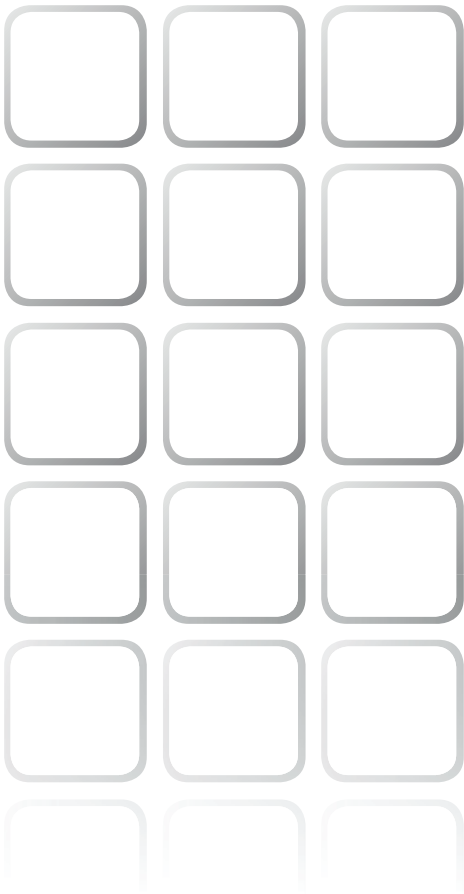


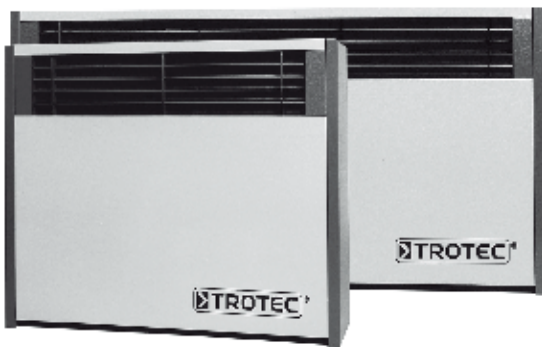


TROTEC®



DH 30/60 AX

EN *Operating Manual – Condenser dryer DH 30/60 AX*



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Table of contents

Notes regarding the operating manual 01
 Information about the device 02
 Safety 05
 Transport, assembly and preparation for start-up 06
 Operation 08
 Errors and faults 10
 Maintenance 11
 Disposal 19
 Declaration of conformity 19

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 illustrations in this operating manual feature device DH 30 AX by way of example. The represented operating steps and explanations, however, also apply to device DH 60 AX.

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

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Information about the device

Description of the device

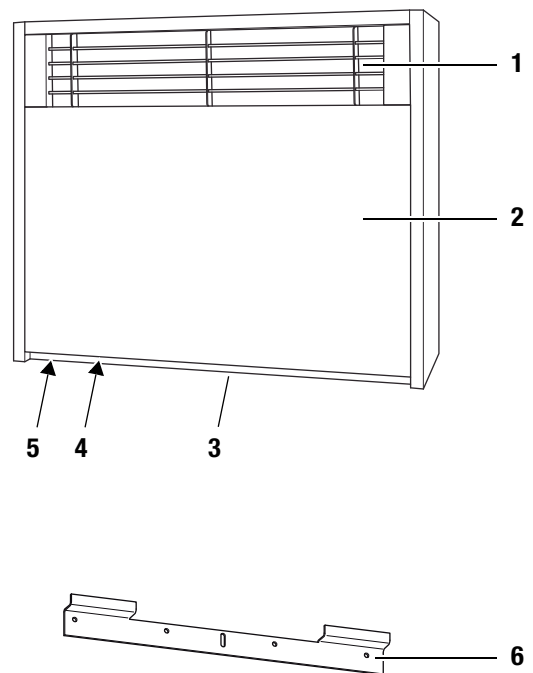
This device uses the principle of condensation to automatically dehumidify rooms.

The fan sucks damp room air through the air inlet (3), the evaporator and to 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, thus conditioned, mixes with the air in the room via the air outlet (1). 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. The condensate is discharged from the device via a pre-assembled condensation drain hose (4).

To set the desired humidity level, a hygrostat with control dial (5) is provided in the device's interior. This control dial can be easily accessed once the protective housing (2) has been removed.

The device can reduce the relative humidity of a room by up to approx. 30 %. Because of the heat radiation which is tied up in operation, the room temperature can rise by approx. 1-3 °C.

Device depiction



No.	Operating element
1	Air outlet
2	Protective housing
3	Air inlet
4	Hose connector for condensation drain hose (inside the device)
5	Control dial hygrostat (inside the device)
6	Wall holder

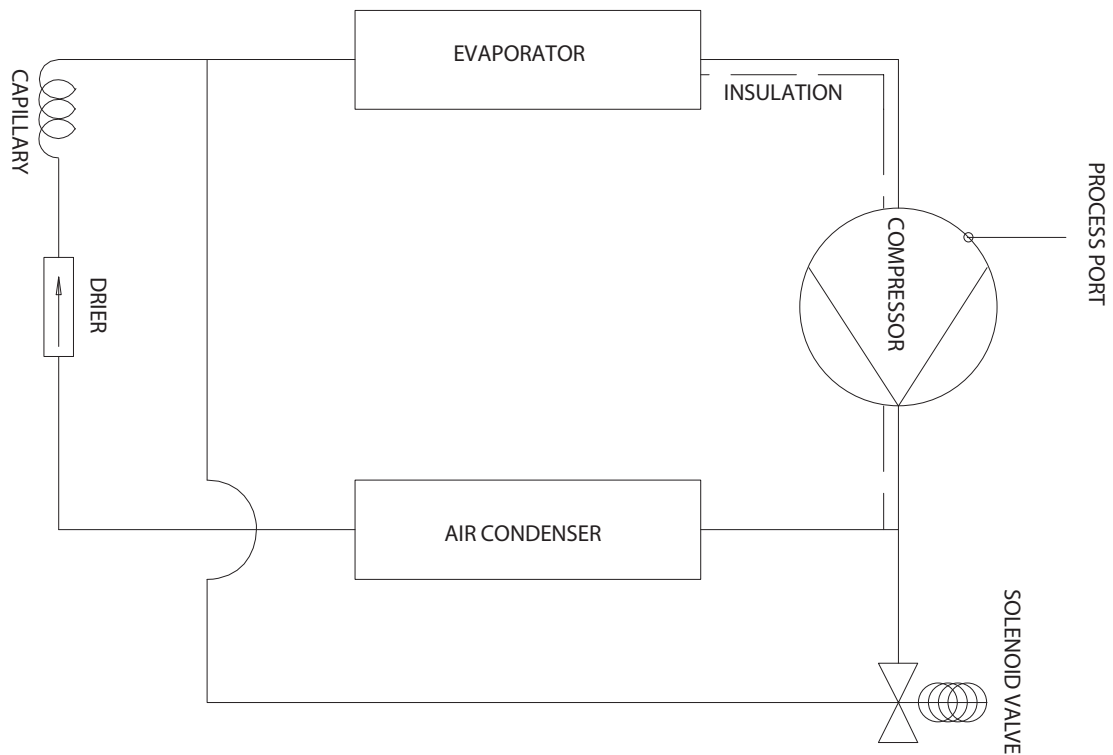
Scope of delivery

- Condenser dryer DH 30/60 AX
- Wall holder
- Condensation drain hose
- Operating manual
- Screws and universal dowels (size 6 mm)

Technical data

Parameter	Value	
Model	DH 30 AX	DH 60 AX
Dehumidifying capacity, max.	45 l / 24 h	90 l / 24 h
Operating temperature	0-40 °C	0-40 °C
Operating range for relative humidity	30-90 %	30-90 %
Air flow rate, max.	700 m ³ /h	1280 m ³ /h
Electric connection	230 V / 50 Hz	230 V / 50 Hz
Power input	750 W	1200 W
Fuse (home)	16 A	16 A
Cooling agent	R407c	R407c
Amount of cooling agent	0.5 kg	0.8 kg
Weight	40 kg	63 kg
Dimensions (HxDxW)	648 x 256 x 782 mm	648 x 256 x 1247 mm
Minimum distance from walls of other objects	A: Above: 50 cm B: Below: 50 cm C: Side: 50 cm D: Front: 50 cm	A: Above: 50 cm B: Below: 50 cm C: Side: 50 cm D: Front: 50 cm
Sound pressure level LpA (1 m; complies with DIN 45635-01-KL3)	52 dB(A)	54 dB(A)

Cooling 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, acid or salt.
- Do not operate the device in rooms which are pressurised with acetone, undiluted acids or solvents.
- Mount the device on the wall horizontally and sufficiently stable.
- 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 or limbs into the device.
- Do not cover or transport the device during operation.
- Do not sit on the device.
- Ensure that all electric cables and hoses outside of the device are protected from damage (e.g. from animals).
- Only use extensions to the connecting cable which are appropriate to the device power consumption, the length of its cable and its use. Avoid electrical overload.
- Only transport the device in an upright position with an emptied condensate pump and tray.
- Dispose of the collected condensation. Do not drink it. There is a risk of infection!
- The connection may only be performed by an electrically skilled person.

Intended use

Only use the device DH 30/60 AX as a stationary industrial dryer for drying and dehumidifying room air, while adhering to and following the technical data.

Intended use encapsulates:

- drying and dehumidifying:
 - production plants, underground rooms
 - store rooms, archives, laboratories
 - industrial processes and products
 - ship engine rooms
 - water processing facilities and pump stations
- maintaining the dryness of:
 - instruments, devices and files
 - electric control devices, boiler plants, turbines and pipe systems in power plants
 - moisture-sensitive loads etc.
- prevention of condensate formation in tranship zones or cooling houses

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 Safety chapter.



Maintenance tasks at the electrical equipment or the air-conditioning technology 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!



Danger!

A falling device can cause injuries! Always utilize the help of another person to transport and assemble the device. Never stand below the device when suspended in the air. Ensure adequate stability of the device's wall fixing.

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, assembly and preparation for start-up

Always utilize the help of another person to transport and assemble the device. To lift the device, use a forklift or an elevating truck as appropriate.

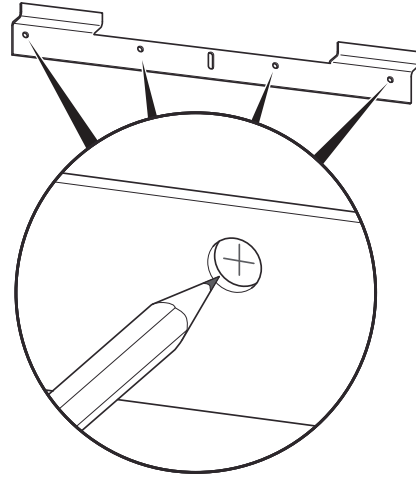
Observe the following instructions:

- When assembling the device, keep a sufficient distance to heat sources.
- When assembling the device, especially in wet areas, secure the device locally with an RCD (Residual Current protective Device) which complies with the appropriate regulations.
- Ensure that extension cords are completely unrolled.
- Ensure that power supply's voltage and current comply with the specifications on the device's nameplate.
- When assembling the device, observe the minimum distance from adjacent walls or other objects as described in the Technical Data chapter.

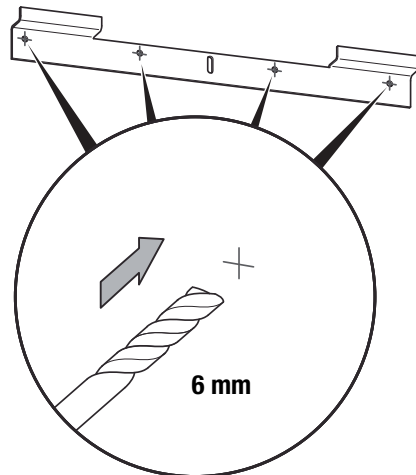
Assemble the device as follows: Check the condensation drain hose for proper fit and adjust the hygrostat to the desired humidity level, before you put the protective housing back on the device.

Only have an electrically skilled person connect the power cable!

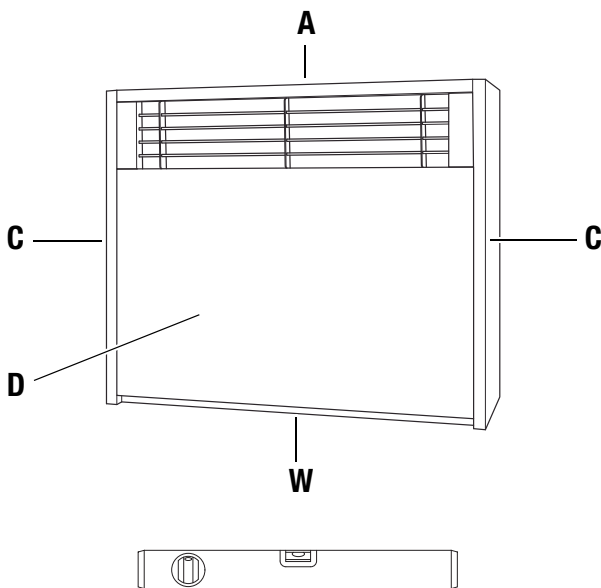
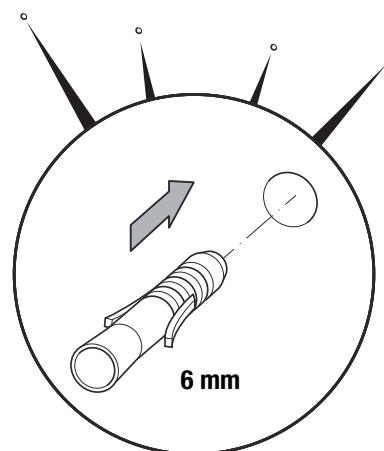
A.



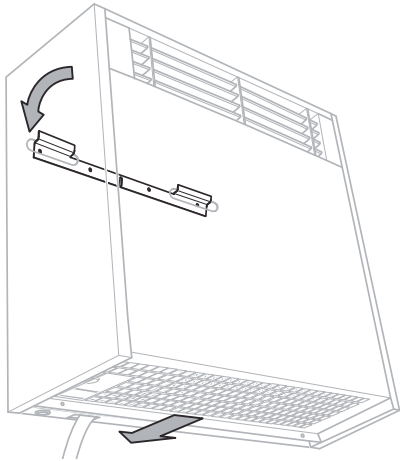
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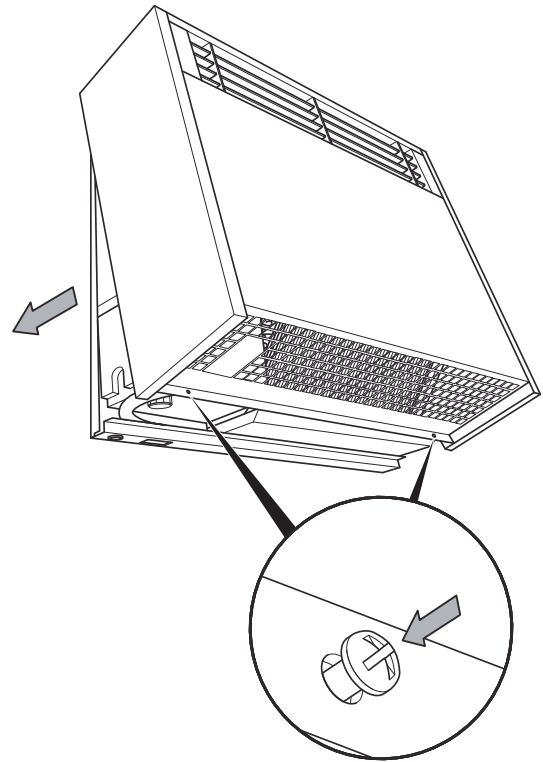
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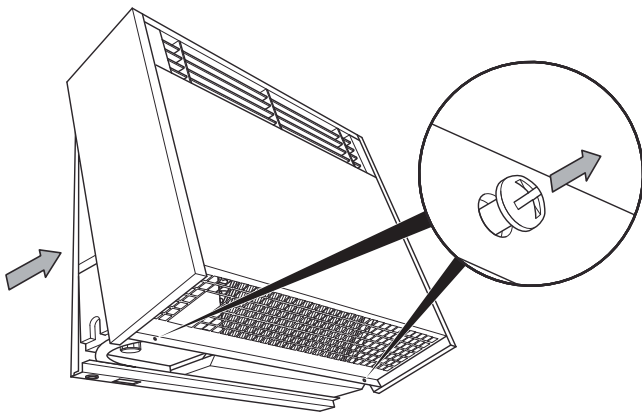
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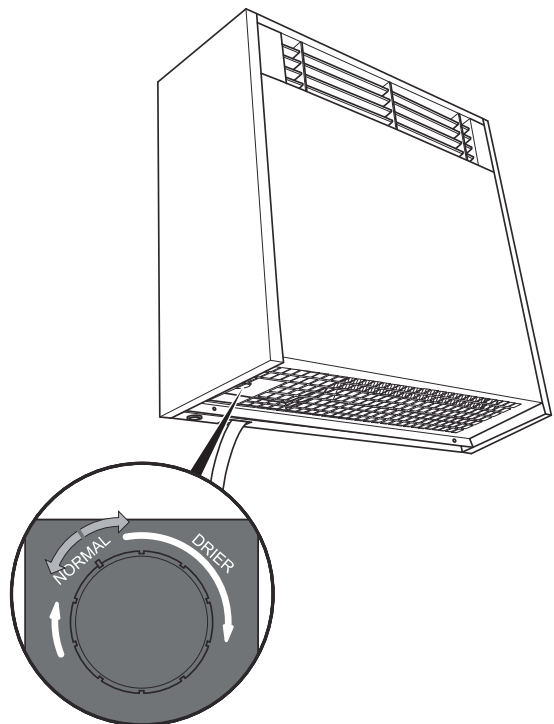
G.



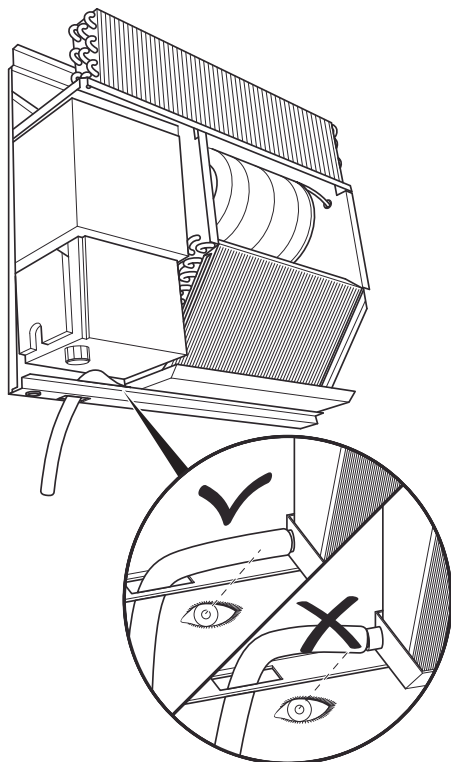
E.



H.



F.



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.
- So that the built in sensor can correctly detect the relative humidity, the fan continues to operate until the device is switched off.
- Avoid open doors and windows.

Notes regarding the dehumidification performance

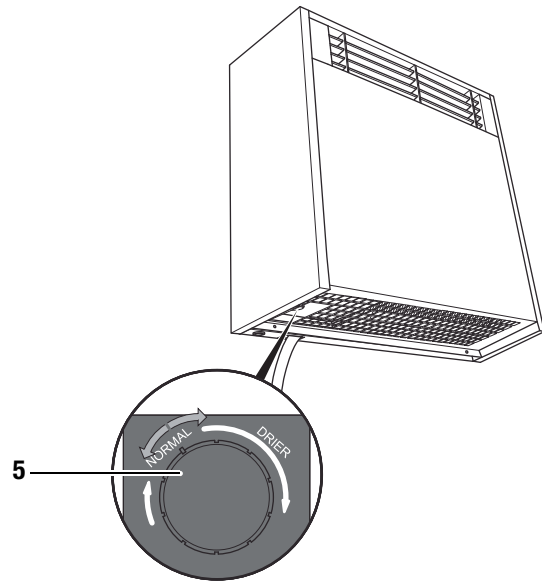
Dehumidification performance depends on:

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

The higher the room temperature and relative humidity, the higher the dehumidification performance.

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

Operating elements



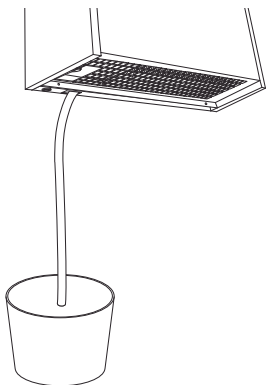
No.	Operating element
5	Control dial hygostat

Positioning the condensation drain hose

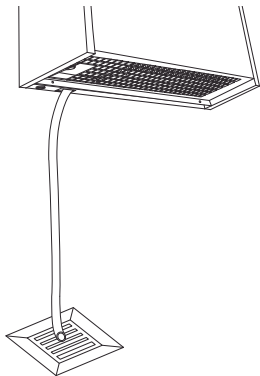
Note:

The condensation drain hose is already installed when the device is delivered.

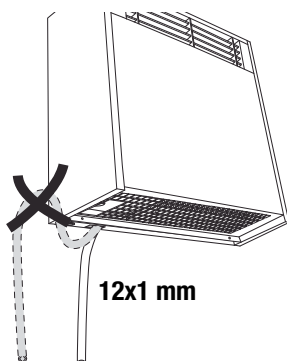
1. Ensure that the condensation drain hose is properly connected to the device and is free of damage.
2. Depending on use, position the end of the condensation drain hose as follows:
 - Position a sufficiently large container (at least 20 litres) beside the device and insert the hose end. Check the fill level of the container regularly.



- Position the end of the condensation drain hose above a water drain. For larger distances, a longer hose of the same type can also be used.



3. Ensure that the condensation drain hose always descends.



Switch device on

1. Ensure that the condensation drain hose has been laid and connected properly. Do not create tripping hazards.
2. Ensure that the condensation drain hose is not bent or jammed and that there are no objects on the condensation drain hose.
3. Ensure that the condensation can run off properly.
4. Only have an electrically skilled person connect the power cable!

Room humidity adjustment

Set the desired humidity level via the control dial (4) of the hygrostat.

Automatic defrost

If the room temperature is below 15 °C, the evaporator becomes covered in frost during dehumidification. The device then carries out an automatic defrost. The duration of the defrost can vary.

Shut down procedure

1. Only have an electrically skilled person disconnect the power cable!
2. Remove the condensation drain hose and any residual fluid from it.
3. Clean the device, and especially the air filter, according to chapter Maintenance.
4. 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 power cable for damages.
- Check the fuse (home).
- Check the preselected humidity level at the hygrostat's control dial. The humidity in the room must be above the selected range. Reduce that the selected relative humidity.
- 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 drain hose is positioned correctly.
- Check that the condensate pump functions properly. Check for abnormal vibrations and sounds. Remove external dirt.
- Check the room temperature. Check the device's permissible operating range complies with the technical data.
- Ensure that the relative humidity complies with the technical data.
- Check the preselected humidity level at the hygrostat's control dial. The humidity in the room must be above the selected range. Reduce that the selected relative humidity.
- Check the air filter is not dirty. If necessary, clean or replace the air filter.

The device is loud or vibrates; condensation leaks:

- Check, whether the device is mounted horizontally.

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 for dirt (see chapter Maintenance). If necessary, clean the interior of the device using compressed air.

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 the condensate pump, condensation tray and/or condenser dryer		X				
check air inlets and outlets for dirt and foreign objects and clean if necessary	X			X		
clean housing		X				X
visually check the inside of the device for dirt		X		X		
check air inlet grid and air filter for dirt and foreign objects and clean or replace if necessary	X		X			
replace air filter					X	
check for damages	X					
check attachment screws		X				X
carry out a test run						X

Maintenance and care log

Device type: Device number:

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

1. Date: 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 power cable with wet or damp hands.
2. Prior to any work, have an electrically skilled person disconnect the power cable!



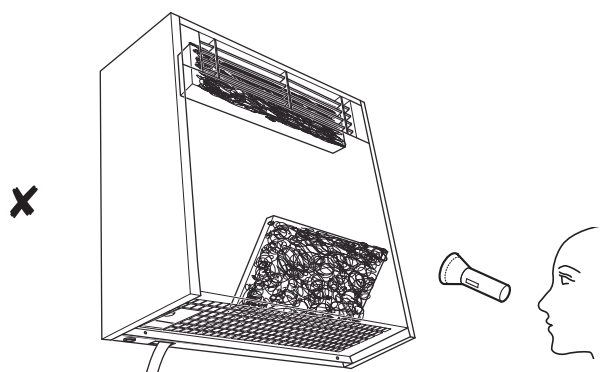
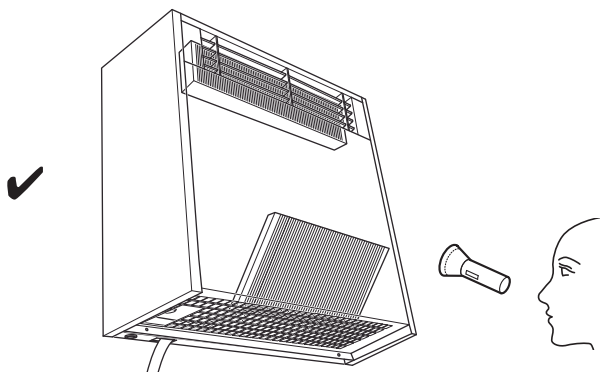
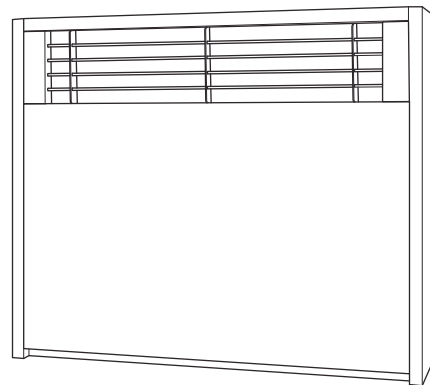
Maintenance tasks at the electrical equipment or the air-conditioning technology must only be carried out by specialist companies for cooling and air-conditioning or by TROTEC®.

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 can detect a thick layer of dust, proceed as follows:
 - Remove the protective housing.
 - Clean the device's interior with a lint-free, soft cloth.
 - Put the protective housing back on.
5. Put the air filter back in.

Cleaning the housing and air inlets

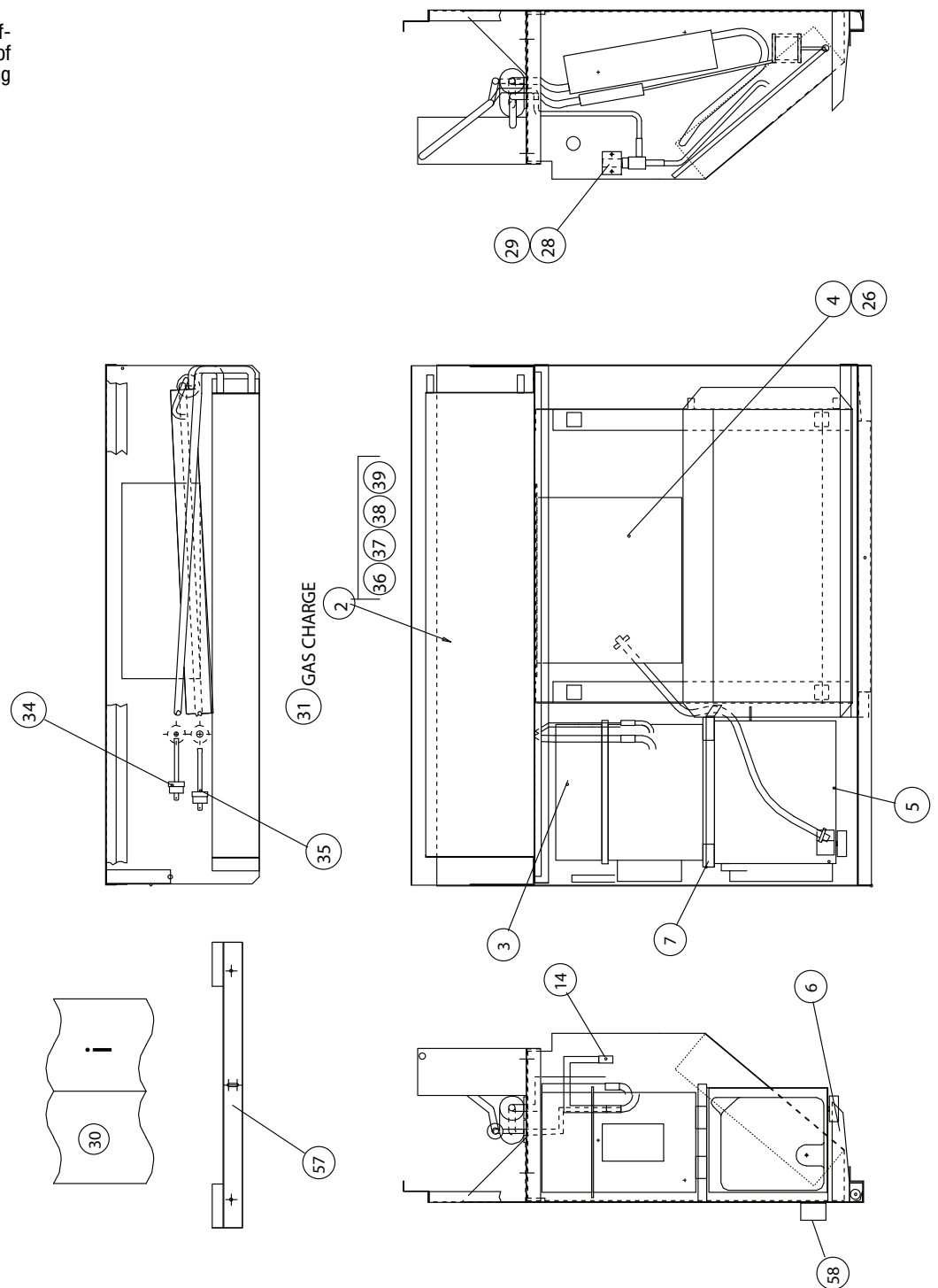
1. Use a soft, lint-free cloth for cleaning.
2. Dampen the cloth with clean water. Do not use sprays, solvents, alcohol-based or abrasive cleaners to dampen the cloth.



Overview of spare parts and spare parts list – DH 30 AX/XP

Note!

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

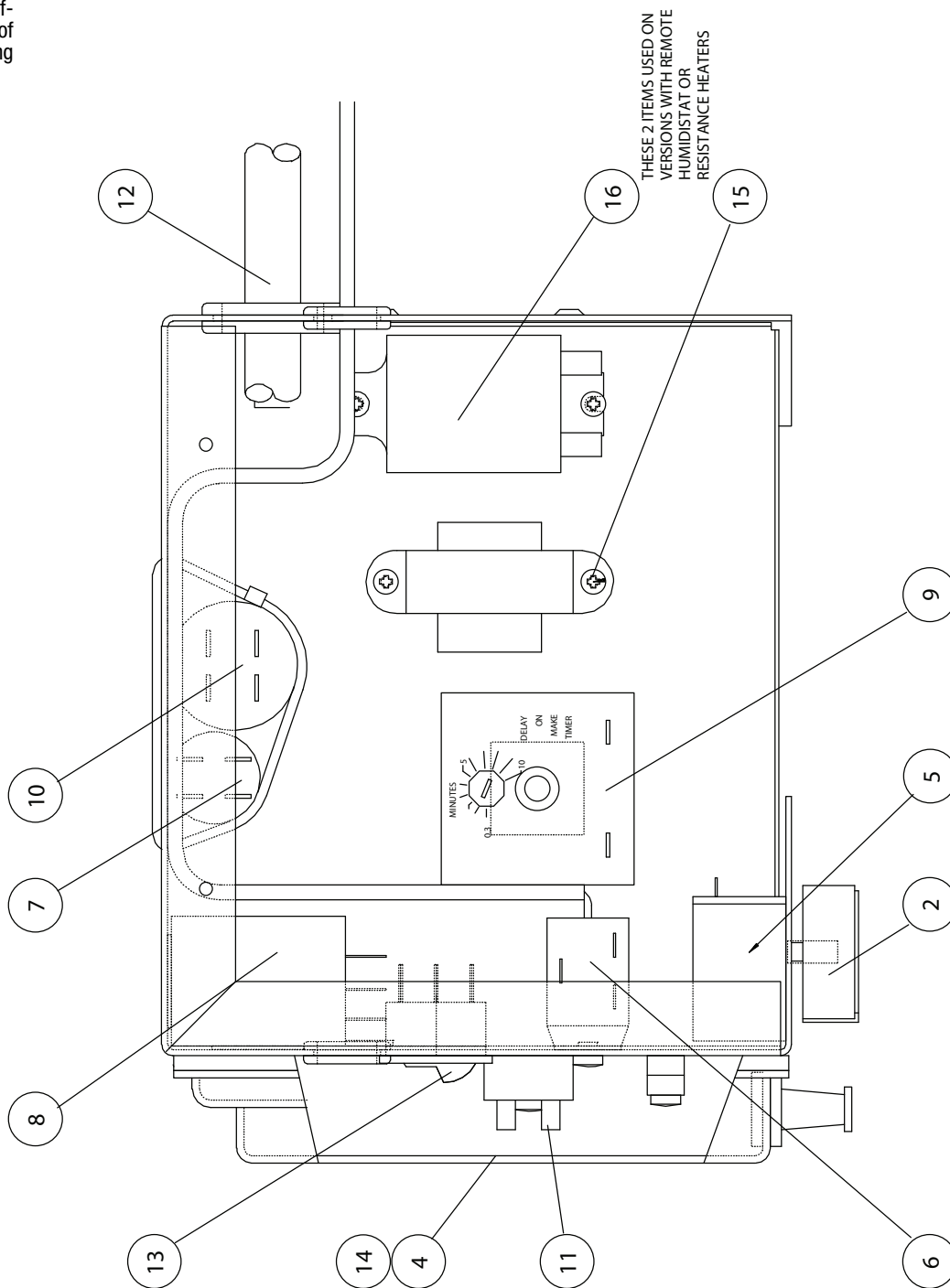


No.	Spare part	No.	Spare part
2	evaporator / condenser assembly	31	refrigerant (R407c)
3	compressor assembly (AE 5470 C, 1 PH, N, 230 V, 50 Hz)	34	switch high pressure (ACB-DB64)
4	fan centrifugal (1050 rpm)	35	LP switch (LCB-DA15)
5	electrical box assembly	36	evaporator
6	drip tray (for Murprotec versions fit)	37	condenser
7	drip tray (compressor)	38	drier
14	Schrader valve	39	capillary tube
26	U type nut	57	wall bracket
28	solenoid valve	58	anti vibration buffer (optional: wier kit)
29	solenoid coil (240 V)		
30	user manual		

Overview of spare parts and spare parts list – DH 30 AX – electrical equipment

Note!

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

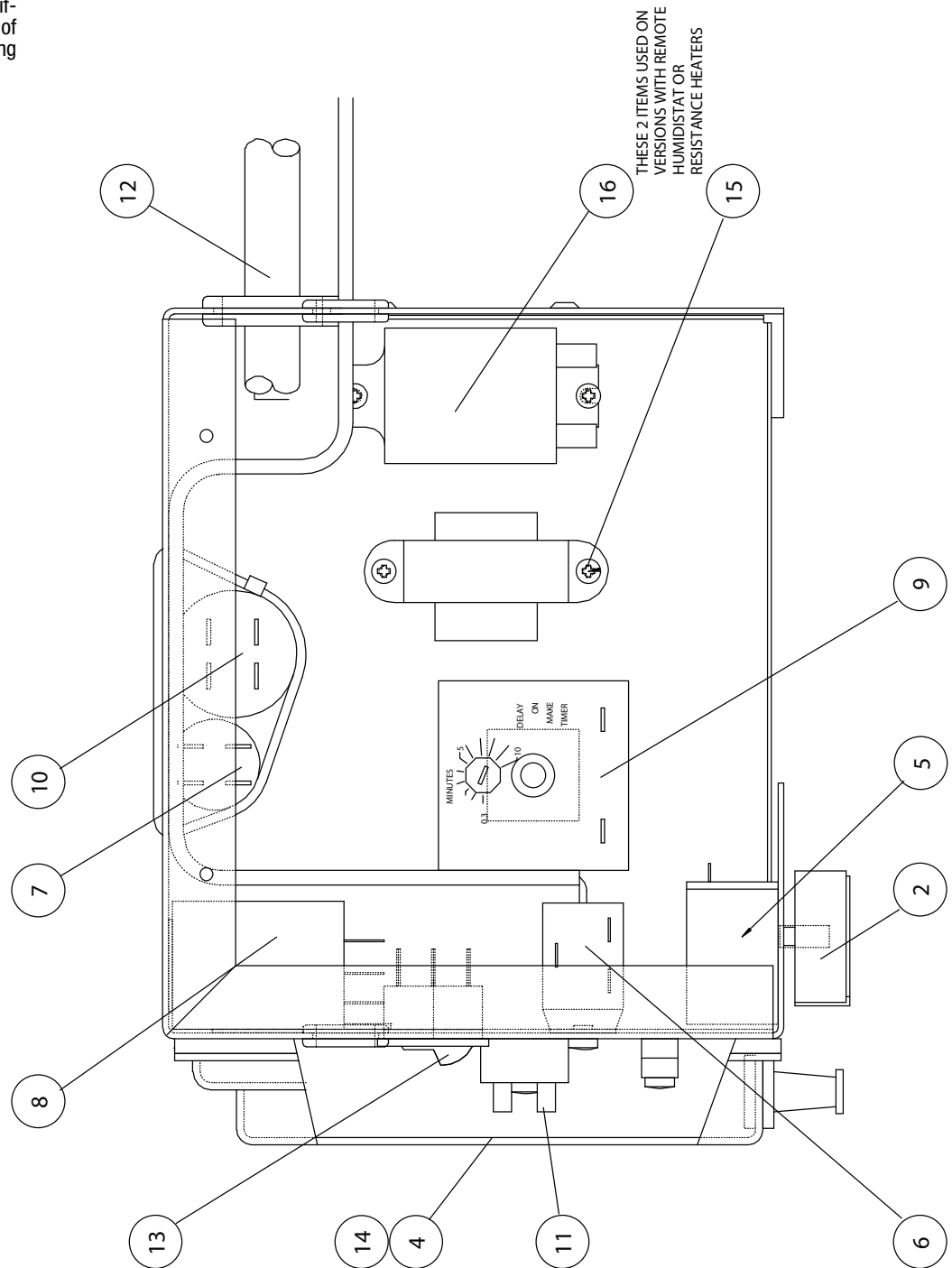


No.	Spare part	No.	Spare part
2	control knob	10	run cap (15 µF)
4	gasket	11	5-way terminal block (15 A)
5	humidistat	12	loom assembly
6	defrost stat	13	rocker switch
7	fan cap (2 µF)	14	cover
8	relay (c/o 2-pole 25 A 230 V AC coil)	15	transformer (12 V)
9	timer	16	relay (25 A c/o 12 V)

Overview of spare parts and spare parts list – DH 30 AXP – electrical equipment

Note!

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

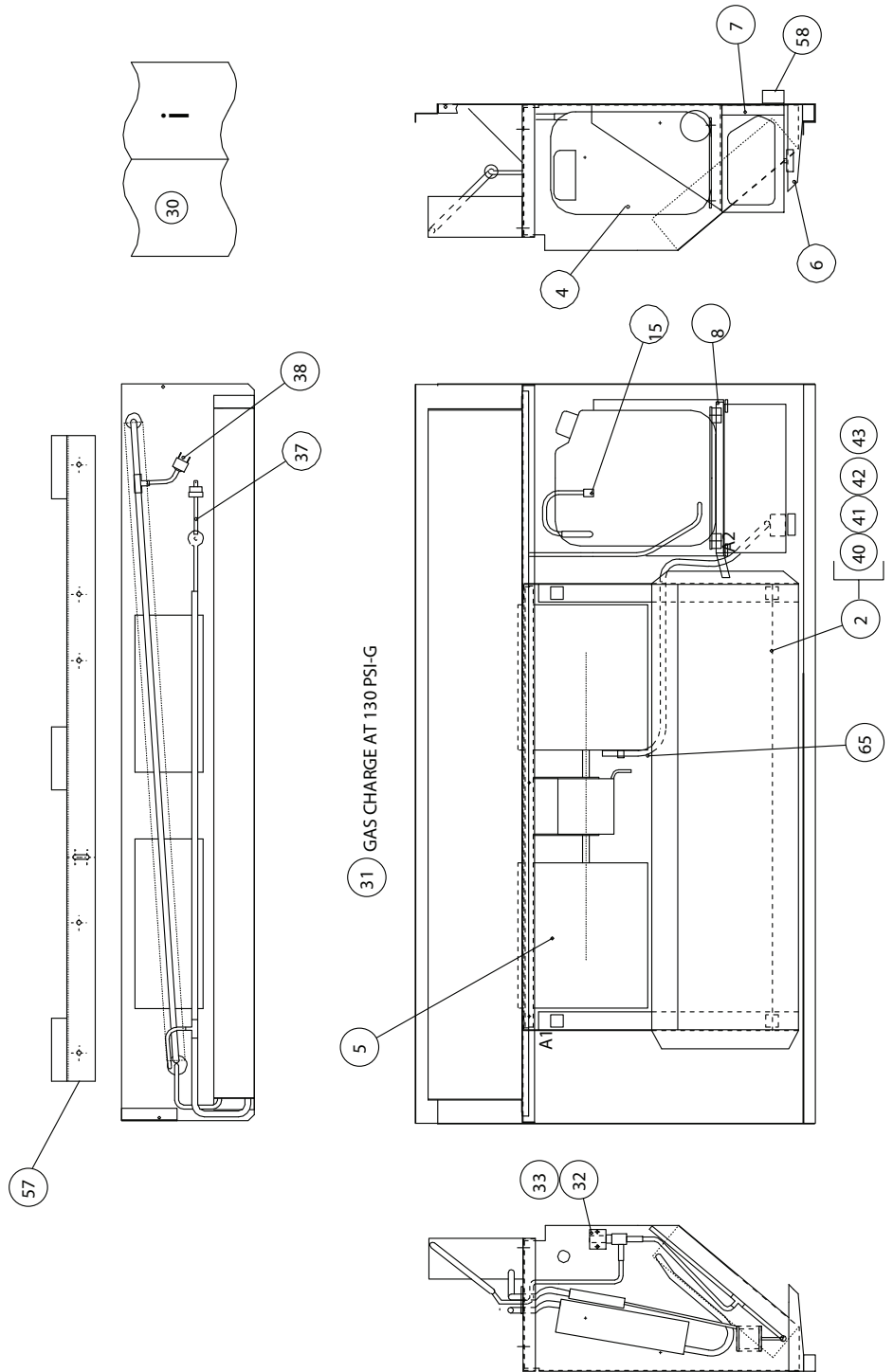


No.	Spare part	No.	Spare part
2	control knob	10	run cap (15 µF)
4	gasket	11	6-way terminal block
5	humidistat	12	loom assembly
6	timer defrost stat	13	rocker switch
7	fan cap (2 µF)	14	cover
8	relay (c/o 2-pole 25 A 230 V AC coil)	15	transformer (12 V)
9	timer	16	relay (25 A c/o 12 V)

Overview of spare parts and spare parts list – DH 60 AX

Note!

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

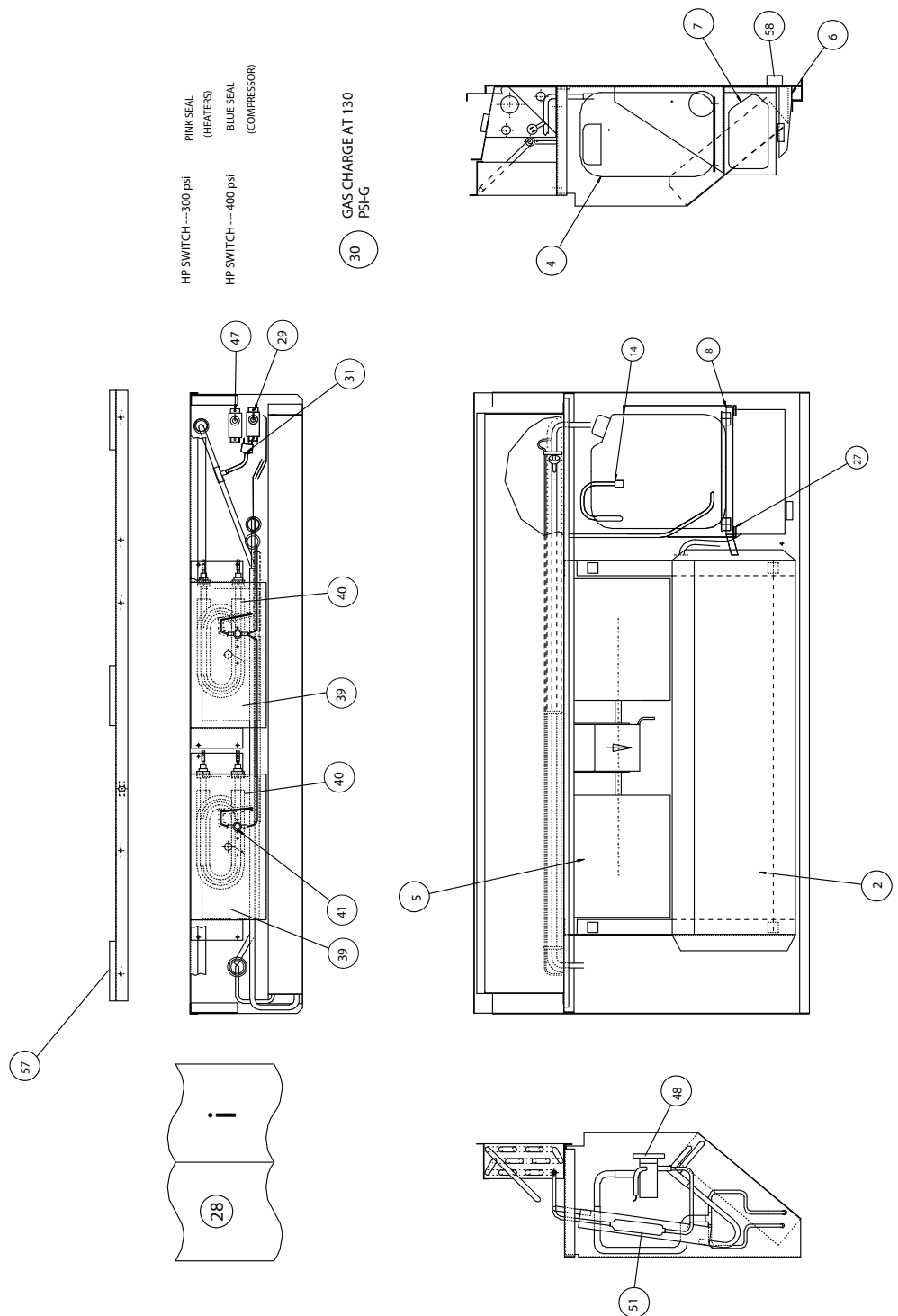


No.	Spare part	No.	Spare part
2	evaporator / condenser assembly	37	switch high pressure (ACB-DB64)
3	compressor herm (AJ5512C)	38	LP switch (LCB-DA15)
5	fan assembly	40	evaporator
6	drip tray (evaporator; for Murprotec versions fit)	41	condenser
7	electrical box assembly	42	drier
8	drip tray (compressor)	43	capillary tube (0.052 litre/day)
15	Schrader valve	57	wall bracket
30	user manual	58	anti vibration buffer
31	refrigerant (R407c)		
32	solenoid valve		
33	solenoid coil (240 V)		

Overview of spare parts and spare parts list – DH 60 AXP

Note!

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

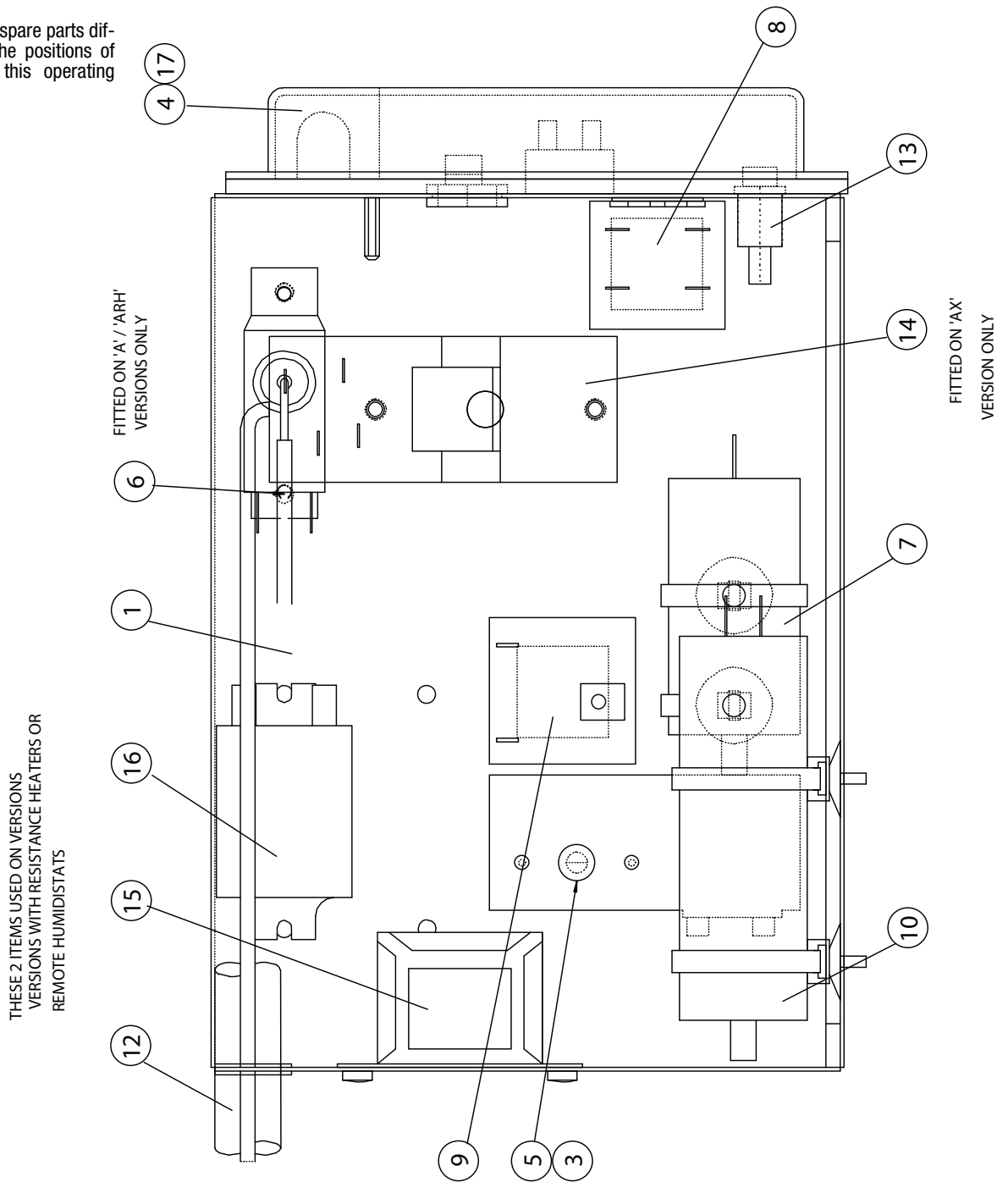


No.	Spare part	No.	Spare part
2	evaporator / condenser assembly	39	heater cover
4	compressor herm (AJ5512C)	40	air heater element
5	fan assembly	41	thermal cutout manual reset
6	drip tray (for Murprotec versions fit)	47	HP switch (300 psi)
7	electrical box assembly	48	TEV EBF JE A CP60
8	drip tray plastic black ABS	51	drier HRP
14	Schrader valve	57	wall bracket
28	user manual	58	anti vibration buffer
29	HP switch (400 psi)		
30	refrigerant (R407c)		
31	LP switch (LCB-DA15)		

Overview of spare parts and spare parts list – DH 60 AX/AXP – electrical equipment

Note!

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



No.	Spare part	No.	Spare part
1	electrical box	10	run cap (15 µF)
3	control knob	11	5-way terminal block
4	gasket	12	loom assembly
5	humidistat	13	rocker switch
6	defrost stat	15	transformer (12 V)
7	fan cap (6 µF)	16	relay (25 A c/o 12 V)
8	relay	17	cover
9	timer		

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 cooling agent (see chapter Technical Data). Dispose of the cooling agent/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 condenser dryer DH 30/60 AX 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

The $\text{C} \text{E}$ marking is found on the device nameplate.

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