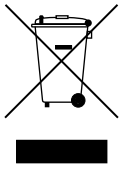
PLATE HEAT EXCHANGER PACKAGE

EVOMAX 2
30 - 150, 30P - 120P

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 Heating.

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

11 / 2026
UIN 233648 A05



WEEE DIRECTIVE 2012/19/EU
Waste Electrical and Electronic Equipment Directive

- At the end of the product life, dispose of the packaging and product in a corresponding recycle centre.
- Do not dispose of the unit with the usual domestic refuse.
- Do not burn the product.
- Remove the batteries.
- Dispose of the batteries according to the local statutory requirements and not with the usual domestic refuse.

benchmark
COLLECTIVE MARK
THE MARK OF QUALITY FOR THE INSTALLATION, COMMISSIONING AND SERVICING OF DOMESTIC HEATING AND HOT WATER SYSTEMS

The code of practice for the installation, commissioning& servicing of central heating systems

UK CA

CE

This kit is suitable for the following boilers:

Evomax 2 30, 40, 60, 80, 100, 120, 150, 30P, 40P, 60P 80P, 100P, 120P

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SAFETY DEFINITIONS

⚠ WARNING: Risk of injury or death.

⚠ CAUTION: Risk of damage to objects.

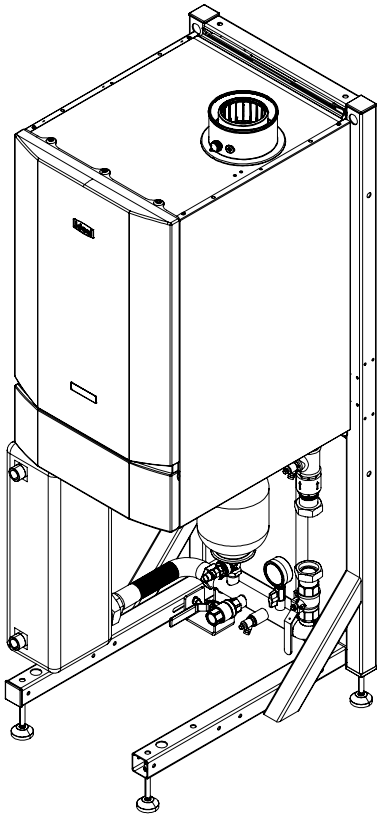
(!) IMPORTANT: notes to make you aware.

IMPORTANT

THESE INSTRUCTIONS MUST BE USED IN CONJUNCTION WITH THE LOW OR STANDARD HEIGHT FRAME & HEADER KIT INSTRUCTIONS SUPPLIED WITH THE EVOMAX HEADERS

1.1 INTRODUCTION

This manual contains information for dimensioning & assembly of a Plate Heat Exchanger Package for the Evomax 2 range of commercial boilers.



1.2 GENERAL DESCRIPTION

This package provides the means to install an Evomax 2 boiler complete with a plate heat exchanger and associated ancillary items to separate the boiler hydraulically (primary) from an existing heating / hot water system (secondary).

See appliance manuals for the flue configurations for the range of appliances using this kit.

150 kW boilers must be flued following the Clean Air Act.

All headers and pipework should be insulated following the Non-Domestic Building Services Compliance Guide.

Insulation thickness must be calculated according to BS EN ISO 12241 using standardised assumptions.

This package is intended for system separation only and must not be used for instantaneous domestic hot water generation.

2.1 PLATE HEAT EXCHANGER KIT OPTIONS

This kit is provided with a plate heat exchanger suitable to cover a single boiler installation from the range of available Evomax 2 boilers.

The kit is based on a low height frame and allows hydraulic separation of the boiler from the secondary system in a compact envelope.

Consider the modulation range of the appliance and total heat load requirements when sizing the boiler.

The package and the boiler pumps are intended to operate with a temperature difference of 20 °C across the appliance to provide a 20 °C temperature difference on the secondary side of the plate.

Typical boiler and system side operating parameters are 85/65 °C and 75/55 °C respectively.

Available Evomax 2 Appliances	
kW (NG)	**Product No.**
Evomax 2 30	220814
Evomax 2 40	220815
Evomax 2 60	220816
Evomax 2 80	220817
Evomax 2 100	220818
Evomax 2 120	220919
Evomax 2 150	220820
kW (LPG)	**Product No.**
Evomax 2 30 Propane	220823
Evomax 2 40 Propane	220824
Evomax 2 60 Propane	220825
Evomax 2 80 Propane	220826
Evomax 2 100 Propane	220827
Evomax 2 120 Propane	220828

2.2 HYDRAULIC SEPARATION: PLATE HEAT EXCHANGER

A plate heat exchanger supports hydraulic separation within a hydronic system allowing two flows to operate independently with their flow and pressure environments.

The brazed plate heat exchanger used within the package ensures effective heat transfer and optimum efficiency with low flow resistance and a compact footprint.

The heat exchanger allows hydraulic separation between the boiler and a heating circuit, covering duties up to 150 kW. This enables the modern, high efficiency condensing boilers to operate under their optimum conditions, while the adjoining heating circuit operates to its optimum controlled requirements.

The plate's design is based on standard components and a modular brazed concept. Each unit is manufactured to the highest standard and part of the AHRI certified program that ensures thermal performance under the product specifications.

Benefits:

- Compact design
- No gaskets
- Easy installed within the plate heat exchanger package
- Low maintenance/ self-cleaning
- All plates are pressure tested during manufacture

2.3 OUTPUT CONTROL

The package can be used with an optional accessory boiler pump, available separately. The package can also be used with compatible boilers having an internal boiler pump. Pumps are designed to be wired to and controlled by the appliance to allow a controlled pump over run.

2.4 GAS SUPPLY

Evomax 2 30, 40, 80, 60, 100, 120 & 150 boilers are configured for use with natural gas. The 30P, 40P, 60P, 80P, 100P & 120P boilers are configured for use with LPG / Propane.

The package requires the gas inlet to be made up to the gas tap provided, connecting it to the appliance's inlet. Assembly of the gas supply pipework and connection to the gas supply must follow all the applicable regulations.

A purge valve with a test point is provided before the boiler gas tap. This test point nearest the appliance gas inlet is intended to be used as the appliance inlet pressure test point.

2.5 SAFE HANDLING

Take appropriate measures to ensure safe handling of this appliance, use multiple operatives and or lifting equipment if necessary.

⚠ CAUTION: 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:

- Use appropriate handling points
- Be physically capable
- Use personal protective equipment as appropriate, e.g. gloves, safety footwear

During all manoeuvres and manual 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

3.1 PACKAGE COMPONENTS

The package consist of the following components:

- Frame
- Boiler flow and return pipework
- Boiler gas pipework
- PRV Drain kit
- Plate Heat Exchanger
- Hardware pack (includes essential connections, and components)

A Boiler Shunt pump MUST be used and is sold separately for the Evomax 2.

3.2 PLATE HEAT EXCHANGER

The package includes a brazed plate stainless steel plate heat exchanger sized for all boilers up to 150 kW when operating a temperature differential of 20 °C.

3.3 GAS CONNECTION KIT

The gas connection kit consists of 3/4" (19 mm) fittings suitable for connection to the standard gas tap provided with the appliance. It also includes a plugged isolation valve with a combined test point for purging and testing the supplied gas pressure at the point of connection to the appliance.

3.4 PRV DRAIN KIT

The kit contains solid pipe for the PRV discharge. Ensure the boiler pressure relief valve is connected and piped to safety.

3.5 BOILER SHUNT PUMP

Boiler pump kits are selected to provide the optimum flow around the appliance water circuit.

3.6 BOILER FLOW AND RETURN PIPEWORK

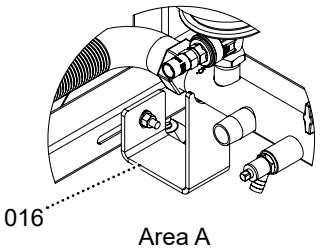
The connection kit contains the following components:

1. Boiler return leg complete with boiler isolating valve, fill / dosing isolation valve, pump (supplied separately), non-return valve, drain cock x2, pressure gauge, expansion vessel, lockshield valve and fibre seals.
2. Boiler flow leg complete with isolating valve, pressure relief valve and fibre seals.
3. Gas leg complete with isolating purge valve with test point and plug.
4. Condensate kit: flexi hose for boiler syphon. Fitting, pipework and flexi hose for PRV.

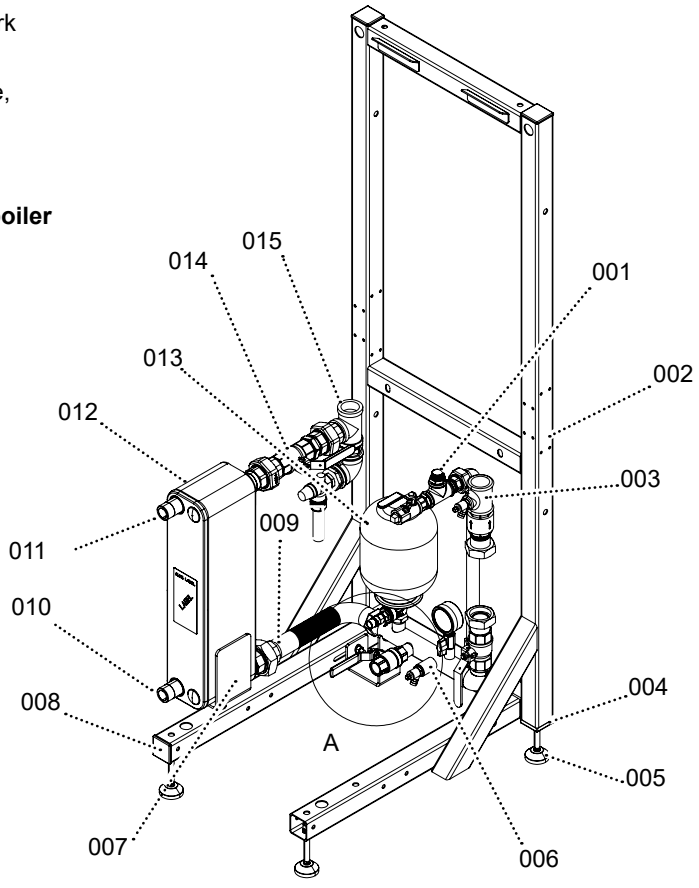
Gas connection: conical adapter, purge valve with test point, tee, flexi-hose.

IMPORTANT: Appliances with an internal boiler pump a spool piece is provided for the return pipework where the boiler pump would usually fit. Spool piece size G1.1/2 x 180 mm.

001	Gas Connection Kit
002	Mounting Frame Fabrication
003	Evomax 2 Low Height 1.5 in Return
004	50 mm Square Plastic Tube Insert, M12 Threaded
005	Adjustable Foot Ø 50 x M12 x 100
006	Return Manifold Assembly
007	PHEX Cradle Assembly
008	Box End Cap for 50 x 50
009	Return Hose Assembly
010	Secondary Return (1")
011	Secondary Flow (1")
012	Plate Heat Exchanger
013	4L Expansion Vessel
014	Flow Assembly, Heat Exchanger-side
015	Flow Assembly, Boiler-side
016	Return Manifold Support Kit



Area A
(Components hidden for clarity)



4.1 INSTALLATION AREA AND DIMENSIONS

Ensure adequate access for boiler and package installation. Ensure at least 450 mm clearance from the front of the appliance to allow servicing.

The condensate drain must have a 1 in 20 fall away from the appliance.

Adequate room above the boilers must allow the installation and serving of the boiler flue system. Further information concerning flue and condensate drain connection can be found in the boiler installation manual.

4.2 SYSTEM REQUIREMENTS

1. Ancillary components can be connected to the system via the G3/4" isolation valve on the boiler return pipework. See diagram below for guidance (diagram for illustration purposes only).
2. The method of filling, refilling, topping up or flushing sealed primary circuits from the mains via a temporary hose connection is only allowed if acceptable to the local water authority.
3. The filling device must be connected to comply with the water regulations, as shown below. This may involve fitting an a suitable WRAS approved isolator valve to the mains supply and appropriate backflow prevention device.

Pressure relief valve (Supplied with the package)

4. A spring-loaded non-adjustable 3 bar pressure relief valve complying with the relevant standards of BS6759 Pt1 is fitted close to the boiler with no intervening valve or restriction.
5. A manual testing device.
6. The safety valve outlet should be piped to ensure water or steam discharge cannot create a hazard to personnel or damage electrical components or wiring.

Pressure gauge (Supplied with the package)

A pressure gauge covering at least 0-6 bar is fitted to the return pipework, visible from the filling point.

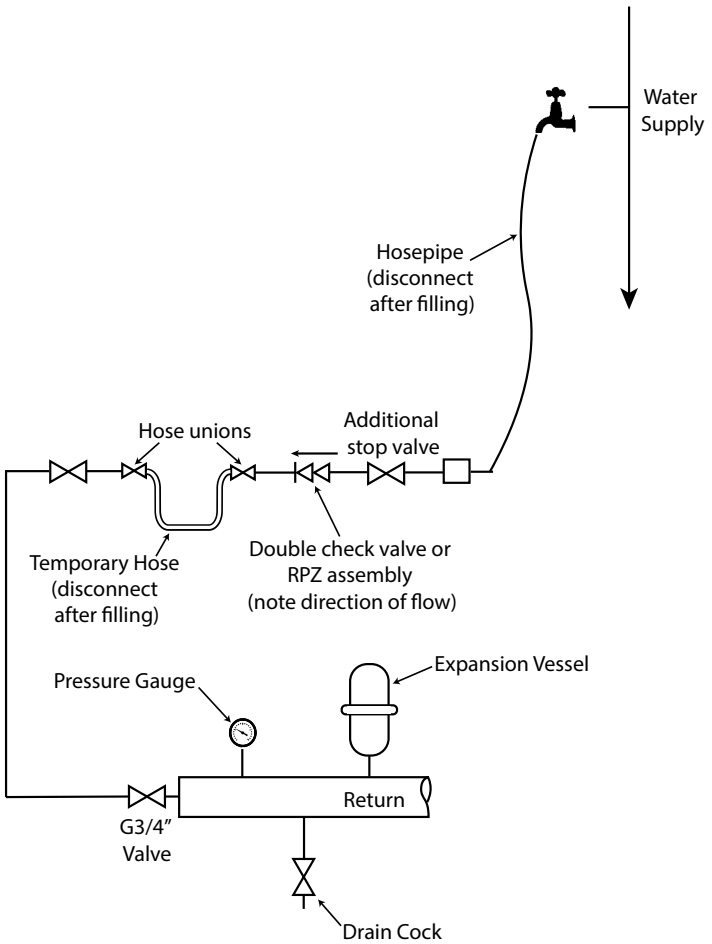
Expansion vessel (Supplied with the package)

7. A diaphragm type expansion vessel complying with BS. EN 13831 must be fitted, with a valve in the normally open positioned protected using a lockshield from unauthorised closure.
8. The vessel capacity must be adequate to accept the expansion of system water when heated to 85 °C.
9. The charge pressure must not be less than the static water head above the vessel. The pressure attained in the system when heated to 85 °C should be at least 0.35 bar less than the lift pressure of the pressure relief valve.

The 4L expansion vessel supplied is suitable for all appliances.

System drain cock (Supplied with the package)

A drain cock is fitted to the lowest section of the return pipework. A second drain cock is fitted above the NRV after the boiler pump.



IMPORTANT POINTS

Before commencing installation:

For Frame mounting:

- The frame must stand on a flat and level floor of suitable load bearing capacity.
- The frame must be bolted / secured to the floor after the connections are made to the boiler or system pipework from the package to allow for minor adjustments of the position of the package.

MOUNTING FRAME MUST BE SECURED TO THE FLOOR

These Installations refer to perpendicular walls and floors.

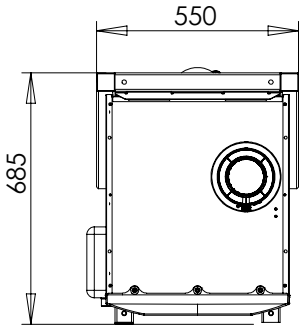
Allowances must be made for installation where skirting boards or other features are in place that may affect the nominal installation conditions.

5.1 PHEX PACKAGE LAYOUT

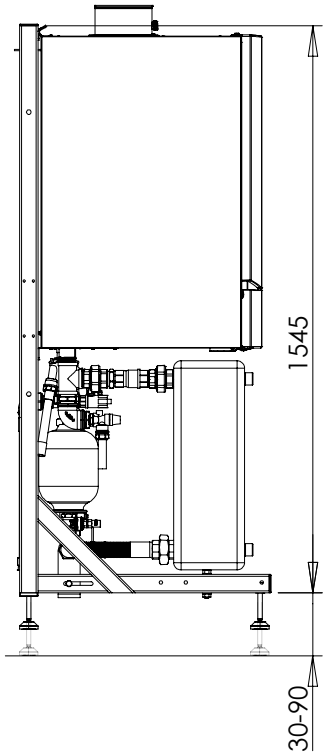
Stainless steel construction of the plate heat exchanger permits high flow velocities through plate connections. Secondary pipework typically requires increase in size compared to PHEX connection size to meet guidance on flow velocities.

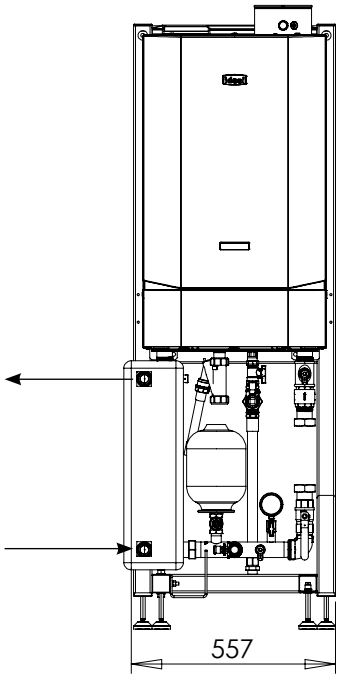
Increase from a plate connection should be created before bends or changes of direction in secondary pipework. Pipework on the secondary side of the plate should be sized by flow rate / temperature differential of the secondary system.

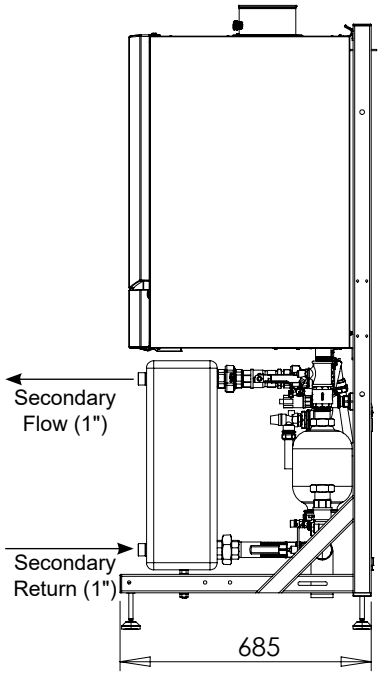
Maximum permissible flow rate through the secondary side of the plate is 2.8 l/s producing 41 kPa resistance.



IMPORTANT: Example shown is for the Evomax 2 150 kW boiler. Note that the position of the flue connection for the boiler will vary depending on the model. Refer to the installation manual for the appliance.







5.2 POSITIONING

Careful consideration must be given to the installation tolerances to prevent kinked or non-fitting connections.

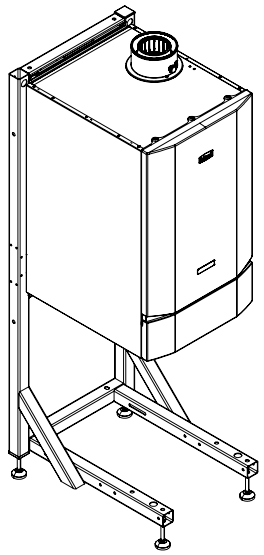
If the package is being installed as a retrofit to replace an existing appliance care should be taken to ensure that the position of the flue connection on the new appliance is consistent with the existing equipment.

5.3 LEVELLING

Levelling feet are provided to allow height adjustment of the package. Height adjustment can be used for levelling and ensuring that connections to existing flue systems are correct.

5.4 INSTALLATION PROCEDURE

Refer to the installation manual for the boiler.



5.4.1 Mounting Frame

Place the frame kit in the required position. Do not secure the frame to the floor until the installation process has been completed as adjustments to the position of the frame may be necessary.

5.4.2 Flow / Return Connections

Attach the upper parts of the flow and return connections to the boiler. Refer to section **3.6**

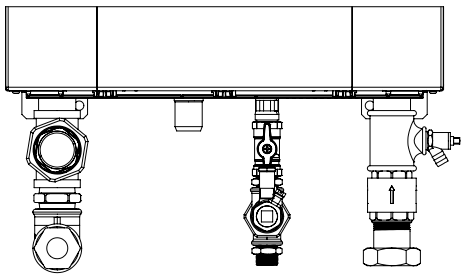
5.4.3 Boiler

Mount the boiler onto the frame kit.

5.4.4 Fitting Gas Connection Kit

Note: Gas Isolation Valve is supplied with the boiler.

1. Fit the conical male adapter to the gas isolation valve.
2. Fit the gas isolation valve assembly to the boiler gas connection ensuring the sealing washer is fitted.
3. Fit the flexi gas pipe to the isolation valve.



5.4.5 Condensate Connection

Fit the condensate siphon to the boiler and pipe to drain, following the recommendations contained in the boiler Installation instructions.

5.4.6 Pressure Relief Connection

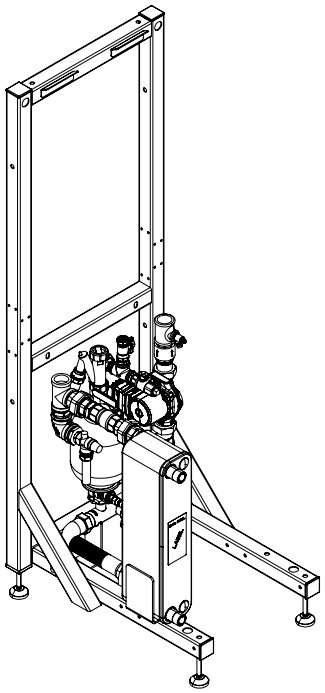
Ensure the boiler pressure relief valve is connected and piped to safety.

5.4.7 Flow / Return Pipework / Plate Heat Exchanger

Assemble the remaining sections of the flow and return pipework to the plate heat exchanger and connect up the boiler circuit.

Where the boiler circuit is circulated by an external pump ensure that the pump is fitted in the correct orientation with flow going upwards into to the boiler.

Where the boiler has an internal pump ensure that the pump spool piece is installed.



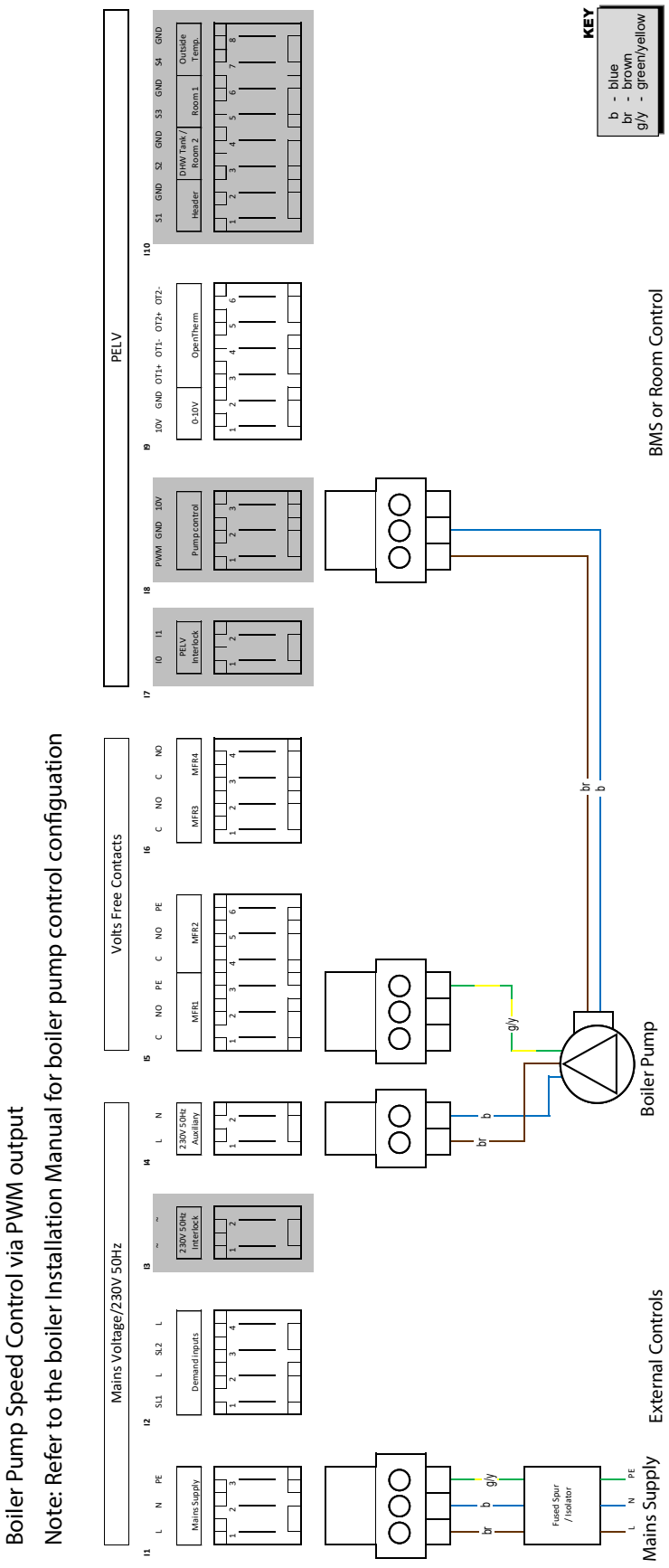
5.4.8 Filling / Dosing

Fill the boiler circuit to a static pressure of between 1 – 1.5 bar using the pressure gauge on the boiler circuit pipework. The boiler circuit should also be dosed with appropriate water treatments as noted in the boiler installation manual.

It may be necessary to circulate the completed boiler circuit to purge any residual air from the circuit until a stable pressure reading is obtained. Ensure that all joints and connections show no visible signs of leakage.

6.1 BOILER PUMP SPEED CONTROL VIA PWM OUTPUT

Refer to the appliance installation manual and iCCS Commercial Control System manual for boiler pump control configuration.



7.1 FINAL CHECKS

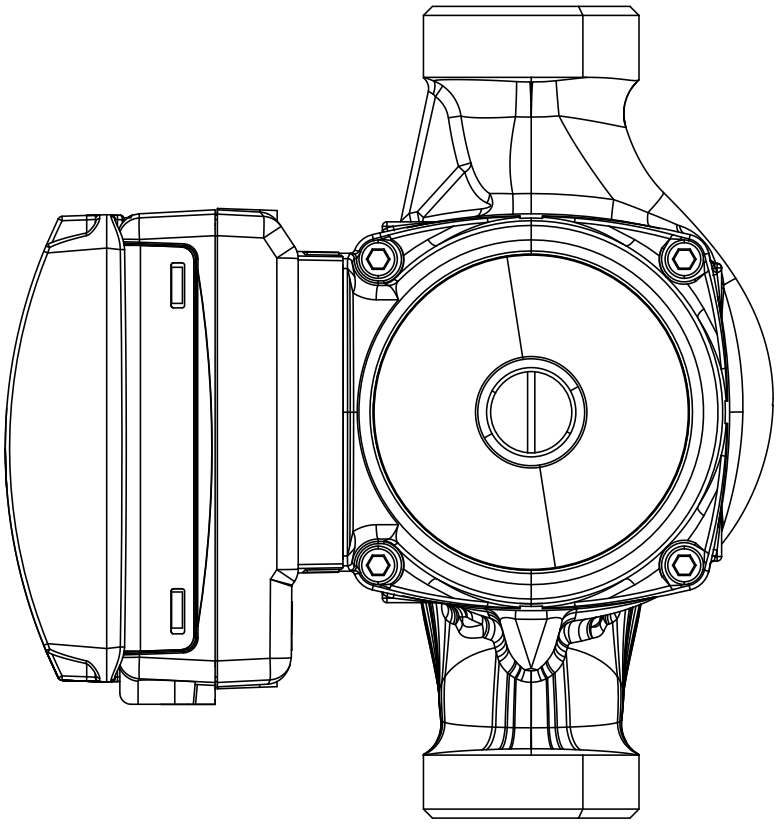
7.1.1 Safety Checks

Electrical and gas safety checks must be carried out on completion of installation as with individual boiler commissioning.

7.1.2 Pump Configuration

Pump setting - follow instructions on pump types shown below.

EVOMAX 2



UPMXXL for use with Plate Heat Exchangers (1 per boiler)

IMPORTANT: PWM Control to be wired directly to the boiler & MUST be wired in last.

For pump and external pump control wiring refer to this instruction & the boiler Installation Manual.

NOTE: Appliances with internal pumps are pre-wired.

Notes

Notes

Notes

At Ideal Heating we take our environmental impact seriously, therefore when installing any Ideal Heating product please make sure to dispose of any previous appliance in an environmentally conscious manner. Households can contact their local authority to find out how.
See https://www.gov.uk/managing-your-waste-an-overview for guidance on how to efficiently recycle your business waste.

Technical Training

Our Expert Academy offer a range of training options designed and delivered by our experts in heating.
For details please contact: expert-academy.co.uk

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