

# PetCellpen®

Quick Guide  
EN

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# Introduction

Dear Customer,

Thank you for choosing to purchase the PetCellpen®.

The PetCellpen® is an innovative physical therapy device from the field of plasma medicine. The pen generates a cold atmospheric plasma current by means of high voltage and direct dielectric barrier discharge. This current has an effect on the skin as well as on deeper tissue layers. As with all electrical medical equipment, special care is required with this device to avoid adverse effects and damage to the device.

This Quick Guide will help you.

## NOTE

**This device is intended to be used only by veterinary professionals for the treatment of small animals and pets.**

**Please read these operating instructions carefully before using the PetCellpen® and keep this document for future reference.**

# Explanation of symbols



**DANGER** - Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



**WARNING** - Disregarding the warning can cause harm to life and limb.



**CAUTION** - Indicates a low-risk hazardous situation which, if not avoided, could result in mild to moderate physical injury.



**NOTE** - Indicates practical information and tips that allow the product to be used with maximum effectiveness.

# Technical information



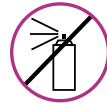
## Use of type BF

Galvanically insulated application part.



## EMC-tested

Electromagnetic compatibility.



## Cleaning

Do not clean directly with a spray.



## Disposal

Disposal only via a specialist dealer.  
Do not dispose of in household waste.

# Safety and care instructions



## NOTE

Do not immerse the pen in water or clean it under running water.

Clean the device with disinfectant before and after treatment.

Make sure that the device is switched off for cleaning.

Do not spray the pen directly with disinfectant spray.

Apply disinfectant spray to a cleaning cloth or use a pretreated disinfectant wipe.

Clean the pen and the glass electrode with it.

## CAUTION



The tip of the pen is made of glass and is fragile. Do not carry out treatment if the tip is damaged. **Never switch the pen on without the glass tip.**



Do not use the pen near smartphones, smart watches or other electronic devices.



Avoid contact between the glass tip of the PetCellpen® and other electrical devices as these may be damaged.

**⚠ DANGER**



The device must be kept out of the reach of children.



Treatment must never be carried out by people with heart conditions or pacemakers.



Do not attempt any repairs yourself.

**⚠ WARNING**



If the therapist experiences any discomfort during or after the treatment, consult a doctor immediately.



Keep the PetCellpen®, battery, plug and charger away from naked flames and hot surfaces.

# Safety and care instructions

## **Correct use**

The device must be used only for the purposes described in this Quick Guide. Use for purposes other than those for which the device is intended and independent technical modification of the device can be hazardous to health.

## **Electrical danger**

- Only charge the PetCellpen® with the charger and batteries supplied.
- Only use the charger with a properly earthed socket.
- Before commissioning, check whether the voltage specification on the charger matches the regional mains voltage.
- If there is visible damage to the PetCellpen®, the charger, the connection cable or the glass tips, do not operate them under any circumstances.

- Check the device and cables regularly for damage.
- If the cable is damaged, you must replace the charger.
- Switch the device off when it is not being used and remove the battery.
- Check that the delivery is complete, and that the product has not been damaged during transport.
- If the delivery is incomplete or has been damaged during transport, do not put the product into operation. Contact the dealer from whom you purchased the product.



# PetCellpen® case



## Case contents

- PetCellpen® Quick Guide
- Therapy Guide
- Mains cable and battery charging station
- 2 rechargeable batteries
- Disinfectant
- 2 glass electrodes of your choice
- PetCellpen®

Art. PET-100

## Available individually:

- *Curved* glass electrode  
Art. CP 100-210
- *Straight* glass electrode  
Art. CP 100-220
- *Comb* glass electrode  
Art. CP 100-230
- *Disc* glass electrode  
Art. CP 100-240
- *Crystal* glass electrode  
Art. CP 100-250
- Car charger cable  
Art. CP 100-340

# Product description

- 1 Interchangeable glass electrode
- 2 PetCellpen® shaft
- 3 Handle with 2 rotary switches
- 4 Off position
- 5 "Impulses/s" rotary switch
- 6 "Amplitude" rotary switch with On/Off function
- 7 Rechargeable battery



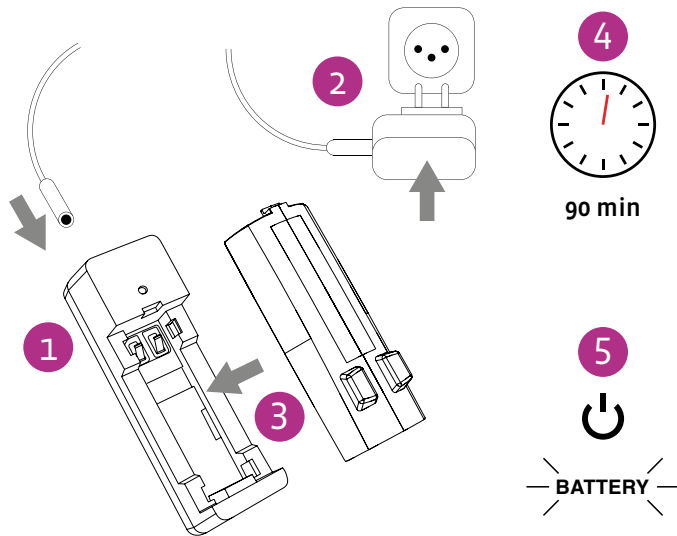


Back of the pen:  
Battery insert



# Charging process

- 1 Plug the mains cable into the battery charging station.
- 2 Now connect the charging station to a power socket. The charging station light will flash twice.
- 3 You can now insert the rechargeable battery into the charging station. The light will begin to blink continually.
- 4 In 90 minutes, the battery will be fully charged. The light now illuminates continuously.
- 5 When the battery needs to be recharged, the indicator light on the pen flashes red. Remove the battery and charge it.



# Commissioning

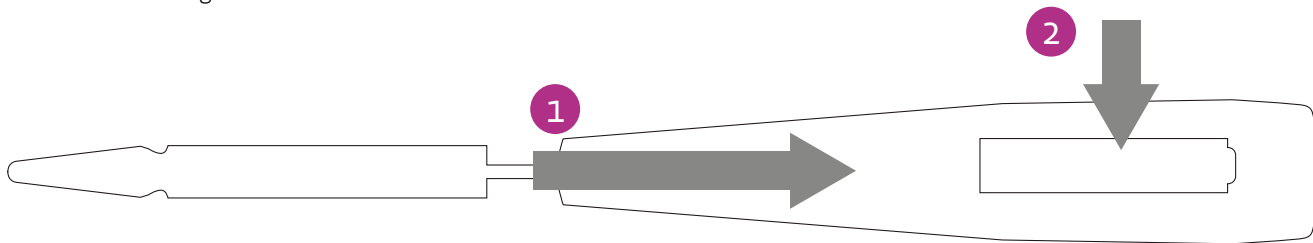
## Inserting the electrode and the rechargeable battery

- 1 Insert the glass electrode all the way into the PetCellpen® as far as it will go.
- 2 Insert a fully charged battery into the slot on the back of the device. When inserting the battery, pay attention to the alignment of the metal contacts and the locking notch.

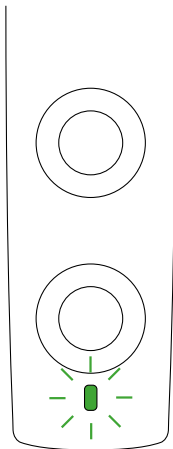
**⚠ CAUTION**



**Make absolutely sure that the "Amplitude" rotary switch is in the Off position before inserting the electrode and battery!**

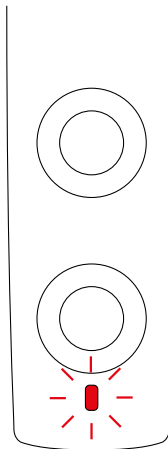


# Commissioning



## Switching on and settings

The PetCellpen® has two rotary switches on the handle that can be used to adjust the pen. To switch the pen on, turn the lower rotary switch to the left (if the Off point is adjacent to the light, the pen is switched off). The green light under the switch now lights up. The pen is ready for use. You can determine the values of the pulses and the amplitude during the treatment using the rotary switches. To do this, simply set the desired values to align with the mark.



## Carrying out treatment

Grasp the handle with one hand behind the line. Place the glass electrode on the area of the patient you wish to treat. A steady tone indicates that the plasma is active. Pass the electrode over the area.

## Operating time

The operating time of a battery is approx. 30-90 minutes, depending on the settings selected. The light flashes alternately green/red when the battery time is running out. If the light is continuously red, the remaining time is about 10 minutes.

# Principle of action

## **Direct cold atmospheric plasma (dCAP)**

The cordless pen successfully generates a high voltage from the power of a small 3.7-volt battery to produce therapeutic dCAP by means of direct dielectric barrier discharge. The plasma current can be directed precisely onto the skin surface to be treated with the help of variously shaped glass electrodes. The medical effect of dCAP has been proven in numerous studies.

## **Cell activity stimulation: promotes healing, inhibits inflammation!**

dCAP directly stimulates the body's cells and changes their behaviour. Healing processes are promoted through increased cell proliferation, inflammation is reduced by influencing the formation of cellular mediators, and the immune system is boosted. The remodelling of tissue is improved.

## **Promotion of blood circulation leads to faster healing**

dCAP has an immediate and lasting hyperaemic effect on the treated tissue. The formation of new blood vessels is also stimulated. This improves the metabolism and accelerates healing.

## **Antimicrobial and anti-parasitic effect**

The reactive species of dCAP, which contains ozone, hydrogen peroxide and other oxygen and nitrogen radicals, have a powerful antiseptic effect that does not encounter any resistance problems and is has been proven to be effective against multi-resistant micro-organisms (e.g., MRSA). dCAP also has a fungicidal effect and has been shown to impair ectoparasites (lice, demodex).

# Indications/contraindications

For more information on the therapeutic use of the PetCellpen®, please refer to the updated Therapy Guide and the information on our website [www.petcell.ch](http://www.petcell.ch)

## Selected indications for PetCellpen® therapy:

### Dermatology

- Abrasion and pressure sores
- Acne
- Demodex
- Dermatomycosis
- Pyoderma/hotspots
- Scars
- Problems with wound healing
- Burns

### Orthopaedics

- Arthritis
- Sprain
- Myositis
- Tendinitis

### Physiotherapy

- Muscle tension and trigger points

The PetCellpen® is intended exclusively for professional use. This device may be used only by veterinary professionals for the treatment of small animals and pets.

## WARNING

**Treatment must not be carried out on pregnant animals. Patients must also not be treated in the following areas:**

- Eyes
- Ears
- Close to the heart
- Jugular groove (Vagus nerve)
- Metallic implants



# Dosage rules

## "Impulses/s" rotary control

- Allows adjustment of the pulse frequency from 20 to 100 Hertz (pulses per second).
- Special function at level 10: the device's pulse frequency and output power are automatically and synchronously modulated up and down from the lowest to the highest setting. The Amplitude rotary control is disabled with this function.
- The lower the frequency, the greater the depth of penetration into the tissue.
- Low pulse frequencies are suitable for orthopaedic therapies.
- High pulse frequencies are suitable for dermatological therapies.

## "Amplitude" rotary control

- Allows the device's output power to be regulated in 9

- steps up to a maximum of  $0.46 \mu\text{W}/\text{cm}^2$ , which determines the intensity of the therapy.
- For acclimatisation, select the lowest setting and increase
- The higher the setting, the greater the depth of penetration into the tissue.
- Lower amplitudes are suitable for acute diseases.
- Higher amplitudes should be selected for chronic diseases.

## Therapy duration and repetitions

- Carry out a treatment of up to 30 minutes at most every other day.
- The average dwell time of the glass electrode at any particular location should be 60 seconds and should not exceed a duration of 90 seconds.
- The more acute a disease, the shorter the treatment and the more frequent the repetition of therapy.
- The more chronic a disease, the longer the treatment and the intervals between treatment.

# Electrode application

## 1. *Straight* glass electrode

This glass electrode can be applied both at the tip and laterally over a wide area and can therefore be used as a versatile universal electrode.

### **Form of treatment: spot-focused**

Particularly suitable for orthopaedic use, for example, treatment of tendons.

### **Form of treatment: wide-area**

Particularly suitable for dermatological use, for example for pyoderma.



## 2. *Curved* glass electrode

The curved glass electrode is suitable for intensive local treatment with deep penetration, as is often desired for orthopaedic therapies. In physiotherapy, this electrode is highly suitable for the treatment of trigger points. Another example of the application of this electrode is irritating scar tissue.



# Electrode application

## 3. *Comb* glass electrode

This electrode with four prongs was developed for the treatment of areas with long and dense fur and allows multi-point therapy. The wide range of applications extends from dermatology to orthopaedics and physiotherapy.



## 4. *Disc* glass electrode

This electrode has a larger treatment surface than all other electrodes and is used for wide-area treatment. It is particularly useful in dermatology. Because the power is distributed over a larger surface area, this electrode provides a gentler effect and less depth penetration.



## 5. *Crystal* glass electrode

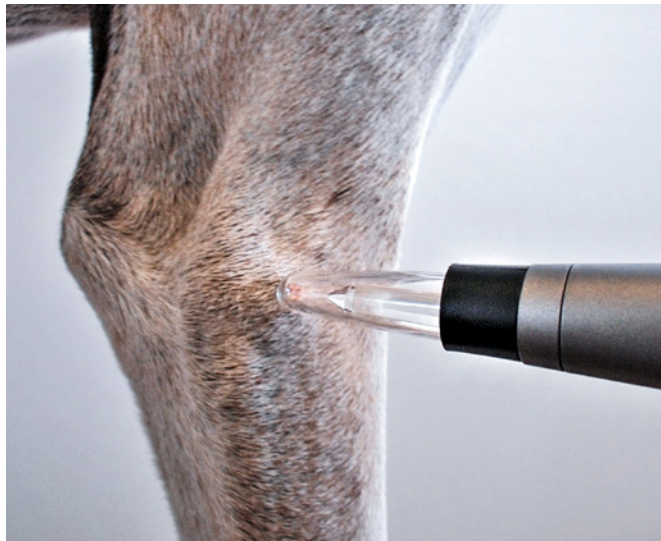
The glass crystal concentrates the plasma flow, resulting in a precisely localised and intensive treatment with more depth penetration.

### **Form of treatment: multi-point**

Used in orthopaedics and physiotherapy, for example, to treat muscle spasms, tension and localised pain.

### **Form of treatment: spot-focused**

The glass crystal electrode is particularly suitable for spot-focused treatments such as acupuncture. The electrode is held vertically on the acupuncture point for 30-60 seconds.



# Technical specifications/standards

## Product designation:

Cold plasma therapy device

Art.	Product:	Generation:
PET-100	PetCellpen®	2020



## Conformity:

DIN Spec 91315 Medical plasma source  
Standards for medical electrical equipment:  
DIN EN 60529:2014-09;VDE 0470-1:2014-09;VDE 0470-1:2014-09  
DIN EN 60601-1:2013-12;VDE 0750-1:2013-12  
DIN EN 60601-2-1:2016-08;VDE 0750-2-1:2016-08  
DIN EN 60601-1-6:2016-02;VDE 0750-1-6:2016-02  
Directive 2014/30/EU, Electromagnetic Compatibility (EMC)  
Directive 2014/35/EU, Making available on the market of electrical equipment designed for use within certain voltage limits  
Directive 2011/65/EU, Restriction of Hazardous Substances (RoHS)

## Technical specifications

### PetCellpen®:

Max. output voltage: 25 KVAC  
Max. output power: 0.47  $\mu\text{W}/\text{cm}^2$   
Pulse frequency: 1Hz-100Hz  
Operating voltage: 3.7 VDC

### Battery:

Li-ion battery  
Output voltage: 3.7 VDC

### Operating environment:

Temperature: 5-40°C  
Air pressure: 75-106 kPa  
Humidity: 15-80%

### Power supply unit for chargers:

Input voltage: 100-240 VAC  
Output voltage: 12 VDC  
Max. output current: 1A

### Charger:

Input voltage: 12 VDC  
Max. output voltage: 4.2 V

# Warranty conditions

ActivCell Group AG grants a warranty period of 3 years on the pen and its accessories, excluding rechargeable batteries. The rechargeable batteries are guaranteed for one year if stored properly. The product or parts thereof will be repaired or replaced free of charge if the defect is reported in writing by the customer to the distributor within 14 working days after receipt of the goods or the date of occurrence of the damage.

Damage to the glass electrodes as a result of glass breakage and damage as a result of improper handling, mechanical damage as a result of dropping, and water damage to the electronics are excluded from the warranty.

The warranty will be invalidated if technical modifications or independent, improper repairs are made to the products without the written consent of ActivCell Group AG. To the extent permitted by law, liability for damages is excluded.

In particular, ActivCell Group AG is not liable for damage that is attributable to improper use or natural wear and tear, or for damage that has not occurred to the delivery item itself (consequential damage).

## **Manufacturer**

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[www.activcellgroup.com](http://www.activcellgroup.com)

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