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Operating instructions Ioniser

KERN ABP-A01

TABP-A01-A

Version 1.0

2024-12

GB



TABP-A01-A-BA-e-2410



KERN ABP

Version 1.0 2024-12

Operating instructions

Ioniser

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1 About this document

1.1 Document purpose

This document provides the user with comprehensive descriptions for the safe and efficient use of the product. The document must be carefully read and understood by all users before the product is used in any way.

1.2 Other versions of the document

This document was created in German. We reserve the right to make subsequent changes to the product documentation. The current version and other language versions of the document can be found on our website www.kern-sohn.com.

1.3 Presentation conventions

| Representation | Meaning |
|--------------------|------------------------|
| ⇒ 1. / 2. / ... | Instruction for action |

2 General safety information




2.1 Meaning of the warnings

Warnings warn you of possible safety risks during certain activities. Read the warnings in full and follow the instructions. Failure to do so may result in injury, damage to property, environmental damage, malfunctions or incorrect results.

Meaning of the signal words

| Signal word | Meaning |
|----------------|---|
| DANGER | Failure to observe the instructions will lead directly to serious injury, permanent impairment (e.g. loss of a limb) or death of the user or third parties. |
| WARNING | Failure to observe the instructions may result in serious injury, permanent impairment (e.g. loss of a limb) or death of the user or third parties. |
| CAUTION | Failure to observe the instructions may result in minor injuries or temporary damage to the user or third parties (e.g. minor cuts). |
| NOTE | Failure to observe this warning may result in damage to property. |

Meaning of the warning signs

| Warning signs | Type of hazard |
|---|-------------------------------|
|  | Warning of a danger zone |
|  | Warning of electrical voltage |
|  | Ozone warning |

2.2 Safe handling of packaging material

Always keep packaging material out of the reach of children and animals to avoid the risk of suffocation.

2.3 Safe handling of power supply units

Improper handling of power supply units or the use of damaged or unsuitable power supply units and power cables can lead to life-threatening injuries.

Please note the following information:

- The appliance must not be used if the electrical equipment is faulty (e.g. damage to the power supply unit or power cable, deformation, smoke development, etc.).

If you notice any damage, disconnect the device from the power supply immediately and contact your dealer or KERN & SOHN Service.

- Only connect the device to a properly installed and undamaged power supply. The information on the device (sticker) and the mains voltage at the place of use must be identical.
- Make sure that no moisture (e.g. water vapour or liquids) gets near the electrical equipment at the place of use to avoid short circuits.
- Only use original power supply units and connection cables.

If you need a replacement, please contact your dealer or KERN & SOHN Service.

- Work on the electrical equipment of the appliance may only be carried out by KERN & SOHN Service.
- The mains cable must be laid in such a way that it does not pose a tripping hazard and cannot be pinched or kinked.
- The mains plug must be accessible at all times so that the appliance can be disconnected from the power supply by pulling the mains connection cable in the event of an emergency.

2.4 Intended use

The ioniser neutralises electrostatic charges that could affect the weighing accuracy. It should be activated before or during weighing and used in accordance with the manufacturer's instructions. To prolong the service life, avoid unnecessary use.

2.5 Improper use

- The ioniser may only be used in combination with an electronic scale. Use with other devices is prohibited.
- Operation in non-authorised usage environments is prohibited (authorised usage environment, see 2.8). In particular, operation in potentially explosive atmospheres is prohibited.
- Only switch on the ioniser when it is required for the measurement. Continuous operation without necessity is not permitted.
- Avoid shocks and strong vibrations to prevent damage to the device.
- Do not insert any objects with electrical conductivity (e.g. wire or tools) into the area of the electrode probes.
- Do not disassemble or modify the appliance.

- Commissioning outdoors and in vehicles is not permitted, as this will invalidate any warranty

2.6 Required qualification of users

The appliance may only be operated and maintained by trained personnel. The user must be mentally and physically capable of operating the appliance.

2.7 Safe handling of ionisers

- Switch off the appliance immediately at the main switch and disconnect it from the power supply if
 - the alarm LED (red) lights up,
 - strong heat, smoke or burning odour occur,
 - unusual noises occur, or
 - water or foreign objects get inside the appliance.
- Take care not to touch the ion source and the outputs, as these are under high voltage.
- The ioniser produces ozone, which can be harmful to health. Ensure adequate ventilation during operation.
- Disconnect the appliance from the power supply when it is not in use.
- Never touch the appliance with wet hands to avoid electric shock.
- Do not use the appliance if it is damaged, as this may cause short circuits, fire or electric shocks.
- Cleaning and maintenance work may only be carried out on de-energised appliances.
- Do not touch the ion source when the ioniser is switched on.
- Replace bent electrodes as they reduce the performance. Contact the dealer for this.
- Only use the original power supply unit with the correct voltage.
- Caution: The tips of the ion source are very sharp and can cause injuries.
- Minor electromagnetic waves may occur during operation. If neighbouring devices (without or with poor shielding) are disturbed, increase the distance to the ioniser.
- The green LED lights up during normal operation. The red LED lights up in the event of a fault. In this case:
 - Switch off the device and switch it on again.
 - If the red LED remains lit, contact the manufacturer.
- Slight heating of the ioniser during operation is normal and not a fault.

2.8 Authorised use environment

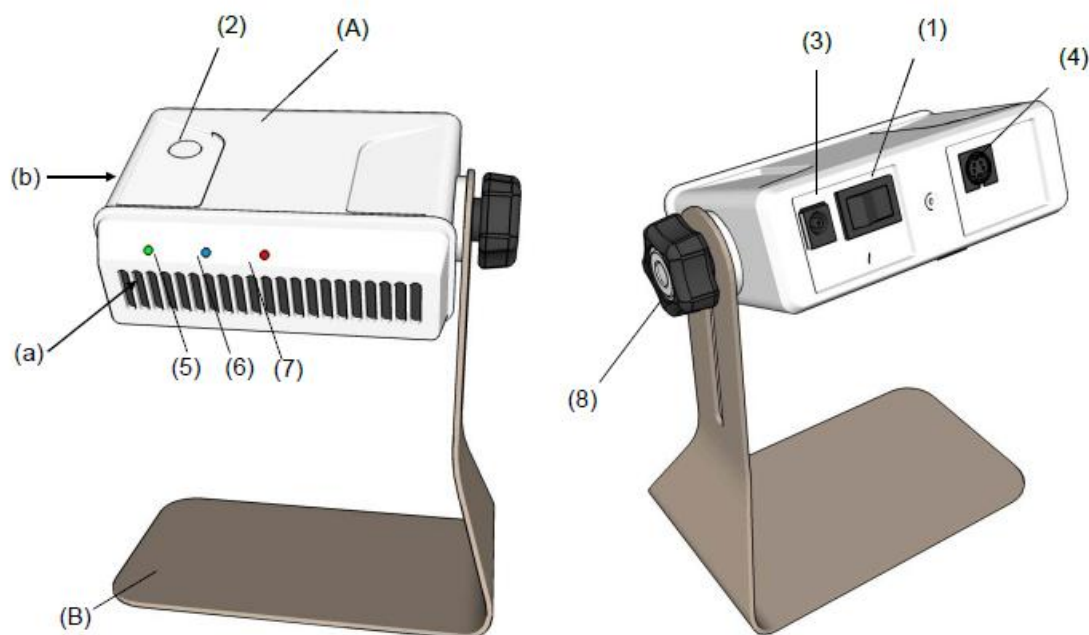
- Never operate the ioniser in potentially explosive atmospheres.
- Do not use the device in environments with flammable gases or solvents.
- Avoid operation in environments with water, oil, high humidity, dust or vapours.
- Take particular care to avoid condensation on the appliance. This can occur if a cold appliance is brought into a significantly warmer environment. In this case, allow the ioniser to acclimatise at room temperature for about 2 hours when disconnected from the mains.

3 Description of the device

3.1 General product description

This device is an ioniser. Ionisers are used together with electronic scales to neutralise electrostatic charges on samples or containers that could affect the accuracy of weighing.

3.2 Overview of the device



| Pos. | Designation |
|------|---------------------------------|
| A | Ioniser |
| B | Bracket |
| a | Front page |
| b | Left side |
| 1 | On/off switch (O = OFF, I = ON) |
| 2 | Ion generation on/off switch |

| Pos. | Designation |
|------|---|
| 3 | Mains connection |
| 4 | Connection Connection cable |
| 5 | Power LED (green, lights up when the device is switched on) |
| 6 | Operating LED (blue, lights up during ionisation) |
| 7 | Alarm LED (red, lights up when an error occurs) |
| 8 | Fastening screw |

4 Unpacking, transport and handling

4.1 Unpacking and checking the device

WARNING



Risk of tripping or suffocation due to packaging material

Packaging material lying on the floor can be a tripping hazard.

Unattended packaging material can be a choking hazard for children or animals.

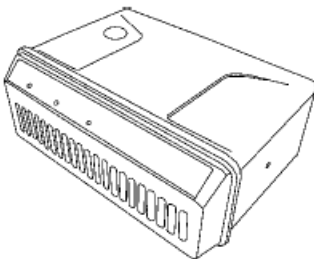
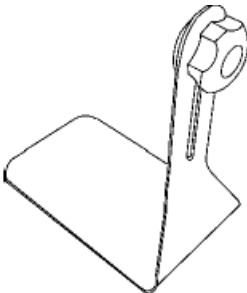
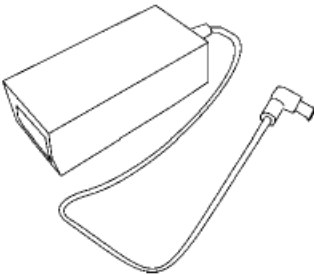
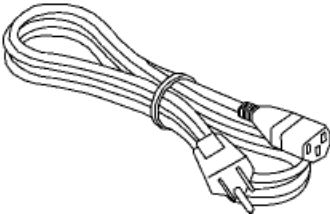

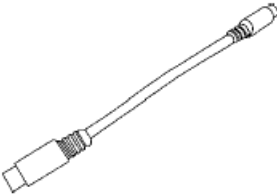
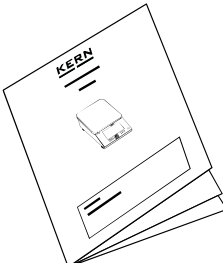
- ⇒ Do not leave packaging material unattended, especially if there are children or animals in the vicinity.
- ⇒ After unpacking, put the packaging material back in the packaging box immediately (for possible returns).
- ⇒ Remove the packaging material immediately after unpacking and dispose of it properly.



Keep the original packaging and its components for transport, storage or possible return.

1. Check the packaging for visible external damage that may have occurred during delivery.
2. Remove all parts from the scope of delivery (see chapter 4.2) and remove the packaging materials.
3. Check that all parts of the scope of delivery are complete and undamaged. If you notice any damage to the scope of delivery, please refer to chapter 8 for further information on the warranty and returns.
4. You can now transport the device to the place of use.

4.2 Scope of delivery

| | | |
|--|--|--|
|  <p data-bbox="341 633 422 663">Ioniser</p> <p data-bbox="363 696 400 725">1 x</p> |  <p data-bbox="686 633 844 663">Ioniser holder</p> <p data-bbox="746 696 783 725">1 x</p> |  <p data-bbox="1040 633 1254 663">Power supply unit</p> <p data-bbox="1129 696 1166 725">1 x</p> |
|  <p data-bbox="309 1115 454 1144">Mains cable</p> <p data-bbox="363 1178 400 1207">1 x</p> |  <p data-bbox="676 1115 855 1144">Cleaning brush</p> <p data-bbox="746 1178 783 1207">1 x</p> |  <p data-bbox="1040 1115 1251 1144">Connection cable</p> <p data-bbox="1129 1178 1166 1207">1 x</p> |
|  <p data-bbox="252 1615 512 1644">Operating instructions</p> <p data-bbox="363 1682 400 1711">1 x</p> | | |
| | | |

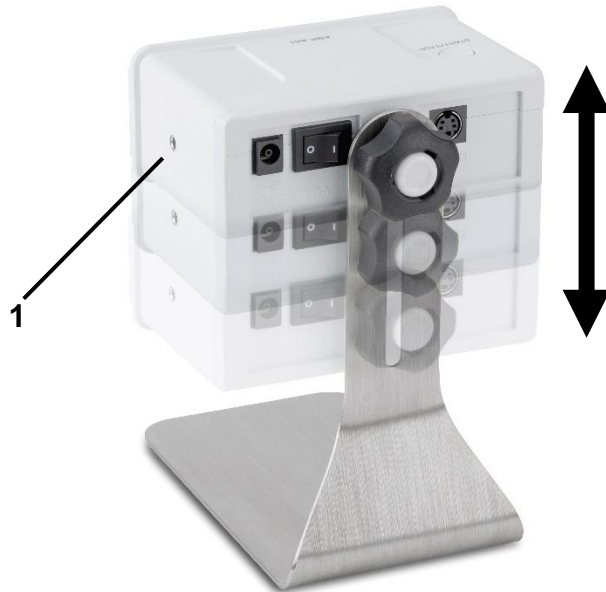
The illustrations are examples (actual appearance may vary)

4.3 Transporting the device

- Always transport the appliance carefully to avoid damage.
- Use the original packaging for transport to protect the device from dirt and impact.

5 Assembly, installation and commissioning

5.1 Install holder



- ⇒ Attach the ioniser to the holder at the desired height using the adjusting screw (attachment is possible on the back or on the side [1])

5.2 Connecting the ioniser to the scale



Example: Here the connection is labelled "IONIZER"

- ⇒ Plug the connecting cable into the connection of the ioniser [A] and connect it to the scales

5.3 Network operation

⚠ WARNING



Serious injuries due to damaged power supply units

Damaged power supply units can lead to short circuits, fires and serious injuries.

- ⇒ Before each use, check the power supply unit and power cable for visible damage. Do not use the power supply unit if it is damaged.

⚠ WARNING



Injuries due to incorrect handling of power supply units

Incorrect handling of power supply units can lead to short circuits, fires and serious injuries.

- ⇒ Observe the safety instructions for handling power supply units.

Connect the ioniser to the power supply:

1. Set the on/off switch of the ioniser to OFF (O)
2. Insert the hollow plug of the power supply unit into the mains connection of the ioniser
3. Insert the mains plug into the socket

Disconnect the ioniser from the power supply:

1. Set the on/off switch of the ioniser to OFF (O)
2. Carefully pull the mains plug out of the socket (do not pull directly on the cable)
3. Remove the power supply unit from the ioniser

6 Operation

6.1 Switching on and off

Switch on

- ⇒ Switch on / off switch to (I)
 - Green LED lights up
 - Device is switched on

Switch off

- ⇒ Switch on / off switch to (O)
 - Green LED goes out
 - Device is switched off



If the red LED lights up, switch off the appliance, wait briefly and then switch it on again. Contact your dealer if the red LED remains lit.

6.2 Generate ions

WARNING



Ioniser generates ozone

Ozone can irritate the respiratory tract and eyes

- ⇒ Ensure adequate ventilation during operation.
- ⇒ Switch off the ioniser when you do not need it.

NOTE



Ioniser generates electromagnetic waves

Sensitive devices can be damaged

- ⇒ Remove sensitive devices from the operating area



- The ioniser generates noise during ion generation. This is not a malfunction.
- The ioniser may heat up slightly during operation. This does not constitute a malfunction.
- Any options for controlling the ioniser via the scale can be found in the relevant operating instructions for the scale.

Start ion generation

- ⇒ Press the ion generation on/off switch
 - Blue LED lights up
 - Ions are generated

End ion generation

- ⇒ Press the ion generation on/off switch
 - Blue LED goes out
 - No more ions are generated



Ion generation stops automatically after 15 minutes.

Examples for the application

| Application | Remark |
|--|--|
| <p>Application with holder:</p> <p>Remove electrostatic charge from samples or containers</p> | <p>Electrostatically charged samples or containers can lead to unstable measurements.</p> <p>⇒ Adjust the height and angle of the ioniser so that it is aligned with the samples or containers.</p> |
| <p>Hold the ioniser in your hand:</p> <p>Electrostatic charging of weighing chambers (glass draft shield) or the samples and containers inside them</p> | <p>Electrostatically charged glass (windscreen) can lead to unstable measurements.</p> <p>⇒ Position the ioniser close to the glass and start ionisation after placing the sample on it.</p> <p>Note: If you remove your hand from the weighing chamber, wait 2 to 3 minutes before measuring until the air flow in the weighing chamber has stabilised again.</p> |
| <p>Hold the ioniser in your hand:</p> <p>Remove electrostatic charge from the inside of containers</p> | <p>Electrostatically charged side walls of containers can hinder the filling of powders. The powder then does not reach the bottom but sticks to the side walls.</p> <p>⇒ Align the ioniser with the container and start ionisation.</p> |

7 Care, maintenance and servicing

7.1 Cleaning gung

7.1.1 Safety during cleaning

DANGER



Electric shock due to live parts

Contact with live parts can lead to electric shock and burns

- ⇒ Disconnect live parts from the power supply
- ⇒ Disconnect the mains plug from the power supply
- ⇒ Only carry out installation, cleaning, maintenance and servicing work on appliances that are switched off and disconnected from the power supply.
- ⇒ Follow the instructions in this document.

NOTE



Material damage due to incorrect cleaning

Unsuitable cleaning agents can cause damage to the appliance

- ⇒ Do not use any aggressive cleaning agents (e.g. solvents).
- ⇒ Do not use cleaning agents containing caustic soda, acetic, hydrochloric, sulphuric or citric acid on stainless steel parts.
- ⇒ Do not use metal brushes or cleaning sponges made of steel wool.
- ⇒ Do not open the appliance. There are no parts inside that may be cleaned.
- ⇒ Ensure that no liquid enters the appliance.

7.1.2 Recommended cleaning

Clean the housing and holder

Use a mild cleaning agent such as soapy water and a soft cloth to clean the device. Then rub the device dry with a dry, soft and lint-free cloth.

Immediately remove any spilled weighing material (e.g. loose sample residue or powder) with a brush or a handheld Hoover.

Clean the ion source

INFORMATION



The electrode probes must be cleaned at intervals of 1000 hours.

Use the cleaning brush supplied to clean the ion source. Ensure that the tips are not bent.

Remove loosely adhering dust with compressed air.

7.2 Maintenance

7.2.1 Safety during maintenance

⚠ DANGER



Electric shock due to live parts

Contact with live parts can lead to electric shock and burns

- ⇒ Disconnect live parts from the power supply
- ⇒ Disconnect the mains plug from the power supply
- ⇒ Only carry out installation, cleaning, maintenance and servicing work on appliances that are switched off and disconnected from the power supply.
- ⇒ Follow the instructions in this document.

⇒ The device may only be opened by trained service technicians authorised by KERN.

7.2.2 Maintenance schedule

| Maintenance | Interval | Personnel |
|--------------------------------|-------------------|--|
| Cleaning the electrode probes | Every 1000 hours | Trained user |
| Replacing the electrode probes | Every 30000 hours | Service technicians authorised by KERN |

8 Warranty and returns

8.1 Guarantee

Warranty expires with

- Non-compliance with our specifications in the operating instructions
- Use outside the described applications
- Modifying or opening the device
- Mechanical damage and damage caused by media, liquids, natural wear and tear
- Improper set-up or electrical installation
- Overload of the measuring unit

8.2 Return shipment (returns)

INFORMATION



- A return is only possible within the limits of the general terms and conditions.
- A return is not possible if you have used the device improperly and it has been damaged as a result.
- The original packaging with all associated parts must be used for returns.
- In the case of returns, the complete scope of delivery must be sent back.

Procedure for returns

1. Check that all parts included in the scope of delivery are present.
2. Remove all loose and moving parts and connected cables from the appliance.
3. Reattach any protective film that may be present.
4. Pack all parts of the scope of delivery in the original packaging and secure them so that they cannot slip and become damaged.

9 Waste disposal

Damage to people and the environment due to improper disposal

Non-degradable materials (e.g. plastics or metals) can enter the environment and cause damage.

Non-recycled material is a waste of resources and leads to increased environmental pollution.

Electrical appliances may contain substances that are not biodegradable and are harmful to the environment and human health.

Dispose of the device via appropriate recycling measures or recycling centres in accordance with the applicable national or regional laws of the place of use.

Disposal of electronic devices

The crossed-out wheelie bin means that old electronic devices must not be disposed of with household waste. Disposal must be carried out by the operator in accordance with the applicable national or regional legislation at the place of use.

If this device contains confidential data, it is the responsibility of the operator to delete this data before disposal.

10 Troubleshooting

If there is a fault in the programme sequence, the appliance should be switched off briefly and disconnected from the mains.

| Malfunction | Possible cause |
|-----------------------------|---|
| Power LED does not light up | <ul style="list-style-type: none">• Device is not switched on.• Connection to the mains is interrupted (mains cable not plugged in/defective).• Mains voltage has failed. |
| Alarm LED lights up | <ul style="list-style-type: none">• Ion source is contaminated• System error (contact dealer) |

11 Product specification

11.1 Technical data

| KERN | ABP-A01 |
|--|--|
| Item number / type | TABP-A01-A |
| Method of ion generation | AC corona discharge process |
| Ion balance *1 | ± 10 V |
| Effective range of static discharge | approx. 400 mm from the outlet |
| Time for static discharge (approx.) (from ± 1000 V to ± 100 V) *1 | 1 second (typical) |
| Ozone content | ≤ 0.06 ppm (at 150 mm distance from the outlet) |
| Electrode probes | Tungsten (durability: 30000 hours) |
| Operating temperature | 0 °C to + 40 °C |
| Air humidity | 25 % to 85 % relative humidity (non-condensing) |
| Nominal power supply | DC 24 V, 1.0 A |
| Input voltage power supply unit | AC 100 - 240 V, 50 / 60 Hz |
| Degree of soiling | 2 |
| Overvoltage category | II |
| Installation site | Only in closed rooms |
| Weight | 0.85 kg |
| Dimensions | 124 x 87 x 49 mm |

11.2 Declaration of Conformity

You can find the current EC/EU Declaration of Conformity online at **www.kern-sohn.com/ce**