

# SONOPULS 491



With this combination unit, you have all possibilities for a universal application of ultrasound therapy with 2 frequencies: 1 and 3 MHz.

The operation buttons are conveniently arranged on the control panel. The parameters are easily set by means of one central control and remain visible on screen during treatment.

The Sonopuls 491 is a portable and battery-operated unit that is suited for ultrasound therapy, interferential, TENS, direct current and combination therapy.

The Sonopuls 491 can be used in combination with the Vacotron 460.

The Sonopuls 491 can also be connected to the mains supply for continuous use.

- Continuous and pulsed ultrasound therapy
- Multi-frequency treatment head with 1 and 3 MHz
- Contact control: automatic power switch-off and treatment time interruption in case of insufficient contact (the visual indicator of the treatment head switched on)
- 3 Current types for electro-therapy
- Variable carrier frequency of 2, 4 or 10 kHz at bi-polar interferential
- Combination of ultrasound with one of the three current types
- 10 Free programmable memory positions
- Very well suited for the treatment of clinic patients or patients at home

## SONOPULS 491



Partner for Life

## STANDARD ACCESSORIES

3442929 <sup>(1)</sup>	Contact-gel, bottle 250 ml, 1 piece <sup>(1)</sup>
3444111	Mains connecting cable, EUR
1497750	Operating manual Sonopuls 490 and 491
1458901	Multi-frequency treatment head, large, 1 & 3 MHz
3444021	Strap 250x3 cm
1460266	Moist pads for rubber electrode 6x8 cm, set of 4
1460265	Rubber electrodes 6x8 cm, 4 mm female, set of 2
3444088	Patient cable, 2-core & 4 mm male plugs
3444132	Adapter ENA 1810 100-240V

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



## 1497910 SONOPULS 491



## TECHNICAL SPECIFICATIONS

Ultrasound frequencies:	1 and 3 MHz
Ultrasound:	continuous and pulsed
Pulse frequency / duty cycle:	100 Hz / 5, 10, 20, 50, 80%
Number of connections:	1
Intensity:	1,5 W/cm <sup>2</sup> , continuous, 0-3 W/cm <sup>2</sup> , pulsed
Programming positions:	memory for 10 sets of freely selectable therapy parameters
Model number battery charger:	ENA-1810
Mains voltage:	100-240 V ± 10% (50/60 Hz)
Output:	18 VDC/840 mA
Battery:	12 V, 1.8Ah maintenance-free lead accumulator
Weight:	4.0 kg
Dimensions (wxdxh):	29x28x10.5 cm



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**ULTRASOUND ACCESSORIES**

**MULTIFREQUENCY TREATMENT HEAD**

- 1458901 Multifrequency treatment head, large, 1 & 3 MHz for 4-series
- 1458911 Multifrequency treatment head, small, 1 & 3 MHz for 4-series



**TREATMENT HEAD HOLDER**

- 1497811 Holder for 2 treatment heads, 4-series
- 1497810 Holder for remote control or 1 treatment head, 4-series



**ULTRASOUND CONTACT-GEL**

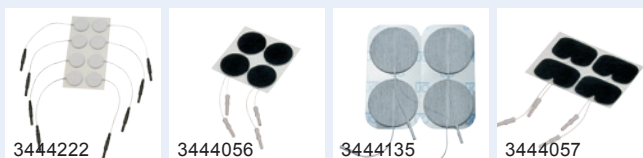
- 3442929 Contact-gel, bottle 250 ml, box of 12
- 3442930 Contact-gel, bottle 850 ml, box of 12
- 3442931 Contact-gel, canister of 5 l
- 3442932 Dispenser-set for 5 l canister



**ELECTRODES AND MOIST PADS**

**ADHESIVE ELECTRODES**

- 3444222 EN-Trode 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



**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
- 1460272 Rubber electrodes 4x6 cm, 4 mm female, set of 2
- 1460265 Rubber electrodes 6x8 cm, 4 mm female, set of 2
- 1460274 Rubber electrodes 8x12 cm, 4 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



**POINT ELECTRODES**

- 1480800 Electrode holder for 1480801
- 1480801 Point electrode 5 mm, 4 mm female (in combination with 2523523)
- 1460369 Point electrode, 17 mm, 4 mm female (in combinatin with 2523523)



**PATIENT CABLES AND ADAPTER PLUGS**

3444088	Patient cable 2-core & 4 mm male plugs
3444281	Two-way connecting cable for multiple-electrode technique

**ADAPTERS**

2523524	Adapter plug, 2 mm female, 4 mm male, red
2523523	Adapter plug, 2 mm female, 4 mm male, black
1460424	Adapter plug, 4 mm female, 2 mm male



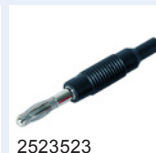
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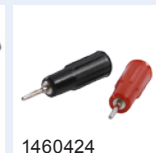
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2523524



2523523



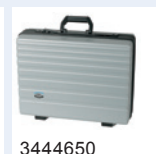
1460424

**CASES AND BAGS**

3444658	Bag for Endomed and Sonopuls 4-series, black
3444650	Case for Endomed and Sonopuls 4-series, grey



3444658



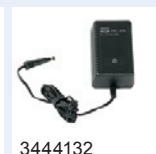
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**AC ADAPTERS**

2501016	Battery 12.0V 1.8AH (spare part)
3444132	Adapter ENA 1810 100-240V



2501016



3444132

**OTHER PRODUCTS THAT MIGHT INTEREST YOU****VACOTRON**

The Sonopuls 491 can be extended with a vacuum unit (the Vacotron 460). A vacuum unit for easy application of vacuum electrodes for combination therapy and electrotherapy.

**EN-CAR U**

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

**ORDERING DATA**

1450901	Vacotron 460
1468950	EN-Car U

Also see the separate product leaflets at  
[WWW.ENRAF-NONIUS.COM/ELECTROTHERAPY](http://WWW.ENRAF-NONIUS.COM/ELECTROTHERAPY)

