beurer

EM 29

EN Knee and elbow TENS

CE 0483

ENGLISH

Contents

Included in delivery

- Knee and elbow universal cuff
- 1x Control unit
- 1x Connection cable
- Batteries, 3 x 1.5 V AAA (LR03, Micro)
- These instructions for use

1. GETTING TO KNOW YOUR DEVICE

Pain relief with the EM 29 stimulation device

How does electrical muscle stimulation work?

The knee and elbow TENS works on the basis of electrical nerve stimulation (TENS). TENS, or transcutaneous electrical nerve stimulation, relates to the electrical stimulation of the nerves through the skin. TENS is an effective non-pharmacological method of treating different types of pain that have a variety of causes. It has no side-effects if administered correctly. The method has been clinically tested and approved and can be used for simple self-treatment. The pain-relieving or pain-suppressing effect is achieved by inhibiting the transference of pain to nerve fibres (caused mainly by high-frequency impulses) and by increasing the secretion of endorphins in the body. Their effect on the central nervous system reduces the sensation of pain. This method is clinically tested and approved. Any symptoms that could be relieved using TENS must be checked by your GP. Your doctor will also give you instructions on how to carry out a TENS self-treatment regime.

2. SIGNS AND SYMBOLS

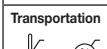
The following symbols appear in these instructions for use.

	**Warning**	Warning notice indicating a risk of injury or damage to health.
	**Important**	Safety note indicating possible damage to the device/accessory.
	**Note**	Note on important information.
	The device must not be used by persons with medical implants (e.g. heart pacemakers). Otherwise their function could be impaired.	

The following symbols are used on the type plate.

	Application part, type BF
	Observe the instructions for use
	The device can emit effective output values above 10 mA, averaged over every five-second interval
	Manufacturer

	Protect from moisture
	Serial number
	**CE labelling** This product satisfies the requirements of the applicable European and national directives.
	Disposal in accordance with the Waste Electrical and Electronic Equipment EC Directive – WEEE
	Further information on the guarantee and guarantee conditions can be found in the guarantee leaflet supplied.
	Item number
	Importer symbol
	Separate the packaging elements and dispose of them in accordance with local regulations.
	Marking to identify the packaging material. A = Material code, B = Material number: 1-7 = Plastics, 20-22 = Paper and cardboard

Storage 	Permissible storage temperature and humidity
Operating 	Permissible operating temperature and humidity
Transportation 	Permissible transport temperature and humidity
	Do not dispose of batteries containing hazardous substances with household waste

3. IMPORTANT NOTES

Safety notes

Warning

- Only use the knee and elbow TENS:
  - On humans
  - For external use
  - For the intended purpose and as specified in these instructions for use.
- Any form of improper use can be dangerous.
- In the event of an acute emergency, the provision of first aid has top priority.
- This device is not intended for commercial or clinical use; it is designed exclusively for self-treatment in a private home.
- Before use, ensure that there is no visible damage to the device or accessories. If you have any doubts, do not use the device and contact your retailer or the specified Customer Services address.
- If you have health concerns of any kind, consult your GP!
- The knee and elbow TENS is for external use on human knees or elbows only. Using the device on other parts of the body can lead to serious health problems.
- Slight reddening of the skin after use is normal and will subside after a short period.
- Do not use the device again until the reddening has disappeared.
- If the skin becomes irritated over longer treatment times, select a shorter application time instead.
- If more serious skin irritation occurs, stop the treatment and seek medical assistance.
- This device is not intended for use by children or people with restricted physical, sensory (e.g. reduced sensitivity to pain) or mental skills or a lack of experience and/or a lack of knowledge, unless they are supervised by a person who is responsible for their safety or are instructed by such a person on how to use the device.
- Keep packaging material away from children (risk of suffocation!).
- Do not use any additional parts that are not recommended by the manufacturer.

- Do not move the cuff or put it on if the control unit is switched on.
- Only connect the connection cable for the electrode plug to the intended control unit and the universal cuff that is included.
- Do not pull on the connection cables during treatment.
- Do not bend or pull on the end of the connection cable.
- Do not wear any electronic devices, such as watches, while using the device.

Precautions

⚠ Warning

- During the initial few minutes, use the device while sitting or lying down to minimise the risk of injuries as a result of isolated cases of vagal responses (feeling of faintness). If you feel faint, switch off the device immediately, lie down and support the legs in an elevated position (approx. 5 – 10 min).
- The treatment should be comfortable. If the device does not work properly, or you feel unwell or experience pain, stop using it immediately.
- Only remove the cuff once the device has been switched off.
- Do not use the device near (~ 1 m) shortwave or microwave devices (such as mobile phones) as these may cause fluctuations in the output values of the device.
- Never immerse the device in water or other liquids.
- Do not use in the vicinity of highly flammable substances, gases or explosives.

Notes on the electrodes

⚠ Important

- The electrodes must not be attached to open areas of skin.
- Max. recommended output value for electrodes is 5 mA/cm^2.
- Effective current densities over 2 mA/cm^2 require increased attentiveness from the user.

⚠ Warning

To avoid damage to health, we strongly advise against using the device in the following situations:

- Do not use the device if you have a pacemaker or other implants, such as an insulin pump or metal implants.
- If you have a high temperature (e.g. > 39 °C).
- If you have a known or acute cardiac arrhythmia (arrhythmia), or disorders of the heart's impulse and conduction system.
- If you suffer from a seizure disorder (e.g. epilepsy).
- If you are pregnant.
- If you have cancer.
- After an operation, if strong muscle contractions could affect the healing process.

- On acutely or chronically affected (injured or irritated) skin, e.g. inflamed skin, whether painful or not, or reddened skin.
- On rashes (e.g. allergies), burns, bruises, swellings, as well as open and healing wounds.
- On surgical scars that are still healing.
- If you are connected to a high-frequency surgical device. This may lead to burns under the electrical muscle stimulation areas.
- Under the influence of pain-relieving medication, alcohol or sleeping tablets.
- While undertaking any activity where an unexpected reaction (e.g. strong muscle contractions even at low intensity) could be dangerous, e.g. while driving or operating/driving machinery.
- On a sleeping person.
- Do not use this device while using other devices that transmit electrical impulses into your body.
- The device is suitable for self-treatment.
- For hygiene reasons, the cuff may only be used on one person.
- Ensure that no metallic objects come into contact with the electrodes during stimulation. Failure to do so could result in spot burns.
- In the case of acute or chronic diseases of the gastrointestinal tract.
- In the case of metallic implants.
- If you use an insulin pump.
- In areas with high humidity such as in the bathroom or when bathing or showering.

The device must not be used:

- In the head area: this can trigger seizures.
- In the neck/carotid artery area: this can cause a cardiac arrest.
- In the throat and larynx area: this can trigger muscular cramps, which may cause suffocation.
- In the ribcage area: this can increase the risk of ventricular fibrillation and induce cardiac arrest.

Consult your GP before use:

- If you suffer from a serious illness, in particular if you suspect or have been diagnosed with a blood coagulation disorder, propensity to thromboembolic conditions or recurrent malignant growths.
- If you suffer from diabetes or other health conditions.
- If you have unexplained chronic pain in any part of the body.
- Any sensory impairment that reduces the feeling of pain (e.g. metabolic disorders).
- If you are receiving medical treatment.
- In the event of complaints linked to stimulation treatment.
- If you suffer from persistently irritated skin under the electrodes.

⚠ Warning

Using the device is not a substitute for medical consultation and treatment. Always consult your doctor first if you are experiencing any pain or are suffering from an illness.

Prior to initial use

⚠ Important

- Remove all packaging material before using the device.
- Switch the device off immediately if it is faulty or not working properly.
- Never put the knee and elbow cuff on if it has bare metal electrodes. Using the knee and elbow cuff without electrode covers can cause injury.

⚠ Important

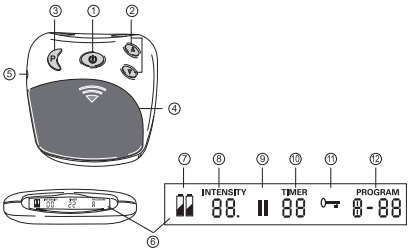
- The manufacturer is not liable for damage resulting from improper or careless use.
- Protect the device from dust, dirt and humidity.
- If the device has been dropped or exposed to high levels of humidity or has suffered any other damage, it must no longer be used. The device must not be exposed to high temperatures or direct sunlight.
- Under no circumstances should you open or repair the device yourself because faultless functionality can no longer be guaranteed thereafter. Failure to comply will result in voiding of the warranty.
- For repairs, please contact Customer Services or an authorised retailer.

⚠ Notes on handling batteries

- If your skin or eyes come into contact with battery fluid, rinse the affected areas with water and seek medical assistance.
- ⚠ **Choking hazard!** Small children may swallow and choke on batteries. Store the batteries out of the reach of small children.
- Observe the plus (+) and minus (-) polarity signs.
- If a battery has leaked, put on protective gloves and clean the battery compartment with a dry cloth.
- Protect batteries from excessive heat.
- ⚠ **Risk of explosion!** Do not throw batteries into a fire.
- Do not charge or short-circuit batteries.
- If the device is not to be used for a relatively long period, take the batteries out of the battery compartment.
- Use identical or equivalent battery types only.
- Always replace all batteries at the same time.
- Do not use rechargeable batteries.
- Do not disassemble, split or crush the batteries.

4. DEVICE DESCRIPTION

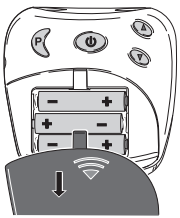
Overview of the control unit



No.	Designation
1	On/Off/Pause button
2	Intensity setting ▲ Increase ▼ Lower
3	Program/lock button
4	Battery compartment
5	Connector socket
6	Screen with LCD display
7	Battery status, appears when batteries are dead
8	Intensity, level 0 – 20
9	Pause symbol, flashes when activated
10	TIMER: Remaining time in the active program in minutes
11	Button lock active
12	Active program

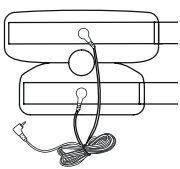
5. INITIAL USE

Inserting the batteries



Open the battery compartment [4] by pushing the cover in the area marked with an arrow and sliding downwards. Insert the three alkaline AAA 1.5 V batteries. When inserting the batteries, ensure that the correct polarity is observed.
Then close the battery compartment lid until you hear and feel it click into place.

Connecting the connection cable and positioning the universal cuff



1. Connect the connection cable with the metallic connection clips on the universal cuff.

Note

You can position the universal cuff on either your knee or elbow.

Before positioning the universal cuff, first clean the body parts to be treated.

Make sure that you can access the control unit and the universal cuff quickly during the treatment so that you can stop the treatment promptly if it is unpleasant

Before positioning the universal cuff, first moisten the water contact electrodes and the knee/elbow with water.

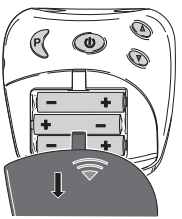
Position the universal cuff on your knee or elbow. At this point, ensure that the surfaces of the water contact electrodes surround the knee/elbow. In doing so, the round opening of the universal cuff must lie on the kneecap/elbow tip.

2. Fix the universal cuff in the desired position using the hook-and-loop fasteners. Ensure that the universal cuff is not too tight but that the water contact electrodes still have sufficient contact with the skin.

3. Insert the plug for the connection cable into the connector socket [5] on the control unit.

Replacing the battery

Please replace the batteries when the battery status symbol appears in the display [7].



- Open the battery compartment [4] by pushing the cover in the area marked with an arrow and sliding downwards.
- 3 x 1.5 V batteries, type AAA (LR 03 Micro) should be inserted for operation. Ensure the polarity is correct. Observe the graphic in the battery compartment.
- Do not use rechargeable batteries.

6. OPERATION

General notes on use

Do not switch on the device until the cuff is correctly positioned. See chapter 5.

The knee and elbow TENS is intended for individual treatment of pain in the knee and elbow.

Switching on

Hold down the On/Off button [1] until a short signal sounds and the LCD display [6] switches on. When the device is switched on for the first time, program A is automatically activated.

Selecting a program

Press the program button P [3] to switch between the programs.
The following programs are available:

Program	Frequency	Time
A	4 Hz – 110 Hz (3 phases)	30 min
B	4 Hz	25 min
C	2 Hz (burst)	25 min
D	100 Hz	25 min

Note:
With program A, you will feel the effect become stronger when the program changes from phase 1 to phase 2 (after approx. 10 minutes). This is normal and intentional. If the intensity seems too high, you can lower it by simply pressing the intensity button ▼ [2].

Note:
If the program is changed during stimulation (for example from A to B), the output intensity will increase gradually in the new program until it reaches the intensity that was previously set. This can be stopped if required by pressing and holding the intensity button ▼ [2] for two seconds or by switching off the device by pressing and holding the On/Off button [1] for two seconds.

Stopping pulses that are too strong

You can lower the intensity at any time or turn the device off by pressing and holding the On/Off button [1] (~ 2 seconds).

Setting the intensity

Press the intensity button ▲ [2] to gradually increase the intensity or the intensity button ▼ [2] to lower the intensity. There are 20 levels of intensity that can be selected. Depending on the intensity level, you will start to feel tingling, which may increase up to muscle contractions.

Select a setting that is comfortable for you during use.

Preventing unwanted pulse changes

To prevent unintentional increases in intensity during a treatment, simply switch the button lock on. To do this, press and hold the program selection button P [3] for approx. 2 seconds. An acoustic signal sounds and the symbol "  " appears in the display [6]. To release the button lock, press and hold the P button [3] for approx. 2 seconds.

Reacting to unpleasant sensations

If you feel a twinge or itching on your skin, you should switch the device off and proceed as follows:

- Check that the electrodes are OK and do not show any signs of damage.
- Check that the round cover is still on the electrode connections.
- Remove the cuff and moisten it again completely.
- When you put it back on, ensure that there is good contact with the skin and that the skin is damp.

Pausing a program

If you want to pause a program while it is running, press the Pause button [1]. An acoustic signal sounds and the pause symbol “II” flashes in the display [6]. The program can be continued by pressing the button [1] again.

Contact detection

If the electrodes are not in contact with the body, the intensity will automatically be set to zero. This prevents unwanted electrical stimulation. The intensity cannot be increased if the electrodes are not in contact with the body.

Memory function

The device saves the last program that was set.
After replacing the battery, the device starts again with the first program.

7. CLEANING AND STORAGE

Cleaning the control unit

⚠ Important

Before beginning the cleaning process, disconnect the connection cable from the control unit and the universal cuff and remove the batteries.
Clean the control unit after use with a soft, slightly damp cloth. If it is very dirty, you can also moisten the cloth with a mild soapy solution. Do not use any chemical or abrasive cleaning agents. Ensure that no water gets inside the control unit.

Cleaning the universal cuff

⚠ Important

1. Before beginning the cleaning process, disconnect the connection cable from the universal cuff.
2. Clean the universal cuff carefully in lukewarm, soapy water. Do not use hot water. Afterwards, rinse it well with water so that no soap remains on the universal cuff.
3. Then carefully pat the universal cuff dry with a towel and leave it to dry.

⚠ Warning

- If the universal cuff is damaged, it must be replaced.
- Before repositioning the universal cuff, first clean the body parts to be treated.

Storage

- Switch off the control unit and disconnect the connection cable.
- Remove the universal cuff.
- Disconnect the connection cable from the universal cuff.
- Put the control unit, the universal cuff and the connection cable in their original packaging.
- Store the original packaging in a cool, dry place that is inaccessible to children.
- Remove the batteries from the device if you will not be using it for a prolonged period of time. Leaking batteries may damage the device.

8. DISPOSAL

For environmental reasons, do not dispose of the device in the household waste at the end of its service life.

Dispose of the device at a suitable local collection or recycling point. Dispose of the device in accordance with the Waste Electrical and Electronic Equipment EC Directive – WEEE.

If you have any questions, please contact the local authorities responsible for waste disposal.

Empty, completely flat batteries must be disposed of using specially designated collection boxes, recycling points or electronics retailers. You are legally required to dispose of the batteries.

The codes below are printed on batteries containing harmful substances:

Pb = Battery contains lead
Cd = Battery contains cadmium
Hg = Battery contains mercury

9. TROUBLESHOOTING

Problem	Possible cause	Solution
The device does not switch on.	The batteries are empty.	Replace the batteries.
	The batteries are not inserted correctly.	Reinsert the batteries.
Stimulation is too weak.	Universal cuff is not in sufficient contact with the skin.	Replace the universal cuff. Ensure there is sufficient contact with the skin.
	Water contact electrodes are not sufficiently moist.	Switch off the device. Moisten electrodes.

Problem	Possible cause	Solution
Stimulation is uncomfortable.	The intensity on the device is set too high.	Lower the intensity on the device.
	Water contact electrodes are not sufficiently moist.	Switch off the device. Moisten electrodes.
	Connection cable is worn/faulty.	Replace the connection cable.
	Water contact electrodes are worn/ faulty.	Replace the universal cuff.
Irregular stimulation.	Connection cable faulty.	Reduce the intensity and rotate the connection cable on the socket by 90°. If additional power failures occur, replace the connection cable.
Stimulation is ineffective.	Water contact electrodes are not positioned correctly on the skin.	Remove water contact electrodes and reposition on the skin. Ensure there is sufficient contact with the skin.

Problem	Possible cause	Solution
The skin turns red and/or a stabbing pain occurs.	The universal cuff is not positioned correctly on the skin.	Ensure that the universal cuff sits securely on the skin and cannot move.
	The universal cuff is dirty.	Clean the universal cuff as described in these instructions for use.
	One of the water contact electrodes has a scratch.	Replace the universal cuff.
	Water contact electrodes are not sufficiently moist.	Switch off the device. Moisten electrodes.
Stimulation stops during use.	The universal cuff has worked itself loose from the skin.	Stop the application and reposition the universal cuff.
	The connection cable has worked itself loose.	Stop the application and reinsert the connection cable.
	The batteries are empty.	Replace the batteries on the control unit.

If you cannot find a solution to your problem here, contact our Customer Services.

10. TECHNICAL SPECIFICATIONS

Circumference of the cuff	Approx. 25 to 70 cm
Type	EM 29
Weight – Device – Device, cuff	 – Approx. 95 g incl. batteries – Approx. 210 g incl. batteries
Dimensions (LxWxH) - Device	Approx. 8,6 x 3,6 x 8,3 cm
Electrode size	Approx. 115 x 60 mm
Parameter (500 ohm load)	Output voltage: max. 50 Vpp / 5.5 V rms ± 10 % Output current: max. 100 mApp / 11 mArms Output frequency: 2 – 110 Hz ± 10 %
Pulse length	60 – 220 µs ± 10 % per phase
Waveform	Symmetric, biphasic rectangular pulse
Voltage supply	4.5 V (3 x 1.5 V AAA, type LR03)
Operating conditions	0 °C to 40 °C, 20 to 65% relative humidity
Storage	0 °C to 55 °C, 10 to 90% relative humidity

The serial number is located on the device or in the battery compartment.

We reserve the right to make technical changes to improve and develop the product. If the device is not used according to the instructions specified, perfect functionality cannot be guaranteed! This device complies with European standards EN60601-1 and EN60601-1-2 (Group 1,Class B, In accordance with CISPR 11, IEC 61000-4-2, IEC 61000-4-3 and IEC 61000-4-8) and is subject to special precautionary measures with regard to electromagnetic compatibility. Please note that portable and mobile HF communication systems may interfere with this device. More details can be requested from the stated Customer Service address or found at the end of the instructions for use.

This device meets the requirements of European Directive 93/42/EC for medical products, as well as those of the Medizinproduktegesetz (German Medical Devices Act). For this device, a functional test and instruction in accordance with Section 5 of the Medical Devices Operator Ordinance (MPBetreibV) is not required. It is also not necessary to carry out safety checks in accordance with Section 6 of the Medical Devices Operator Ordinance (MPBetreibV).

11. NOTES ON ELECTROMAGNETIC COMPATIBILITY

⚠ WARNING

- The device is suitable for use in all environments listed in these instructions for use, including domestic environments.
- The use of the device may be limited in the presence of electromagnetic disturbances. This could result in issues such as error messages or the failure of the display/device.
- Avoid using this device directly next to other devices or stacked on top of other devices, as this could lead to faulty operation. If, however, it is necessary to use the device in the manner stated, this device as well as the other devices must be monitored to ensure they are working properly.
- The use of accessories other than those specified or provided by the manufacturer of this device can lead to an increase in electromagnetic emissions or a decrease in the device's electromagnetic immunity; this can result in faulty operation.
- Keep portable RF communication devices (including peripheral equipment, such as antenna cables or external antennas) at least 30 cm away from all device parts, including all cables included in delivery. Failure to comply with the above can impair the performance of the device.

12. WARRANTY/SERVICE

Pour plus d'informations sur la garantie et les conditions de garantie, consultez la fiche de garantie fournie.

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