹ Requires StatUS™ Pack 400 or 2 ultrasound treatment heads connected.

*² Channel 4 is the appropriate channel for the connection of the StatUS™ Pack 400, and thus for offering static ultrasound (= StatUS™ therapy). However, the StatUS Pack 400 can also be connected to channel 3. This means that Dual Channel StatUS™ is permitted on both channels 3 and 4 (but keep in mind that the Sonopuls 492 is NOT primarily designed to stack 2 StatUS™ Packs 400).

Sonopuls 492

Evidence-based protocols

- 25 Evidence-Based treatment protocols for ultrasound
- 42 Evidence-Based protocols for electrotherapy
- 2 Evidence-Based protocols for combination therapy

Complete including the display of the anatomic localisations and the treatment instructions



Remote control (optional)

The patient can be involved in his or her own treatment by using the optional "remote control". Especially when using electrotherapy, the patient will have the possibility to control the therapy

Battery-operated (optional) and, therefore, mobile

In addition to being able to use the 4-series unit connected to a mains power supply, the device can also be used with a battery-operated power supply. This will ensure that you can go everywhere with your unit, regardless of whether this is at the patient's home or at his or her hospital bed.

Ergonomic design

The treatment head is made to fit your hand comfortably. A design completely based on functionality and user friendliness.



Sonopuls 492

Crystal clear TFT colour screen

A crystal clear, full colour and scratch resistant screen that allows full visibility on all parameters from all viewing angles.

Made by Enraf-Nonius

Made by Enraf-Nonius and, therefore, safe, reliable and durable. A device made by Enraf-Nonius, THE supplier for the physiotherapist worldwide. Where quality, reliability and durability come as standard.

Touch screen user interface

Easy to use by means of a clear menu via a touch screen interface. Extremely intuitive and as easy as a state-of-the-art smart phone.

Compact and stylish

An extremely compact device, small and light-weight for easy transportation. At the same time stylish and beautiful, a device that is worth-while showing!

2 Treatment heads possible

You can connect both the small 0,8 cm² as well as the large 5 cm² ultrasound treatment head in order to quickly change heads.



Sonopuls 492

Programmed for speed

The menu structure is optimized to speed. In most cases you can start a pathology-specific treatment in just 3 steps! Easy, quick and simple.

Contact control

A 360 degrees light ring for contact control. A clear indication of the effective transfer of energy that enables you to conduct the therapy as efficient as possible.

A treatment head with added value

An intelligent and ergonomic treatment head, packed with electronics and covered with a special coating making it smooth and comfortable to use.

Programmable

In addition to the standard treatment protocols, you can also save your personal protocols (including sequential applications) based on your own guidelines.



Sonopuls 492

1498913 Sonopuls 492 with 2 multi-frequency treatment heads (5 cm² and 0,8 cm²)

1498911 Sonopuls 492 with multi-frequency treatment head, large (5 cm²)

1498912 Sonopuls 492 with multi-frequency treatment head, small (0,8 cm²)

Standard accessories Sonopuls 492

- 1498757 4-Series Operating Instructions (cd rom)
- 1498756 4-Series Information Booklet
- 3444290 Mains cable 230V-EUR
- 1498010 Device base (inclination support) (not for Vacotron 460)
- xxxxxx Ultrasound multi-frequency treatment head(s) (model dependent)
- xxxxxx Holder treatment head (model dependent)
- 3442929⁽¹⁾ Contact-gel, bottle 250 ml, 1x
- 3444021 Strap 250x3 cm
- 3444020 Strap 100x3 cm
- 2x 3444129 Rubber electrodes 6x8 cm, 2 mm female, set of 2 pcs.
- 1460266 Moist pads for rubber electrodes 6x8 cm, set of 4 pcs.
- 2x 3444211 Patient cable 2-core & 2 mm male plugs - black, with coloured clips

ORDERING DATA



(1) = The Sonopuls is delivered with 1 bottle of contact-gel. The articlenumber 3442929 however represents a box of 12 bottles.

Sonopuls 492

TECHNICAL SPECIFICATIONS

| | |
|--|--------------------------------|
| Power supply | 100 – 240 V ± 10% / 50 / 60 Hz |
| Dimensions (WxDxH) | |
| Device | 24 x 32 x 12 cm |
| Device with base | 24 x 30.5 x 18.2 cm |
| Device with Vacotron | 24 x 30.5 x 21.6 cm |
| Weight | 2 kg |
| Weight, including the optional battery | 3 kg |

Ultrasound

| | |
|--------------------------------------|---|
| Ultrasound frequencies | 1 en 3 MHz |
| Ultrasound | continuous and pulsed |
| Duty cycles | 5, 10, 20, 33, 50, 80% |
| Pulse frequency | 16 Hz, 48 Hz en 100 Hz |
| Intensity | 0-2 W/cm ² continuous, 0-3 W/cm ² pulsed ⁽¹⁾ |
| Number of US connections | 2 |
| Multi-frequency treatment head large | 5 cm ² |
| Multi-frequency treatment head small | 0,8 cm ² |
| Pre-programmed treatment suggestions | 25 - Evidence Based |
| Programmable positions | 300 |

This is a medical device.

It complies with all applicable medical regulations. For more details please consult the instructions for use (downloadable via www.enraf-nonius.com).



⁽¹⁾ = Except 80%, which has a maximum of 2,5 W/cm²



Sonopuls 492

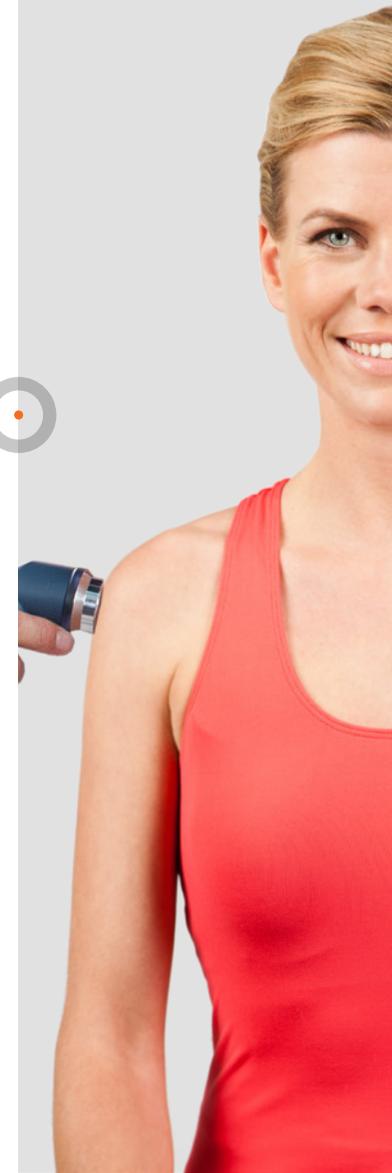
TECHNICAL SPECIFICATIONS

Electrotherapy

| | |
|--------------------------------------|----------------------|
| Current channels | 2 (100% independent) |
| Current types | 26 (per channel) |
| Pre-programmed treatment suggestions | 42 - Evidence Based |
| Programmable positions | 300 |

Combinationtherapy

| | |
|--------------------------------------|--------------------|
| Pre-programmed treatment suggestions | 2 - Evidence Based |
| Programmable positions | 300 |



Sonopuls 492

ACCESSORIES

Adhesive electrodes

3444222 Adhesive electrodes Ø 2,2 cm, 2 mm female, 10 sheets of 8 (also for EMG)

3444056 EN-Trode Ø 3,2 cm, 2 mm female, 10 sheets of 4

3444135 EN-Trode Ø 5,0 cm, 2 mm female, 10 sheets of 4

3444057 EN-Trode 5x5 cm, 2 mm female, 10 sheets of 4

3444058 EN-Trode 5x9 cm, 2 mm female, 10 sheets of 4

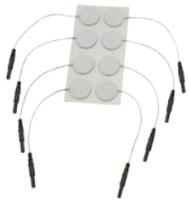
Point electrodes

3444180 Point electrode (pen model), 5 mm Ø, 2 mm female, incl 10 conductive rubber caps

Adapters

2523524 Adapter plug, 2 mm female, 4 mm male, red

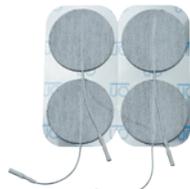
2523523 Adapter plug, 2 mm female, 4 mm male, black



3444222



3444056



3444135



3444057



3444058



3444180



2523524



2523523



Sonopuls 492

ACCESSORIES

Rubber electrodes

- 3444128 Rubber electrodes 4x6 cm, 2 mm female, set of 2.
- 3444129 Rubber electrodes 6x8 cm, 2 mm female, set of 2
- 3444130 Rubber electrodes 8x12 cm, 2 mm female, set of 2

Moist pads for rubber electrodes

- 1460273 Moist pads for rubber electrodes 4x6 cm, set of 4
- 1460266 Moist pads for rubber electrodes 6x8 cm, set of 4
- 1460275 Moist pads for rubber electrodes 8x12 cm, set of 4

Fixation straps

- 3444020 Strap 100x3 cm
- 3444021 Strap 250x3 cm
- 3444022 Strap 100x5 cm
- 3444023 Strap 250x5 cm



3444128



3444129



3444130



1460273
1460266
1460275



3444020
3444021



3444022
3444023



Sonopuls 492

Ultrasound contact-gel

- 3442929 Contact-gel, bottle 250 ml, box of 12
- 3442930 Contact-gel, bottle 850 ml, box of 12
- 3442931 Contact-gel, canister of 5 l
- 3442932 Dispenser-set for 5 l canister



3442929



3442930



3442931



3442932

ACCESSORIES



Sonopuls 492

Patient cable

3444211 Patient cable 2-core & 2 mm male plug - black, with coloured clips

Remote control

1498800 Remote control, for 4-series

Bag

3444675 Carrierbag 4-series

Battery

2501016 Battery 12.0V 1.8AH



3444211



1498800



3444675



2501016

ACCESSORIES



RELATED PRODUCTS

Vacotron 460

The Sonopuls 492 can be extended with a vacuum module, the Vacotron 460. A vacuum unit for easy application of vacuum electrodes for combination therapy and electrotherapy.

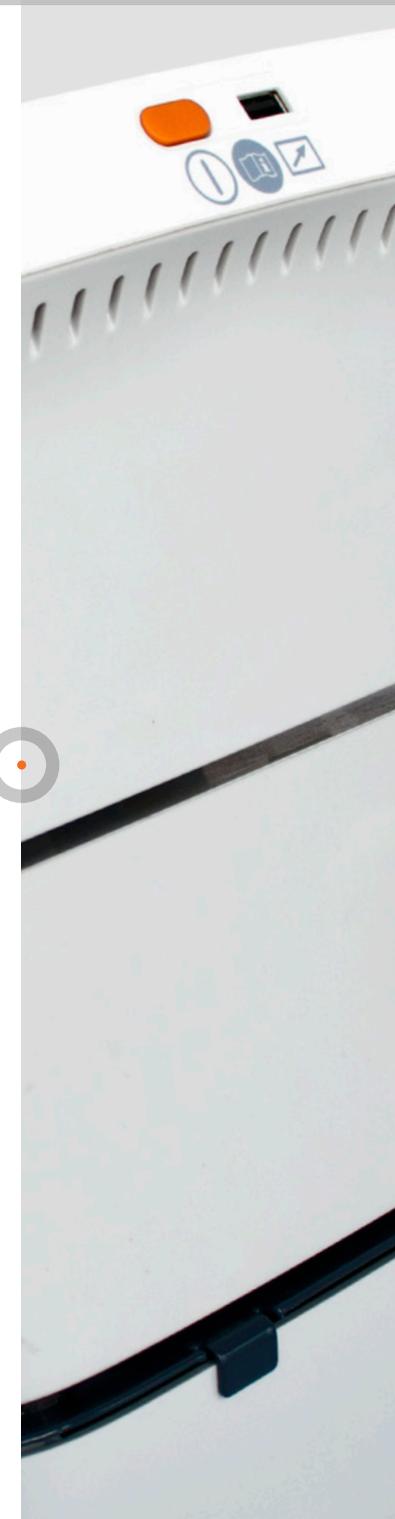
EN-Car

The EN-Car is your companion for any piece of Enraf-Nonius equipment. For laser, ultrasound, biofeedback, shockwave or electrotherapy, with the EN-Car you have it all close at hand.

StatUS™ Pack 400

StatUS™ (Static UltraSound) represents a new revolutionary method to apply therapeutic ultrasound in the utmost efficient way: **Handsfree!**

See next pages



StatUS™ Pack 400

Did you ever think how ideal it would be if you could conduct your ultrasound treatments without having to sit with the patient, moving the treatment head over the injured tissue? And wouldn't it be great if you could really transmit ultrasound energy right there where you need it and only there! This is no longer a dream, StatUS™ makes it possible! Not only is this treatment more beneficial to your patients, but it also saves you time in order to conduct other activities. Imagine the significant cost savings!

StatUS™ (Static UltraSound) represents a new revolutionary method to apply therapeutic ultrasound in the utmost efficient way: **Handsfree!**





StatUS™ Pack 400

Developed by Enraf-Nonius in collaboration with international institutes, StatUS™ is a safe and effective treatment opportunity to apply therapeutic ultrasound without having to move the treatment head. StatUS™ ultrasound is the latest development in therapy and treatment comfort.

No more time consuming treatment methods, but quick and easy. The Sonopuls 490 and 492 with the StatUS™ Pack 400 offers numerous advantages for both the therapist and the patient. Simply connect the StatUS™ Pack 400 to your Sonopuls 490 or 492 * and you can immediately benefit from handsfree ultrasound!

Would you like to work with conventional treatment heads too? Even then there is a version that suits you! The StatUS™ Pack 400 can be connected to the Sonopuls 490 or 492 devices, that are equipped with a large or small treatment head. Once connected, you simply choose if you want to use a conventional multi-frequency treatment head (dynamic method) or the StatUS™ applicator (for handsfree ultrasound).

**A fast and time-saving application.
Do more in less time!**

* With software V009 or higher

StatUS™ Pack 400

Handsfree

Handsfree ultrasound makes a difference for patient and therapist. StatUS ultrasound is a new revolutionary method of applying therapeutic ultrasound.

Over 60 years, therapeutic ultrasound appears to be one of the most frequently applied modalities within physical therapy.

These days ultrasound therapy has proven an effective method for treating numerous musculoskeletal and soft tissue disorders. Ultrasound therapy is ideal for successfully treating injuries of connective tissue (collagen) with a high density (e.g. ligaments, tendons, fascia, joint capsules and scar tissue).

Ultrasound can be applied in continuous or pulsed mode for thermal (heating) or non-thermal effects (for cell-up regulation). At a low dosage, ultrasound clearly appears to have a stimulating effect on bone growth (accelerated fracture consolidation) as well as tendon and nerve repair.



StatUS™ Pack 400

Safe and effective

We have all learned that the ultrasound energy is applied by moving the treatment head (dynamic or semi-stationary method). Moving the treatment head is necessary because within an ultrasound bundle, as well as in the tissue, certain phenomena may occur which can lead to tissue damage in the form of hotspots. In addition, this application method is time consuming and labour intensive.

Although it is a static application method, StatUS™ therapy is safe and effective.

StatUS™ therapy does not really differ from conventional ultrasound therapy. The differences are found in the application method. The StatUS™ Pack 400 incorporates an unique technology and special modulations.

The StatUS™ applicator is a multi-frequency ultrasound treatment head that is integrated in a vacuum cup. In just a few seconds the applicator can be attached to the body.



* also known as LIPUS (Low Intensity Pulsed Ultrasound) or LIUS (Low Intensity Ultrasound)

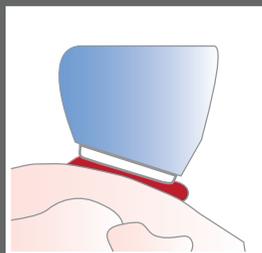
StatUS™ Pack 400

Combine the StatUS™ Pack 400 with the Sonopuls 490 and explore immediately the advantage of the therapeutical time-saver!

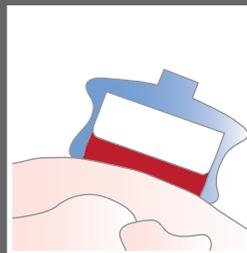
Non-liquid gelpad

A non-liquid gelpad ensures good transmission of the ultrasound energy. The gelpad is held in place with a fixing ring. The vacuum pressure creates a perfect seal between the body, the gelpad and the treatment head. The constant perpendicular position of the fixed StatUS™ applicator reduces dosage variations as in dynamic ultrasound applications. This enhances clinical effectiveness and patient safety.

Despite the stationary application hot spots will not occur during StatUS™ treatment, due to two innovative and intelligent forms of modulation: Amplitude Modulation and Duty Cycle Modulation. These (patented) forms of modulation ensure safe treatments without the peak intensities that can create hot spots.



Contact surface when applying a traditional applicator and normal gel.



Contact surface when applying a StatUS™ applicator and the special gelpad.



StatUS™ Pack 400

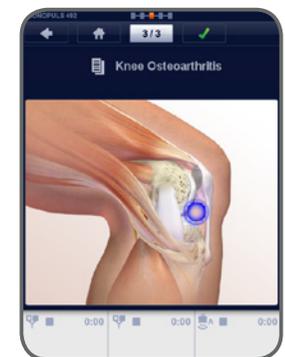
Effective treatment

StatUS™ offers unprecedented advantages. StatUS™ therapy is the ideal and effective treatment method for musculoskeletal and soft tissue disorders. With the Sonopuls 490 or 492 and StatUS™ Pack 400 from Enraf-Nonius you can work both thermally and a-thermally. The Sonopuls 490 and 492 with StatUS™ Pack 400 are also ideally suited for LIPUS applications.

StatUS™ therapy is relatively simple. The parameters for StatUS™ therapy can be selected quickly and easily via the touchscreen. To simplify the therapy options, a number of pre-programmed StatUS™-protocols are stored in the Sonopuls 490 and 492. These evidence based protocols provide you with clear treatment instructions while the treatment parameters are set automatically.

More efficient

StatUS™ does this work for you, without compromising efficiency and effectiveness. StatUS™ makes your job faster, more targeted and more efficient.





Benefits and advantages of the StatUS™ Pack 400

StatUS™ Hands-free ultrasound

The Sonopuls 490 and 492 with StatUS™ Pack 400 offer the possibility of HANDSFREE ULTRASOUND. A fast and time-saving application. Do more in less time!

Hands-free = time saving

As StatUS™ is a handsfree therapy, the therapist has valuable extra time during treatment.

Hands-free = less labour intensive

As the therapist does not have to hold the head, StatUS™ is ideally suited for long(er) treatments.

Hands-free = Less demanding

As the therapist does not have to hold the head, a StatUS™-treatment is physically less demanding.

Hands-free = greater ease of use

Increased comfort for both the patient and the therapist.

Fast and easy

StatUS™-therapy is instantly available and easy to set up.

Benefits and advantages of the StatUS™ Pack 400

Non-liquid gelpads

- No more gel residu
- Easy to clean / hygiënic
- Efficient energy transmission

Safe

Special modulation forms ensure that undesired intensity peaks in the ultrasound bundle are considerably reduced. The chance of cavitation is reduced and the occurrence of hotspots is counter-acted.

Efficient

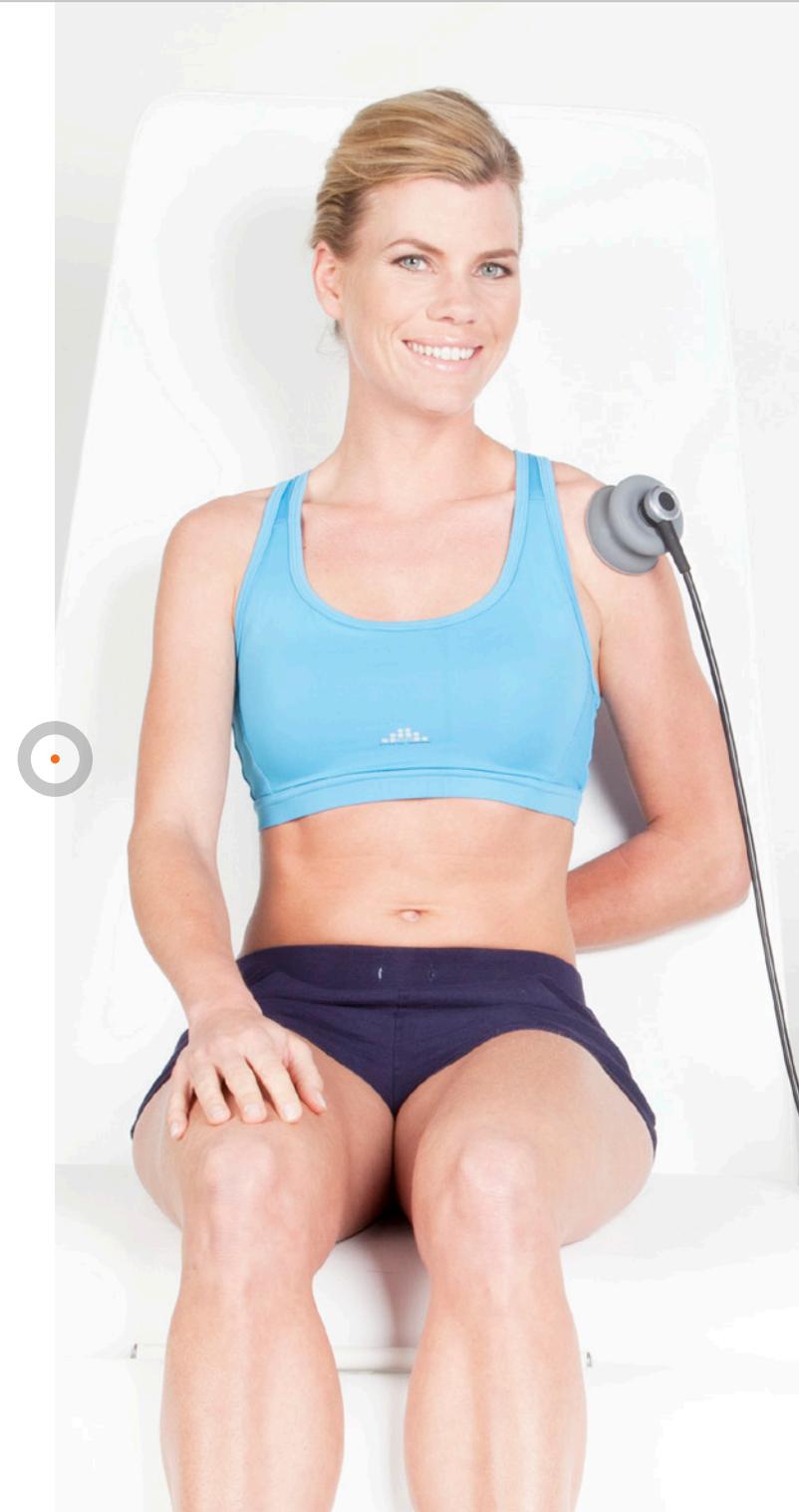
The treatment head is always at the right angle. The special gelpad follows the body's contours. This combination ensures an even and constant transfer of energy along the whole surface of the head.

Effective

The set treatment time is also the effective treatment time. The set capacity is effectively transferred to the appropriate tissue.

52 Evidence based StatUS™ protocols

The Sonopuls 490 and 492 with StatUS pack offer a full library with 52 evidence based protocols. Just with a few clicks you will get all information and the proper settings for the pathology selected.



Status™ Pack 400

ORDERING DATA

1629902 StatUS™ Pack 400 for use in combination with Sonopuls 490 / 492

Standard accessories

- xxxxx Head holder StatUS™ applicator (pre-mounted)
- 0629902 StatUS-applicator™ 400
- 3442942 Fixation ring gelpad StatUS™ (3x)
- 3442941 Gelpad StatUS™ (240x)
- 1629767 User manual StatUS™ Pack 400 (CD-Rom)
- 1629769 Information booklet StatUS™ Pack 400

Optional accessories

- 3442941 Gelpad StatUS™ (240x)
- 3442942 Fixation ring gelpad StatUS™ (3x)
- 1498000 Stacking adapter for a combination with Sonopuls 492 and Vacotron 460



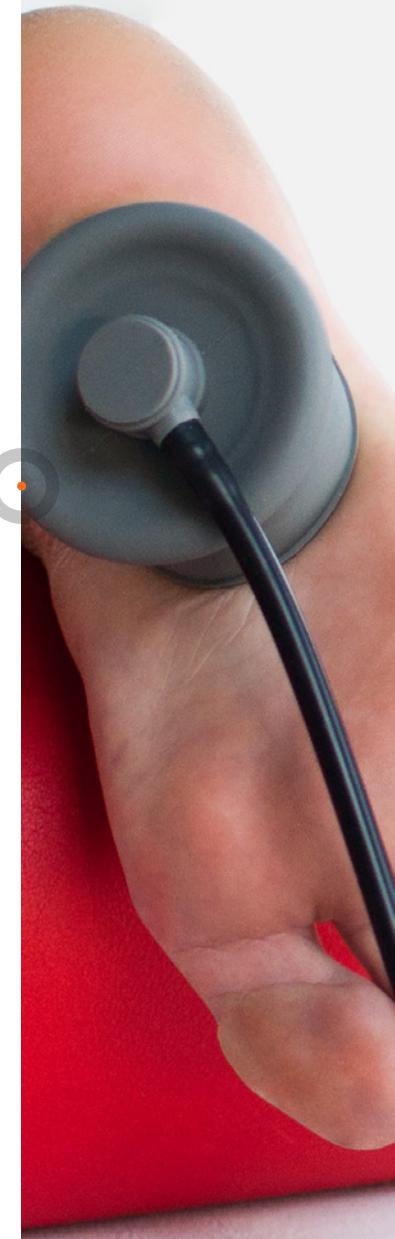
3442941



3442942



149800





Sonopuls 492



Complete device for:
Ultrasound therapy,
Electrotherapy and
Combination therapy