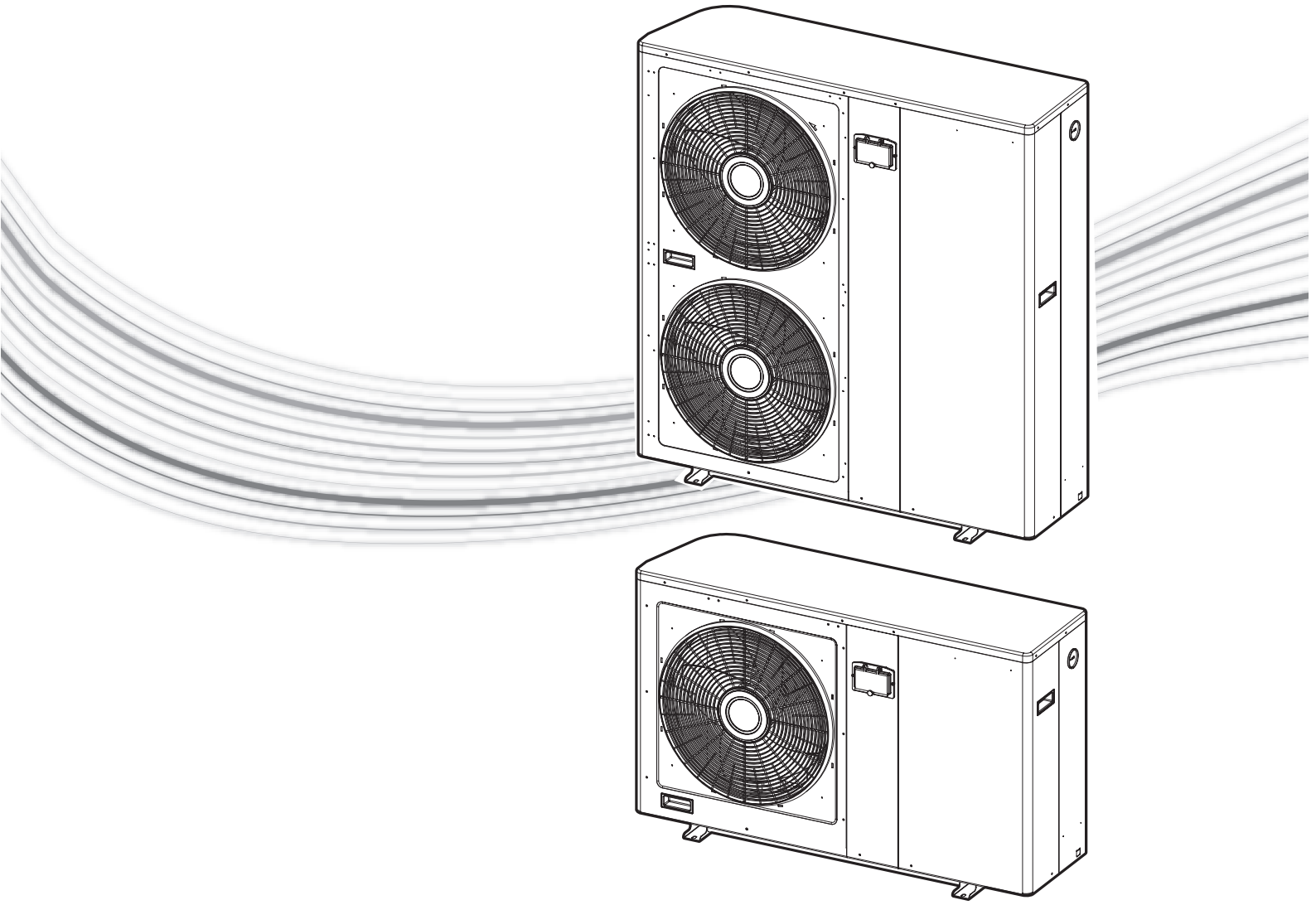
BAXI

Commissioning Instructions



Ambiflo™ Heat Pump System
7kW to 10.5kW Inclusive

Air to Water Heat Pump
for
Outdoor Installation

Legislation

Information regarding the refrigerant used in this appliance (R410A)

NOTE: Any work requiring access to the refrigerant circuit must only be carried out by a refrigerant competent engineer.

R 410 A is a high-pressure refrigerant (+ 50% in relation to R 22 and R 407 C). Compressors approved for operation with this fluid are filled beforehand with polyalcohol oil. Contrary to mineral oil, it is very hygroscopic: it absorbs the humidity of the ambient air very quickly. This can modify its lubricant properties and will lead to serious damage to the compressor. Refrigerant material can be hazardous. Contact Baxi Technical Enquiries 0844 871 1568 for further information.

Maintenance Instructions

1. Never add oil to the appliance; the compressor is filled with polyalcohol oil, a special oil which cannot tolerate the presence of other oils.

2. Instruments used for the following:
- filling,
- pressure measurements,
- emptying under vacuum,
- recovering the fluid,

must be compatible with and only used for R410A fluid.

NOTE: the pressure taps of the refrigerating circuit are 5/16 SAE (112-20- UNF)

3. In the case of a new charge:
- the charge must be undertaken in liquid phase,
- use a balance and a dip pipe type R 410A cylinder,
- charge the weight of R410A as per the value indicated on the unit's identification plate.

4. In case of leakage, do not complete the charge: recover the remaining refrigerant for recycling and perform a total charge. Recovery, recycling or the destruction of the fluid must be done in compliance with the laws in force in the UK.

5. If the refrigerant circuit is opened, you must:
- avoid the entry of air into the circuit as much as possible,
- replace or install a drier,
- perform the "vacuum operation" at a minimum level of 0.3 mbar (static).

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c) Completion of a suitable commissioning document which must be left on site for the end users records
d) Set up and check of the product by heateam or its approved agent
e) Use of a suitable dirt separator and / or use of a magnetic cleaning device on all applications
f) If necessary, provision of safe access by the homeowner or relevant organisation to any parts of the unit mounted above two metres in accordance with the latest HSE Working at Height regulations

CE Marking

This product is CE marked and conforms to the essential requirements of the following Directives:

- Low voltage no. 73/23 EEC, modified 93/68 EEC.
- Electromagnetic Compatibility no. 891336 EEC, modified 92/31 and 93/68 EEC.

Electrical equipment is in accordance with standard EN 60 335-2-40

The following standards and directives should also be considered when installing this unit.
Current Wiring Redulations BS 7671
HVAC TR/30 Guide to good practice - Heat pumps
BS EN 15450: 2007 Heating systems in buildings - Design of heat pump heating systems
EC Regulation No 842/2006 on certain fluorinated greenhouse gases: Supplementary guidance for stationary refrigeration air conditioning and heat pumps

ISO 9001
FM 00866

Health & Safety Information

In order to reduce the number of fatalities and major accidents attributable to working at height, the Health and Safety Executive has introduced comprehensive regulations and guidance that should be followed by all businesses working at height.

We consider in the following paragraphs some of the main features of the regulations and guidance. This is, however, only a limited summary and it is recommended that all businesses planning on undertaking air source heat pump heating installations obtain a copy of the regulations and guidance issued by the Health and Safety Executive and carefully consider the contents.

The regulations and guidance state that you are required to carry out a risk assessment for all work conducted at height and to put in place arrangements for:

- Eliminating or minimising risks from work at height.
- Safe systems of work for organising and performing work at height.
- Safe systems for selecting suitable work equipment.
- Safe systems for protecting people from the consequences of work at height.

The regulations and guidance highlight a hierarchy for safe work at height:

- **Avoid** the risk by not working at height if practicable.
- **Prevent** falls. Where it is not reasonably practicable to avoid work at height, you are required to take suitable and sufficient steps to prevent the risk of a fall including selecting the most suitable work equipment (in accordance with the regulations).
- **Mitigate** the consequences of a fall; where the risk of a person or object falling still remains, take suitable and sufficient measures to minimise the distance and consequences of any fall.

Collective protection measures, such as guard rails on scaffold, should be given priority over personal protection measures, such as safety harnesses.

Within the regulations' framework, you are required to:

1) Assess the risk to help you decide how to work safely.
2) Follow the hierarchy for safe work at height (i.e. avoid, prevent and mitigate).
3) Plan and organise your work properly, taking account of weather conditions and the possibility of emergencies.
4) Make sure those working at height are competent.
5) Make use of appropriate work equipment.
6) Manage the risks from working on or around fragile surfaces and from falling objects.
7) Inspect and maintain the work equipment to be used and inspect the place where the work will be carried out for both access and egress.

When preparing to install an air source heat pump heating system, it is required that you perform a risk assessment in relation to work at height and plan how you will organise your work, taking into account the site, the weather conditions and the experience and competence of colleagues or contractors who may be working at height with you.

The HSE has published a number of very useful free publications that advise how to undertake risk assessments.

Two of these that you should obtain are:
Five Steps to Risk Assessment.
A Guide to Risk Assessment Requirements.

The five steps outlined in the HSE leaflet are:
Step 1: Look for the hazards
This will mean looking at the site and identifying significant hazards. For example, avoid fragile surfaces and hazardous areas where the Heat Pump may be mounted. Do not work on uneven ground and avoid obstructions where access to the Heat Pump may be required. Always fix ladders and platforms securely before commencing work.

Step 2: Decide who may be harmed and how.
This might mean considering the particular risks that young workers or trainees might face and thinking about the residents of the household or visitors who could be hurt by your activities.

Step 3: Evaluate the risks and decide which precautions should be made. You should consider how likely it is that each hazard will cause harm, decide which precautions you might take and then assess, after you have taken those precautions, whether the remaining risk will be high, medium or low. Where you identify remaining risks, you should consider which further action you could take to control the risks so that harm is unlikely.

Step 4: Record your findings
If you have fewer than five employees you do not need to write anything down, though it is useful to keep a written record of what you have done. If you employ five or more people you must record the significant findings of your assessment. You must also tell your employees about your findings. You need to be able to show that a proper check was made, that you considered who might be affected, that you dealt with all the obvious significant hazards, that the precautions you propose are reasonable and that the remaining risk is low.

Step 5: Review your assessment if necessary
Each air source heat pump heating installation may bring its own challenges and present its own particular hazards. You should therefore be careful not to rely on a "standard" risk assessment for installing an air source heat pump heating system in a house, but review the particular hazards for each new situation. The issue of work equipment must be considered, but at the preparation stage you should consider where scaffold or other access equipment might be positioned and look out for any obvious obstacles to this, such as a conservatory or porch.
In addition to the risks associated with work at height, you should also consider the risks associated with moving the air source heat pump into position, using electric drills and using blow lamps or blow torches for soldering. This is not an exclusive list and so you should consider all aspects of the proposed installation to assess whether there are additional risks that need to be taken into account.

CONTENTS

1.0 Introduction

1.1 General Information

1. The guarantee is affected if the commissioning of the unit is not carried out in accordance with the manufacturer's instructions.

2. **IMPORTANT:-** The terms of the Baxi Ambiflo™ warranty require the installation is set up and checked (from Section 4 onwards) by one of our heateam engineers. This service is chargeable and can be arranged, via the telephone, directly with heateam. Please have the serial number of the Baxi Ambiflo™ available when booking this service.

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c) Completion of a suitable commissioning document which must be left on site for the end users records
d) Set up and check of the product by heateam or its approved agent
e) Use of a suitable dirt separator and / or use of a magnetic cleaning device on all applications
f) If necessary, provision of safe access by the homeowner or relevant organisation to any parts of the unit mounted above two metres in accordance with the latest HSE Working at Height regulations

3. Baxi set up and test can be arranged by telephoning 0844 871 1568 to arrange a suitable date for heateam to visit the appliance and complete the set up. Please refer to the pre-commissioning check list included in the literature pack for details of the work that must be completed prior to the set up and test visit. We aim to process your request within 7 days of receipt.

4. **NOTE: If any of the pre commissioning requirements (installation and then commissioning up to end of Section 3) are not completed by the arranged date, and therefore the set up can not be completed, a charge may be levied for a return call.**

5. This booklet contains information regarding the commissioning of the Baxi Ambiflo™ Heat Pump System. The following system components have their own independent instruction booklets, which should be referred to as necessary.

a) Installation, Service and Maintenance of the Ambiflo™ Heat pump and system.
b) Baxi Ambiflo™ 5kW Electrical heater.

6. The User's instructions are also in a separate document and should be left with the householder for their reference..

7. These instructions do not replace instructions for individual components and accessories and should be read in conjunction with those instructions.

1.2 Recommendation

1. Prior to all servicing or other actions on the equipment, installation, commissioning, operation, or maintenance, the personnel in charge of these operations must become familiar with these instructions and recommendations provided in the installation manual.

2. The unit must be installed, commissioned, maintained and repaired in accordance with the manufacturer's instructions. All work must be carried out in compliance with the requirements of all directives, laws and regulations and in accordance with standard trade practices.

3. In accordance with building regulations, installation must by carried out by an installer who has successfully completed the Baxi Ambiflo™ training course.

4. **IMPORTANT:** Accurate sizing of the radiators is the responsibility of the installer. Please size correctly for the lower average system temperature. Please do not oversize as this can lead to overheating problems.

5. The pipework contained in and around this unit contains fluids at high temperatures and pressures. Under no circumstances should these pipes be used as a step as they may rupture and cause serious damage or burns.

2.1 Residential System 'Ambiflo™ Heat pump & Heater module' 1 Zone floor

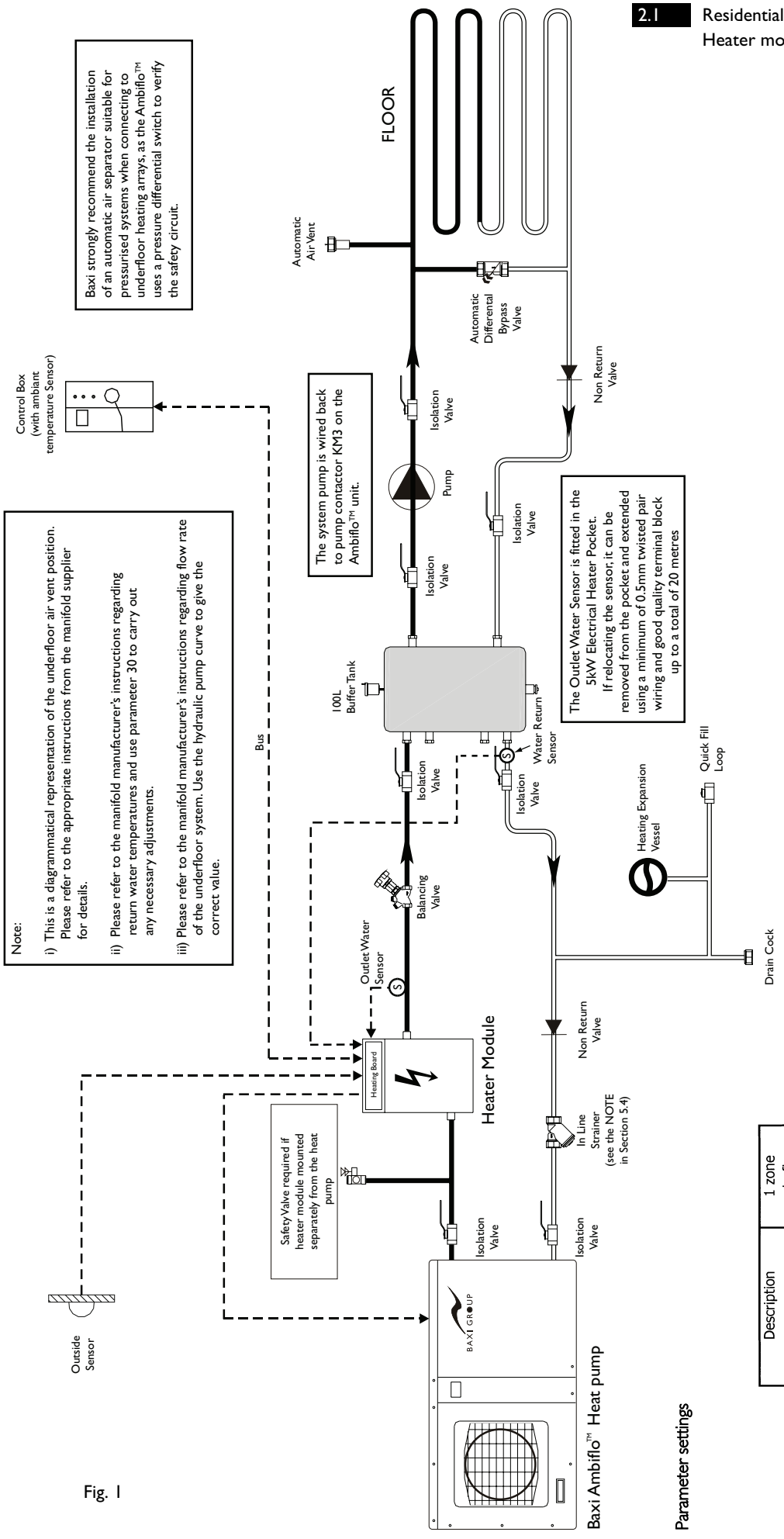


Fig. 1

Parameter settings

Parameter number	Description	1 zone underfloor
	P70 Code	**1**
	21	0
	22	1
	23	20
	24	4
	30	-
	31	-
	33	-
	36	10
	68	1
	69	-

2.2 Residential System 'Ambiflo™ Heat pump & Heater module' Variant A - 1 Zone floor

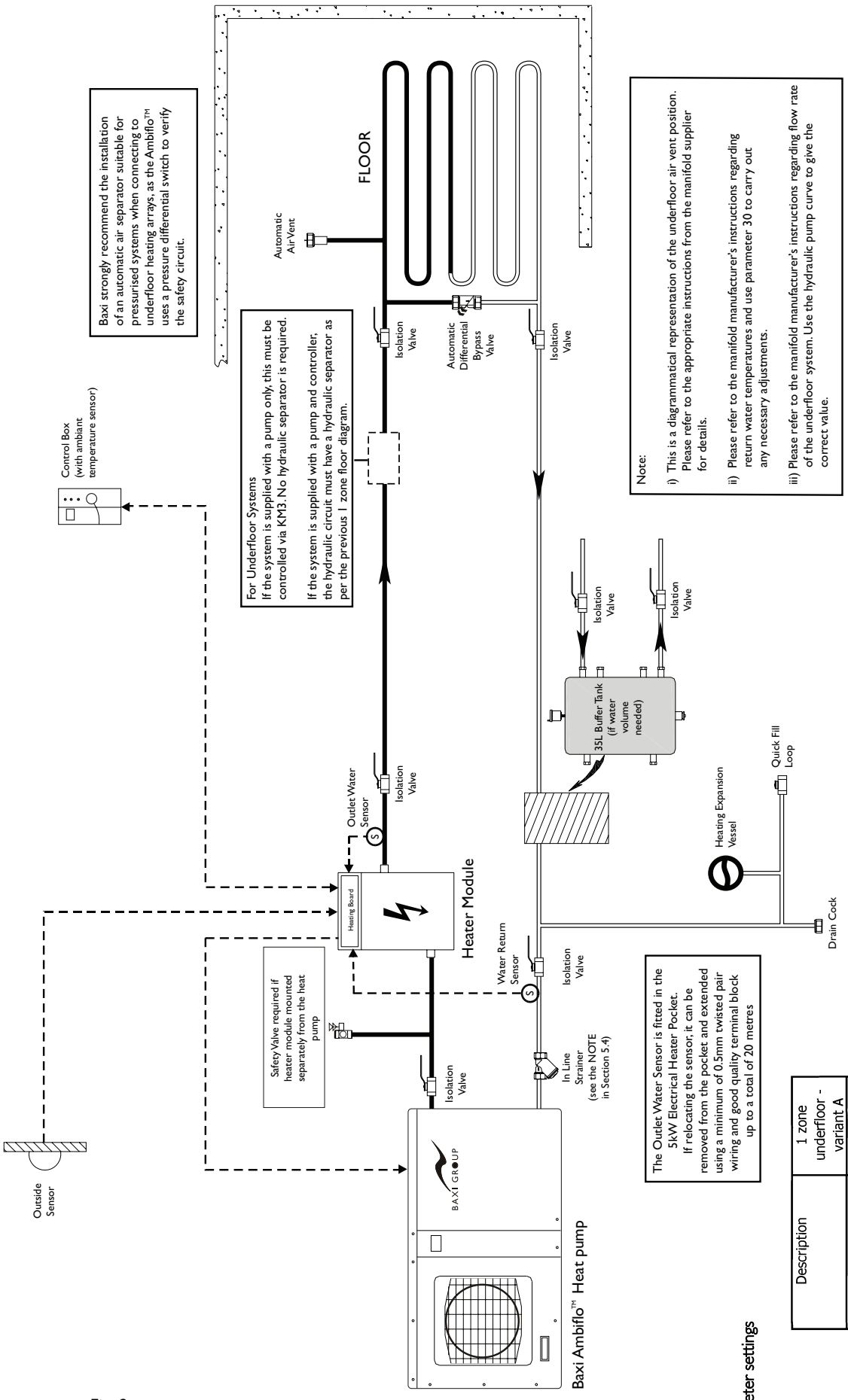


Fig. 2

Parameter settings

Parameter number	Description	1 zone underfloor - variant A
P70 Code		**1**
21		0
22		1
23		20
24		4
30		-
31		-
33		-
36		10
68		1
69		-

2.3 Residential System 'Ambiflo™ Heat pump & Heater module' 2 Zones floor

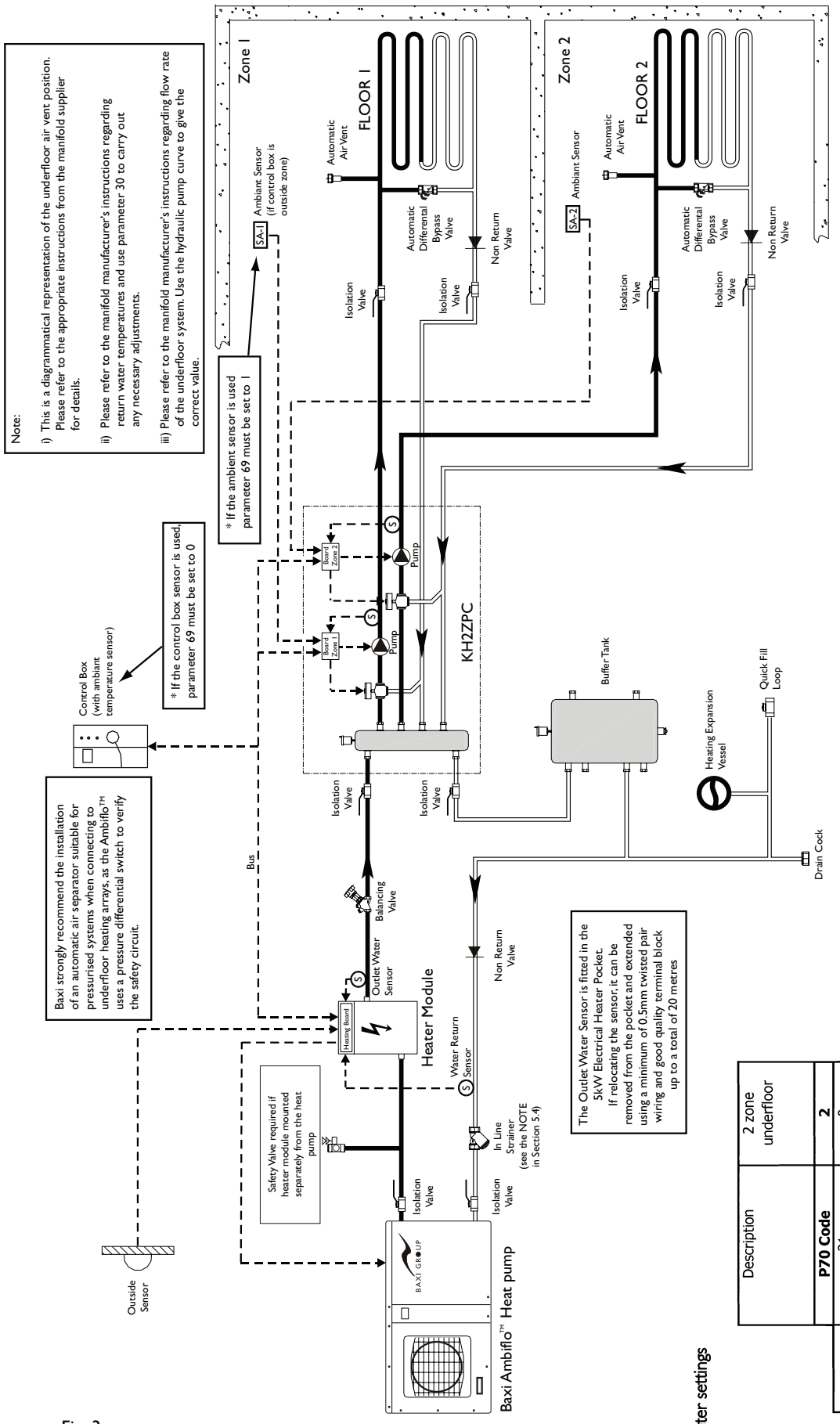


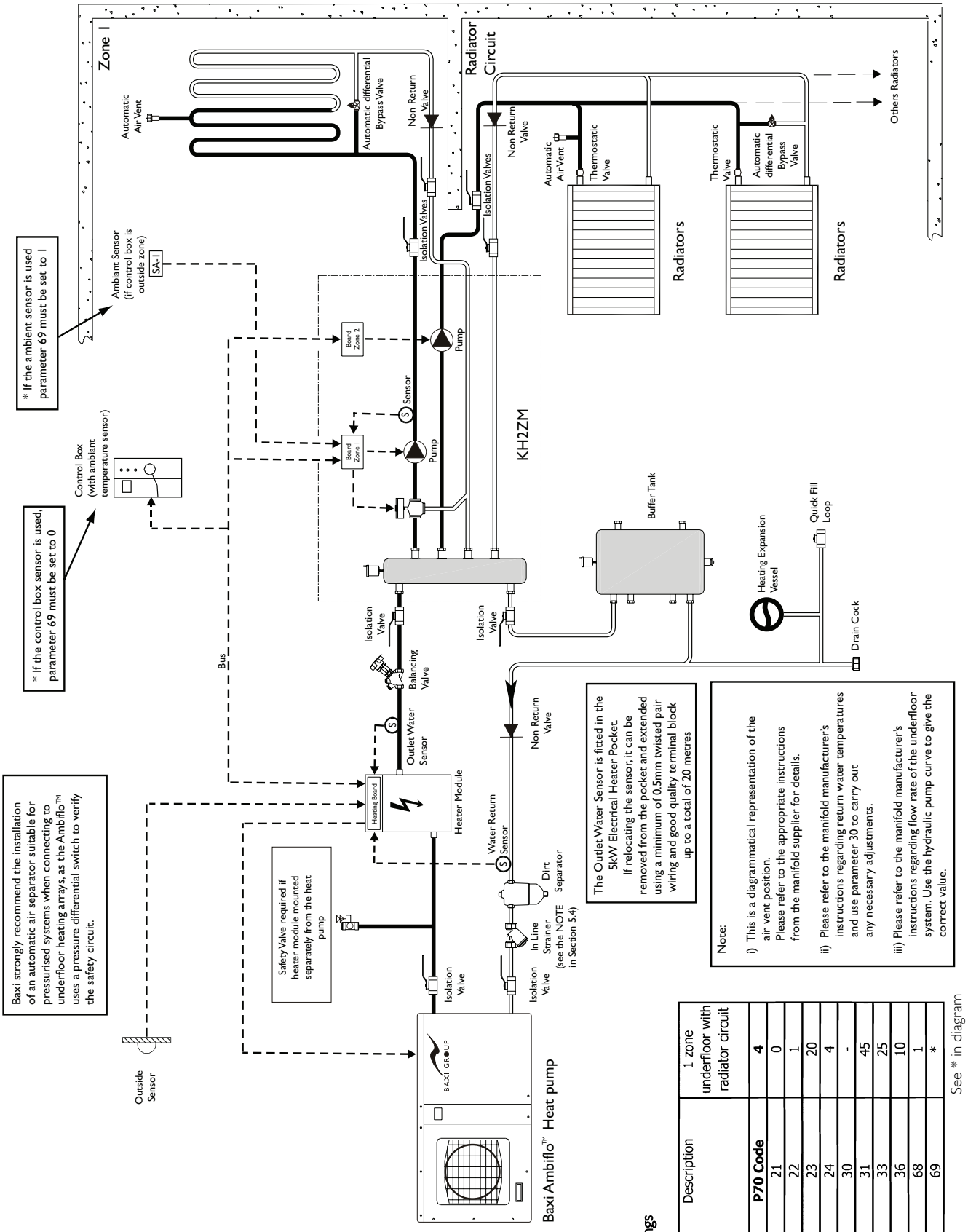
Fig. 3

Parameter settings

Parameter number	Description	2 zone underfloor
P70 Code		**2**
21		0
22		1
23		20
24		4
30		-
31		-
33		-
36		10
68		1
69		*

See * in diagram

2.4 Residential System 'Ambiflo™ Heat pump & Heater module' 1 Zone floor + Radiator Circuit



Parameter settings

Parameter number	Description	1 zone underfloor with radiator circuit
P70 Code		4
21		0
22		1
23		20
24		4
30		-
31		45
33		25
36		10
68		1
69		*

See * in diagram

Fig. 4

2.5 Residential System 'Ambiflo™ Heat pump & Heater module' 1 Zone Radiators

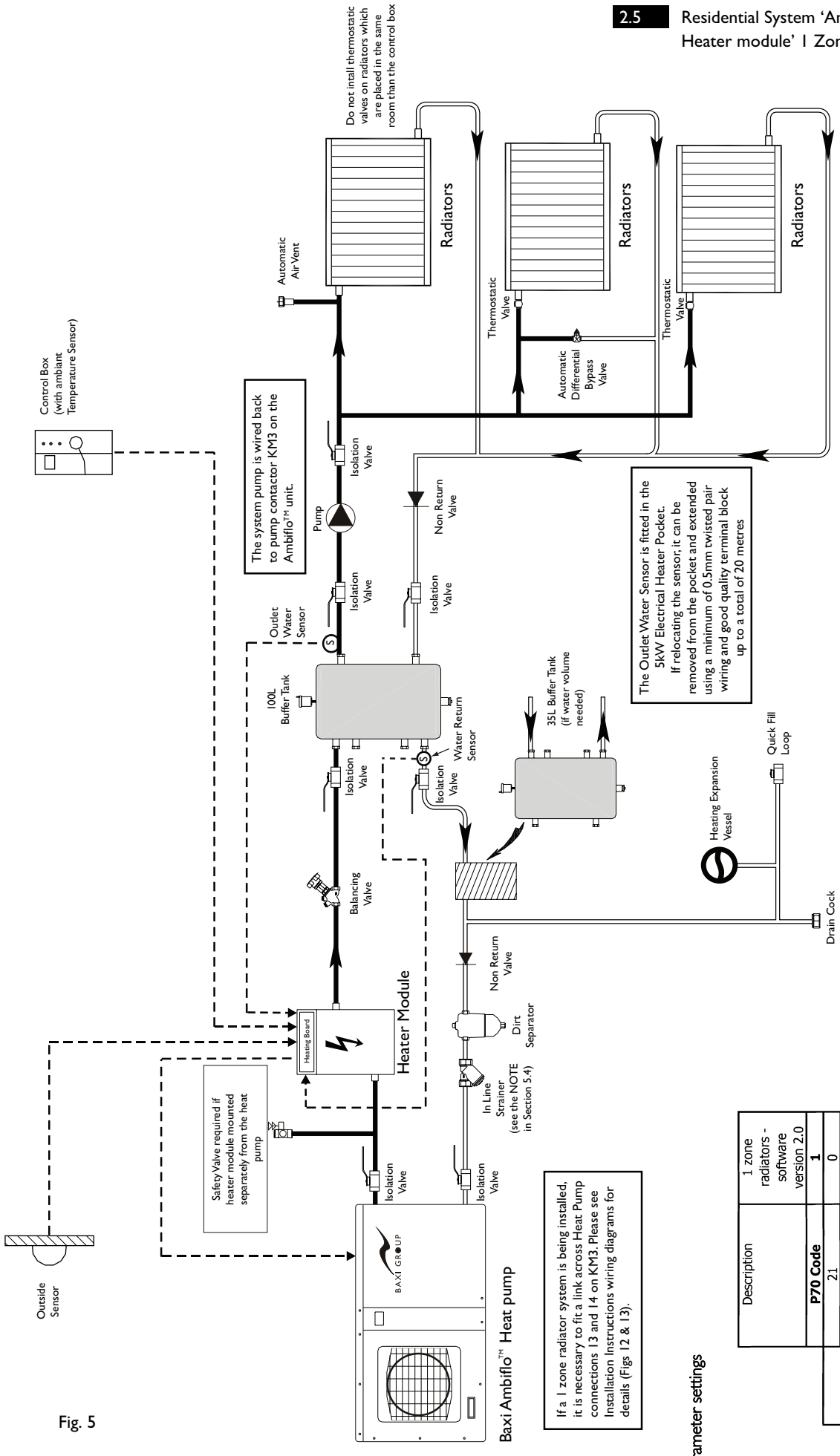


Fig. 5

Parameter settings

Parameter number	Description	1 zone radiators - software version 2.0
P70 Code		**1**
21		0
22		1
23		20
24		4
30		45
31		-
33		-
36		10
68		1
69		-

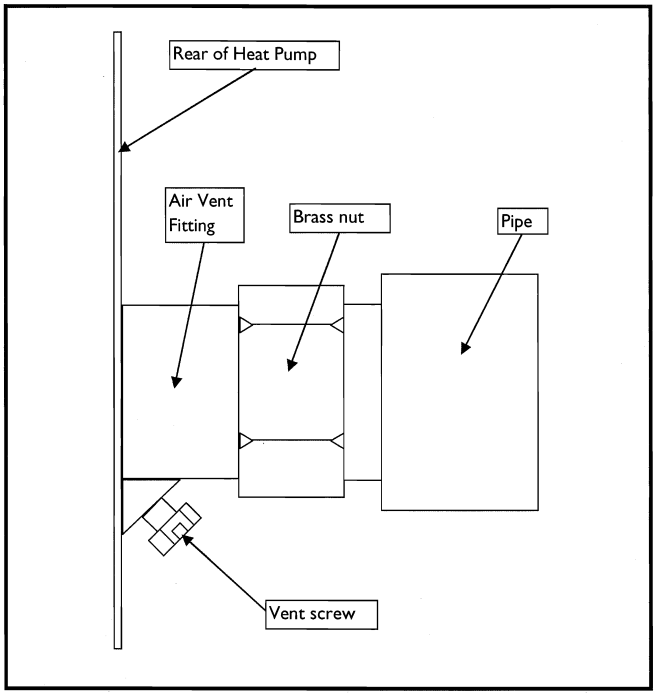


Fig. 6 Air vent - Rear of unit - Heat Pump Return Pipe
See Fig. 7 - Item 15

3.0 Filling the Ambiflo™ System

3.1 Filling procedure

Prior to commissioning the unit, please carry out the following:

1. The expansion vessel in the Ambiflo™ Heat Pump is pre-set to 1.5bar, but if an additional vessel has been fitted this should also be set to 1.5bar.

2. Fill the system and Heat Pump with water and pressurise to 1.5bar. The pressure gauge can be read on the Heat Pump. See Fig 7.

3. Close the two isolation valves on the flow and return pipes at the Heat Pump and disconnect the pipes.

4. Disconnect the flow pipe flexible line from the Isolation Valve and partially open the valve allowing the water to drain from the central heating system.

5. Repressurise the central heating system and allow the water to drain away until clear running water is seen to exit the isolation valve.

7. Close off the filling loop and the isolation valve.

8. Reconnect the flexible line.

9. Introduce inhibitor to the system by the appropriate manner. Baxi recommend the use of a suitable inhibitor in this system, such as Fernox-Copal or Betz Dearborn Sentinel X100. Follow the inhibitor manufacturer's instructions.

10. Open the isolation valve and ensure all other valves are open.

11. Re-pressurise the system to 1.5bar and purge out any remaining air. Note: It is essential that all the air is removed from the system prior to starting the unit. IMPORTANT: Purge ALL the air using the bleed point on the return line (Fig 6) and circulation pump (Fig 7).

12. Ensure that all the valves are open and check for any leaks.

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14. At this point please contact Baxi on 0844 871 1568 to arrange a visit by Baxi heateam to complete the remainder of the commissioning.

3.2 Diagram of Parts

Index of parts for Ambiflo™ Heat Pump

1. Sound-proofed hermetic compressor.
2. Plate water heat exchanger.
3. "Plate-Fin" air heat exchanger.
4. Fan.
5. Fan protection grille.
6. Electrical box.
7. Baxi Ambiflo™ Heat Pump control unit.
8. Circulating pump.
9. Expansion tank.
10. Safety valve.
11. Pressure gauge.
12. Heat pump return (Inlet).
13. Heat pump flow (Outlet).
14. Filling / drainage of the water circuit.
15. Air vent.
16. Glands for mains cable inlet.

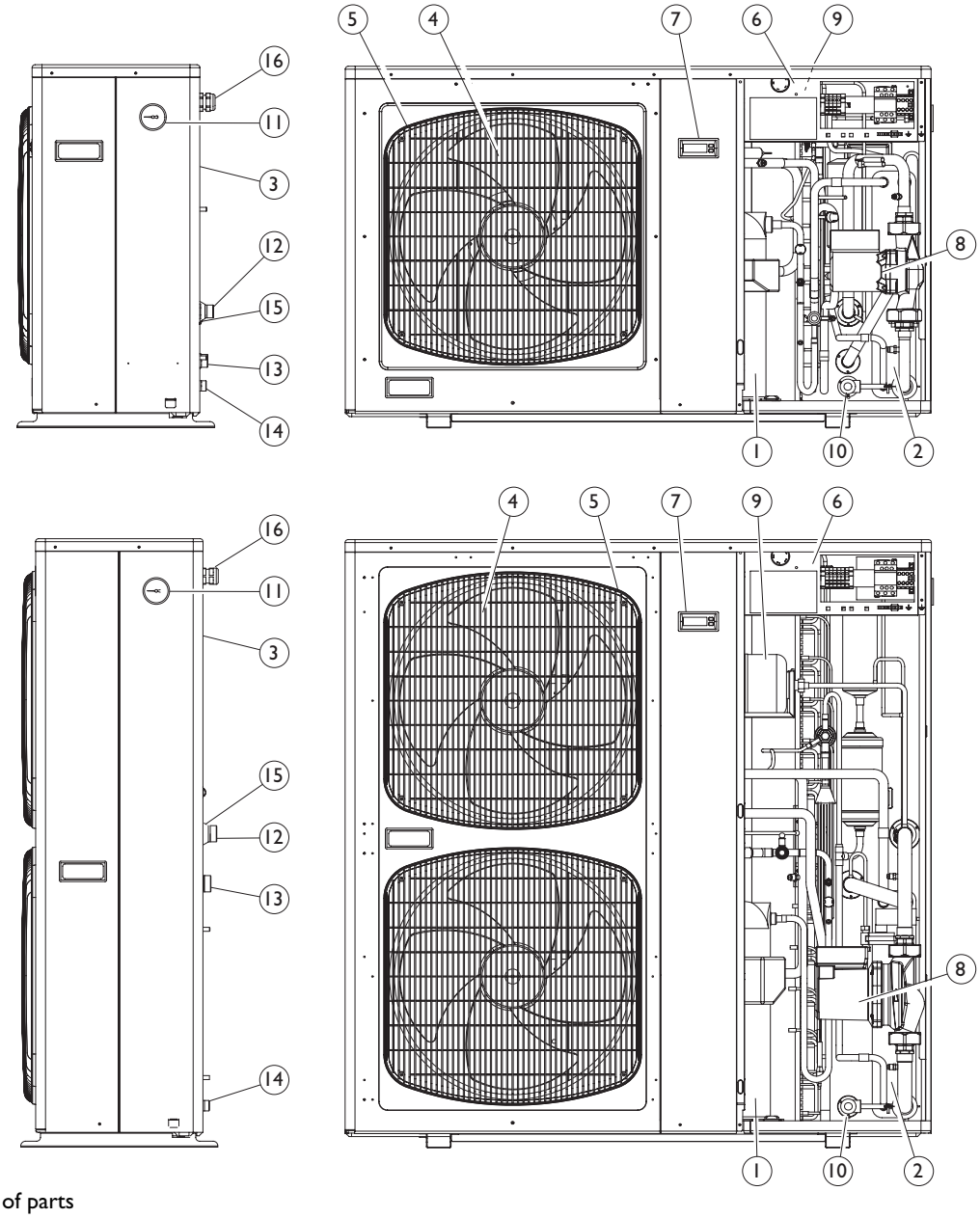


Fig. 7. Diagram of parts

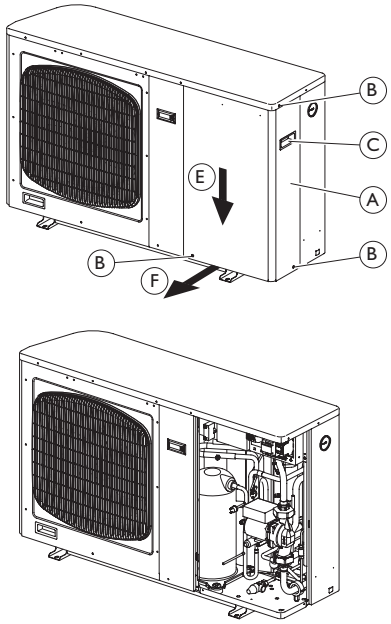


Fig 8. Removal of side panel

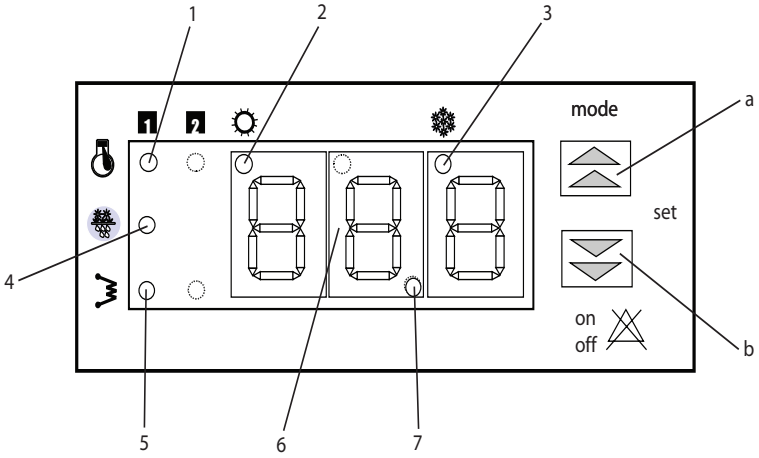


Fig 9 - Heat Pump Control Panel

Key to display and user buttons

1	Compressor 'On' indicator
2	Heating mode indicator
3	Cooling - not applicable to the U.K.
4	Defrosting indicator
5	Anti-freeze function activated
6	LED display
7	Flashes = Unit in standby Continually On = Unit is turned off
a	Operating mode selection. Access to parameters.
b	Master 'On/Off' control. Access to parameters (in combination with Button 'a'). Alarm clearance. Hour counter with reset.

Table 1. Compressor indicators and buttons

4.0 Preparing to start the Heat Pump

4.1 Preparation prior to starting the Baxi Ambiflo™ Heat Pump.

1. Electrically isolate both the Heat Pump and the 5kW Electrical Heater prior to commencing any work. Ensure the Aquaset unit is set to the 'OFF' position.

2. Remove the 3 screws from the side panel as shown in Fig 8. Remove the panel by pushing down until it clicks and lift away.

3. NOTE: Please take care when removing these screws. The 3 retaining screws 'B' are earth bonding screws and MUST be replaced with the same screw. Failure to do this will invalidate your warranty.

4. Remove the two wires from the ON/OFF connections on the Ambiflo™ Heat Pump Control Board noting which way round they are connected. See Fig 10.

5. Ensure the power is turned on at the main fuse box and turn the power on at the Heat Pump isolator. The Heat Pump and system circulation pumps will now start. Ensure both pumps have started. Bleed as necessary. At this stage do not turn on the isolator to the 5kW electrical heater.

6. The Ambiflo™ Heat Pump Control Panel will display '888' (Fig 9) momentarily whilst it performs a self- check and then shows the current return water temperature. If the circulation pump is not spinning, please remove the bleed screw on the pump and turn with a screwdriver to start the pump spinning.

7. **NOTE:** If air is still trapped in the system an error code E41 will be displayed. Please refer to Fault Finding for assistance.

8. Remove the two chrome caps from the pump pressure reading points and connect a suitable pressure differential gauge across the pump such as a water pressure gauge in the range of 0 to 5 bar. Zero the gauge and check the pressure differential across the hydraulic pump. Open Valve 1 and take a reading. Close Valve 1, release the pressure to zero the gauge and re-close. Open Valve 2 and take a reading. Close Valve 2 and release the pressure.

9. Calculate the difference between the two readings and use the graph (Fig 11) to determine whether the pressure difference and flow rate are correct for the appropriate AmbifloTM model based on the pump speed setting, i.e. 1, 2 or 3. **NOTE:** Remove the 4 top screws to gain access to the pump speed selector.

10. If the readings are incorrect, modify the pump speed to adjust the differential pressure to obtain the required flow rate for the Heat Pump model. Use the balancing valve for fine adjustment as necessary.

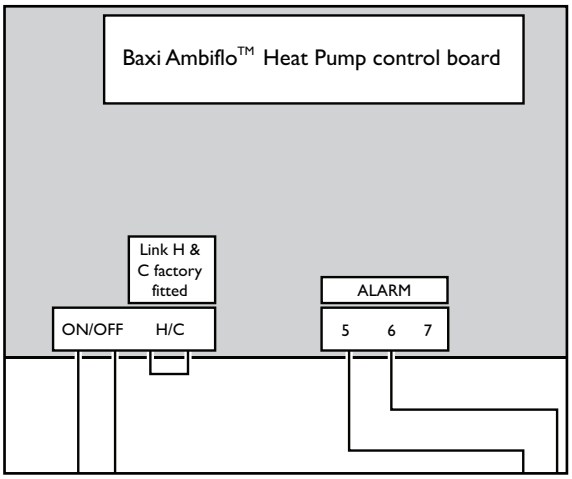


Fig. 10 Ambiflo™ Heat Pump Control Board Connections ON/OFF

4.1 Preparation prior to starting the Baxi Ambiflo™ Heat Pump (Cont.).

11. When completed, remove the gauge from the system and reconnect the two chrome caps securely. Reassemble the pump cover in reverse order and retighten the screws.

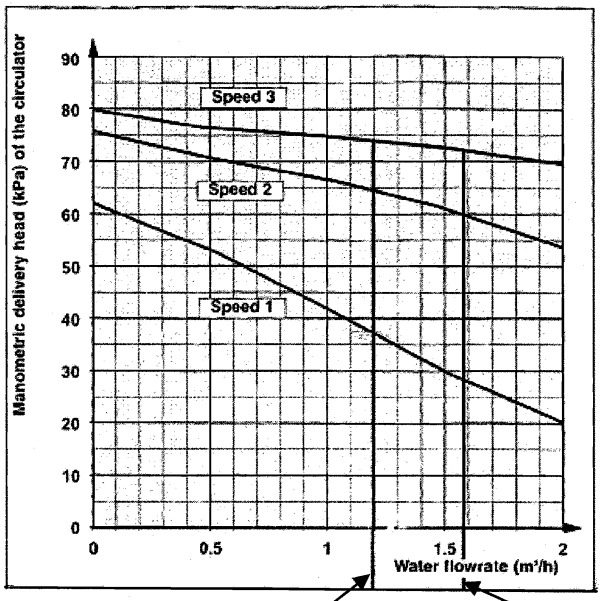
12. Press button 'b' (Fig 9) to switch the Heat pump and circulating pumps off.

13. Isolate the unit and make an electrical link across connections ON/OFF on the Ambiflo™ Heat Pump Control Board. (Fig 10).

14. Turn the isolator back on.

Circulator curves

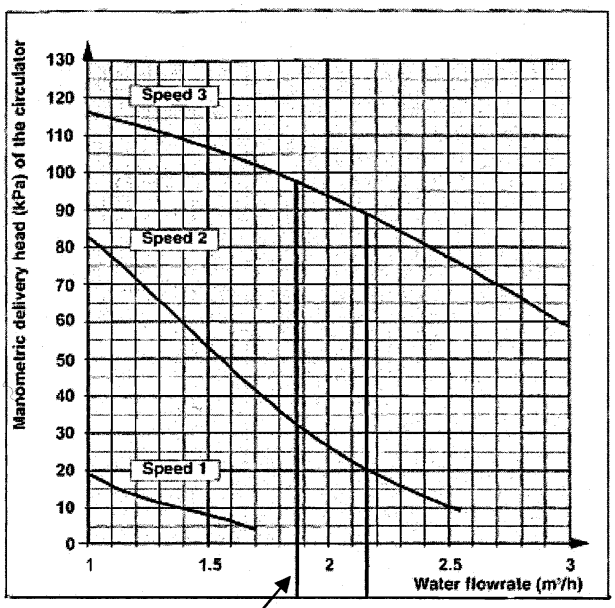
Baxi Ambiflo™ 75
Baxi Ambiflo™ 90 Circulator SMX 32 – 55



Baxi Ambiflo™ 75
Flow rate = 1.24m^3/h

Baxi Ambiflo™ 90
Flow rate = 1.58m^3/h

Baxi Ambiflo™ 105 Circulator UPS 25 – 125



Baxi Ambiflo™ 105
Flow rate = 1.87m^3/h

Fig. 11 Pump curves

6.0 Starting the Heat Pump

6.1 Starting the Heat Pump

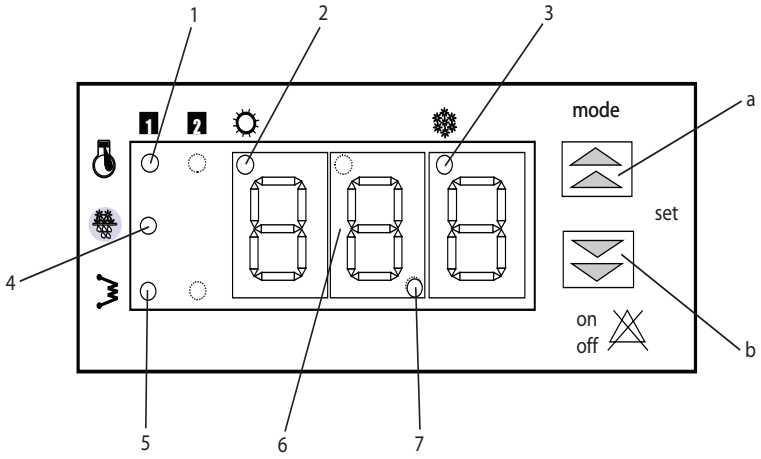


Fig 12 - Heat Pump Control Panel

Key to display and user buttons

1	Compressor 'On' indicator
2	Heating mode indicator
3	Cooling - not applicable to the U.K.
4	Defrosting indicator
5	Anti-freeze function activated
6	LED display
7	Decimal point - if illuminated the value shown must be multiplied by 100
a	Operating mode selection. Access to parameters.
b	Master 'On/Off' control. Access to parameters (in combination with Button 'a'). Alarm clearance. Hour counter with reset.

Table 2. Compressor indicators and buttons

1. The Ambiflo™ Heat Pump is configured to operate in heating mode only.

2. Press the On/Off button 'b' (Fig 12) for approximately one second and the Heat Pump will start. The circulating pumps will start and the current water return temperature will be indicated in °C.

3. If the compressor light (Fig 12, item 1) flashes during the start procedure the compressor is starting but a safety lock-out delay is in progress.

4. Press and hold buttons 'a' and 'b' (Fig 12) momentarily and '**set**' will show on the control panel display.

5. Press buttons 'a' and 'b' momentarily again and '**coo**' will be displayed.

6. Press button 'b' and '**HEA**' appears. Press 'a' and 'b' again momentarily and '**48.0**' is displayed. Press button 'a' repeatedly until '**50.0**' is displayed.

7. Press and hold buttons 'a' and 'b' for 2 seconds and '**HEA**' reappears.

8. Press and hold buttons 'a' and 'b' again for 2 seconds and '**set**' will be displayed.

9. If a buffer and secondary pump are fitted, parameter '**H20**' needs to be reset to allow the heating circulation pump to switch off when the heating demand is satisfied to comply with Building Regulations Part L.

NOTE: If either of the following Ambiflo™ accessories are being used; '2 circuit mixer module' (Code no. 5132426) or '2 zone 2 mixer module' (Code no. 5132427), parameter 20 does not need to be reset. Press and hold buttons 'a' and 'b' again for 2 seconds and the return water temperature will be displayed. Continue commissioning from paragraph 20.

10. To adjust parameter '**H20**', press button 'b' momentarily 3 times until '**PSS**' is displayed. The first press will display '**tp**' and the second press displays '**Err**'.

11. When '**PSS**' is showing, press 'a' and 'b' together momentarily until 3 dashes (- - -) appear. Use the 'b' button to scroll down until '**199**' is displayed. **NOTE: Holding the 'b' button will rapidly scroll the numbers.**

12. Once '**199**' is displayed, press and hold buttons 'a' and 'b' simultaneously for 2 seconds until '**PSS**' is displayed again. **Note:** Once the password has been entered, an additional reference of '**id**' will be seen between '**Err**' and '**PSS**'.

13. Press button 'a' once momentarily and '**Par**' will be displayed.

14. Press 'a' and 'b' momentarily and '**cnf**' will be displayed.

15. Press 'a' and 'b' again and '**H01**' is displayed.

16. Press the 'a' button repeatedly until '**H20**' is displayed.

17. Press 'a' and 'b' simultaneously and '**7**' will be displayed. Use the 'b' button to alter the '**7**' to '**4**'.

18. Repeatedly press buttons 'a' and 'b' simultaneously 3 times for 5 seconds to exit the menus until the water return temperature is displayed. The repeated pressing will exit via '**H20**', '**cnf**' and '**par**' to get back to the return temperature.

6.0 Starting the Heat Pump

6.1 Starting the Heat Pump (cont)

19. If parameter '**H20**' has been reset, power down the Ambiflo™ Heat Pump for a minimum of 2 minutes to enable the parameters to be accepted and then switch back on.

IMPORTANT: Always use button 'b' (Fig 12) to switch the unit on and off. Note: Leave power on to the unit for approximately 2 minutes to ensure that the hydraulic pump has stopped before isolating the unit. If the compressor is on (LED will be lit) when the unit is powered off the circulating pump needs to run for a short period.

20. After 2 minutes continuous operation of the compressor, measure the current that the Heat Pump is drawing. Please refer to the values shown in Table 3 and check that the reading is between the nominal and minimum value for your model.

NOTE: If the current being drawn by the Ambiflo™ Heat Pump exceeds the maximum levels shown in Table 3 this indicates there may be a leak on the refrigeration circuit. Isolate the unit and contact Baxi Technical Helpline. See back page for details.

21. Check that the voltage between phase and live is within acceptable UK supply conditions. (230V +10%, - 15%).

22. Press and hold button 'b' (Fig 12) to switch the unit off. After approximately 2 minutes isolate the Heat Pump to power down.

23. Remove the link from across connections 1 and 2 and reconnect the 2 wires removed earlier from those connections. (Fig 10).

IMPORTANT: Replace connectors in reverse order of removal, noting polarity.

Voltages, Phase, Hz and Breaker Class

Description	Baxi Ambiflo™ 75	Baxi Ambiflo™ 90	Baxi Ambiflo™ 105	5kW Electrical Heater
Voltage (V/Phase/Hz)	230/1/50	230/1/50	230/1/50	230/1/50
Minimum current (A)	7.4	10	11.7	-
Nominal current (A)	12.4	15	16.7	22
Maximum current (A)	14	8.2	21.3	-
Starting current (A)	40	33	34	-
Protection rating (A)	16	16	32	32
via Breaker Class	C	C	C	B

Table 3. Voltage, phase and Hz values

7.0 Aquaset Settings

7.1 Setting the Parameters

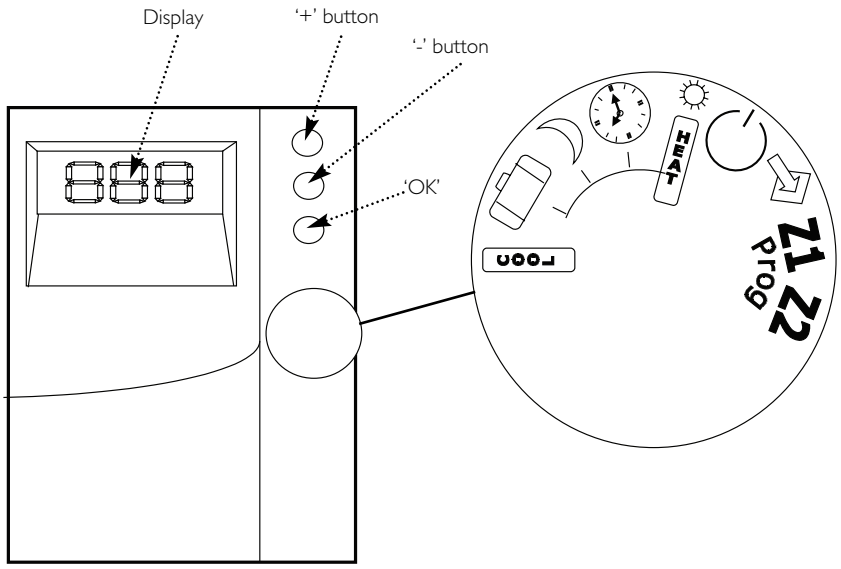
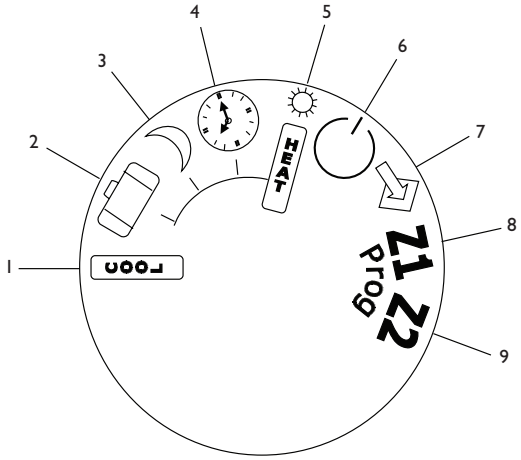


Fig. 13 Aquaset control unit



Key to symbols

1	Not applicable for U.K.
2	Holiday mode
3	Set back mode
4	Clock
5	Heat mode
6	Off
7	Time and date settings
8	Zone 1 programme
9	Zone 2 programme

Fig. 14 Controller button icons and symbol key table.

1. If 'STOP' is displayed at any time there is an error in the settings in 'Heat' mode.

2. Switch on both isolators to the Heat Pump and the 5kW Electrical Heater. Press and hold button 'b' (Fig 12) to switch on the Heat Pump. The compressor starts and the pumps will run.

3. Please refer to Figs 13 & 14 for a guide to the symbols used.

4. Ensure the Aquaset is set to 'Off' (Fig 14, item 6) and no error messages are shown.

5. Press the '+' and '–' buttons (Fig 13) simultaneously for approximately 5 seconds until 'Para' is displayed and press 'OK'

6. 'P01' is displayed. Press 'OK'

7. The temperature shown is the external temperature sensor reading.

8. Press 'OK' again to return to 'P01'.

9. Press the '+' button to access parameter 2.

10. 'P02' is displayed. Press 'OK'

11. The temperature shown is the Return water temperature.

12. Press 'OK' again to return to 'P02'.

13. Press the '+' button to access parameter 3.

14. 'P03' is displayed. Press 'OK'

15. The temperature shown is the water flow temperature.

16. Press 'OK' again to return to 'P03'.

17. Press the '+' button again and 'P08' will be displayed. (**NOTE:** In 'Off' mode parameters P04 to P07 are not displayed). Press 'OK'

18. P08 is the ambient room temperature at the Aquaset.

19. Press 'OK' to return to 'P08'

20. Press the '+' button again and 'P10' will be displayed. (**NOTE:** In 'Off' mode parameter P09 is not used)

21. Press 'OK'

22. P10 shows whether the Aquaset is demanding heat from the Heat Pump.

23. '0' = Not calling for heat, '1' = Calling for heat.

Hydraulic Diagram	System description	Parameter 70 setting number	Full parameter list
Fig 1	1 zone underfloor only	1	Table 6
Fig 2	1 zone underfloor - variant 'A'	1	Table 6
Fig 3	2 zone underfloor	2	Table 7
Fig 4	1 zone underfloor + radiator circuit	4	Table 8
Fig 5	1 zone radiators	1	Table 9

Table 4 Settings for parameter 70

7.1 Setting the Parameters (Cont.)

24. Press 'OK'. 'P11' is displayed but this is not used.

25. Press the '+' button. 'P12' is displayed. This is the Electrical Heater 1 (2.5kW).

26. Press the '+' button. 'P13' is displayed but this is not used.

27. Press the '+' button. 'P14' is displayed. This is the Electrical Heater 2 (2.5kW).

28. Turn the dial to 'Heat' (Fig 14, item 5) and then back to 'Off' (Fig 14, item 6).

29. Press and hold the '+' and '-' buttons simultaneously for approximately 5 seconds until 'Para' is shown.

30. Press the '-' button (Fig. 13) until the arrow points to '2' (Fig. 15) and press 'OK' and '0000' will be displayed, with the left hand zero flashing.

31. Use the '+' and '-' buttons to enter the password 1958. The '+' button increases the value shown and the '-' button decreases the value. To move between the four zeros press the 'OK' button.

32. When the number is complete, press 'OK'.

33. 'P20' will now be displayed. Scroll up using the '+' button to go to parameter P70. This is used to set the system type configuration.

34. Press 'OK'.

35. The value that P70 is set to is determined by your system configuration. Please see Table 4 for the values, or refer to the hydraulic system diagrams (Figs 1 to 5) to find the required number. Set the system configuration number relative to the hydraulic diagram.

36. Once P70 value is entered, press 'OK' and 'init' will be seen flashing. The display should then return to P70.

37. Use the appropriate tables on the hydraulic diagrams to set the remaining parameters. Press 'OK' after each adjustment to accept the setting.

38. Turn the Aquaset dial to 'Heat' (Fig 14, item 5) and press '+' and '-' simultaneously for approximately 5 seconds until 'Para' is shown.

39. Scroll through using the '+' button to parameter P04 and check that a value is displayed. This is the calculated set point for the return water and has no adjustment.

40. Turn the Aquaset dial to 'Off' (Fig 14, item 6) and isolate both the Heat Pump and the 5kW Electrical Heater for approximately 1 minute and then turn the power back on. This is to enable the controller to accept the new parameters.

41. Set the dial back to 'Heat' (Fig 14, item 5) and the display should now show the ambient room temperature set point.

7.0 Aquaset Settings

7.2 Adjustment of the Return Water Temperature to compensate for excessive heating or cooling

It is very important not to oversize the radiator system for maximum return temperatures of 45°C, as this can result in room temperatures higher than required. If this is the case, then contact your installer to re-parameter your maximum system water temperature to compensate.

1. Turn the dial on the Aquaset controller to the 'OFF' position (Fig 14, item 6)

2. Press and hold the '+' and '-' buttons (Fig 13) simultaneously for approximately 5 seconds until 'Para' is shown.

3. Press the '-' button to move the small arrow on the left hand side of the display down to '2' (Fig 15) and press 'OK'. '0000' will now be displayed, with the left hand zero flashing.

4. Use the '+' and '–' buttons to enter the password 1958. The '+' button increases the value shown and the '–' button decreases the value. To move between the four zeros press the 'OK' button.

5. When the number is complete, press 'OK'

6. 'P20' will now be displayed. Scroll up using the '+' button to go to parameter P30. This is used to alter the system return water temperature setting.

7. Press 'OK'

8. Use the '-' button to reduce the temperature, or the '+' button to increase the temperature on the display depending on the system requirements.

9. Press 'OK' to confirm the temperature and P30 will be displayed again.

10. Return the Aquaset dial to the 'Heat' position (Fig 14, item 5).

NOTE: Following any adjustments, several hours of running may be required before any effect is noticed.

7.3 Setting the Time and Day

1. Set the dial to 'Time and Day' (Fig 14 Item 7) to display the time.

2. Press the '+' button once and the small numbers on the left hand side of the display will flash. These are the days of the week shown as 1 to 7. Set the day by using the '+' and '-' buttons then press 'OK'.

3. The time will now flash. Set the time using the '+' and '-' buttons then press 'OK'.

Aquaset Display

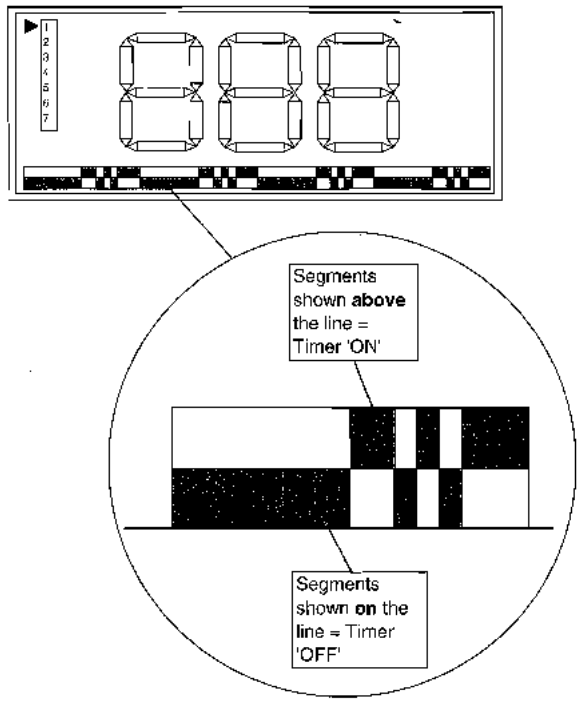


Fig. 15 Timer segments

7.0 Aquaset Settings

7.4 Setting the Zones

1. To set Zone 1.

2. Turn the Aquaset dial to 'Z1' (Fig 14, item 8) and 'PrG 1' will be displayed.

3. Repeated pressing of 'OK' will toggle between 1 to 7 for the day of the week.

4. Along the bottom of the display is a 24 hour clock shown in half hour segments.

5. On the selected day, use the '+' and '-' buttons to set the on and off periods. NOTE: If the segment is shown **above** the line an 'ON' period is set. If the segment is **on** the line the timer is set to 'OFF'. (Fig 15). The temperature will be controlled to the set back mode when the timer is 'OFF'

6. 'Off' is set by the '-' button.

7. 'On' is set by the '+' button.

8. Press 'OK' to confirm the settings then select the next day. Repeat as required for the 7 day period and then press 'OK'. The days need to be individually set as the timings can not be copied across.

9. If a second zone is part of the system, turn the Aquaset dial to 'Z2' (Fig 14, item 9) and repeat the above procedure for Zone 2

7.5 Setting the Ambient Room Temperature

1. To set the required ambient room temperature set the Aquaset dial to 'Heat' mode (Fig 14 item 5) and adjust the temperature using the '+' and '-' buttons.

2. Rotate the Aquaset dial to 'Clock' (Fig 14, item 4) to display the temperature. The day of the week is shown at the left hand side and the programme timing is shown along the bottom of the display with the current time segment flashing.

7.6 Set Back Function

The set back (Fig 14, item 3) is a function of the 'Heat' mode and is set with parameter P24. The set back value can be between 1°C and 4°C lower than the ambient room temperature setting.

7.7 Holiday Function

If the unit is being left unattended for prolonged periods the Holiday Function can be set to maintain a temperature and help avoid freezing. The temperature is set by accessing parameter P25. Set the Aquaset dial to 'Holiday' mode (Fig 14, item 2) to show the current setting.

7.8 Cool Function

This function is not available.

8.0 Parameter Access Diagram

8.1 Parameter Access Diagram

Baxi Ambiflo™ Heat Pump Aquaset Access

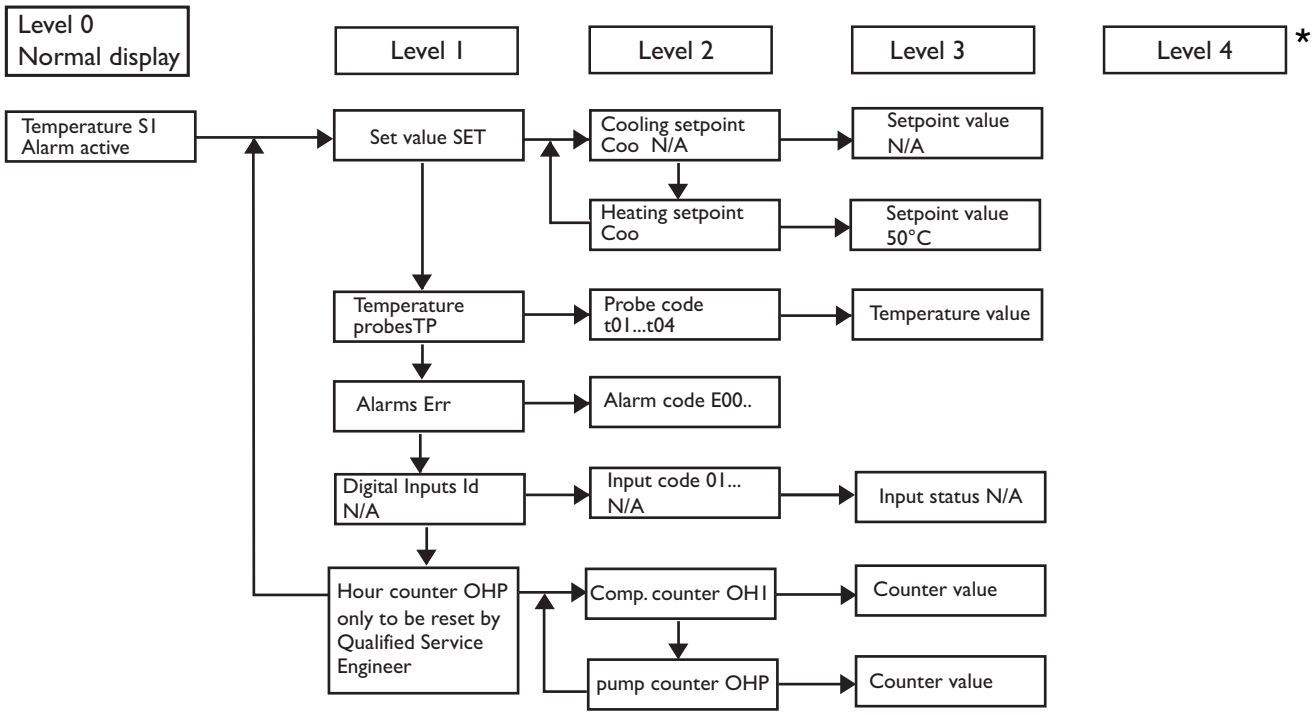


Fig 16

* Level 4 is only accessible via a password. Unauthorised adjustment of the settings will invalidate the warranty and may cause the unit to fail.

NOTE: Parameters 1 to 75 are used for installation.

Parameters 1 to 14 are for User access.
Parameters 20 to 75 require a password.

Please refer to Tables 6 to 9 for a complete list of all parameters.

9.0 Additional Information

9.1 Additional notes:

E41: If not cleared then will become E44. Possible airlock in the hydraulic pump or system. Bleed the system and go through the error clearance mode.

E44:
1. The refrigeration circuit alarm is activated if the temperature difference between the water inlet and outlet (after 5 minutes of compressor operation) is insufficient (refrigerant charge, inversion valve blocked).

2. Check that the refrigeration pump is in operation. Check wiring to contactor. Power off and leave 1hr, reset and restart.

9.2 Special Operating Features

Defrosting:
- if the temperature detected by the probe drops below the frosting temperature (dependent of the outside temperature), a time counter is activated. This counter records the operating time in icing conditions. This status is indicated by the flashing frosting indicator lamp (4),
- after an accumulated operating time of 30 minutes, a defrosting operation is launched (inversion of the refrigerating cycle and shut-down of the fan) until the temperature detected by probe rises above the frost temperature threshold. The defrosting phase is indicated by the steady illumination of indicator lamp (4).

Circulating pump control:
- the pump is only actuated when the unit is operating under demand conditions. i.e. Heat or Set back.
- An anti-freeze device forces pump operation if the outside temperature drops below 1°C.
- an anti-sticking device forces pump operation (if no demand) for 3 seconds every 24 hours.

Condensate drain heating cord control (factory fitted as standard):
- actuated if the outside temperature drops below 0°C (regardless the unit's operating mode). The "heating element" indicator light (5) illuminates.

Pre-ventilation:
- in order to condition the air heat exchanger, the fan always starts at full speed a few seconds before the compressor.

Anti short-cycle time delays:
- the compressor control features a time delay system in order to limit:

a maximum number of starts per hour (10),
a minimum stop time.

- The alarms are indicated by a code flashing on the display.

ALARM	CODE	ACTION	NTR – Nothing to report
Ambiflo™ Generator fault	Gr(*)	**In heating mode:** Automatic authorisation of the supplementary heaters. Supplementary heater load shedding prohibited. Automatic switching to Anti-freeze Mode (indicated by the absence of the bar graph and a fixed temperature displayed on Aquaset controller).	Auto
Electrical Heater Fault	HE	Prohibits supplementary electrical heating operation	Auto (**)
Outside Air Sensor Fault	SAE	System shut down	Auto
Installation return water sensor fault	SEIn	System shut down	Auto
Installation outlet water sensor fault	SEOu	System shut down	Auto
Ambient sensor fault Zone 1	SA1	System shut down	Auto
Bus communication system fault	Cn	System shut down	Auto
Max Ambiflo™ system water has exceeded 70°C	tE(***)	System shut down	Manual

- If Manual reset: done by system shut-down after clearing the source of the fault.
- If Automatic reset: the alarm disappears when the source of the fault has been corrected.
- **Note:**
  The alarms are displayed even if the system is switched to 'OFF'.
  If several alarms occur simultaneously, the various codes are displayed alternately.

  (*) Check the Ambiflo™ display for any codes and refer to 'Ambiflo™ Heat pump logged faults' for further information.
  To restart the Ambiflo™ Heat Pump, select the 'heating mode' and press and hold the 'OK' button for 5s. The Coin icon will be displayed until the Ambiflo™ fault has self cleared.

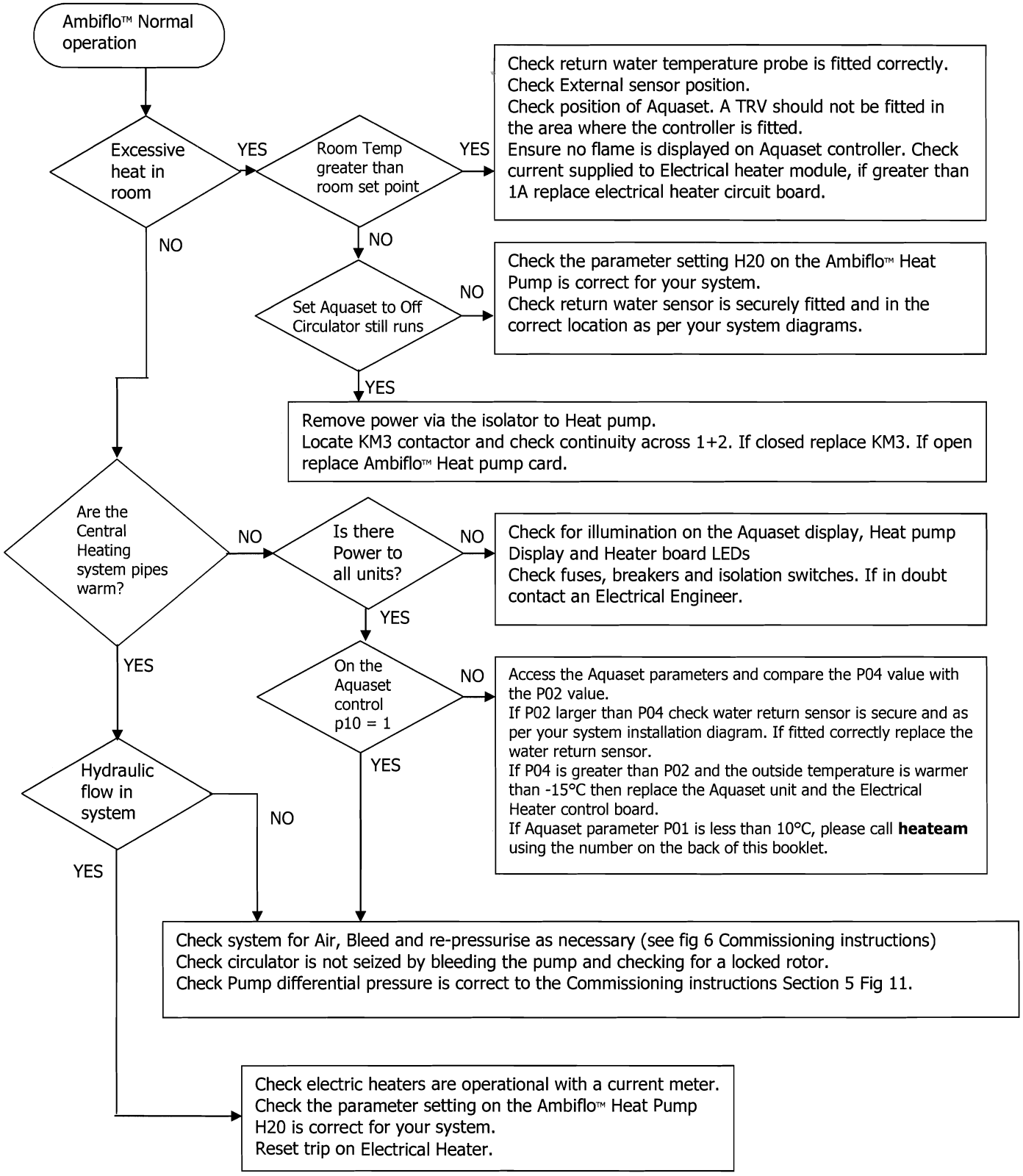
  (**) Check Ambiflo™ system water pressure is above 1.2 Bar.
  If this alarm does not clear after 1 hour then call **heateam** using the number on the back of this booklet.

  (***) If this alarm does not clear after 1 hour then call **heateam** using the number on the back of this booklet.

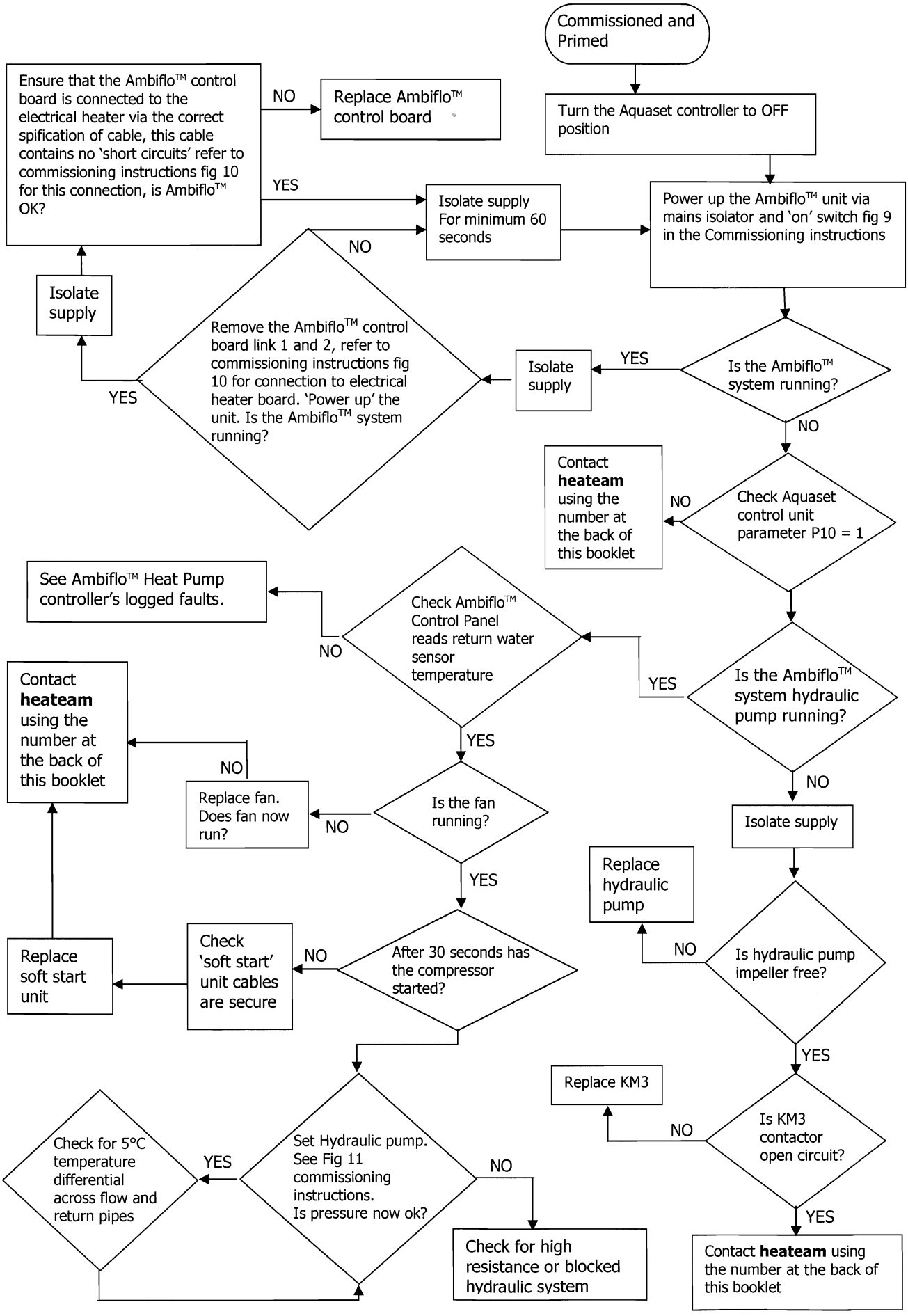
  PPE code: Unit in self–test mode when in standby.

Table 5

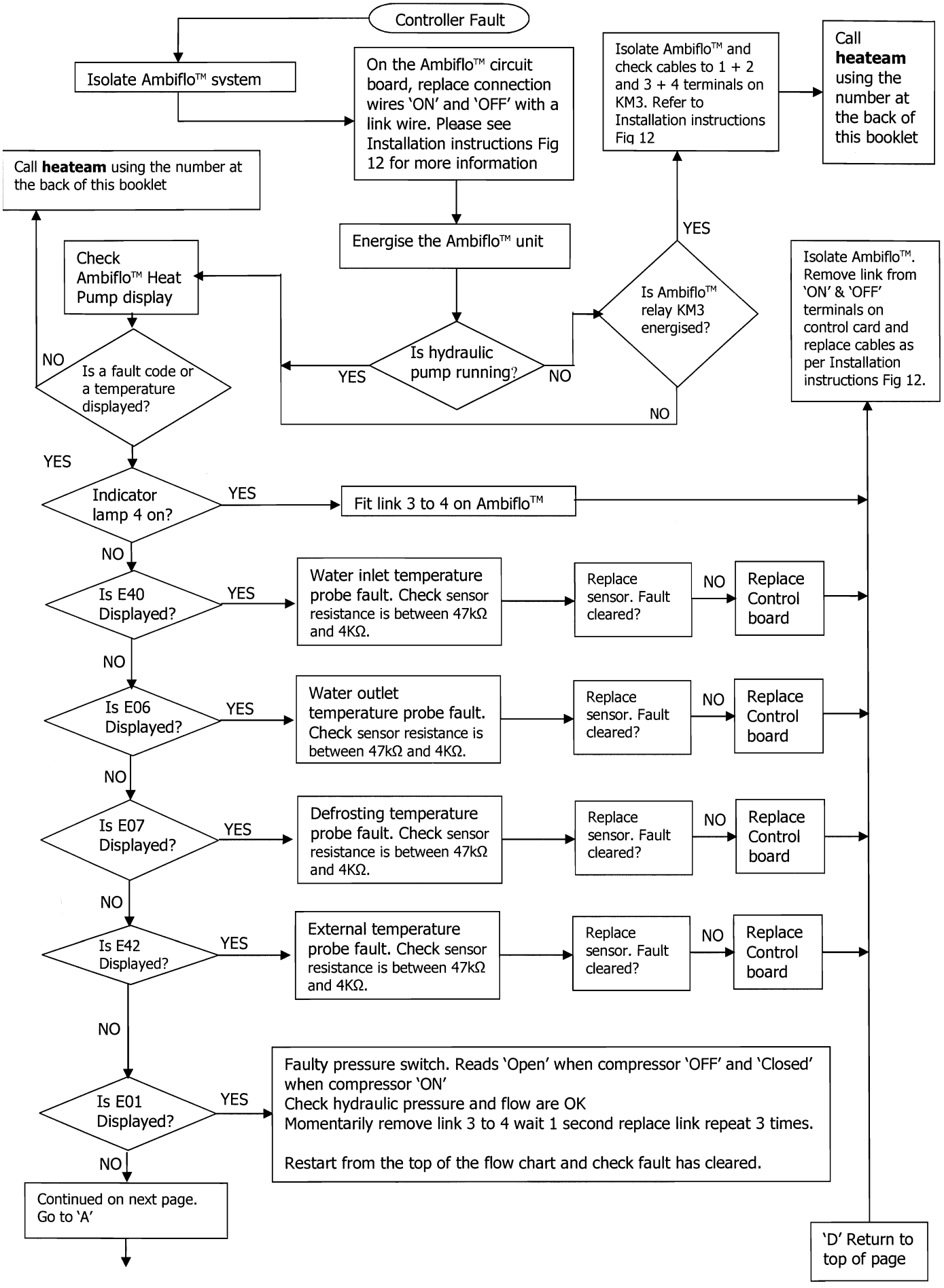
Ambiflo™ Heat Pump System Faults



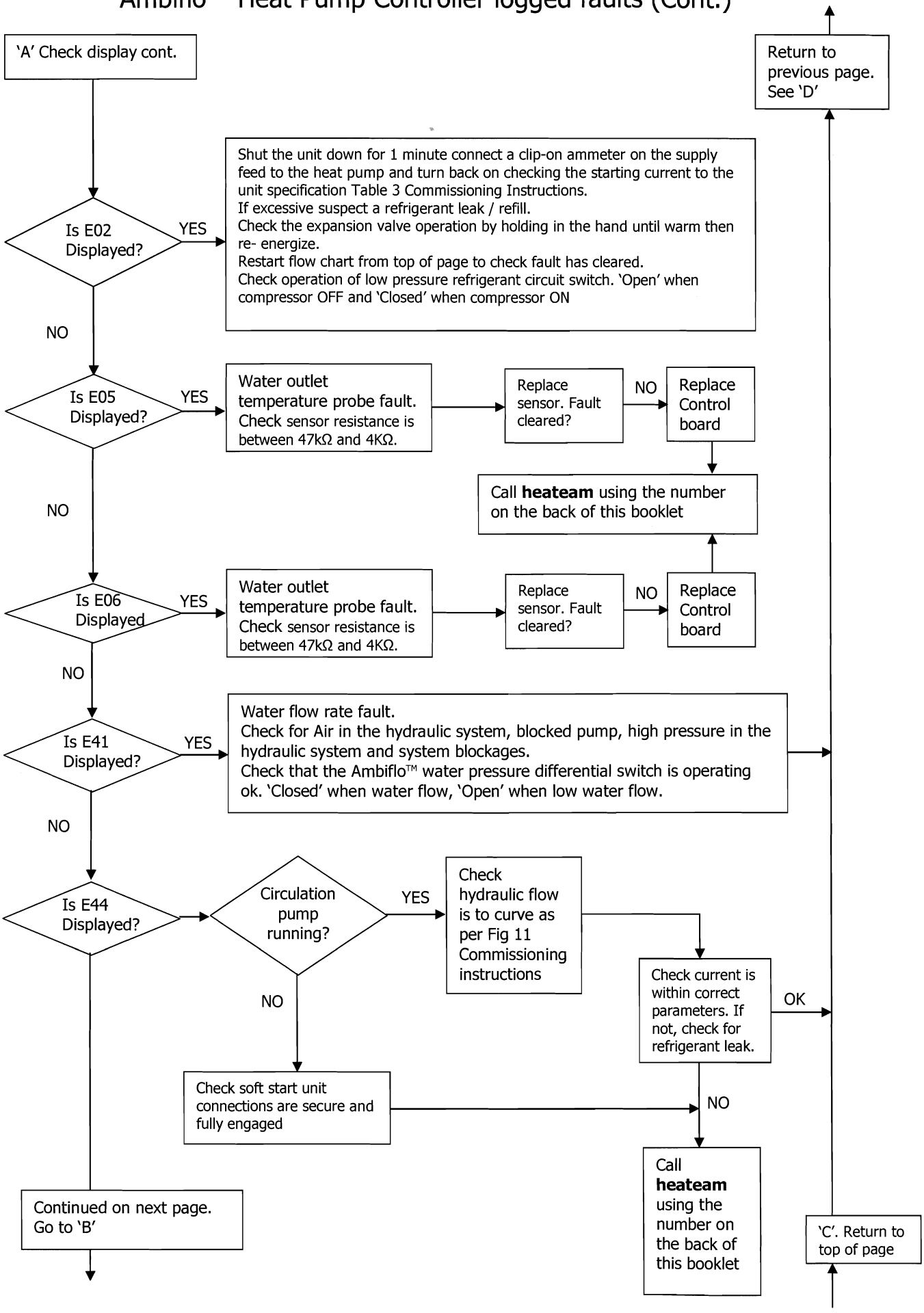
Ambiflo™ Heat Pump commissioning fault finding



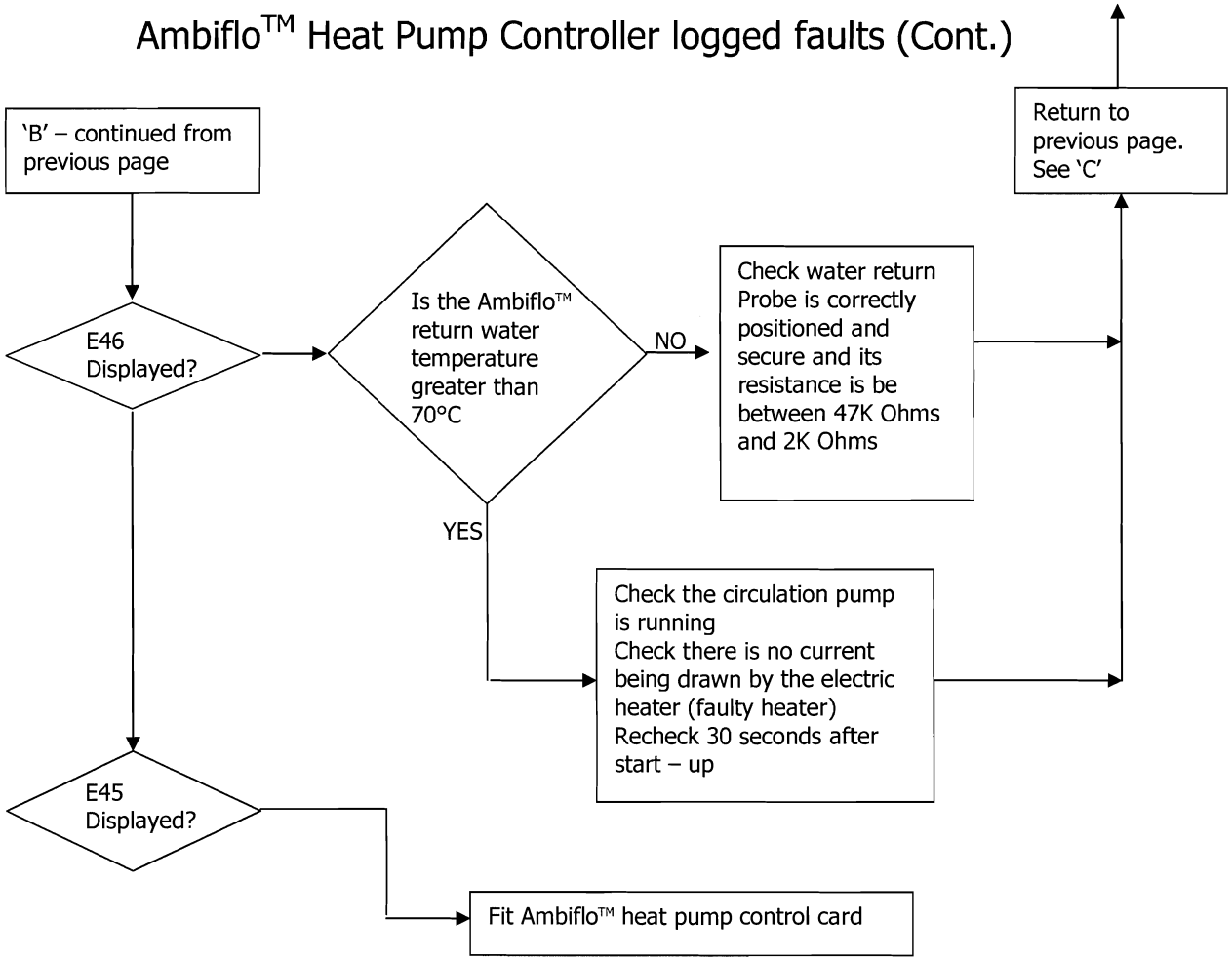
Ambiflo™ Heat Pump Controller logged faults



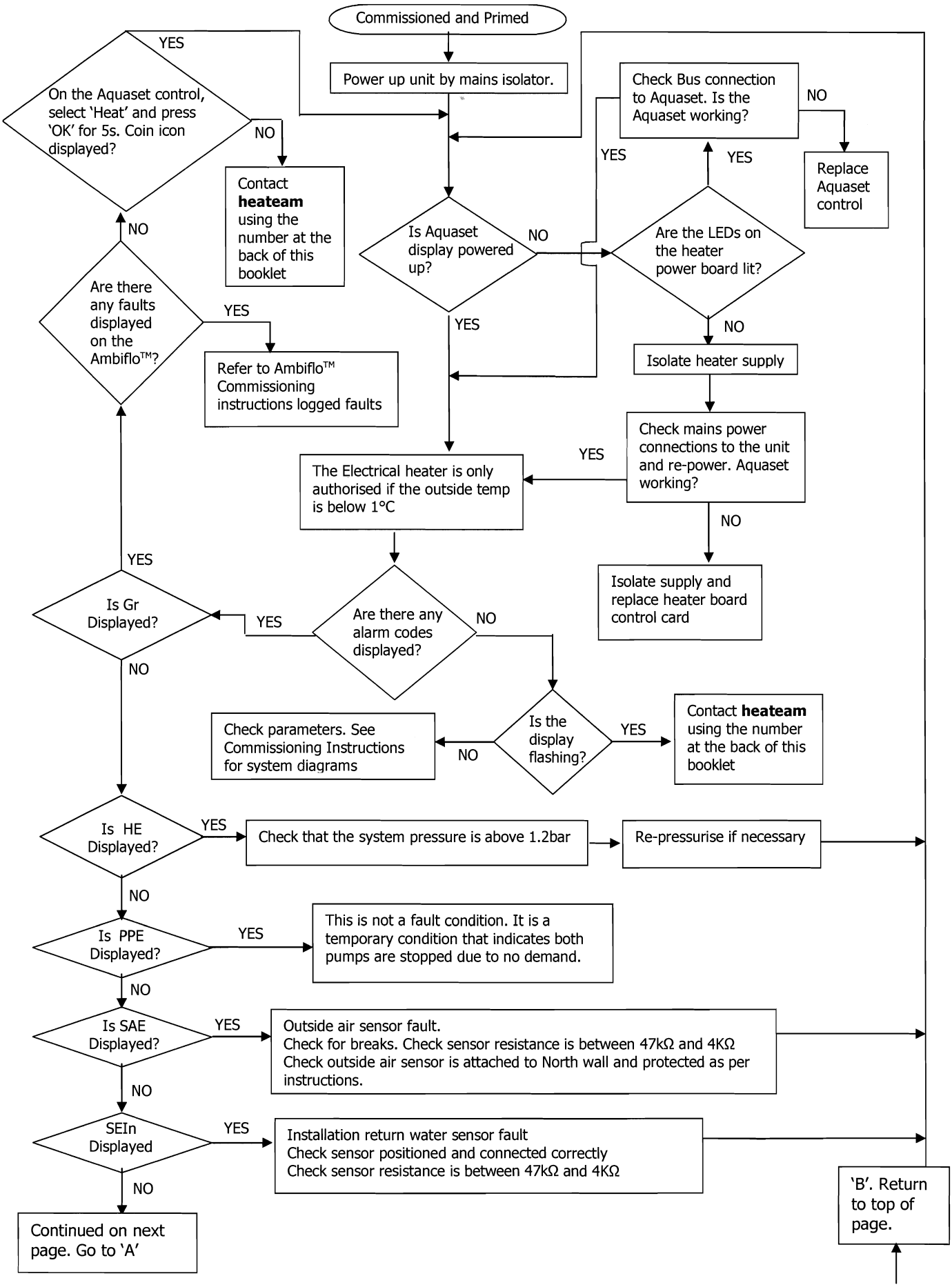
Ambiflo™ Heat Pump Controller logged faults (Cont.)

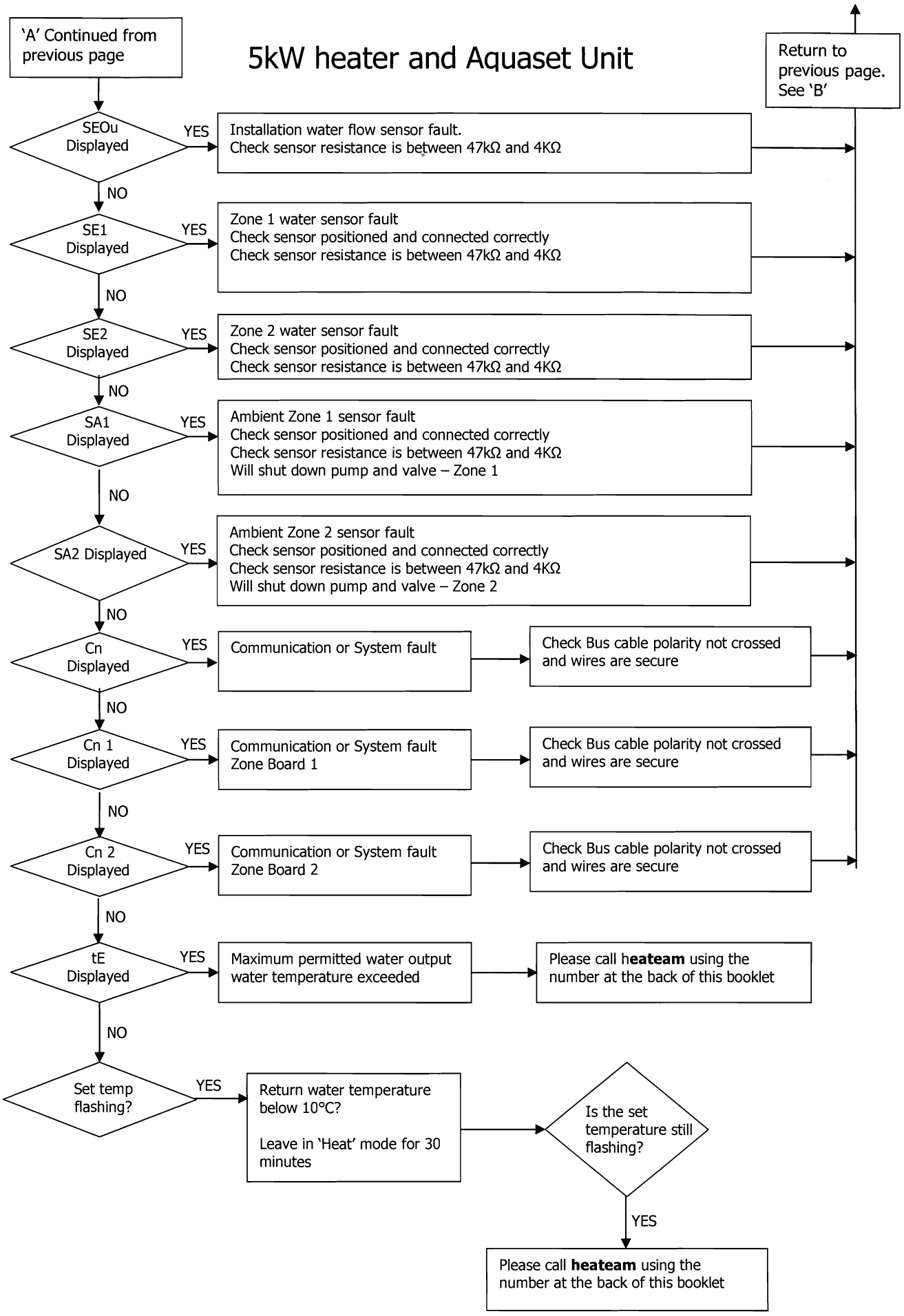


Ambiflo™ Heat Pump Controller logged faults (Cont.)



5kW heater and Aquaset Unit





12.0 Parameter Tables

The parameter settings for each system type supported by Baxi are given in the following tables. The settings to be used are dependent on which installation type is selected when configuring parameter 70.

12.1 Parameter table for 1 Zone underfloor, including 1 Zone Underfloor - 'Variant A'

Parameter settings to be used when P70 is set to '1'

No	Designation	Access	Range	Value /Default
	Status:			Read only
01	Outside temperature	D	-40/+90°C	
02	Actual return temperature	D	-40/+90°C	
03	Actual flow temperature	D	-40/+90°C	
04	Target return temperature	D	25/45°C	
05	(unused)			
06	(unused)			
07	(unused)			
08	Room temperature, zone 1	D	-40/+90°C	
09	(unused)			
10	Heat pump mode status (1 = Heat; 0 = Cool)	D	0/1	
11	Generator mode output status (1 = Heat; 0 = Cool)	D	0/1	
12	Outlet status, supp. 1	D	0/1	
13	Outlet status, supp. 2	D	0/1	
14	Outlet status, supp. 3	D	0/1	
	Air Temperature Settings:			
20	Min outside temperature - heat pump off	T	-20/0°C	-15°C
21	Outside temperature - compensation off	T	-20/0°C	-7°C
22	Outside temperature - electrical heater enabled	T	-5/20°C	7°C
23	Max outside temperature - heat pump off	T	10/25°C	17°C
24	Reduced or setback offset	T	1/4K	2K
25	Outside temperature - pump on (frost protection)	T	8/18°C	12°C
	Water Temperature Settings:			
27	Hysteresis about temperature set point - electric heater	T	2/6K	3K
28	Hysteresis about temperature set point - heat pump	T	1/4K	2.5K
29	Flow temperature - frost protection	T	20/40°C	25°C
30	Max return temperature	T	25/45°C	35°C
31	Unused			
32	Min return temperature - compensation	T	20/30°C	20°C
33	Unused			
34	Cooling water min. temperature (installation return)	T	15/25°C	18°C
35	Cooling authorisation threshold (installation return)	T	25/50°C	30°C
36	Holiday set back room temperature	T	10/20°C	15°C
37	Max flow temperature - with supplementary boiler	T	60/90°C	70°C
	Water Flow rate Calculation:			
40	Electric heating power (kW)	T	1/30kW	7.5kW
41	Calculation result	T		
	Sensor Offset:			
50	Outside temperature offset (Outdoor sensor)	T	+ or -3K	0
51	Room temperature offset (indoor sensor(s))	T	+ or -3K	0
52	(unused)			
53	Electric heater internal temperature sensor	T	+ or -3K	0
54	Additional temperature sensor fitted	T	+ or -3K	0
	Miscellaneous:			
60	RESET TO FACTORY DEFAULT SETTING	T		
61	Not used	T	1/2	1
62	Not used	T	0/9999	1234
63	(unused)			
67	Generator forcing (off)	T	0/1	0
68	Heat/cool outlet condition (off) (1 = heat)	T	0/1	0
	Configuration:			
70	System type	T	1/5	
	1 = 1 zone, floor / 1 zone radiators			1
	2 = 2 zones, floor			
	3 = PAC boiler reading			
	4 = mixed			
	5 = terminal units			
75	Load shedding activated (On = 1, 0 = Off)			
	Software Versions:			Read only
80	Control unit	T		
81	Heating board	T		
	ECS:			
90	ECS card activation (0 = deactivated)	T	0/1	0
	Ambience Setpoints:			
	Cooling setpoint zone 1	Direct access keypad	20/30°C	25°C
	Heating setpoint zone 1		15/25°C	20°C

Table 6

Parameter settings to be used when P70 is set to '2'

	Designation	Access	Range	Value /Default
	Status:			
01	Outside temperature	D	-40/+90°C	
02	Actual return temperature	D	-40/+90°C	
03	Actual flow temperature	D	-40/+90°C	
04	Target return temperature	D	20/45°C	
05	Water outlet temperature resulting setpoint, zone 2	D	20/45°C	
06	Water temperature, zone 1	D	-40/+90°C	
07	Water temperature, zone 2	D	-40/+90°C	
08	Room temperature, zone 1	D	-40/+90°C	Read only
09	Room temperature, zone 2	D	-40/+90°C	
10	Heat Pump mode status (1 = Heat; 0 = Cool)	D	0/1	
11	Generator mode output status (1 = Heat; 0 = Cool)	D	0/1	
12	Output status, supp. 1	D	0/1	
13	Output status, supp. 2	D	0/1	
14	Output status, supp. 3	D	0/1	
15	Output status, circulator zone 1	D	0/1	
16	Outlet status, circulator zone 2	D	0/1	
17	Control valve zone 1	D	-100/+100%	
18	Control valve zone 2	D	-100/+100%	
	Air Temperature Settings:			
20	Min outside temperature - heat pump off	T	-20/0°C	-15°C
21	Outside temperature - compensation off	T	-20/0°C	-7°C
22	Outside temperature - electrical heater enabled	T	-5/20°C	7°C
23	Max outside temperature - heat pump off	T	10/25°C	17°C
24	Reduced or setback offset	T	1/4K	2K
25	Outside temperature - pump on (frost protection)	T	8/18°C	12°C
	Water Temperature Settings:			
27	Hysteresis about temperature set point - electric heater	T	2/6K	3K
28	Hysteresis about temperature set point - heat pump	T	1/4K	2.5K
29	Flow temperature - frost protection	T	20/40°C	25°C
30	Max return temperature	T	25/45°C	35°C
31	Max return temperature Z2	T	25/45°C	35°C
32	Min return temperature – compensation	T	20/30°C	20°C
33	Min return temperature - Z2	T	20/30°C	20°C
34	Outgoing cooling water temperature, zones 1 and 2	T	15/25°C	20°C
35	Cooling authorisation threshold (installation return)	T	25/50°C	30°C
36	Holiday set back room temperature	T	10/20°C	15°C
37	Max flow temperature - with supplementary boiler	T	60/90°C	70°C
38	Zone valve control proportional strip	T	1/10K	5K
39	Zone valve control neutral zone	T	1/4K	1K
	Water Flow rate Calculation:			
40	Electric heating power (kW)	T	1/30kW	7.5kW
41	Calculation result	T		
	Sensor Offset:			
50	Outside temperature offset (Outdoor sensor)	T	+ or -3K	0
51	Room temperature offset (indoor sensor(s)) Z1	T	+ or -3K	0
52	Not used	T	+ or -3K	0
53	Electric heater internal temperature sensor	T	+ or -3K	0
54	Additional temperature sensor fitted	T	+ or -3K	0
	Miscellaneous:			
60	RESET TO FACTORY DEFAULT SETTING	T		
61	Not used	T	1/2	1
62	Not used	T	0/9999	1234
63	Zone valve action time	T	60/300 sec.	150 sec.
64	Generator min. operating time	T	0/200 sec.	100 sec.
65	Forcing, zone 1 (off)	T	0/1	0
66	Forcing, zone 2 (off)	T	0/1	0
67	Generator control forcing	T	0/1	0
68	Heat/cool outlet condition (off) (1 = actuated = heat)	T	0/1	0
69	Ambient temperature sensor, zone 1 (1 = control unit)	T	0/1	1
	Configuration:			
70	System type	T	1/5	
	1 = 1 zone, floor / 1 zone radiators			
	2 = 2 zones, floor			2
	3 = PAC boiler reading			
	4 = mixed			
	5 = terminal units			
75	Load shedding activated (On = 1, 0 = Off)	T	0/1	1
	Software Versions:			
80	Control unit	T		
81	Heating board	T		Read only
82	Board zone 1	T		
83	Board zone 2	T		
	Ambience Setpoints:	D		
	Cooling setpoint zone 1	Direct access keypad	20/30°C	25°C
	Cooling setpoint zone 2		20/30°C	25°C
	Heating setpoint zone 1		15/25°C	20°C
	Heating setpoint zone 2		15/25°C	20°C

Table 7

12.3 Parameter Tables for 1 Zone Underfloor and Radiator Circuit

Parameter settings to be used when P70 is set to '4'

No	Designation	Access	Range	Value /Default
	Status:			
01	Outside temperature	D	-40/+90°C	
02	Actual return temperature	D	-40/+90°C	
03	Actual flow temperature	D	-40/+90°C	
04	Target return temperature	D	20/45°C	
05	Water outlet temperature resulting setpoint, zone 2	D	20/45°C	
06	Water temperature, zone 1	D	-40/+90°C	
07	(unused)			
08	Room temperature, zone 1	D	-40/+90°C	Read only
09	(unused)			
10	Heat Pump mode status (1 = Heat; 0 = Cool)	D	0/1	
11	Generator mode output status (1 = Heat; 0 = Cool)	D	0/1	
12	Outlet status, supp. 1	D	0/1	
13	Outlet status, supp. 2	D	0/1	
14	Outlet status, supp. 3	D	0/1	
15	Outlet status, circulator zone 1	D	0/1	
16	Outlet status, circulator zone 2	D	0/1	
17	Control valve zone 1	D	-100/+100%	
	Air Temperature Settings:			
20	Min outside temperature - heat pump off	T	-20/0°C	-13°C
21	Outside temperature - compensation off	T	-10/0°C	-7°C
22	Outside temperature - electrical heater enabled	T	-5/20°C	7°C
23	Max outside temperature - heat pump off	T	10/25°C	17°C
24	Reduced or setback offset	T	1/4K	2K
25	Outside temperature - pump on (frost protection)	T	8/18°C	12°C
	Water Temperature Settings:			
27	Hysteresis about temperature set point - electric heater	T	2/6K	3K
28	Hysteresis about temperature set point - heat pump	T	1/4K	2.5K
29	Flow temperature - frost protection	T	20/40°C	25°C
30	Max return temperature	T	25/45°C	35°C
31	Unused	T	35/45°C	40°C
32	Min return temperature – compensation	T	20/30°C	20°C
33	Unused	T	25/35°C	30°C
34	Outgoing cooling water temperature, zone 1	T	15/25°C	20°C
35	Cooling authorisation threshold (installation return)	T	25/50°C	30°C
36	Holiday set back room temperature	T	10/20°C	15°C
37	Max flow temperature - with supplementary boiler	T	60/90°C	70°C
38	Zone 1 valve control proportional strip	T	1/10K	5K
39	Zone 1 valve control neutral zone	T	1/4K	1K
	Water Flow rate Calculation:			
40	Electric heating power (kW)	T	1/30kW	7.5kW
41	Calculation result	T		
	Sensor Offset:			
50	Outside temperature offset (Outdoor sensor)	T	+ or -3K	0
51	Room temperature offset (indoor sensor(s)) Z1	T	+ or -3K	0
52	Room temperature offset (indoor sensor(s)) Z2			
53	Electric heater internal temperature sensor	T	+ or -3K	0
54	Additional temperature sensor fitted	T	+ or -3K	
	Miscellaneous:			
60	RESET TO FACTORY DEFAULT SETTING	T		
61	Not used	T	1/2	1
62	Not used	T	0/9999	1234
63	Zone 1 valve action time	T	60/300 sec.	150 sec.
64	Generator min. operating time	T	0/200 sec.	100 sec.
65	Forcing, zone 1 (off)	T	0/1	0
66	Forcing, zone 2 (off)	T	0/1	0
67	Generator control forcing	T	0/1	0
68	Heat/cool outlet condition (off) (1 = actuated = heat)	T	0/1	0
69	Ambient temperature sensor, zone 1 (1 = control unit)	T	0/1	1
	Configuration:			
70	System type	T	1/5	
	1 = 1 zone, floor / 1 zone radiators			
	2 = 2 zones, floor			
	3 = PAC boiler reading			
	4 = mixed		▶	4
	5 = terminal units			
75	Load shedding activated (On = 1, 0 = Off)	T	0/1	1
	Software Versions:			
80	Control unit	T		
81	Heating board	T		Read only
82	Board zone 1	T		
83	Board zone 2	T		
	Ambience Setpoints:	D		
	Cooling setpoint zone 1	Direct access keypad	20/30°C	25°C
	Heating setpoint zone 1		15/25°C	20°C

Table 8

12.4 Parameter Table for 1 Zone Radiators

Parameter settings to be used when P70 is set to '1'

No	Designation	Access	Range	Value /Default
1A	Status:			
00	ECS tank temperature (if activated)	D	-40/+90°C	
01	Outside temperature	D	-40/+90°C	
02	Actual return temperature	D	-40/+90°C	
03	Actual flow temperature	D	-40/+90°C	
04	Target return temperature	D	20/45°C	
05	Unused			
06	Unused			
07	Unused			
08	Room temperature, Zone 1	D	-40/+90°C	Read only
09	Unused			
10	Heat pump mode status (1 = Heat; 0 = Cool)	D	0/1	
11	Generator output mode status (1 = Heat; 0 = Cool)	D	0/1	
12	Output status, supp. 1	D	0/1	
13	Output status, supp. 2	D	0/1	
14	Output status, supp. 3	D	0/1	
19	ECS valve control.	D	-100/+100%	
	Air Temperature Settings:			
20	Min outside temperature - heat pump off	T	-20/0°C	-15°C
21	Outside temperature - compensation off	T	-20/0°C	-7°C
22	Outside temperature - electrical heater enabled	T	-5/20°C	5°C
23	Max outside temperature - heat pump off	T	10/25°C	17°C
24	Reduced or setback offset	T	1/4K	2K
25	Outside temperature - pump on (frost protection)	T	8/18°C	12
	Water Temperature Settings:			
27	Hysteresis about temperature set point - electric heater	T	2/6K	4K
28	Hysteresis about temperature set point - heat pump	T	1/4K	3K
29	Flow temperature - frost protection	T	20/40°C	35°C
30	Max return temperature	T	30/65°	50°C
31	(unused)			
32	Min return temperature – compensation	T	25/40°C	30°C
33	(unused)			
34	(unused)			
35	(unused)			
36	Holiday set back room temperature	T	10/20°C	15°C
37	Max flow temperature - with supplementary boiler	T	60/90°C	80°C
	Water Flow rate Calculation:			
40	Electric heating power (kW)	T	1/30kW	7.5kW
41	Calculation result	T		
	Sensor Offset:			
50	Outside temperature offset (Outdoor sensor)	T	+ or -3K	0
51	Room temperature offset (indoor sensor(s))	T	+ or -3K	0
52	(unused)			
53	Electric heater internal temperature sensor	T	+ or -3K	0
54	Additional temperature sensor fitted	T	+ or -3K	0
57	Temperature control sensor reference (flow=0 return=1)	T	0/1	
	Miscellaneous:			
60	RESET TO FACTORY DEFAULT SETTING	T		
61	Not used	T	1/2	1
62	Not used	T	0/9999	1234
63	(unused)			
67	Generator forcing (off)	T	0/1	0
68	(unused)			
	Configuration:			
70	System type	T	1/5	
	1 = 1 zone, floor / 1 zone radiators			1
	2 = 2 zones, floor			
	3 = PAC boiler reading			
	4 = mixed			
	5 = terminal units			
75	Load shedding activated (On = 1, 0 = Off)	T	0/1	1
	Software Versions:			
80	Control unit	T		
81	Heating board	T		Read only
82	(unused)			
83	(unused)			
84	ECS card	T		
	ECS:			
90	ECS card activation (0 = deactivated – 1 = activated) See § for specific settings	T	0/1	0
	Ambience Setpoints:	D		
	Cold setpoint: inactive	Direct access keypad	15/25°C	20°C

Table 9

13.0 Notes

All descriptions and illustrations provided in this leaflet have been carefully prepared but we reserve the right to make changes and improvements in our products which may affect the accuracy of the information contained in this leaflet. All goods are sold subject to our standard Conditions of Sale which are available on request.

BAXI
A Trading Division of Baxi Heating UK Ltd (3879156)
A Division of Baxi Group
Brooks House, Coventry Road, Warwick. CV34 4LL
Service support and Technical support 0844 871 1568
Website www.baxi.co.uk
e&oe

A BAXI GROUP company

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