# TTK 29 E / TTK 51 E / TTK 70 E


EN

**OPERATING MANUAL**
DEHUMIDIFIER

TROTEC
AT WORK.

TRT-BA-TTK29E-51E-70E-TC-002-EN

## Table of contents



## Notes regarding the operating manual

### Symbols

**Hazardous electric current!**
Warns about hazards from electric current which can lead to injuries or even death.

**Danger!**
Warns of a hazard which can lead to personal injury.

**Caution!**
Warns of a hazard which can lead to damage to property.

The current version of the operating manual can be found at: www.trotec.de

### Legal notice

## Information about the device

### Description of the device

This device uses the principle of condensation to automatically dehumidify rooms.

The fan sucks damp room air through the air inlet (5) and the air filter. The air is cooled until it is under the dew point. The water vapour contained in the room air precipitates on the evaporator fins and is discharged in form of condensate. The dehumidified, cooled air is rewarmed at the condenser and blown out at a temperature of approx. 5 °C above room temperature. The drier air, thus conditioned, mixes with the air in the room. The humidity in the room where the device is positioned is reduced as air constantly circulates through the device.

Depending on the air temperature and the relative humidity, the condensed water drops through the integrated drain nozzle into the condensation tank (7) below. It is fitted with a float to measure the filling level.

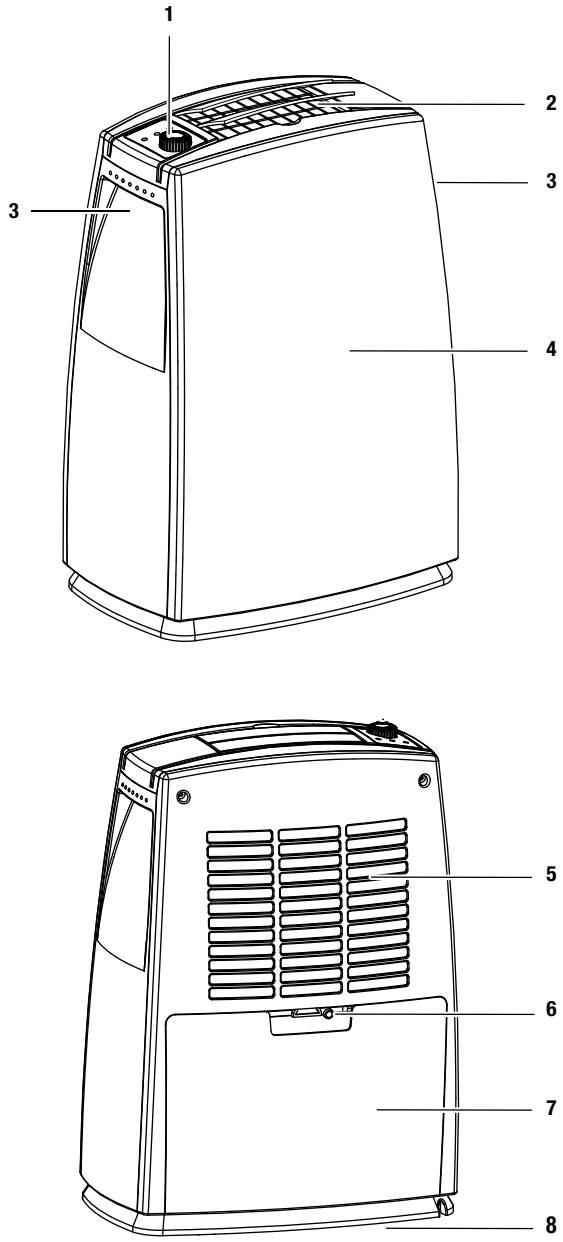
Once the maximum fill level of the condensation tank (7) is reached, the condensation tank indicator light (see chapter Operating elements) on the control panel (1) is illuminated. The device switches off. The condensation tank indicator light only goes out again once the emptied condensation tank (7) is reinserted.

The condensed water can be diverted by attaching a hose at the condensation connection (6).

The device was designed to reduce the humidity level in living and working spaces.

Because of the heat dissipation, which develops during operation, the room temperature can rise by approx. 1 to 4 °C.

### Device depiction

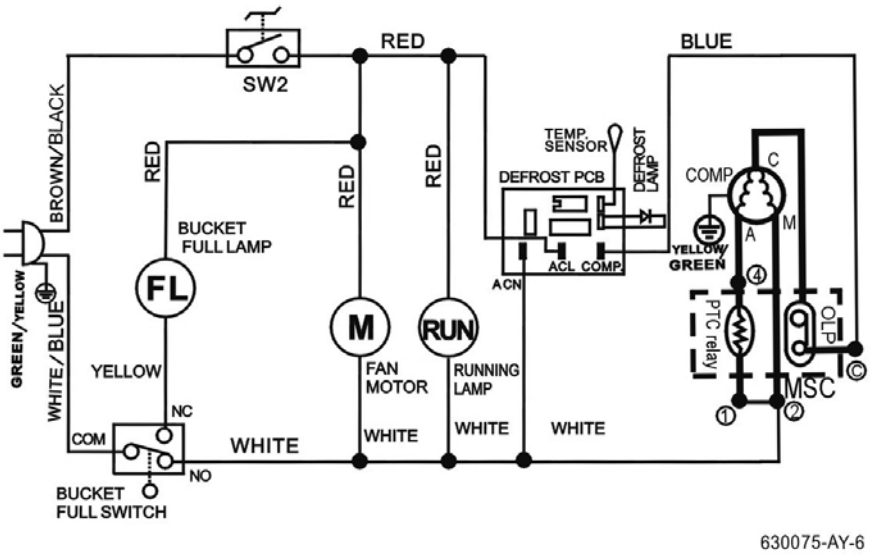



| No. | Designation |
|---|---|
| 1 | control panel |
| 2 | air outlet with adjustable fins |
| 3 | recessed handles |
| 4 | front |
| 5 | air inlet incl. air filter |
| 6 | condensation connection |
| 7 | condensation tank |
| 8 | wheels |

## Technical data

| Parameter | Value | | |
|---|---|---|---|
| Model | TTK 29 E | TTK 51 E | TTK 70 E |
| Dehumidifying capacity, max. | 10 l | 16 l | 20 l |
| Operating temperature | 5 to 32 °C | | |
| Air flow rate, max. | 110 $m^3/h$ | 126 $m^3/h$ | 135 $m^3/h$ |
| Electric connection | 220 to 240 V / 50 Hz | | |
| Power consumption, max. | 250 W | 410 W | 480 W |
| Nominal current | 1.2 A | 2.1 A | 2.2 A |
| Condensation tank | 2.3 l | | |
| Refrigerant | R134a | | |
| Amount of refrigerant | 80 g | 120 g | 135 g |
| Weight | 10.7 kg | 13.2 kg | 13.4 kg |
| Dimensions (height x depth x width) | 490 x 220 x 365 mm | | |
| Minimum distance to walls or other objects | A: Top: 50 cm<br>B: Rear: 50 cm<br>C: Sides: 50 cm<br>D: Front: 50 cm | | |
| Sound pressure level LpA (1 m; complies with DIN 45635-01-KL3) | 43 dB(A) | 43 dB(A) | 45 dB(A) |

## Wiring diagram



## Safety

**Read this manual carefully before starting or using the device. Store the manual near the device or its site of use!**

- Do not use the device in potentially explosive rooms. Do not use the device in aggressive surroundings.
- The device is designed for indoor installation.
- Set the device in an upright and stable position.
- Ensure that the air inlet and outlet are not obstructed.
- Ensure that the side of the device where the air inlet is found is kept free of dirt and loose objects.
- Never reach or put objects into the device.
- Do not cover or transport the device during operation.
- Ensure that all electric cables outside of the device are protected from damage (e.g. from animals).
- Only use extensions to the connecting cable which are appropriate to the device power consumption, the length of its cable and its use. Avoid electrical overload.
- Only transport the device with an emptied condensation tank.
- Dispose of the collected condensation. Do not drink it. Health hazard!

### Intended use

Only use the device for drying and dehumidifying room air, while adhering to and following the technical data.

### Improper use

Do not place the device on wet or flooded ground. Do not use the device outdoors or for drying rooms and areas after water damages from burst pipes or flooding. Do not lay any objects, e.g. wet clothing, on the device for drying. Any unauthorised changes, modifications or alterations to the device are forbidden.

### Personnel qualifications

People who use this device must:

- be aware of the dangers that occur when working with electric devices in damp areas.
- have read and understood the operating manual, especially the Safety chapter.

### Residual risks

**Hazardous electric current!**

Work on the electrical components must only be carried out by an authorised specialist company!

**Hazardous electric current!**

Before any work on the device, remove the mains plug from the mains socket!

**Danger!**

The device is not a toy and does not belong in the hands of children.

**Danger!**

Dangers can occur at the device when it is used by untrained people in an unprofessional or improper way! Observe the personnel qualifications!

**Danger!**

Do not leave the packaging lying around. Children may use it as a dangerous toy.

**Caution!**

To avoid damages to the device, never operate the device without an air filter inserted!

### Behaviour in the event of an emergency

1. Disconnect the device from the mains power in an emergency.
2. Do not reconnect a defective device to the mains power.

## Transport

To make the device easier to transport, it is fitted with wheels and recessed handles.

**Before** transporting the device, proceed as follows:

1. Switch off the device at the mains switch (see chapter Operating elements).
2. Remove the mains plug from the mains socket. Do not use the power cable to drag the device!
3. Empty the condensation tank. Check for dripping condensation.

**After** transporting the device, proceed as follows:

1. Set the device in an upright position after transport.
2. Wait one hour before switching the device on!

### Storage

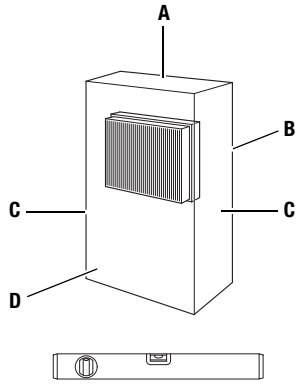
When out of use, store the device as follows:

- dry,
- with a roof overhead,
- in an upright position where it is protected from dust and direct sunlight,
- with a plastic cover to protect it from invasive dust, if necessary.
- The storage temperature is the same as the range given for the operating temperature in the chapter Technical Data.

## Operation

### Positioning

When positioning the device, observe the minimum distance from walls or other objects as described in chapter Technical Data.




- Set the device in a level and stable position.
- If possible, set the device in the middle of a room and keep it away from sources of heat.
- When positioning the device in wet areas such as laundries, bath rooms or the like, secure the device locally with an RCD (Residual Current Device) which complies with the appropriate regulations.
- Ensure that extension cords are completely unrolled.

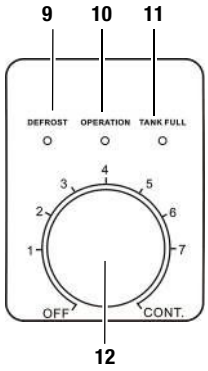
### Notes regarding the dehumidification performance

Dehumidification performance depends on:

- the spatial composition of the room
- the room temperature
- the relative humidity

The higher the room temperature and relative humidity, the higher the dehumidification performance.
For using in living rooms, a relative humidity of approx. 50-60 % is sufficient. In store rooms and archives, the humidity should not exceed approx. 50 %.

## Operating elements




| No. | Operating elements |
|---|---|
| 9 | DEFROST indicator light:<br>Automatic defrost |
| 10 | OPERATION indicator light:<br>The device is ready for operation. |
| 11 | TANK FULL indicator light:<br>Condensation tank is full or missing. |
| 12 | Rotary switch humidity setting |

## Switching the device on

- After being switched on, the device operates fully automatically until either the preset humidity level is reached or the float indicating that the condensation tank is full takes care that the device switches itself off.
- The fan is running continuously until the device is switched off.
- Avoid open doors and windows.

1. Ensure that the condensation tank is empty and inserted correctly. Otherwise, the device will not operate!
2. Open the fins at the air outlet (2).
3. Turn the rotary switch (12) to position OFF.
4. Insert the mains plug into a properly secured mains power socket.
5. First turn the rotary switch (12) to position 4 (desired humidity value 60 %). If you require a different humidity level, select a higher or lower value.
   – The OPERATION indicator light (10) is illuminated.
   – The dehumidifier is working.

## Setting the humidity level

**Note:**

The selected humidity value must be lower than the current humidity level in the room where the device is positioned.

- Adjust the desired humidity level via the rotary switch (12).

The following table contains guide values for the settings:

| Rotary switch position | Guide value for humidity |
|---|---|
| CONT. | see chapter Continuous operation mode |
| 7 | 30 % |
| 6 | 40 % |
| 4 | 60 % |
| 2 | 80 % |

## Continuous operation mode

In continuous operation mode, the device dehumidifies the air constantly, regardless of the moisture content.
The condensate is collected in the condensation tank or drained separately.
For separate draining, both a suitable hose (1/2'') and an appropriate collection container or drain are required.
Start the continuous operation mode as follows:

1. Switch the device off.
2. If you want do drain the condensate separately, connect the hose, see chapter Operation with hose attached to the condensation connection. If you want to collect the condensate in the condensation tank, proceed with step 3.
3. Turn the rotary switch (12) to position CONT.
   – The dehumidifier now works in continuous operation mode.

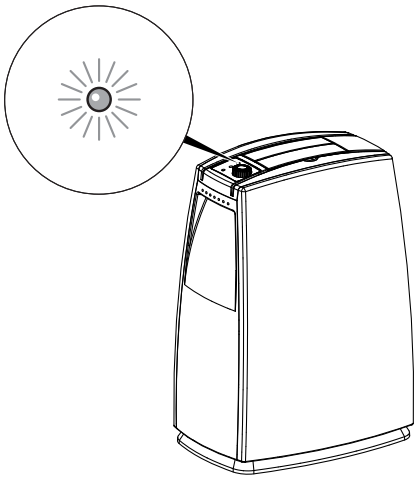
## Automatic defrost

At low room temperatures the evaporator can freeze up during dehumidification. The device then carries out an automatic defrost. The duration of the defrost can vary. The DEFROST indicator light (9) is illuminated.
After automatic defrosting the device continues to operate normally
and the DEFROST indicator light (10) goes out.

- Do not turn off the device during the automatic defrost. Do not remove the mains plug from the mains socket.

## Emptying the condensation tank

**A.**



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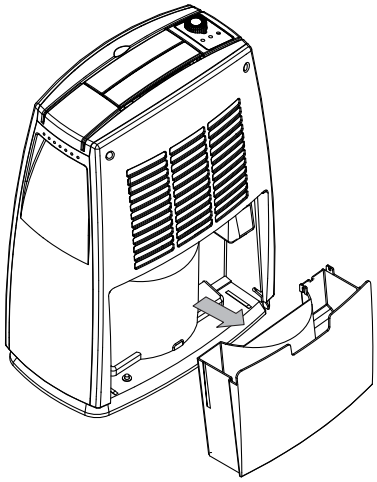
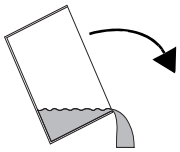
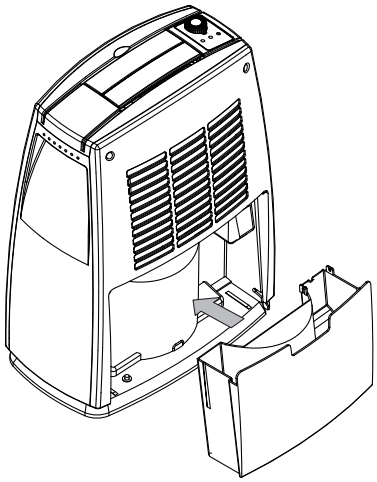


**C.**

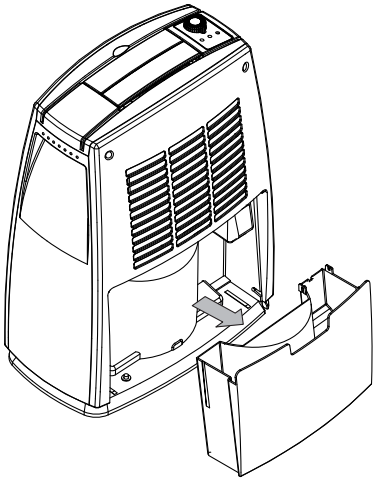


**D.**



## Operation with hose attached to the condensation connection

**A.**



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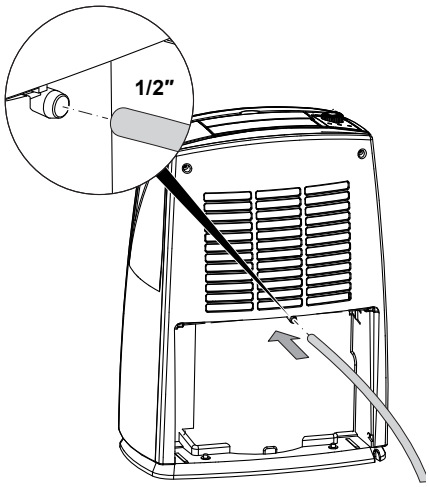


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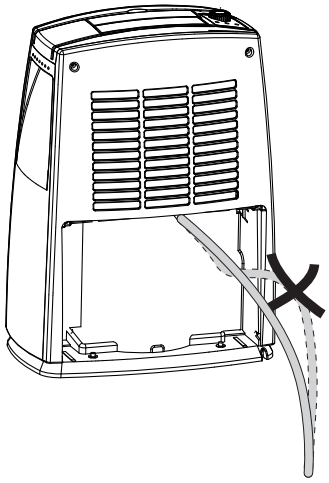


### Shutdown

1. Set the rotary switch (12) to position OFF (see chapter Operating elements).
2. Do not touch the mains plug with wet or damp hands.
3. Remove the mains plug from the mains socket.
4. Empty the condensation tank and wipe it dry with a clean cloth. Check for dripping condensation.
5. Clean the device, and especially the air filter, according to the chapter Maintenance.
6. Store the device according to chapter Storage.

## Errors and faults

The accurate functionality of the device was tested during production a number of times. However, if functionality faults do occur, then check the device according to the following list.

**The device does not start:**

- Check the power connection.
- Check the mains plug for damages.
- Check that the condensation tank is positioned correctly. Check the filling level of the condensation tank and empty it, if necessary. The condensation tank indicator light must not light up.
- Wait for 10 minutes before restarting the device. If the device is not starting, have the electrics checked by a specialist company for cooling and air-conditioning or by TROTEC®.

**The device runs but forms no condensation:**

- Check the float in the condensation tank for damages. If necessary, clean the float and condensation tank. The float must be able to move freely.
- Check the room temperature. Check the device's permissible operating range complies with the technical data.
- Check that the selected desired humidity level. The humidity in the room must be above the selected range. Reduce the preselected humidity by turning the rotary switch (12), if necessary.
- Check the air filter is not dirty. If necessary, clean or replace the air filter.
- From the outside, check the condenser for dirt (see chapter Maintenance). If your condenser is dirty, have it cleaned by a specialist company for cooling and air-conditioning or by TROTEC®.

**The device is loud or vibrates; condensate is leaking:**

- Check whether the device is standing upright and on an even surface.

**The device gets very warm, is loud or is losing performance:**

- Check the position of the fins at the air outlet (2). The fins ought to be open.
- Check the air inlets and air filter are not dirty. Remove external dirt.
- From the outside, check the device for dirt (see chapter Maintenance). If the inside of the device is dirty, have it cleaned by a specialist company for cooling and air-conditioning or by TROTEC®.

**Your device still does not operate correctly after these checks?**

Bring the device to a specialist company for cooling and air-conditioning or to TROTEC® for repair.

# Maintenance

## Maintenance intervals

| Maintenance and care interval | before every start | as needed | at least every 2 weeks | at least every 4 weeks | at least every 6 months | at least annually |
|---|---|---|---|---|---|---|
| empty condensation tank | | X | | | | |
| check air inlets and outlets for dirt and foreign objects and clean if necessary | X | | | | | |
| clean housing | | X | | | | X |
| visually check the inside of the device for dirt | | X | | X | | |
| check air inlet grid and air filter for dirt and foreign objects and clean or replace if necessary | X | | X | | | |
| replace air filter | | | | | X | |
| check for damages | X | | | | | |
| check attachment screws | | X | | | | X |
| carry out a test run | | | | | | X |

## Maintenance and care log

Device type: .....

Device number: .....

| Maintenance and care interval | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| check air inlets and outlets for dirt and foreign objects and clean if necessary | | | | | | | | | | | | | | | | |
| clean housing | | | | | | | | | | | | | | | | |
| visually check the inside of the device for dirt | | | | | | | | | | | | | | | | |
| check air inlet grid and air filter for dirt and foreign objects and clean or replace if necessary | | | | | | | | | | | | | | | | |
| replace air filter | | | | | | | | | | | | | | | | |
| check for damages | | | | | | | | | | | | | | | | |
| check attachment screws | | | | | | | | | | | | | | | | |
| carry out a test run | | | | | | | | | | | | | | | | |
| Remarks: | | | | | | | | | | | | | | | | |

| | | | |
|---|---|---|---|
| 1. Date: .....<br>Signature:..... | 2. Date: .....<br>Signature: ..... | 3 Date:.....<br>Signature: ..... | 4. Date: .....<br>Signature: ..... |
| 5. Date: .....<br>Signature:..... | 6. Date: .....<br>Signature: ..... | 7. Date:.....<br>Signature: ..... | 8. Date: .....<br>Signature: ..... |
| 9. Date: .....<br>Signature:..... | 10. Date: .....<br>Signature: ..... | 11. Date:.....<br>Signature: ..... | 12. Date: .....<br>Signature: ..... |
| 13. Date: .....<br>Signature:..... | 14. Date: .....<br>Signature: ..... | 15. Date:.....<br>Signature: ..... | 16. Date: .....<br>Signature: ..... |

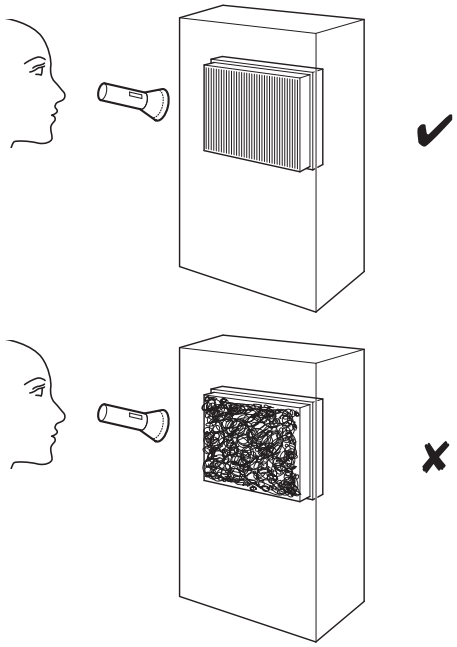
### Activities required before starting maintenance

1. Do not touch the mains plug with wet or damp hands.
2. Before any work, detach the mains plug!

**Maintenance tasks which require the housing to be opened must only be carried out by specialist companies for cooling and air-conditioning or by TROTEC®.**

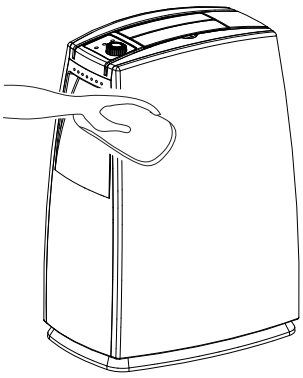
### Visual check for dirt in the inside of the device

1. Remove the air filter (see chapter Cleaning the air filter).
2. Use a torch to illuminate the openings of the device.
3. Check the inside of the device for dirt.
4. If you see a thick layer of dust, have the inside of the device cleaned by a specialist company for cooling and air-conditioning or by TROTEC®.
5. Put the air filter back in.



### Cleaning the housing and condensation tank

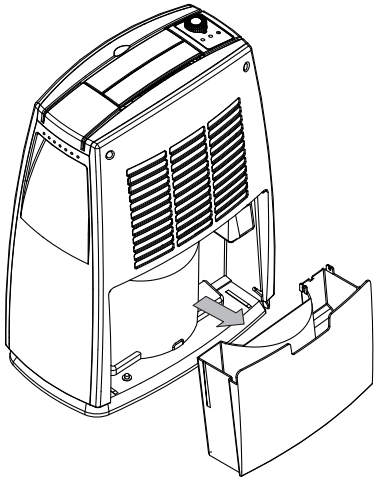
1. Use a soft, lint-free cloth for cleaning.
2. Dampen the cloth with clean water. Do not use sprays, solvents, alcohol-based or abrasive cleaners to dampen the cloth.



## Cleaning the air filter

**Caution!**
Ensure that the air filter is not worn or damaged. The corners and edges of the air filter must not be rounded or misshaped.
Before reinserting the air filter, ensure that it is dry and is not damaged!
Read the chapter Maintenance intervals and replace the air filter in due time!

**A.**



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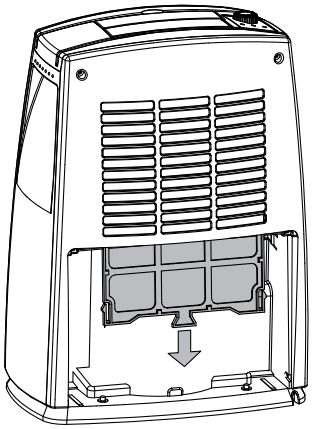

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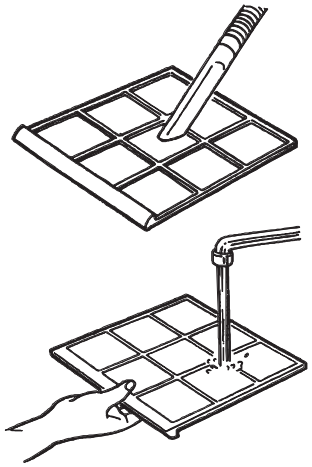

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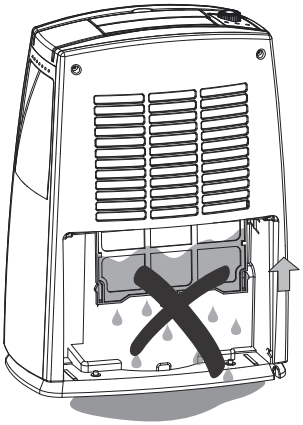
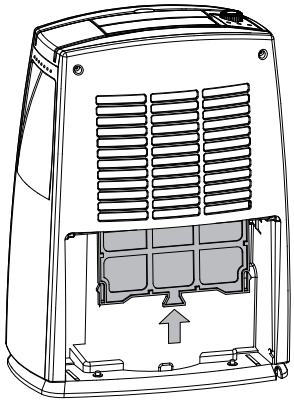
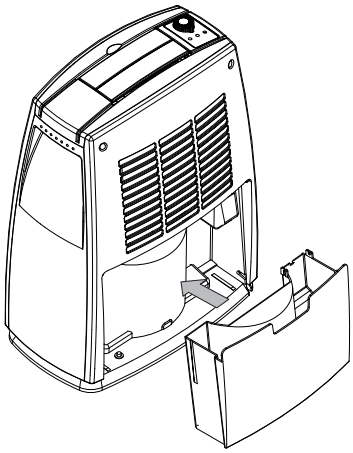




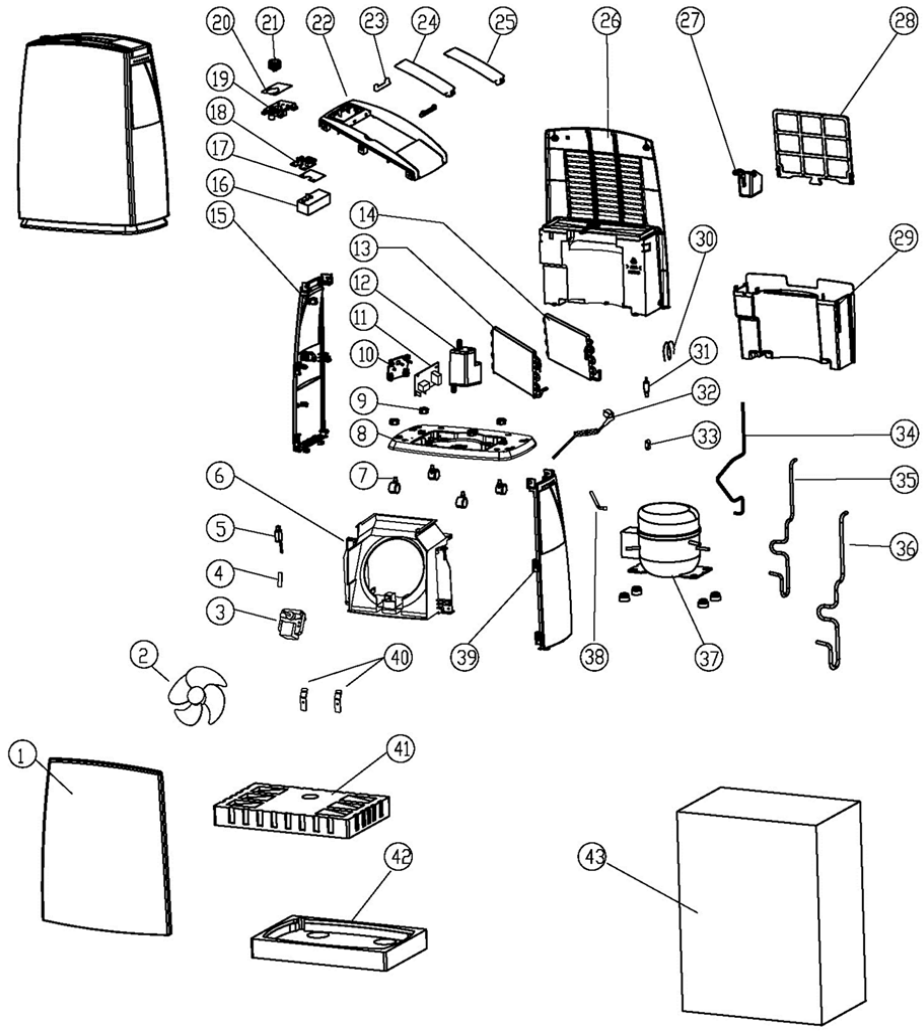
**E.**



## Overview and list of spare parts

### TTK 29 E

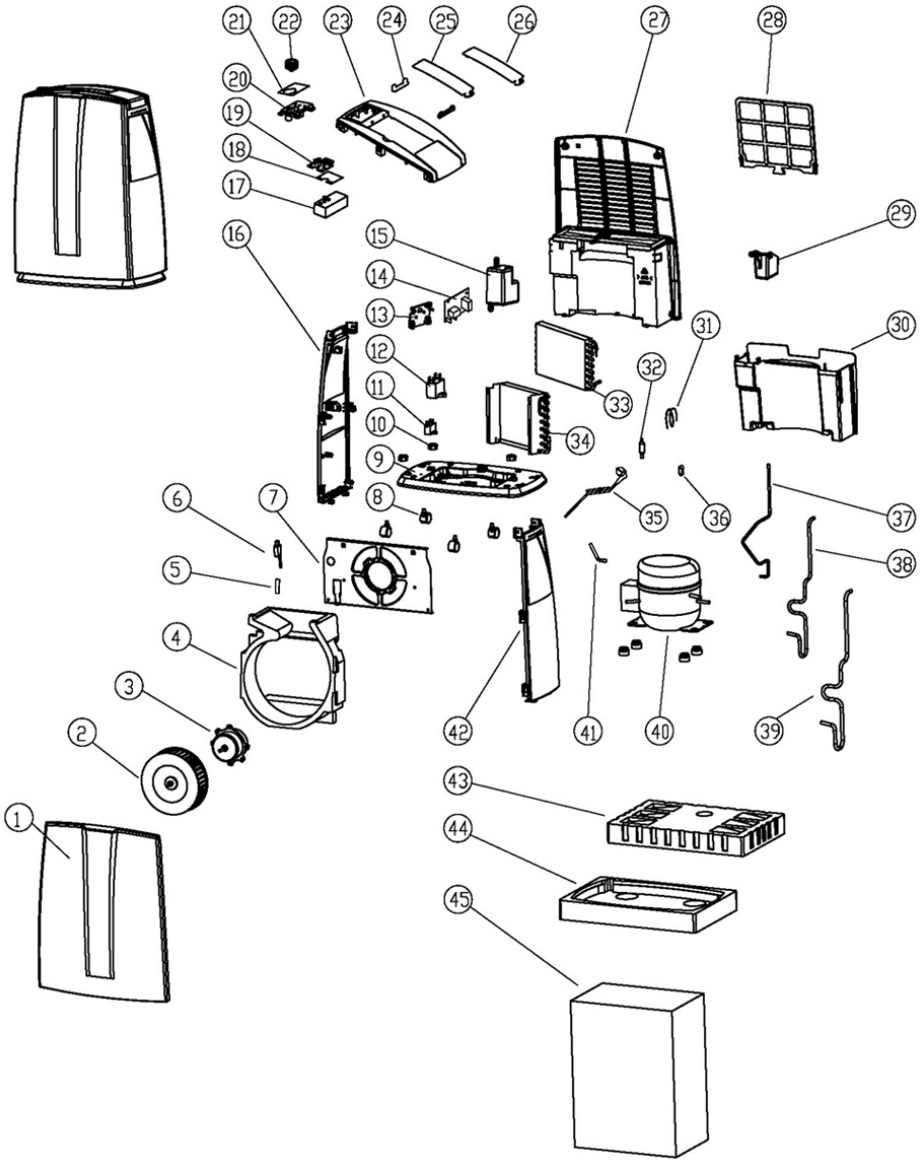
**Note!**
The position numbers of the spare parts differ from those describing the positions of other parts mentioned in this operating manual.




| No. | Spare part | No. | Spare part | No. | Spare part |
|---|---|---|---|---|---|
| 1 | front panel | 16 | humidity switch | 31 | round filter |
| 2 | blower fan | 17 | pvc gasket | 32 | supply cord |
| 3 | fan motor | 18 | show pcb | 33 | clip for power cord |
| 4 | sleeve of micro switch | 19 | control panel | 34 | high pressure pipe |
| 5 | micro switch | 20 | control plate | 35 | low pressure pipe |
| 6 | air flowing housing | 21 | knob | 36 | foam for low pressure pipe |
| 7 | caster | 22 | air outlet | 37 | compressor |
| 8 | base | 23 | connection plate | 38 | working pipe |
| 9 | screw hat | 24 | back blade | 39 | right side panel |
| 10 | protection board | 25 | front blade | 40 | motor support |
| 11 | main pcb | 26 | back panel | 41 | upper poly foam |
| 12 | protection cover box | 27 | float | 42 | down poly foam |
| 13 | condenser | 28 | air filter | 43 | carton box |
| 14 | evaporator | 29 | water tank | | |
| 15 | left side panel | 30 | capillary | | |

## TTK 51 E

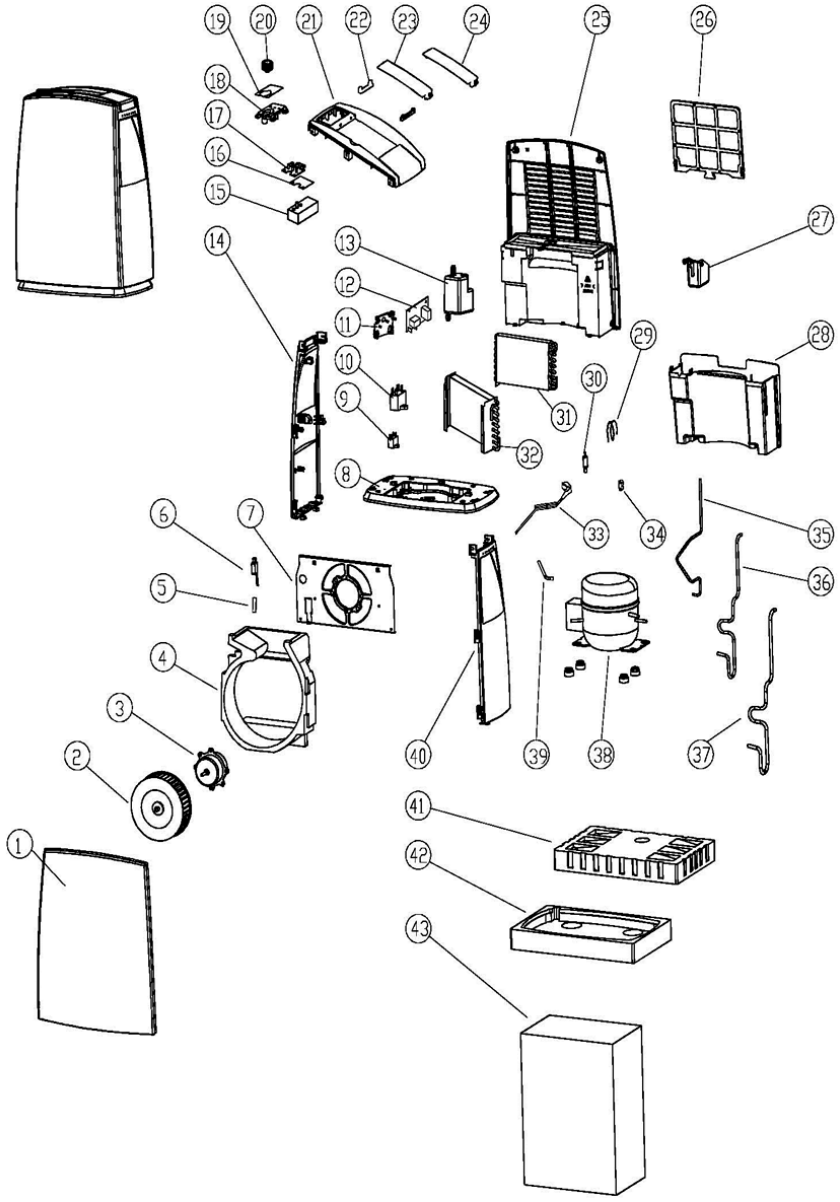
**Note!**
The position numbers of the spare parts differ from those describing the positions of other parts mentioned in this operating manual.



| No. | Spare part | No. | Spare part | No. | Spare part |
|---|---|---|---|---|---|
| 1 | front panel | 16 | left side panel | 31 | capillary |
| 2 | fan | 17 | humidity switch | 32 | round filter |
| 3 | fan motor | 18 | pvc gasket | 33 | evaporator |
| 4 | housing for blower | 19 | show pcb | 34 | condenser |
| 5 | sleeve of micro switch | 20 | control panel | 35 | supply cord |
| 6 | micro switch | 21 | control plate | 36 | clip for power cord |
| 7 | motor support | 22 | knob | 37 | high pressure pipe |
| 8 | caster | 23 | air outlet | 38 | low pressure pipe |
| 9 | base | 24 | connection plate | 39 | foam for low pressure pipe |
| 10 | screw hat | 25 | back blade | 40 | compressor |
| 11 | capacitor | 26 | front blade | 41 | working pipe |
| 12 | capacitor | 27 | back panel | 42 | right side panel |
| 13 | protective shield | 28 | air filter | 43 | upper poly foam |
| 14 | main pcb | 29 | float | 44 | down poly foam |
| 15 | protection cover box | 30 | water tank | 45 | carton box |

## TTK 70 E

**Note!**
The position numbers of the spare parts differ from those describing the positions of other parts mentioned in this operating manual.



| No. | Spare part | No. | Spare part | No. | Spare part |
|---|---|---|---|---|---|
| 1 | front panel | 16 | pvc gasket | 31 | evaporator |
| 2 | fan | 17 | show pcb | 32 | condenser |
| 3 | fan motor | 18 | control panel | 33 | supply cord |
| 4 | housing for blower | 19 | control plate | 34 | clip for power cord |
| 5 | sleeve of micro switch | 20 | knob | 35 | high pressure pipe |
| 6 | micro switch | 21 | air outlet | 36 | low pressure pipe |
| 7 | motor support | 22 | connection plate | 37 | foam for low pressure pipe |
| 8 | base | 23 | back blade | 38 | compressor |
| 9 | capacitor | 24 | front blade | 39 | working pipe |
| 10 | capacitor | 25 | back panel | 40 | right side panel |
| 11 | protective shield | 26 | air filter | 41 | upper poly foam |
| 12 | main pcb | 27 | float | 42 | down poly foam |
| 13 | protection cover box | 28 | water tank | 43 | carton box |
| 14 | left side panel | 29 | capillary | | |
| 15 | humidity switch | 30 | round filter | | |

## Disposal

In the European Union, electronic equipment must not be treated as domestic waste, but must be disposed of professionally in accordance with Directive 2002/96/EC of the European Parliament and Council of 27th January 2003 concerning old electrical and electronic equipment. At the end of its life, please dispose of this device according to the valid legal requirements.

Dispose of the refrigerant appropriately and according to the national regulations.

## Declaration of conformity

in accordance with the EC Low Voltage Directive 2006/95/EC, Annex III, Section B and the EC Directive 2004/108/EC about electromagnetic compatibility.
Herewith, we declare that the dehumidifier TTK 29 E / 51 E / 70 E was developed, constructed and produced in compliance with the named EC directives.

Applied harmonised standards:
EN 60335-2-40/A13:2012
EN 60335-1:2012
EN 62233: 2008

Other applied technical standards and specifications:
ZEK 01.4-08

The CE marking is found on the device nameplate.

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