



THE REMEHA HIU RANGE

Installation, operation and
maintenance manual
March 2018

CONTENTS

The following instructions are for the EDHW 60/10, EDHW 75/13 & EDHW95/30.

Introduction.....	3
Declaration of conformity	3
Symbol key	3
Installers liability.....	4
Users liability	4
Performance + HIU data	6
HIU hydraulic diagrams	9
HIU drawings & dimensions	10
Fixing of HIU mounting.....	13
Wiring Details	16
Commissioning (start up).....	20
Completion of installation	24
Maintenance + servicing of HIU.....	25
Fault finding.....	29
Spare parts	31
Decommissioning.....	32
Warranty.....	32
Commissioning and installation/service documents	33
Service records	35

INTRODUCTION

DECLARATION & SYMBOL KEY

The following instructions are offered as a guide to the user and installer.

The installation must be carried out by a competent plumbing and electrical installer in accordance with Building Regulations, The Building Standards (Scotland) Regulations 1990, The Building Regulations (Northern Ireland), UK Water Regulations and IEE Electrical Regulations.

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

The Water Fittings Regulations or Water Bye laws in Scotland.

The Current I.E.E. Wiring Regulations.

Electromagnetic Compatibility Directive 2004/108/EEC

Low Voltage Directive 2006/95/EC

Ensure that the primary and secondary heating circuit have been flushed in accordance to BS7593 and BSRIA guide B629/2012.

Declaration of conformity

Our products are manufactured in compliance with the requirements of applicable European Directives. This appliance complies with the requirements of the CE marking directive.

In the interest of customers we are continuously endeavouring to make improvements in product quality.

All the specifications stated in this document are therefore subject to change without notice.

Symbol Key,

In these instructions various risk levels are employed to draw the user's attention to particular information. In doing so we wish to safeguard the user, avoid hazards and guarantee the correct operation of the appliance.



DANGER

Risk of a dangerous situation causing serious physical injury.



WARNING

Risk of a dangerous situation causing slight physical injury.



CAUTION

Risk of material damage.

INSTALLER'S & USERS LIABILITY

Our liability as the Supplier may not be invoked in the following cases:

- Failure to abide by the instructions on using the appliance.
- Faulty or insufficient maintenance of the appliance.
- Failure to abide by the instructions on installing the appliance.

Installer's liability

The installer is responsible for the installation and the commissioning of the appliance. The installer must respect the following instructions:

- Read and follow the instructions given in the manuals provided with the appliance.
- Carry out installation in compliance with the prevailing legislation and standards.
- Perform the initial start up and carry out any checks necessary.
- Complete the commissioning checklist.
- Explain the installation to the user.
- If maintenance is necessary, warn the user of the obligation to check the appliance and maintain it in good working order.
- Leave all the instruction manuals to the user.

Users liability

To guarantee optimum operation of the appliance, the user must respect the following instructions:

Read and follow the instructions given in the manuals provided with the appliance.

- Call on qualified professionals to carry out installation and initial start up.
- Ask the installer to explain the installation.
- Have the required checks and services carried out annually.

Keep the instruction manuals in good condition and close to the appliance.



DANGER

This unit becomes pressurised when in operation. The combination of pressurisation and hot water could lead to serious physical injury if the safety instructions in this manual are not adhered to.

The unit is also designed to work at district heating hydraulic pressures up to 10 bar g and temperatures up to 90°C, which, if exposed to could lead to serious injury.



WARNING

- Only competent persons having received the appropriate training are permitted to work on the appliance and the installation.
- Do not tamper with any of the safety valves or controls supplied with the unit.
- Before any work, isolate the mains electrical supply to the appliance.



WARNING

- Do not adjust the (ESBE) three way thermostatic mixing valve. This is factory set to prevent excessive hot water temperatures reaching the taps in the event of a system failure (see fig. 2). The purpose of this valve should not be confused with that of a point of use mixing valve which is fitted near to the tap to prevent scalding.
- Do not tamper with any of the safety valves fitted to the systems. If a fault is suspected contact a competent installer.



WARNING

- Under no circumstances should the factory fitted safety valves (three way thermostatic mixing valve and safety valve, see fig. 2) be removed by anyone other than a competent person. The unit must not be run if either of these safety valves have been removed. Doing so will invalidate any guarantee or claim.
- Although the unit is suitable for cold water pressures up to 10 bar g it is strongly recommended that pressures above 3 bar g are reduced down using a suitable PRV fitted in the cold feed pipework.
- Where water hammer may be an issue fit a suitably sized potable water shock arrester / expansion vessel.
- Where expansion vessels have been fitted, it is good practice to protect the system in the event of its failure using a suitable potable water safety valve.
- No safety control valves should be tampered with or used for any other purpose.
- The safety valve discharge pipe should not be blocked or used for any other purpose.
- Where a tundish is fitted, this should not be located adjacent to any electrical components.

Please note:

A means for disconnecting the power supply must be incorporated in the fixed wiring in accordance with BS EN 7671:2008.

This unit is designed to be permanently connected to the hydraulic systems and as such flexible hose connections should not be used.

Details of how the unit should be fixed to its support can be found on page 19.

For maximum and minimum cold water inlet pressures see page 6 & 7.

The unit is fitted with an integral pressure safety valve. Water may drip from the discharge pipe of the Safety valve and this can be witnessed through a tundish open to atmosphere. Where discharge pipework is piped to a drain, a trap to prevent foul odours should be installed. The pressure safety valve should be tested regularly to remove lime deposits and to verify it is not blocked.

Only competent persons having received the appropriate training are permitted to work on the appliance and the installation. Children must be supervised to ensure they do not play with the appliance.

Prior to installation make sure that the primary & secondary heating circuit have been flushed.

PERFORMANCE AND HIU DATA

EDHW 60/10, EDHW 75/13 & EDHW95/30

The DHW output and performance of the HIU is related to the district flow temperature and flow rate.

	EDHW 60/10	EDHW 75/13	EDHW 95/30
HWS output (kW)	60	75	95
HWS delivery (l/min)	19.1	24	30.3
Primary flow rate (l/min) ⁽⁶⁾	16.1	19.6	24.8
Cold water temp (°C)	15	15	15
Hot water temp (°C)	60	60	60
Hot water (Δt °C)	45	45	45
Primary Flow (°C)	80	80	80
Primary return (°C)	25	25	25
Primary (Δt °C)	55	55	55
PHE primary loss (kPa)	28.5	28.9	34.8
PHE secondary loss (kPa)	17.5	18.5	22.8
Min pressure (bar)	0.5	0.5	0.5
Max pressure (bar)	10	10	10
HTG output (kW)	10	12.5	30
HTG flow rate (l/min)	14.4	17.94	43.05
HTG flow temp (°C)	55	55	55
HTG return temp (°C)	45	45	45
HTG (Δt °C)	10	10	10
Primary flow (°C)	80	80	80
Primary return (°C)	60	60	60
Primary (Δt °C)	20	20	20
PHE primary loss (kPa)	11	16.5	26.1
PHE secondary loss (kPa)	50	24.4	43
Min pressure (bar) ⁽⁷⁾	1	1	1
Max pressure (bar) ⁽⁸⁾	2.8	2.8	2.8

PERFORMANCE AND HIU DATA

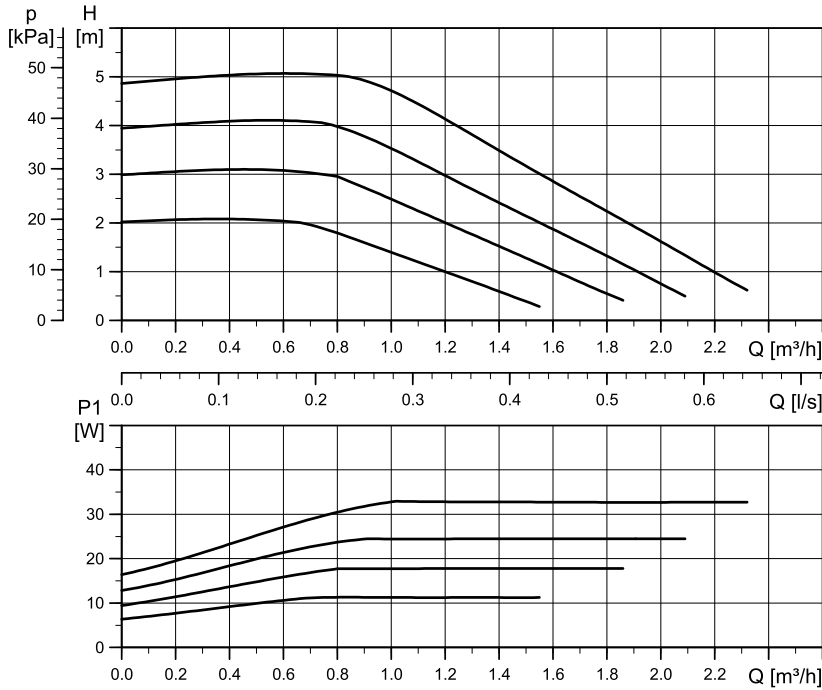
EDHW 60/10, EDHW 75/13 & EDHW95/30

The DHW output and performance of the HIU is related to the district flow temperature and flow rate.

	EDHW 60/10		EDHW 75/13		EDHW 95/30	
MCWS	Type: Female	Material: Plated steel & brass	Type: Female	Material: Plated steel & brass	Type: Female	Material: Plated steel & brass
DHW outlet						
DHW return						
District flow						
District return						
Heating flow						
Heating return						
Safety valve discharge						
Electrical supply (Volts)	230		230		230	
Electrical frequency (Hz)	50		50		50	
Electrical consumption (Watts)	91		91		91	
Fuse rating (Amps)	3		3		3	
HIU only (mm) (H x W x D)	825 x 660 x 338		825 x 660 x 338		825 x 660 x 338	
First fix jig (mm)	N/A		N/A		N/A	
Combined (mm)	N/A		N/A		N/A	
Clearance all sides (mm) (°) (side x side x top x bottom)	50 x 50 x 200 x 200		50 x 50 x 200 x 200		50 x 50 x 200 x 200	
HIU boxed - delivery (kg)	60		65		68	
HIU complete (kg) (°)	60		65		68	
First fix jig (kg) (°)	N/A		N/A		N/A	
Expansion vessel - HTG (litres)	12		12		12	
Safety valve setting (Bar)	3		3		3	
Heat loss (kWh/day)	0.384		0.384		0.384	
OPTIONS						
Water meter	Yes		Yes		Yes	
Heat meter	Yes		Yes		Yes	
DHW priority	Yes		Yes		Yes	
Data module	Yes		Yes		Yes	

PUMP CALCULATION GUIDE

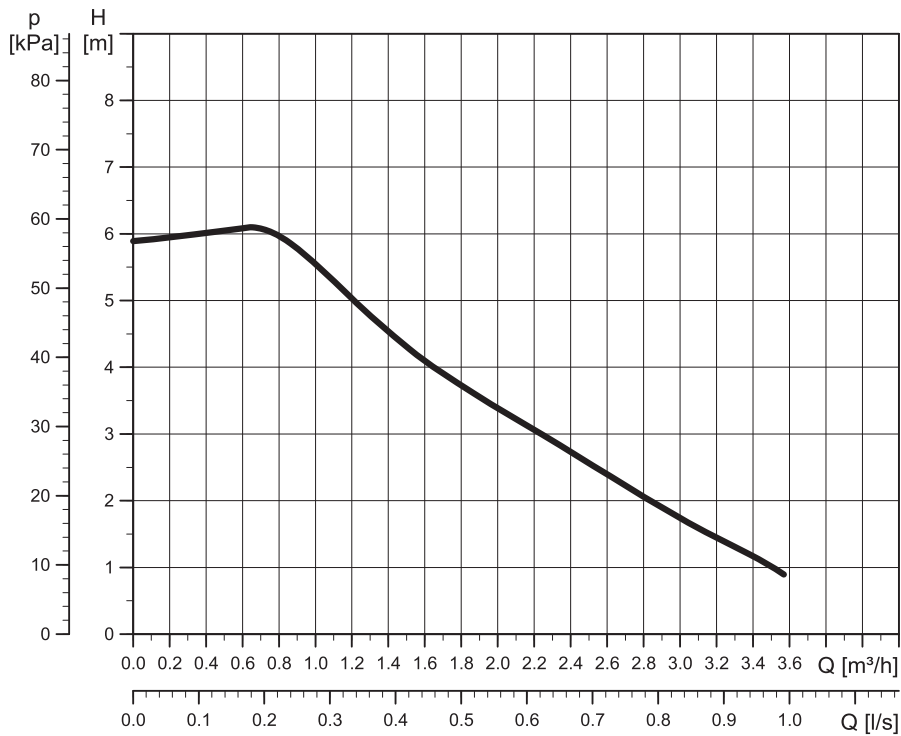
EDHW 60/10, EDHW 75/13 & EDHW95/30



High efficiency
Ready for Ecodesign 2015

Setting	Max. head _{nom}
Curve 1	2 m
Curve 2	3 m
Curve 3	4 m
Curve 4	5 m

Setting	Max. P ₁ nom
Curve 1	11 W
Curve 2	18 W
Curve 3	25 W
Curve 4	33 W



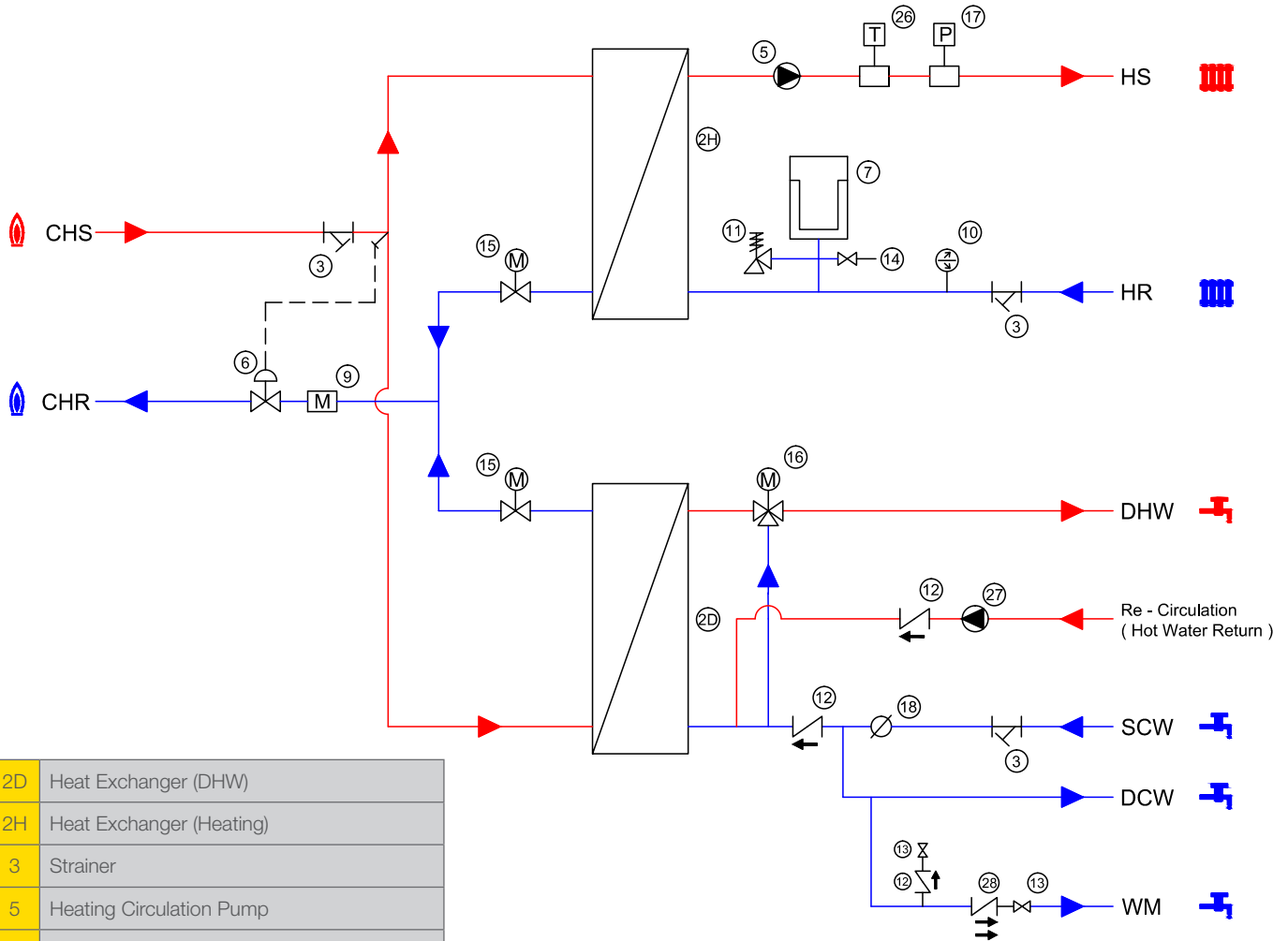
Secondary heating pump graph

FIG.1

HYDRAULIC SCHEMATIC

HW 60/10, EDHW 75/13 & EDHW95/30

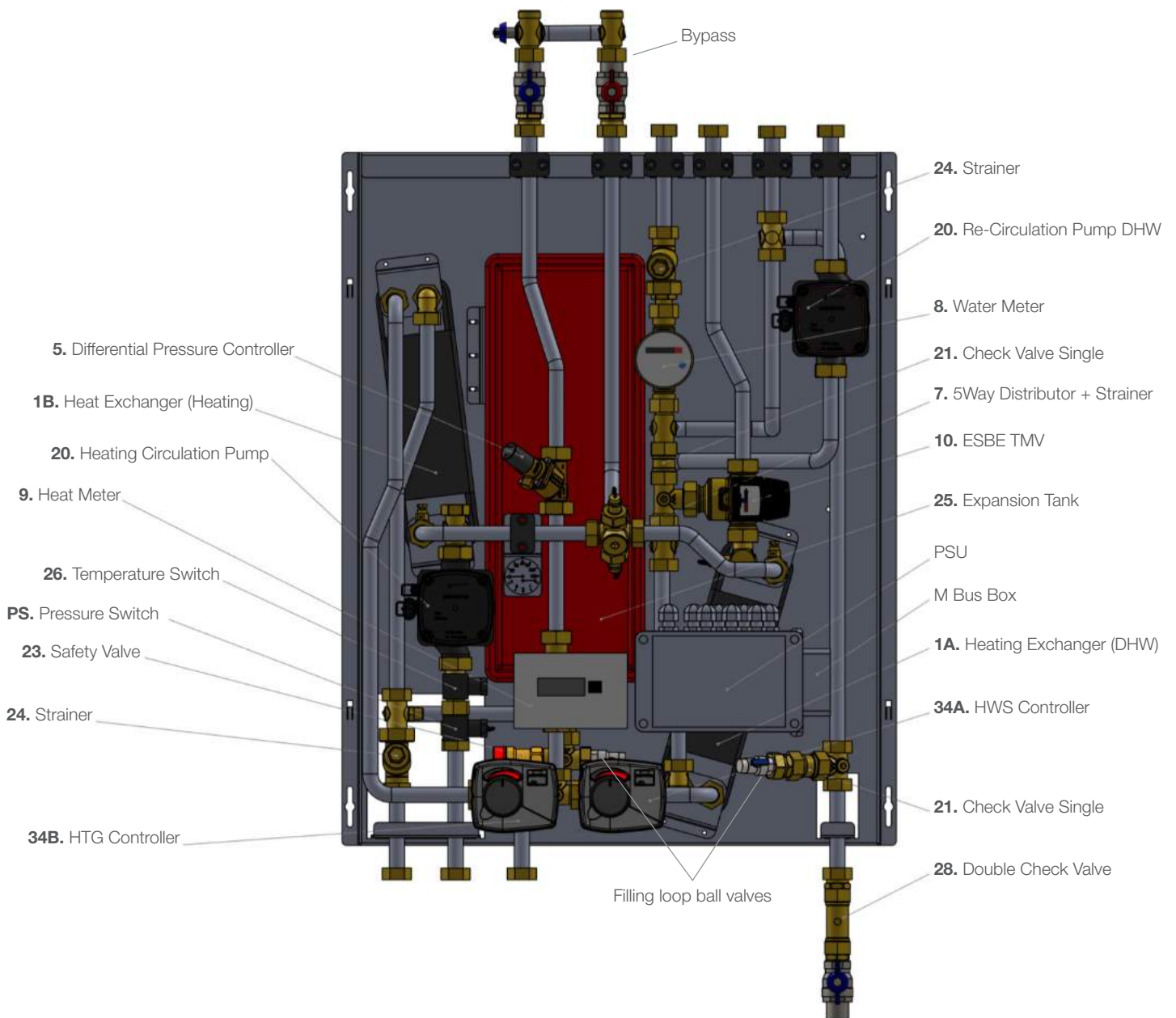
The hydraulic schematics within this document are for guidance only and do not constitute system design. Some components may not be detailed and connection positions have been moved for clarity purposes.



2D	Heat Exchanger (DHW)
2H	Heat Exchanger (Heating)
3	Strainer
5	Heating Circulation Pump
6	Differential Pressure Controller
7	Expansion Vessel
9	Heat Meter
10	Pressure and Temperature Gauge
11	Safety Valve
12	Check Valve Single
13	Filling Valve
14	Drain Valve
15	2 Way Motor Valve
16	3 Way Motor Valve
18	Cold Water
26	Temperature Switch
27	Re-Circulation Pump
28	Double Check Valve

EDHW 60/10, EDHW 75/13 & EDHW95/30 COMPONENT PARTS

FIG.2

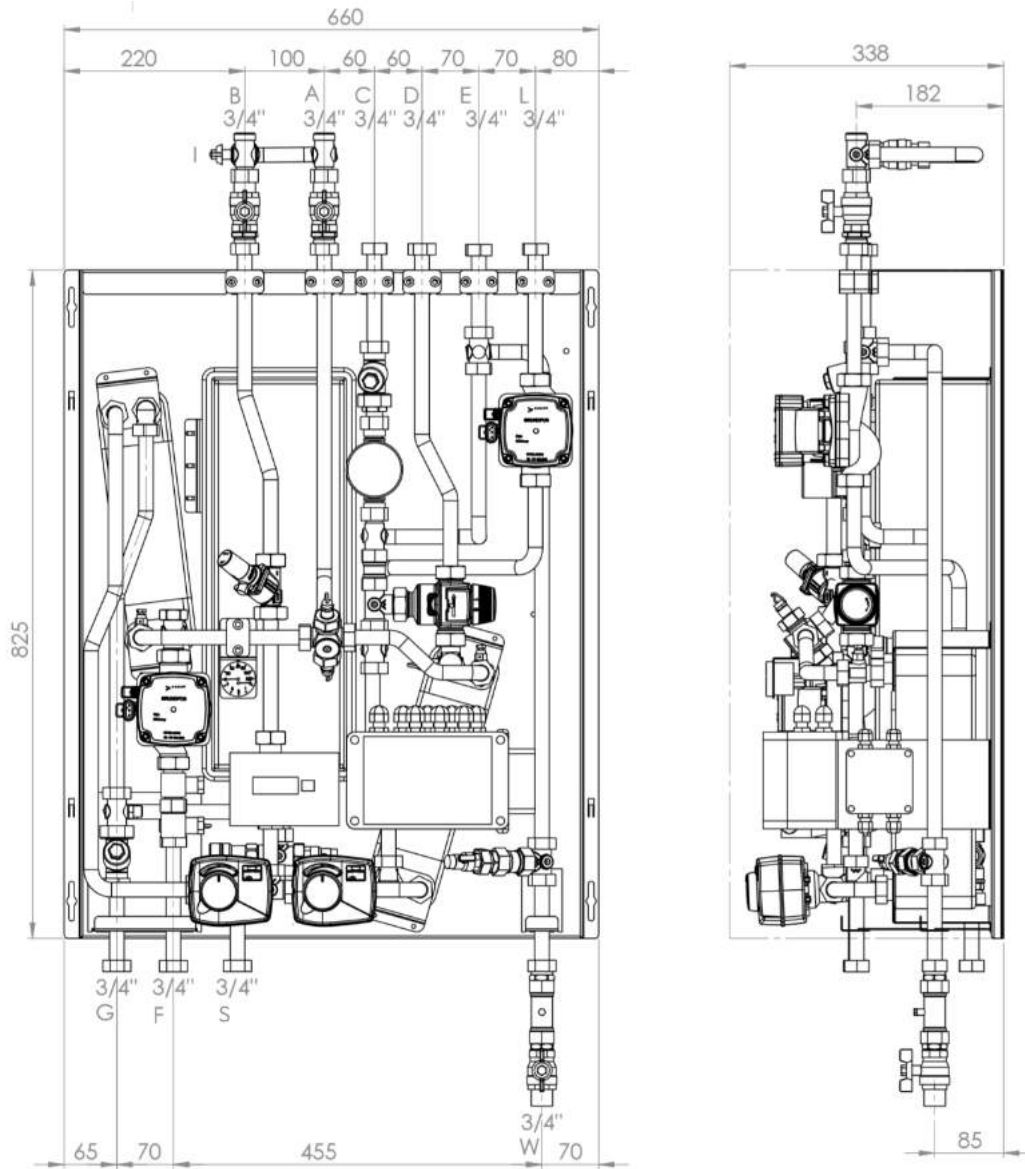


COMPONENTS:

1A	Heating Exchanger (DHW)	21	Check Valve Single
1B	HEat Exchanger (Heating)	23	Safety Valve
5	Differential Pressure Controller	24	Strainer
7	5Way Distribution + Strainer	25	Expansion Tank
8	Water Meter	26	Temperature Switch
9	Heat Meter	28	Double Check Valve
10	ESBE TMV	34A	HWS Controller
20	Heating Circulation	34B	HTG Controller
20	Re-Circulation Pump DHW	PS	Pressure Switch

FIG.3

EDHW 60/10, EDHW 75/13 & EDHW95/30 DIMENSIONS & CONNECTIONS

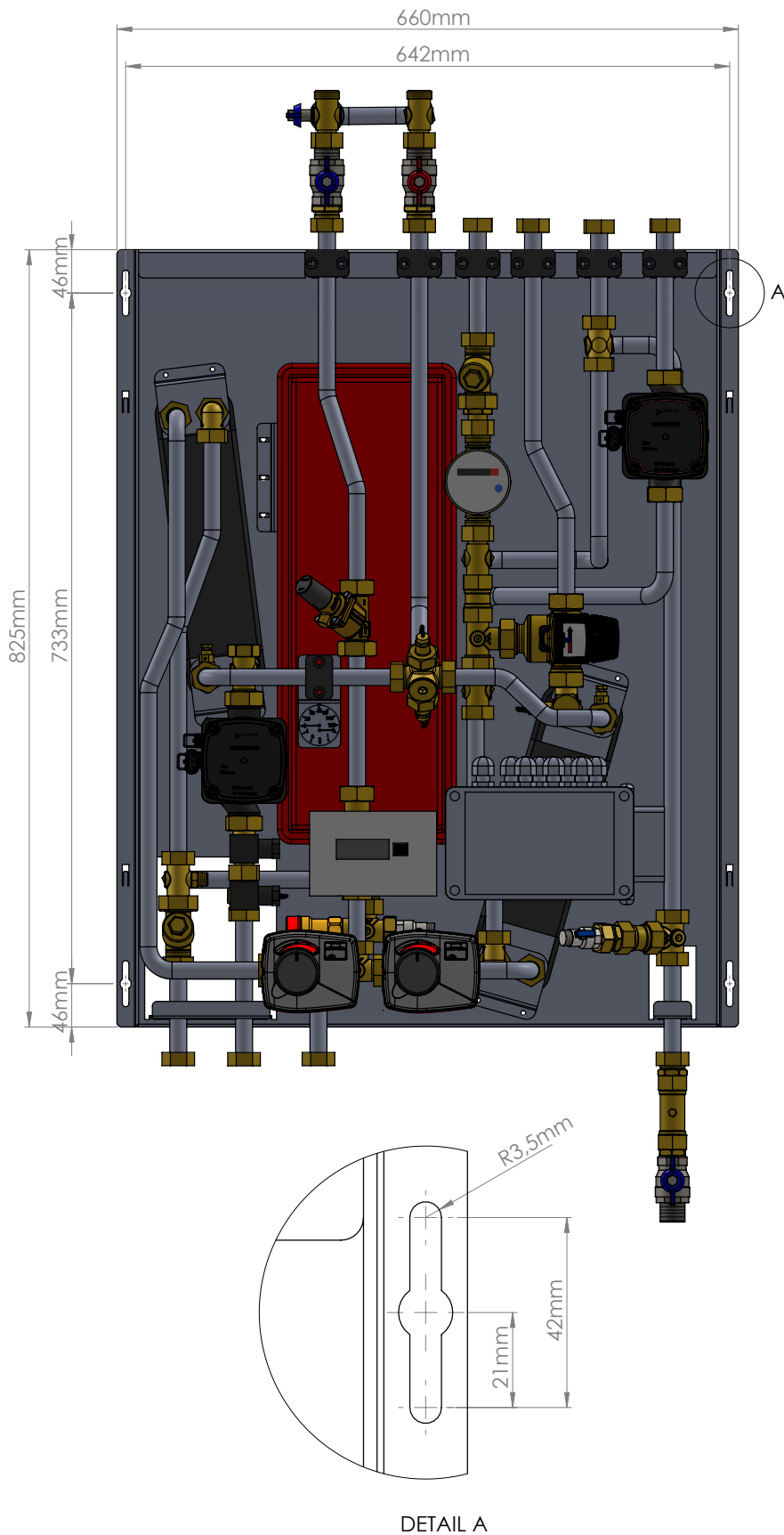


CONNECTIONS PORTS*	DESCRIPTION	CONNECTIONS PORTS*	DESCRIPTION
E	Domestic Cold Water Outlet	G	Heating Return
D	Domestic Hot Water Outlet	F	Heating Supply
C	Domestic Cold Water Inlet	W	Washing Machine Outlet
A	Primary Supply	I	Bypass C/W Isolation Ball Valve
B	Primary Return	L	Domestic Hot Water Return
S	Safety Valve Discharge		

*Connections to HIU, 3/4" thread, BSP Female

EDHW 60/10, EDHW 75/13 & EDHW95/30 FIXING HOLES

FIG.4



EDHW 60/10, EDHW 75/13 & EDHW95/30

FIXING OF HIU MOUNTING DETAILS

Please refer to fig. 3 & 4 for the HIU mounting diagrams.

Access requirements; Weight and dimensions:

CLEARANCE			
FRONT X SIDE X TOP X BOTTOM ⁽⁴⁾	mm	50 x 50 x 200 x 200	

⁽⁴⁾ Below the valves on first fix jig

WEIGHT			
	EDHW 60/10	EDHW 75/13	EDHW 95/30
HIU Complete (kg)	60	65	68

⁽⁵⁾ Suitable fixings are to be used for wall type

Connections:

Please see fig. 9 for connections details of HIU and jig.

CONNECTIONS				
	Size		Type	Material
MCWS	inch	3/4	Female	Plated Steel / Brass
DHW OUTLET				
DHW RETURN				
DISTRICT FLOW				
DISTRICT RETURN				
HEATING FLOW				
HEATING RETURN				
SAFETY VALVE DISCHARGE				

DIMENSIONS			
HIU Only	H x W x D	mm	825 x 660 x 338

EDHW 60/10, EDHW 75/13 & EDHW95/30

FIXING OF HIU MOUNTING DETAILS

Wall fixing (HIU)



CAUTION

It is important that when piping to and from the HIU that the connecting pipes are aligned with the connections on the HIU. Failure to do so could lead to damage of the isolation valves.



CAUTION

When connecting the HIU, do not over tighten the joints.



CAUTION

When fixing the HIU it is important that you do not over tighten the nuts on the studs provided.

Maximum torque 3Nm.

Use a torque adjustment spanner.



CAUTION

When piping to and from the HIU, take care not to flex the bracketry as this could lead to connection misalignment issues.

Insert the fibre washers supplied between the pipe connections on the HIU and the isolation valves.

The safety discharge pipe is connected to the safety valve within the HIU, this will pass through the HIU to enable external pipework to be connected, see fig. 2.

Lightly tighten up all connection nuts connecting the HIU to the first fix jig and external pipework connecting to the safety valve discharge pipe.

Please see fig. 4 regarding the fixing holes located on the back plate of the HIU.

Please ensure that there is enough access space surrounding the HIU and first fix jig.

Do not over tighten the connections to the HIU.

Position the HIU on the wall connecting the HIU pipe connections to the HIU ensuring it is level using a spirit level and mark out the 4 fixing holes. Fixing holes are 7mm x 13mm diameter. See fig. 3 & 4.

Drill and plug the wall as necessary.

Fix the HIU to the wall using suitable fixings and check that it is still level using a spirit level.

Ensure the correct connections from the HIU are connected to the correct primary and secondary pipe work, please see fig. 3.

This unit is only suitable for secondary pumped circulation type systems.

Secondary heating connections

The HIU is suitable to connect to either radiator type heating systems or underfloor heating systems.

The safety valve discharge has a 15mm pipe connection which is provided within the HIU so that all plumbing work can be carried out during the first fix stage of the installation.

The discharge pipework should have a continuous fall to a suitable drain and be in a frost free environment.

It is good practice to fit a tundish to facilitate commissioning and servicing. A trap should be used when discharging to drain.

See BS6798 for advice on safety discharge pipework.

EDHW 60/10, EDHW 75/13 & EDHW95/30 HIU MOUNTING DETAILS AND WIRING DETAILS



WARNING

Although the amount of water discharged from the safety valve is not likely to be great, it is important to note that it is likely to be hot and carry a risk of scalding.



CAUTION

Always check that all connections are still leak free and that all drain valves are closed before attempting to fill the system.

Wiring details



DANGER

230V supply

A safe means of electrically isolating the HIU must be provided.

The wiring schematics within this document are for guidance only and do not constitute system design.

Always check that all connections are still leak free and that all drain valves are closed before attempting to fill the system.

Ensure all casing screws are fitted, as these provide earth continuity through the casing.

The power supply is earthed through the PSU box at the factory.

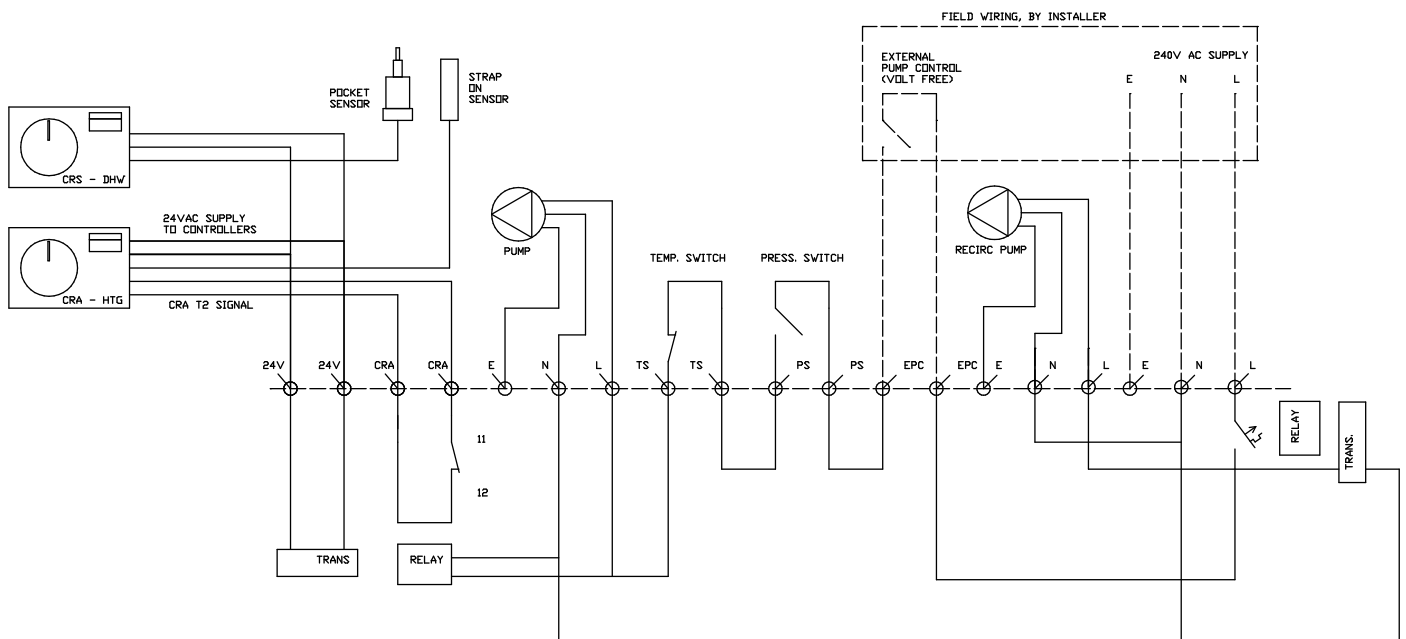
The HIU requires a programmable room thermostat to control the apartment heating. The switching cable should be routed through the HIU and then connected to the PSU box, fig. 6, 7 & 8 in the wiring details section.

Always isolate the power supply before opening the unit.

WIRING DETAILS

EDHW 60/10, EDHW 75/13 & EDHW95,

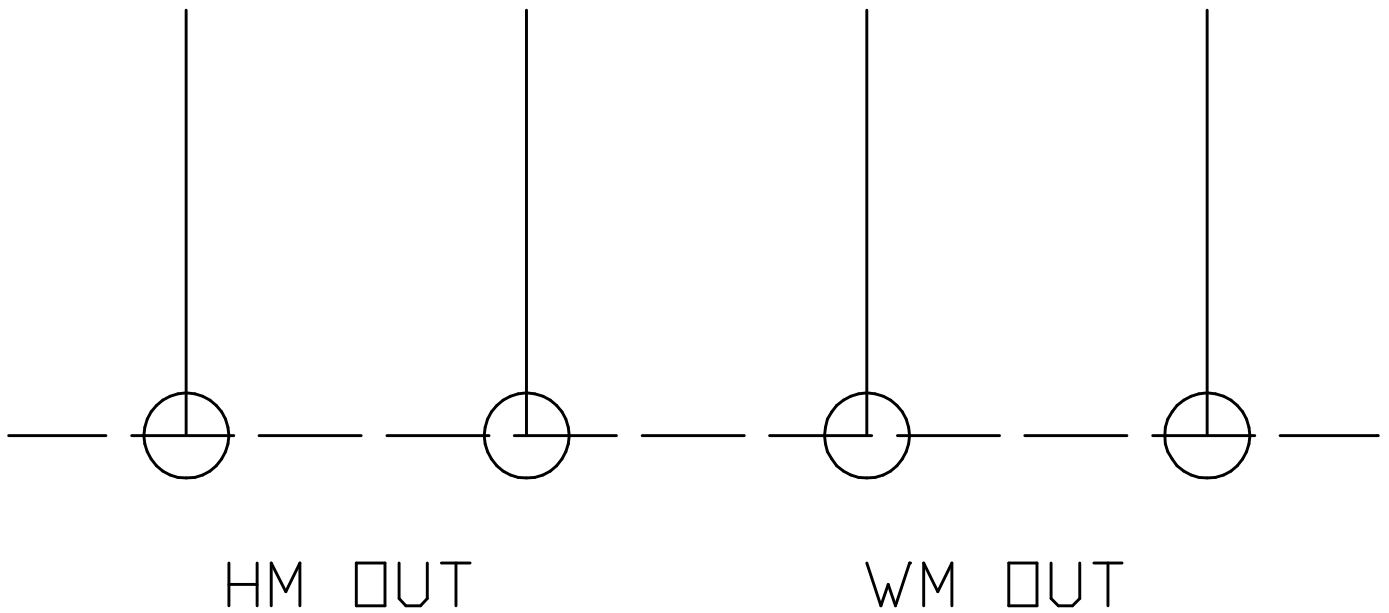
FIG.6



ELECTRICAL		
ELECTRICAL SUPPLY	Volts	230
ELECTRICAL FREQUENCY	Hz	50
ELECTRICAL CONSUMPTION	Watts	91
FUSE RATING	Amps	3

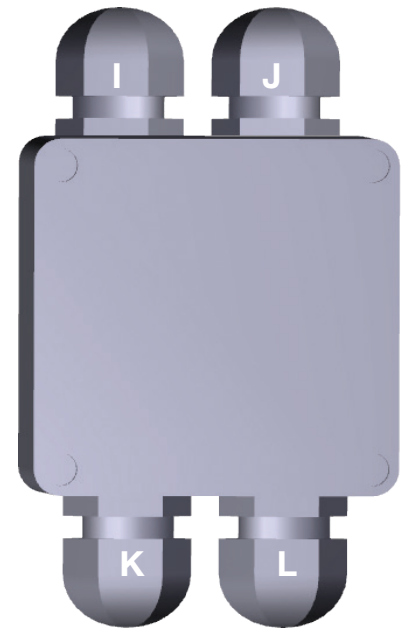
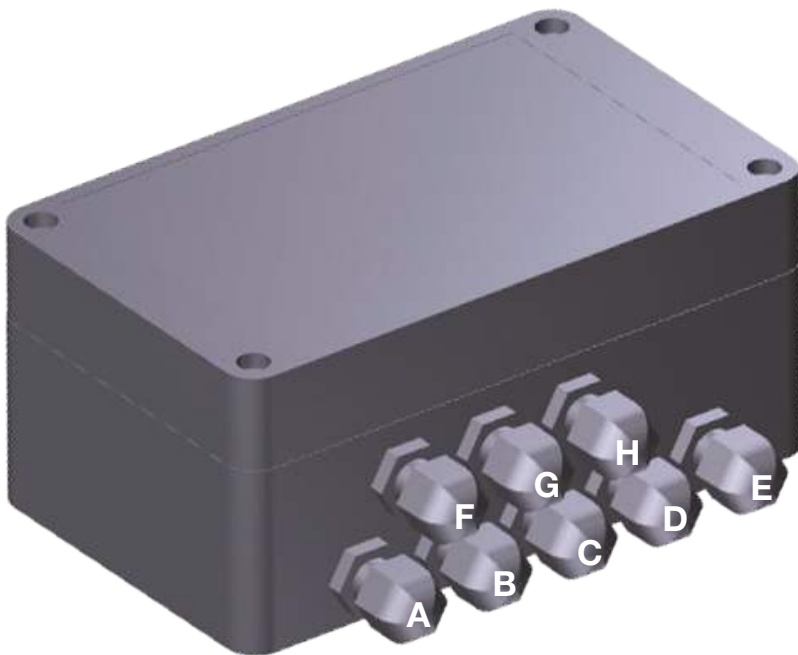
FIG.7

WIRING DETAILS
EDHW 60/10, EDHW 75/13
& EDHW95/30 M-BUS BOX



EDHW 60/10, EDHW 75/13 & EDHW95/30 POWER SUPPLY UNIT (PSU) AND M-BUS BOX CONNECTIONS

FIG.8



(PSU) CONNECTION:	DESCRIPTION
F	Mains Supply
G	Pump Control (Stat)
H	Re-Circulation DHW Pump Supply
A	Temp Switch Heating
B	CRA T2 Connection
C	Pump Supply Heating
D	Pressure Switch
E	24v AC to CRA/CRS Controllers

MBUS CONNECTION:	DESCRIPTION
I	Internal Water Meter
J	Internal Heat Meter
K	External Water Meter
L	External Heat Meter

EDHW 60/10, EDHW 75/13 & EDHW95/30

COMMISSIONING (START UP)

This product has been pressure tested following production. Please make sure that all internal connections are not disturbed during installation. Ensure that all flat face connections within the HIU are tightened and checked for leaks, this is due to storage and transportation conditions prior to filling. The HIU is installed with fibre washer seals to each flat face connection, these are designed to expand when water contact has been made.



FACTORY SETTINGS

HWS = hot water system
DHW = domestic hot water
DCW = domestic cold water

E SERIES	HWS TWO WAY ELECTRONIC FLOW CONTROL VALVE	HTG TWO WAY ELECTRONIC FLOW CONTROL VALVE	ESBE THERMOSTATIC VALVE
	60°C	55°C	55°C (dial no.3)

Domestic hot water

Ensure that the following connections are closed (fig.3 connections A,B). The primary flow and return connections can now be opened gradually until they are fully open as they are part of a separate circuit (primary, fig. 3 connections A,B). Make sure that the primary bypass valve is closed (fig. 3 connections I).

(fig.3 connections C,D,L) is the DCW inlet, outlet and Washing machine. These connections must be utilised and connected to the DCW system with or without the use of the optional water meter. The Washing machine outlet must be connected to the external appliance.

Gradually open until fully open (fig. 3 connections C,D,E,L,W), these are the DHW outlet, DHW return, DCW inlet, DCW outlet and washing machine outlet.

All outlets excluding the HTG flow and return (fig.3 connections G,F) should be now fully opened. The HIU is now ready to be commissioned for DHW.

The HWS two way electronic flow control valve (fig. 2) self modulates the primary flow in accordance to the heat demand on the secondary. An inbuilt wet pocket sensor is placed on the DHW output of the plate heat exchanger.

Setup Procedure

The DHW pump will be running as soon as the HIU is switched on, already pre-wired to the PSU.

Fully open the index tap (Kitchen Sink), keep the tap running fully open.

Pull the Dial of the HWS controller towards you into manual mode, manually turn the dial fully open enabling full primary flow. Do not remove the dial from the controller.

The ESBE thermostatic mixing valve controls the DHW output temperature from the HIU, factory set 55C no.3.

Measure the temperature of the index tap while adjusting the thermostatic mixing valve to meet its requirement. A white line under the dial indicates the temperature set point.

When satisfied, turn the dial of the HWS controller while pushing towards the HIU until it clicks in auto mode.

The set temperature of the HWS controller must be at least 5C above the thermostatic mixing valve set point.

Factory set at 60C.

When adjusting / checking the set temperature of the HWS controller, Press the dial inwards above the blue LED screen of the controller. A spanner icon will appear with the set temperature flashing, flick left / right to suit the required temperature, press inwards to confirm selection. The screen will revert to the default screen of the

EDHW 60/10, EDHW 75/13 & EDHW95/30 COMMISSIONING (START UP)

temperature reading of the sensor.

When adjusting the temperature settings of the HWS controller and the ESBE thermostatic mixing valve to suit requirement, the HWS controller must be at least 5C above the ESBE thermostatic mixing valve set point.

Please see below guide for the indicated ESBE thermostatic mixing valve set points, 45C – 65C.

1 = 45°C

2 = 50°C

3 = 55°C

4 = 60°C

5 = 65°C



CAUTION

When adjusting the three way thermostatic mixing valve temperature output, ensure the two way electronic flow control valve is set at least 5°C above the dhw output setpoint!



CAUTION

Check the HIU unit for leaks, tighten all flat face connections within the HIU.

The domestic hot water is set to an optimum setting of 55°C in the factory in accordance with the recommendations of HSE HSG274. It is recommended that this isn't adjusted because lower temperatures increase the risk of bacterial growth within the hot water system and higher temperatures increase the risks associated with scalding. Higher temperature also increase the rate of scale formation within the hot water system.

The HWS two way electronic flow control valve, in active mode must be set at least 5°C above the three way thermostatic mixing valve located before the DHW outlet.

Filling the system (secondary heating)

The HIU comes with a filling loop, this needs to be connected to the ball valve located above the cold water mains input (fig. 2), connect the other end of the filling loop to the ball valve located above the safety valve (fig. 2).

Fill the system to a minimum pressure of 1 bar. Maximum working pressure is 3 bar.

The pressure switch located after the pump is pre-set at 1 bar, this is a safety device to protect the pump from running dry if there was to be a leak on the secondary heating pipework. The temperature switch is used to protect the secondary heating, located after the pump.

Gradually start to open the ball valves on the HIU until fully open, fig. 3 connections G & F.

When the system is filled, close the two ball valves connected to the filling loop, then remove the filling loop.

The system is now pressurized and ready to use.

Check that the flow and return temperatures of the secondary heating circuit meet the specified requirements and adjust the temp setting on the HTG two way electronic flow control valve (factory set at 55°C) as required.

Space heating

Flow and return connections to the HIU need to be closed. (fig. 3 connections G,F)

The HTG two way electronic flow control valve (fig. 2) self modulates the primary flow in accordance to the heat demand, a pipe sensor located after the pump monitors the current flow temperature. The controller will then modulate the flow to achieve the set value.

EDHW 60/10, EDHW 75/13 & EDHW95/30

COMMISSIONING (START UP)

This is pre-set at 55°C. Please check that the suitable flow temperature is set to protect the heating circuit and its associated environment (eg. Rads, ufh, floor type etc).

When there is no HTG demand the controller will zone the primary flow running through the plate by closing the control valve.

The pump will activate as soon as heating demand is required, when the system is at a satisfied temperature the pump will stop running.

To check/set the temperature setting of the controller, press the dial above the screen, flick from left or right, then press to confirm.

Open connections GF fully.

External Space Heating Control

Please see fig. 6 & 8 for instructions to wire the external heating control to the HIU.

Heat meter (optional)

All HIU's supplied without a heat meter come complete with an in-built spacer, heat meter pockets will be plugged.

Heat meters are pre-set and ready to operate. If you have ordered a HIU with a heat meter the operating instructions and calibration certificate shall be contained with the HIU upon delivery. Heat meters are battery powered and need to be connected to the M-bus box.

To assist during commissioning, by pressing the menu display button on the heat meter you can access important information regarding the primary heating circuit.

The heat meter will show the flow rate, flow and return temperatures, Delta T and KW readings.

It's recommended that only heat meters provided by Remeha are used in the HIU, please contact Remeha if you wish to use another type.

Water meter (optional)

All HIU's supplied without a water meter comes complete with an in-built spacer.

EDHW 60/10, EDHW 75/13 & EDHW95/30 COMMISSIONING (START UP)

Important information when commissioning the HIU

The HIU should not be used in association with any of the following:

- Situations where maintenance is likely to be neglected or safety devices tampered with.
- Water supplies that have either inadequate pressure or where the supply may be intermittent. (Minimum pressure 1 bar)
- Situations where it is not possible to safely pipe away any discharge from the safety valves.
- In areas where the water consistently contains a high proportion of solids, e.g. suspended matter that could block the strainer, unless adequate filtration can be ensured.
- In areas where the water supply contains chloride levels that exceed 100mg/l.

For information or advice regarding any of the above contact Technical Enquiries on: 0118 978 3434

Ensure all flat face unions and all connections within and outside the HIU are tightened.

If the unit has to be stored prior to installation, it must be in a secure area free from frost, excessive dampness and humidity.

HIU must be wall mounted. Although location is not critical, the following points should be considered:

- The HIU should be sited to ensure minimum dead leg distances, particularly to the point of most frequent use.
- Avoid siting where extreme cold temperatures will be experienced. All exposed pipework should be insulated.
- The discharge pipework from the heating system safety valve should have a continuous fall.
- Access to associated controls must be available for the servicing and maintenance of the system.
- Ensure that the wall that the HIU is mounted on is level and capable of permanently supporting the weight when the unit is full of water.
- The HIU must be installed internally to the building

Access to the unit and all its components is gained from the front when the front cover is removed. Access can be gained through the sides if the casing is removed.

It is important that as much access is provided around the unit as is practical. In the event of a component failure, full access in front of the unit is required for servicing.

Access to all isolation valves and controls is also required for normal operation and servicing.



WARNING

Water that is left standing in a stainless steel plate heat exchanger for long periods without draw off will become de-oxygenated and potentially corrode the plate material. If the unit is to be left unused following installation and commissioning, the water in the unit should be drained or regularly (quarterly) flushed through with fresh mains water.

All re-circulatory water systems will be subject to corrosion unless they are flushed and an appropriate water treatment is applied. To prevent this, follow the guidelines given in BS 7593 'Treatment of Water in Domestic Hot Water Central Heating Systems' and the treatment manufacturer's instructions.

Treatment must involve the use of a proprietary cleanser, such as Sentinel X300 or X400, or Fernox F3 and an inhibitor such as Sentinel X100 or Fernox MB-1.

Full instructions are supplied with the products. For further information contact Sentinel or Fernox.

EDHW 60/10, EDHW 75/13 & EDHW95/30

COMPLETION OF INSTALLATION

Failure to flush and add inhibitor to the system will invalidate the appliance warranty.

It is important to check the inhibitor concentration after installation, system modification and at every service in accordance with the inhibitor manufacturer's instructions. (Test kits are available from inhibitor stockists.)

For information or advice regarding any of the above, contact Technical Enquiries on: 0118 978 3434



CAUTION

Note the filling loop braided hose provides a temporary connection between the apartment's heating system and the cold water supply system. It is important that the filling loop braided hose is disconnected after commissioning in accordance with the water regulations. Ensure that the filling loop is stored in a known and safe location for future use.

It is important that the quality of the heating water is in line with BS EN 14866:2005 and VDI2035.



CAUTION

Depending on the size of the building there will be an element of diversification factored into the design. As such the centralised plant and pumps are unlikely to be able to supply 100% of the heat load to all apartments at any one time. Where extensive parts of the development are ready to be commissioned (especially in the depths of winter), this must be done with a controlled and phased approach to overcome the initial thermal inertia within the building.

Completion of installation

Ensure that the following has been carried out:

- 1) All hydraulic connections have been made and all joints are sound in accordance with CIBSE Code W.
- 2) Check that all air has been bled from the systems.
- 3) All hot and cold water outlets have suitable flow rates at the taps.
- 4) Check that the safety discharge pipework is complete. Manually open the safety relief valve to ensure they operate and discharge freely.
- 5) Ensure that the controls temperature sensors are fitted in the pockets.
- 6) Ensure that all motorized valves are plugged in and are in the auto position.
- 7) Ensure that all wiring to the control panel and room thermostat(s) are complete.
- 8) Ensure that there is a safe means of isolating the unit from the mains power supply in accordance with BS EN 7671:2008.
- 9) Ensure that the primary and secondary heating circuits have been properly flushed.
- 10) It is recommended that the flushing bypass isolation lever is removed and kept safe with the filling loop, for future servicing and maintenance.
- 11) Now fill in the Service Commissioning Record.
- 12) Make sure the flushing by-pass is fully closed when the HIU is in operation.

EDHW 60/10, EDHW 75/13 & EDHW95/30 MAINTENANCE AND SERVICING OF HIU

Maintenance and Servicing of the HIU

Warning, when working with the unit, supply services when connected could reach 95°C, and once electrically connected the unit has 230V present within. It is recommended that the unit is serviced once every 12 months to maintain its efficiency and longevity.



WARNING

Any valves and exposed pipes may be hot!



CAUTION

Before commencing any servicing or maintenance on the HIU ensure that the electrical power supply, the district heating connections, the apartment heating connections and the domestic hot water connections are all isolated.



DANGER

Water discharge may be very hot!

HIUs have an annual maintenance requirement in order to ensure safe working and optimum performance. This is of particular importance in hard water areas or where the water supply contains particulate matter.

It is essential that the safety valve(s) are periodically inspected and manually opened to ensure no blockage has occurred in the valves or discharge pipework.

Similarly cleaning of the district heating flow strainer filter mesh and the cold water inlet strainer will help to prevent possible operational faults. The district heating flow strainer is built into the 5 way distributor.

Other areas to check are the gas charge in the expansion vessel and the pressure gauge within the heating system.

The maintenance checks described below should be performed by a competent person on a regular basis, e.g. annually to coincide with other maintenance work.

To isolate primary flow and return within the HIU. Close connections A+B on the first fix jig then open connection I to allow a bypass for the primary flow. When finished, close connection I (bypass valve) and open the primary flow and return (connections A+B. See fig 3).

After any maintenance, please complete the relevant Service Interval Record section of the Commissioning Checklist.

Internal pipework

Ensure all internal pipe work and connections between the first fix jig and HIU are checked for leaks, before and after the service of the HIU.

DHW heating circuit

See fig. 2.

EDHW 60/10, EDHW 75/13 & EDHW95/30

MAINTENANCE AND SERVICING OF HIU

ESBE three way thermostatic mixing valve

Ensure the temperature adjustment dial can be moved freely in both directions. The temperature setting must be re-set at no.3 (55°C), this is factory settings.

The temperature setting for the DHW output (ESBE three port thermostatic mixing valve) must be set 5°C below the ESBE HWS two way electronic flow control valve.

HWS two way electronic flow control valve

By pulling the large black dial towards you a red ring would appear underneath the controllers dial, this is now in manual mode. Rotate the dial a full 90° left and right, this is to check if the two way control valve can move freely within the pipework. To put the dials back on the controller, push them back into position while turning the dial left and right. The dial will line up and click into place.

Removing the dials will leave the controllers in manual mode. Dials must be kept on at all times.

The temperature setting of the controller must be 5°C above the ESBE three way thermostatic mixing valve, DHW output. Factory settings (60°C).

Heating circuit

See fig. 2.

HTG two way electronic flow control valve

By pulling the large black dial towards you a red ring would appear underneath the controllers dial, this is now in manual mode. Rotate the dial a full 90° left and right, this is to check if the two way control valve can move freely within the pipework. To put the dials back on the controller, push them back into position while turning the dial left and right. The dial will line up and click into place.

Removing the dials will leave the controllers in manual mode. Dials must be kept on at all times.

The temperature setting on the controller is factory set at 55°C.

Please check that the suitable flow temperature is set to protect the heating circuit and its associated environment.

Important information

Where scale has been allowed to build up and is affecting the operation of the unit, remove and replace the component(s).

In hard water areas (above 150ppm) where scale build up is an issue it is recommended that a suitable scale prevention device is fitted.



CAUTION

Do not use a sharp implement to remove scale from a component as damage may occur.

Where any pipework joints may of been disturbed by servicing activities it is recommended that the gaskets are replaced.

EDHW 60/10, EDHW 75/13 & EDHW95/30 MAINTENANCE AND SERVICING OF HIU

Safety valve and expansion vessel

The safety valve should be checked periodically to ensure that the valve is operational. This is done by simply twisting the red plastic cap at the top of the valve. In so doing, a small burst of water will discharge from the valve, which can be witnessed through the tundish by others. After doing so check the system pressure and top back up to 1-2 bar as necessary.



WARNING

Discharge water will be hot. Although the amount of water discharged from the safety valve is not likely to be great, it is important to note that it is likely to be hot and carries a risk of scalding.

Isolate the central heating flow and return connections.

Drain down the HIU's secondary heating circuit using the drain isolation ball valve next to the safety valve below the expansion vessel and any external drain valves fitted within the heating circuit.

Using a pressure gauge, check the gas charge in the expansion vessel. This should be 1.0 bar . If the gas charge is too low, recharge the gas pressure using a bicycle pump or compressor.

Replacing the expansion vessel

Once the HIU has been isolated from the primary and secondary heating circuits, drain down the HIU. A clearance space of 200mm should be allowed above and below the HIU when installed. If not, please contact technical support for further assistance of removing necessary pipework.

Remove the recommended pipe work, controllers and heat meter.

Once completed, ensure that all connections are restored to its original state, checking for leaks.

Refilling and draining the HIU

The HIU comes with a filling loop, this needs to be connected to the ball valve located above the cold water mains input (fig. 2), connect the other end of the filling loop to the ball valve located above the safety valve (fig. 2).

Fill the system to a minimum pressure of 1 bar. Maximum working pressure is 3 bar.

The pressure switch located after the pump is pre-set at 1 bar, this is a safety device to protect the pump from running dry if there was to be a leak on the secondary heating pipework.

Gradually start to open the ball valves on the first fix jig until fully open, fig. 3 connections G & F.

When the system is filled, close the two ball valves connected to the filling loop, then remove the filling loop.

The system is now pressurized and ready to use.

Check that the flow and return temperatures of the secondary heating circuit meet the specified requirements and adjust the temp setting on the HTG two way electronic flow control valve (factory set at 55°C) as required.

Draining of the HIU can be achieved by opening the ball valve located above the safety valve, below the expansion vessel using a hose. Due to the placement of the hiu when installed (higher up, on the wall) we recommend that the secondary heating circuit is drained through the heating system drain cock. All closed loop pressurised heating systems should have drain cocks installed (mainly at the lowest point of the system).

Please note, a pressure and temperature gauge is installed within the hiu. This indicates the current pressure and temperature within the secondary heating circuit.

EDHW 60/10, EDHW 75/13 & EDHW95/30

MAINTENANCE AND SERVICING OF HIU

HIU plate heat exchangers

All re-circulatory water systems will be subject to corrosion unless they are flushed and an appropriate water treatment is applied. To prevent this, follow the guidelines given in BS 7593 'Treatment of Water in Domestic Hot Water Central Heating Systems' and the treatment manufacturer's instructions.

Treatment must involve the use of a proprietary cleanser, such as Sentinel X300 or X400, or Fernox F3 and an inhibitor such as Sentinel X100 or Fernox MB-1. Full instructions are supplied with the products. For further information contact Sentinel or Fernox.

Ensure that the strainers on both primary and secondary are cleaned when servicing.

Inhibitor

Take a small sample of the water from the central heating system. Then using a protector test kit, check the concentration of inhibitor in the system. Top up the system using the filling loop and add inhibitor as necessary.

For more information on HIU performance data, commissioning, setup, wiring etc please see page 6 onwards.

Now fill in the commissioning service record.

EDHW 60/10, EDHW 75/13 & EDHW95/30

FAULT FINDING



CAUTION

It is important that any work carried out on this unit is done by a competent engineer who is familiar with and understands the design of the system. This HIU is linked to a network and as such any unauthorised modifications or adjustments to the way the unit is set up to run could inadvertently affect the operation of other parts of the system. Authorisation from the community heating supplier should be sought before any system changes are carried out.

Fault finding



WARNING

Do not tamper with any of the safety valves or controls supplied with the HIU as this will invalidate any guarantee.



WARNING

Water contained in the HIU may be very hot, especially following a thermal control failure. Caution must be taken when draining water from the unit.

Important!

After servicing, complete the relevant Service Interval Record section located at the back of this book.

- Servicing should only be carried out by competent persons in the installation and maintenance of hydraulic interface units and district heating systems.
- Any spare parts used **MUST** be a Remeha authorised part.
- Disconnect the electrical supply before removing the casings and any electrical equipment covers.
- **NEVER** operate system without the necessary safety valves and devices.

In case of doubt contact service support, 0118 978 3434

EDHW 60/10, EDHW 75/13 & EDHW95/30

FAULT FINDING

Fault	Possible Cause of Fault	Solution
DHW	Primary circuit isolating valve closed	Open the isolating valve
	CRS controller disconnected	Reconnect the controller
	TMV faulty	Call qualified personnel to examine
	CRS controller faulty	Call qualified personnel to examine
	Presence of air in the system	Call qualified personnel to rectify
	Primary system not working	Contact the person responsible for the system
	Power supply switch off	Switch on electrical supply
	Protection fuse blown	Call qualified personnel to rectify
	Set point on the controller and TMV is too low	Adjust the settings

Fault	Possible Cause of Fault	Solution
DHW temperature too low	Inlet strainer blocked	Call qualified personnel to rectify
	Heat exchanger partially blocked	Call qualified personnel to rectify
	CRS controller disconnected	Reconnect the controller
	CRS controller faulty	Call qualified personnel to examine
	TMV faulty	Call qualified personnel to examine
	Excessive demand for DHW	Reduce demand
	Primary system flow insufficient	Contact the person responsible for the system
	Set point on the controller and TMV is too high or low	Adjust the settings

Fault	Possible Cause of Fault	Solution
DHW temperature is too high	CRS controller faulty	Call qualified personnel to examine
	TMV faulty	Call qualified personnel to examine
	Inlet strainer blocked	Call qualified personnel to rectify
	Cold supply flow insufficient	Contact the person responsible for the system
	Set points on the controller and TMV are too high	Contact the person responsible for the system

Fault	Possible Cause of Fault	Solution
DHW flow is too low	Isolation valves may be partially closed	Open the isolation valves
	Inlet strainer blocked	Call qualified personnel to rectify

Fault	Possible Cause of Fault	Solution
There is no DHW flow	Inlet strainer blocked	Call qualified personnel to rectify
	Heat exchanger blocked	Call qualified personnel to rectify
	No cold water supply	Contact the person responsible for the system

Fault	Possible Cause of Fault	Solution
The Heating circuit is not reaching the desired temperature	Heating inlet strainer blocked	Call qualified personnel to rectify
	CRA controller faulty	Call qualified personnel to examine
	CRA controller disconnected	Reconnect the controller
	Presence of air in the system	Call qualified personnel to rectify
	Pump not connected	Connect the power lead to the pump
	Pump not working	Call qualified personnel to rectify
	Isolation valves may be partially closed	Open the isolation valves
	Primary system flow insufficient	Contact the person responsible for the system
	Power supply switch off	Switch on electrical supply
	Protection fuse blown	Call qualified personnel to rectify
	Heating circuit pressure too low	Call qualified personnel to rectify
	Heating temperature is too low	Call qualified personnel to rectify

SPARE PARTS

EDHW 60/10, EDHW 75/13 & EDHW95/30

Spare Parts

A range of spare parts are available for the unit (see fig. 2). Refer to the technical data label on the unit to identify the model installed and ensure the correct part is ordered. You will need to quote the serial number that is printed on the unit's data label, which can be found on the back plate of the HIU at the bottom left corner.

Remeha Part Number	Description	HWS PHE	HTG PHE	Complete Product	Spare Part	Optional Item
7687094	CRA115 constant flow controller				✓	
	CRS135 constant flow controller (DHW RE)				✓	
7687096	Differential pressure control valve				✓	
7687098	Capillary to suit differential pressure control valve				✓	
7687099	Grundfos UPM3 pump				✓	
7687100	Pressure relief valve				✓	
7687101	Pressure switch				✓	
7687102	VRG122 Two way control valve, 4kv				✓	
7687103	Three way thermostatic mixing valve				✓	
7687124	Power supply module				✓	
7687125	Heat meter with MBUS KAMSTRUP				✓	✓
7687126	Watermeter with MBUS				✓	✓
7687127	Expansion vessel				✓	
7687128	Enclosure side wall				✓	
7687129	Enclosure front cover				✓	
7687130	First Fix Jig with Bypass				✓	✓
7687131	DHW priority over heating (high demand DHW)				✓	✓
7687132	Filling loop check valve				✓	
7687136	Filling loop				✓	
7687137	Domestic cold water input strainer				✓	
7687138	Heating return strainer				✓	
7687139	Water meter + heat meter output box				✓	
7687140	Primary 5 way distributor c/w built in strainer				✓	
7687142	VRG122 Two way control valve, 4kv				✓	
7687143	Internal pipework replacement kit				✓	
7687144	M-BUS controller/data logger				✓	
7687145	Secondary heating circuit air vent				✓	
7687146	Secondary heating circuit filling loop ball valves x2 (sold as pair)				✓	
7696444	Internal washers kit - X20, 3/4" & X10, 1"				✓	
7696445	DHW Flow switch kit				✓	✓
	DCW Check Valve				✓	
	Temp Switch				✓	

DECOMMISSIONING WARRANTY

Decommissioning

- Isolate electrical supplies and make safe
- Disconnect all wiring
- Isolate the water supply
- Isolate the community heating system
- Drain the HIU
- Disconnect the unit
- Remove the unit
- Cap pipework

Products are manufactured from many recyclable materials. At the end of their useful life they should be disposed of at a Local Authority Recycling Centre in order to realise the full environmental benefits.

Warranty

Warranty is for 2 years for the HIU module and all other accessories are 1 year (heat meter, water meter and HTG pump) and are subject to our terms and conditions.

COMMISSIONING AND INSTALLATION/SERVICE DOCUMENTS

HEAT INTERFACE UNIT COMMISSIONING CHECKLIST

This commissioning checklist is to be completed in full by the competent person who commissioned the HIU as a means of demonstrating how the unit was installed and commissioned and must be handed to the customer to keep for future reference.

Failure to install and commission according to the manufacturer's instructions and complete this Commissioning Checklist may invalidate the warranty. This does not affect the customer's statutory rights.

Customer Name:										Telephone number:									
Address:										Email:									
HIU Make and Model:																			
HIU Serial Number:																			
Commissioned by (PRINT NAME):										Registered Operative ID number:									
Company name:										Telephone number:									
Company address:										Email:									
										Commissioning date:									
Installer name:										Installation company:									
Installer contact telephone number:																			
Building Regulations Notification Number (if applicable)																			

HIU TYPE		
1. Hot water only. (1 DHW PHE no Heating controls).	Yes	
2. Direct Apartment Heating Unit (1 DHW PHE with Apartment Heating Controls).	Yes	
3. Indirect Apartment Heating Unit (1 DHW PHE and 1 Apartment Heating PHE with Controls).	Yes	
4. Heat Only (Direct) (No plate heat exchanger just Heating Controls).	Yes	
5. Heat Only (Indirect) (1 Apartment heating plate heat exchanger with Heating Controls).	Yes	
6. HIU with integral cylinder.	Yes	
7. HIU to be connected to a cylinder.	Yes	
NOTE: If connecting HIU to an external cylinder, have you checked compatibility?	Yes	

DISTRICT SYSTEM (COMMUNITY HEATING SYSTEM)			
Primary Control arrangement:		Control Valve within HIU	Control Valve outside HIU
Balancing arrangements:		Pressure Independent	Differential Pressure
HIU Flow Regulation:		On/Off	Modulating
Differential pressure across HIU: (if applicable)			kPa
Static District pressure: (max system pressure)			bar (g)
District flow temperature:			°C
Flow control valve setting: (if applicable)			
Flow control valve type: (if external)			
Make:		Model:	
Size: Type:			
Primary pressure system breaks:			Yes
Flushing bypass fitted and closed:			Yes
Dwelling isolation valves fitted:			Yes
If 'Yes' where:			
Strainer checked and cleaned if necessary:			Yes

COMMISSIONING AND INSTALLATION/SERVICE DOCUMENTS

DWELLING SYSTEM									
Heat emitters type:	Radiators		Underfloor system		MVHR		Fan Coil		
Controls section:									
Time and temperature control to heating:	Room thermostat and Programmer/Timer			Programmable Room Thermostat Load/Weather Compensation					
Time and temperature control to Hot Water:	Cylinder thermostat		HIU		Not applicable				
Hot Water Zone Valves: (Stored)	Fitted		Not applicable						
Thermostatic radiator valves:	Fitted		Not applicable						
Automatic Bypass to System:	Fitted within HIU		Fitted outside HIU						
Design Detail:									
Pump setting: (if applicable)									
Auto bypass setting: (if adjustable)									
Radiator circuit:					Radial		Manifold		
If 'Manifold' where is it:									
Number of heating zones:									
Cold fill pressure: (bar) (heating circuit)									
Expansion vessel pre charge pressure valve: bar (g)									
Filling loop disconnected and capped:					Yes		Not applicable		
Safety valve setting: bar (g)									
Discharge pipework has been connected:				Yes		(In accordance with the relevant regulations)			
Separate air vent's: (external to unit)					Yes		Not applicable		
If 'yes', location:									
Secondary Strainer fitted:									Yes
Cold water meter installed?	Inside unit			Outside unit			None		
Drain cocks fitted:									
Yes									

DOMESTIC HOT WATER MODE									
Type:	Instantaneous		Vented Store		Unvented Store		Thermal Store		
Store Details: (If present)									
Make and model:									
Serial number:									
Date commissioned:									
Appropriate Benchmark Commissioning Checklist completed for cylinder: (if not instantaneous)									Yes
Instantaneous systems only: (types 1,2,3)									
What is the incoming static cold water pressure at the inlet to the system? bar (g)									
Has a strainer been cleared of installation debris (if fitted)?					Yes		Not applicable		
Is the installation in a hard water area (above 200ppm)?					Yes		No		
If yes, has a scale reducer been fitted?									Yes
What type of scale reducer has been fitted?									
What is the hot water temperature set to?									
DHW recirculation fitted?					Yes		No		

HEAT METERS									
Heat Meter commissioned?					Yes		No		
Error Codes cleared?									
								Yes	

ALL INSTALLATIONS									
The HIU system complies with the appropriate Building and Trading Regulations?									Yes
The system has been installed in accordance with the manufacturer's instructions?									Yes
If an external cylinder has been connected, compatibility with HIU has been checked?									Yes
The manufacturer's literature has been completed clearly and left with the HIU?									Yes

ALL INSTALLATIONS									
Commissioning Engineer's Signature									
Commissioning Engineer's Name and Company: (Printed)									
Date:									
(To confirm satisfactory demonstration and receipt of manufacturer's literature)									

SERVICE RECORD

It is recommended that your hot water system is serviced regularly and that the appropriate Service Record is completed.

Service Provider

Before completing the appropriate Service Record below, please ensure you have carried out the service as described in the manufacturer's instructions.

SERVICE 1 Date _____

Engineer Name _____

Company Name _____

Telephone Number _____

Comments _____

Signature _____

SERVICE 2 Date _____

Engineer Name _____

Company Name _____

Telephone Number _____

Comments _____

Signature _____

SERVICE 3 Date _____

Engineer Name _____

Company Name _____

Telephone Number _____

Comments _____

Signature _____

SERVICE 4 Date _____

Engineer Name _____

Company Name _____

Telephone Number _____

Comments _____

Signature _____

SERVICE 5 Date _____

Engineer Name _____

Company Name _____

Telephone Number _____

Comments _____

Signature _____

SERVICE 6 Date _____

Engineer Name _____

Company Name _____

Telephone Number _____

Comments _____

Signature _____

Innovation House
3 Oaklands Business Centre
Oaklands Park
Wokingham RG41 2FD

T 0118 978 3434
E info@remeha.co.uk
W remeha.co.uk

A Baxi Heating Brand
Registered address: Baxi Heating UK Ltd Brooks House Coventry Road Warwick CV34 4LL

 **remeha**