TTK 70 S

EN

OPERATING MANUAL
DEHUMIDIFIER

TROTEC
AT WORK.

TRT-BA-TTK70S-TC-001-EN

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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

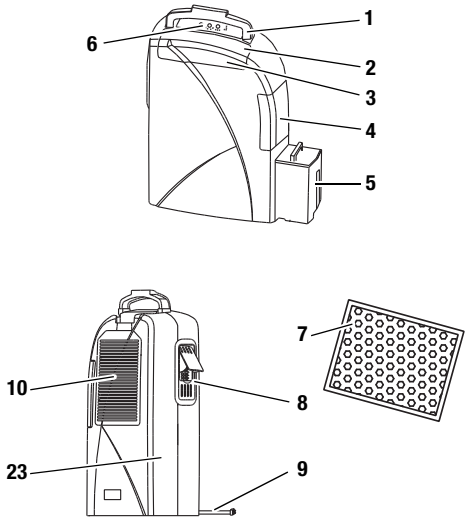
Legal notice

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 rear air inlet (10), via the air filter (7) and the side air inlet (4), the evaporator and the condenser located behind it. The air is cooled at the cold evaporator until it is below the dew point. Water vapour contained in the room air precipitates on the evaporator fins as either condensation or frost. 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 which is prepared in this way 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 either drops continuously or only during the defrost phase into the condensation tray and through the integrated drain nozzle into the condensation tank (5) below. This is fitted with a float to measure the fill level.
The device has a control panel (6) for operating and controlling the functions. Once the maximum fill level of the condensation tank (5) is reached, the condensation tank indicator light ("FULL") on the control panel (6) is lit. The device switches off. The condensation tank indicator light only goes out again once the emptied condensation tank (5) is reinserted. The condensed water can be diverted by attaching a hose at the condensation plug (23).
The device is not suitable for keeping the relative humidity at a very low level (below 50 %). It provides additional assistance for drying wet washing or clothing in living or working spaces. Because of the heat radiation which is tied up in operation, the room temperature can rise by approx. 1-4 °C.

Device depiction

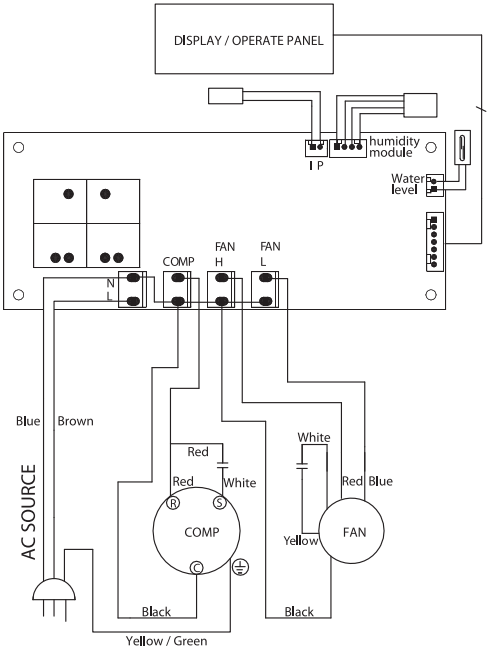


No.	Operating element
1	carry handle
2	air outlet (top)
3	air outlet (side)
4	air inlet (side)
5	condensation tank
6	control panel
7	air filter
8	adjustable air outlet flap (side)
9	power cable
10	air inlet (rear)
23	cover for attaching a hose to the condensation plug

Technical data

Parameters	Values
Model	TTK 70 S
Dehumidifying capacity, max.	24 l / 24 h
Operating temperature	5-35 °C
Working range for relative humidity	49-100 %
Volume of airflow, max.	150 m^3/h
Electric connection	230 V / 50 Hz
Power consumption, max.	400 W
Fuse (home)	10 A
Condensation tank	4 l
Refrigerant	R134a
Amount of refrigerant	170 g
Weight	12.4 kg
Dimensions (HxDxW)	582 x 378 x 185 mm
Minimum distance from walls of other objects	A: Above: 30 cm B: Behind: 20 cm C: Side: 20 cm D: Front: 10 cm
Sound pressure level LpA (1 m; complies with DIN 45635-01-KL3)	48 dB(A)

Circuit 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 atmospheres containing oil, sulphur, chlorine or salt.
- Set the device in an upright and stable position.
- Do not expose the device to directly squirting water.
- 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 insert 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 electric cable which are appropriate to the device power consumption, the length of its cable and its use. Avoid electrical overload.
- Only transport the device in an upright position with an emptied condensation tank.
- Dispose of the collected condensation. Do not drink it. There is a risk of infection!

The device is not suitable for drying rooms and areas after water damages from burst pipes or flooding.

Intended use

Use the device TTK 70 S only for drying and dehumidifying room air, while adhering to and following the technical data.

Intended use encapsulates:

- drying and dehumidifying:
  - living rooms, bedrooms, bathrooms or basements
  - laundries, holiday homes, camper vans, boats
- maintaining the dryness of:
  - store rooms, archives, laboratories
  - bathrooms, wash rooms and changing rooms

Improper use

Do not place the device on damp or flooded ground. Do not use the device outdoors. 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.
- take measures to protect themselves from direct contact with live parts.
- have read and understood the operating manual, especially the "Security" chapter.

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®.

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!

Caution!

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

Danger!

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

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 a carry handle.
Before transporting the device, proceed as follows:

1. Switch the device off 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:

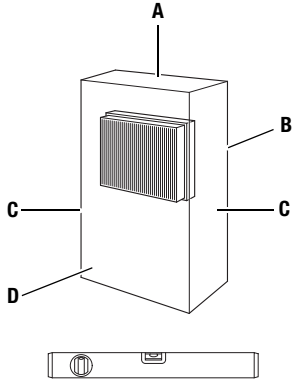
- dry,
- with a roof overhead,
- in an upright position where it is protected from dust and direct sunlight,
- with a plastic cover to protect it from invasive dust, if necessary.
- The storage temperature is the same as the range given for the operating temperature in the chapter "Technical Data".

Operation

- After being switched on, the device operates fully automatically until the float indicates that the condensation tank is full and the device switches itself off.
- So that the built in sensor can correctly detect the humidity, the fan continues to operate until the device is switched off.
- Avoid open doors and windows.

Positioning

When positioning the device, observe the minimum distance from walls of 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 protective Device) which complies with the appropriate regulations.
- Ensure that extension cords are completely unrolled.

Notes regarding the dehumidifying capacity

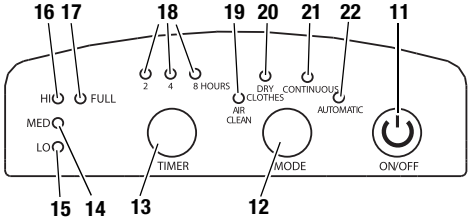
The dehumidifying capacity depends on:

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

The higher the room temperature and relative humidity, the higher the dehumidifying capacity.

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

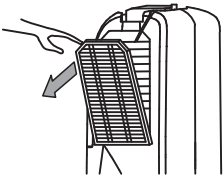


No.	Operating element
11	Mains switch
12	"MODE" button Each press of the button changes the operation mode as follows: • "Automatic" operation mode ("AUTOMATIC") • "Continuous" operation mode ("CONTINUOUS") • "Dry clothes" operation mode ("DRY CLOTHES") • "Air clean" operation mode ("AIR CLEAN") The corresponding indicator light is lit (see 19-22).
13	"TIMER" button Each press of the button changes the amount of remaining operating time. The device switches off after the selected amount of operating time (2, 4 or 8 hours) has passed. The corresponding indicator light is lit (see 18).
14	"MED" humidity indicator light: Lights at a humidity level between 60-70 %.
15	"LO" humidity indicator light: Lights at a humidity level up to approx. 60 %.
16	"HI" humidity indicator light: Lights at a humidity level from approx. 70 %.
17	Condensation tank full indicator light: Lights when the condensation tank is full.
18	"Operating time" indicator light: The light which is on indicates the selected operating time.
19	"Air clean" indicator light: Lights when the "Air clean" operation mode is selected.
20	"Dry clothes" indicator light: Lights when the "Dry clothes" operation mode is selected.
21	"Continuous" indicator light: Lights when the "Continuous" operation mode is selected.
22	"Automatic" indicator light Lights when the "Automatic" operation mode is selected.

Start procedure

Insert air filter

A.



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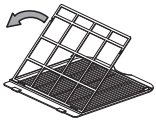

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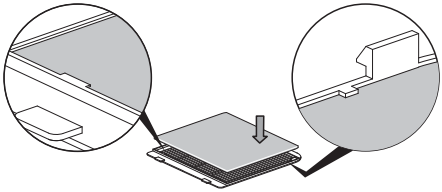

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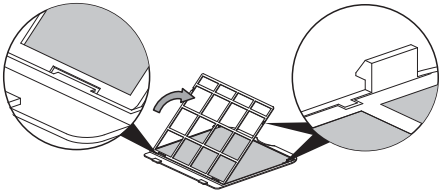

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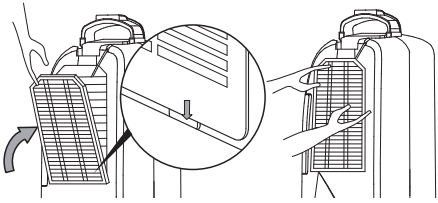


Notes regarding operation

- Open at least one of the three air outlets (2, 3, 8). Otherwise, the overheating protection is activated and the device switches off.
- After a power cut, press the mains switch (11) to start humidifying again.
- After switching off the device, close all open air outlets and flaps.

Switch device on

1. Ensure that the condensation tank is empty and inserted correctly. Otherwise, the device will not operate!
2. Insert the mains plug into a properly secured mains power socket.
3. Open the upper air outlet (2) and/or the side air outlet (3). If necessary, open the adjustable outlet flap (8).
4. Switch on the device at the mains switch (11).
5. Check whether the "Automatic" indicator light (22) lights up red. **=> The device always starts in "Automatic" operation mode!**
6. Check whether the condensation tank indicator light (17) is out.
7. Press the "MODE" button (12) again to choose the operation mode you want. The corresponding indicator light must light up in red.

"Automatic" operation mode

In this operation mode, the humidity is automatically regulated. The built in humidistat switches the device off at a relative humidity of less than 60 %. The fan continues to run so that the humidity in the room continues to be measured and the device can be switched on again when necessary.

"Continuous" operation mode

The device dehumidifies the air constantly and regardless of the amount of humidity in the air. By activating the timer, the operating time can be set to 2, 4 or 8 hours. After the selected operating time has passed, the device is switched off.

"Dry clothes" operation mode

In this operation mode, textiles (e.g. clothing, carpets) dry faster. This operation mode can also be used for drying small corners or alcoves, where e.g. damp shoes may be stored.

"Air clean" operation mode

In this operation mode, the room air is circulated so as to reduce the amount of fluff, hair and dust in the room air.

Adjusting the operating time

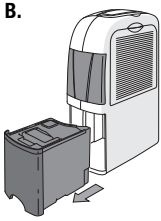
1. Press the "TIMER" button (13) to set the operating time of the device. Press the button again until the indicator light corresponding to the operating time you want is lit (2, 4 or 8 hours). After the operating time has passed, the device automatically switches off.
2. To switch this function off, press the "TIMER" button (13) again until all "operating time" indicator lights are off.

Emptying the condensation tank

Once the maximum fill level of the condensation tank has been reached or the condensation tank is not sitting correctly, the condensation tank full indicator light (17) lights up in green and emits a repetitive beep.

A.

B.



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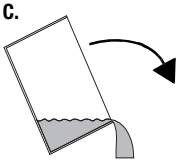

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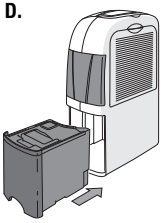
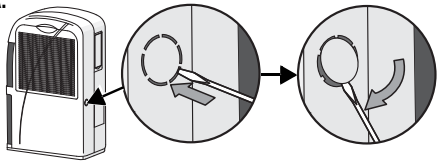


Operation with hose attached to the condensation plug

A.



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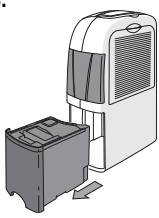

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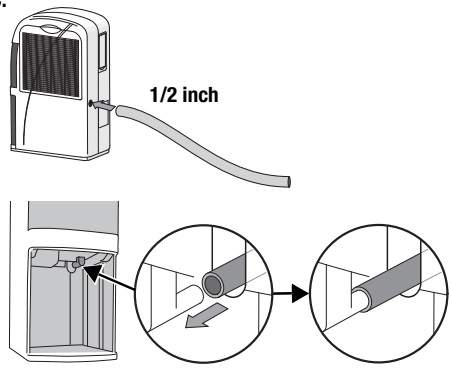

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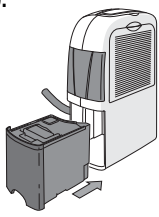

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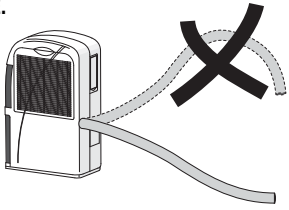


Shut down procedure

1. Switch off the device at the mains switch (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 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 mains power (230 V/1~/50 Hz).
- Check the mains plug for damages.
- 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 condensation tank is positioned correctly. Check the fill level of the condensation tank and empty it if necessary. The condensation tank indicator light must not light up.
- 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. The working range of the device is between 5 °C and 35 °C.
- Ensure that the relative humidity complies with the technical data (min. 49 %).
- Check the set operation mode. This must be appropriate for the humidity of the room where the device is positioned. Press the button "MODE" (12) a number of times until "Automatic operation" is selected.
- Check the air filter is not dirty by inspecting the side air inlet (4) and rear air inlet (10). If necessary, clean or replace the air filter (see chapter "Maintenance").
- From the outside, check the condenser is not dirty (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; condensation leaks:

- 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 air inlets and air filter are not dirty. Remove external dirt.
- Check the inside of the device and especially the fan, the fan housing, the evaporator and the condenser for external 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 repairs.

Maintenance

Maintenance intervals

Maintenance and care interval	before every start	when necessary	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 whether the inside of the device is dirty		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 whether the inside of the device is dirty																
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: ..... Signature:.....	2. Date: ..... Signature:.....	3. Date: ..... Signature:.....	4. Date: ..... Signature:.....
5. Date: ..... Signature:.....	6. Date: ..... Signature:.....	7. Date: ..... Signature:.....	8. Date: ..... Signature:.....
9. Date: ..... Signature:.....	10. Date: ..... Signature:.....	11. Date: ..... Signature:.....	12. Date: ..... Signature:.....
13. Date: ..... Signature:.....	14. Date: ..... Signature:.....	15. Date: ..... Signature:.....	16. Date: ..... Signature:.....

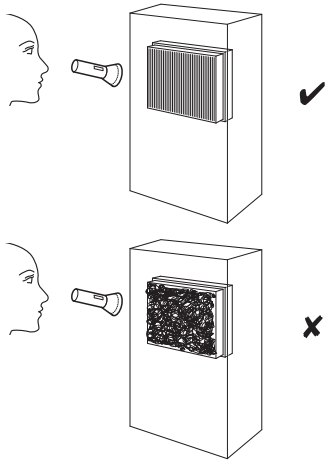
Activities for before the start of maintenance

1. Do not touch the mains plug with wet or damp hands.
2. Before any work, detach the mains plug!
3. Do not remove the float from the condensation tank.

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®.

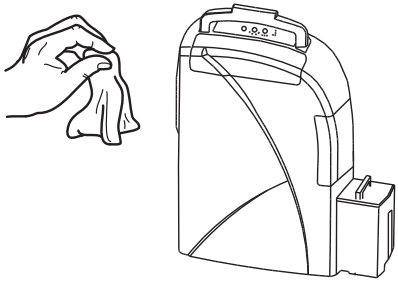
Visual check for dirt in the inside of the device

1. Remove the air filter (see chapter "Cleaning the air inlets and the air filter").
2. Shine a torch through the opening 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

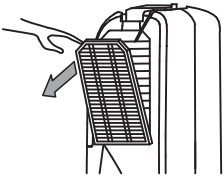
1. Use a soft, lint-free cloth for cleaning.
2. Dampen the cloth with clean water. Do not use sprays, solvents, alcohol-based or abrasive cleaners to dampen the cloth.



Cleaning the air inlets and the air filter

Rear air inlet

A.



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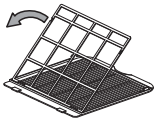

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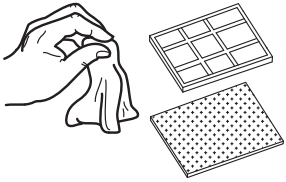

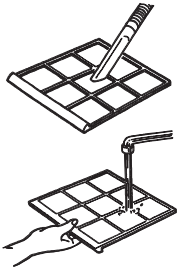

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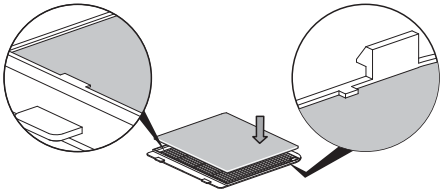

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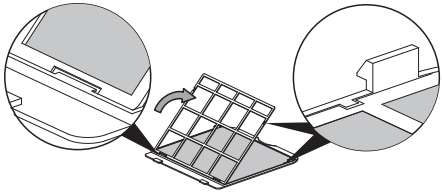

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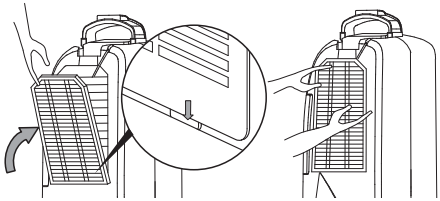
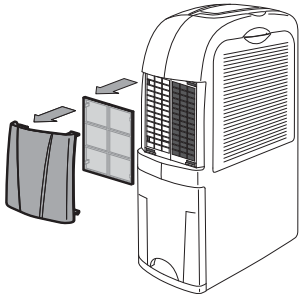


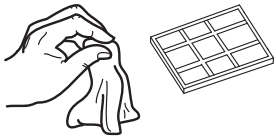
Caution!
Ensure that the air filter is not worn or damaged. The corners and edges must not be rounded or misshaped.
Before reinserting the air filter, ensure that it is dry and is not damaged!
Read the chapter "Maintenance intervals" and replace the air filter punctually!

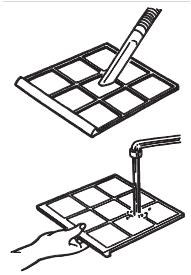
Side air inlet

A.

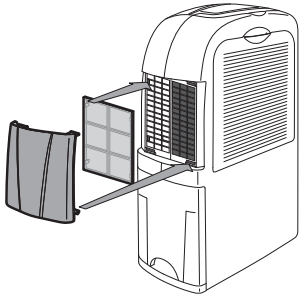


B.



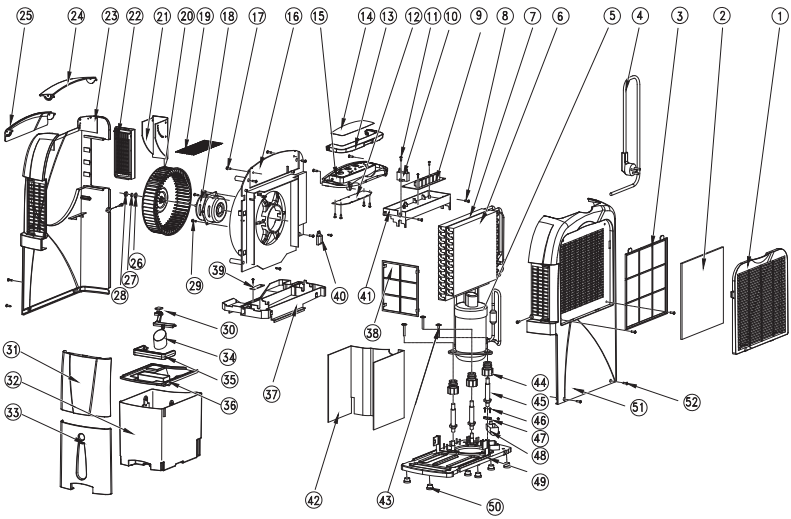


C.



Caution!
Before reinserting the air filter, ensure that it is dry and is not damaged!

Overview and list of spare parts



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
1	air inlet panel (side)
2	filter
3	air inlet grid (side)
4	power cable
5	compressor
6	evaporator
7	condenser
8	nut
9	PCB
10	motor capacitor
11	right part of case
12	control board
13	carry handle
14	control panel
15	top cover
16	fan case
17	nut
18	motor
19	metal grid
20	fan
21	side air outlet flap of case
22	side air outlet vent grid
23	right part of case
24	upper air outlet panel
25	right air outlet panel
26	cushion

No.	Spare part
27	spring cushion
28	nut
29	screw
30	alnico
31	front air inlet panel
32	condensation tank
33	condensation tank panel
34	float
35	condensation tank handle
36	condensation tank cover
37	condensation tray
38	front air inlet filter
39	water level sensor
40	humidity sensor
41	electrical box
42	base frame
43	nut
44	rubber cushion for compressor
45	pump feet bolt
46	nut
47	press board for power cable
48	compressor capacitor
49	base
50	feet cushion
51	left part of case
52	nut

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 instrument in a manner appropriate to the relevant legal requirements.

The device uses an environmentally friendly and ozone-neutral refrigerant (see chapter "Technical Data"). Dispose of the refrigerant/oil mixture 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 70 S was developed, constructed and produced in compliance with the named EC directives.
Applied harmonised standards:
IEC 60335-1:2001/A2:2006
IEC 60335-2-40:2002/A1:2005
IEC 62233:2005

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