

# TTK 655 S

## EN

OPERATING MANUAL  
DEHUMIDIFIER



 TROTEC

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**Notes regarding the operating manual**

**Symbols**



**Warning of electrical voltage**

This symbol indicates dangers to the life and health of persons due to electrical voltage.



**Warning**

This signal word indicates a hazard with an average risk level which, if not avoided, can result in serious injury or death.



**Caution**

This signal word indicates a hazard with a low risk level which, if not avoided, can result in minor or moderate injury.

**Note**

This signal word indicates important information (e.g. material damage), but does not indicate hazards.



**Info**

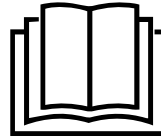
Information marked with this symbol helps you to carry out your tasks quickly and safely.



**Follow the manual**

Information marked with this symbol indicates that the operating manual must be observed.

You can download the current version of the operating manual and the EU declaration of conformity via the following link:



TTK 655 S



<https://hub.trotec.com/?id=41430>

**Safety**

**Read this manual carefully before starting or using the device. Always store the manual in the immediate vicinity of the device or its site of use!**



**Warning**

**Read all safety warnings and all instructions.**

Failure to follow the warnings and instructions may result in electric shock, fire and / or serious injury.

**Save all warnings and instructions for future reference.**

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

- Do not use the device in potentially explosive rooms.
- Do not use the device in aggressive atmosphere.
- Set the device up in an upright and stable position.
- Let the device dry out after a wet clean. Do not operate it when wet.
- Do not use the device with wet or damp hands.
- Do not expose the device to directly squirting water.
- Never insert any objects or limbs into the device.
- Do not cover or transport the device during operation.
- Do not sit on the device.
- This appliance is not a toy! Keep away from children and animals. Do not leave the device unattended during operation.
- Check accessories and connection parts for possible damage prior to every use of the device. Do not use any defective devices or device parts.

- Ensure that all electric cables outside of the device are protected from damage (e.g. caused by animals). Never use the device if electric cables or the power connection are damaged!
- The electrical connection must correspond to the specifications in chapter Technical data.
- Insert the mains plug into a properly secured mains socket.
- Observe the device's power input, cable length and intended use when selecting extensions to the power cable. Completely unroll extension cables. Avoid electrical overload.
- Before carrying out maintenance, care or repair work on the device, remove the mains plug from the mains socket. Hold onto the mains plug while doing so.
- Switch the device off and disconnect the power cable from the mains socket when the device is not in use.
- Do not under any circumstances use the device if you detect damages on the mains plug or power cable. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard. Defective power cables pose a serious health risk.
- When positioning the device, observe the minimum distances from walls and other objects as well as the storage and operating conditions specified in the Technical data chapter.
- 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.
- Only transport the device in an upright position with an emptied condensation tank or drain hose.
- Discharge the collected condensate before transport and storage. Do not drink it. Health hazard!

### Intended use

Only use the device TTK 655 S for drying and dehumidifying room air (e.g. after water damages from burst pipes or flooding), while adhering to and following the technical data.

Intended use comprises:

- 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, changing rooms etc.

### Improper use

Do not place the device on flooded ground. Do not use the device outdoors. Do not place 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.

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



#### Warning of electrical voltage

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



#### Warning of electrical voltage

Before any work on the device, remove the mains plug from the mains socket!  
Hold onto the mains plug while pulling the power cable out of the mains socket.



#### Warning

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



#### Warning

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



#### Warning

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

#### Note

Do not operate the device without an inserted air filter! Without the air filter, the inside of the device will be heavily contaminated. This could reduce the performance and result in damage to the device.

### Behaviour in the event of an emergency

1. Switch the device off.
2. In an emergency, disconnect the device from the mains feed-in: Hold onto the mains plug while pulling the power cable out of the mains socket.
3. Do not reconnect a defective device to the mains.

**Information about the device**

**Description of the device**

The device uses the principle of condensation to automatically dehumidify rooms. The fan sucks in humid room air through the air inlet (1), the air filter (10), 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 condensation or rime. 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. The condensation is fed from the device through the condensation drain hose connected to the hose connector (3) into an external container or drain.

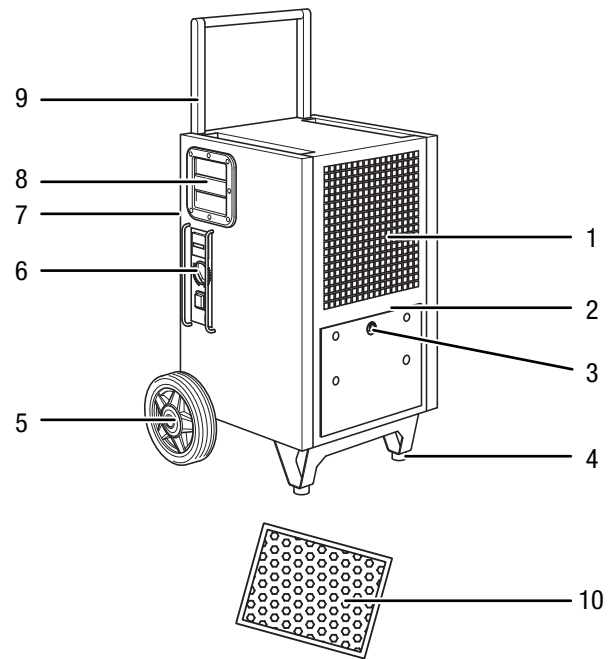
The condensed water can also be diverted by means of a retrofitted condensate pump (see chapter Installing the condensate pump (optional)).

The device has a control panel (6) for operating and controlling the functions.

The device can reduce the relative humidity of a room to approx. 32 %. Due to the heat radiation generated during operation, the room temperature may rise by approx. 1–4 °C.

The compressor comes with a temperature limitation protecting the compressor and other components from overheating. The compressor is automatically switched off when exceeding a temperature of 35 °C.

**Device depiction**



No.	Designation
1	Air inlet
2	Connection for optional condensate pump
3	Hose connector for condensation drain hose
4	Feet
5	Wheels
6	Control panel
7	Air outlet
8	Carrying handle
9	Transport handle
10	Air filter

## Transport and storage

### Note

If you store or transport the device improperly, the device may be damaged.

Note the information regarding transport and storage of the device.

### Transport

To make the device easier to transport, it is fitted with wheels and a transport handle.

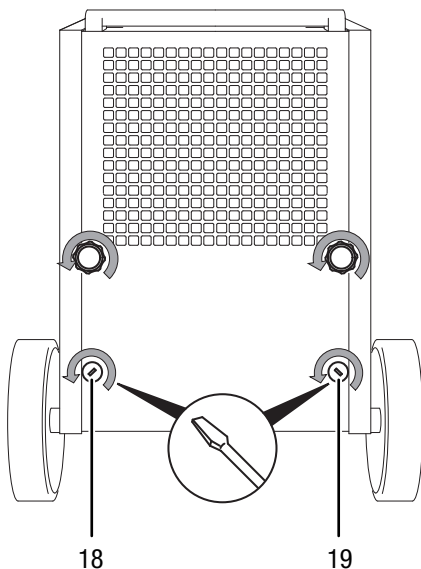
**Before** transporting the device, proceed as follows:

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 or the condensation drain hose or the condensate pump (optional). Check for dripping condensation.
4. After unpacking the device, adjust the transport handle in transport position as follows:

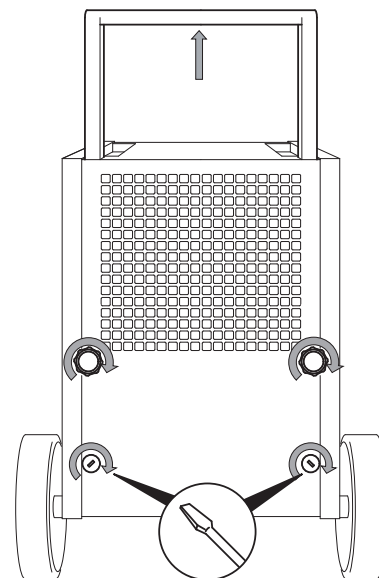
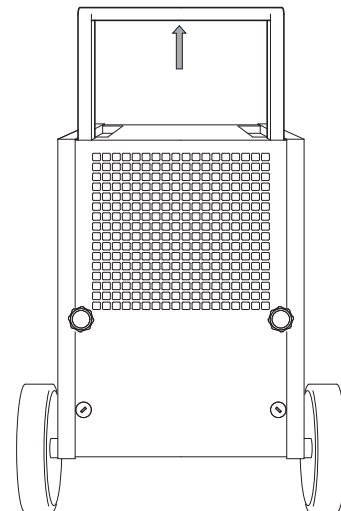
#### Note!

After unpacking the device, remove the two lower screws (18, 19) and adjust the transport handle. Afterwards, reinsert the screws. This only needs to be carried out the very first time that the device is unpacked.

⇒ **Transport handle upon delivery**

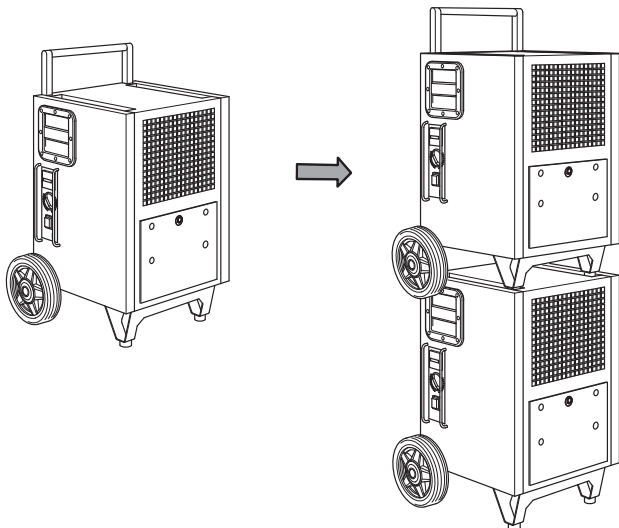
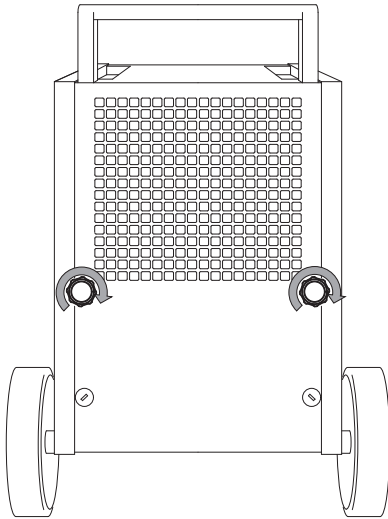
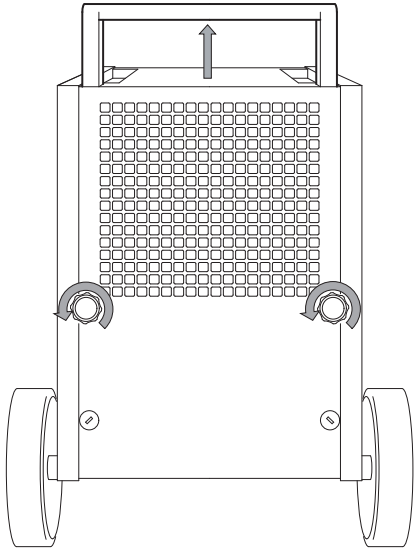


⇒ **Transport handle in transport position**



5. Hold the transport handle in both hands and tilt the device so that it can be rolled on its wheels.
6. Move the device to the site where you want to use it.
7. If necessary, stack several devices on top of each other as follows:

⇒ **Transport handle in stacking position**



## Storage

When the device is not being used, observe the following storage conditions:

- dry,
- under roof,
- in an upright position where it is protected from dust and direct sunlight,
- stacked on top of each other (max. 3 devices), if necessary,
- with a 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 technical data.

**After** transporting the device, observe the following:

1. Set up the device in an upright position after transport.

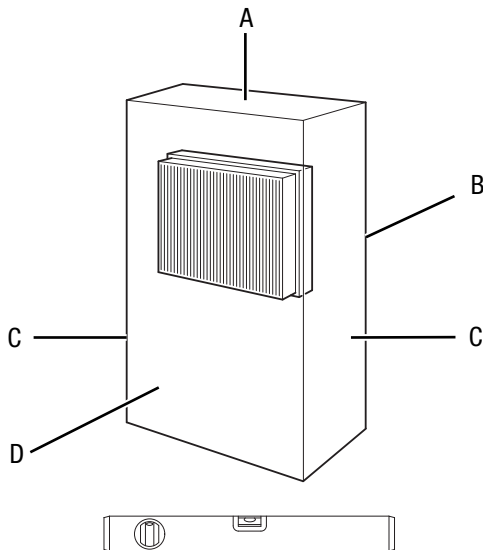
## Operation

- After being switched on, the device operates fully automatically.
- Avoid open doors and windows.

## Positioning

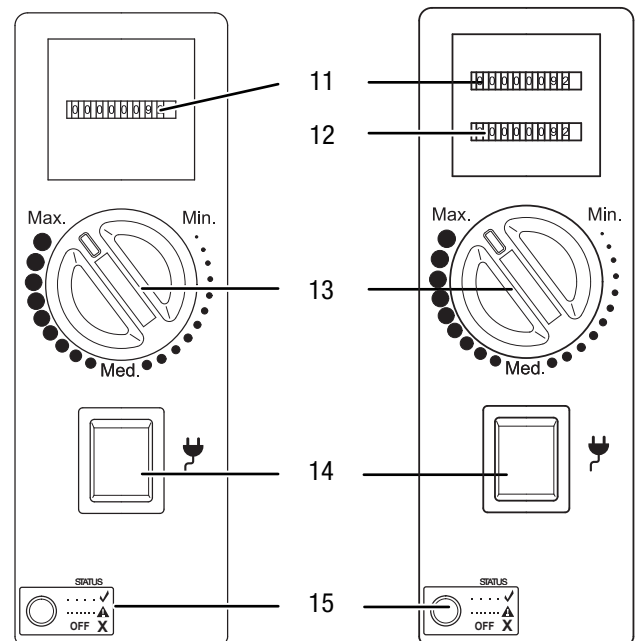
When positioning the device, observe the minimum distance from walls or other objects as described in chapter Technical Data.

- Set the device up in a level and stable position.
- When positioning the device, keep a sufficient distance to heat sources.
- When positioning the device, particularly in wet areas, secure it locally with an RCD (residual current device) which complies with the respective regulations.



## Operating elements

### Control panel



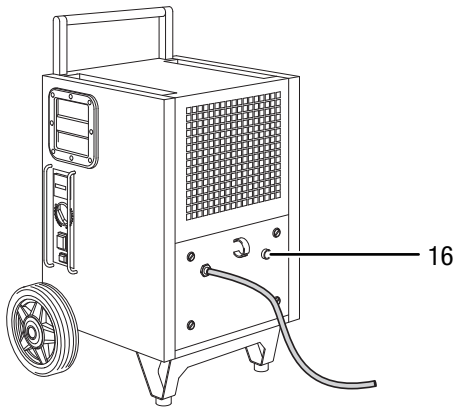
No.	Designation
11	Operating hours counter
12	Kilowatt hours counter, MID-certified (optional)
13	Rotary switch
14	Mains switch; Illuminated when the device is switched on.
15	Status LED

The device is optionally available with a control panel with two counters (see the image at the top right). The dual counter registers both the operating hours and the energy consumption and is certified according to the MID (Measuring Instruments Directive 2004/22/EC). The kWh display is factory-calibrated and may be used for accounting purposes. Contact your Trotec customer service.

The status LED flashes once a second during normal operation. If it flashes more frequently, lights up permanently or does not light up at all, there might be a fault, see chapter Errors and faults.

- Make sure that extension cables are completely unrolled.

**Condensate pump (optional)**



No.	Designation
16	Button for draining residual water from the condensate pump

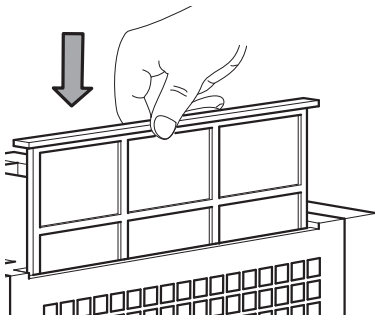
The device can optionally be operated with a condensate pump (see chapter Installing the condensate pump (optional)). Contact your Trotec customer service.

**Start-up**

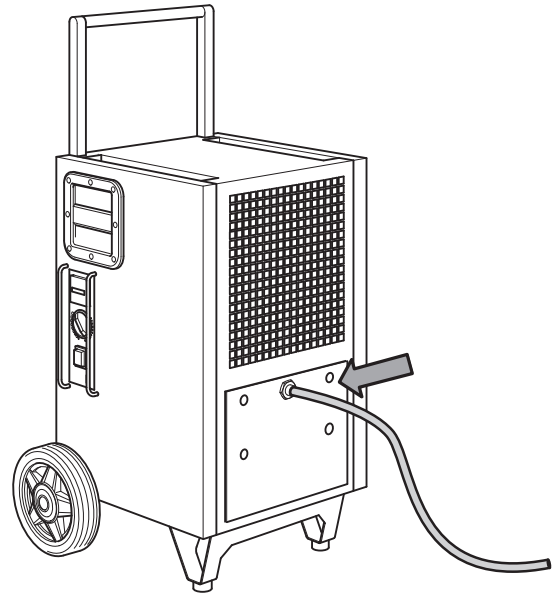
**Inserting the air filter**

Make sure that the air filter is installed before switching the device on.

A.



**Connecting the condensation drain hose**



**Switching on and starting up the device**

1. Ensure that the condensation drain hose is properly connected to the device and is free of damage.
2. Position a sufficiently large container (at least 20 litres; we recommend a 60-litre mortar tub) beside the device and insert the hose end. Check the filling level of the container regularly.
3. Ensure that the condensation drain hose always descends.
4. Insert the mains plug into a properly secured mains socket.
5. Switch on the device at the mains switch (14).
6. Ensure that the mains switch (14) is illuminated.
7. Adjust the room humidity level with the rotary switch (13).



**Info**

The compressor always starts with a delay. This protects the compressor and thus increases its lifetime. This delay is enabled during hygostat operation. If the room humidity exceeds the setting of the selection switch, the compressor will only switch back on after a delay. The fan keeps running independently of the compressor.

**Continuous operation mode**

In continuous operation mode, the device dehumidifies the air constantly, regardless of the humidity. To start continuous operation mode, set the rotary switch (13) to Max.

**Automatic defrost**

If the room temperature is below 11 °C, the evaporator will freeze during dehumidification. The device will then carry out an automatic defrost. The duration of the defrost can vary.

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



### Temperature limitation (overheating protection)

The device comes with a temperature limitation. It serves to protect e.g. the compressor from overheating.

- Upper temperature limit: +35 °C +/- 2 °C
- Lower temperature limit: -3 °C +/- 2 °C

If the ambient temperature exceeds or falls below these limits, the device automatically switches off the compressor; only the fan will keep running. This feature protects the device from overloading since high temperatures and high humidity levels expose the device to extreme stresses. Moreover, drying is no longer economical at such high temperatures and also poses dangers for the inventory of the room to be dried. Please note that the switch-off function works with a switch-on hysteresis of -2 °C.

### Shutdown

1. Switch off the device at the mains switch (see chapter Operating elements).
2. Depending on the model, proceed as follows to remove condensation from the device:
  - ⇒ Empty the optional condensate pump by pressing the key for draining residual water from the condensate pump.
  - ⇒ Remove the condensation drain hose and any residual fluid from it.
3. Do not touch the mains plug with wet or damp hands.
4. Remove the mains plug from the mains socket.
5. Clean the device, and especially the air filter, according to the chapter Maintenance.
6. Store the device according to the Storage chapter.

## Errors and faults

The device has been checked for proper functioning several times during production. If malfunctions occur nonetheless, check the device according to the following list.

### The device does not start:

- Check the power connection (1/N/PE ~ 230 V/ 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 is running, but there is no formation of condensate:

- Check the room temperature. Observe the device's permissible operating range according to the technical data.
- Ensure that the relative humidity complies with the technical data.

- Check the preselected desired humidity level. The humidity in the room must be above the selected range. Reduce the selected relative humidity by turning the rotary switch, if necessary.
- Check the air filter for dirt. 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:

- Check whether the device is set up in a stable and upright position.

### The device gets very warm, is loud or loses power:

- Check the air inlets and air filters for dirt. 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?

Please contact the customer service. If necessary, bring the device to a specialist company for cooling and air-conditioning or to Trotec for repair.

### Fault indicator (compressor overheating protection status LED)

The compressor overheating protection status LED (15) may indicate the following statuses during operation:

Error message	Meaning	Remedy
Flashing once per second	Normal operation	No remedy required
Flashing five times per second	The temperature is above or below the limit.	The temperature should be within the operating temperature range specified in the Technical data.
	The humidity level has reached the switching point.	The device will switch back on once the humidity level set is exceeded.
Permanently illuminated	There is a general problem.	Please contact the customer service.
Not illuminated		

**Maintenance**
**Maintenance intervals**

Maintenance and care interval	before every start-up	as needed	at least every 2 weeks	at least every 4 weeks	at least every 6 months	at least annually
Check the condensate pump and condensation tank and clean if necessary		X				
Check air inlets and outlets for dirt and foreign objects and clean if necessary	X			X		
Clean the exterior		X				X
Visually check the inside of the device for dirt		X				X
Check the air inlet grid and air filter for dirt and foreign objects and clean or replace if necessary	X		X			
Replace the air filter					X	
Check for damage	X					
Check the attachment screws		X				X
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 the air inlets and outlets for dirt and foreign objects and clean if necessary																
Check the condensate pump and tank and clean if necessary																
Clean the exterior																
Visually check the inside of the device for dirt																
Check the air inlet grid and air filter for dirt and foreign objects and clean or replace if necessary																
Replace air filter																
Check for damage																
Check the attachment screws																
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 required before starting maintenance**

- Do not touch the mains plug with wet or damp hands.
- Before any work, remove the mains plug!



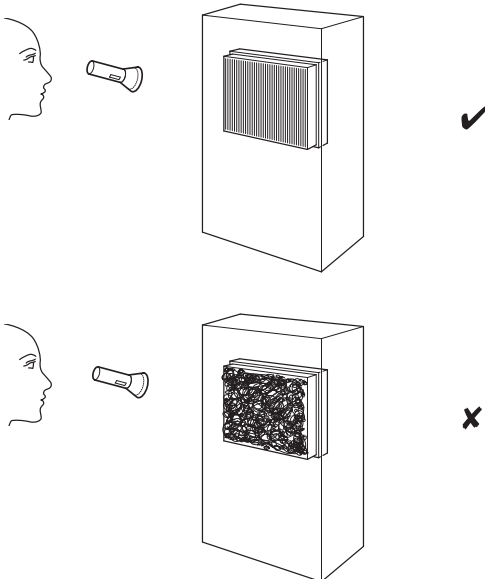
**Danger**



**Maintenance tasks which require the housing to be opened must only be carried out by authorised specialist companies or by Trotec.**

**Visual inspection of the inside of the device for dirt**

1. Remove the air filter.
2. Use a torch to illuminate the openings of the device.
3. 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.
4. Put the air filter back in.



**Cleaning the housing**

Clean the device with a soft, damp and lint-free cloth. Ensure that no moisture enters the housing. Do not use abrasive cleaners.

**Refrigerant circuit**

- The entire refrigerant circuit is a maintenance-free, hermetically sealed system and may only be maintained or repaired by specialist companies for cooling and air-conditioning or by Trotec.

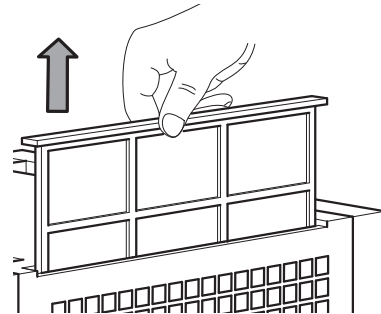
**Cleaning the air filter**

The air filter has to be cleaned as soon as it is dirty. This is brought to light e.g. by a reduced capacity (see chapter Errors and faults).

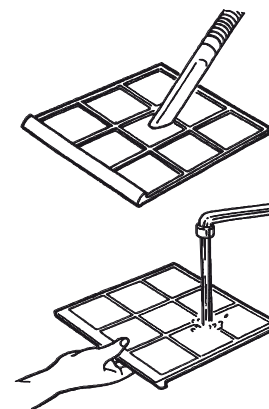
**Note**

Ensure that the air filter is not worn or damaged. The corners and edges of the air filter must not be deformed or rounded. Before reinserting the air filter, make sure that it is undamaged and dry!

A.



B.



C.



- Reinsert the cleaned, dry filter in the device in reverse order.

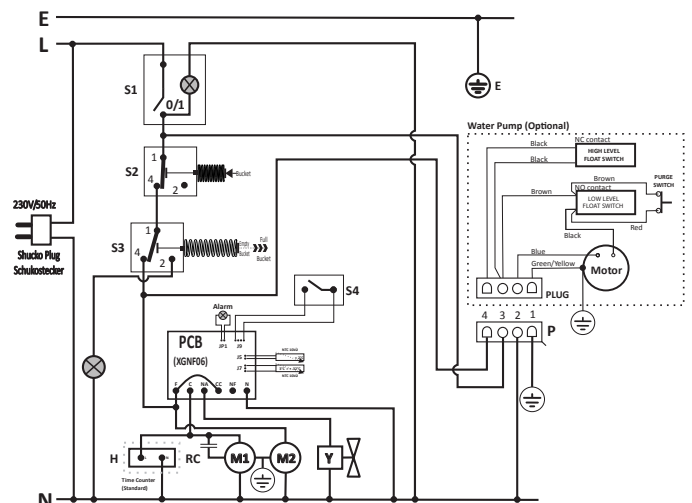
## Technical annex

## Technical data

Parameter	Value
<b>Model</b>	<b>TTK 655 S</b>
Dehumidification performance @ 30 °C / 80 % RH	125 l / 24 h
Dehumidification performance, max.	150 l / 24 h
Operating temperature	5 °C - 32 °C
Operating range for relative humidity	32 % - 100% RH
Air volume flow	1000 m <sup>3</sup> /h
Mains connection	1/N/PE~ 230 V, 50 Hz
Power consumption, max.	2.50 kW
Nominal current	11.4 A
Refrigerant	R-410a
Amount of refrigerant	1050 g
GWP factor	2,088
CO <sub>2</sub> equivalent	2.19 t
Weight	55 kg
Dimensions	Height (shipping position, stacked position, transport position): 858, 960, 1130 mm Width: 620 mm Length: 500 mm
Minimum distance to walls or other objects	A: Top: 50 cm B: Rear: 50 cm C: Side: 50 cm D: Front: 50 cm
Sound pressure level LpA (1 m; complies with DIN 45635-01-KL3)	56 dB(A)

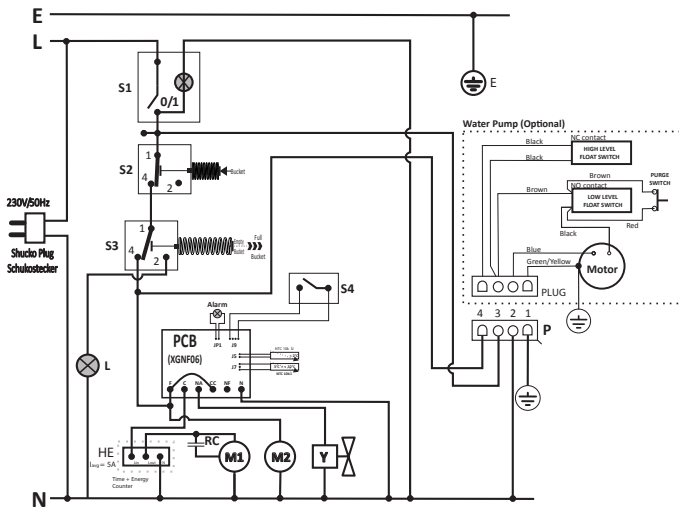
## Wiring diagram

With hours counter



- E - Earthing / Erdung
- N - Common Line / Gemeinsame
- L - Line / Außenleiter
- S1 - On-Off Switch / Geräteschalter 0/1
- S2 - Micro switch (Tank Presence) / Mikroschalter (Tank Präsenz)
- S3 - Micro Switch (Tank Full) / Mikroschalter Wippe Vollstand (Behälter voll)
- S4 - Humidistat / Hygrostat
- L - Red lamp (Tank full) / Signalleuchte "rot" (Behälter voll)
- M1 - Compressor / Kompressor
- M2 - Fan motor / Lüftermotor
- Y - Two Way Valve / Abtau-Magnetventil
- RC - Running Capacitor / Motorbetriebskondensator
- H - Time Counter (Standard) / Zeit Zähler (Standard)
- P - Water Pump Socket / Wasserpumpe Stockdose

With hours counter and optional consumption counter

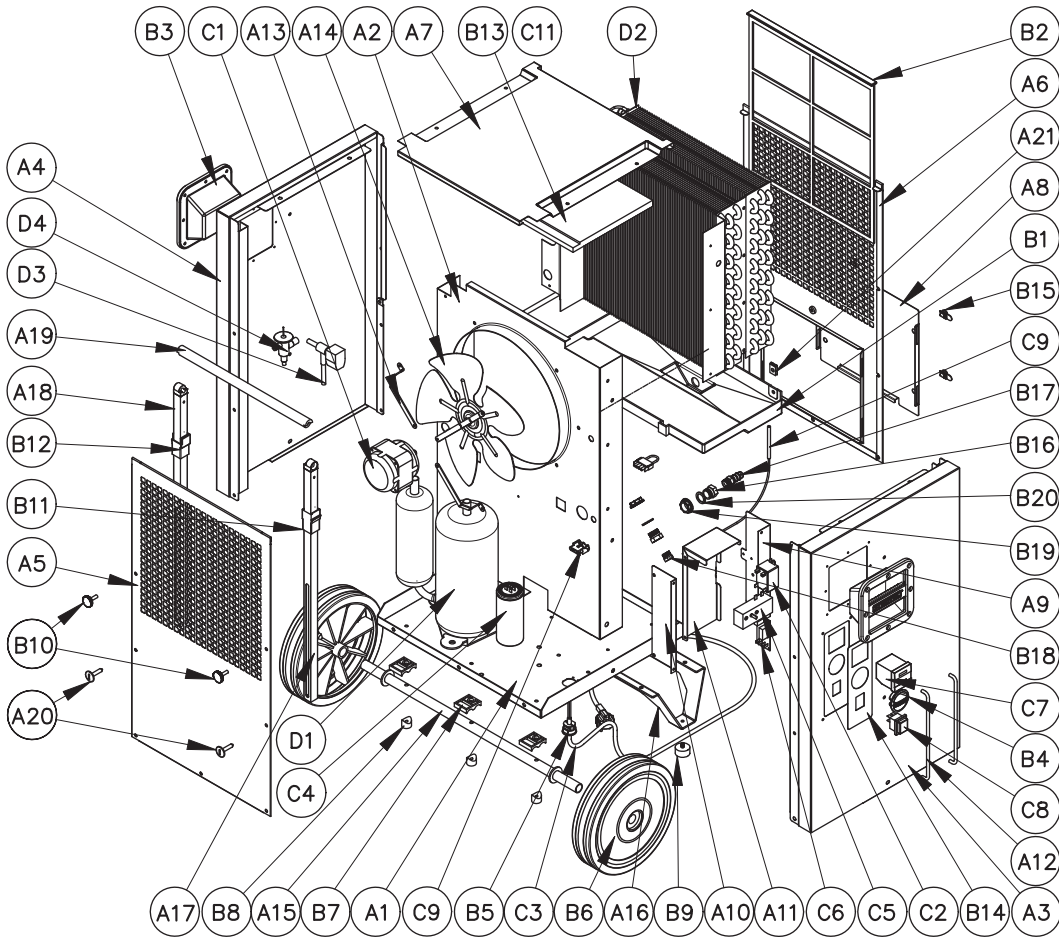


- E - Earthing / Erdung
- N - Common Line / Gemeinsame
- L - Line / Außenleiter
- S1 - On-Off Switch / Geräteschalter 0/1
- S2 - Micro switch (Tank Presence) / Mikroschalter (Tank Präsenz)
- S3 - Micro Switch (Tank Full) / Mikroschalter Wippe Vollstand (Behälter voll)
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- M1 - Compressor / Kompressor
- M2 - Fan motor / Lüftermotor
- Y - Two Way Valve / Abtau-Magnetventil
- RC - Running Capacitor / Motorbetriebskondensator
- HE - Time + Energy Counter (Optional) / Zeit + Energie Zähler (Zusätzliche)
- P - Water Pump Socket / Wasserpumpe Stockdose

**Exploded assembly drawing**

**Note!**

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



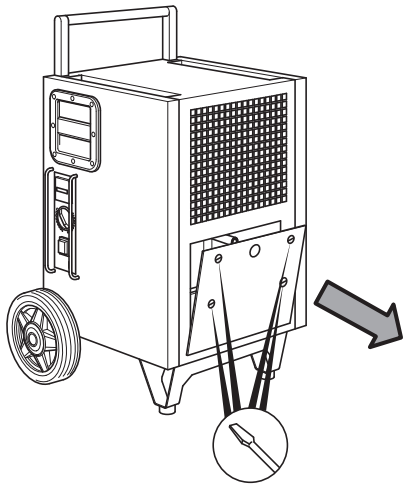
## List of spare parts

No.	Spare part	No.	Spare part	No.	Spare part
A1	Base Plate	B1	PS Condensates' Water Pan	C1	25 W Output Electrical Motor Fan
A2	Structural Element for Ø300 Fan	B2	Reinforced PP Air Filter	C2	30 A Power Relay
A3	Controls' Side Panel	B3	ABS Trotec Grip	C3	3 m. H05WF3G1.50 Supply Cable with Injected Schuko Plug
A4	Side Panel	B4	ABS Humidistat Adjusting Knob	C4	50 µF Starting Capacitor
A5	Air Outlet Ventilation Grid	B5	Cable Gland PA107	C5	Mechanical Hygrostat
A6	Air Inlet Ventilation Grid	B6	Ø250 mm Synthetic Rubber Wheel, with Black Plastic Rim	C6	Printed Circuit Board
A7	Top Hood	B7	PVC Stacking Elements	C7	Operating Hours Counter (Standard)
A8	Back panel cover	B8	Nylon Saddle Spacer		Operating Hours Counter + Power Consumption Counter (Optional)
A9	Protection Box - PCB Support	B9	Ø30x15 EPDM Foot	C8	Mains Switch + Transparent Silicon Cover
A10	Protection Box - Left Support	B10	Star Knob (Similar Design to DIN 6336) with Threaded Bolt	C9	Temperature Probe
A11	Protection Box - Cover	B11	ACETAL Guide for Handle Bar (Left)	C10	Pump Socket
A12	Controls' Protection Bars	B12	ACETAL Guide for Handle Bar (Right)	C11	Shunt
A13	Motor Fan Ø300 Brackets	B13	EPS Top Plate	D1	R407c Rotary Compressor
A14	Ø300 Aluminium Sucking Fan Blade	B14	PVC Control Panel Sticker	D2	Finned Pack Condensing & Evaporating Coil
A15	Ø20 Wheel Shaft	B15	Quick release fastener	D3	R407c Solenoid Valve
A16	Foot	B16	BSPT Pipe Bushing 1/2"-3/8" REF. 12011008068	D4	R407c Expansion Valve
A17	20x20 Square Aluminium Support for Sliding Handle (Left)	B17	BSPT Male Hose Connector 3/8"-14MM REF. 12446854068	n/a	Housing - M5 x 10 Screws; Black Passivated; ISO 7380
A18	20x20 Square Aluminium Support for Sliding Handle (Right)	B18	BSPT Hex Threaded Plug 3/8" REF. 12012106008	n/a	Housing - PA Ø5 Washers
A19	Ø20 Round Aluminium Profile for Sliding Handle	B19	BSPT Nut 1/2" REF. 01.01.1334.012	n/a	Plastic Grip - M4 x 16; Black Passivated; DIN 7500
A20	Handle Bar's Safety Pin	B20	Washer 25x18x2MM REF. 3700008	n/a	Aluminium Handle - M8 x 30; Black Passivated; DIN 7991

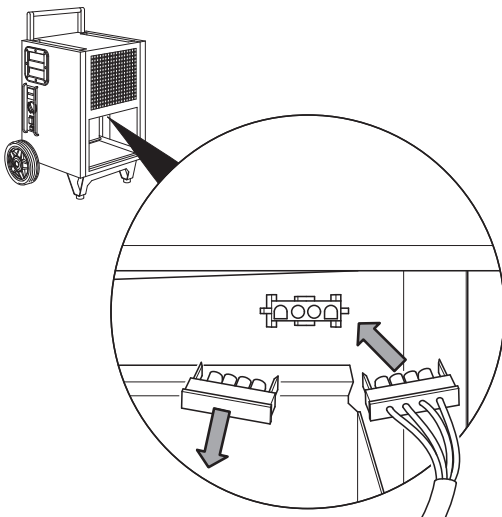


**Installing the condensate pump (optional)**

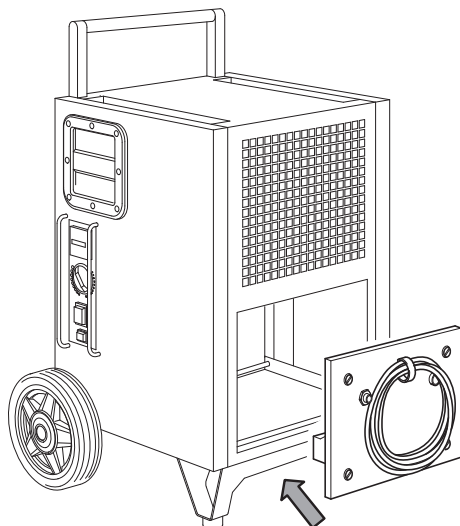
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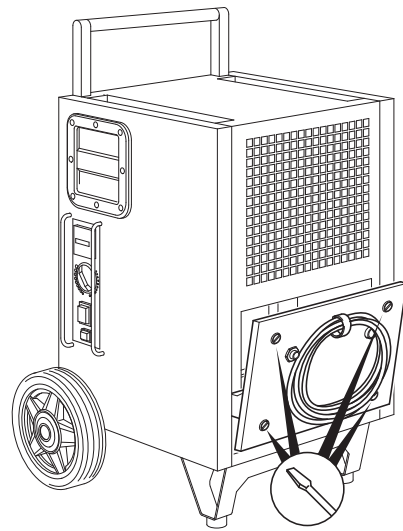
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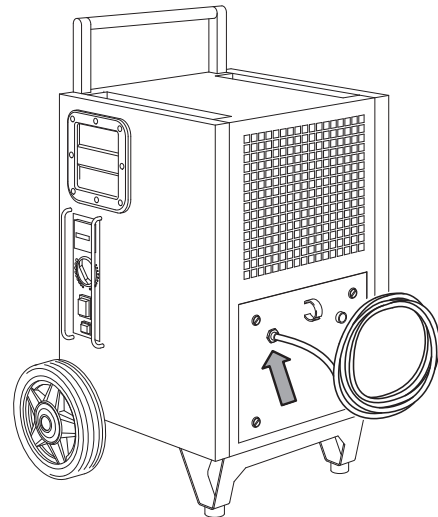
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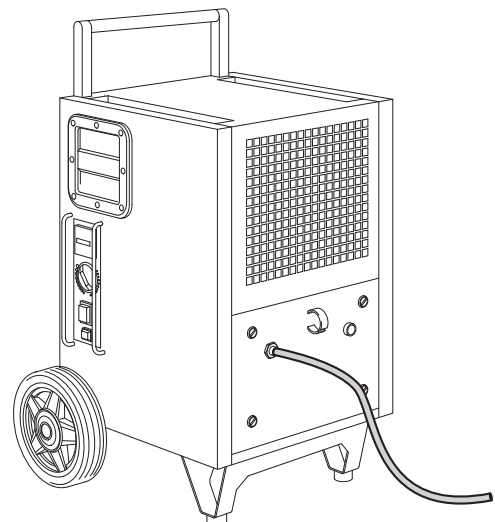
4.



5.



6.



## Disposal



The icon with the crossed-out waste bin on waste electrical or electronic equipment stipulates that this equipment must not be disposed of with the household waste at the end of its life. You will find collection points for free return of waste electrical and electronic equipment in your vicinity. The addresses can be obtained from your municipality or local administration. For further return options provided by us please refer to our website [www.trotec24.com](http://www.trotec24.com).

The separate collection of waste electrical and electronic equipment aims to enable the re-use, recycling and other forms of recovery of waste equipment as well as to prevent negative effects for the environment and human health caused by the disposal of hazardous substances potentially contained in the equipment.

The device is operated with fluorinated greenhouse gas which can be dangerous for the environment and contribute to global warming when emitted to the atmosphere.

Further information is provided on the nameplate.

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



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