

Manual

Dehumidifiers

KT 330 / KT 430 / KT 830



Perfection is our aim



Introduction

Overview

This manual covers Wilms Dehumidifier types:

KT 330 / KT 430 / KT 830

Warning

It is the responsibility of the operator to read and understand this service manual and to use the correct operating procedures.

Read the entire manual before the initial start-up of the dehumidifier. It is important to know the correct operating procedure for the unit and all safety precautions to prevent the possibility of property damage and/or personal injury.

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General Information

Introduction: This section gives the general information about this service manual and about the unit.

Target Group: The target group for this service manual are the technicians who install, maintain, and exchange parts on the units.
The device can be used by children from 8 years of age and persons with limited physical, sensory or mental abilities or persons who do not have the required experience and knowledge, provided that they are supervised or have received instructions on how to use the device and understand associated dangers. Children are not allowed to play with the device. Cleaning and maintenance by the user must not be carried out by children without supervision.

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Reservations: Hans Wilms GmbH & Co. KG reserves the right to make changes and alterations to the product and the service manual at any time without prior notice or obligation.

EU-Conformity Declaration: Hans Wilms GmbH & Co. KG - Erftstr. 34 - 41238 Moenchengladbach- hereby declares that the units mentioned below:

Dehumidifier, Type KT 330, KT 430, KT 830,
covered by this declaration, is in conformity with the following directives:

2006/42/EG	Directive on the Safety of Machines
2014/30/EU	EMC Directive
1907/2006/EG	Reach Regulation
2011/65/EU	RoHs-Guidline (electric- and electronic cold devices)

as well as in accordance with the following harmonized standards:

DS /EN 12100:2010	Safety of machines
EN 60335-1:2012	Safety of electrical appliances for use at home or similar purposes
EN 60335-2-40: 2003	Safety of electrical appliances for use at home or similar purposes
EN 60335-2-40: A1 2006	Safety of electrical appliances for use at home or similar purposes
EN 378-1:2016	Refrigerating systems and heat pumps - Part 1
EN 378-2:2016	Refrigerating systems and heat pumps - Part 2

Moenchengladbach, 1.9.2020
Place - Date



Signature

Jochen Wilms
Managing Director

Recycling: The unit is designed to last for many years. When the time comes for the unit to be recycled, the unit should be recycled according to national rules and procedures to protect the environment.

General warnings

Warning: The dehumidifiers contain a flammable refrigerant. Take the following precautions, to avoid any danger

Attention

- Please note that refrigerants may not have an odour.

Site requirements (installation and storage):

- The device must be installed, operated and stored in a room with a floor area greater than 4 m². Check if there are any local regulations that you have to observe when installing or storing the device.
- The device must be installed in a room without a permanently active ignition source (for example: open fire, a gas device or electric air-heater in operation).
- Keep the ventilation openings free of foreign objects during operation.

Actions to be avoided (operation and handling)

- Be extra careful when handling the device so as not to cause damage that can lead to a leak in the cooling circuit.
- Use to speed up the defrosting process or to clean no other means recommended by the manufacturer.
- Do not drill or press with an open flame.

In case of fire:

- A fire can produce toxic fumes. In case of fire therefore, you need to leave the room as soon as possible.

Product- and functional description

Introduction: This section will give you a description of the machines types KT 330 / KT 430 / KT 830 and the functions:

Principles of operation: The following describes the air flow through the dehumidifier:

The air flow through the dehumidifier.

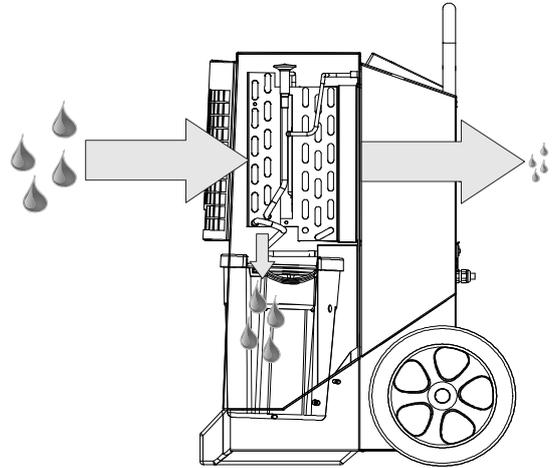
A fan draws in humid air through a filter to the dehumidifier



The air is cooled down and humidity/water drops are led down to the water tank

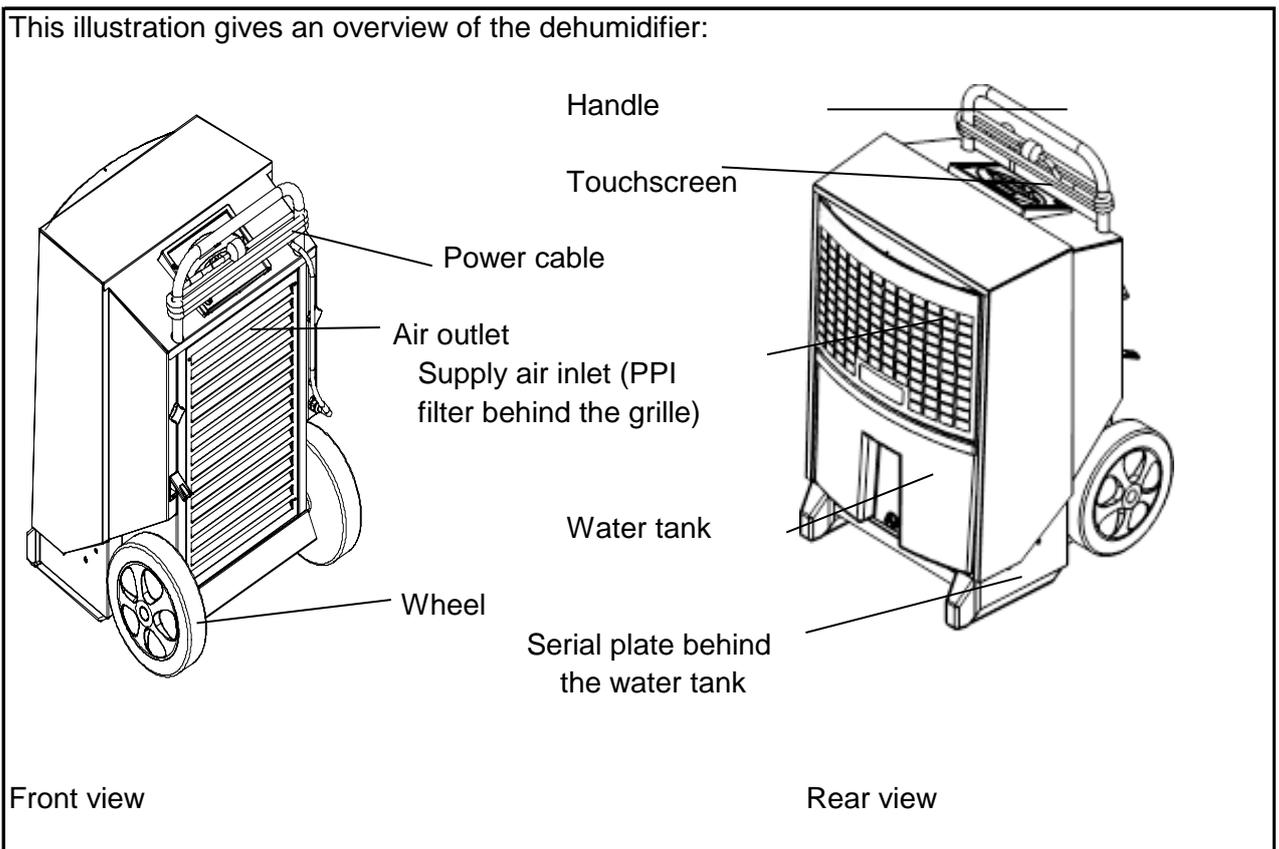


The air is re-heated by e.g. the operation of the dehumidifier (approx. increase in temperature is + 5 °C)



Due to the repeated air circulation through the dehumidifiers, the air humidity is continuously reduced whereby achieving rapid, but gentle drying.

Illustration: This illustration gives an overview of the dehumidifier:



Water tank: Water is collected in the water tank. Alternatively, you can also setup the dehumidifier for permanent drainage with the adapter for hose connection (accessories, see page 14). When the water tank is full, the dehumidifiers shut off automatically. Emptying of the water tank, see manual, page 13. Operation of the unit is not possible once the water tank is removed.

Product- and functional description

Illustration: This illustrates the operator control:

Display/ Operator Control

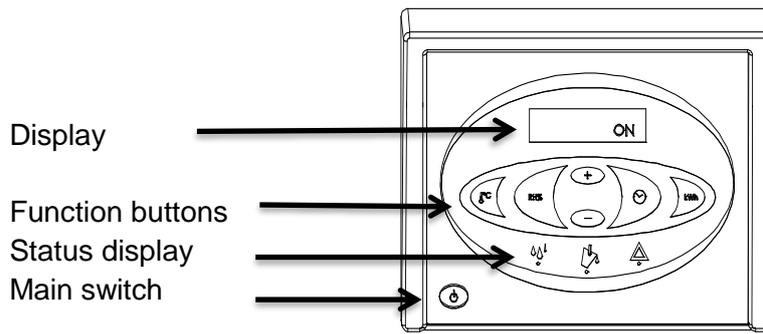


Fig. 4

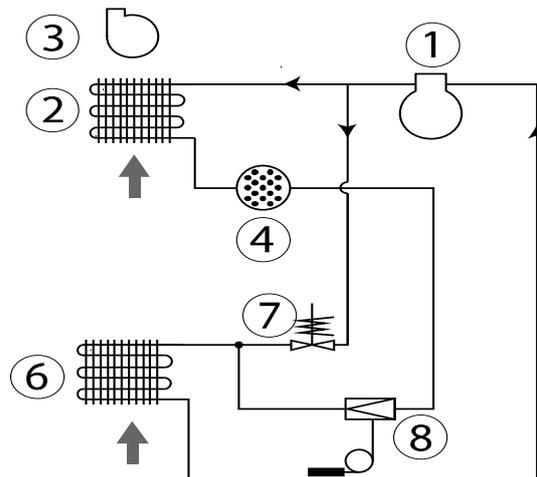
Functions: Main functions

- Manual or automatic operation (built-in adjustable hygrostat)
- Socket for external hygrostat
- Display for temperature, relative humidity, hour meter and kW/h-consumption
- Hour meter and display for consumed kW/h without 230V-connection
- Adjustable service interval counter

For correct operation look at the detailed instructions in this manual.

Cooling Circuit Diagram:

KT 330, KT 430, KT 830



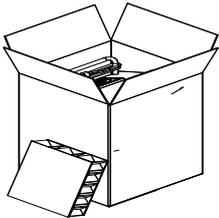
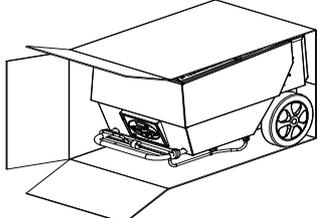
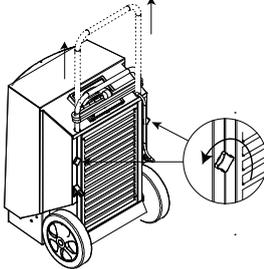
<u>Pos.</u>	<u>Description</u>	<u>Pos.</u>	<u>Description</u>
1	Compressor	6	Vaporizer
2	Condenser	7	Solenoid valve
3	Fan	8	Thermic expansion valve
4	Filter		

Set up and transport of the unit

Introduction: This section provides information required for: unwrapping the unit, making it ready for use and transportation of the unit.

Warning: If the dehumidifier has been laid down during transport, it is imperative to place it in upright position for at least one hour before put into service!!!

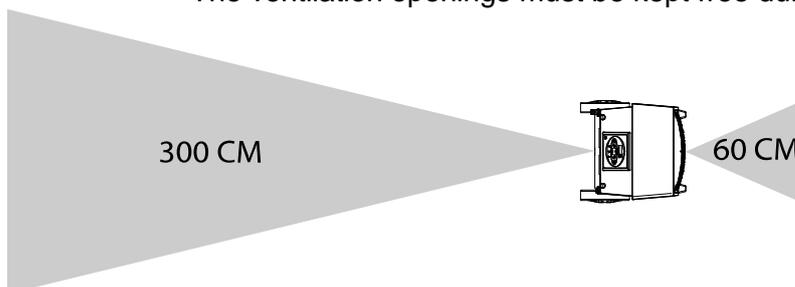
Procedure: Follow these steps to unwrap the unit and make it ready for use:

Step	Action	Illustration
1	Open the cardboard box on the top.	
2	Place the cardboard box so that the handle and wheels are on the floor.	
3	Pull the handle and wheel of the dehumidifier out while lying down.	
4	Loosen the finger screws and pull the handle up to the desired height and tighten the finger screws again.	
5	Remove the protective film from the control panel.	

Placing: Placement of the dehumidifier

Place the dehumidifier at a spot with good air circulation, where the minimum distance from the air intake side should be 60 cm to the wall and from the air outlet side 3 m. Also remember:

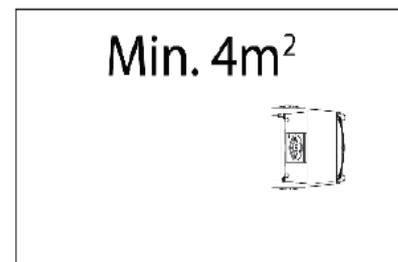
- The ventilation openings must be kept free during operation.



Set up and transport of the unit

Location requirements Since the appliances contain a flammable refrigerant, the following requirements for the location must be fulfilled.

- The device must be installed, operated and stored in a room with a area larger than 4 m².
Check whether there are any local regulations that you have to obey when installing or storing of the device.



- The device must be stored in a well-ventilated area, with the room size must correspond to the room areas of 4 m².
- The device must be installed in a room without permanently active ignition sources (e.g. open fire, a gas appliance in operation or an electric air heater in operation).

Optimal operation: Make sure that the room to be dehumidified is closed and the device is not placed near a heat source, such as e.g. a radiator.

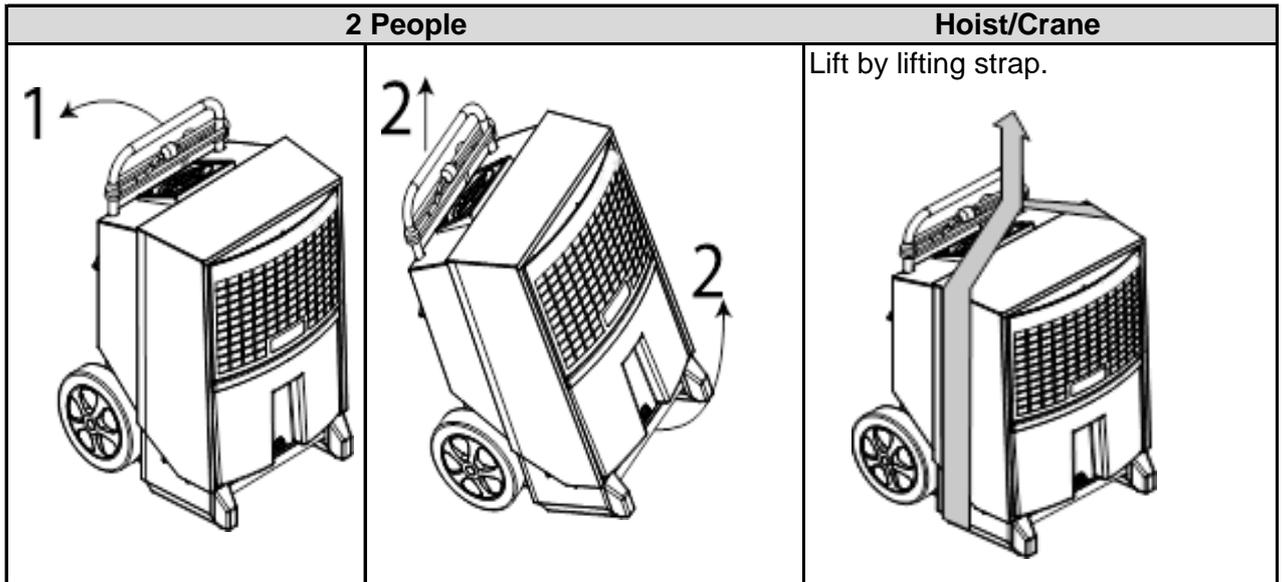
Electrical connection: The dehumidifier is complete with a cable and plug and ready for connection to a 230 V / 50 Hz socket. Protect the socket with a 10 A fuse or a 16 A circuit breaker.

Warning: If the power cord is damaged, it must be replaced by the manufacturer, maintenance service or similarly qualified persons in order to avoid danger.

Set up and transport of the unit

Wheels The wheels are mounted so that the unit can easily be pulled upstairs without damaging the housing or the stairs.

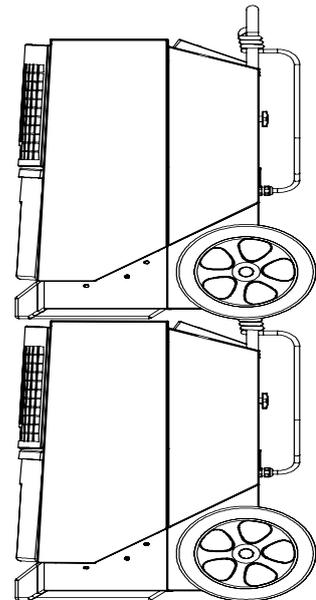
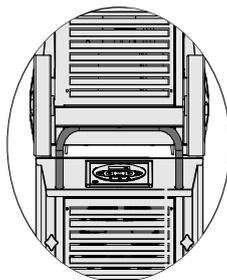
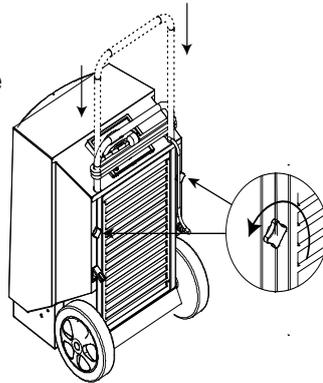
Transport/Replacing of the dehumidifier: The dehumidifier can be lifted by two persons or with a crane, see instructions below:
Note: Observe local working environment rules regarding heavy lifting.



Stacking: Max. 2 dehumidifiers should be stacked on top of each other.

Stacking of 2 dehumidifiers only – as illustrated.

Press the handle of the lower dehumidifier to the bottom before stacking. The handle then fits into a notch on the upper dehumidifier.



Operating Manual

On-/Off-Switching and operating status The following table shows the operation of the on-/off-function and the display texts

Push button	Display	
	ON INT HYG ON INT HYG STOP EXT HYG ON EX HYG STOP	Continuous operation Operation controlled by internal hygostat ,if the preset value of the internal hygostat is reached operation controlled by external hygostat ,if the preset value of the external hygostat has been reached
	Switching off	
	The green LED shows active dehumidification.	

Operation of the built-in hygostat The following table shows the operation of the hygostat function and the display texts

Step	Button	Explanation
keep pressed		HYG SET RHXX% - flashes for 5 seconds. The dehumidifier then switches to the controlled operation with setpoint - when the setpoint is reached, the following appears on the display: INT HYG STOP
press (if it flashes)		Shortly press +/- in order to set the RH%-value in the mentioned 5 seconds. The new value will be stored after a further 5 seconds, when the last button is pressed.
hold down		HYG SET RHxxx% - flashes for 5 seconds. The dehumidifier switches to continuous operation.
1 x press (if it flashes)		HYG Off will flashes. The setting is stored after 5 seconds. The dehumidifier then switches to the continuous operation.

Operating Manual

Operation of an external hygrostat If an external hygrostat has been connected the unit automatically changes to operation with this hygrostat.
Changes of the preset value can be done only on the external hygrostat.
(If the preset value has been reached the display shows: **EXT HYG STOP**)

Hour meter: The built-in hour meter counts the total operating hours (can not be reset) as well as the hours until the next service which can be changed. The service hour meter is switched off when the unit is delivered.

Step	Button	Explanation
keep pressed		SERVICE xxxxh – shows the hours until next authorised service. This value is automatically stored after 5 seconds of flashing and the function is activated if not already done. When the time for the service interval has been reached the display shows: SERVICE .
		Shortly press +/- in order to preset a new service interval. The new value will be stored 5 seconds after pressing of the last button.
Hold down until it flashes		Service xxxxh - shows the hours until next authorised service.
1 x press (if it flashes)		SET SERVICE OFF - switches the servicetimer function off. The new value will be stored 5 seconds after pressing the last button.

Display texts The following table shows how to operate the operating informations.

Button	Explanation
	XX°C shows the ambient temperature
	Actual RH% shows the actual relative humidity
	XX kWh shows the total energy consumption Cannot be reset
	xxxxh shows the total operating hours Cannot be reset

Operating Manual

Text displays without main power The dehumidifier has a built-in battery which makes it possible to read the display also if not connected to a power supply. Without main power the following can be read:

Button	Explanation
	keep pressed
	and press once
	keep pressed
	and press once
	shows the total energy consumption in kWh
	shows the total operating hours of the dehumidifier

Exchange of the Data store-battery If the hour meter is separated from the power supply and can no longer be read then the cause is most probably an empty data store-battery.

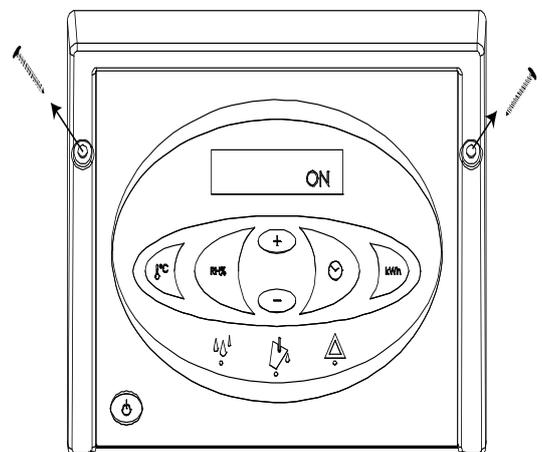
Procedure how to exchange the battery:

Measure

Warning:

Before exchanging the battery make sure that the dehumidifier is disconnected from the power supply.

1. Loosen screws on both sides of the touchscreen and lift the touchscreen carefully.

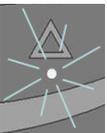


Operating Manual

2. Cut the cable strap which holds the battery.
Exchange battery and use a new maximum 2,5 mm wide cable strap.
Use only batteries of type Alkaline AAA.

Illustration of circuit board with battery in the wiring diagram on page 33.

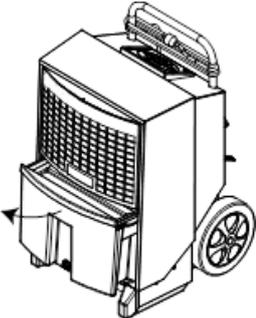
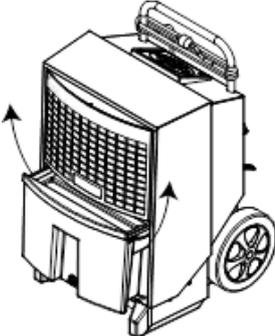
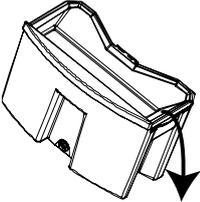
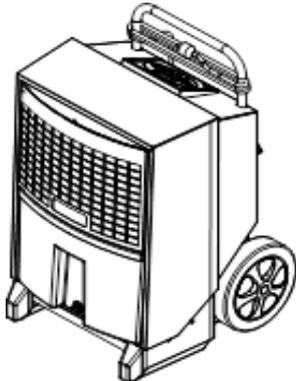
Fault informations An overview of possible faults which make a normal operation impossible.

Illustration	Fault information	Cause	Remedy
	Yellow light on middle LED with emptying symbol and FULL on display	The water tank is full or malfunction at the water pump (accessory)	see instructions for emptying below resp. check pump drainage
	Red light on right warning-LED HIGH Temp on display	Pressure or temperature in the high-pressure element too high	Check filter and dehumidifier for dirt in the airstream
	Red light on right warning-LED AMBIENT TEMP on display	Room temperature above normal operating sector	Place dehumidifier in specified temperature sector of 3°-35°C
Sensor Fail			
	Red light on right warning-LED SENSOR FAIL on display One of the internal sensors is defective	<ol style="list-style-type: none"> 1. EVAP FAIL Thermo sensor of evaporator defective 2. COND FAIL Thermo sensor of the condensor defective 3. ROOM FAIL Built-in roomtemperature sensor defective 	<p>Call for authorized service technician</p> <p>Call for authorized service technician</p> <p>Call for authorized service technician</p>
	Use +/- buttons in order to change between 3 possible faults		
	Red light on right warning-LED LP STOP on display	Leak in the cooling circuit	Call for authorized service technician

Operating Manual

Emptying the water tank It is not necessary to shut down the dehumidifier when emptying the water tank. The dehumidifier shuts down automatically when the water tank is removed.

Follow the procedure to empty the water tank:

Step	Measure	Illustration
1	Pull the handle in front of the water tank to remove the tank halfway out of the dehumidifier.	
2	Grab the side handles of the tank and lift clear off the dehumidifier.	
3	Tilt the tank sideways to pour the water out through the side opening.	
4	Put the tank back in place.	

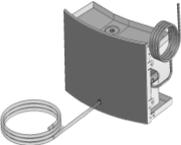
IMPORTANT !!!!!

Check that the water tank is correctly positioned.

Accessories

Introduction Further information about each separate accessory is available on request to Hans Wilms GmbH & Co. KG

List Below you will find a complete list with drawings, description and article numbers of accessories available for the units:

Accessory	Drawing	Description	KT-Type	Part.-No.
Hygrostat		When a hygrometer is connected the dehumidifier can operate continuously depending on the relative humidity in the room.		
		Hygrostat with 1,5 m cable and jack plug.	all	3102004
Tap and screwed hose connector		Ball tap and brass screwed hose connector and clamp for direct drain of condensate water.	KT 330 - KT 430 - KT 830 -	3103750
Condensate pump		Using a condensate pump, no emptying of the water tank is necessary.	KT 330 KT 430 - KT 830	3103756 3103755

Preventive Maintenance

Warnings Proper maintenance of the unit is necessary in order to achieve trouble-free operation.

Important! Always disconnect the power cable from the unit before doing any preventive maintenance.

This product contains a flammable refrigerant. Before working on the system, carry out security checks to reduce the risk of fire to a minimum.

- No open fire.
- No electrical ignition sources (open electrical contacts).
- No mechanical ignition sources (grinding processes).
- No combustible material near the workplace.
- Good ventilation of the area.
- Check the presence of refrigerants.

Other security measures

- Technicians and others working on site must be instructed in the nature of the work to be carried out.
- The area around the workstation must be separated.
- Place a "No Smoking" - sign around the separation.

If hot work must be carried out on the refrigerant equipment or other related parts, you have to have suitable fire extinguishing equipment at hand.
(Powder extinguisher A,B,C. CO2 extinguisher.)

Inspection by the operator: The inspection checklist has been developed for operators for preventive maintenance. No special skills are required for this service check. The checklist contains information:

- which components need to be inspected.
- on the frequency of inspection (**A**nnual, **M**onthly, **W**eekly, **D**aily).
- how the inspection is to be carried out.
- criteria for acceptance or non-acceptance.

Annual maintenance Return the dehumidifier to an authorised service centre at the end of the service interval or at least once a year.

or maintenance The device is carefully maintained and inspected there, for leaks in the cooling system and tested for electrical safety.

according to service interval Wilms also offers fixed service contacts where these devices can be repaired.

counter: For more details, please contact your nearest Wilms dealer.

Checklist User

What to do?	Frequency	Procedure	Criteria	√	D	X
User guide Is the user manual in the local language available?	D	Visual	Acceptance: User manual is available			
Labelling						
Type plate	Y	Visual Check that all labels are readable and in their original form without any damage or changes.	Acceptance: Labels are readable. Non-acceptance: The labels must be replaced if they are damaged or unreadable.			
Part.-No.	Y					
Inspection identification	Y					
Warnings	Y					
Electrical equipment: Power cord						
Plugs and cables	M	Visual. Check that plug and cables have no damage.	Acceptance: No damage or breakage of plugs and cables.			
PE plug (grounding)	M	Visual Check that plug on the cable to the power outlet fits. (Grounding).	Acceptance: Plug fits the mains socket. This is properly grounded.			
Electrical equipment: Internal wiring						
Pay attention to hot surfaces! Remove the front grille and check the cables inside the device.						
Assembly	Y	Visual Check that all connections are fastened and connected correctly to the clamps.	Acceptance: Cables plugged into clamps.			

Checklist User

What to do?	Frequency	Procedure	Criteria	√	D	X
Plugs and cables	Y	Visual Check that plug and cable have no damage or breaks.	Acceptance: No damage or breaks from plugs and cables.			
Does the operating hours meter work?	Y	Visual	Acceptance: Start dehumidifier, check that the hour meter works.			
Display		Visual	Acceptance: Lighting in the display; display is readable.			
Housing of the dehumidifier						
Cleaning	M	Visual	Acceptance: Clean, free of oil and dirt.			
Free passage through the ventilation openings.	M	Visual	Acceptance: The ventilation openings are free of dust and dirt.			
Deformation, cracks or breaks	Y	Visual , Measuring tape	Acceptance: Deformation < 500 mm deep. Openings between the plates < 5mm.			
Fixation and damage of the handle.	Y	Manual review	Acceptance: No loose or missing screws. No obvious damage to the handle. The handle can be easily pushed up and down. The handle cannot go up and pushed down when the knurled screws are tightened.			
Seals	Y	Visual	Acceptance: Seals are complete and have no cracks.			
Visual inspection of the wheels.	Y	Visual	Acceptance: The wheels run free - without obstacle. No obvious damage to the treads.			
Front and rear filter grid. (Function and fastening)	Y	Visual	Acceptance: The filter is mounted. The blow-off grid is mounted and fixed with 4 screws.			

Checklist User

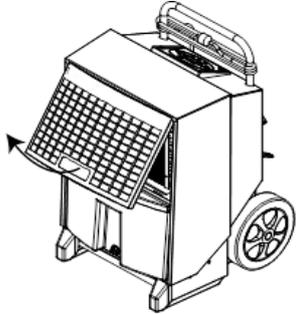
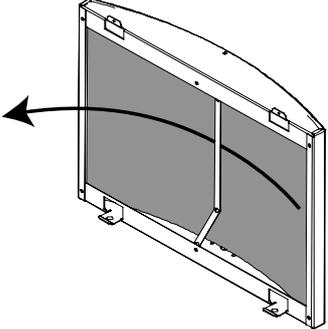
What to do?	Frequency	Procedure	Criteria	✓	D	X
Water drainage						
Is the water tank okay?	Y	Fill with water and check that no water runs out of the container.	Acceptance: No leaks			
Does the float work correctly?	Y	The water tank is removed during operation. The dehumidifier must switch off.	Acceptance: The dehumidifier stops operating after 10 sec. Non-acceptance: The dehumidifier does not stop and continues to run.			
Is the drain nozzle free from the drip tray?	Y	Fill with water and check that no water remains in the drip tray.	Acceptance: Free passage in the drain nipple is given.			
Control box: Start/Stop	M	To start the dehumidifier, press and to turn off press again.	Acceptance for starting: The dehumidifier starts after 2 sec. Acceptance for switching off: The dehumidifier switches off after 2 sec.			
Cooling circuit						
Is the insulation okay?	Y	Visual	Acceptance: The insulation is complete and has no holes or cracks.			
Leaks on the pipes	Y	Are the pipes undamaged and without signs of corrosion? Accumulates oil at the bottom of the compressor? Are there other signs of leaks on the compressor or in the cooling circuit?	Acceptance: Pipes are undamaged, without corrosion or dents. No oil accumulates at the bottom of the compressor.			
Does the cooling circuit work?	Y	Start the dehumidifier and check that the surfaces get cold.	Acceptance: The surfaces become cold.			

Checklist User

What to do ?	Frequency	Procedure	Criteria	√	D	X
Are the heating-/cooling surfaces clean?	Y	Remove air filter and check visually heating-/cooling surfaces	Clean dirty surfaces with a soft brush.			
Are the slats without damages?	Y	Remove air filter and check visually.	Bent slats are straightened.			
Ventilation						
Are the fans clean?	Y	Visual	Acceptance: Clean, free of oil and dirt.			
Does the fan run freely - without obstacles?	Y	Visual	Acceptance: The fan runs freely - without obstacles, when turned by hand.			
Are the filters clean and without damages?	Y	Visual	Acceptance: Clean, free of oil and dirt.			

Preventive Maintenance

Monthly inspection: Proceed as follows:

Step	Measure
1	Open the front grille by tilting it outwards.
	
2	Remove the filter, either rinse it with lukewarm soapy water or vacuum-clean it if the filter is only a little dirty.
	Change the filter if it is very dirty, see chapter Spare parts.
	
3	Clean the water tank.

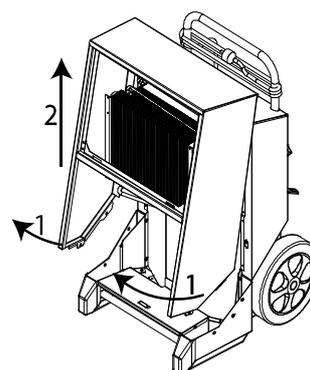
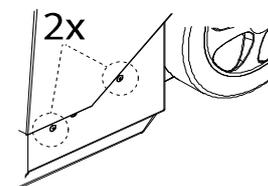
Preventive Maintenance

Monthly Inspection

Step	Measure
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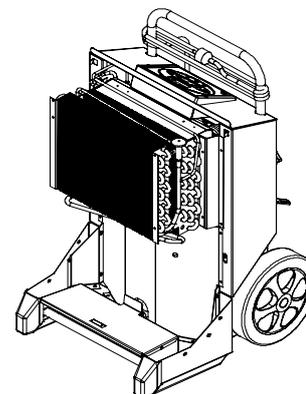
- 4 Remove the two screws in each side and tilt the cover outwards about 30°.

Remove the cover.



- 5 Clean the evaporator coil by brushing with a soft brush, a vacuum-cleaner or with compressed air.

Mount the cover and put the water tank back in place.



- 6 During the monthly maintenance do **NOT** reset the service interval counter.

Annual maintenance Return the dehumidifier to an authorised service centre at the end of the service interval or at least once a year.

or

maintenance according to service interval counter: The device is carefully maintained and inspected there, for leaks in the cooling system and tested for electrical safety.

Wilms also offers fixed service contacts.

For more details, please contact the nearest Wilms dealer.

Fault finding and solving

Use this table to identify and remedy a problem or fault:

Problem	Cause	Action
<ul style="list-style-type: none"> ▪ The unit does not start ▪ Display not switched on 	No power input	<p>Check that the power cable is correctly connected to power source and unit</p> <p>If the power cable is connected, check the branch fuse</p>
<ul style="list-style-type: none"> ▪ Unit does not work ▪ Green control lamp does not illuminate ▪ HYG STOP shown on the display 	Hygrostat has sensed a relative humidity which is below the preset value and has shut off the unit to save energy	<p>Reduce preset value of the hygrostat or change to manual operation</p> <p>Refer the chapter about use of built-in hygrostat on page 9</p>
<ul style="list-style-type: none"> ▪ Yellow control lamp illuminates Display shows FULL 	The water tank is full or pump (accessory) blocks	Empty the water tank or eliminate pump blockade
<ul style="list-style-type: none"> ▪ Red control lamp illuminates 	Fault which results in operation interruption	Refer table of manual on page 12 about fault reports
<ul style="list-style-type: none"> ▪ Dehumidifier operates ▪ Green control lamp illuminates ▪ SERVICE flashes in display 	Time for service interval is run off	Maintain the dehumidifier as described in the chapter about the service interval counter
<ul style="list-style-type: none"> ▪ Dehumidifier operates ▪ When RH% is activated, the display shows SENSOR FAIL 	RH%-Sensor defective	Replace RH%-Sensor
<ul style="list-style-type: none"> ▪ kW/h and operating hour are not on display without main power supply 	Data-store-battery empty	Exchange battery refer page 11

Fault finding and solving

Note: If the unit is not working correctly, shut it down immediately.

Wait one minute before starting to locate the fault as the electronic equipment may have switched off the dehumidifier for safety reasons.

Further help: Contact a dealer if the dehumidifier does not start again. This is also applicable when the dehumidifier is operating without extracting water which is probably a defect in the cooling circuit. Contact a service technician to remedy the defect.

Technical data

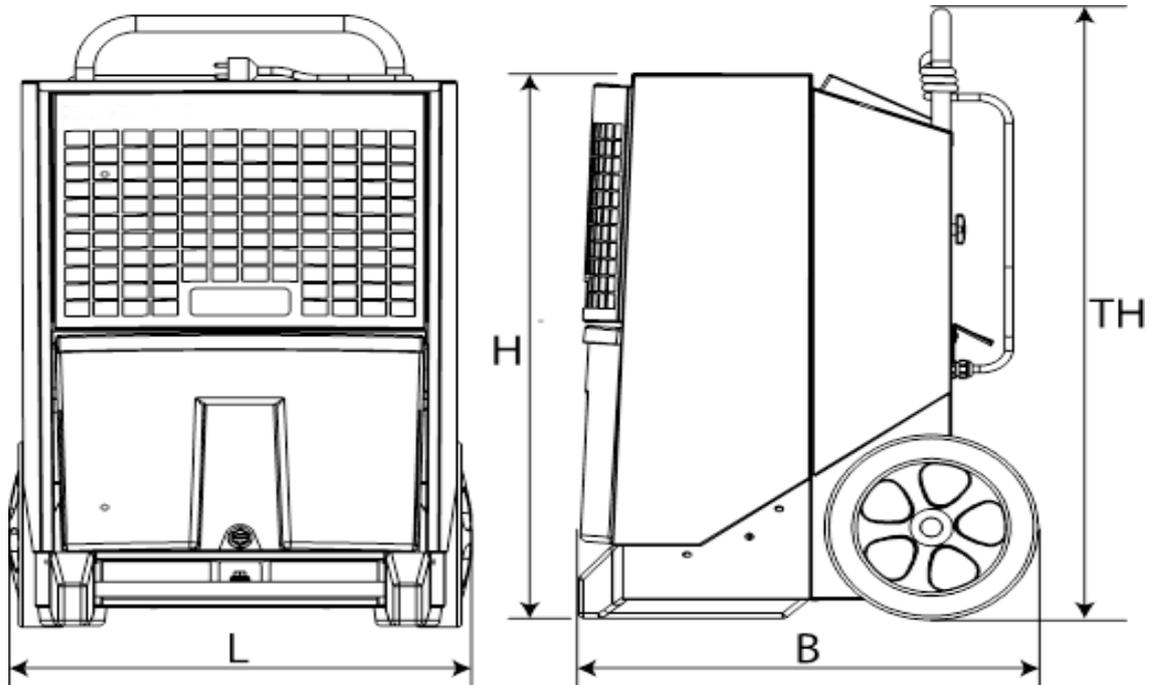
General data: The following table provides general technical data.

Data	Norm	KT 330	KT 430	KT 830
Operating range - humidity	%RH	40-100		
%RH-hysteresis	%RH	4		
Operating range-Temperatur	°C	3-35		
Power supply	V/Hz	230+PE/50		
Max. amperage	A	3,6	4,1	5,6
Max. input	kW	0,8	0,9	1,3
Air output	m ³ /h	300	400	800
Refrigerant	-	R454C	R454C	R454C
Refrigerant charge	kg	0,410	0,450	0,650
Refrigerating capacity	kW	1,5	2,0	3,0
Max. system pressure	bar	26		
Capacity of water tank	l	7,1	13,8	13,8
Dehumidifying capacity at 20°C 60% RH	l/24h	15,2	18,4	36
at 27°C 80% RH		28,8	38	60
at 35°C 80% RH		36	50	75,6
Noise level in 1 m Distance	DB (A)	56	59	62
Weight	KG	30,5	42	43,5
Safety class	IP	x 4		
Filter	PPI	15		
kW/h-display accuracy	%	+ / - 5%		
GWP factor		146	146	146

Hermetic system. Contains fluorinated greenhouse gases permitted by the Kyoto Protocol.

Measurements:

Illustration



	KT 330	KT 430	KT 830
L	412 mm	530 mm	535 mm
W	510 mm	540 mm	560 mm
H	650 mm	743 mm	820 mm
TH	740 mm	820 mm	900 mm

Disposal

The device is designed for long-term operation. If it is to be disposed off, this must be done in an environmentally friendly manner in accordance with all relevant legal regulations.

Refrigerant This product contains flammable refrigerant.
Before disposal, empty the refrigerant using the following procedure:

Handling:

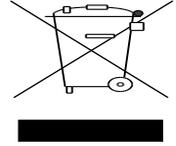
1. Disconnect the device electrically from the mains.
2. Before starting work, ensure that:
 - if necessary, mechanical auxiliary devices for the handling of refrigerant cylinders are available.
 - all personal protective equipment is available and used correctly.
 - the recovery process is continuously monitored by a competent person.
 - recovery equipment and cylinders comply with the appropriate standard.
3. Use only appropriate refrigerant recovery cylinders and set sure that they are on a scale before recovery takes place.
 - Do not mix refrigerants in recovery units and specially not in the cylinders.
4. Start the recovery machine and operate it according to the instructions of the manufacturer.
 - Do not overfill cylinders. (No more than 80 % of the maximum possible filling quantity)
 - Do not exceed the maximum working pressure of the cylinder, even temporarily.
5. When the cylinders are filled correctly and the process is complete, attach a sticker indicating that the system:
 - is decommissioned.
 - no longer contains a refrigerant.
 - make sure that the equipment is provided with stickers indicating that the equipment contains a flammable refrigerant.

The sticker must be dated and signed by the responsible technician.
6. Make sure that the cylinders and equipment are immediately removed from the site and that all shut-off valves on the equipment are closed.
7. Recovered refrigerant must be returned to the refrigerant supplier.
 - Do not pour recovered refrigerant into another refrigeration system unless it has been cleaned and checked.

**Batteries/
Electronics**

Electrical and electronic devices and their batteries contain substances, components and substances that may harm human health and the environment, if the waste is not disposed off properly.

Electrical and electronic equipment and batteries are equipped with a crossed garbage can. This means that electrical and electronic devices and batteries are not combined with household waste, but must be collected separately.



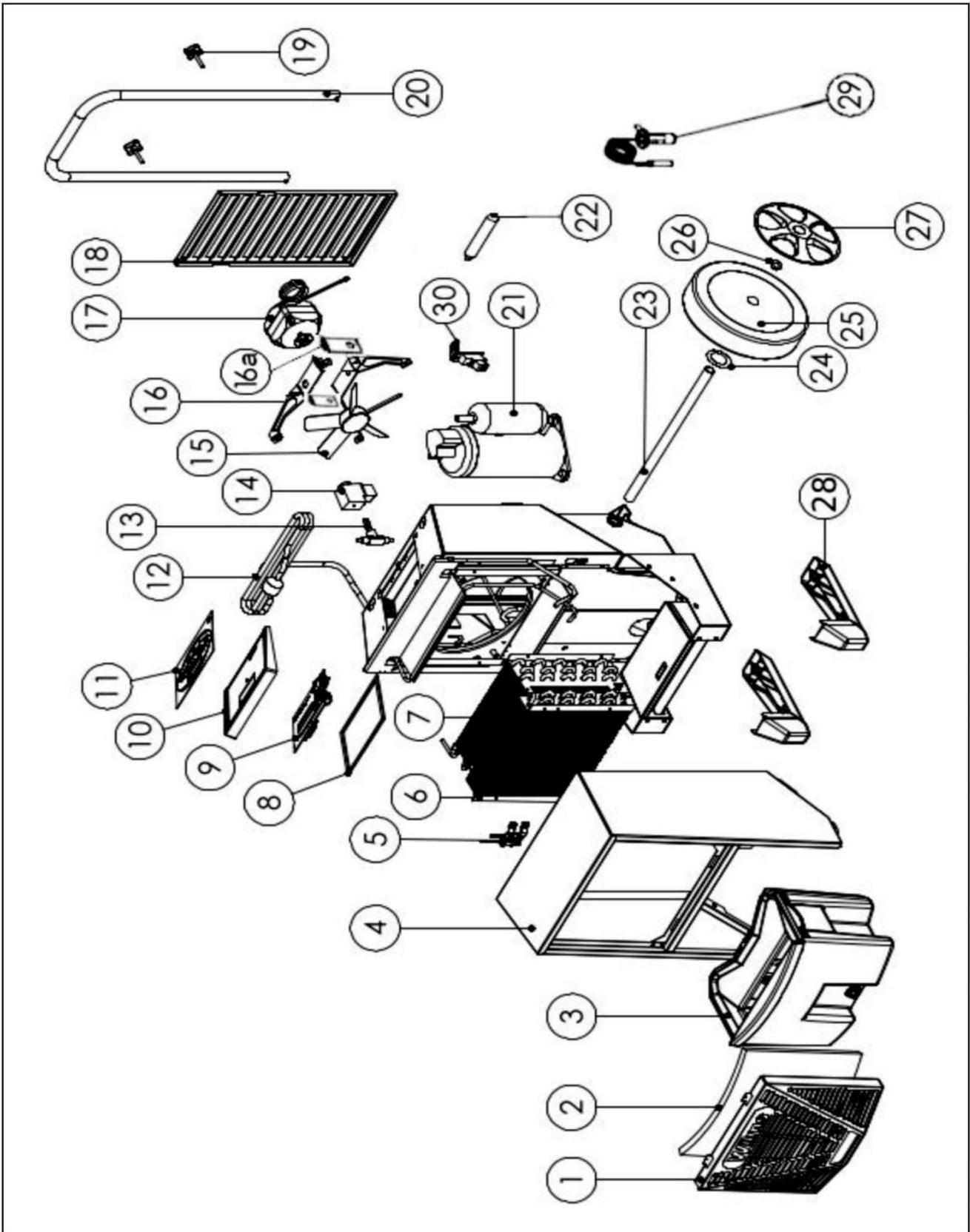
Some batteries are also with the chemical signs Hg (mercury), Cd (cadmium) or Pb (lead). These are particularly harmful substances. Therefore, it is very important that such batteries are collected on an approved collection point. In this way, you help to ensure that the batteries are recycled in accordance with legal regulations and do not unnecessarily harm the environment.

This product has a built-in data-store battery. If your local authorities have a collection point or recycling center where electrical and electronic equipment and batteries are accepted, dispose off the products and its battery there. For more details, contact your local authorities.

Spare Part List KT 330

Pos.	Part No.:	Description	Each
1	3103806	Guard including filter	1
2	3103807	Filter	1
3	3103826	Water tank	1
4	3103825	Front cover - complete	1
5	3103860	Humidity sensor digital	1
6	3103875	Evaporator	1
7	3103876	Condenser	1
8	3103830	Gasket for switch board cover	1
9	3103878	Control	1
10	3103861	Top for electric box	1
11	3103862	Control panel	1
12	3110224	Cable 3,5 m	1
13	3103829	Solenoid valve	1
14	3103815	Coil for solenoid valve	1
15	3102018	Fan blade 230 mm	1
16	3103888	Fan bracket	2
16 a	3103887	Bracket	2
17	3103518	Fan motor	1
18	3103819	Guard	1
19	3103866	Screw M 6 x 35	2
20	3103816	Transport rail	1
21	3103865	Compressor	1
22	3103863	Dry filter	1
23	3103823	Axle	1
24	3103870	Washer	2
25	3103867	Wheel	2
26	3103868	Lock washer	2
27	3103869	Wheel cover	2
28	3103824	Foot	2
29	3103864	Thermostatic valve	1
30	3110220	Bushing	1
not shown	3103827	Plug - complete	1
not shown	3103808	Water stop sensor	1
not shown	3104106	Float	1
not shown	3102016	Hygrostat connector	1
not shown	3103167	Dampener sensor 2600 mm	3
not shown	3103885	Bracket for humidity sensor	1
not shown	3103877	Capacitor	1
not shown	3102039	Schrader valve	1

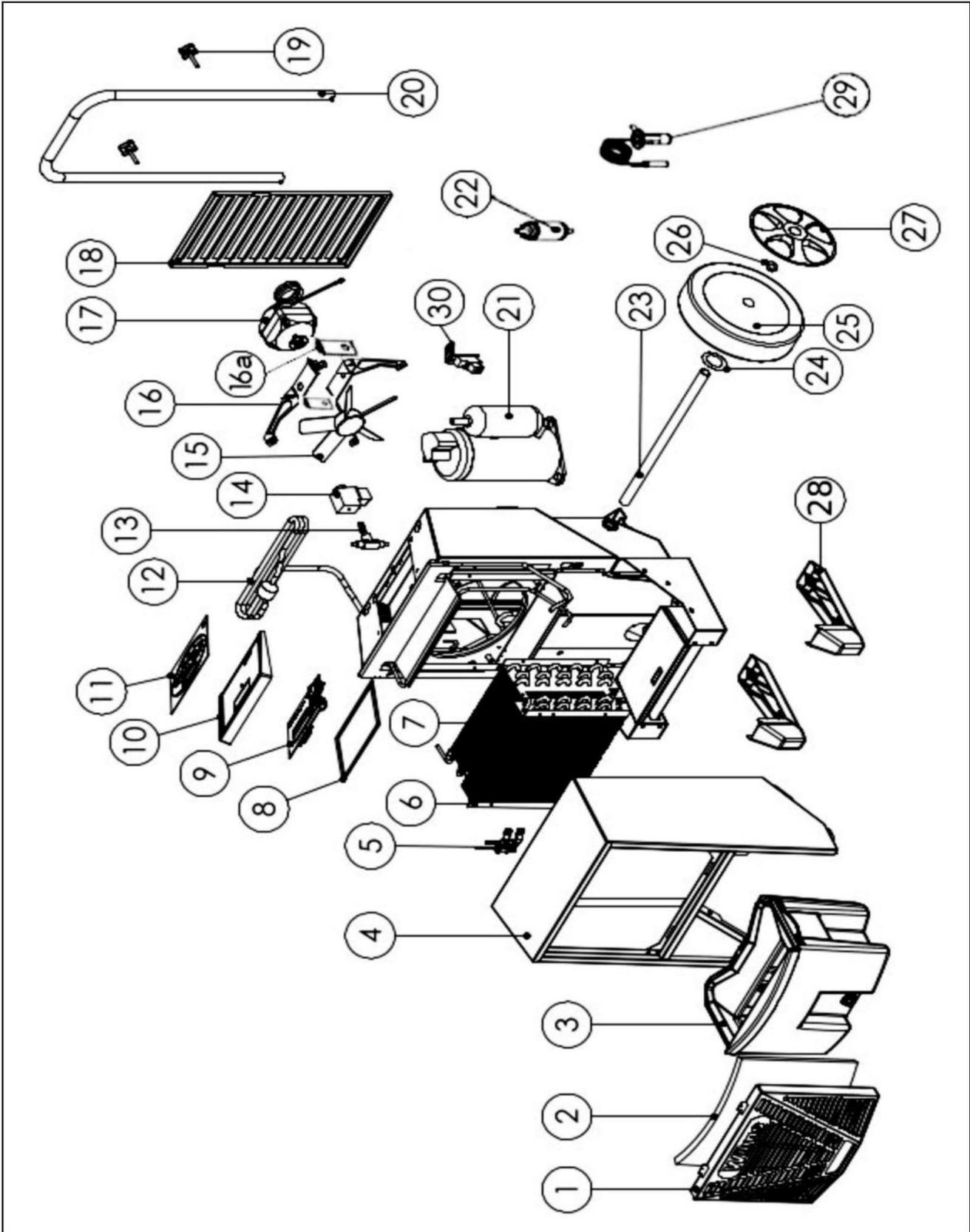
Exploded View KT 330



Spare Part List KT 430

Pos.	Part No.:	Description	Each
1	3104201	Guard including filter	1
2	3104202	Filter	1
3	3104210	Water tank - complete	1
4	3104209	Front cover - complete	1
5	3103860	Humidity sensor digital	1
6	3103881	Evaporator	1
7	3103882	Condenser	1
8	3103830	Gasket for switch board cover	1
9	3103878	Control	1
10	3103861	Top for electric box	1
11	3103862	Control panel	1
12	3110224	Cable 3,5 m	1
13	3103829	Solenoid valve	1
14	3103815	Coil for solenoid valve	1
15	3102018	Fan blade 230 mm	1
16	3103888	Fan bracket	2
16 a	3103887	Bracket	2
17	3108201	Fan motor	1
18	3104204	Blow-Off grid	1
19	3103866	Screw M 6 x 35	2
20	3104203	Transport rail	1
21	3103880	Compressor	1
22	3103884	Dry filter	1
23	3104207	Axle	1
24	3103870	Washer	2
25	3103867	Wheel	2
26	3103868	Lock washer	2
27	3103869	Wheel cover	2
28	3104208	Foot	2
29	3103883	Thermostatic valve	1
30	3110220	Bushing	1
not shown	3103827	Plug - complete	1
not shown	3103808	Water stop sensor	1
not shown	3104106	Float	1
not shown	3102016	Hygrostat connector	1
not shown	3103167	Dampener sensor 2600 mm	3
not shown	3103885	Bracket for humidity sensor	1
not shown	3103886	Capacitor	1
not shown	3102039	Schrader valve	1

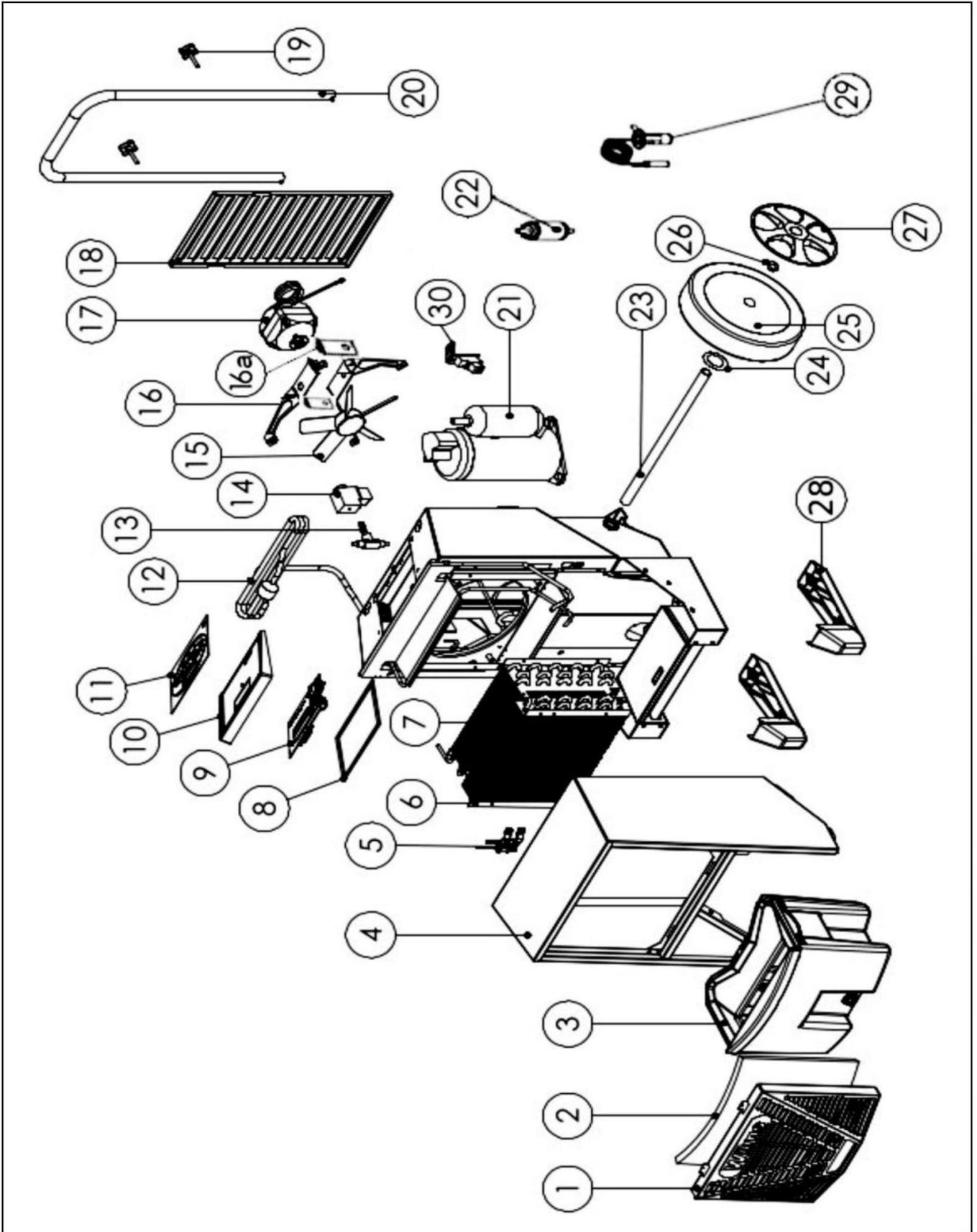
Exploded View KT 430



Spare Parts List KT 830

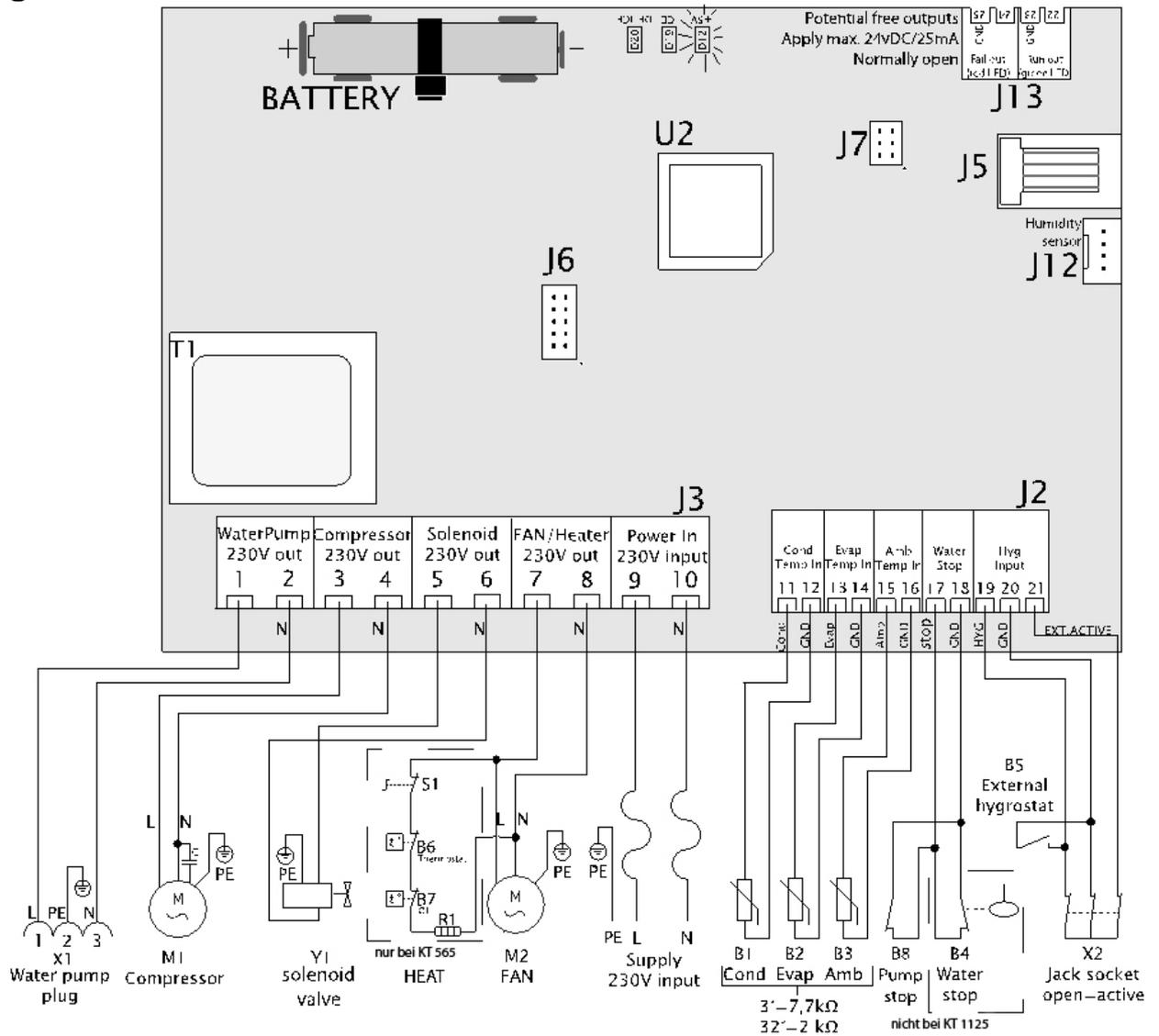
Pos.	Part No.:	Description	Each
1	3108204	Guard including filter	1
2	3108205	Filter	1
3	3104210	Water tank - complete	1
4	3104209	Front cover - complete	1
5	3103860	Humidity sensor digital	1
6 + 7	3108218	Evaporator-Condenser	1
8	3103830	Gasket for switch board cover	1
9	3103878	Control	1
10	3103861	Top for electric box	1
11	3103862	Control panel	1
12	3110224	Cable 3,5 m	1
13	3103829	Solenoid valve	1
14	3103815	Coil for solenoid valve	1
15	3108203	Fan blade 300 mm	1
16	3108219	Fan bracket	2
16 a	3103887	Bracket	2
17	3108201	Fan motor	1
18	3108207	Exhaust grid	1
19	3103866	Screw M 6 x 35	2
20	3104203	Transport rail	1
21	3108215	Compressor	1
22	3103884	Dry filter	1
23	3104207	Axle	1
24	3103870	Washer	2
25	3103867	Wheel	2
26	3103868	Lock washer	2
27	3103869	Wheel cover	2
28	3104208	Foot	2
29	3108217	Thermostatic valve	1
30	3110220	Bushing	1
not shown	3103827	Plug - complete	1
not shown	3103808	Water stop sensor	1
not shown	3104106	Float	1
not shown	3102016	Hygrostat connector	1
not shown	3103167	Dampener sensor 2600 mm	3
not shown	3103885	Bracket for humidity sensor	1
not shown	3108216	Capacitor	1
not shown	3102039	Schrader valve	1

Exploded View KT 830



Wiring diagram

Diagram



Pos.	Description	Pos.	Description
B1	Temperature sensor for the condensator area	J6	not in use
B2	Temperature sensor for the evaporator area	J7	Manufactory settings
B3	Ambient temperature sensor	J12	Internal hygrostat
B4	Full water supply sensor	J13	Additional exit
B5	External hygrostat (optional)	M1	Compressor
B6	Thermostat (only KT580)	M2	Fan motor
B7	Overtemp.(only KT 580)	R1	Heating element (only KT 580)
B8	External pump alarm (optional)	S1	Heating element on/off only KT 580
D12	LED+5V DC control	T1	Transformer
D19	LED ice on evaporator	U2	CPU
D20	LED de-icing activated	X1	Plug for condensation pump
J12	Low voltage connections	X2	Bushing for external hygrostat
J13	230 V connections	Y1	Solenoid valve (pressure compensation)
J5	not in use		