

# SPORÉCUP XTR2

Muscle stimulator for sports and fitness



Item no. 104064



**Instruction Manual Item no. 101478**

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## Intended use

The SPORÉCUP XTR2 has been designed as a device for the generation of transcutaneous electrical stimulation of the nerves and muscles on humans and may not be used for any other purposes. Please read the operating instructions carefully before using the SPORÉCUP XTR2.

## Safety instructions

### Important safety

The XTR2 is only to be used for stimulation purposes on one patient at a time.

Only use the XTR2 with original accessories. The size of the electrodes should be not less than 2 cm<sup>2</sup>. The electrodes should be positioned in such ways that the current flow will not cross through the heart.

Keep the XTR2 away from water or other liquids. Do not drop the XTR2, do not use it inappropriately or expose it to extreme temperatures or high levels of humidity (not less than 10°C or more than 40°C or a relative humidity of more than 90 %).

Do not use the XTR2 if it is not working properly or if it has been damaged in any way.

Be careful when using the XTR2 near or on children. Keep the unit away from children.

Always store the XTR2 in its case to protect it from damage and dust.

To avoid reciprocal interference, the XTR2 should not be operated in the vicinity of other electronic devices. If this is not possible, the various unit functions should be closely monitored during operation so that proper use in accordance with the regulations is ensured. The simultaneous connection to the patient of a high frequency surgical unit can lead to burning under the electrodes or around the probe. Operating close (for example 1m) to short wave and microwave units or mobile telephone systems can cause fluctuations in the output values of the electric current stimulation unit.

Do not use the machine during the simultaneous operation of other machines, when driving or when asleep.

### Contra indication

**Please check with your physician before using the XTR2 if one of these applies to you:**

- Patients with electronic implants such as heart pacemakers, defibrillators or pumps
- Patients with cardiac rhythm disorders
- During pregnancy

- Patients subject to seizure disorder / epilepsy
- Patients with skin disorders in the vicinity of the electrodes
- Patients with malignant diseases in the region of application

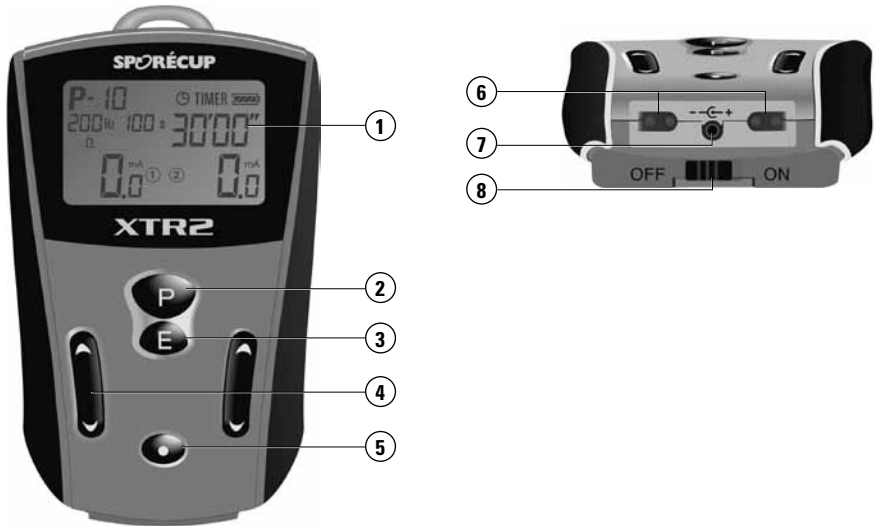
### Side effects

- Pain caused by the stimulation: The stimulation can be perceived as uncomfortable/painful if the electric current is too intensive or if the electrodes have been positioned unfavorably. Unpleasant side effects can be avoided by adjusting the intensity, using another program with other parameters and the possible re-positioning of the electrodes.
- Skin intolerance which can result from the electrodes, the electrode gel or the electric current impulses: The physician should be consulted in cases of reddening, burning, itching or blistering under the electrodes or in the vicinity of the electrodes. Slight skin reddening of short duration in the area of the electrodes following stimulation is quite normal because blood circulation has been improved by the effects of the stimulation.
- Muscular pain: If the stimulation has been too intense or too long muscular aches in terms of sore muscle can occur. Shorten the treatment time and the intensity of stimulation at the beginning of muscle stimulation to avoid muscle ache.

## Operating elements

The XTR2 has been designed for the generation of nerve and muscle stimulation on human beings. All parameters can be adjusted via the press keys and are indicated on the large display.

1. Display
2. Menu key (Program choice)
3. Key to set different functions
4. Modification keys to adjust parameters and to modify the intensity
5. ON/OFF key
  
6. Output sockets for the cables
7. Output socket for the battery charger
8. ON/OFF commutator



## Description of the symbols



Attention: Read accompanying documents, especially user manual.



By labelling with CE certificate, the manufacturer states that the product meets all requirements of the respective EU Directive. A conformation evaluation process has been successfully completed. The code number of the conformation evaluation process is given in accordance with the CE labelling of the involved notified body.



Application part type BF. This product provides protection against electric shock on an acceptable leakage current.



This symbol indicates the serial number of the device.



This symbol indicates the article of the device.



This equipment is marked with the recycling symbol. It means that at the end of the working life of the equipment you must dispose of it separately at an appropriate collection point and not place it in the normal domestic unsorted waste disposal. In the interests of environmental protection please observe those laws and regulations of your country which relate to accumulator disposal.

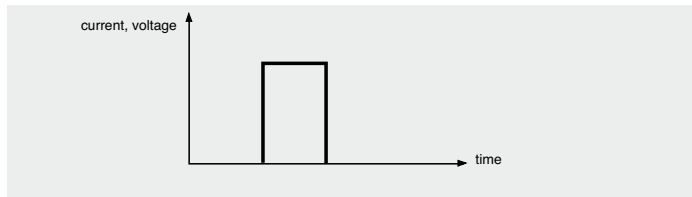
## Technical specification

Two-channel nerve and muscle stimulator with electrically insulated channels, constant current characteristic, output short circuit control element (AKS), 30 integrated pre-set programs.

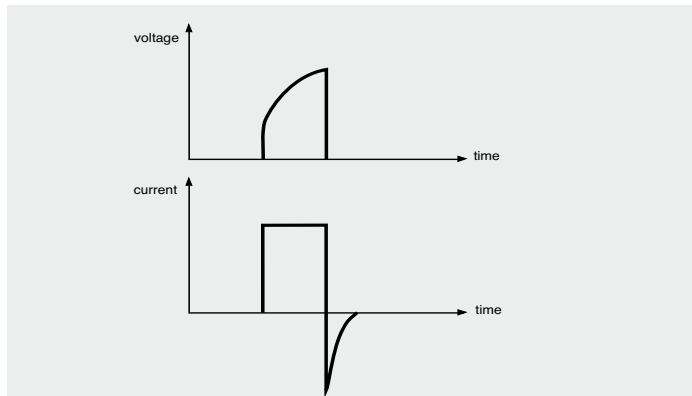
Output current:	100 mA (with an actual resistor of 1k $\Omega$ )
Frequency range:	0.5-120 Hz
Impulse width:	50-400 $\mu$ s
Nominal current:	15 mA
Power supply:	integrated rechargeable battery Ni-mH 4.8 V
Dimensions:	11.4 x 5.9 x 2.7 cm
Weight:	approx. 300 g

### Pulse forms

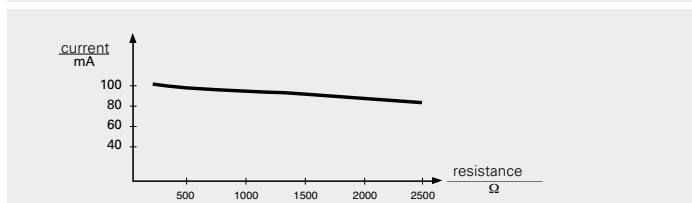
with 1 k $\Omega$   
load real



with ANSI/AAMI  
standard load



change in output  
current depending  
on load




# Operating the SPORÉCUP XTR2

## Connecting cables and electrodes




- Connect the electrodes with the cable(s) (always 2 electrodes per cable).
- Connect the cable(s) to the XTR2 (no. 6).
- Place the electrodes on the desired area (see examples on chapter Electrode Placement).

## Switching-ON the XTR2

- Switch the commutator (no. 8) to the ON position.
- Switch on the stimulator by pressing the  key (no. 5). The program shown on the display is the last which was used during the previous session.

If the display shows a key symbol on the upper left side, the XTR2 has previously locked a specific program (see chapter locking the key pad).

## Selecting a program

Select a program by pressing the  key. To scroll through the programs, press the  key as often as necessary until you have selected the program of your choice. To return to the previous program, press the left  keys. Selecting a program is only possible if the keypad has not been locked on one specific program (see chapter locking the key pad).



## Selecting an area of stimulation

Depending on the selected program you can choose between upper and lower limbs. Press the E key to change the pulse width of the selected programs. The pulse width is increased for lower limbs.

Programs with a possibility of upper and lower limbs stimulation:

P1, P5, P6, P7, P9, P10, P15-P29

### Recommendation:

**Higher pulse width for lower limb stimulation**

**Lower pulse width for upper limb stimulation**

### Setting the intensity

Start the stimulation by increasing the intensity with the ▲ key of the channel(s) connected to the electrodes.

- ▲ key to increase the intensity
- ▼ key to decrease the intensity

The intensity of each channel is displayed on the screen. The intensity can be set between 0 and 100 mA. By keeping the intensity keys pressed, the intensity will increase/decrease more rapidly.



### Terminating the stimulation

You can terminate the stimulation at any time by pressing the P key. When the therapy time is completed the stimulation terminates automatically. If you press the ⏸ key the stimulation stops and the XTR2 switches off.

### Locking the key pad

Choose the desired program by pressing the P key (see chapter selecting a program). Press and hold for 3 seconds the P key and the right ▼ key to lock the stimulator on the chosen program. The XTR2 can now only be used with the chosen program. A key symbol appears on the display adjacent to the program number. All keys except the intensity and the ON/OFF keys are locked into this mode. Use the same key combination to unlock the stimulator.

### Switching-OFF the timer

You can use the XTR2 with or without timer. All programs run for 30 minutes. Press and hold for 3 seconds the E key and the left ▼ key. The total therapy time appears on the display. Press the E key to switch off the timer. The symbol “— — — —” appears on the display. Press the ⏸ key to save the changes.

### Switching-OFF the stimulator

Press the ⏸ key to turn off the XTR2. If the battery level is too low or if the stimulator has not been used for the previous 2 minutes, it turns off automatically.



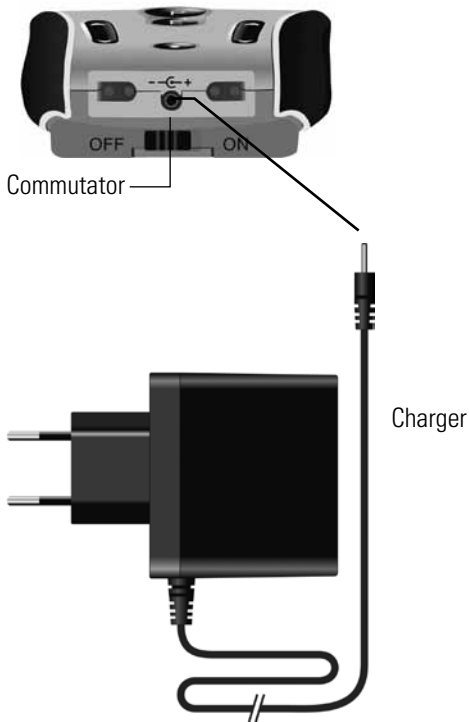
### Charging the battery

The battery level is shown on the display with a battery symbol with 4 lines. If the battery level is too low the stimulator switches off automatically and cannot be turned on again. The battery needs to be re-charged.

- Switch the commutator to the OFF position (no. 8)
- Connect the charger with the XTR2 (socket no. 7)
- Connect the charger to the mains circuit. The diode on the charger illuminates in red.
- Charge the stimulator until the diode on the charger illuminates in green.
- The battery is fully charged if the light on the charger appears in green.

### Important!

Do not forget to switch the commutator ON again after charging.



## Programs overview

### RECOVERY

Sessions of "recovery" stimulation are highly recommended after strong muscular efforts. Using Sporécup XTR2 and its dynamic stimulation after a competition or an intensive training session offers a better recovery of your muscles thanks to the faster reduction of the lactic acid blood level and thanks to the vasodilatation effect on the capillary vessel. This way the athlete avoids the next day's heavy legs. The active recovery with Sporécup XTR2 allows a faster and better recuperation of the muscles with no supplement charge for the body compared to traditional recovery sessions. Use recovery programs within 3 hours after the efforts.

- Increase blood flow
- Emphasize release endorphin
- Eliminate muscle contraction
- Accelerate relax muscles

P1	Recovery after endurance training
P2	Recovery after competition
P3	Recovery after force training
P4	Recovery with dynamic stimulation
P5	Cramp treatment
P6	Next day regeneration
P7	Venous return (dynamic stimulation)
P8	Heavy legs
P9	Treatment of hematoma

### RELAXATION

P10	Slow dynamic massage
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### PAIN TREATMENT

P11	Cervical pain
P12	Low back pain

P13 Lumbosciatica

P14 Tendinitis

P15 Joint pain

P16 Chronic pain / endorphinic

#### SPORT

P17 Resistance

P18 Endurance

P19 Strength

P20 Explosive strength

P21 Hypertrophy / body building

#### REHABILITATION

P22 Amyotrophy prevention

#### CAPILLARIZATION

P23 Capillarization 1st phase

P24 Capillarization 2nd phase

#### FITNESS

P25 Muscle starter

P26 Toning/muscle building

#### AESTHETICS

P27 Shaping

P28 Cellulolipolyse

P29 Vascularization adipose tissue

P30 Buttocks & abs training

## Setting of intensity levels

Do not try to achieve a higher and higher level of intensity. Set the intensity in such a way that you get a comfortable feeling during the stimulation. Increase the intensity carefully to a maximum tolerable and then reduce it slightly step by step to a comfortable level.

Note that the intensity settings change depending on the stimulation area and the time. This is normal and can be explained as follows:

- **Resistance of the skin:**

Dry skin has a lower conductivity level than damp skin (due to sweating). The skin does not show the same resistance to linear current on all parts of the body. For example, the resistance level of horny skin can be twice that of the skin in the hollow of the knee. The innervation differs greatly according to the area of the body. This results in a difference of sensitivity.

- **Volume of the muscle mass:**

If you stimulate muscles with a high volume you will automatically need to set a higher intensity than for the stimulation of small muscles.

- **Muscle fatigue:**

A tired muscle will only tolerate a lower intensity.

- **Age of electrodes:**

Self-adhesive electrodes do not last forever. You can use them up for up to 60 stimulation sessions. This depends on the quality of the electrodes but also on the skin of the user. Old electrodes have a higher resistance and their conductivity levels decline. It is important to replace electrodes regularly.

- **Adaption to the current:**

The nerves adapt rapidly to the current. It is normal to feel "less current" after a few minutes of stimulation with specific parameters. In such a case feel free to increase the intensity in order to get the best results.

- **Frequency and pulse width:**

Frequencies and pulse widths differ depending on the programs. Therefore the intensity cannot be set at the same lever for all the programs even if the electrodes are placed in the same position. The higher the frequency is set, the lower you will be able to set the intensity. The higher the pulse width is set, the lower you will be able to set the intensity.

## General information

### **Adjustments, modifications and repairs**

The manufacturer is only responsible for the safety and performance of the XTR2 when readjustments, alterations and repairs are carried out by authorised persons and when the XTR2 is used in accordance with the operating instructions.

### **Warranty**

Legal right of warranty is applied according to German Civil Code.

### **Guarantee**

The manufacturer issues a guarantee of 12 months from the date of purchase.

The guarantee does not apply in the following cases:

- damage due to improper handling
- defects the customer is aware of on the date of purchase
- damage caused by the customer
- for wearing parts and consumable supplies like, for instance, battery, cables and electrodes.

### **Maintenance and cleaning**

No special cleaning or care agents are required for the XTR2. Clean the stimulator with a soft, fluff-free cloth. Please ensure that no moisture permeates the stimulator. If moisture does permeate the stimulator, a technical check must be carried out before re-use.

### **Classification**

In accordance with the Law on Medical Devices, the XTR2 is classified as being a Class IIa medical device.

### **Technical check**

We recommend a technical check on the XTR2 every 24 months. This includes:

1. Confirming that user instructions have been included in the accompanying documentation.
2. Checking the equipment for completeness.
3. Visual check:
  - for mechanical damage
  - for damage to all cables and sockets

## 4. Functional safety

- Checking the output signals with a load resistance of 1 k $\Omega$  real current and voltage
- Checking the frequency
- Checking the pulse width

These technical checks may only be performed by suitably qualified persons. The results must be documented with the date and name of the person carrying out the check.

## Delivery content

Item no.	Article	Quantity
104064	SPORÉCUP XTR2	1
106351	Cable Type 5.15	2
283400	Self-adhesive electrodes 50x50 mm (4 pieces)	1
101062	Charger WK 112 for XTR2	1
	Transportation bag	1
101478	Instruction manual	1



## Accessories

The SPORÉCUP XTR2 may only be used together with all accessories referred below. The manufacturer cannot guarantee the security of the stimulator if it is not used with original accessories.

### Stimex self-adhesive electrodes

Item no.	Description	Quantity
281000	Stimex 32 mm round	4
282000	Stimex 50 mm round	4
283400	Stimex 50x50 mm	4
281032	Stimex 50x50 mm	20
283600	Stimex 50x90 mm	2
283000	Stimex 50x130 mm	2
283100	Stimex 80x130 mm	2
281027	Stimex sensitive 50x50 mm	4



### Silicone electrodes (to be used with contact gel)

Item no.	Size	Quantity
107090	20 mm round	2
107075	40x28 mm	2
107011	38x45 mm	2
107010	48x48 mm	2
107050	70x65 mm	2
107070	70x140 mm	2
108000	contact gel (tube, 60 g)	1



### Garment electrodes: gloves and socks

Stimex electrode gloves and socks used in combination with a schwa-medico electrotherapy unit are ideal for home treatment. They provide stimulation of the entire hand and/or foot and ankle and avoid the sometimes tiresome attachment of self-adhesive electrodes to the hand or the foot.

**Gloves**

Item no.	Article	Size	Quantity
107014	Stimulation gloves	S	1 pair
107021	Stimulation gloves	M	1 pair
107022	Stimulation gloves	L	1 pair

**Socks**

Item no.	Article	Size	Quantity
107023	Stimulation socks	M	1 pair
107024	Stimulation socks	L	1 pair

**MedicoBack P-Type**

Low back support bandage with pelotte and integrated electrodes to be used with the XTR2.

MedicoBack P-type offers patients lumbar vertebrae stabilisation and support as well as easy nerve stimulation thanks to the integrated electrodes. The pelotte with its massage nubs intensifies the pain relieving effect. MedicoBack P-type may be used for light or acute pain as well as for chronic pain in the lower back area.

Item no.	Article	Size	Length
107034	MedicoBack P-type	S	80-90 cm
107036	MedicoBack P-type	M	90-100 cm
107037	MedicoBack P-type	L	100-110 cm
107038	MedicoBack P-type	XL	110-120 cm
107039	MedicoBack P-type	XXL	120-130 cm



MedicoBack P-Type is including:

- 1 low back support bandage
- 1 pelotte
- 1 cover for the pelotte with integrated electrodes
- 1 cover pelotte without integrated electrodes
- 8 gel pads

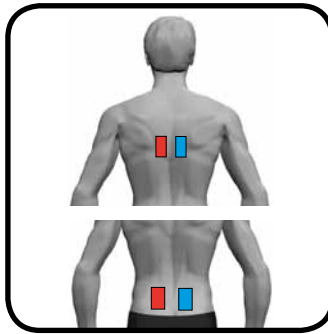
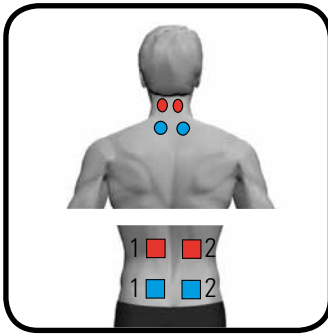




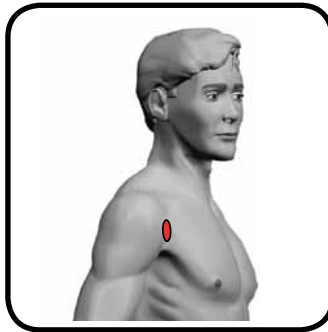
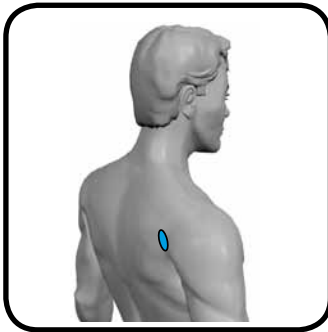
# Electrode placement

## Electrode placement for pain treatment (P11 - P16)

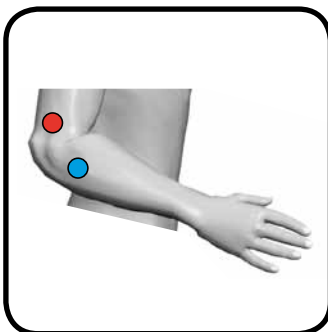
Back pain



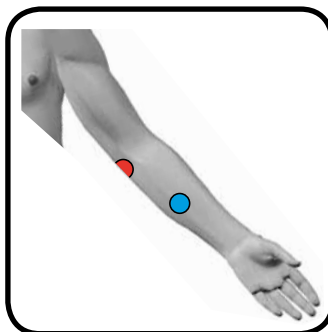
Shoulder pain



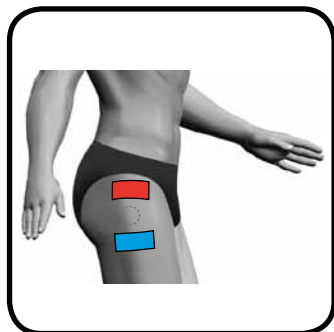
Epicondylitis radialis



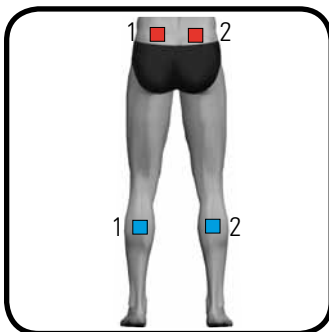
Epicondylitis ulnaris



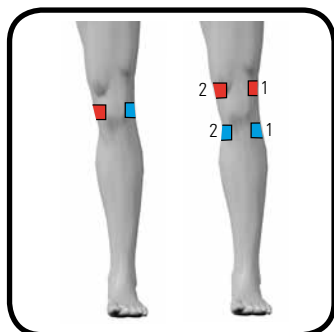
Arthrosis (hip)



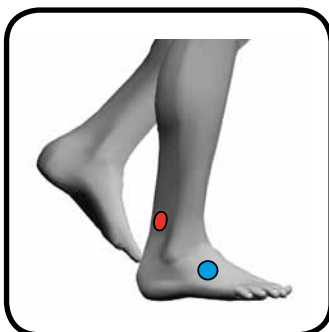
Sciatic pain



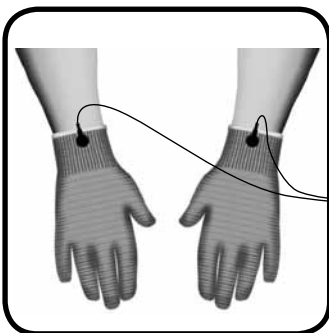
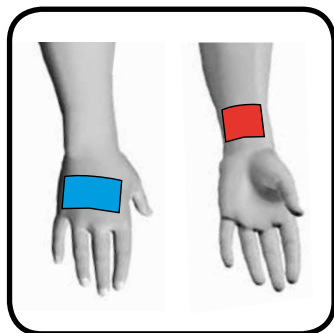
Gonarthrosis/knee pain



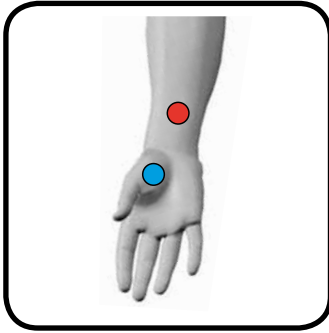
Ankle joint pain



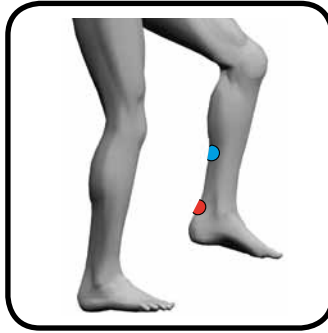
Polyarthritis



Carpal tunnel syndrome



Pain of achilles tendon/heel pain

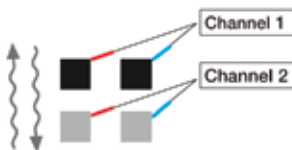


### Electrode placement for dynamic stimulation (P4, P7, P8, P10, P12, P13)

The stimulation is not administered simultaneously on both channels. The current flows from one electrode to the other just like a wave undulating on the body. This kind of stimulation is far more comfortable than traditional neuro-muscular stimulation. Dynamic stimulation can be used with high frequency parameters for an improved pain control or with low frequency parameters for optimized muscle stimulation. This treatment method also has an enhanced effect on lymphatic drainage stimulation. The placement of electrodes for dynamic stimulation depends on the direction of stimulation (rising/falling stimulation or sideways stimulation).

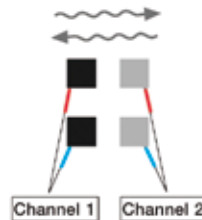
#### Rising or falling stimulation

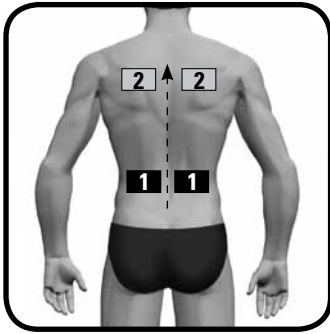
for back or legs



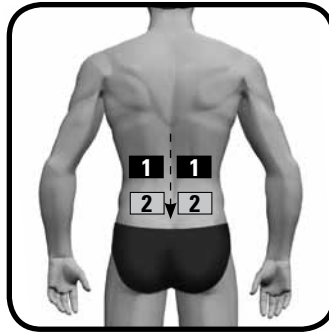
#### Sideways stimulation

for gluteus or stomach muscle





**Rising wave:**  
channel 2  
channel 1



**Falling wave:**  
channel 1  
channel 2

### Electrode placement for muscle stimulation

Hand flebo



Hand extensor



Biceps



Back



Quadriceps



Leg flebo (hamstrings)



Foot flexor



M. tibialis



Calf

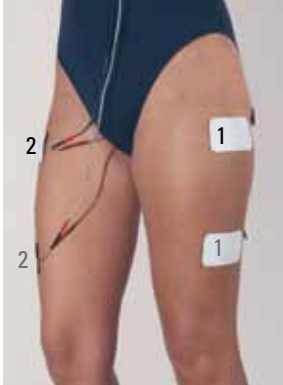


Triceps



**Electrode placement for aesthetics programs (P27 - P30)**

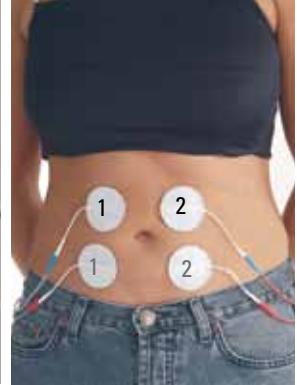
Thighs



Buttocks



Abs



## RECOVERY

- P1 Recovery after endurance training
- P2 Recovery after competition
- P3 Recovery after force training
- P4 Recovery with dynamic stimulation
- P5 Cramp treatment
- P6 Next day regeneration
- P7 Venous return (dynamic stimulation)
- P8 Heavy legs
- P9 Treatment of hematoma

## RELAXATION

- P10 Slow dynamic massage

## PAIN TREATMENT

- P11 Cervical pain
- P12 Low back pain (dynamic)
- P13 Lumbosciatica (dynamic)
- P14 Tendinitis
- P15 Joint pain
- P16 Chronic pain / endorphinic

## SPORT

- P17 Resistance
- P18 Endurance
- P19 Strength
- P20 Explosive strength
- P21 Hypertrophy / body building

## REHABILITATION

- P22 Amyotrophy prevention

## CAPILLARIZATION

- P23 Capillarization 1st phase
- P24 Capillarization 2nd phase

## FITNESS

- P25 Muscle starter
- P26 Toning/muscle building

## AESTHETICS

- P27 Shaping
- P28 Cellulolipolyse
- P29 Vascularization adipose tissue
- P30 Buttocks & abs training



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