



Installation manual

# Air heater

## Type QSE



EN - v2.6 / 03-2024

ORIGINAL INSTRUCTIONS

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# 1. Introduction

This manual is intended for the electrical and mechanical installer.

This document gives instructions on how to use and maintain the air heater. It is most important to follow the instructions in this document for safe operation of this air heater.

It is important to read this document before starting the installation process. Store this document close to the air heater for quick reference.

## 1.1. Symbols used in this manual

**DANGER!** Indicates a dangerous situation that would lead to death or severe injury.

**WARNING!** Indicates a potentially dangerous situation that could lead to death, severe injury or serious product damage.

**CAUTION!** Indicates a potentially dangerous situation that could lead to injury or product damage.

**NOTICE** Indicates important information that is not directly related to safety.

## 1.2. Warranty

**NOTICE** Using, installing or maintaining this air heater in any other way than described in this manual may cause damage that voids the warranty.

**NOTICE** Failing to follow the safety instructions in this manual can lead to damage to the air heater or the installation and void the warranty.

## 2. Safety instructions

Always follow the safety instructions in this chapter when installing, using or performing maintenance on this air heater.

### 2.1. Installation

**CAUTION!** This air heater must be installed and maintained by an authorized, qualified and competent installer, using calibrated equipment.

**NOTICE** This air heater must be installed and maintained in accordance with this manual, national and local building regulations and local health and safety regulations.

#### 2.1.1. Protection against dust

**CAUTION!** Do not use the air heater in a very dusty environment. Dust may accumulate and cause a defect of the heater. This is also the case for the room thermostat.

**CAUTION!** The air heater can be used in a dusty environment if they are cleaned and maintained more frequently.

#### 2.1.2. Temperature

**CAUTION!** Do not install the heater in places where the temperature can rise above 35°C. Higher temperatures cause the internal components to degrade much faster.

Use restrictions	
Operating pressure	max. 5 bar
Water temperature (risk of freezing!)	min. 4°C - max. 100°C
Environmental temperature (risk of freezing!)	min. 4°C - max. 35°C

**WARNING!** In case of freezing, the copper tubes of the heat exchanger might get damaged, causing the heat exchanger to leak. This is not covered by the warranty.

### 2.2. Use

**CAUTION!** Make sure the area around the air heater is dry when performing maintenance on the air heater.

**CAUTION!** Always close the doors and inspection hatches of the air heater, except when adjusting and checking the appliance.

**CAUTION!** Do NOT cover the heater when it is in use to prevent overheating!

### 2.3. Maintenance & Cleaning

Frequent maintenance and cleaning of the air heater is necessary to ensure safe and proper operation. Failure to do so could lead to damage to the heater or its surroundings and void the warranty.

#### 2.3.1. Protection from water (IP class)

**WARNING!** Never use water when cleaning electrical parts.

This air heater is not waterproof and has an IP20B classification.

**WARNING!** Do not expose the air heater to rain, spray or dripping water.

### 2.4. Children and vulnerable users

**WARNING!** Children under the age of 3 should be kept away from the air heater unless they are under supervision.

**WARNING!** Children aged from 3 years and less than 8 years shall only switch on/off the appliance provided that it has been placed or installed in its intended normal operating position and they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children aged from 3 years and less than 8 years shall not plug in, regulate and clean the appliance or perform user maintenance.

**WARNING!** This air heater can be used by children aged 8 years and above and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, if they are supervised or instructed concerning use of the appliance in a safe way and understand the hazards involved.

**CAUTION!** Some parts of this product can become very hot and cause burns. Particular attention has to be given where children and vulnerable people are present.

**WARNING!** Children shall not play with the air heater.

# 3. Technical specifications

## 3.1. Performance

Technical specification	Unit	Type QSE							
		QSE6 + 10	QSE12 + 30	QSE16 + 5	QSE16 + 10	QSE16 + 15	QSE16 + 20	QSE16 + 30	QSE16 + 40
Total heating power	kW	15.9	41.7	20.7	25.6	30.7	35.5	45.4	55.3
Total electrical power	kW	10.075	30.075	5.750	10.650	15.750	20.550	30.450	40.350
Maximum power heat pump*	kW	6	12	15.7	15.7	15.7	15.7	15.7	15.7
Minimum power heat pump*	kW	2.4	4.8	6.28	6.28	6.28	6.28	6.28	6.28
Maximum power booster	kW	9.9	29.7	5	9.9	15	19.8	29.7	39.6
Minimum power booster	kW	3.3	10	2.5	3.3	7.5	10	10	20
Cooling power **	kW	6.5	12	15.4	15.4	15.4	15.4	15.4	15.4
Air output at full load	m <sup>3</sup> /h	1800	4500	6700	6700	6700	6700	6700	6700
Air output at minimum load (booster off)	m <sup>3</sup> /h	324	810	1206	1206	1206	1206	1206	1206
Type heat pump	HPX	06A	12A	16A	16A	16A	16A	16A	16A
Throw horizontal (max.)	m	15	20	25	25	25	25	25	25
Voltage inner unit (50 Hz)	V	230 V	400 V + N	230 V	230 V	400 V + N	400 V + N	400 V + N	400 V + N
		or		or	or				
		400 V + N		400 V + N	400 V + N				
Maximum electrical current inner unit per phase	A	15.8	44.6	14.1	17.5	24.9	31.9	46.2	60.6
Maximum electrical current inner unit one phase	A	44.5	-	24.9	46.2	-	-	-	-
Standby power	W	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Maximum fan power	W	175	375	750	750	750	750	750	750
Maximum fan current	A	1.5	1.6	3.2	3.2	3.2	3.2	3.2	3.2
Dimensions (W × H × D)	mm	716 × 495 × 663	884 × 670 × 795	1083 × 670 × 794					
Weight	kg	45	65	100	100	100	100	100	100
Water connection	G"	3/4	1	1	1	1	1	1	1
Water contents	L	2	3.9	6.6	6.6	6.6	6.6	6.6	6.6
Sound level	dBA	35 - 54	35 - 63	35 - 62	35 - 62	35 - 62	35 - 62	35 - 62	35 - 62
Enclosure heat loss $F_{env}$	%	0	0	0	0	0	0	0	0
Emission efficiency ( $\eta_s$ , flow)	%	92.55	93.71	95.22	95.11	95.00	94.89	94.68	94.46
Seasonal Energy Efficiency of Space Heating $\eta_{s,h}$	%	37.02	37.49	38.09	38.04	38.00	37.96	37.87	37.78
Modulating EC fan		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

\* At supply temperature (35 - 30°C), room temperature 20°C.

\*\* Supply temperature (12 - 17°C) 27°C ambient 50% RH.

### 3.2. Dimensions

The dimensions of this air heater can be found in figure 1.

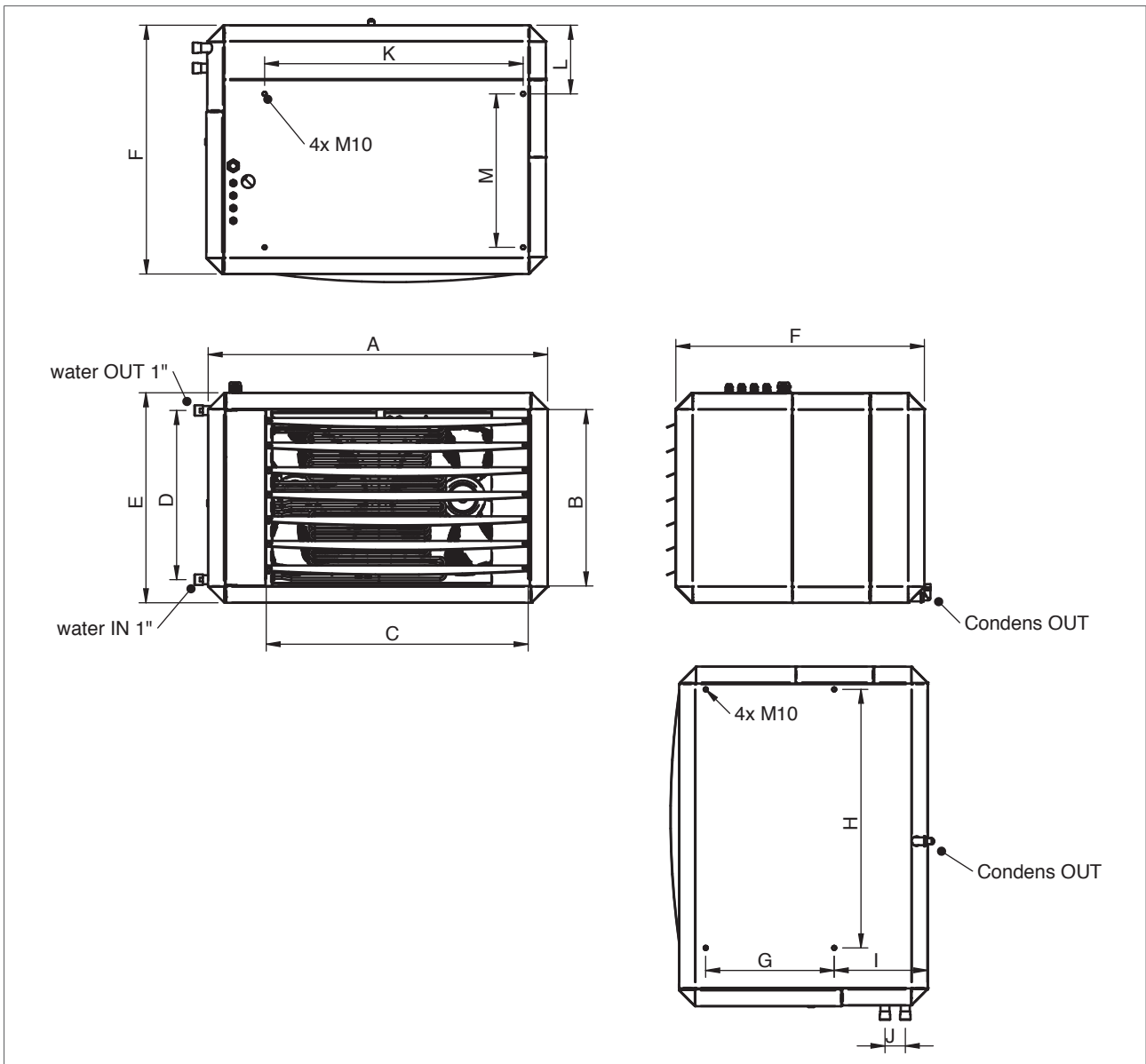


Figure 1 - Dimensions of the QSE

Dimension	Unit	QSE6	QSE12	QSE16
A	mm	716	884	1083
B	mm	422	563	563
C	mm	508	636	836
D	mm	405	540	540
E	mm	495	670	670
F	mm	663	795	794
G	mm	305	410	410
H	mm	465	625	825
I	mm	300	300	299
J	mm	65	65	65
K	mm	465	625	825
L	mm	302	219	219
M	mm	350	490	490

# 4. Installation

## 4.1. Preparation

Before installation, please use the data badge to check:

- if the heater is in accordance with the order;
- if the heater is suitable for the local present provisions such as the electrical supply.

Before leaving the factory, the air heater has been tested for safety and has been set to the operating settings. It has been configured for the voltage that is stated on the data badge. Should there be any doubt about the settings that apply to your situation, please contact your supplier.

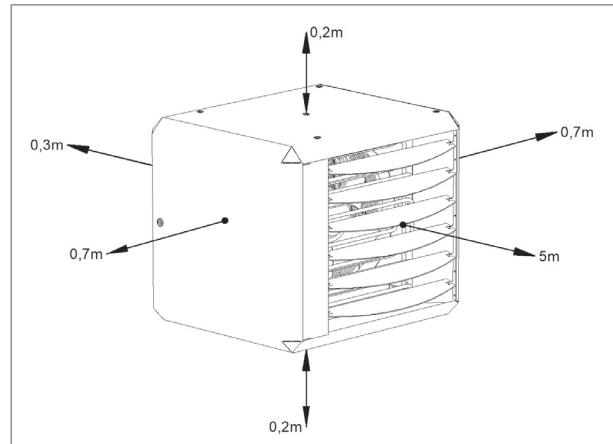


Figure 2 - Minimum clearances around the air heater

### 4.1.1. Standards

**NOTICE** The installation must comply with all applicable local and national standards.

**NOTICE** The air heater must be installed in accordance with the relevant requirements of the Electrical installation regulations and or other local regulations that may apply.

## 4.2. Positioning the air heater

Keep the following requirements in mind when choosing a location to install your air heater:

**WARNING!** Never install an air heater close to flammable materials.

**CAUTION!** Always keep a minimum distance of 2000 mm between the flue of an air heater and a heat pump (see figure 3). The fumes of the air heater can be sucked in by the heat pump and damage the heat exchanger.

- Keep sufficient distance between the heater and any obstructions. This is both for safety reasons and to allow access for service and maintenance (figure 2).
- Make sure the air flow to and from the heater is free from obstacles at least 5 metres in front of the heater. Also make sure the air intake is free from obstacles.
- Make sure enough space remains to open the door of the air heater.
- Make sure the wall can support the air heater.

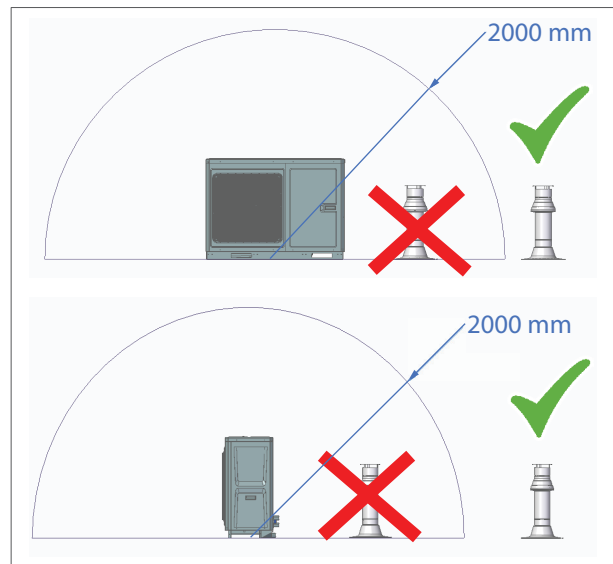


Figure 3 - Minimum distance between the flue of an air heater and a heat pump

### 4.2.1. Suspension

Depending on the model of your air heater, the following type of wall support can be used:

Model(s)	Wall support	Art. Nr.
QSE6	Wall support	GA8610
QSE12 - QSE16	Wall support	GA8580

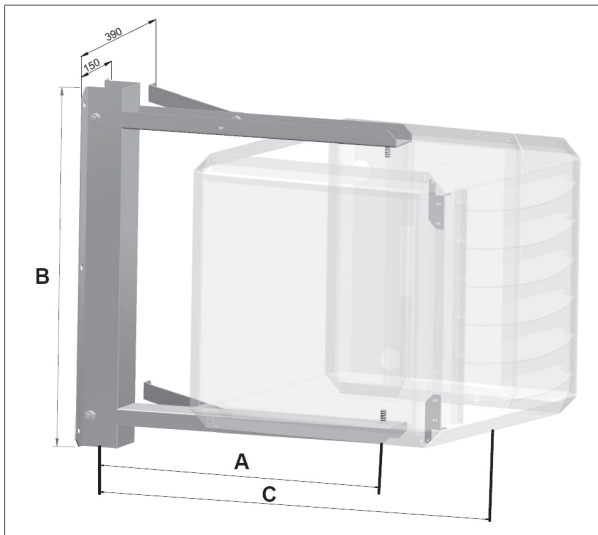


Figure 4 - Wall support GA8610

Model(s)	A	B	C
QSE6	550	640	805

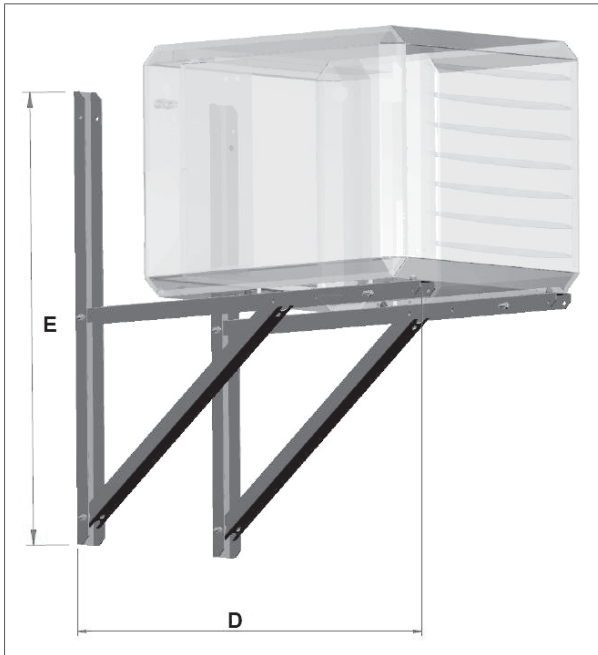


Figure 5 - Wall support GA8580

Model(s)	D	E
QSE12 - QSE16	1200	1200

The air heater is equipped with threaded M10 sockets to suspend the unit. For dimensions, see the table at figure 1.

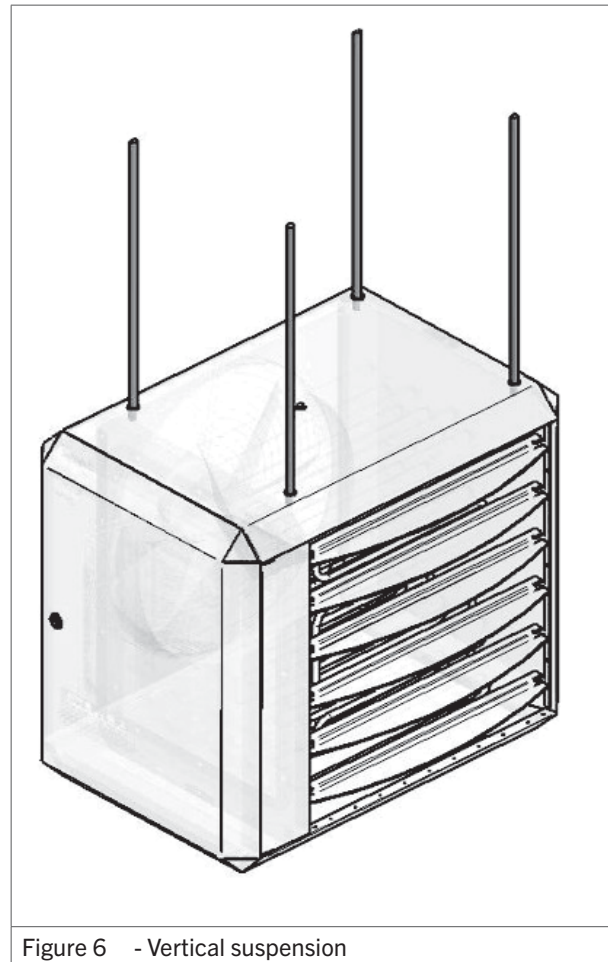


Figure 6 - Vertical suspension

**NOTICE** The water connections of the air heater must always remain horizontal due to venting of the internal pipes. Position the heater so that the return connection (cold water) is the lowest. Place the vent in the pipe close to the air heater.

### 4.3. Electrical connection

The electrical installation must comply with local and national requirements as well as IEE regulations.

#### 4.3.1. Power supply

The air heater requires an earthed power supply of 400 V/AC (three phases).

A supply of 230 V/AC + Neutral (1 Phase) is optional and can be established by using the bridges supplied with the heater (only for QSE6 + 10 and QSE16+10).



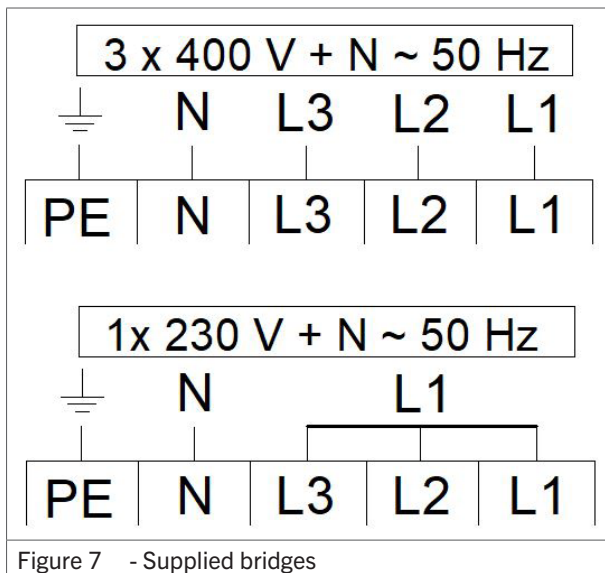


Figure 7 - Supplied bridges

The control circuit is a four wire low voltage bus communication, over Modbus RTU.

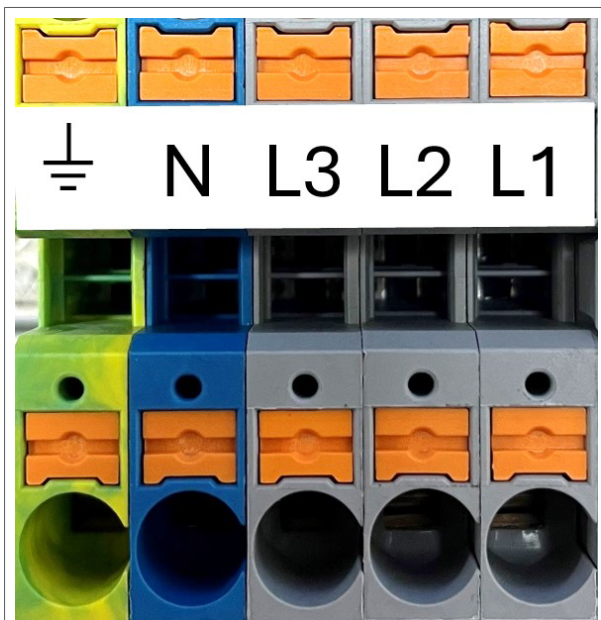


Figure 8 - The air heater's connection clamps

- The heater must be electrically isolated during servicing. For the installation, use an isolation switch in the fixed wiring with a minimum contact opening gap of 3 mm, a power plug or a non-switched fuse spur, to provide full disconnection of all poles of the supply under overvoltage category III. See the electrical wiring diagram in §9.

#### 4.3.2. Fuse

One fuse is present on the air heater's control board (see the electrical wiring diagram in §9.).

- When replacing this fuse, always use one of the same type (5AT).

## 4.4. Room thermostat

The heater can only be controlled with one of the following room thermostats:

- **The Smart Controller:** a modbus thermostat with touch control, designed specifically for hybrid heaters. For details, refer to the **Smart Controller** manual.
- **A building management system (BMS):** with modbus communication. For details, refer to the **Modbus Controller** manual.

**WARNING!** Never use a room thermostat to interrupt the electric power supply to the heater.

**NOTICE** This air heater cannot be controlled with a simple ON/OFF thermostat.

### 4.4.1. Installation requirements

Following these requirements when placing the thermostat to ensure the heater functions correctly:

- Make sure that air can circulate around the thermostat.
- Make sure the sun does not shine directly upon the thermostat.
- Do not place the thermostat on a cold wall.
- Place the thermostat on an inner wall free from draught.
- Never place the thermostat within the throw of the heater.
- Never mount the thermostat near the aerials of internal communication networks. These emit radiation that can disturb the thermostat. Keep several meters distance.

In all cases, the communication between the heater and the thermostat is based on a four wire, low-voltage connection. (see the electrical wiring diagram in §9.).

Follow these instructions to prevent malfunction of the installation and damage to the thermostat or air heater:

- Use a cable with the following specifications:
  - Signal cable.
  - Shielded.
  - Minimum dimensions:  $4 \times \varnothing 0.34 \text{ mm}^2$ .
  - Maximum length: 200 m.

**CAUTION!** Keep the thermostat cable separated from the mains cables.

**CAUTION!** Connect the cable's earth shield only to the earth terminal inside the air heater. Do not connect the other end of the cable's earth shield.

**NOTICE** A cable with a thickness of less than 0.34 mm<sup>2</sup> will result in a poor signal.

**NOTICE** A cable that is not shielded may result in a disturbed communication in an EMC-unfriendly environment.

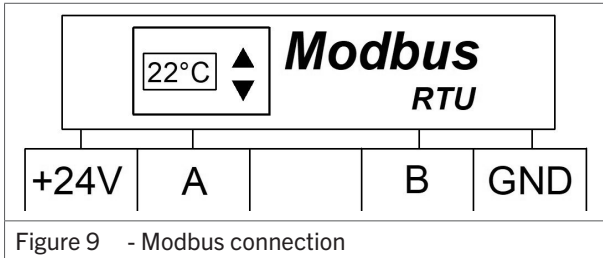


Figure 9 - Modbus connection

#### 4.4.2. Installation of multiple appliances on one single Smart Controller or Building Management System

One single Smart Controller or Building Management System can control multiple hybrid heaters.

Consult the user manual of the Smart Controller for further information.

### 4.5. Heat pump

**NOTICE** Make sure that a heat pump is connected with the right power corresponding to the hybrid heater.

Use the same cable as specified for the thermostat in §4.4.1. for the connection between the heat pump and hybrid heater.

**CAUTION!** Do not mix the connection to the heat pump with the thermostat connection mentioned above. This will damage the heat pump!

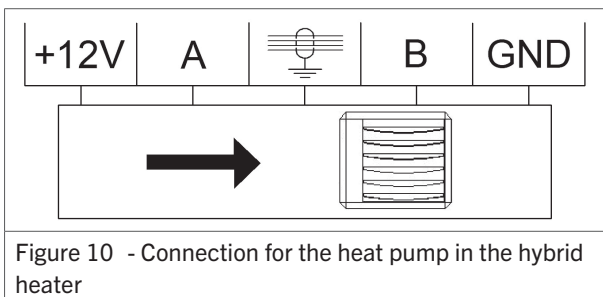


Figure 10 - Connection for the heat pump in the hybrid heater

The heat pump has a similar connection inside. The connections of the wires have to correspond for a proper communication.

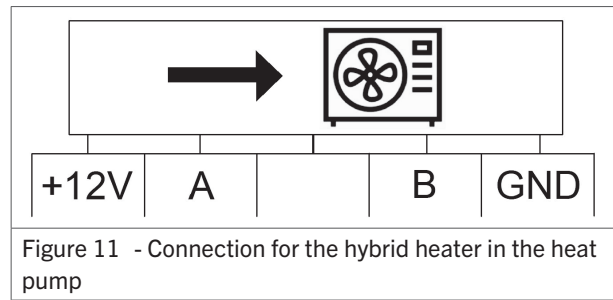


Figure 11 - Connection for the hybrid heater in the heat pump

### 4.6. Condensate drain

The condensate drain at the rear side is connected to a condensate collector below the heat exchanger. If the lower temperature of the heat exchanger is not set lower than 15°C, no condensate will be formed. With lower temperatures the change of condensate increase and a drainage hose may be installed in these cases.

### 4.7. Water connection

The water connections for supply and return (both 3/4" for QSE6 and both 1" for QSE12 and QSE16) are marked with a blue and red label. Red indicates supply and blue indicates return. If return and supply are exchanged, the appliance will not deliver the desired capacity.

The air heater does not come with built-in venting for the water circuit. Separate vents should be installed in both the supply and return lines.

**CAUTION!** Avoid mechanical stress on the supply and return connections, as this can damage the heat exchanger and lead to leakage.

Use a wrench to support the connections while installing the fittings to avoid damage. Internal welds may become loose if too much force is applied!

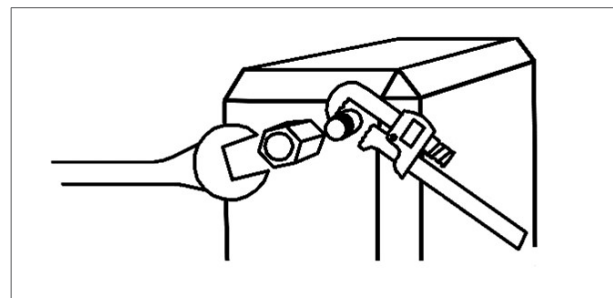


Figure 12 - Use a wrench to support the water connection during installation

Water piping instalation diagram. For details, consult the manual of the heat pump.

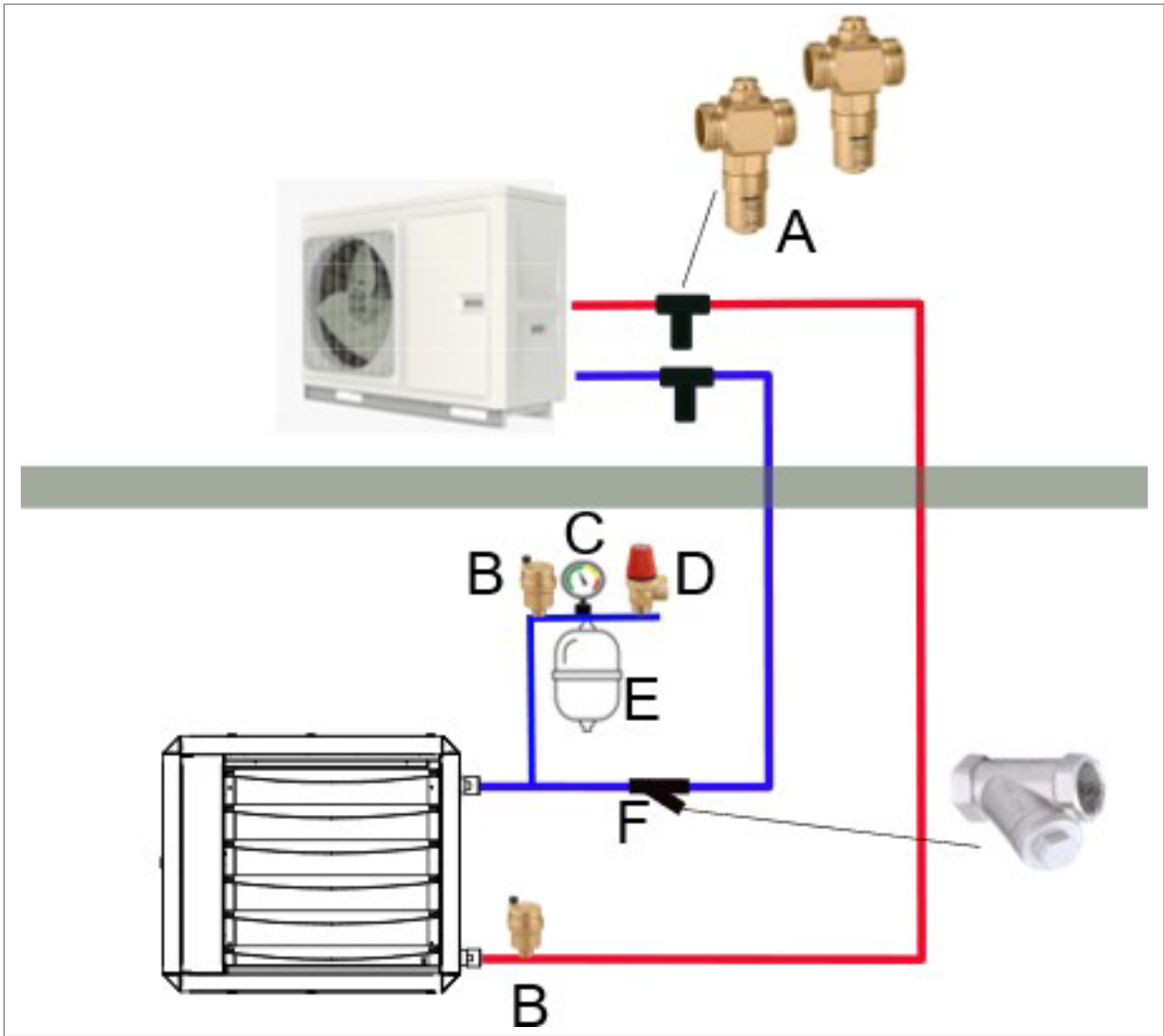


Figure 13 - Water piping instalation diagram

Part number	Description
A	Anti freeze valve (2x near heat pump, not included)
B	Automatic venting valve (2x on supply AND return, not included)
C	Pressure gauge (not included)
D	Expansion valve (not included)
E	Optional expansion vessel (*) (not included)
F	Filter (**) (included as standard)

\* The expansion vessel is only necessary for pipes exceeding a certain length. Refer to the heat pump manual for details.

\*\* Place the filter in the return line to the heat pump at the lowest possible point.

# 5. Operating the air heater

## 5.1. Minimum heating time

The electric part of the hybrid air heater will always run for at least 10 seconds, even if the heat demand stops. This is to prevent frequent starts and stops. The light heater will always continue ventilating for 3 minutes after the electric part turns off again.

## 5.2. Delta-T-regulation

The air heater can function as a de-stratification fan. This is called delta-T regulation and it is done via the Smart Controller, with a temperature measurement sensor that is located on the air heater.

The system fan is activated when the temperature-difference between the sensor on the heater (the delta-T NTC sensor) and the sensor in the Smart Controller is bigger than 8 °C (standard factory setting). This procedure ensures an even distribution of temperature throughout the building, thus acting as a fully automatic de-stratification fan.

### 5.2.1. Switch off delta-T-regulation

Delta-T regulation can be switched off when it is not desired (e.g. when it causes discomfort). This can be done in the **Settings** menu on the Smart Controller. See the user manual of the Smart Controller for more information.

## 5.3. Summer ventilation

The fan can be set to run in the summer. Follow the instructions in the user manual of the Smart Controller or set the ventilation via the building management system.

## 5.4. Overheating protection

The air heater's heat exchanger is protected from excessive temperatures.

### 5.4.1. Heat exchanger

An NTC sensor is located near (or on) the heat exchanger. This sensor monitors the heat exchanger temperature.

If the heat exchanger becomes too hot, this sensor will cause the heating process to stop. Depending on the temperature, the air heater performs the following actions:

- Step 1: Power reduction (when possible).
- Step 2: The heat emission stops, followed by an automatic restart when cooled down (thermostat display).
- Step 3: The heat emission stops, followed by a Lock Out. A manual reset is required. (thermostat display).

**NOTICE** A manual reset can be done on the electronic circuit board or remotely with the special room thermostat.

# 6. Commissioning the air heater

## 6.1. Adjusting the settings

Prior to packaging, the safety and functioning of each air heater is checked in detail. It is also set to the right combustion efficiency.

In general, the heater does not need to be adjusted after installation. It is only necessary to perform a functional check.

## 6.2. Commissioning the air heater

Once the unit is installed according to this manual, the unit can be commissioned. To do so, follow these instructions:

1. Switch on the electric supply with the maintenance switch.

You are now able to observe the first start-up and become familiar with the functioning of the heater.

1. Instruct the end user of the about a safe use of the air heater:
  - The location of the maintenance switch

2. Instruct the end user about the operation of the heater:
  - Lock-out indication
  - Reset
3. Instruct end user about the necessary maintenance.
4. Leave this manual with the end user.

### 6.2.1. First use – modbus

To commission the air heater via the Smart Controller or the Building Management System, do the following:

- Create a heat-request. The hybrid air heater will activate the heat pump first. After the heat pump has started, the water will start to circulate and the fan of the hybrid heater will start.
- When the heat request remains active, and the difference between the set temperature and the actual temperature is large enough, the electrical booster will start after a while too. The booster remains activated for the minimal firing time (see §5.1. for more information).

## 7. Troubleshooting

If the air heater malfunctions, first check if the problem is caused by external circumstances (e.g. no supply power). If the problem is not caused by external circumstances, use the tables and instructions in this chapter to fix the air heater.

**NOTICE** Please remember the built in waiting times of the air heater. Do not react too soon.

The error codes below, refer to the gas booster of the hybrid air heater. The error codes of the connected heat pump are visible in the Smart Controller too. Consult the manual of the heat pump for details.

### 7.1. Volatile lock outs

The table below describes the volatile lock outs that can occur. These can only be reset by hand.

**NOTICE** The reset button is located underneath the LED of the control board. This LED will light up green during normal function or in stand-by mode, red in case of an error.

Display	Error type	Description	Case #
L-0	Internal error	Internal error	13
L-1	Internal error	Relay in low position not made	1
L-2 and 3	Internal error	Internal error	13
L-4	E-error	E-error for more than 24 hours	12
L-8 to 12	Internal error	Internal error	13

Display	Error type	Description	Case #
L-15	Overheating	Heat exchange sensor is overheated	3
L-17 to 19	Internal error	Internal error	13
L-25	Sensor error	Heat exchange sensor failure	4
L-27 to 31	Internal error	Internal error	13
L-32	Sensor error	Heat exchange sensor failure	4
L-33 to 38	Internal error	Internal error	13
L-43	Overheating	Heat exchange sensor is overheated too often	3

### 7.2. Temporary errors

The table below describes the temporary errors that can occur. These will disappear automatically after the cause has been resolved.

Display	Error type	Description	Case #
E-00 to 04	Internal error	Internal error	13
E-05	Overheating	Heat exchange sensor is overheated	3
E-06 to 13	Internal error	Internal error	13
E-14	Internal error	Incorrect closure of low-level relay.	16
E-15 to 20	Internal error	Internal error	13
E-21 and 22	Heat exchanger sensor error	Heat exchanger sensor not detected	4
E-27 and 28	Heat exchanger sensor error	Heat exchanger sensor short-circuit	4
E-34	Reset button error	Too many reset actions in a short timespan	9

Display	Error type	Description	Case #
E-36	Overheating	Heat exchange sensor is overheated	3
E-38 and 39	Heat exchanger sensor error	Heat exchanger sensor not detected	4
E-47 and 48	Heat exchanger sensor error	Heat exchange sensor short-circuit	4
E-49 to 64	Internal error	Internal error	13
E-65	Voltage too low	Supply voltage is too low for over 1 minute	
E-66	Voltage too high	Supply voltage is too high for over 1 minute	

### 7.3. Warnings

The table below describes the temporary warnings that can occur. The heater may still be working, or stops until the cause has been resolved.

Display	Error type	Description	Case #
A-07	Overheating	Heat exchange sensor is almost overheated	3

### 7.4. Instructions

After identifying the problem, use the Case number to find the possible cause in this paragraph.

#### Case 1: Low-level relay does not close

- Check if the relay is closing.
- Check that plug J5 is fitted properly.
- Check if the wires on contacts 13 and 14 of the low-level relay are properly connected.

#### Case 3: Heat exchange sensor or flue sensor is overheated.

- Check if the connectors J12 and J6 are plugged in correctly and if the connection J12[1-4] (optional overheating protection) is closed.
- Check if the system fan supplies enough air.

#### Case 4: Heat exchange sensor or flue sensor not detected, or short circuit.

- The heat exchange sensor consists of two internal sensors. The readings of these sensors may differ too much:
  - Measure the resistance of each sensor. The resistance should be 20 K $\Omega$  at 25 °C and 25 K $\Omega$  at 20 °C.
  - If the measured values differ too much, replace the sensor.

#### Case 9: Too many reset actions in a short timespan.

- This error will disappear after some time or if the main power is disconnected for a while.

#### Case 12: E-error for more than 24 hours.

- Switch the air heater off and on and check the error code.

#### Case 13: Internal error.

- Isolate the electrical supply and reenergise. If this does not help:
  - Replace the burner control unit.

#### Case 16: Safety relay error.

1. Isolate the electrical supply.
2. Check if one of the relays got stuck when it was switched. If so:
  - Replace the relays.
3. Reenergise the appliance.
4. Check if any of the relays switches on at once (too soon). If so:
  - Replace the control board.

# 8. Maintenance

**CAUTION!** The air heater must be inspected and cleaned once a year by a qualified installer with sufficient knowledge about the device.

**CAUTION!** Sufficient maintenance is critical in circumstances such as high humidity, dust, high switching on/off frequency, etc.

## 8.1. Preparation

Before performing maintenance on an air heater that is already installed, do the following:

1. Set the thermostat to the lowest setting.
2. Turn off the power supply to the air heater using the maintenance switch.

**CAUTION!** Do not use water when cleaning the air heater.

**CAUTION!** The heater must be electrically isolated during servicing.

## 8.2. Basic maintenance

To perform basic maintenance on the air heater, do the following:

**CAUTION!** When cleaning parts of the air heater, use a dry cloth, brush, compressed air or a vacuum cleaner. Never use a steel brush.

1. Inspect the heating elements.
2. Clean the fan guard on the outside of the heater.  
Clean the fan blades if required.
3. Open the access panel.
4. Clean the inside of the air heater. Focus on the following parts:
  - Body
  - Fan blades and motor
  - Heat exchanger
  - Temperature sensor
5. Check if the wiring, nuts and bolts are properly secured and tightened.

Some checks can only be performed when the heater is running. Do the following:

1. Reconnect the air heater to the power supply.
2. Switch on the air heater.
3. Check if the heater operates without problems.  
See §7. if any errors occur.

# 9. Electrical wiring diagram

A complete electrical wiring diagram is shown in figure 15.

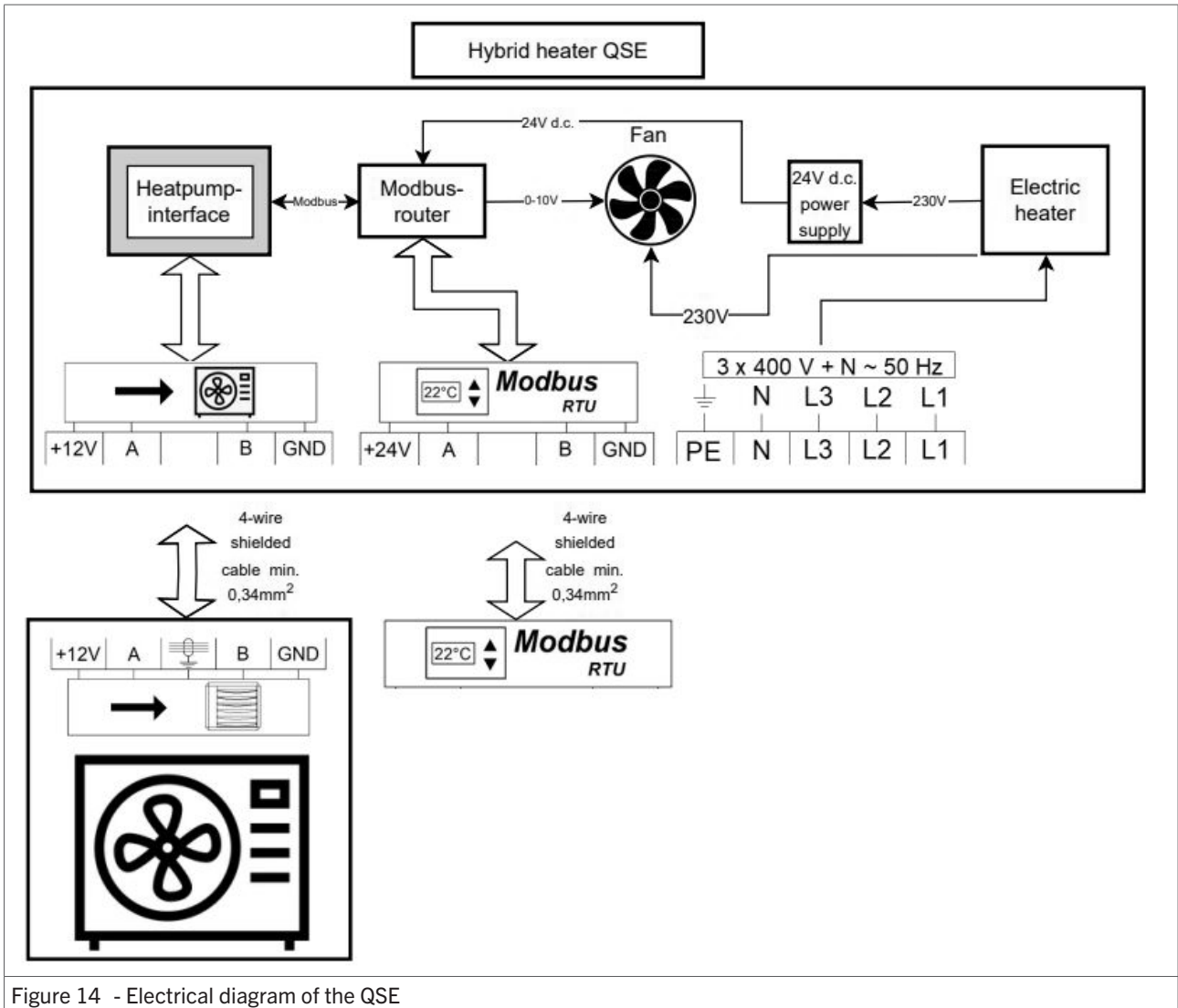


Figure 14 - Electrical diagram of the QSE



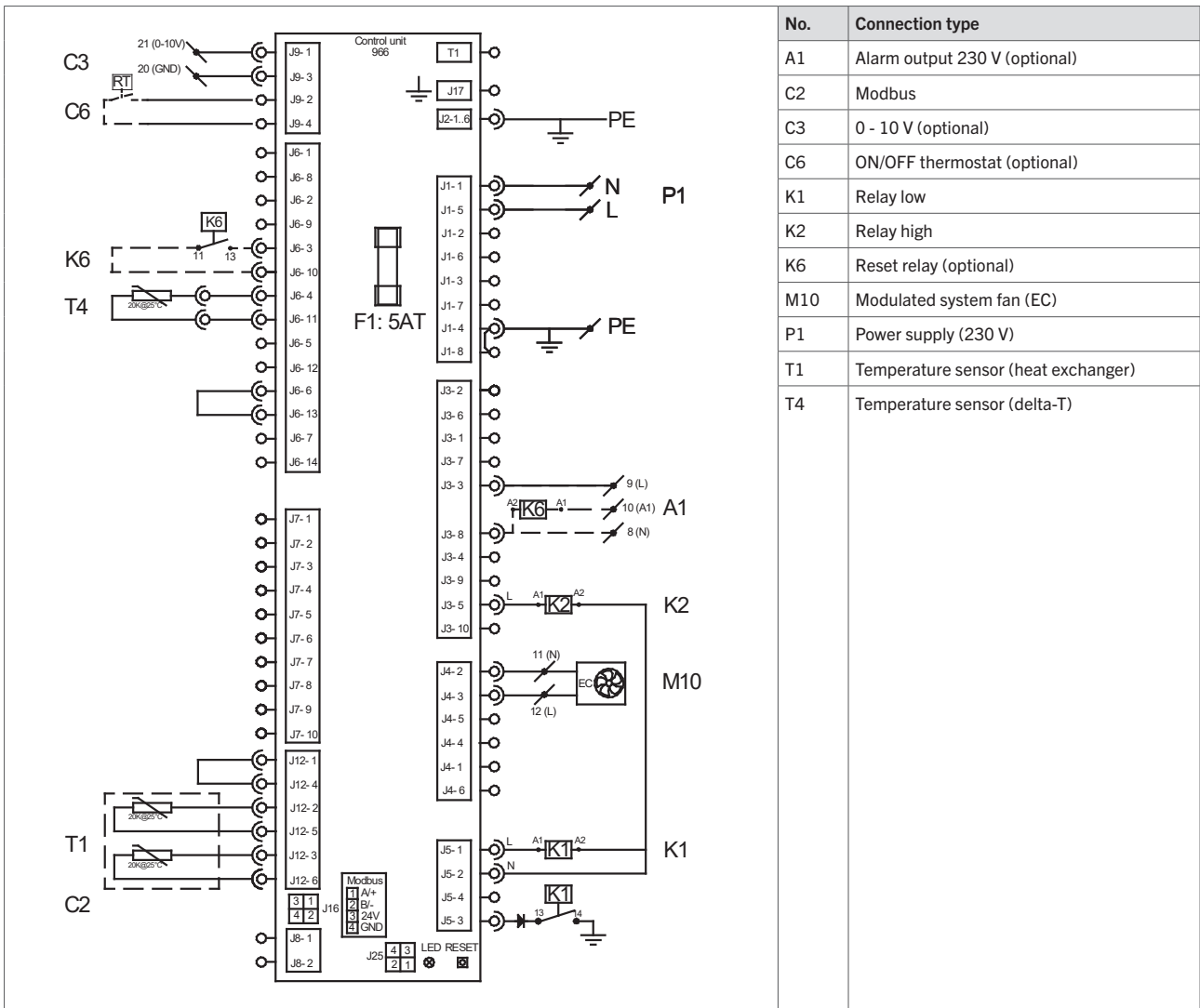
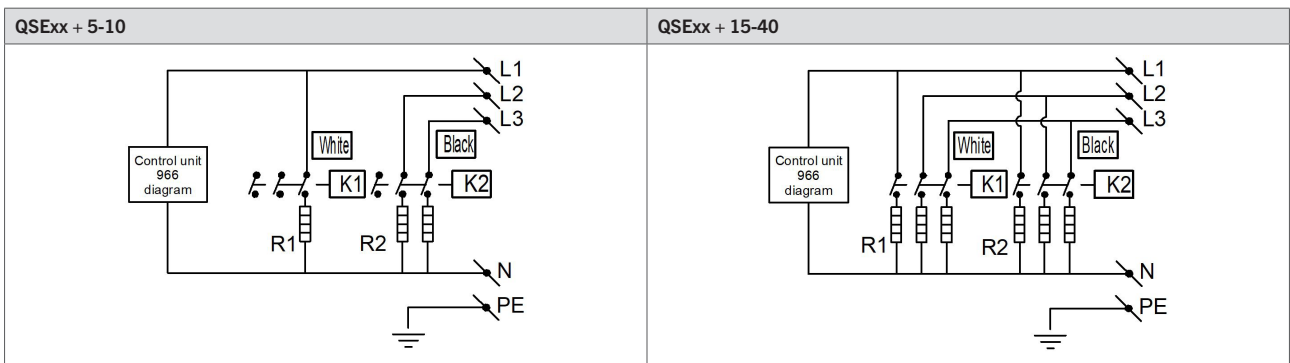


Figure 15 - Electrical wiring diagram QSE



# 10. Exploded view and spare parts

The parts of the air heater are shown in an exploded view in figure 16. The table below describes each part and shows the correct article number for a replacement part.

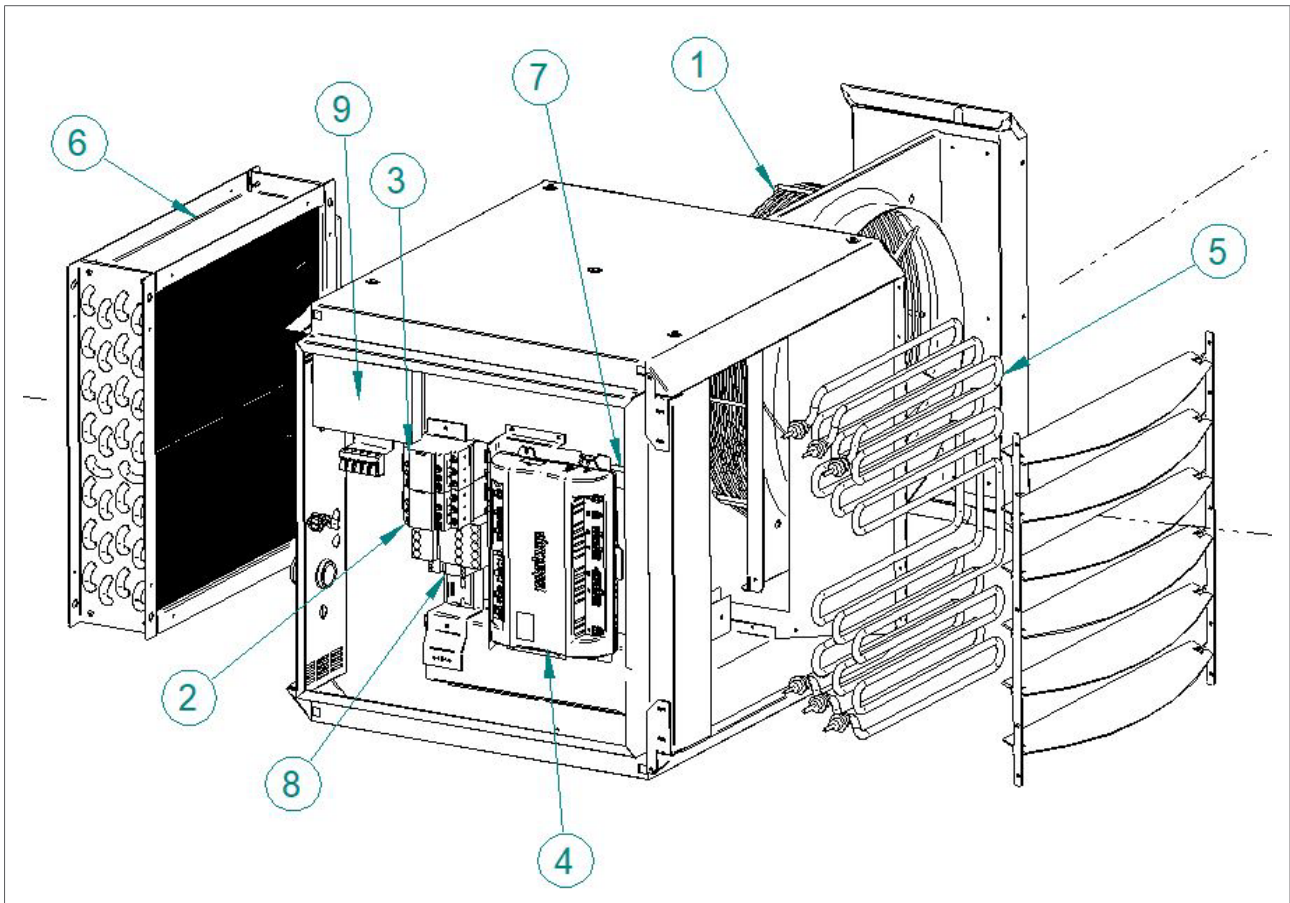



Figure 16 - Exploded view of the QSE

No.	Description	QSE6 + 10	QSE12 + 30	QSE16 + 5	QSE16 + 10	QSE16 + 15	QSE16 + 20	QSE16 + 30	QSE16 + 40
1	EC system fan	GX4223	GX4225	GX4225 (2×)	GX4225 (2×)	GX4225 (2×)	GX4225 (2×)	GX4225 (2×)	GX4225 (2×)
2	Relay	IE5201	IE5201	IE5201	IE5201	IE5201	IE5201	IE5201	IE5202
3	Relay	IE5201	IE5201	IE5201	IE5201	IE5201	IE5201	IE5202	IE5202
4	Burner control unit	GE5903	GE5903	GE5903	GE5903	GE5903	GE5903	GE5903	GE5903
5	Heating element 2.5 kW	-	-	IE5209 (2×)	-	IE5209 (6×)	-	-	-
5	Heating element 2.5 kW	-	-	-	-	-	-	-	-
5	Heating element 3.3 kW	-	IE5211 (9×)	-	IE5211 (3×)	-	IE5211 (6×)	IE5211 (9×)	IE5211 (12×)
5	Heating element 3.3 kW	IE2512 (3×)	-	-	-	-	-	-	-
6	Heat exchanger	IH4024	IH4026	IH4028	IH4028	IH4028	IH4028	IH4028	IH4028
7	Modbus controller	IW8010	IW8010	IW8010	IW8010	IW8010	IW8010	IW8010	IW8010
8	Power supply (24 V)	IW8022	IW8022	IW8022	IW8022	IW8022	IW8022	IW8022	IW8022
9	Heat pump interface	IW8024	IW8024	IW8024	IW8024	IW8024	IW8024	IW8024	IW8024
	Heat exchanger sensor	GE3900	GE3900	GE3900	GE3900	GE3900	GE3900	GE3900	GE3900
	Delta-T sensor	GY3931	GY3931	GY3931	GY3931	GY3931	GY3931	GY3931	GY3931

# 11. Disposal and recycling

	<p>The meaning of the symbol on the material, its accessory or packaging indicates that this product shall not be treated as household waste. Please, dispose of this equipment at your applicable collection point for the recycling of electrical and electronic equipments waste. In the European Union and Other European countries which there are separate collection systems for used electrical and electronic product. By ensuring the correct disposal of this product, you will help prevent potential hazards to the environment and to human health, which could otherwise be caused by unsuitable waste handling of this product. The recycling of materials will help conserve natural resources. Please do not therefore dispose of your old electrical and electronic equipment with your household waste.</p>
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# 12. Declaration of conformity

Winterwarm Heating Solutions B.V.

Olden Goorweg 1

7108 AE, Winterswijk

The Netherlands

Declares that air heater types:

- QSE6 + 10, QSE12 + 30, QSE16 + 5, QSE16 + 10, QSE16 + 15, QSE16 + 20, QSE16 + 30 & QSE16 + 40

Are in accordance with the essential requirements of the relevant EU directives, being:

- 2014/35/EU (LVD) relating to the electric safety of appliances
- 2014/30/EU (EMC) relating to electromagnetic compatibility of appliances
- 2006/42/EG (MD) relating to the safety of machinery
- 2016/2281/EU (ECO design) relating to ecodesign requirements for air heating products

Goods should be installed and used in accordance with our instructions and with the applicable local and international rules. Installation should be done by an authorized, qualified and competent installer.

Winterswijk, June 15<sup>th</sup> 2023



Ir. M. Fiselier

Technical director

