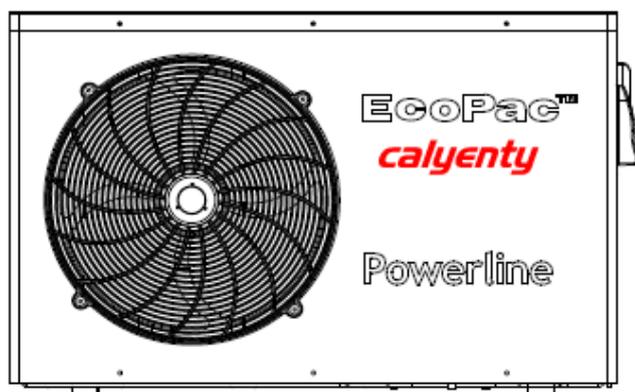


Powerline

calyenty

SWIMMING POOL HEAT PUMP UNIT



Installation and instruction manual

CONTENTS

| | |
|---|-----------|
| 1. Preface | 1 |
| <hr/> | |
| 2. Technical specifications | 2 |
| 2.1 Technical data for the swimming pool heat pump unit | 2 |
| 2.2 Operating range | 3 |
| 2.3 Dimensions | 4 |
| <hr/> | |
| 3. Installation and connection | 5 |
| 3.1 Functional diagram | 5 |
| 3.2 Heat pump unit | 5 |
| 3.3 Hydraulic connection | 6 |
| 3.4 Electrical connection | 7 |
| 3.5 Initial start-up | 8 |
| 3.6 Water flow setting | 10 |
| <hr/> | |
| 4. User interface | 11 |
| 4.1 Overview | 11 |
| 4.2 Setting the clock | 13 |
| 4.3 Setting the Timer function | 13 |
| 4.4 Settings and viewing the set point | 15 |
| 4.5 Locking and unlocking the user interface | 15 |
| <hr/> | |
| 5. Maintenance and winterisation | 16 |
| 5.1 Maintenance | 16 |
| 5.2 Winterisation | 16 |
| <hr/> | |
| 6. Appendices | 17 |
| 6.1 Wiring Diagrams | 17 |
| 6.2 Heating priority connections | 21 |
| 6.3 Exploded views and spare parts | 22 |
| 6.4 Troubleshooting guide | 30 |
| 6.5 Warranty | 31 |

1. PREFACE

Thank you for purchasing this PowerLine swimming pool heat pump unit. This product has been designed in compliance with strict manufacturing standards to meet the required quality levels. This manual includes all the information you need for installing, troubleshooting and maintenance. Read this manual carefully before opening the unit or performing any maintenance operations. The manufacturer of this product will in no way be held liable for any injuries to a user or damage to the unit resulting from incorrect installation, troubleshooting and repairs or poor maintenance. It is essential to follow the instructions given in this manual at all times. The unit must be installed by a qualified engineer.

- Repairs must be performed by a qualified engineer.
- All electrical connections must be made by a qualified professional electrician and in compliance with the standards applied in the country in which it is installed. See Section 3.4.
- Maintenance and its various operations must be carried out at the recommended frequency and times, as specified in this manual.
- Only use original spare parts.
- Failure to comply with these recommendations will invalidate the warranty.
- This swimming pool heat pump unit heats swimming pool water and maintains a constant temperature. It is not to be used for any other purpose.

Once you have read the manual, keep for later use.

Warnings concerning children/people of restricted physical ability:

This appliance is not designed to be used by people (particularly children) of limited physical, sensory or mental ability, or by people who lack experience or knowledge, unless they are under supervision or have received instruction as to how to use the appliance from a person responsible for their safety.

This product contains fluorinated greenhouse gases covered by the Kyoto protocol.

Type of refrigerant: R410A

GWP value⁽¹⁾: 1975

Periodic inspections for refrigerant leaks may be required depending on local or European legislation. Please contact your local distributor for more information.

(1) Global warming potential

2. TECHNICAL SPECIFICATIONS

2.1 Technical data for the swimming pool heat pump unit

| Model | | RBH55H | RBH125H | RBH185H | RBH200H |
|-----------------------------------|-------------------|--------------------|--------------------|--------------------|--------------------|
| Heating capacity* | kW | 5,5 | 8 | 10,6 | 14,4 |
| Electrical power rating * | kW | 1,19 | 1,70 | 2,37 | 3,18 |
| Operating current * | A | 5,33 | 7,54 | 11,84 | 16,16 |
| Electrical connection | V Ph/Hz | 230 V~ 1 / 50Hz |
| Fuse rating aM | A | 8 aM | 10 aM | 16 aM | 20 aM |
| D-curve circuit breaker | A | 8 D | 10 D | 16 D | 20 D |
| Number of compressors | | 1 | 1 | 1 | 1 |
| Type of compressor | | Rotary | Rotary | Rotary | Scroll |
| Number of fans | | 1 | 1 | 1 | 1 |
| Fan power | W | 50 | 120 | 120 | 120 |
| Fan rotation speed | RPM | 770 | 850 | 850 | 850 |
| Fan direction | | Horizontal | Horizontal | Horizontal | Horizontal |
| Acoustic power ** | Lw dB(A) | 66,7 | 69,2 | 71,2 | 70,6 |
| Sound pressure level (at 10 m) | dB(A) | 38,2 | 40,7 | 42,7 | 42,1 |
| Hydraulic connection | mm | 50 | 50 | 50 | 50 |
| Water flow rate | m ³ /h | 2,3 | 3,4 | 4,5 | 6,0 |
| Water pressure drop (max) | kPa | 1,0 | 1,3 | 4,0 | 6,8 |
| Unit net dimensions (L/W/H) | mm | 864/540/420 | 1004/648/460 | 1004/648/460 | 1114/867/490 |
| Unit net weight | kg | 46 | 59 | 66 | 101 |

* Value +/- 5% in the following conditions: Outside temperature = 24°C / RH=62% / Water inlet temperature 26°C / Water outlet temperature 28°C.

** Measurements according to EN 12102: 2013 and EN ISO 3744: 2010

2. TECHNICAL SPECIFICATIONS (continued)

2.2 Operating range

Use the heat pump within the following temperatures and humidity ranges to ensure safe and efficient operation.

| | Heating mode  |
|-------------------------|--|
| Outside temperature | +7°C ~ +35°C |
| Water temperature | +12°C ~ +40°C |
| Relative humidity | < 80% |
| Set point setting range | +15°C ~ +40°C |

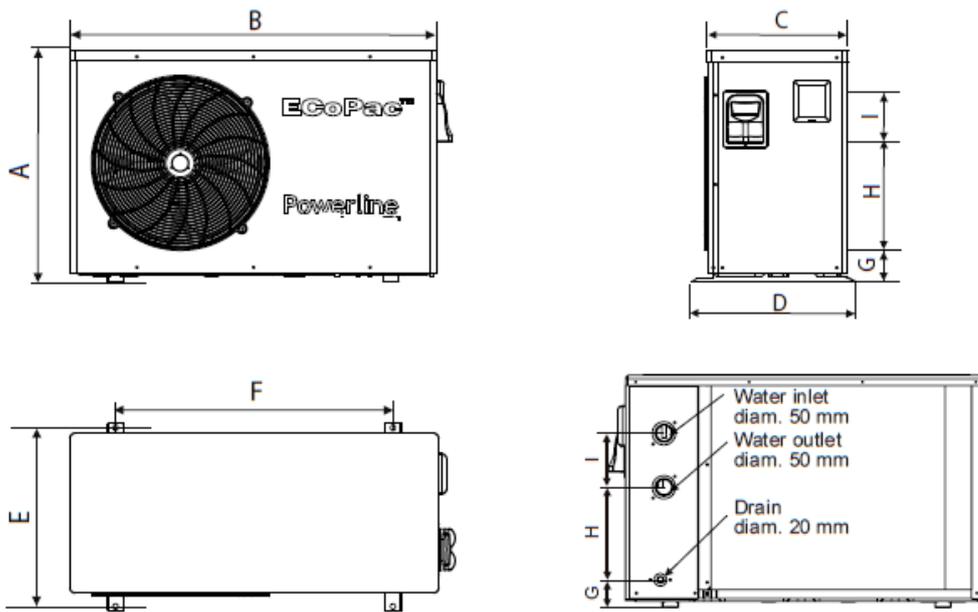


If the temperature or humidity do not fall within these conditions, safety devices may be triggered and the heat pump may no longer work.

2. TECHNICAL SPECIFICATIONS (continued)

2.3 Dimensions

Models: RBH55H, RBH125H, RBH185H, RBH200H

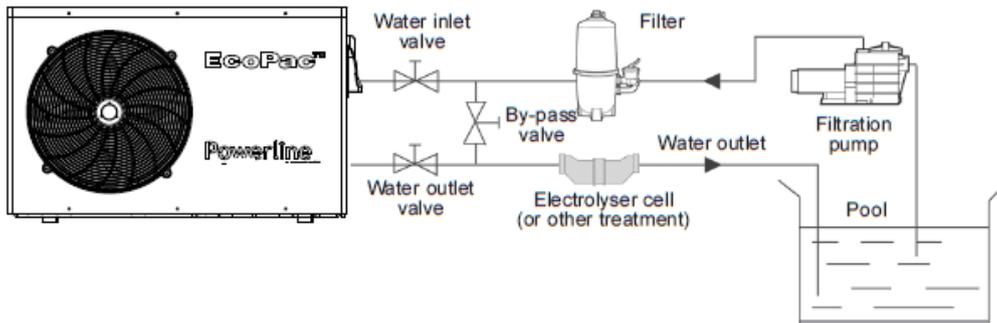


Unit : mm

| Model Number | RBH55H | RBH125H | RBH185H | RBH200H |
|-----------------|--------|---------|---------|---------|
| A | 540 | 648 | 648 | 867 |
| B | 864 | 1004 | 1004 | 1114 |
| C | 355 | 395 | 395 | 425 |
| D | 420 | 460 | 460 | 490 |
| E | 400 | 440 | 440 | 470 |
| F | 571 | 755 | 755 | 840 |
| G | 66 | 77 | 77 | 81 |
| H | 258 | 258 | 258 | 330 |
| I | 140 | 150 | 150 | 150 |

3. INSTALLATION AND CONNECTION

3.1 Functional Diagram



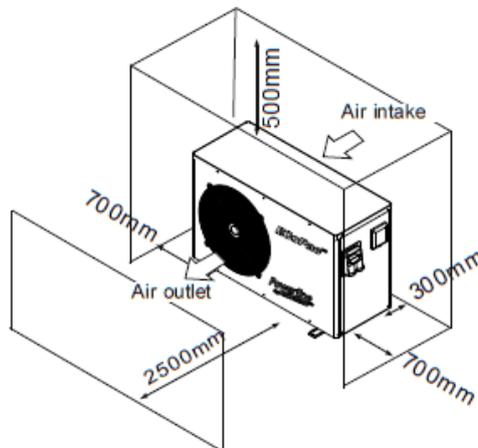
Note: The swimming pool heat pump unit is sold without any treatment or filtration equipment. The components shown on the diagram are parts to be supplied by the installation engineer.

3.2 Heat pump



Place the heat pump outside and away from any enclosed plant room.

Placed under a shelter, the minimum distances given below must be respected to avoid any risk of air recirculation and deterioration in the heat pump's overall performance.



3. INSTALLATION AND CONNECTION (continued)



It is advisable to install the heat pump on a separate concrete block or on a mounting bracket designed for this purpose and to mount the heat pump on the supplied rubber bushing (fastenings and washers not supplied).

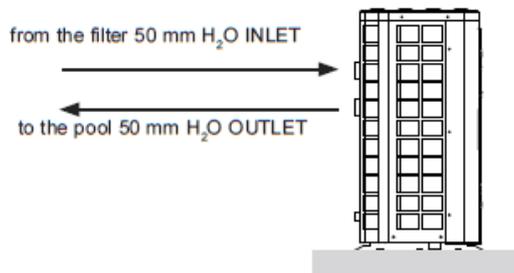
The maximum installation distance between the heat pump and the swimming pool is 15 metres.

The total length of the hydraulic pipes to and from the unit is 30 metres.

Insulate both surface and buried hydraulic pipes.

3.3 Hydraulic connection

The heat pump is supplied with two 50 mm diameter union connections. Use PVC tubing for the 50 mm hydraulic line. Connect the heat pump water inlet to the pipe from the filtration unit then connect the heat pump water outlet to the water pipe going to the pool (see diagram below).



Install by-pass valve between the inlet and outlet on the heat pump.



If an automatic distributor or an electrolyser is used, it must be installed after the heat pump to protect the titanium capacitor from high concentrations of chemical products.



Make sure you install the by-pass valve and union connections supplied to the unit's water inlet and outlet so as to simplify purging over the winter period, to facilitate access or dismantling for maintenance.

3. INSTALLATION AND CONNECTION (continued)

3.4 Electrical Connection



The electrical installation and wiring of this equipment must comply with local installation standards.

| | | | |
|-----|---|-----|-------------------------------------|
| F | NF C15-100 | GB | BS7671:1992 |
| D | DIN VDE 0100-702 | EW | EVHS-HD 384-7-702 |
| A | ÖVE 8001-4-702 | H | MSZ 2364-702/1994/MSZ 10-553 1/1990 |
| E | UNE 20460-7-702 1993, RECBT ITC-BT-31 2002 | M | MSA HD 384-7-702.S2 |
| IRL | Wiring Rules + IS HD 384-7-702 | PL | PN-IEC 60364-7-702:1999 |
| I | CEI 64-8/7 | CZ | CSN 33 2000 7-702 |
| LUX | 384-7.702 S2 | SK | STN 33 2000-7-702 |
| NL | NEN 1010-7-702 | SLO | SIST HD 384-7-702.S2 |
| P | RSIUEE | TR | TS IEC 60364-7-702 |



Check that the available electrical power supply and the network frequency correspond to the required operating current, taking into account the appliance's specific location and the current needed to power any other appliance connected to the same circuit.

81502 230 V_v +/- 10 % 50 Hz 1 Phase

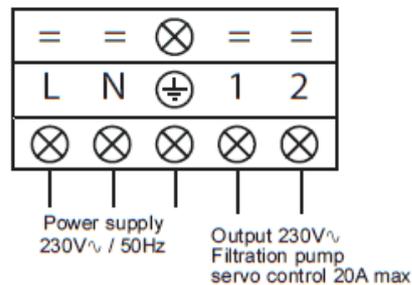
81512 230 V_v +/- 10 % 50 Hz 1 Phase

81522 230 V_v +/- 10 % 50 Hz 1 Phase

81542 230 V_v +/- 10 % 50 Hz 1 Phase

See the corresponding wiring diagram in the appendix.

The connection box is located on the right side of the unit. Three of the connections are for the power supply and two are for the filtration pump control (Servo control).



3. INSTALLATION AND CONNECTION (continued)



The electrical power supply must have a motor power supply (aM) or D-curve circuit breaker fuse protection device, as appropriate, and a 30mA earth-leak circuit breaker (see table below).

| Models | | RBH55H | RBH125H | RBH185H | RBH200H |
|-------------------------|-------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Electrical connection | V/Ph/ Hz | 230 V _~ 1/50 Hz |
| Fuse rating aM | A | 8 aM | 10 aM | 16 aM | 20 aM |
| D-curve circuit breaker | A | 8 D | 10 D | 16 D | 20 D |



Always turn off the mains power supply before opening the electrical control box.

3.5 Initial start-up

Start-up procedure – once installed, perform the following steps:

- 1) Turn the fan by hand to check that it turns freely, and that the blades are properly attached to the motor shaft.
- 2) Check that the unit is correctly connected to the main power supply (see wiring diagram in the appendix).
- 3) Turn on the filtration pump.
- 4) Check that all the water valves are open, and that the water flows towards the unit before switching on the heating mode.
- 5) Check that the condensate drainage hose is attached correctly and does not cause an obstruction.
- 6) Turn on the unit's power supply, then press the On/Off button  on the control panel.

3. INSTALLATION AND CONNECTION (continued)

- 7) Check that no ALARM code is displayed when the unit is ON (see troubleshooting guide).
- 8) Set the water flow rate using the by-pass valve (see Sections 3.6 and 2.1), as provided for on each model, to obtain a Entry/Exit temperature difference of 2°C.
- 9) After running for a few minutes, check that the air exiting the unit is cool (between 5 and 10°C).
- 10) With the unit operating, turn off the filter pump. The unit should turn off automatically and display error code E03.
- 11) Run the unit and pool pump 24 hours a day until the desired water temperature has been reached. When the set water inlet temperature is reached, the unit will shut down. It will restart automatically (provided the pool pump is running) if the pool temperature falls by 0.5°C below the set temperature.

Flow rate controller - The unit is fitted with a flow rate controller that turns on the heat pump when the pool filtration pump is running and turns it off if the filtration pump is off. If the water is low, alarm code E03 is displayed on the regulator (See Section 6.4).

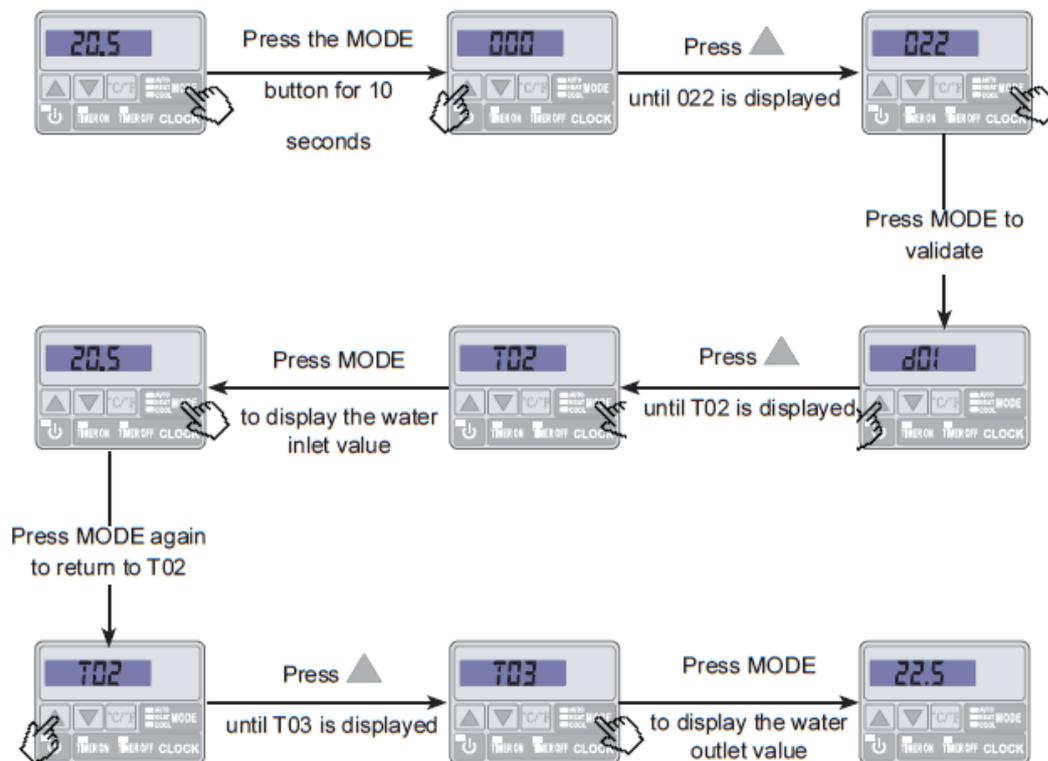
Time delay - the unit incorporates a time delay of 3 minutes to protect the control circuit components, eliminate any restart instability and any switch mechanism interference. Thanks to this time delay, the unit restarts automatically approximately 3 minutes after any loss of power to the control circuit. Even a brief loss of power activates the restart time delay.

3. INSTALLATION AND CONNECTION (continued)

3.6 Water flow setting

While the heat pump is running and the water inlet and outlet valves are open, adjust the by-pass valve to obtain a difference of 2°C between the water inflow and outflow temperature (see Functional Diagram Section 3.1). You can check the setting by viewing the inflow (T02)/outflow (T03) temperatures directly on the control panel by following the procedure below.

Then adjust the by-pass to obtain a difference of 2°C between T03 and T02



(T03-T02 = $\Delta T = 2$).

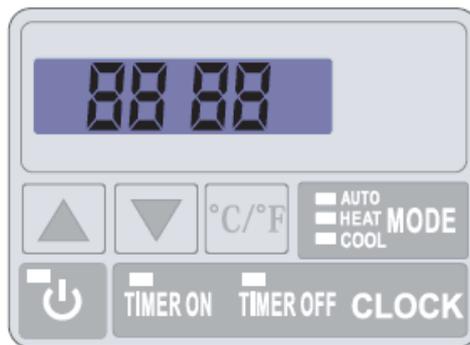
Press  twice to exit the menu

Note: Opening the by-pass valve creates a weaker flow which results in an increased ΔT .
Closing the by-pass valve creates a stronger flow which results in a decreased ΔT .

4. USER INTERFACE

4.1 Overview

The heat pump is fitted with an electronic control panel, electronically connected and pre-set at the factory to heating mode.



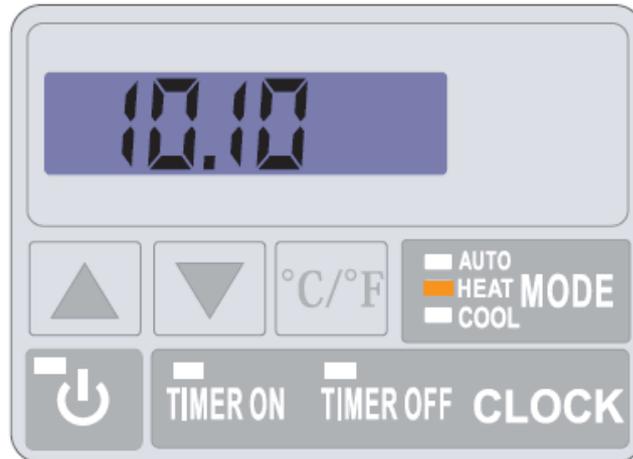
Key

-  **COOL** Cooling Mode symbol
-  **HEAT** Heating Mode symbol
-  **AUTO** Automatic mode
-  **CLOCK** Clock and Timer settings
-  **MODE** Selection and settings button
-  **Power** On/Off and Return/Validation button
-  **Down** Scroll down
-  **Up** Scroll up
-  **TIMER ON** On time setting
-  **TIMER OFF** Off time setting

4. USER INTERFACE (continued)

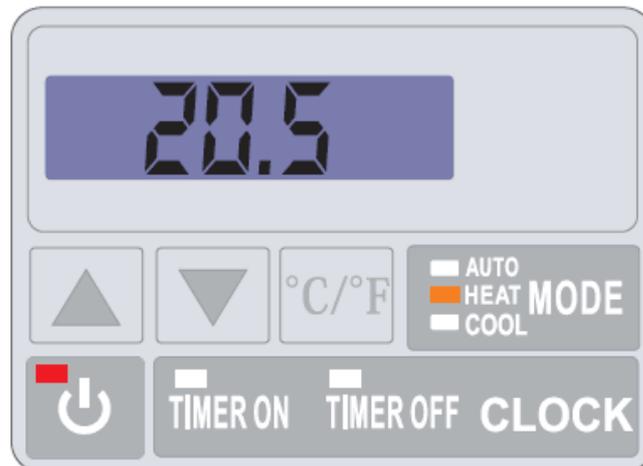
OFF Mode

When the heat pump is on standby(OFF Mode), the time and operating mode are displayed on the control screen.



ON Mode

When the heat pump is running or adjusting (ON Mode), the red light on the ON button is lit and the water inlet temperature is displayed on the screen.



4. USER INTERFACE (continued)

4.2 Setting the clock

The clock can be set in ON or OFF mode. Press CLOCK once and the display flashes then press CLOCK again and the hours flash. Set the hour using the arrows  or  then press CLOCK again to select minutes. Set the minutes using the arrows  or . Press CLOCK again to confirm. The display returns to its previous status.

Note: Settings are saved by pressing the CLOCK button or are saved automatically if no button is pressed after 5 seconds.

4.3 Setting the Timer function

This function needs to be set if you want to run your heat pump for a shorter period than the one set by the filtration clock. You can therefore programme a delayed start and an early shutdown or simply stop a particular period from running (e.g. the night).

Start Programme (Timer ON) / Start

- 1) Press Timer ON, the hour flashes.
- 2) Press Timer ON to set the hour using the buttons  .
- 3) Press Timer ON to set the minutes using the buttons  .

Settings are saved by pressing the Timer ON button or are saved automatically if no button is pressed after 5 seconds.

A green light indicates that the timer is on.

Stop programme (Timer OFF)/Stop

- 1) Press Timer OFF, the hour flashes.
- 2) Press Timer OFF to set the hour using the buttons  .
- 3) Press Timer OFF to set the minutes using the buttons  .

Settings are saved by pressing the Timer OFF button or are saved automatically if no button is pressed after 5 seconds.

A red light indicates that the timer is on.

4. USER INTERFACE (continued)

Turning off Timer settings (ON and OFF Timer)/Off and On

- 1) Press Timer ON, Timer ON flashes.
- 2) Press  to delete the programme.
- 3) Press Timer OFF, Timer OFF flashes.
- 4) Press  to delete the programme.

4. USER INTERFACE (continued)

4.4 Settings and viewing the set point (Desired water temperature)

In “OFF” and “ON” Mode

Press the buttons  or  to set the desired set point. Settings are made to an accuracy of 0.5 °C.



It is recommended never to exceed 30°C to avoid deterioration of the liners.

Note: Whether on or off, all you need to do is press the  or  button to view or change the set point.

4.5 Locking and unlocking the touch screen

Press the On/Off  button for 5 seconds until it beeps. The buttons become inactive.

To unlock, press  for 5 seconds until it beeps.

The buttons become active again.

5. MAINTENANCE AND WINTERISATION

5.1 Maintenance

These maintenance operations must be carried out once a year to guarantee the heat pump's life-span and serviceability.

- Clean the coil using a soft brush or a water or air jet (**Warning, never use a high pressure cleaner**).
- Check that the condensate drains are working well.
- Check that the hydraulic and electrical connections are secure
- Check the coil's hydraulic seal.



The heat pump must be disconnected from any electrical power source before any maintenance operation can be carried out. Maintenance operations must only be carried out by a qualified engineer, authorised to handle refrigerants.

5.2 Winterisation

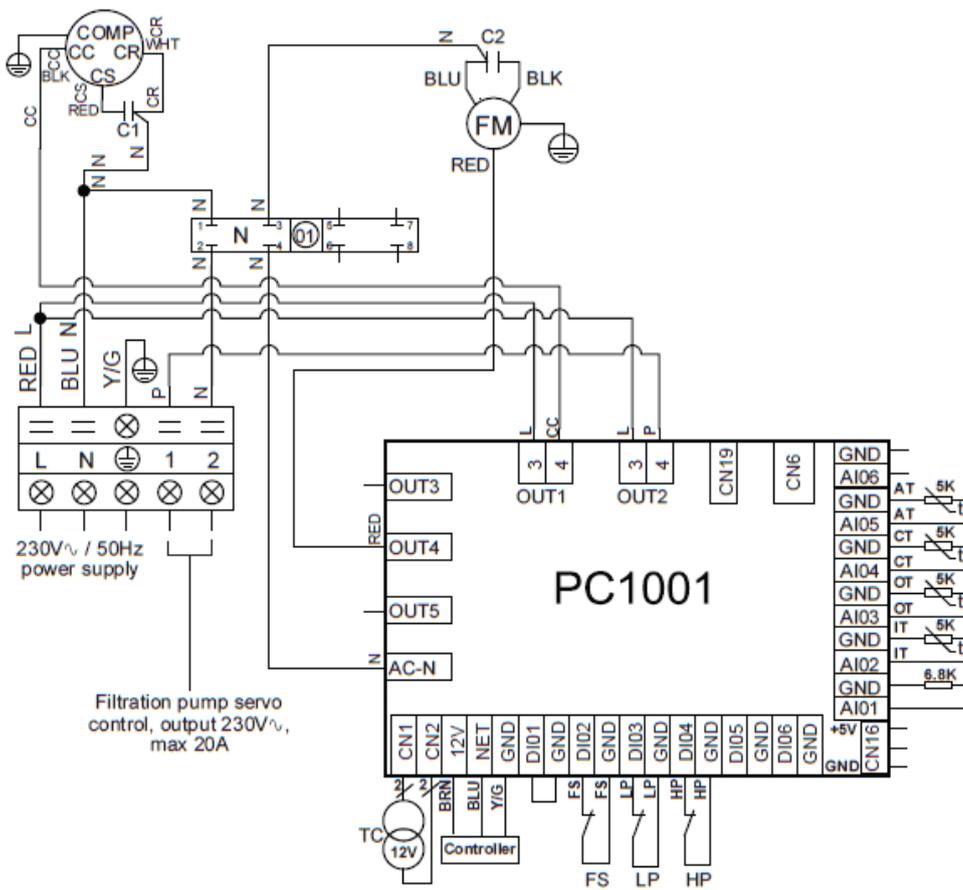
- Switch the heat pump to "OFF" Mode.
- Turn off the power supply to the heat pump.
- Drain the coil to avoid any risk of deterioration. (High risk of freezing).
- Close the by-pass valve and unscrew the inlet/outlet union connections.
- Drain as much of the residual stagnant water as possible from the coil using a blow gun.
- Close the water inlet and outlet on the heat pump to stop foreign bodies entering.
- Cover the heat pump with a winter cover (not supplied).



Any damage caused by poor winterisation invalidates the warranty.

6. APPENDICES

6.1 Wiring diagrams RBH55H



COMMENT:

AT: AIR TEMPERATURE SENSOR

COMP: COMPRESSOR

CT: EVAPORATOR TEMPERATURE SENSOR

FM: FAN MOTOR

FS: WATER DETECTOR

HP: HIGH-PRESSURE SWITCH

IT: WATER INLET TEMPERATURE SENSOR

LP: LOW-PRESSURE SWITCH

OT: WATER OUTLET TEMPERATURE SENSOR

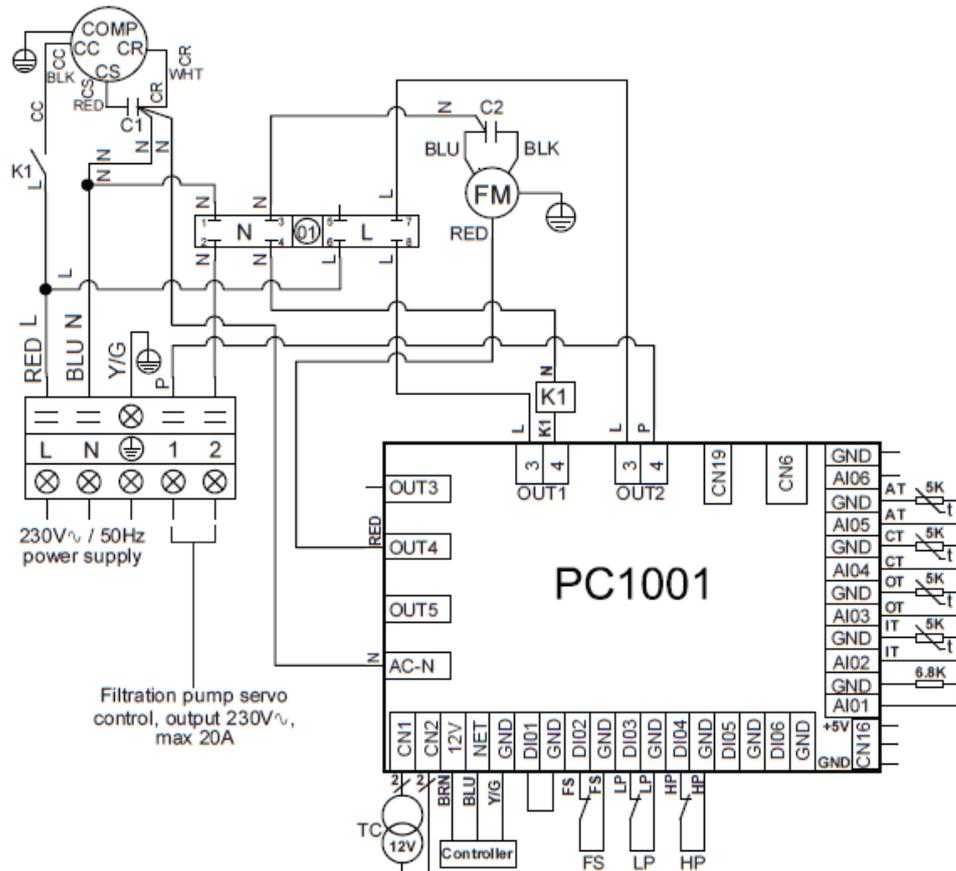
TC : 230V~/ 12V~ TRANSFORMER

C1: COMPRESSOR CAPACITOR

C2: FAN CAPACITOR

6. APPENDICES (continued)

RBH125H



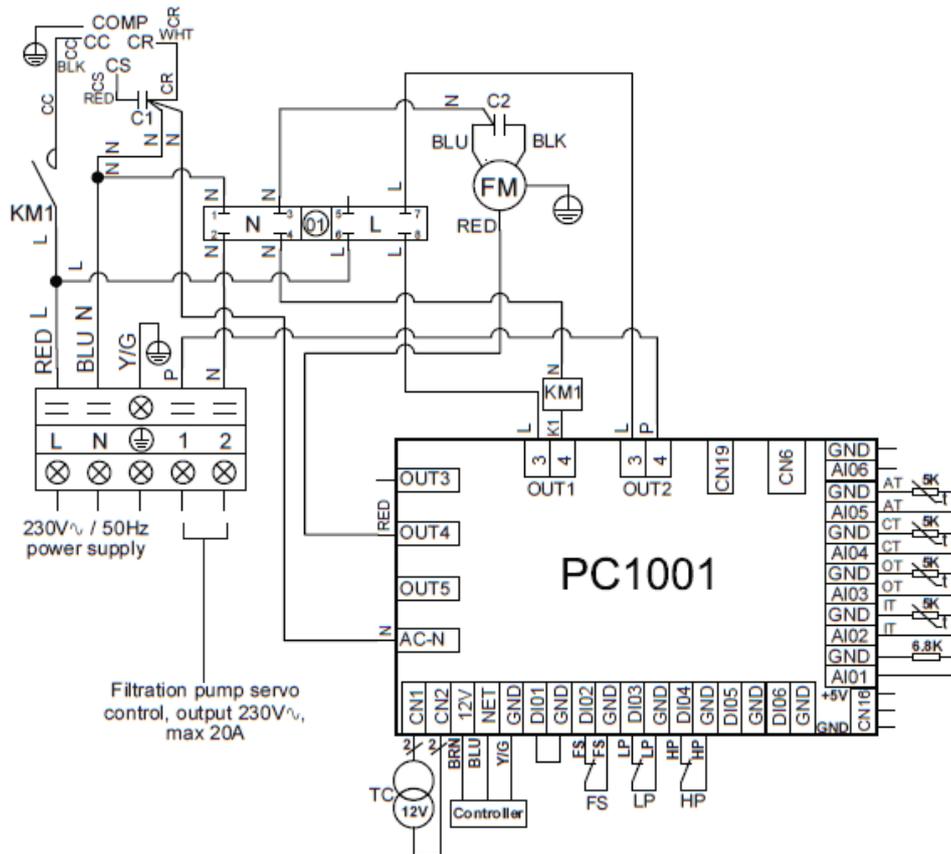
COMMENT:

AT: AIR TEMPERATURE SENSOR
 COMP: COMPRESSOR
 CT: EVAPORATOR TEMPERATURE SENSOR
 FM: FAN MOTOR
 FS: WATER DETECTOR
 HP: HIGH-PRESSURE SWITCH
 IT: WATER INLET TEMPERATURE SENSOR

LP: LOW-PRESSURE SWITCH
 OT: WATER OUTLET TEMPERATURE SENSOR
 TC : 230V~ / 12V~ TRANSFORMER
 K1: COMPRESSOR RELAY
 C1: COMPRESSOR CAPACITOR
 C2: FAN CAPACITOR

6. APPENDICES (continued)

RBH185H



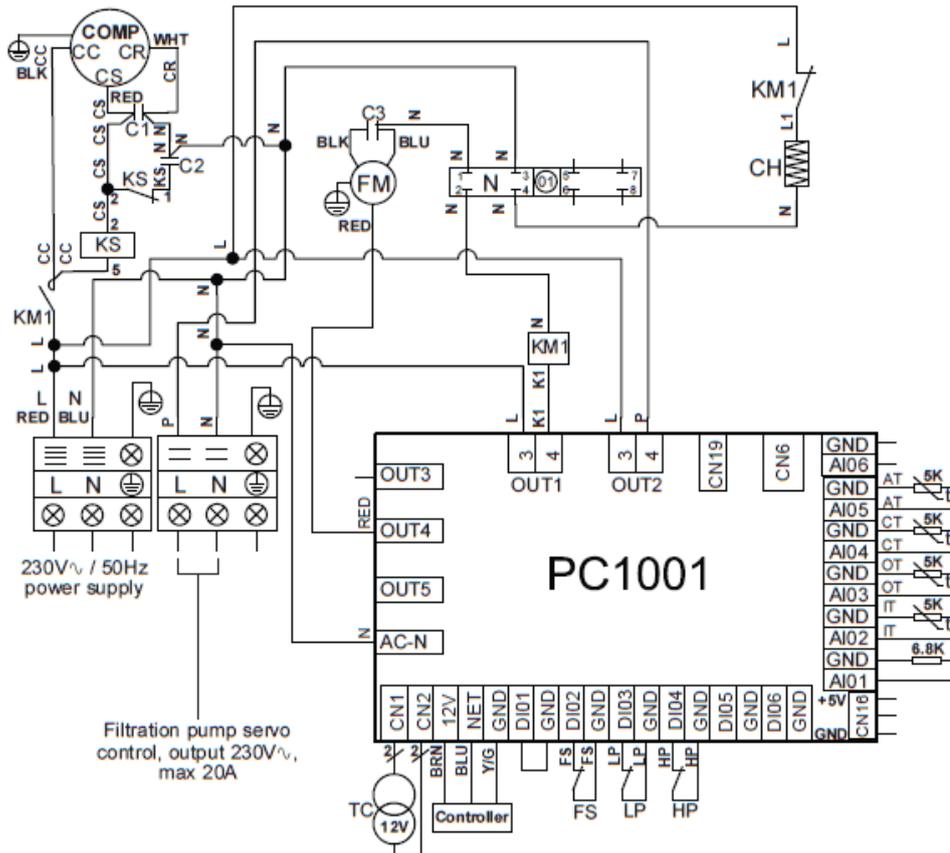
COMMENT:

AT: AIR TEMPERATURE SENSOR
 COMP: COMPRESSOR
 CT: EVAPORATOR TEMPERATURE SENSOR
 FM: FAN MOTOR
 FS: WATER DETECTOR
 HP: HIGH-PRESSURE SWITCH
 IT: WATER INLET TEMPERATURE SENSOR

LP: LOW-PRESSURE SWITCH
 OT: WATER OUTLET TEMPERATURE SENSOR
 TC : 230V~/12V~ TRANSFORMER
 KM1: COMPRESSOR POWER CONTACT
 C1: COMPRESSOR CAPACITOR
 C2: FAN CAPACITOR

6. APPENDICES (continued)

RBH200H



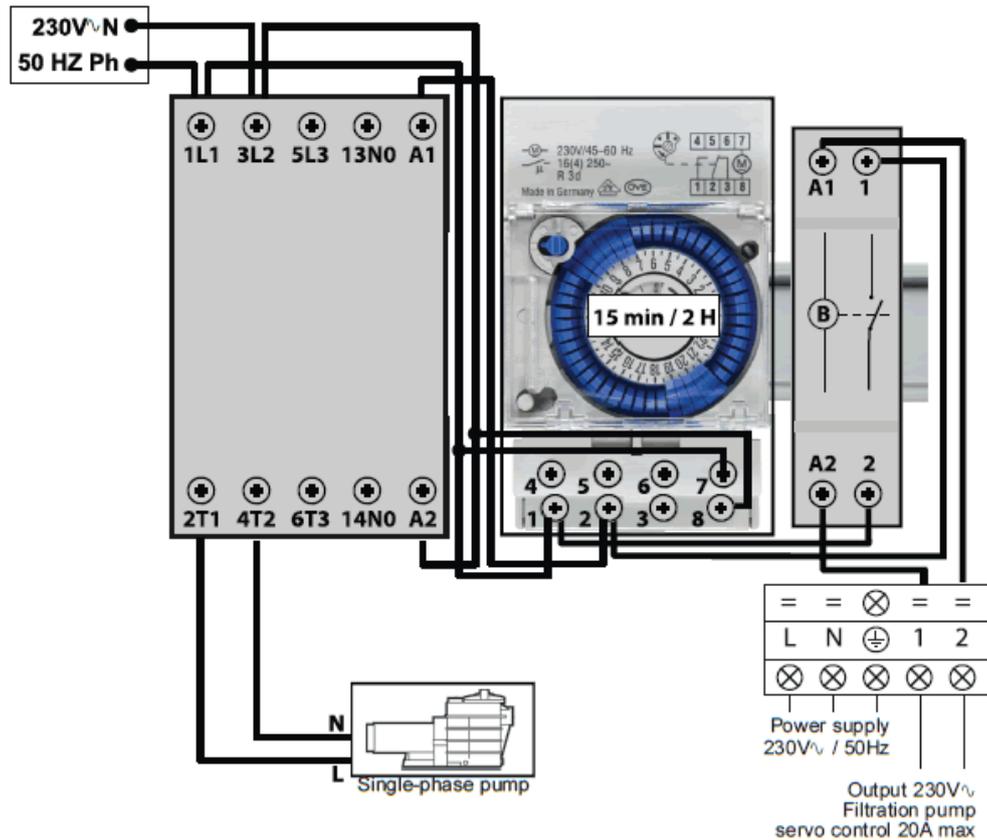
COMMENT:

AT: AIR TEMPERATURE SENSOR
 COMP: COMPRESSOR
 CH: SUMP HEATER
 CT: EVAPORATOR TEMPERATURE SENSOR
 FM: FAN MOTOR
 FS: WATER DETECTOR
 HP: HIGH-PRESSURE SWITCH
 IT: WATER INLET TEMPERATURE SENSOR

KS: COMPRESSOR START RELAY COIL
 LP: LOW-PRESSURE SWITCH
 OT: WATER OUTLET TEMPERATURE SENSOR
 TC : 230V~/ 12V~ TRANSFORMER
 KM1: COMPRESSOR POWER CONTACT
 C1: PERMANENT CAPACITOR
 C2: START CAPACITOR

6. APPENDICES (continued)

6.2 Heating priority connections Single-Phase Pump



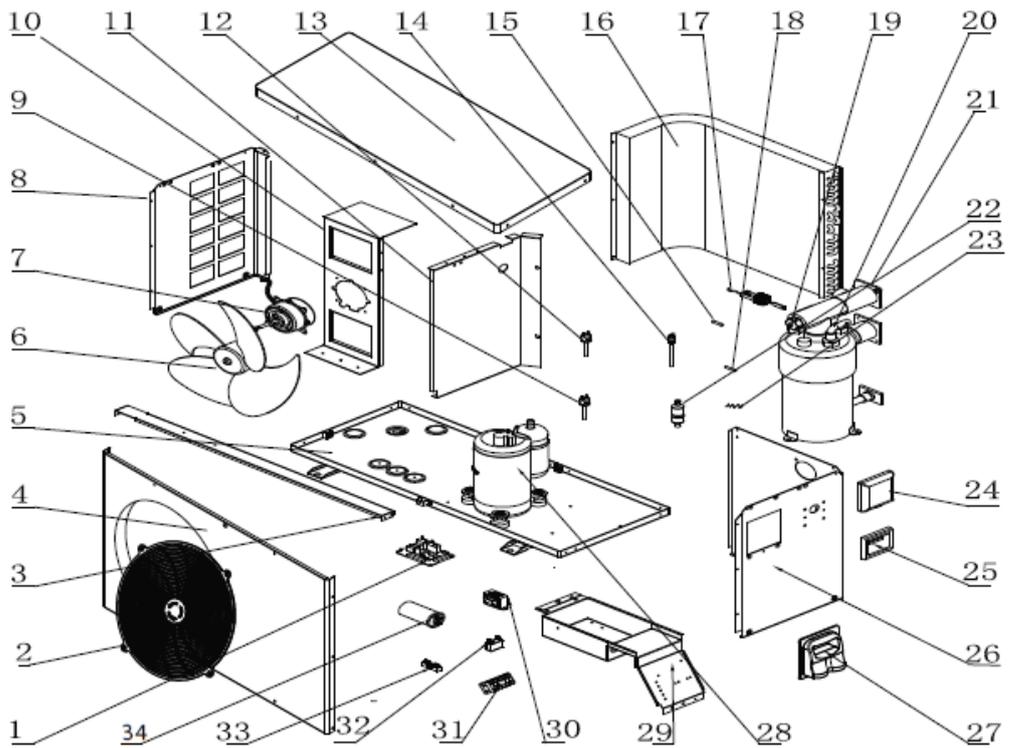
Outside the filtration range, the water temperature needs to be checked by the regular starting of the filtration pump (15 minutes every 2 hours). If the heat pump is needed during this checking period, it will start up and retain the heating priority.



6. APPENDICES (continued)

6.3 Exploded view and spare parts

·RBH55H



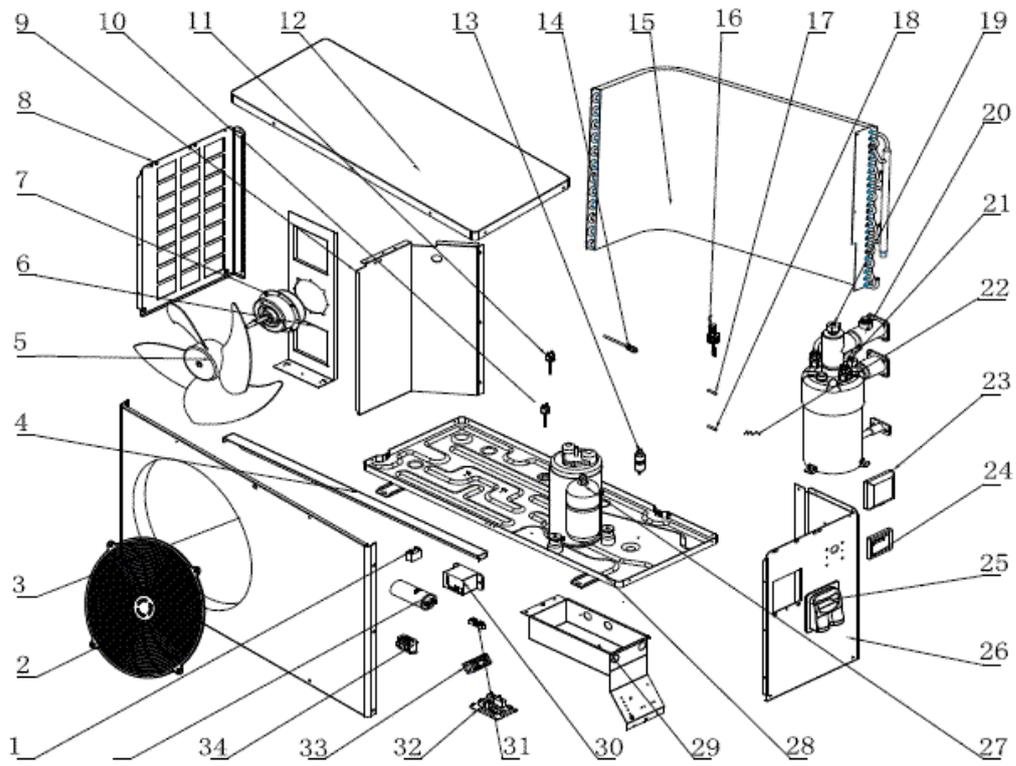
6. APPENDICES (continued)

RBH55H

| N | Ref. | Description | N | Ref. | Description |
|----|----------------|----------------------|----|----------------|---|
| 1 | HWX950531145 | PC1001 circuit board | 21 | HWX32025120030 | Titanium/PVC capacitor |
| 2 | HWX20000220245 | Grille | 22 | HWX20041446 | Filter (diam. 9.7- diam. 3.4) |
| 3 | HWX32025210099 | Stiffener | 23 | HWX20009910 | Capillary |
| 4 | HWX32025210096 | Front panel | 24 | HWX20002111 | Controller protective cover |
| 5 | HWX32025210102 | Frame | 25 | HWX950531188 | 7-segment controller |
| 6 | HWX34012701 | Fan blade | 26 | HWX32025210098 | Right panel |
| 7 | HWX34013301 | Fan motor | 27 | HWX320922029 | Handle |
| 8 | HWX32025210097 | Left panel | 28 | HWX200011006 | Compressor |
| 9 | HWX20003603 | Low pressure switch | 29 | HWX32025210103 | Electrical box |
| 10 | HWX322521061 | Motor bracket | 30 | HWX200037006 | 230V _~ /12V _~ transformer |
| 11 | HWX32025210101 | Centre wall | 31 | HWX40003901 | 5-point terminal block |
| 12 | HWX20013605 | High pressure switch | 32 | HWX20003506 | Fan capacitor 2 μ F |
| 13 | HWX32025210100 | Top cover | 33 | HWX20003909 | 2-point terminal block |
| 14 | HWX200014153 | Schröder valve | 34 | HWX20003504 | Compressor capacitor 35 μ F |
| 15 | HWX20003242 | Temperature sensor | | | |
| 16 | HWX40001230 | Coil | | | |
| 17 | HWX200036005 | Flow detector | | | |
| 18 | HWX20003242 | Temperature sensor | | | |
| 19 | HWX20003242 | Temperature sensor | | | |
| 20 | HWX20003242 | Temperature sensor | | | |

6. APPENDICES (continued)

RBH125H



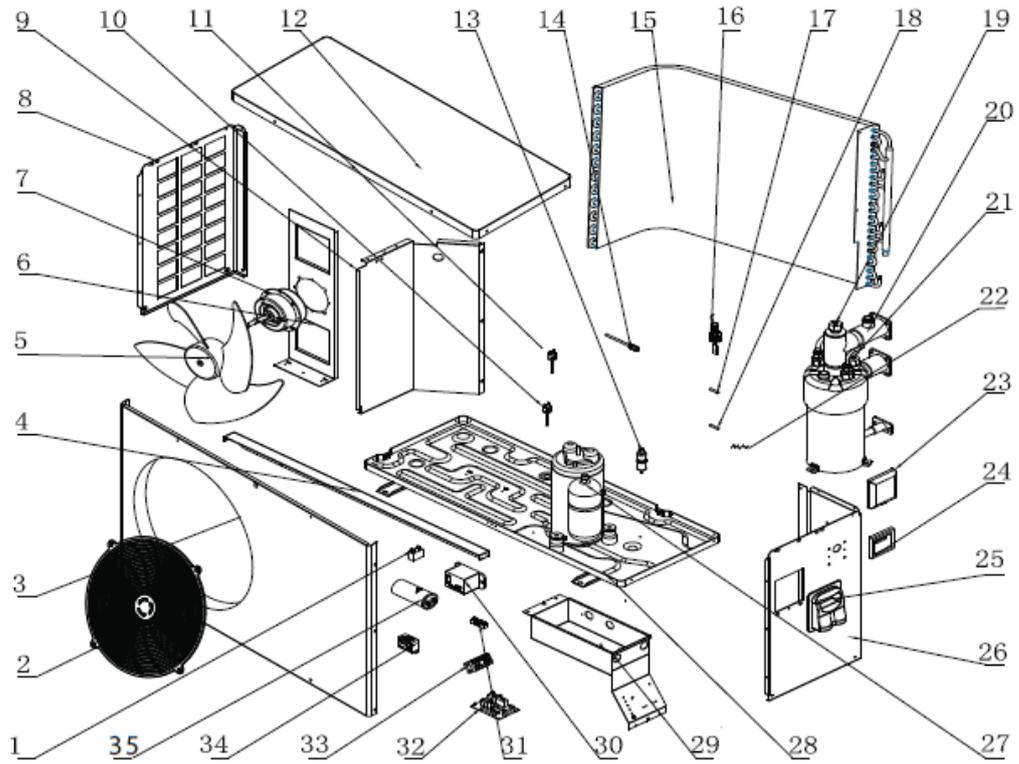
6. APPENDICES (continued)

RBH125H

| N | Ref. | Description | N | Ref. | Description |
|----|----------------|--------------------------------|----|----------------|---------------------------------------|
| 1 | HWX20003501 | Fan capacitor 3 μ F | 21 | HWX20003242 | Temperature sensor |
| 2 | HWX20000220188 | Grille | 22 | HWX20009909 | Capillary |
| 3 | HWX32012210278 | Front panel | 23 | HWX20002111 | Controller protective cover |
| 4 | HWX32012210281 | Stiffener | 24 | HWX950531188 | 7-segment controller |
| 5 | HWX35002701 | Fan blade | 25 | HWX320922029 | Handle |
| 6 | HWX321221174 | Motor bracket | 26 | HWX32012210280 | Right panel |
| 7 | HWX34043301 | Fan motor | 27 | HWX200011135 | Compressor |
| 8 | HWX32012210279 | Left panel | 28 | HWX321221177 | Frame |
| 9 | HWX3201221083 | Centre wall | 29 | HWX321221176 | Electrical box |
| 10 | HWX20013605 | High pressure switch | 30 | HWX20003619 | Relay |
| 11 | HWX20003603 | Low pressure switch | 31 | HWX20003909 | 2-point terminal block |
| 12 | HWX32012210282 | Top cover | 32 | HWX950531145 | PC1001 circuit board |
| 13 | HWX20041446 | Filter (diam. 9.7 - diam. 3.4) | 33 | HWX40003901 | 5-point terminal block |
| 14 | HWX20000140150 | Schröder valve | 34 | HWX200037006 | 230V \surd /12V \surd transformer |
| 15 | HWX34061204 | Coil | 35 | HWX20003510 | Compressor capacitor 60 μ F |
| 16 | HWX200036005 | Flow detector | | | |
| 17 | HWX20003242 | Temperature sensor | | | |
| 18 | HWX20003242 | Temperature sensor | | | |
| 19 | HWX20003242 | Temperature sensor | | | |
| 20 | HWX32008120035 | Titanium/PVC capacitor | | | |

6. APPENDICES (continued)

RBH185H



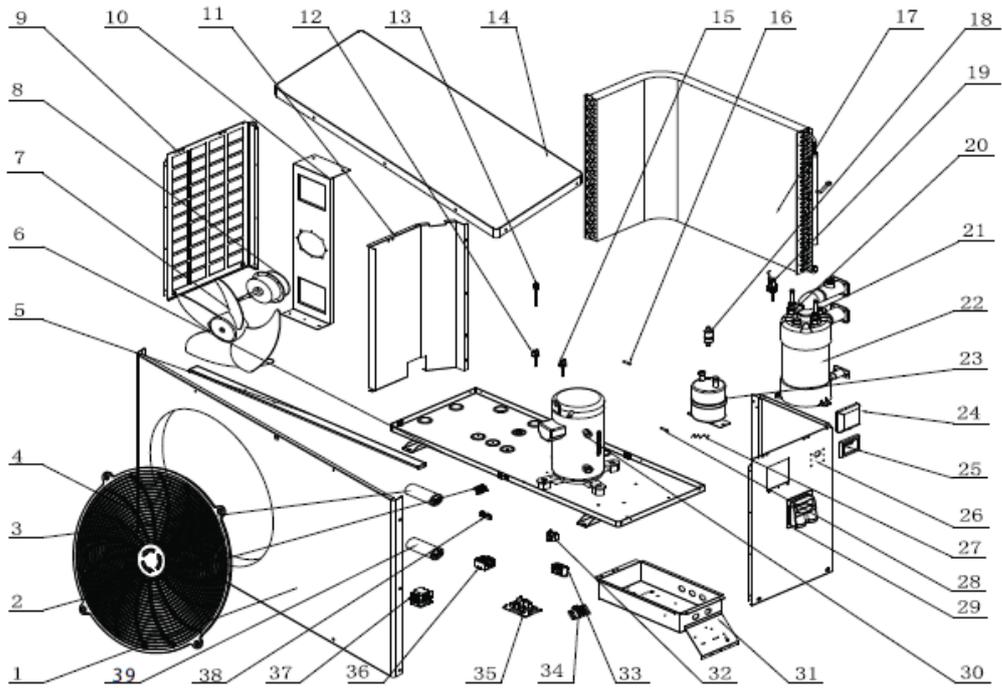
6. APPENDICES (continued)

RBH185H

| N | Ref. | Description | N | Ref. | Description |
|----|----------------|--------------------------------|----|----------------|---|
| 1 | HWX20003501 | Fan capacitor 3 μ F | 21 | HWX20003242 | Temperature sensor |
| 2 | HWX20000220188 | Grille | 22 | HWX20009909 | Capillary |
| 3 | HWX32012210278 | Front panel | 23 | HWX20002111 | Controller protective cover |
| 4 | HWX32012210281 | Stiffener | 24 | HWX950531188 | 7-segment controller |
| 5 | HWX35002701 | Fan blade | 25 | HWX320922029 | Handle |
| 6 | HWX321221174 | Motor bracket | 26 | HWX32012210280 | Right panel |
| 7 | HWX34043301 | Fan motor | 27 | HWX200011134 | Compressor |
| 8 | HWX32012210279 | Left panel | 28 | HWX321221177 | Frame |
| 9 | HWX32012210283 | Centre wall | 29 | HWX321221176 | Electrical box |
| 10 | HWX20013605 | High pressure switch | 30 | HWX200036006 | Compressor switch |
| 11 | HWX20003603 | Low pressure switch | 31 | HWX20003909 | 2-point terminal block |
| 12 | HWX32012210282 | Top cover | 32 | HWX950531145 | PC1001 circuit board |
| 13 | HWX20041446 | Filter (diam. 9.7 - diam. 3.4) | 33 | HWX40003901 | 5-point terminal block |
| 14 | HWX20000140150 | Schröder valve | 34 | HWX200037006 | 230V _v /12V _v transformer |
| 15 | HWX321212002 | Coil | 35 | HWX20003505 | Compressor capacitor 50 μ F |
| 16 | HWX200036005 | Flow detector | 36 | | |
| 17 | HWX20003242 | Temperature sensor | 37 | | |
| 18 | HWX20003242 | Temperature sensor | 38 | | |
| 19 | HWX20003242 | Temperature sensor | 39 | | |
| 20 | HWX32012120043 | Titanium/PVC capacitor | | | |

6. APPENDICES (continued)

RBH200H



6. APPENDICES (continued)

RBH200H

| N | Ref. | Description | N | Ref. | Description |
|----|----------------|-----------------------------------|----|----------------|---|
| 1 | HWX32009210259 | Front panel | 23 | HWX35001401 | Battery |
| 2 | HWX20003933 | 3-point terminal block | 24 | HWX20002111 | Controller protective cover |
| 3 | HWX20003524 | Start-up capacitor CPS 98 μ F | 25 | HWX950531188 | 7-segment controller |
| 4 | HWX20000220169 | Grille | 26 | HWX32009210264 | Right panel |
| 5 | HWX32009210263 | Stiffener | 27 | HWX20009922 | Capillary |
| 6 | HWX320921144 | Frame | 28 | HWX20003242 | Temperature sensor |
| 7 | HWX20000270004 | Fan blade | 29 | HWX320922029 | Handle |
| 8 | HWX20000330134 | Fan motor | 30 | HWX20011169 | Compressor |
| 9 | HWX32009210260 | Left panel | 31 | HWX320921151 | Electrical box |
| 10 | HWX32009210274 | Motor bracket | 32 | HWX20003509 | Fan capacitor 5 μ F |
| 11 | HWX32009210261 | Centre wall | 33 | HWX200037006 | 230V _~ /12V _~ transformer |
| 12 | HWX20013605 | High pressure switch | 34 | HWX20003920 | 3-point terminal block |
| 13 | HWX200014153 | Schröder valve | 35 | HWX950531145 | PC1001 circuit board |
| 14 | HWX32009220038 | Top cover | 36 | HWX20003676 | Relay |
| 15 | HWX20003603 | Low pressure switch | 37 | HWX200036007 | Compressor switch |
| 16 | HWX20003242 | Temperature sensor | 38 | HWX20003909 | 2-point terminal block |
| 17 | HWX32009120028 | Coil | 39 | HWX20003510 | Compressor capacitor 60 μ F |
| 18 | HWX20041445 | Filter (diam. 9.7- diam. 4.2) | | | |
| 19 | HWX200036005 | Flow detector | | | |
| 20 | HWX20003242 | Temperature sensor | | | |
| 21 | HWX20003242 | Temperature sensor | | | |
| 22 | HWX32009120027 | Titanium/PVC capacitor | | | |

6. APPENDICES (continued)

6.4 Troubleshooting guide



Certain operations must be performed by an approved engineer.

| Fault | Error codes | Description | Solution |
|---|-------------|--|--|
| Water inlet sensor fault | P01 | The sensor is open or has short-circuited. | Check or replace the sensor. |
| Water outlet sensor fault | P02 | The sensor is open or has short-circuited. | Check or replace the sensor. |
| Outside temperature sensor fault | P04 | The sensor is open or has short-circuited. | Check or replace the sensor. |
| De-icing sensor fault | P05 | The sensor is open or has short-circuited. | Check or replace the sensor. |
| High pressure protection | E01 | Refrigerating circuit pressure too high or water flow too low or coil obstructed or air flow too weak. | Check the high pressure switch and the refrigerating circuit pressure. Check the water or air flow. Check the flow controller is working properly. Check that the water inlet/outlet valves are opening. Check the by-pass settings. |
| Low pressure protection | E02 | Refrigerating circuit pressure too low or air flow too weak or coil obstructed. | Check the low pressure switch and the refrigerating circuit pressure to see if there is a leak. Clean the coil surface. Check the fan rotation speed. Check the free circulation of air through the coil. |
| Flow sensor fault | E03 | Insufficient water flow or sensor short-circuited or faulty | Check the water flow, check the filtration pump and flow sensor for any faults. |
| Temperature difference too great between the outlet and inlet water | E06 | Insufficient water flow volume, water pressure difference too low/too high. | Check the water flow or for a system obstruction. |
| Communication problem | E08 | LED controller or PCB connection fault. | Check the wiring. |
| Level 1 antifreeze protection | E19 | Air and inlet water temperature too low. | Turn off the heat pump and drain the capacitor. Freezing risk. |
| Level 2 antifreeze protection | E29 | Air and inlet water temperature even lower. | Turn off the heat pump and drain the capacitor. Freezing risk. |
| Antifreeze protection air side | EC | | |

6. APPENDICES (continued)

6.5 Warranty

WARRANTY CONDITIONS

All **Calyenty** products are guaranteed to be free from manufacturing or material faults for a period of two years as from the date of purchase. Any claim made under the terms of the warranty must be accompanied by a dated proof of purchase. We therefore recommend that you keep your invoice.

The **Calyenty** warranty is limited to the repair or replacement, at **Calyenty's** discretion, of faulty products, provided they have been used under normal conditions, as described in their user guide, and that the product has not been modified in any way and has been used only with **Calyenty** components and parts. Frost and chemical damage are not covered.

No other costs (transportation, labour, etc.) are covered by the warranty.

Calyenty cannot be held liable for any direct or indirect damage caused by the incorrect installation, connection or operation of a product.

Please contact your retailer if you want to make a claim under the terms of the warranty and request the repair or replacement of an item. No equipment returned to our factory will be accepted without our prior written agreement.

Worn parts are not covered by the warranty.