



INSTALLATION AND SERVICING

LOGIC HIU (Heat Interface Unit)

Indirect 75

Indirect 50

Direct MT

Direct HT

When replacing any part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by Ideal.

For the very latest copy of literature for specification and maintenance practices visit our website www.idealcommercialboilers.com where you can download the relevant information in PDF format.

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LOGIC HIU

Unit	UIN No.
Logic HIU Indirect 75	211093
Logic HIU Indirect 50	211094
Logic HIU Direct MT	211095
Logic HIU Direct HT	211096
Logic HIU Indirect 75 (+ CF ECHO II Mbus 1 Meter)	211346
Logic HIU Indirect 50 (+ CF ECHO II Mbus 1 Meter)	211347
Logic HIU Direct MT (+ CF ECHO II Mbus 1 Meter)	211348
Logic HIU Direct HT (+ CF ECHO II Mbus 1 Meter)	211349
Logic HIU Indirect 75 (+ CF ULTRAMAX X V PS Meter)	211350
Logic HIU Indirect 50 (+ CF ULTRAMAX X V PS Meter)	211351
Logic HIU Direct MT (+ CF ULTRAMAX X V PS Meter)	211352
Logic HIU Direct HT (+ CF ULTRAMAX X V PS Meter)	211353

Health & Safety Document No. 635.

(The electrical at work regulations 1989). The manufacturer's notes must NOT be taken, in any way, as overriding statutory obligations.

IMPORTANT. These appliances are CE certified for safety and performance. It is, therefore, important that no external control devices, e.g. economisers etc., are directly connected to these appliances unless covered by these Installation and Servicing Instructions or as otherwise recommended by **Ideal Boilers** in writing. If in doubt please enquire.

Any direct connection of a control device not approved by **Ideal Boilers** could invalidate the certification and the normal appliance warranty.

INTRODUCTION

The Ideal Heat Interface Units (HIUs) are designed for use in conjunction with an external central plant heat source. Examples of central plant systems include centralised boilers, district heating or central energy systems using renewable energy sources.

Detailed recommendations are contained in the following British Standard Codes of Practice:

BSEN.12828:2003	Heating Systems in buildings: Design for water based systems.
BSEN.12831:2003	Heating Systems in buildings: Method for calculation of the design heat load.
BSEN.13831	Specification for: Expansion vessels using an internal diaphragm, for sealed hot water heating systems.
BSEN.14336:2004	Heating Systems in buildings: Installation and commissioning of water based heating systems.

The appliance is suitable only for installation in GB and IE and should be installed in accordance with the rules in force.

The appropriate Building Regulations either The Building Regulations, The Building Regulations (Scotland), Building Regulations (Northern Ireland).

The Water Fittings Regulations or Water byelaws in Scotland.

The Current I.E.E. Wiring Regulations. In IE, the installation must be carried out by a Competent Person and installed in accordance with the current edition of I.S.813 and the current Building Regulations and reference should be made to the current ETCI rules for electrical installation. Where no specific instructions are given, reference should be made to the relevant British Standard Code of Practice.

SAFETY

These instructions need to be read and understood before installing or maintaining these units. **FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A SAFETY HAZARD.**

The device must be installed, commissioned and maintained by qualified technical personnel in accordance with national regulations and /or relevant local requirements.

SAFE HANDLING

This HIU unit may require two or more operatives to move it to its installation site, remove it from its packaging base and during movement into its installation location. Maneuvering the appliance may include the use of a sack truck and involve lifting, pushing and pulling.

Caution should be exercised during these operations.

Operatives should be knowledgeable in handling techniques when performing these tasks and the following precautions should be considered:

- Grip the appliance at the base.
- Be physically capable.
- Use personal protective equipment as appropriate, e.g. gloves, safety footwear.

During all maneuvers and handling actions, every attempt should be made to ensure the following unless unavoidable and/or the weight is light.

- Keep back straight.
- Avoid twisting at the waist.
- Avoid upper body/top heavy bending.
- Always grip with the palm of the hand.
- Use designated hand holds.
- Keep load as close to the body as possible.
- Always use assistance if required.

SAFE HANDLING OF SUBSTANCES

No asbestos, mercury or CFCs are included in any part of the boiler or its manufacture.

INSTALLATION SAFE INSTRUCTIONS

- The device must be installed, commissioned and maintained by qualified technical personnel in accordance with national regulations and/or relevant local requirements.
- If the device is not installed, commissioned and maintained correctly in accordance with the instructions provided in this manual, it may not work correctly and may endanger the user.
- This device cannot be used in areas at risk of explosion or fire.
- Ensure all electrical devices are protected from water when maintaining the water based components.
- The device must not be exposed to water drops or humidity, direct sunlight, the elements, heat sources or high intensity electromagnetic fields.
- Flush the pipe work thoroughly (using the optional flushing bypass UIN 211097) before installing the HIU to remove any particles, rust, incrustations, lime scale, welding slag and any other contaminants. The water circuits must be clean and free from debris.
- Make sure that all connection fittings are watertight.

- When connecting water pipes, make sure that threaded connections are not mechanically overstressed. Over time this may result in breakage, causing water damage and/or personal injury.
- Water temperatures higher than 50°C may cause severe burns. When installing, commissioning and maintaining the device, take the necessary precautions so that these temperatures will not be hazardous for people.
- In the case of particularly hard or impure water, there must be suitable provision for filtering and treating the water before it enters the device, in accordance with current legislation. Failure to do so may result in the HIU becoming damaged or working incorrectly.
- Any use of the HIU other than its intended use is prohibited.
- Any coupling of the device with other system components must be made while taking the operational characteristics of both units into consideration.
- An incorrect coupling could compromise the operation of the device and/or system.
- Electrical installation must only be carried out by a qualified technician, in accordance with current requirements.
- When connecting a room thermostat to this Unit **NOTE IT IS A VOLT FREE CONNECTION. DO NOT CONNECT AN EXTERNAL VOLTAGE SUPPLY TO THE ROOM THERMOSTAT TERMINALS.**

MAINTENANCE SAFETY

- Before removing casing; the HIU unit should be in an off state and cool enough to work on without the risk of burns from high temperature components.
- The unit should be electrically isolated with the use of an external bipolar switch. (No automated power switch systems should be used as a direct isolation method for this HIU unit).
- During installation and maintenance operations, always avoid direct contact with live or potentially hazardous parts.
- Take care to follow the instruction on any correctly rate pressure equipment when working on the high pressure systems on these units.
- Suitable automatic protection devices in compliance with current legislation can be used in conjunction with a bipolar isolation switch system.
- The device must always be earthed before it is connected to the electric supply. If the device has to be removed, always disconnect the earth connection after disconnecting the electric supply. Check that the earth connection has been made to the highest of standards under current legislation.

1 APPLIANCE TYPE

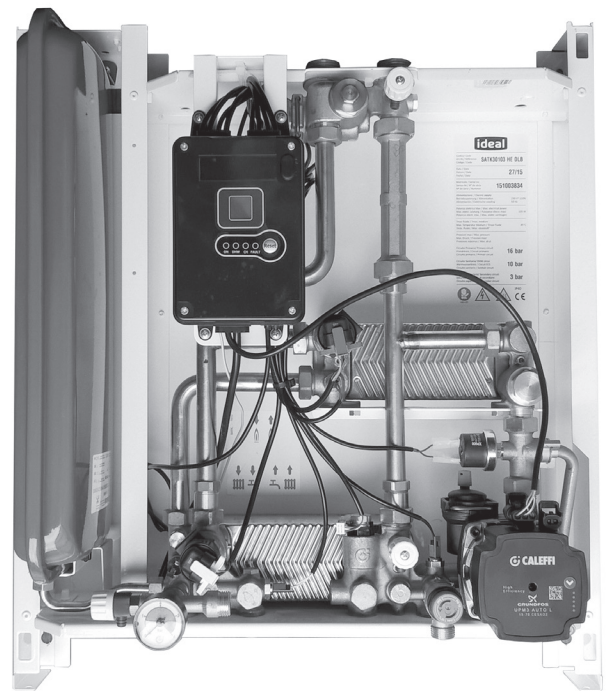
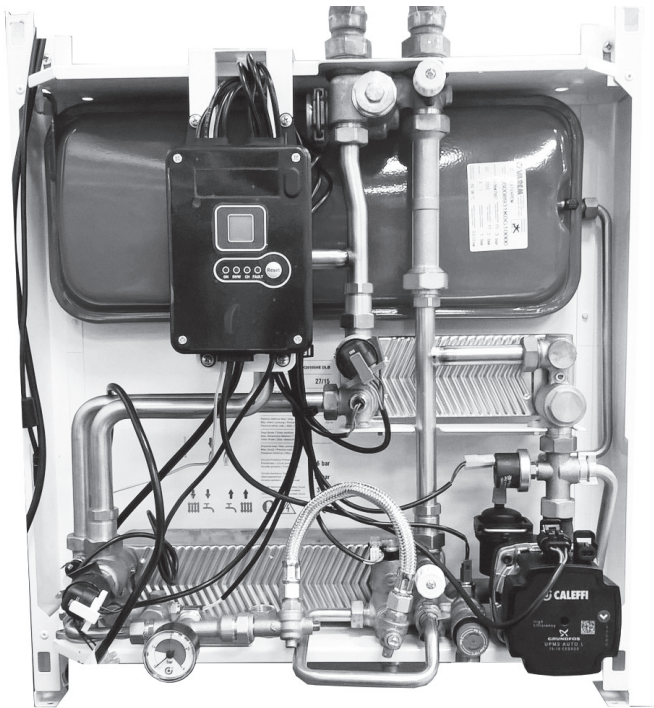
INDIRECT

LOGIC HIU INDIRECT 75

Indirect wall mounted HIU, with a 75kW instantaneous priority DHW and 15 kW modulated CH. This can be converted to under floor heating including inbuilt safety thermostat capability.

LOGIC HIU INDIRECT 50

Indirect wall mounted HIU, with a 50kW instantaneous priority DHW and 15 kW modulated CH. This can be converted to under floor heating including inbuilt safety thermostat capability.



Note: 75 Indirect unit is shown fitted with filling loop attached (See Frame 13)

2 TECHNICAL SPECIFICATION

LOGIC HIU INDIRECT 75, LOGIC HIU INDIRECT 50

OPERATION

Heating

The temperature setting operates on the principle of set point regulation and can be fixed within application limits.

Heating Set Point: 25 to 75°C

Nom. heating exchanger net output: 15 kW

Secondary circuit: Maximum pressure rating 3 bar Maximum operating pressure 2.5 bar

Pump: UPM3 Auto L

Pump bypass setting: 0.45 bar

Pressure switch: opening 0.4 bar - closing 0.8 bar

Safety relief valve setting: 3 bar

Safety thermostat: 55°C ±3

Expansion vessel: 7.5 litre

Optional Under floor heating capability

Heating control circuit is **VOLT FREE**

Domestic Hot Water - DHW

The DHW function takes priority over the heating function controlled by the DHW priority flow switch (component 10).

Set Point - DHW temperature 42 to 60°C

Domestic hot water: 10 bar

DHW circuit max. flow rate: 18 l/m (0.3 l/s)

Min. flow rate to activate domestic flow sensor: 2.7 l/m ±0.3

Max. Differential pressure on domestic water modulating valve: Δp 1.65 bar

Min. Differential pressure on domestic water modulating valve: Δp 0.35 bar

Heat exchanger capacity:

Nom. DHW heat exchanger net output: 50 kW - Logic HIU Indirect 50

Nom. DHW heat exchanger net output: 75 kW - Logic HIU Indirect 75

Optional Pre heat function

Primary Performance

Maximum working pressure: 16 bar - primary
3 bar - secondary

Maximum temperature: 85°C

Medium: Water

Max. Percentage of glycol 30%

Max. Recommended primary circuit flow rate: 1.2 m³/h

Electrical

Power supply: 230 V (ac) ±10% 50 Hz

Power consumption: 80 W

Protection class: IP 40

Actuator: stepper 24 V

Probes: NTC 10 kΩ

Construction

Frame: RAL 9010 sprayed steel

Protective shell cover: PPE

Components: brass BS EN 12165 CW617N

Pipes: stainless steel

Exchanger: brazed stainless steel

INDIRECT SPECIFICATION

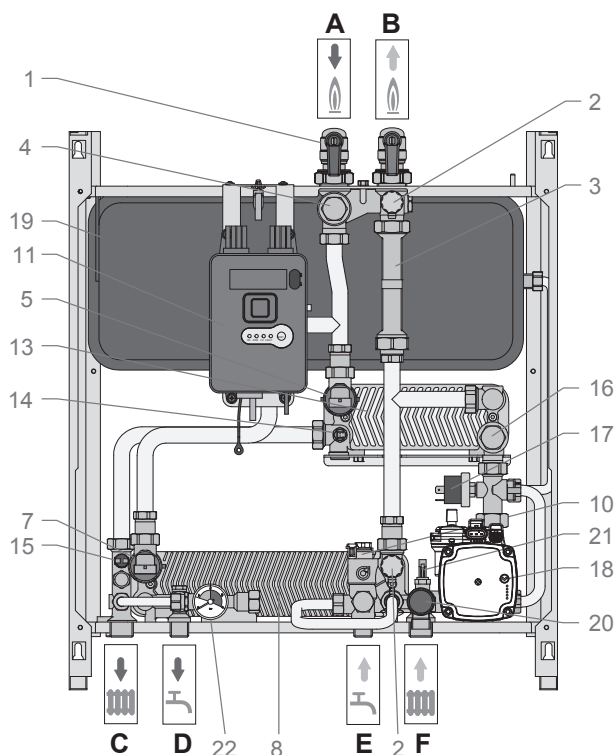
3 ITEM COMPONENT REFERENCE: LOGIC HIU INDIRECT 75, LOGIC HIU INDIRECT 50

- | | |
|--|--------------------------------------|
| 1 Primary isolation valve (incorporating pressure test points) | 14 Heating flow temperature sensor |
| 2 Drain cock | 15 Temperature control stat |
| 3 Heat meter spacer piece - replaced by heat meter when fitted | 16 Strainer (heating circuit) |
| 4 Primary filter and heat meter probe pocket | 17 Pump safety bypass and DP switch |
| 5 Heating circuit control valve | 18 Pump |
| 7 Modulating primary control valve (DHW) | 19 Expansion vessel |
| 8 Plate heat exchanger (DHW) | 20 Safety relief valve - 3 bar |
| 9 DHW temperature sensor | 21 Heating return temperature sensor |
| 10 DHW flow switch | 22 Pressure gauge |
| 11 Electronic control unit | 23 Filling loop isolation valve* |
| 12 Room controller (not supplied)* | 24 Filling loop double check valve* |
| 13 Plate heat exchanger (space heating) | 25 Filling loop* |

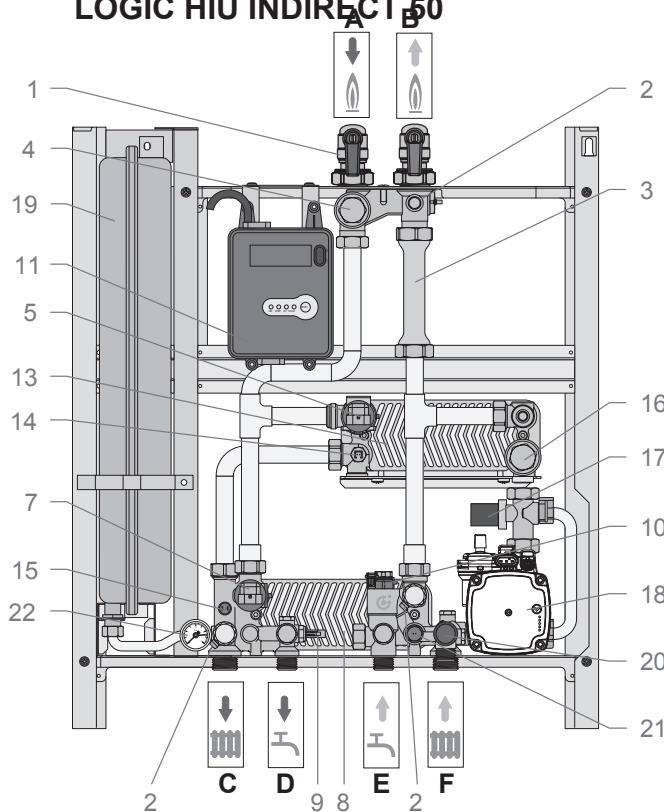
* Not shown on Components illustration.

4 TECHNICAL SPECIFICATION

LOGIC HIU INDIRECT 75



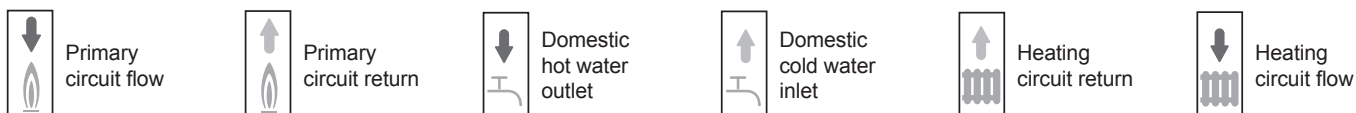
LOGIC HIU INDIRECT 50



DIMENSIONS

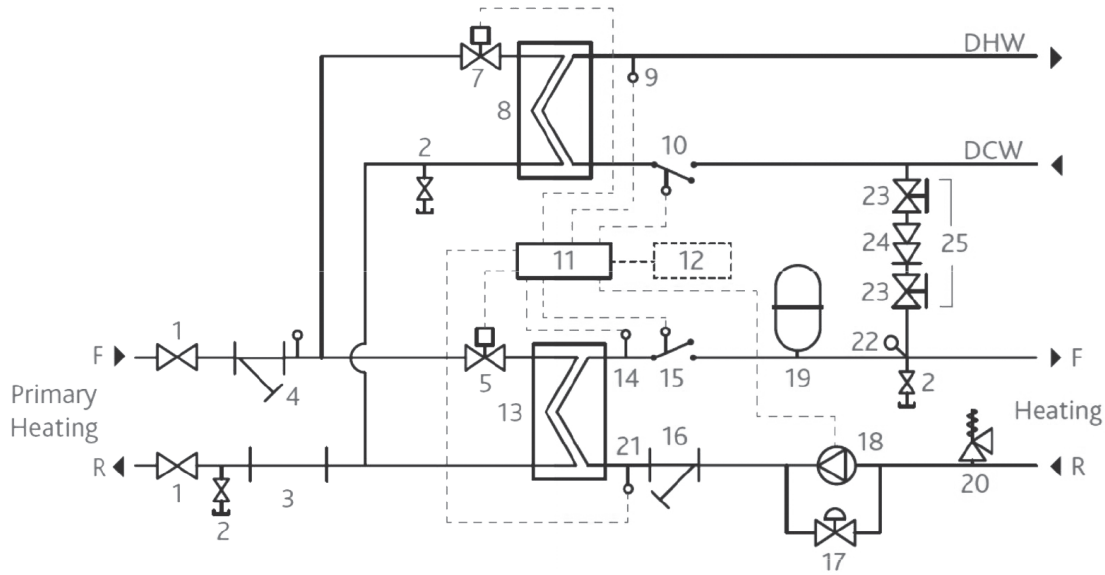
Connection	A	B	C	D	E	F
Threads	G1"	G1"	G 3/4'	G 1/2"	G 1/2'	G 3/4'
Pitch	A to B 65mm		C to D 65mm		E to F 65mm	
Height	630mm					
Width	550mm					
Depth (inc cover)	265mm					
Weight	19 Kg					

Key to Symbols Schematic -

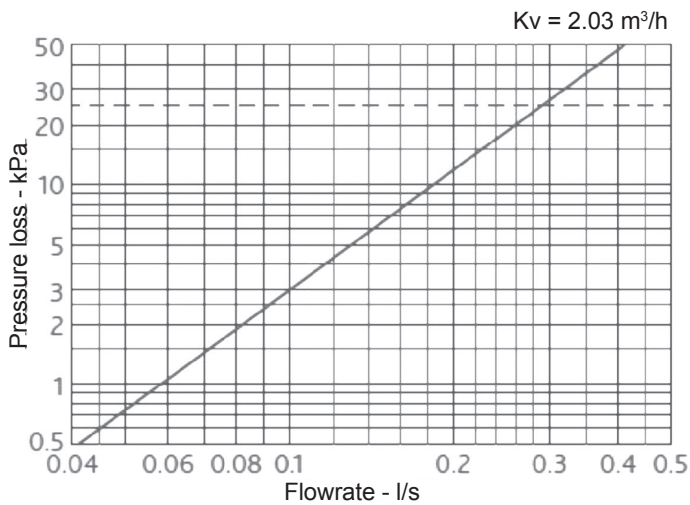


INDIRECT SPECIFICATION

5 SCHEMATIC LOGIC HIU INDIRECT 75 & LOGIC HIU INDIRECT 50

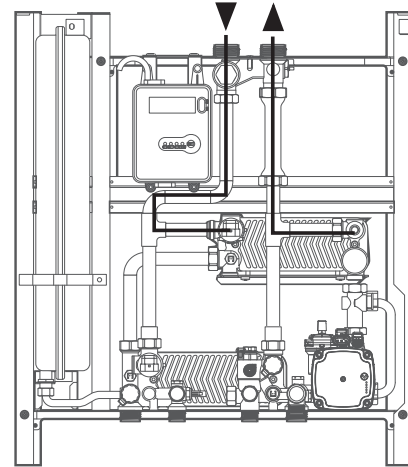


6 PRIMARY FLOW CHARACTERISTICS

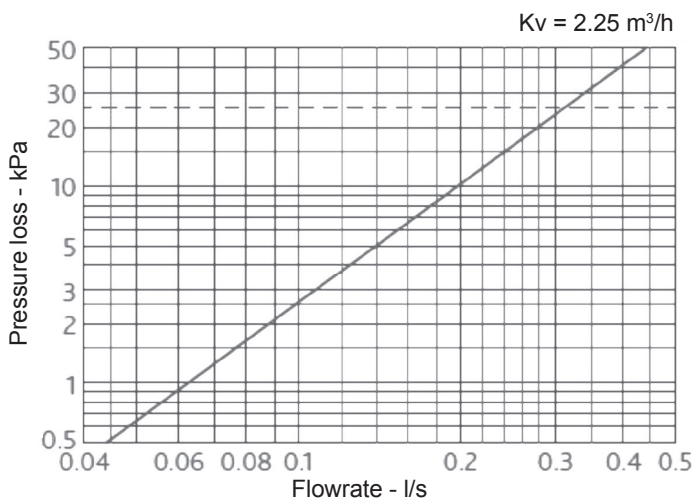


FLOW PATH
Heating Primary Circuit

COMMON
HEATING
SYSTEM

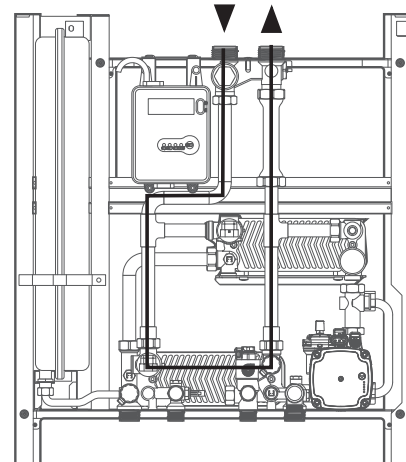


7 PRIMARY FLOW CHARACTERISTICS



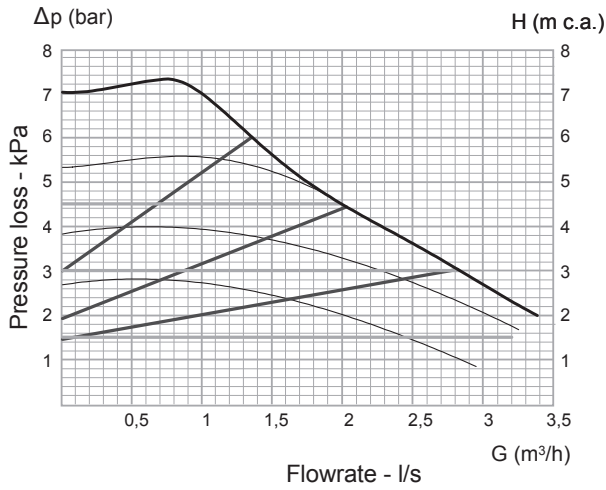
FLOW PATH
DHW - Primary Circuit

COMMON
HEATING
SYSTEM



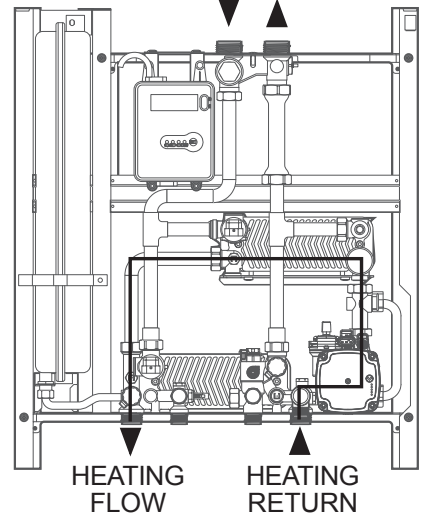
INDIRECT SPECIFICATION

8 HEATING FLOW CHARACTERISTICS FOR LOGIC HIU INDIRECT 75 & 50

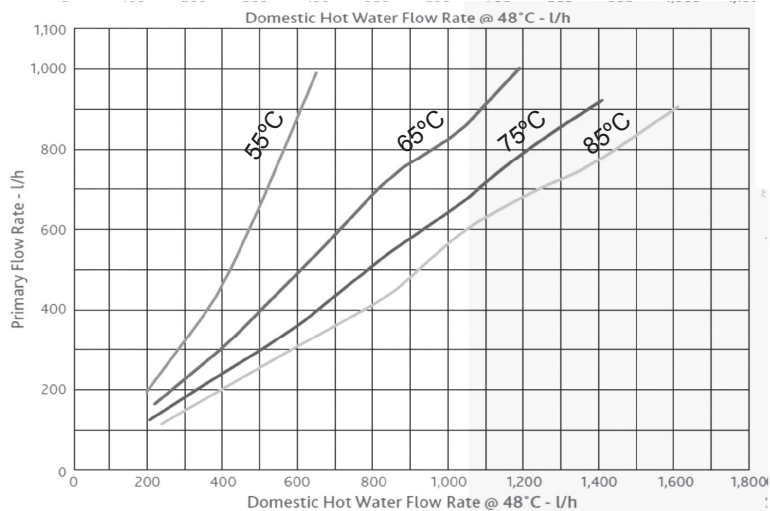
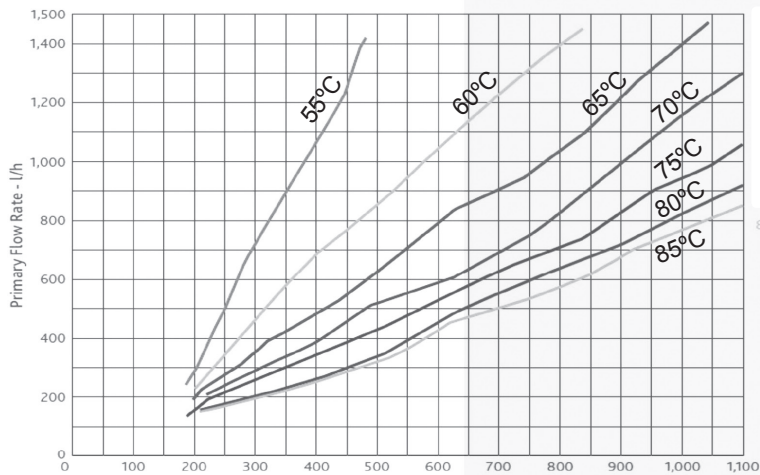


HEATING SECONDRY FLOW CHARACTERISTICS LOGIC HIU INDIRECT 50 & 75

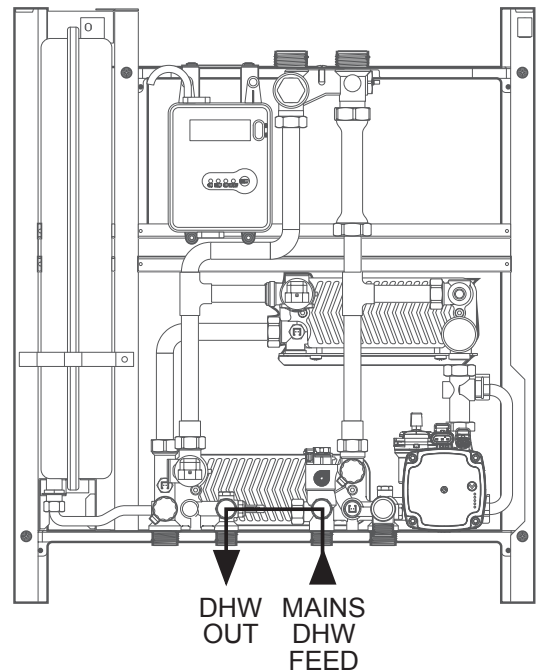
COMMON HEATING
SYSTEM



9 DHW FLOW CHARACTERISTICS FOR LOGIC HIU INDIRECT 75 & 50



DHW SECONDRY FLOW CHARACTERISTICS LOGIC HIU INDIRECT 50 & 75



INDIRECT HARDWARE CONTENTS

10 LOGIC HIU INDIRECT 50 OR LOGIC HIU INDIRECT 75



11 PRIMARY BALL VALVE SET

Flow & Control Valves (with sample points). (Inc. sealing washer to appliance)

CONTENT

Item	Qty	Component
1	2	16 Bar primary inlet ball valves with integrated pressure sampling points 3/4" BSP Union connection x 3/4" BSP ball valve with union end and male threaded connection joint*.
2	2	Rubber washers for union end connection and
2	2	Fibre washes for 3/4" BSP connection face



12 DOMESTIC CONNECTION FLOW & RETURN VALVE KIT

(Inc. sealing washer to appliance)

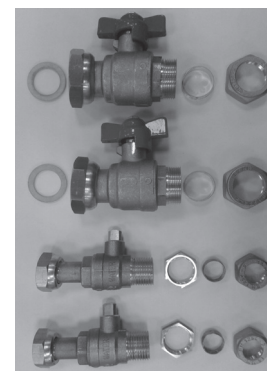
CONTENT

Item	Qty	Component
2	2	22mm x 3/4" ball valve with union end and compression joint* - one blue and one red handle.
3		Small component pack consisting of: 2 3/4" seal for union joint

DHW inlet and outlet connection valves (Inc. sealing washer to appliance)

1	2	15mm x 1/2" ball valve with union end and compression joint*.
2	2	15mm compression nut
2	2	15mm olive

* Compression ends complying with BS EN 1254-2 for use with R250 (half hard) copper tube



13 FILLING LOOP CONNECTION KIT VALVES

(Inc. sealing washer to appliance & water check valve incorporated into inlet connection)

The filling loop and ball valves are used to fill and pressurise the secondary heating system, the filling loop must be disconnected after pressurisation to comply with the Water Regulations.

CONTENT

Item	Qty	Component
1	1	Ball valve with integral check valve and union joint.
2	1	Ball valve with union joint
3	1	Flexible hose 250mm long
4	2	1/2" rubber sealing washer for union joint - black
5	2	Sealing washer for flexible hose – green.

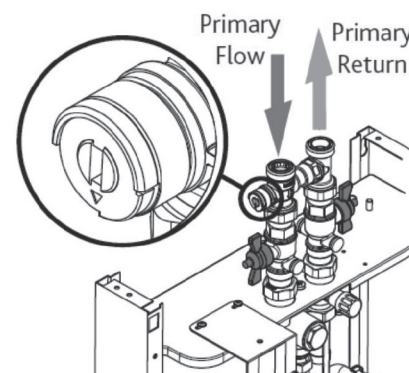
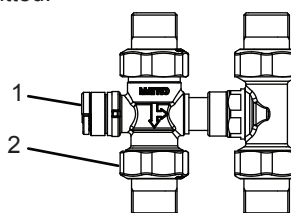


14 OPTIONAL FLUSHING BY-PASS

(Inc. Union built in rubber sealing washer)

Check the components in the kit before commencing. It is strongly recommended the flushing by-pass option kit is fitted as it allows for cleaning of the primary water system loop whilst the HIU is fitted.

- 1 'H' pattern flushing bypass valve
- 2 Threaded male union tail piece - 4 off.
Install tails into HIU inlet connections
Fit Flushing by pass
Connect to primary pipe work
Turn screw driver slot horizontal to bypass.
Turn Vertical to connect the HIU to the primary circuit



15 ELECTRONIC CONTROLLER

LOGIC HIU INDIRECT 50 & 75 KW UNITS

All the heating and domestic hot water functions offered by the Logic Indirect HIUs are controlled by a digital controller.

The controller is factory set with the parameters for the HIU unit ordered.

The Logic Indirect HIU versions offer the optional capability to be converted for use on under floor heating by controlling the CH central heating temperature below 45 °C and the activation of the safety thermostat that prevent the CH circuit going above 45 °C. This can be achieved by setting the DIP switches found inside the control box to the positions shown in the sub table below (right-hand side).

Automatic controller functions

Reset mixing/modulating valve to zero - Immediately after the power supply has been switched on, the position of the mixing/modulating valves is reset to zero.

Pump anti-sieze - When the pump is not in use, it is powered on for a period of 5 seconds every 24 hours.

Mixing valve/modulating valve anti-sieze - The anti-sieze cycle for the mixing/modulating valve is run every 24 hours.

IMPORTANT

These DIP switches configure the control for different units within the range. It is important that they are not changed from those shown below. If they are changed outside of these requirements, it will cause the HIU to operate incorrectly and may result in hazardous operational conditions.

TABLE 1

To modify the factory settings, and enable the HIU to support low temperature systems 25 to 45°C proceed as follows

Electronic Control Dip Switch Settings	Factory Settings		Setting Capability		Production settings							
	Heating	DHW	Heating	DHW	6	5	4	3	2	1		
Logic HIU Indirect 50	75	54	25 to 75	42 to 60								ON
Logic HIU Indirect 75	75	54	25 to 75	42 to 60								ON

Underfloor Low Temp Settings						
6	5	4	3	2	1	
						ON

- Switch 1** Modulating temperature regulation with compensated set point
- Switch 2 & 3** Conversion to & from Low temperature to high temperature CH
- Switch 5** Domestic water pre heating function

OPTION Indirect only

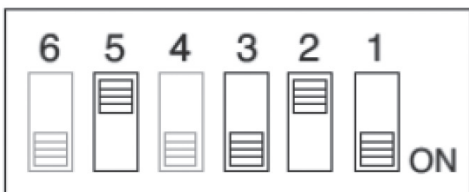
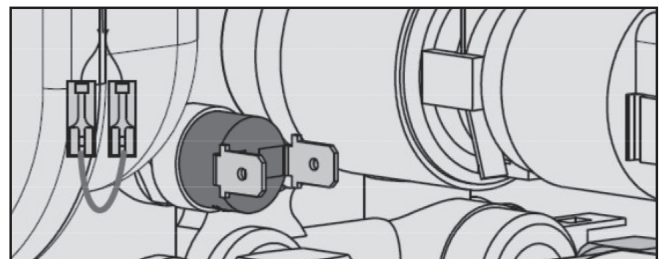
Do not change

Can be Changed

16 CONVERTING THE UNIT TO UNDERFLOOR OPERATION (LOGIC HIU INDIRECT 50 & 75KW UNITS)

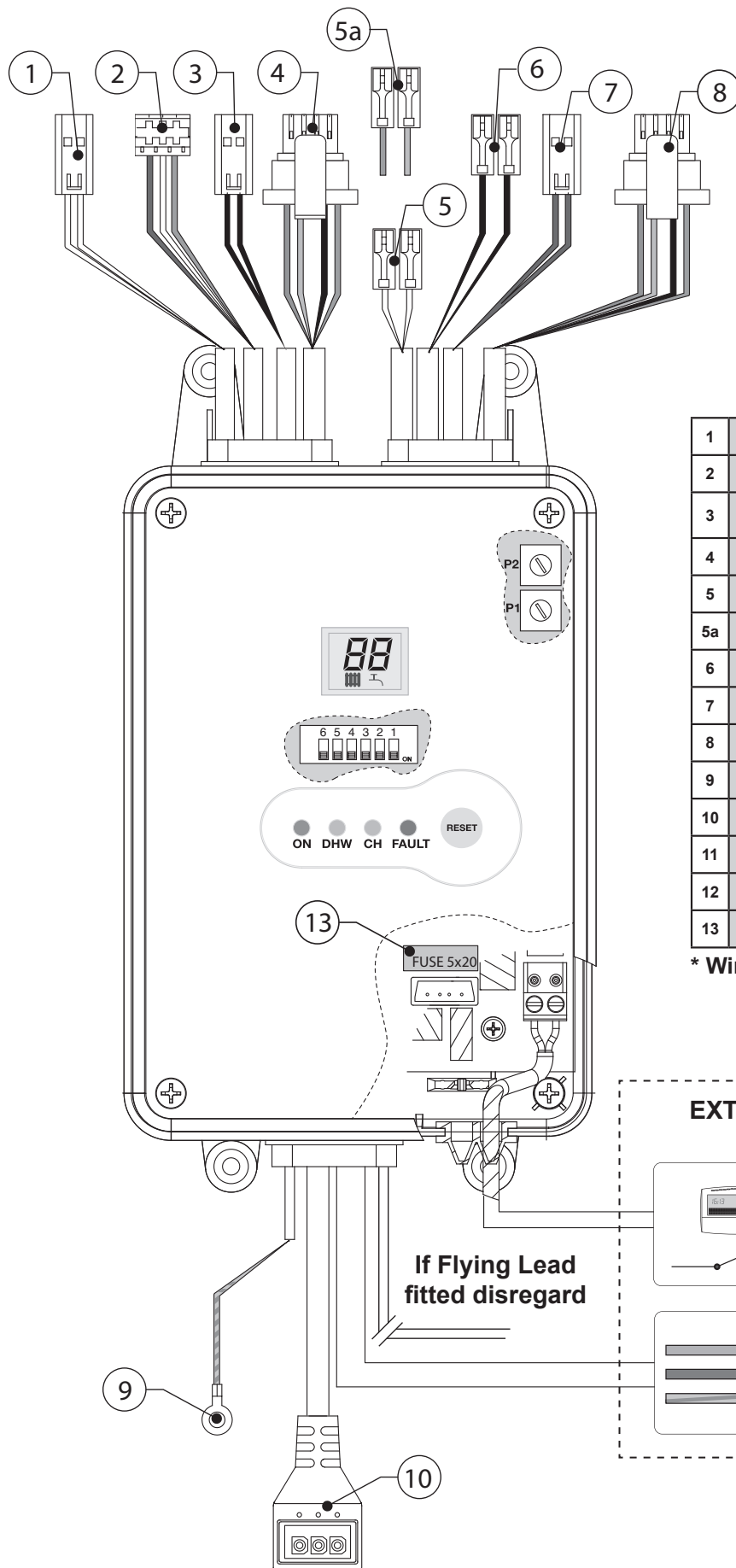
To convert the unit to an underfloor low temperature system (25 to 45°C operation range)

- 1 Switch off the electricity power supply to the HIU
- 2 Set the switches 2 and 3 with the ON-OFF setting
- 3 Remove the safety thermostat jumper cable and connect the cables to the thermostat.
- 4 Switch on the electricity power supply to the HIU.



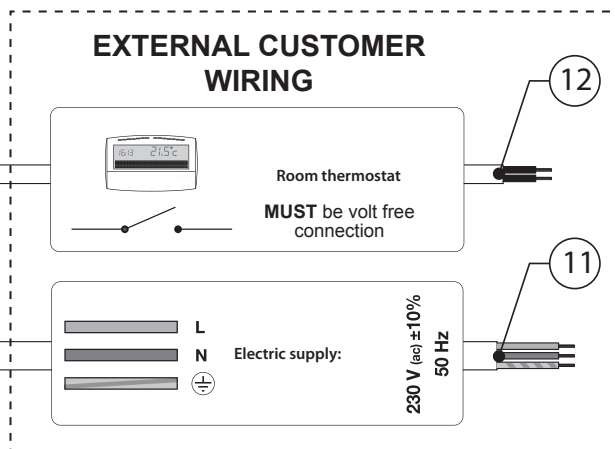
INDIRECT ELECTRONIC CONNECTION

17 ELECTRICAL WIRING



		Logic HIU Indirect HT 50	Logic HIU Indirect HT 50
1	DHW temperature probe	X	X
2	DHW Priority flow meter	X	X
3	Flow temp. compensation return probe	X	X
4	DHW production valve actuator	X	X
5	Thermal safety relief valve		
5a	Pressure switch	X	X
6	Thermal safety thermostat	X	X
7	Heating flow temperature probe	X	X
8	Heating valve actuator	X	X
9	Earth	X	X
10	Pump	X	X
11	Electric supply 230 V (ac)*	X	X
12	Room thermostat	X	X
13	Fuse	X	X

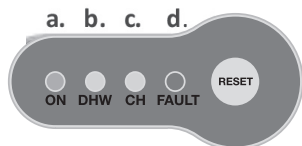
* Wiring to be made during installation




18 THE USER INTERFACE

The user interface built into the controls consists of:-

- 1 Commissioning set up potentiometers (found at the top right hand side of the control unit under a rubber cover
- 2 Customer unit rest button and a 4 LED light display.
 - a Green light (On) (Left hand side)
= Power On 230 V (ac)
 - b Yellow light (DHW)
= DHW domestic hot water in operation.
 - c Yellow Light(CH)
= CH central heating in operation.
 - d Red Light (Fault)
=Fault detected

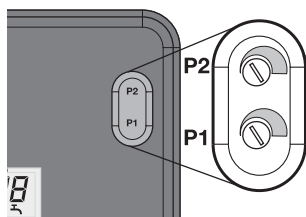


Reset Key
 This allows normal function to be restored after the safety thermostat has been triggered and during the activation and deactivation of the under floor heating function.

19 TEMPERATURE SETTINGS

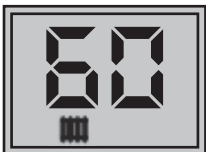
These are used to set the required specified output temperatures for the (CH) central heating and the (DHW) domestic hot water outputs.

To access the two temperature adjustment potentiometers remove the black rubber insert cover (top right hand of control box). Using a fine bladed screw driver adjust as required

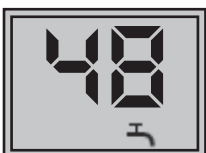


- P2** Heating temperature adjustment potentiometer.
P1 Domestic hot water temperature adjustment potentiometer.

20 DISPLAY



Actual Central heating (CH) Set Point Temperature Value display permanently when in use or been set.
 Radiator Symbol On when setting and displaying
 Flashes On / Off when in operation



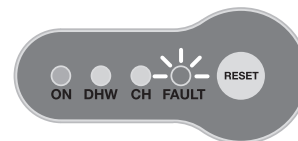
Actual Domestic Hot Water (DHW) Set Point Temperature Value display permanently when in use or been set.
 Tap Symbol On when setting and displaying
 Flashes On / Off when in operation.

NOTE when in standby the display will alternate every 5 second displaying the CH and the DHW temperatures.

21 DISPLAYED ERROR CODES

When an error occurs on these units, the unit will stop functioning a flame and a RED light will show on the control box at the same time as a number relating to this fault will be displayed.

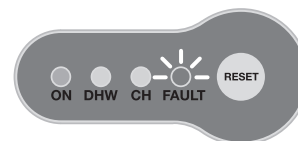
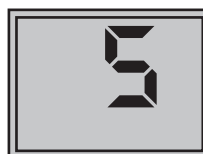
Heating pressure Fault (Display Code 4)



This is displayed if the pressure falls in this circuit, the pressure switch is activated, the circulation pump shuts down and the regulating valve closes.

Rectify this fault – Re pressurise the central heating circuit ensure the heating demand is applied and the DHW is not operational. If the fault does not automatically reset. Activate the reset button on the control box. The system should now function as normal.

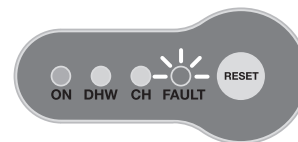
Central Heating outlet temperature probe fault



If the heating probe fails, the heating will cease immediately.

The domestic water generation will not be affected. The probe fault is indicated by a flashing fault LED on the electronic controller and the fault code 5 will be displayed.

Domestic Hot water outlet temperature probe fault

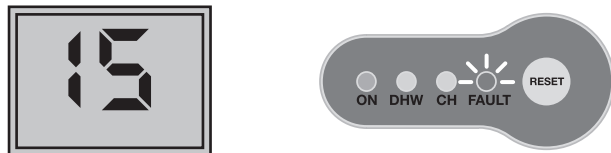


If the domestic water temperature probe fails, domestic water generation will cease immediately. Heating performance will not be affected. The probe fault is indicated by a flashing fault LED on the electronic controller and the fault code 6 will be displayed.

Rectify these faults – Replace the fault probes ensure the relevant demand is applied. If the fault does not automatically reset. Activate the reset button on the control box. The system should now function as normal.

22 OPTIONAL LOW CH Temperature operation ONLY.

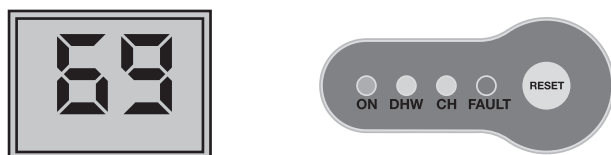
Where the low temperature (Underfloor heating) mode is active.



Central heating low temperature sensor fault

If the safety compensation temperature sensor fails the heating will cease immediately.

Rectify this fault – Replace the fault sensor ensuring good contact, apply a CH heat demand. If the fault does not automatically reset, activate the reset button on the control box. The system should now function as normal.



Safety thermostat lockout – Error 69

The HIU is configured to support low temperature heating (low temperature models only), which constantly monitors the heating flow temperature and includes a safety thermostat. If the thermostat is activated during a general cycle, the circulation pump will immediately stop, the mixing valve and safety lock valve (SATK20103) will close. Safety thermostat activation is indicated by a steady, red fault LED on the electronic controller. This fault locks all functions as found in a power failure. The thermal safety valve prevents hot water for heating purposes from entering the system.

After the user has reset the isolation imposed by the safety thermostat, the shut-off valve can only be re-enabled when the mixing/modulating valves are completely closed again. This means that if a domestic water cycle is in progress, the activation of the shut-off valve will be postponed until the end of that domestic water cycle.



Once the fault has been removed. The reset button on the main control will have to be pressed.

The unit should now be operational.

22 CONTINUED



Safety valve fault - Error code: 76 LOW temperature

Should the operating temperature drop below the required 25°C as a result of a faulty safety valve; the flashing fault LED on the electronic controller will appear and Error code 76 will be displayed.

Rectify this faults – rectify the faulty safety valve, if the fault does not automatically reset. Activate the reset button on the control box. The system should now function as normal.

Safety setting incorrect - Error code: 76

Removing a fault - Restore correct dip switch setting according to Table 1, if the fault does not automatically reset. Activate the reset button on the control box. The system should now function as normal.



Safety setting incorrect - Error code: 79

Removing a fault - Restore correct switch setting according to Table 1.

Automatic controller function

Reset mixing/modulating valve to zero

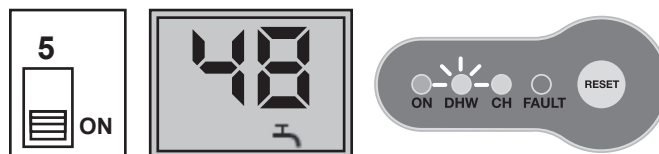
Immediately after the power supply has been switched on, the position of the mixing/modulating valves is reset to zero.

Pump anti-clog - When the pump is not in use, it is powered on for a period of 5 seconds every 24 hours.

Mixing valve/modulating valve anti-clog - The anti-clogging cycle for the mixing/modulating valve is run every 24 hours.

Domestic water generation: DHW preheating function (MT & HT)

The domestic water preheating function is signaled by the flashing yellow DHW LED. The function is enabled by setting dip switch 5 to the ON position.



During periods when the domestic water cycle is not used, if the DHW probe detects a temperature 10°C below the SET value, the controller partially opens the domestic water modulating valve for the time required (max. 5 mins) to bring the temperature detected up to a value 5°C below the set point value.

The domestic water preheating function is signalled by the flashing yellow DHW LED. This function is less of a priority than any domestic water or heating cycles.

23 APPLIANCE TYPE

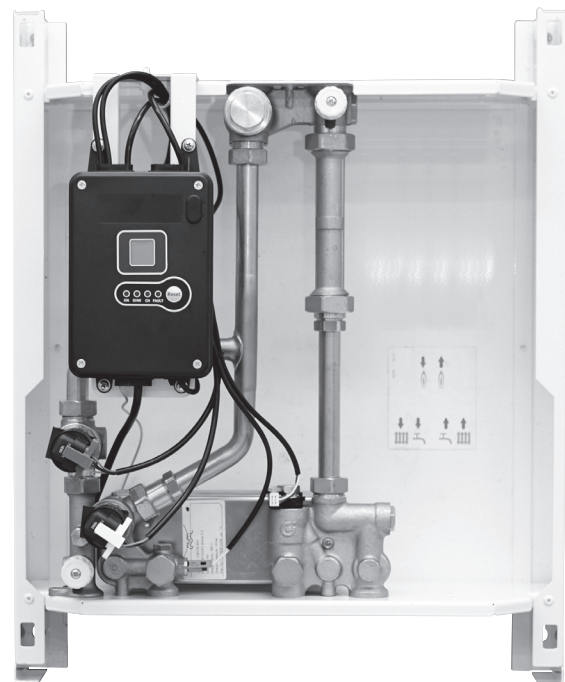
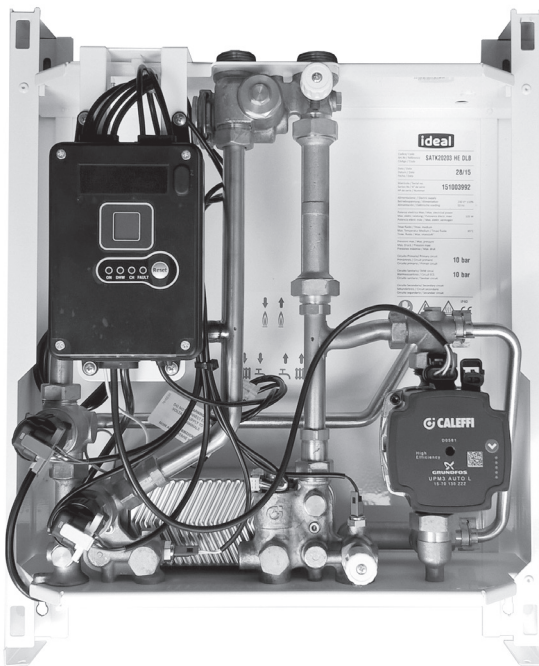
DIRECT HEAT INTERFACE UNITS

LOGIC HIU DIRECT MT

Direct wall mounted HIU, with a 50kW indirect instantaneous priority DHW and direct modulated CH.

LOGIC HIU DIRECT HT

Direct wall mounted HIU, with a 50kW indirect instantaneous priority DHW and direct on / off CH control.



Design

The single plate design hydraulically separates the domestic water with the space heating supplied directly from the central primary supply. The on-board electronic control unit ensures maximum efficiency and control but crucially also enables additional important features. Similar to the indirect version, the Logic HIU Direct MT can be set to modulate the heating flow circuit for greater efficiency and to compensate for changes in the external environment .

Design

The single plate design hydraulically separates the domestic water with the space heating supplied directly from the central primary supply. The on-board electronic control unit ensures maximum efficiency and control but crucially also enables additional features. The Logic HIU Direct HT can be set to turn the primary demand on & off to compensate for changes in the external environment.

24 TECHNICAL SPECIFICATION LOGIC HIU DIRECT MT & LOGIC HIU DIRECT HT

OPERATION

Heating

The temperature setting operates on the principle of set point regulation and can be fixed within application limits.

Heating Set Point (**Logic HIU Direct MT**): 45 to 65°C

Heating Set Point (**Logic HIU Direct HT**): Function not available

Heating circuit: Maximum pressure rating: As Primary and Heating circuit controls permit.

Pump: UPM3 Auto L

Pump bypass setting: 0.45 bar

Heating control circuit is VOLT FREE

Domestic Hot Water - DHW

The DHW function takes priority over the heating function controlled by the DHW priority flow switch

Set Point - DHW temperature 42 to 60°C

Domestic hot water: 10 bar

DHW circuit max. Flow rate: 18 l/m (0.3 l/s)

Min. flow rate to activate domestic flow sensor: 2.7 l/m \pm 0.3

Max. Differential pressure on domestic water modulating valve:
 Δp 0.9 bar

Min. Differential pressure on domestic water modulating valve:
 Δp 0.35 bar

Heat exchanger capacity: Nom. DHW heat exchanger net output: 50 kW - Logic HIU Indirect 50.

Optional Pre-heat function.

Primary Performance

Max. Working pressure: Primary circuit: 10 bar

Maximum temperature: 85°C

Medium: Water

Max. Percentage of glycol 30%

Max. Recommended primary circuit flow rate: 1.2 m³/h

Electrical

Power supply: 230 V (ac) \pm 10% 50 Hz

Power consumption: 80 W

Protection class: IP 40

Actuator: stepper 24 V

Probes: NTC 10 k Ω

Construction

Frame: RAL 9010 sprayed steel

Protective shell cover: PPE

Components: brass BS EN 12165 CW617N

Pipes: stainless steel

Exchanger: brazed stainless steel

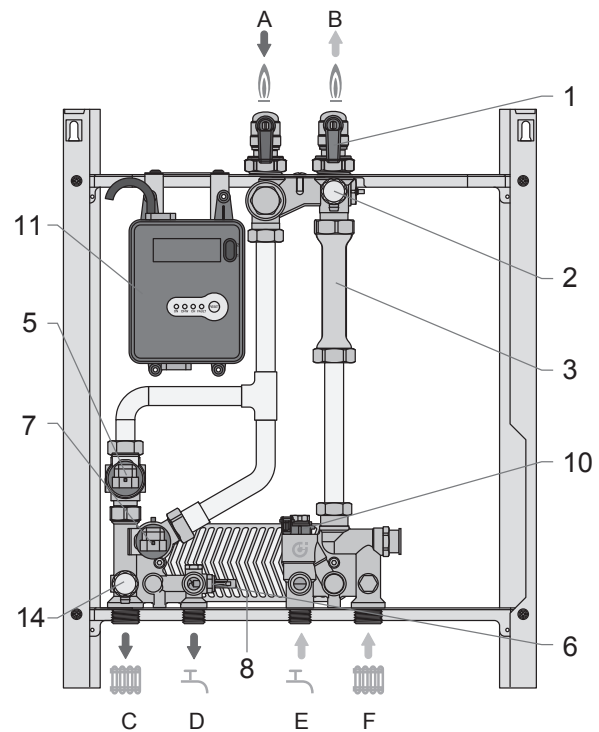
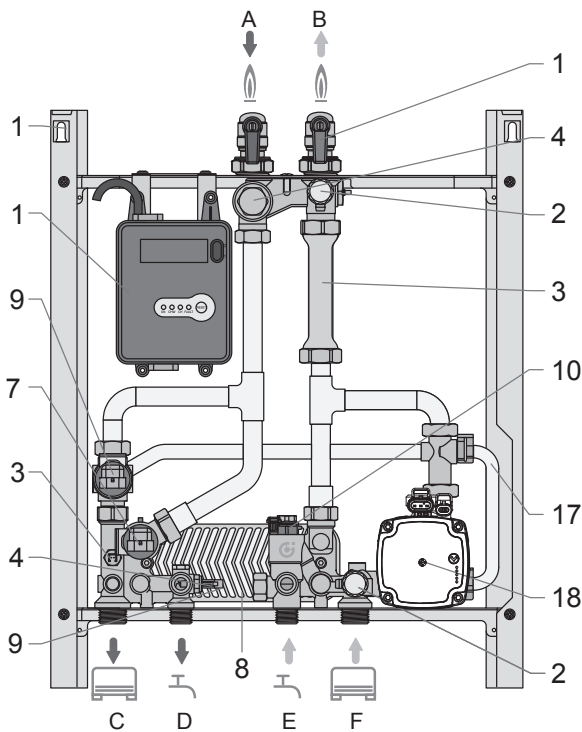
DIRECT SPECIFICATION

25 ITEM COMPONENT REFERENCE: LOGIC HIU DIRECT MT & LOGIC HIU DIRECT HT

- | | |
|--|---|
| <ul style="list-style-type: none"> 1 Primary isolation valve (incorporating pressure test points) 2 Drain cock 3 Heat meter spacer piece - replaced by heat meter when fitted 4 Primary filter and heat meter probe pocket 5 Heating circuit on/off valve 7 Modulating primary control valve (DHW) 8 Plate heat exchanger (DHW) 9 DHW temperature sensor 10 DHW flow switch | <ul style="list-style-type: none"> 11 Electronic control unit 12 Room controller (not supplied)* 13 Heating flow temperature sensor 14 Temperature control stat 17 Pump safety bypass and DP switch 18 Pump 19 Modulating heating control valve 20 Differential pressure control valve (DPCV)
see Hardware Page 19 (Frame 35) <p><i>* Not shown on Components illustration.</i></p> |
|--|---|

26 TECHNICAL SPECIFICATION LOGIC HIU DIRECT 50MT

LOGIC HIU DIRECT 50HT



DIMENSIONS

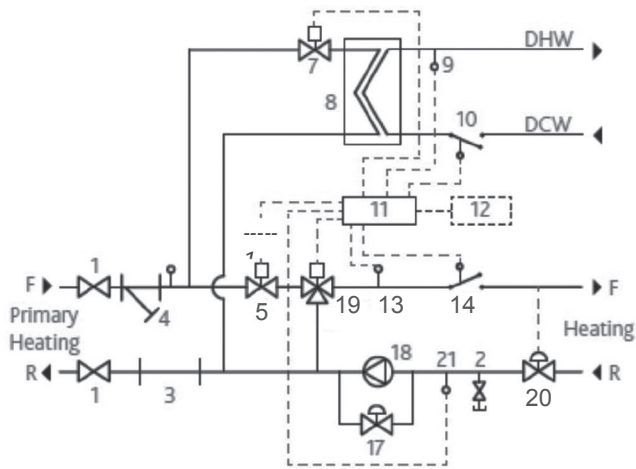
Connection	A	B	C	D	E	F
Threads	G1"	G1"	G 3/4"	G 1/2"	G 1/2"	G 3/4"
Pitch	A to B 65mm		C to D 65mm		E to F 65mm	
Height	630mm					
Width	550mm					
Depth (inc cover)	265mm					
Weight	16 Kg					

Key to Symbols Schematic -

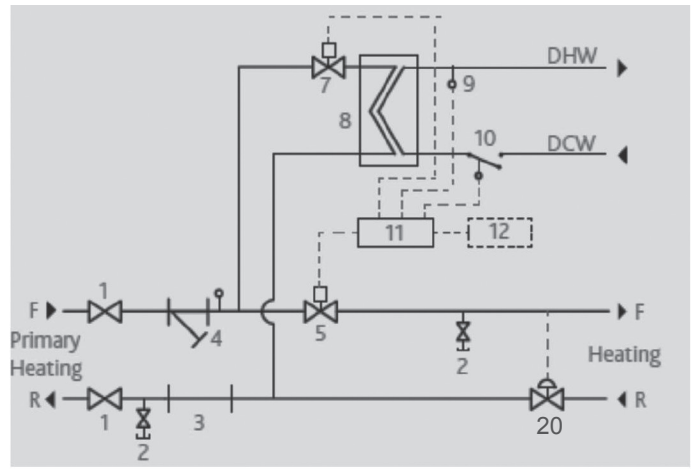


DIRECT SPECIFICATION

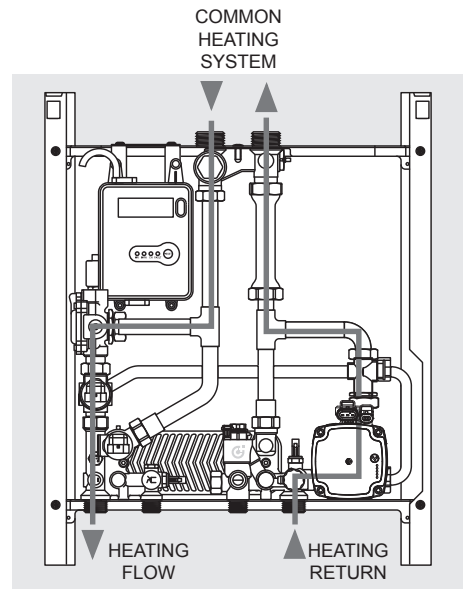
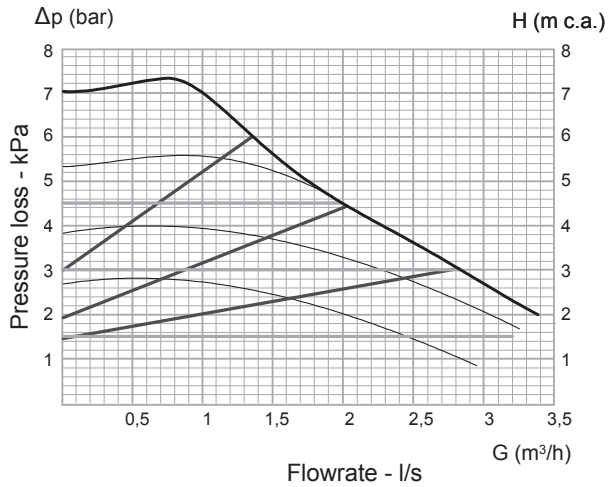
27 SCHEMATIC LOGIC LOGIC HIU DIRECT 50 MT



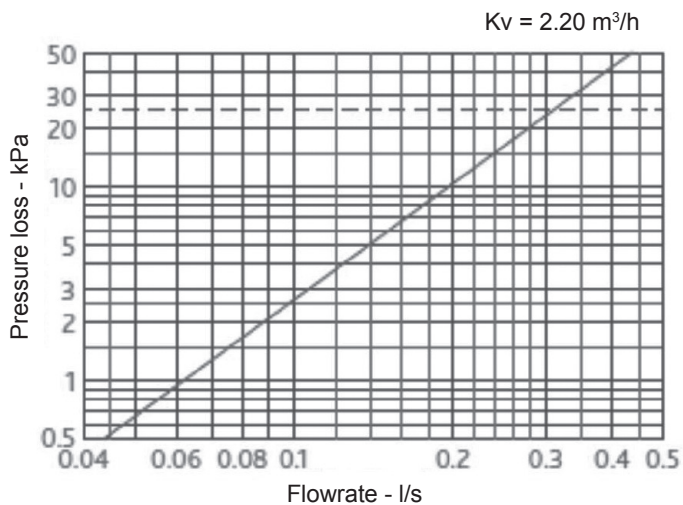
LOGIC HIU DIRECT 50 HT



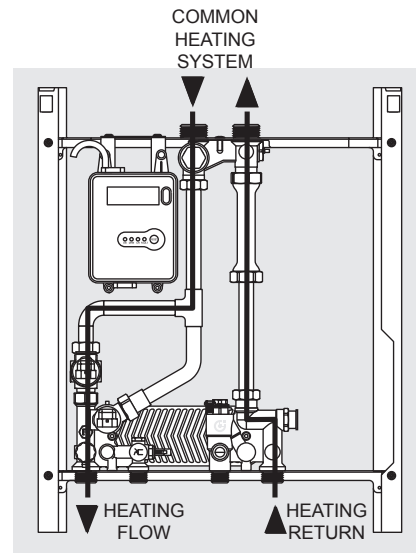
28 UPM3 AUTO L



29 PRIMARY FLOW CHARACTERISTICS HEATING (CH)

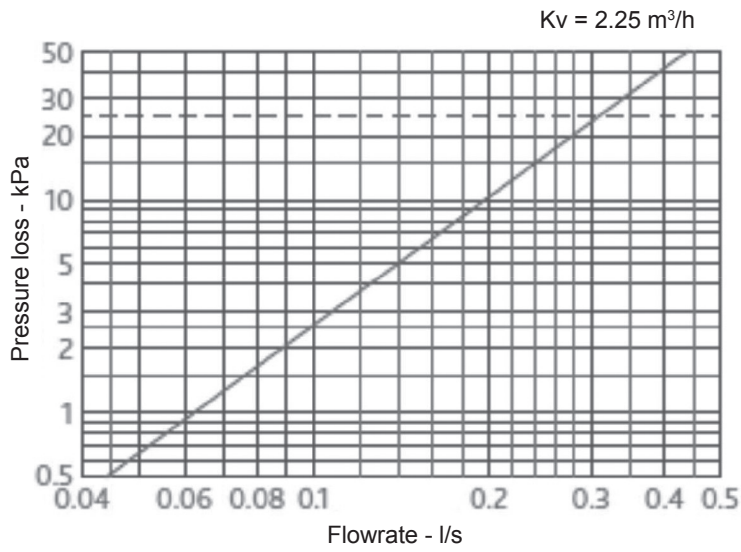


LOGIC HIU DIRECT 50 HT

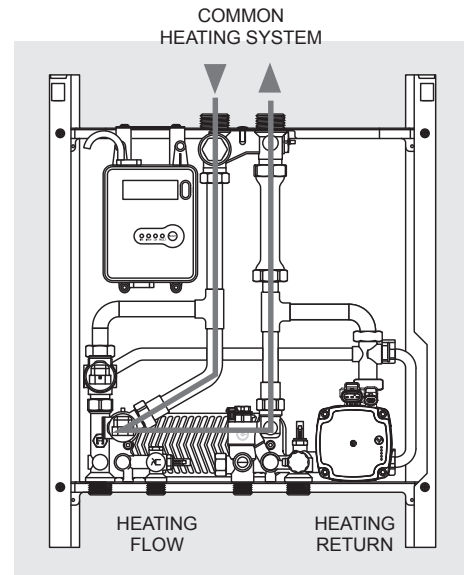


DIRECT SPECIFICATION

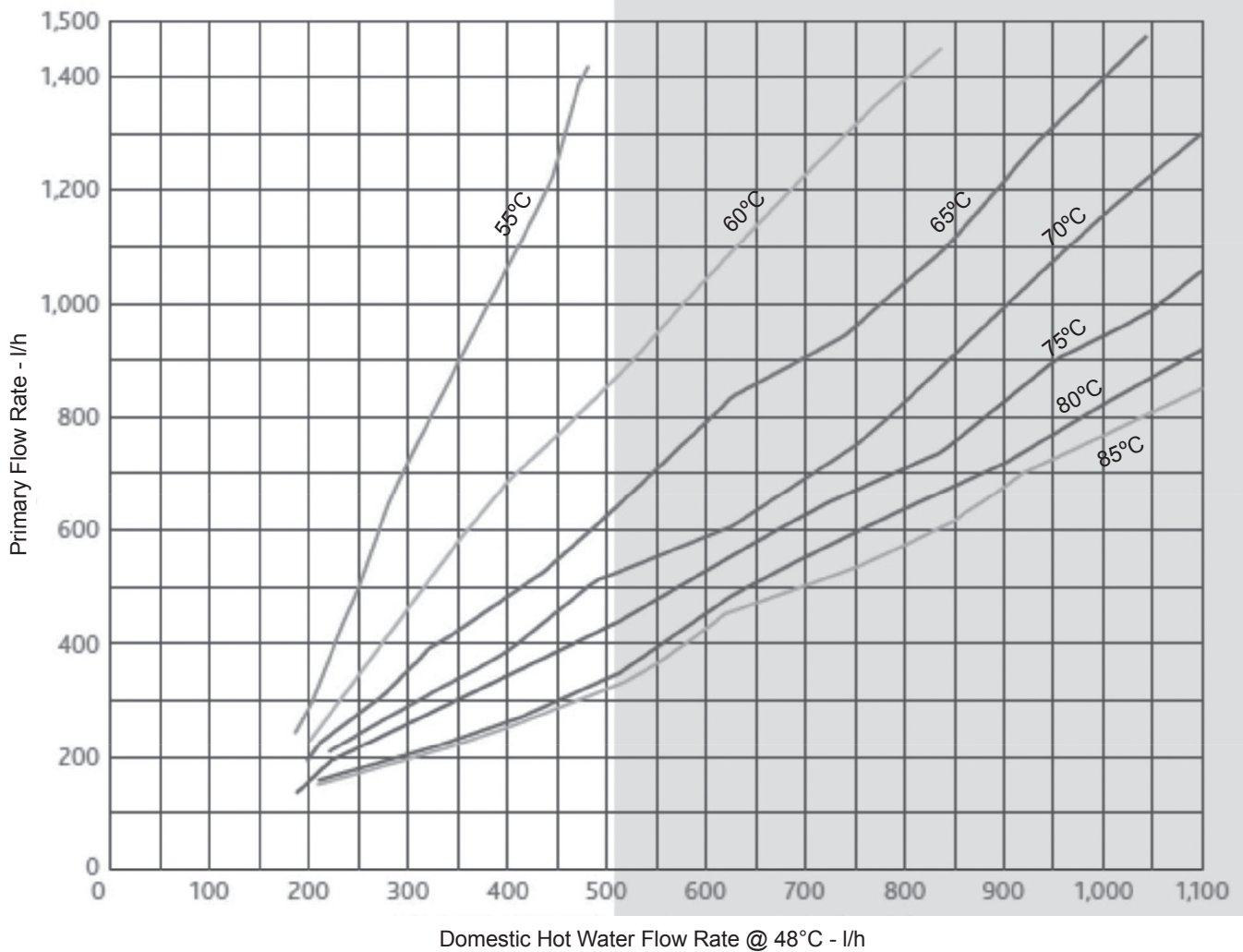
30 HYDRAULIC CHARACTERISTICS DHW - HEAT EXCHANGER 50 MT & HT UNITS



PRIMARY FLOW PATH



31 DOMESTIC HOT WATER OUTPUT



DIRECT HARDWARE CONTENTS

32 LOGIC HIU DIRECT 50 MT OR LOGIC HIU DIRECT 50 HT



33 PRIMARY BALL VALVE SET

Flow & Control Valves (with sample points). (Inc. sealing washer to appliance)

CONTENT

Item	Qty	Component
1	2	16 Bar primary inlet ball valves with integrated pressure sampling points 3/4" BSP Union connection x 1" BSP ball valve with union end and male threaded connection joint*.
2	2	Rubber washers for union end connection and
2	2	Fibre washes for 3/4" BSP connection face



34 DOMESTIC CONNECTION FLOW & RETURN VALVE KIT

(Inc. sealing washer to appliance)

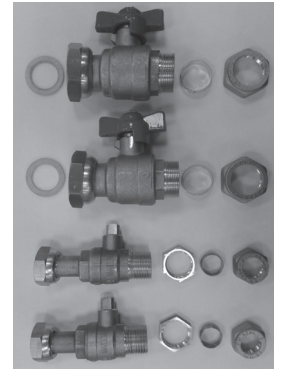
CONTENT

Item	Qty	Component
2	2	22mm x 3/4" ball valve with union end and compression joint* - one blue and one red handle.
3		Small component pack consisting of: 2 3/4" seal for union joint

DHW inlet and outlet connection valves (Inc. sealing washer to appliance)

1	2	15mm x 1/2" ball valve with union end and compression joint*.
	2	15mm compression nut
	2	15mm olive

* Compression ends complying with BS EN 1254-2 for use with R250 (half hard) copper tube



35 DIFFERENTIAL PRESSURE CONTROL (DPC)

(Inc. sealing washer to appliance)

1 x return pressure take off fitting

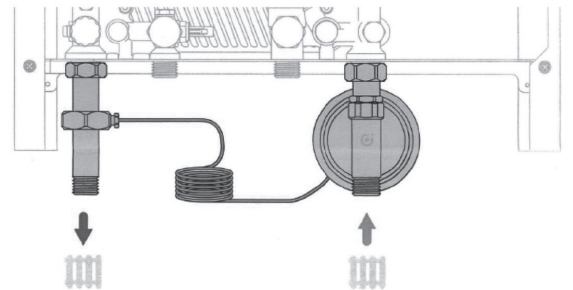
1 x Flow DCP valve

1 x Pressure feed tube

2 x appliance sealing washers

To be fitted directly on to CH flow & return before and isolation valves

Note Failure to install this device will damage standard domestic heating control systems TCR (thermostatic radiator valves etc)



36 OPTIONAL FLUSHING BY-PASS

(Inc. Union built in rubber sealing washer)

Check the components in the kit before commencing. It is strongly recommended the flushing by-pass option kit is fitted as it allows for cleaning of the primary water system loop whilst the HIU is fitted.

1 'H' pattern flushing bypass valve

2 Threaded male union tail piece - 4 off.

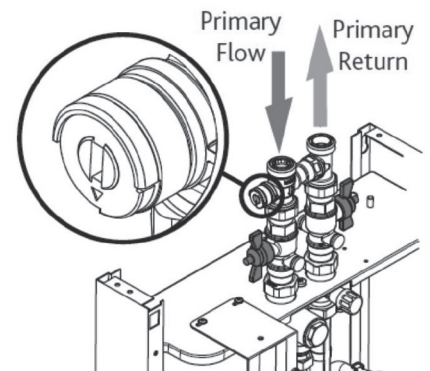
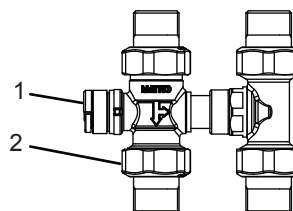
Install tails into HIU inlet connections

Fit Flushing by pass

Connect to primary pipe work

Turn screw driver slot horizontal to bypass.

Turn Vertical to connect the HIU to the primary circuit



DIRECT ELECTRONIC CONTROL

37 ELECTRONIC CONTROLLER

LOGIC HIU DIRECT 50 MT

LOGIC HIU DIRECT 50 HT

All the heating and domestic hot water functions offered by the Logic Indirect HIUs are controlled by a digital controller. The controller is factory set with the parameters for the HIU unit ordered.

IMPORTANT

These DIP switches configure the control for different units within the range. It is important that they are not changed from those shown below. If they are changed outside of these requirements it will cause the HIU to operate incorrectly and may cause hazardous operational conditions. To modify the factory settings and enable the HIU to support LOW temperature systems (25 to 45°C), proceed as follows:

TABLE 1

Electronic Control Dip Switch Settings	Factory Settings		Setting Capability		Production settings							
	Heating	DHW	Heating	DHW	6	5	4	3	2	1		
Logic HIU Direct MT	75	54	50 to 75	42 to 60								ON
Logic HIU Direct HT	85	54	Max 85	42 to 60								ON

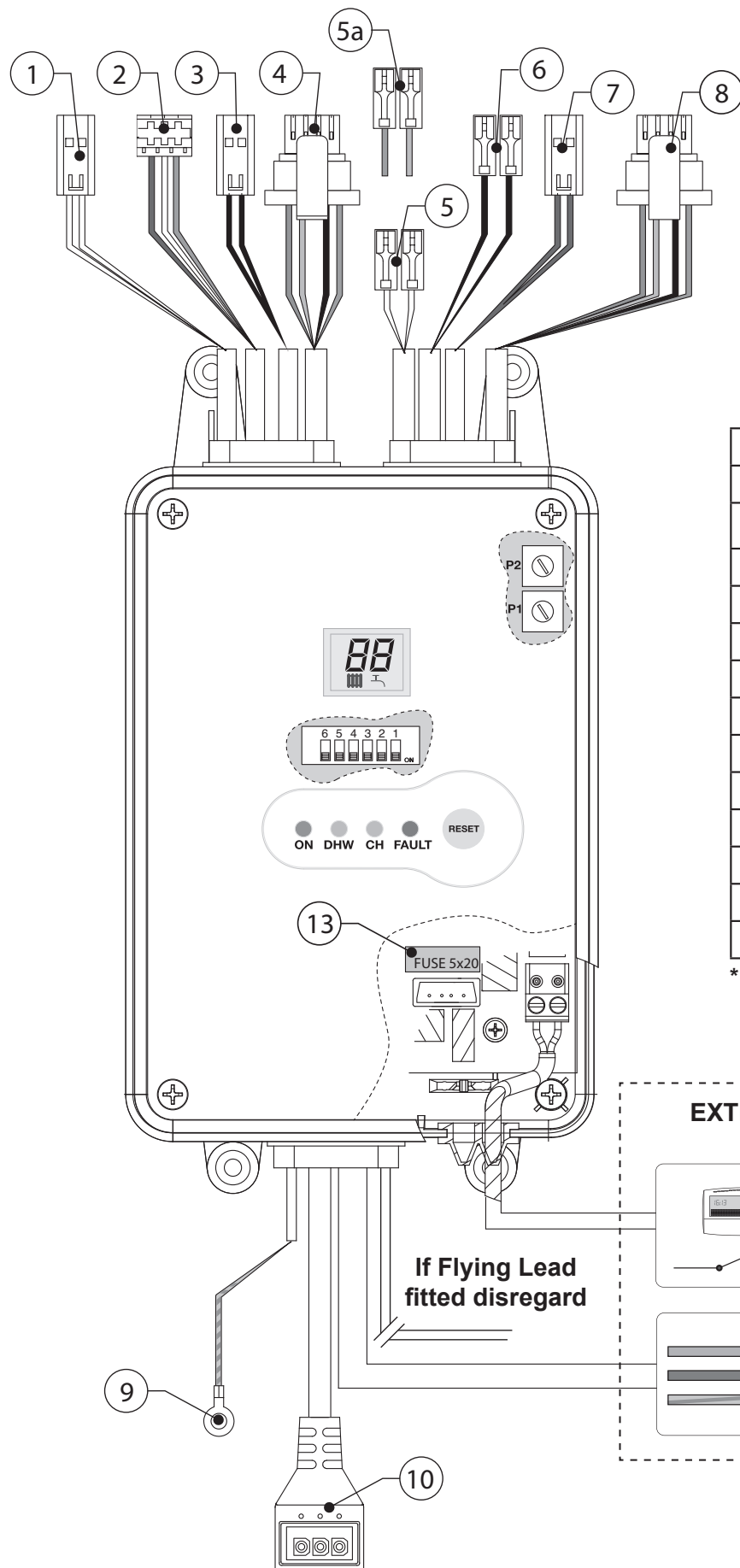
Underfloor Low Temp Settings						
6	5	4	3	2	1	
						ON

- Switch 1** Modulating temperature regulation with compensated set point
- Switch 2 & 3** Conversion to & from Low temperature to high temperature CH
- Switch 5** Domestic water pre heating function

OPTION Indirect only

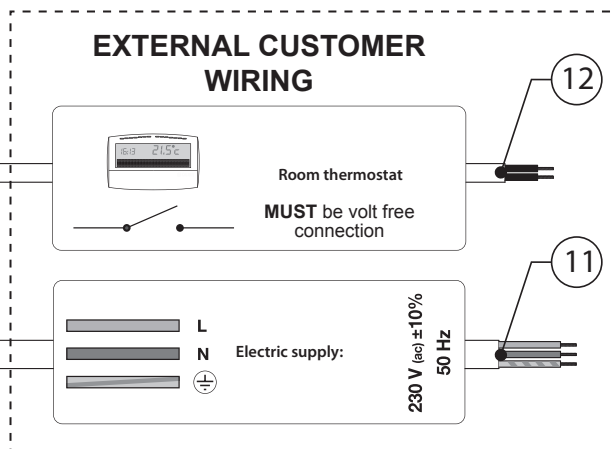
- Do not change
- Can be Changed

38 ELECTRICAL WIRING



		Logic HIU Direct MT	Logic HIU Direct HT
1	DHW temperature probe	X	X
2	DHW Priority flow meter	X	X
3	Flow temp. compensation return probe	X	
4	DHW production valve actuator	X	X
5	Thermal safety relief valve		
5a	Pressure switch		
6	Pressure gauge CH		
7	Heating flow temperature probe	X	X
8	Heating valve actuator	X	X
9	Earth	X	X
10	Pump	X	
11	Electric supply 230 V (ac)*	X	X
12	Room thermostat	X	X
13	Fuse	X	X

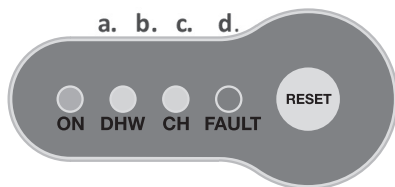
* Wiring to be made during installation



39 THE USER INTERFACE

The user interface built into the controls consists of:-

- 1 Commissioning set up potentiometers (found at the top right hand side of the control unit under a rubber cover)
- 2 Customer unit rest button and a 4 LED light display.
 - a Green light (On) (Left hand side) = Power On 230 V (ac)
 - b Yellow light (DHW) = DHW domestic hot water in operation.
 - c Yellow Light (CH) = CH central heating in operation.
 - d Red Light (Fault) = Fault detected



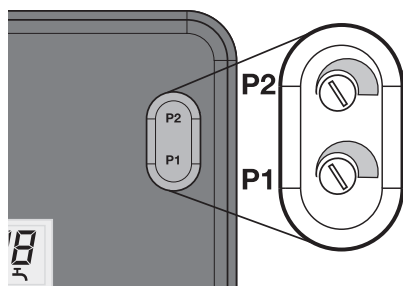
Reset Key

This allows normal function to be restored after the safety thermostat has been triggered and during the activation and deactivation of the under floor heating function.

40 TEMPERATURE SETTINGS (MT & HT)

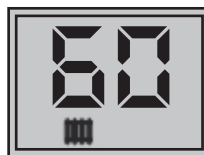
These are used to set the required specified output temperatures for the (CH) central heating and the (DHW) domestic hot water outputs.

To access the two temperature adjustment potentiometers remove the black rubber insert cover (top right hand of control box). Using a fine bladed screw driver to adjust as required

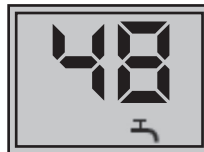


- P2** Heating temperature adjustment potentiometer.
P1 Domestic hot water temperature adjustment potentiometer.

41 DISPLAY (MT ONLY)



Actual Central heating (CH) Set Point Temperature Value display permanently when in use or been set.
 Radiator Symbol On when setting and displaying
 Flashes On / Off when in operation

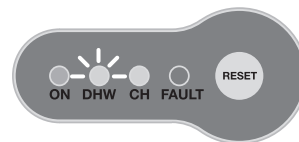
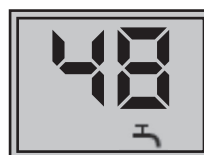


Actual Domestic Hot Water (DHW) Set Point Temperature Value display permanently when in use or been set.
 Radiator Symbol On when setting and displaying
 Flashes On / Off when in operation.

NOTE when in standby the display will alternate every 5 second displaying the CH and the DHW temperatures.

42 DOMESTIC WATER GENERATION: DHW PREHEATING FUNCTION (MT & HT)

The domestic water preheating function is signaled by the flashing yellow DHW LED. The function is enabled by setting dip switch 5 to the ON position.



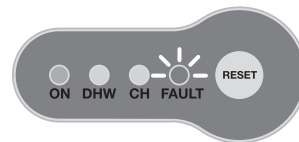
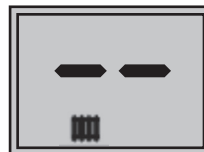
During periods when the domestic water cycle is not used, if the DHW probe detects a temperature 10°C below the SET value, the controller partially opens the domestic water modulating valve for the time required (max. 5 mins) to bring the temperature detected up to a value 5°C below the set point value.

The domestic water preheating function is signaled by the flashing yellow DHW LED. This function is less of a priority than any domestic water or heating cycles.

43 HEATING CYCLE: ON/OFF REGULATION (HT ONLY)

When the room thermostat requests the start of a heating cycle, the valve is opened completely, allowing water to circulate at the temperature supplied by the central heating system (ON-OFF regulation).

The valve is closed on completion of the heating cycle. The active heating cycle is signaled by the yellow CH LED which comes on. No value is shown on the display.



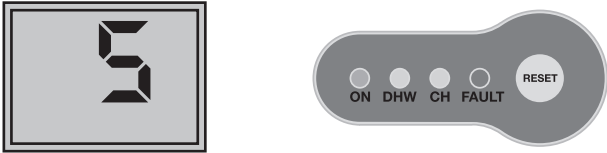
44 DISPLAYED ERROR CODES

When an error occurs on these units, the unit will stop functioning and display a RED light on the control box. At the same time a number relating to this fault will be displayed.

Central Heating outlet temperature probe fault

If the heating probe fails, the heating will cease immediately.

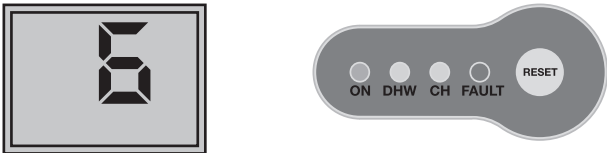
The domestic water generation will not be affected. The probe fault is indicated by a flashing fault LED on the electronic controller and the fault code 5 will be displayed.



Domestic Hot water outlet temperature probe fault

If the domestic water temperature probe fails, domestic water generation will cease immediately. Heating performance will not be affected. The probe fault is indicated by a flashing fault LED on the electronic controller and the fault code 6 will be displayed.

Rectify these faults – Replace the fault probes ensuring the relevant heat demand is applied. If the fault does not automatically reset, activate the reset button on the control box. The system should now function as normal.

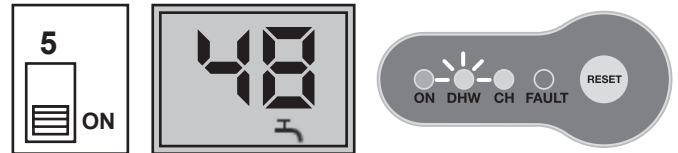


45 DISPLAYED ERROR CODES

Domestic water generation: DHW preheating function

The function is enabled by setting dip switch 5 to the ON position.

During periods when the domestic water cycle is not used, if the DHW probe detects a temperature 10°C below the SET value, the controller partially opens the domestic water modulating valve for the time required (max. 5 mins) to bring the temperature detected up to a value 5°C below the set point value.



46 LOCATION OF HIU

The HIU must be installed on a flat and vertical wall, capable of adequately supporting the weight of the boiler and any ancillary equipment supplied in kit form by **Ideal Boilers**. **The HIU must not be fitted outside.**

The Logic HIUs are designed for installation in a sheltered domestic environment (or similar), therefore cannot be installed or used outdoors, i.e. in areas directly exposed to atmospheric agents. Outdoor installation may cause malfunctioning and hazards.

If the device is enclosed inside or between cabinets, sufficient space must be provided for routine maintenance procedures. It is recommended that electrical devices are NOT placed underneath the HIU, as they may be damaged in the event of discharge from the safety valve, if it is not connected to a discharge tundish or in the event of leaks occurring at the hydraulic fittings.

The device must not be exposed to water drops or humidity, direct sunlight, the elements, heat sources or high intensity electromagnetic fields.

In the event of a malfunction, fault or incorrect operation, the device should be deactivated; contact a qualified technician for assistance and Isolated from electrical and connection feeds to the unit.

Note for all models: If a non-return valve is fitted into the domestic hot water (DHW cold water inlet), provision MUST be made to accommodate the expansion of the DHW contained within the HIU.

Preparation

After establishing the position where the HIU will be installed, perform the following operations:

- Mark the holes required for securing the HIU to the wall.
- Mark the position of the water pipe connections.

Check the measurements again before installing pipework and electrical cables.

Fix the HIU to the wall.

N.B.: the wall anchors (not supplied) can only guarantee effective support if inserted correctly (in accordance with good technical practice) into walls built using solid or semi-solid bricks. If working with walls built using perforated bricks or blocks, mobile dividing panels or any masonry walls other than those indicated, a preliminary static test must be carried out on the support system.

Hydraulic connections

- 1 Connection to the pipework from the centralised boiler plant
- 2 Connect to heating circuit
- 3 Domestic water circuit connection
- 4 Connect safety relief valve to discharge pipework in accordance to the local by laws

Electrical

- 1 Electric supply line 230 V (ac) - 50 Hz.
- 2 Time clock/thermostat line (potential-free)
- 3 Centralised bus line for heat meter data transmission (if required)
- 4 Centralised electric supply line for heat meter (if required)

The whole system should be thoroughly flushed to remove any debris that may be in the supply pipework to the HIU and to the domestic hot water and heating pipework in the apartment before connecting to the HIU.

47 ISOLATION VALVES

These units are supplied with all the necessary isolation valves required for the unit. We recommend that all connections are fitted with isolation valves to allow any maintenance work to be carried out safely and effectively. We would also recommend that the primary system is fitted with the optional flushing bypass valves in addition to the primary isolation valve supplied, immediately upstream of the HIU, to allow the primary system to be flushed prior to the first operation of the unit.

48 ELECTRICAL CONNECTIONS

Make sure that the electrical system can withstand the maximum power consumption of the appliance, with particular emphasis on the cross-section of the cables.

If in doubt, contact a qualified technician to thoroughly check the electrical system.

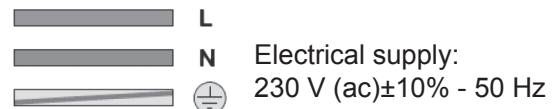
Electrical safety of the appliance is only achieved when it is correctly connected to an effective earthing system, constructed as specified in current safety regulations. This is a compulsory safety requirement.

Connection to the main supply

The device is supplied with an electric supply cable - plug not supplied.

The device should be electrically connected to a 230 V (ac) single phase + earth mains supply using the three-wire cable marked with the label as specified below, observing the LIVE (L) - NEUTRAL (N) polarities and the earth connection.

This line must be connected to a circuit breaker device.



Room thermostat

IMPORTANT: THIS CONNECTION MUST BE VOLT FREE

49 CONNECTION TO THE TIMELOCK/THERMOSTAT.

The Logic HIU includes a connection, suitable for a time clock/thermostat, allowing the tenant to control individual apartment heating requirements

The connection to this device (**potential-free contact**) must be made with the two-wire cable marked with the label as specified below. Should it be necessary to extend this cable, use one with the same cross-section (max 1 mm²) and maximum length 30m.

Electrical supply: 230 V(ac) ±10% - 50 Hz

Label on HIU Thermostat connection

VOLT FREE ROOM
THERMOSTAT
CONNECTION



WARNING
DO NOT CONNECT EXTERNAL VOLTAGE
SUPPLY TO THESE TERMINALS

50 COMMISSIONING

FILLING THE CENTRAL HEATING SYSTEM

1. Check all the pipework and electrical connections are made correctly.
2. Connect the filling loop provided.
3. Open the central heating isolation valves.
4. Open the DHW main inlet isolation valve & the filling loop inlet valve allowing water through the filling loop into the CH system.
5. Pressurise the CH system to the desired pressure 1.2 to 2 bars. (Not higher than the maximum operating pressure of 2.5 bars) (Vent the system and refill if required).
6. Isolate the DHW inlet supply using the DHW inlet isolation valve. (valve has a back flow preventer fitted).
7. Check the Central Heating system (CH) for leaks.
8. Remove the filling loop and store in a suitable place for future requirements.
9. Open mains inlet connection to draw hot water supply (DHW).
10. Open DHW outlet isolation valve & a utility tap, draw off enough water to remove the air from the HIU and connect pipe work.
11. Check for leaks.
12. After the primary feed system has been correctly purged; Check to ensure to ensure the pressure is not greater than the maximum pressure specified for these units and the system does not leak.
13. Open the Primary flow slowly.
14. Open the Primary return.
15. If no leaks are present, turn on the electrical supply to the unit. This will activate the control valves and allow the primary water to flow through the HIU unit. Check for any error signals on the controls unit.
16. Set the CH to the desired maximum temperature using an electrical screw driver in the top hole under the rubber cover (top right hand side of the black control box) & the DHW outlet temperature using the next hole down.
17. Activate DHW via the index (tap furthest away) utility tap. Check the DHW light is displayed on the control unit.
18. Check primary pressure differential is greater than 0.35Kpa .
19. Check the maximum temperature obtained meets the requirement.
20. Check the desired flow rate is obtained.
21. Turn off tap.
22. Turn the room stat up and activate the CH circuit, check the CH light is on and the system achieves the desired operating temperature and temperature differential between the flow and return.

50 COMMISSIONING CONTINUED

23. Fit the case on to the unit. Hook the top taps in the cut outs provide (top left & right) and fit fixing screws through the case fixing tabs and the mounting case (bottom left and right) Ensure access doors are functional and operational.
24. If meter is fitted ensure this operates in accordance to the specified requirement.
25. The system is set up ensure the instruction and filling loop are left with the customer and they are shown how to use the HIU unit.

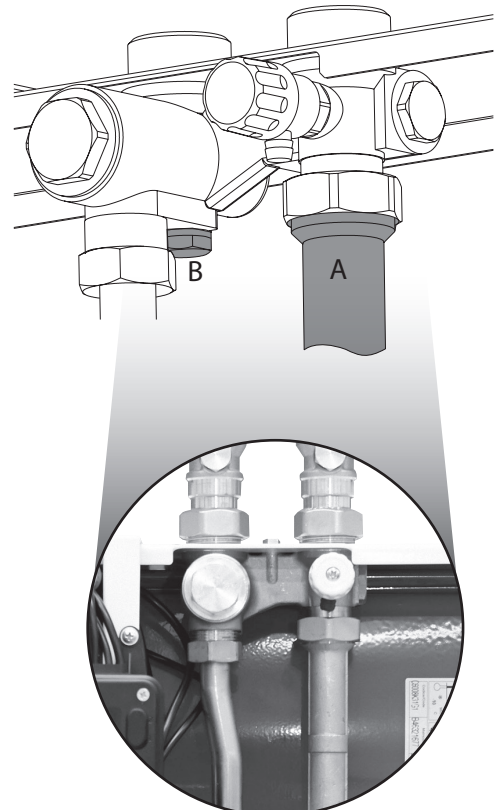
51 HEAT METER INSTALLATION

The HIU is designed to include a compact heat meter.

Before carrying out any maintenance, repair or part replacement work, proceed as follows:

- Isolate the electric supply
- remove the cover
- close the isolating valves
- empty the HIU using the drain cocks provided
- remove the spacer piece (A)
- remove the blanking plug (B)
- install the flow probe in the 1/4" pocket (B) provided
- install the flow meter on the return pipe.

Please refer to the heat meter technical data sheets for further information.



52 MAINTENANCE

All maintenance procedures should be carried out by an authorised technician.

Regular maintenance guarantees better efficiency and helps to save energy.

Before carrying out any maintenance, repair or part replacement work, proceed as follows:

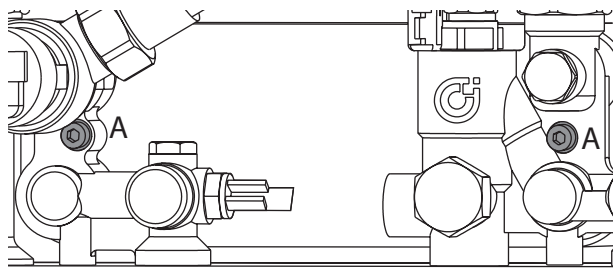
- Switch off the electric supply
- Remove the cover
- Close the shut-off valves
- Empty the HIU using the drain cocks provided.

53 HEAT EXCHANGER REPLACEMENT

NOTE: Direction HHE is connected

- Remove the heat exchanger, loosening the 2 hex head screws fixing it in place (A) - Remove to rear disengaging the mounting studs
- Replace the heat exchanger and the O-rings - Refit new HHE ensuring correctly located
- Tighten the two fixing screws (A).

NOTE: The pins fixing the heat exchanger are positioned in such a way as to allow it to be placed only in the correct direction.

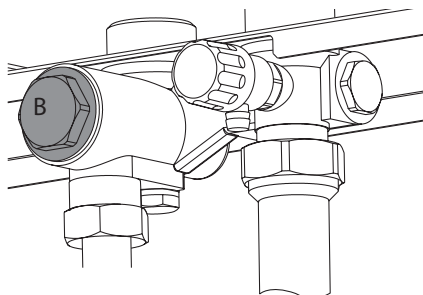


54 STRAINER CLEANING

All HIU's have a strainer on the inlet water from the centralised heating system and for the Indirect HIU's, a second strainer is located on the secondary circuit.

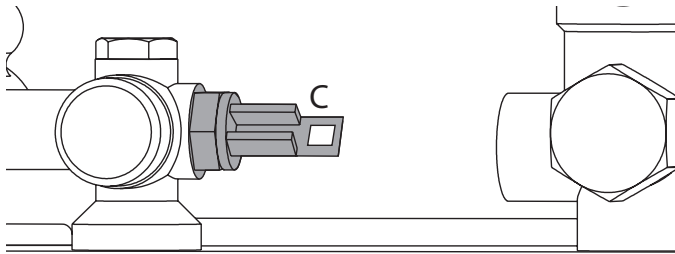
To clean these strainers, carry out the following maintenance procedure:

- Isolate electrics and primary valves
- Drain primary legs
- Unscrew the cap (B).
- Remove the strainer mesh, flush thoroughly with clean water to remove debris.
- Replace the strainer mesh - check the ring seal
- Screw the cap back into position - check for leak
- Turn on electric and valves



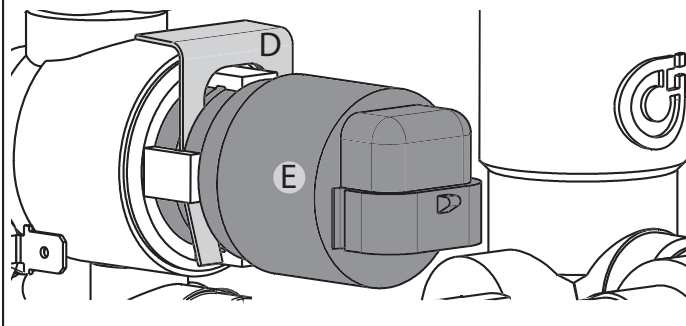
55 TEMPERATURE PROBE REPLACEMENT

- Disconnect the probe cable, lightly folding the tab (C) and extracting the connector
- Unscrew the probe
- Fit the new probe
- Reconnect the connector respecting the only possible way it can be inserted.



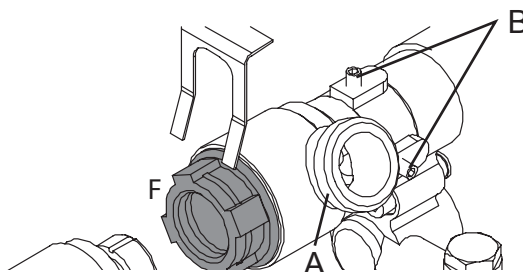
56 REPLACING THE VALVE ACTUATOR

- Disconnect the actuator cable, lightly pressing the tab on the connector and extracting it.
- Extract the fixing clip (D) and then the actuator.
- Position the new actuator (E).
- Insert the fixing clip, respecting the correct direction
- Reconnect the connector.



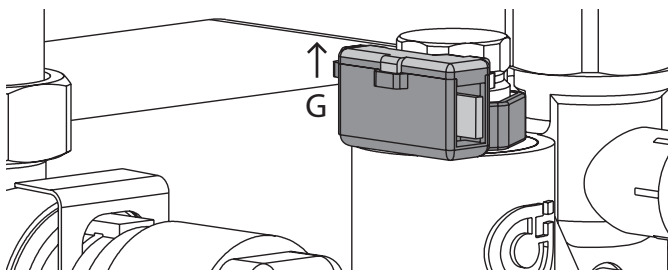
57 REPLACING THE VALVE OBTURATOR

- Disconnect the valve actuator (see previous paragraph).
- Disconnect feed pipe A
- Loosen grub screws B
- Slightly rotate whilst pulling body from mounting.
- Check "O" ring fitted.
- Refit new body tightening grub screws B and fit washer and connect pipe A.
- Insert the actuator and fixing clip, respecting the correct position
- Reconnect the electrical connector.



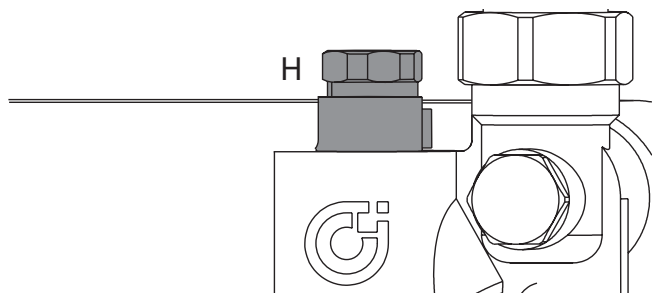
58 REPLACING THE DHW PRIORITY FLOW METER

- Disconnect the flow meter cable by means of the connector.
- Extract the flow sensor (G) - Lifting upward.
- Position the new sensor.
- Reconnect the connector respecting the only possible way it can be inserted.



59 REPLACING OR CLEANING THE DHW PRIORITY FLOW METER TURBINE

- Isolate DHW inlet
- Extract the flow sensor
- Unscrew and remove the cartridge (H)
- Remove any impurities present or change the cartridge if necessary and check flow turbine and saeling washer
- Screw in the cartridge
- Reposition the flow sensor and connection



When carrying out maintenance on the electrical system, for the connections follow the diagram on p11 Indirect and p21 Direct.

After concluding maintenance, refill the system and check the operations described in the chapter “Commissioning” and re-fit the cover.

For information regarding spare parts or other technical information, please contact Ideal.

Only genuine Ideal replacement components should be used.

FAULT FINDING

60 FAULT FINDING

Fault	Indications	Possible Cause of Fault	Operations to be Performed
The water is not heating	DHW LED on	primary circuit isolating valve closed	open the isolating valve
		modulating valve actuator connector disconnected	reconnect actuator connector
		modulating valve actuator disconnected from valve body	reconnect actuator
		modulating valve actuator faulty	call qualified personnel to have it replaced
		DHW temperature probe cable inverted with heating probe	restore correct connection
		presence of air in the system	restore correct connection
		electronic controller not working	call qualified personnel to have it replaced
		valve obturator blocked in closed position	call qualified personnel to have it replaced
		centralised system not working	contact person in charge of system
	FAULT LED lit + error code 6 active	DHW temperature probe disconnected	reconnect probe
		DHW temperature probe faulty	call qualified personnel to have it replaced
	FAULT LED lit + error code 79 active	DHW temperature probe faulty	restore correct switch setting
	DHW LED off	DHW priority flow meter disconnected	reconnect flow meter
		DHW priority flow meter faulty	call qualified personnel to have it replaced
all LEDs are off	electricity power supply switched off	switch on electricity supply	
	protection fuse burnt out	call qualified personnel to have it replaced	
The water is hot but does not reach the desired temperature	DHW LED on	domestic water cycle temperature set point too low	increase set point
		HIU strainer clogged	call qualified personnel to have it serviced
		exchanger partly clogged	call qualified personnel to have it serviced
		modulating valve actuator faulty	call qualified personnel to have it replaced
		valve obturator blocked in intermediate position	call qualified personnel to have it replaced
		modulating valve actuator connector disconnected	reconnect actuator connector
		DHW temperature probe cable inverted with heating probe	restore correct connection
		excessive demand for DHW	decrease demand
		electronic controller not working	call qualified personnel to have it replaced
		centralised system temperature insufficient	contact person in charge of system
		primary circuit flow rate insufficient	contact person in charge of system
The hot water temperature reached is too high	DHW LED on	domestic water cycle temperature set point too high	decrease set point
		DHW temperature probe cable inverted with heating probe	restore correct connection
		modulating valve actuator faulty	call qualified personnel to have it replaced
		valve obturator blocked in intermediate or open position	call qualified personnel to have it replaced
		electronic controller not working	call qualified personnel to have it replaced
Hot water flow rate is insufficient	DHW LED on	HIU strainer clogged	call qualified personnel to have it replaced
		possible domestic water system shut-off valves partly open	open the valves
		centralised domestic circuit cold water flow rate insufficient	call qualified personnel to have it serviced
There is no hot water flow	DHW LED off	possible domestic water system shut-off valves closed	open the valves
		no cold water in centralised domestic circuit	call qualified personnel to have it serviced
		HIU strainer completely clogged	call qualified personnel to have it serviced
		heat exchanger completely blocked	call qualified personnel to have it serviced

FAULT FINDING

61 FAULT FINDING

Fault	Indications	Possible Cause of Fault	Operations to be Performed
The room is not reaching the desired temperature	CH LED on	heating cycle temperature set point too low	increase set point
		chrono-thermostat temperature setting incorrect	check programming of chrono-thermostat
		HIU strainer clogged	call qualified personnel to have it serviced
		heating valve actuator faulty	call qualified personnel to have it replaced
		heating valve obturator blocked	call qualified personnel to have it replaced
		modulating valve actuator connector disconnected	restore correct connection
		DHW temperature probe cable inverted with heating probe	restore correct connection
		presence of air in the system	vent the system
		pump (if present) not working	call qualified personnel to have it replaced
		pump cable (if present) not connected	restore connection
		possible system shut-off valves/terminals closed	open the valves
		centralised system temperature insufficient	contact person in charge of system
		electronic controller not working	call qualified personnel to have it replaced
		primary circuit flow rate insufficient	contact person in charge of system
		centralised system not working	contact person in charge of system
	CH LED off	timer/thermostat time setting incorrect	check programming of timer/thermostat
		timer/thermostat not working	check timer/thermostat
	all LEDs are off	electric supply switched off	restore HIU electric supply
		protection fuse burnt out	restore HIU electric supply
	FAULT led lit +error code 4 active	heating circuit pressure too low	restore system pressure
FAULT led lit +error code 5 active	heating temperature probe faulty	call qualified personnel to have it replaced	
FAULT led lit +error code 15 active	compensation temperature probe faulty	call qualified personnel to have it replaced	
FAULT led lit +error code 69 active	safety thermostat cut in	call qualified personnel to have it serviced	
FAULT led lit +error code 76 active	safety relief valve faulty	call qualified personnel to have it serviced	
FAULT led lit +error code 79 active	incorrect switch setting	restore correct switch settings	

Technical Training

The Ideal Technical Training Centre offers a series of first class training courses for domestic, commercial and industrial heating installers, engineers and system specifiers.

For details of courses please ring:..... 01482 498432



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Registered Office

Ideal Boilers Ltd., PO Box 103, National Avenue, Kingston Upon Hull, HU5 4JN

Tel 01482 492251 Fax 01482 448858

Registration No. London 322 137

Logic HIU Customer Support Helpline: 01482 440237
www.idealcommercialboilers.com