FLOOR STANDING BOILER HEADER KITS

ModuMax mk4

2 Stack - 97 / 194 , 116 / 232, 147 / 294, 196 / 392, 254 / 508

3 Stack - 97 / 291, 116 / 348, 147 / 441, 196 / 588, 254 / 762

IMPORTANT NOTE

THESE INSTRUCTIONS MUST BE READ AND UNDERSTOOD BEFORE INSTALLING, COMMISSIONING, OPERATING OR SERVICING EQUIPMENT

01/2026
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Hamworthy

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Technical Enquiries

To supplement the detailed technical brochures, technical advice on the application and use of products in the Hamworthy Heating range is available from our technical team and our accredited agents.

Site Assembly

Hamworthy offer a service of site assembly for many of our products where plant room access is restricted. Using our trained staff we offer a higher quality of build and assurance of a boiler built and tested by the manufacturer.

Commissioning

Commissioning of equipment by our own engineers. accredited agents or specialist sub-contractors will make sure the equipment is operating safely and efficiently.

Service Contracts

Regular routine servicing of equipment by Hamworthy service engineers inspects the safety and integrity of the plant, reducing the risk of failure and improving performance and efficiency. Service contracts enable you to plan and budget more efficiently.

Breakdown service, repair, replacement

Hamworthy provide a rapid response breakdown, repair or replacement service through head office at Poole and accredited agents throughout the UK.

Spare Parts

We offer a comprehensive range of spare parts, providing replacement parts for both current and discontinued products. Delivery options are available to suit you. Please refer to our website for more details.

ModuMax mk4

97, 116, 147, 196 & 254

- **Condensing, Fully Modulating, Pre-Mix, Gas Fired, Modular Boilers for Heating and Domestic Hot Water Installations**
- **Natural Gas I2H**
- **LPG Propane I3P**
- **The ModuMax boiler is intended for use as a commercial appliance.**
- **This boiler is for use on Group H natural gas (2nd family) I2H and LPG propane (3rd family) I3P. Please make sure the relevant information within this document for each specific gas requirement is adhered to prior to firing the boiler.**
- **Country of destination : United Kingdom & Republic of Ireland.**
- **This boiler complies with all relevant European Directives.**

LITERATURE SYMBOLS

⚠ WARNING: Risk of injury or death.

⚠ CAUTION: Risk of damage to objects.

ⓘ IMPORTANT: Notes to make you aware.

CONTENTS

FIGURES

TABLES

1.0 GENERAL INSTRUCTIONS

These instructions MUST be read in conjunction with the ModuMax Floor Standing Installer's Guides.

⚠ CAUTION: All safety instructions referred to in the Installer's Guide must be adhered to, and a competent person must carry out all works referred to in this instruction.

The Hamworthy Heating Ltd pipe work kit is designed to provide a complete primary circuit system for two and three high stacked modules. Multiple stacked units can be connected together to provide large output arrays. The basic kit consists of a flow and return manifold to which can be fitted a combined low loss header and dirt air separator, blanking flanges and a secondary manifold for three heating circuits.

- The flow and return manifold is supplied with matched primary circuit pumps, isolating valves, gas manifold, condensate drain and boiler safety relief valves. An automatic air vent is fitted to the top of the flow header and the vertical flow and return manifold have connection points for flushing the system, plus drain and air bleed valves. Flexible hoses connect the manifold to the flow and return ports on the boilers.
- The combined low loss header and dirt air separator has an adjustable support stand, sensor pockets in the flow and return ports to control the mixed flow temperature, automatic air vent and drain valve for sludge removal. The low loss header can be fitted to either the side of the flow and return pipe kit using the flanged pipes supplied.
- Blanking flanges for the flow and return headers are provide with connection points for system safety relief valve in the top flange and for an expansion vessel and/ or pressurisation unit in the lower flange.
- The secondary circuit manifold allows for up to three separate heating circuits to be connected to the low loss header. Fixing bolts and gaskets are provided with the manifold.

All pipe kit components are pressure tested prior to despatch.

The manifolds are available in three pipe sizes. DN100, DN150 & DN200. EN 1092-1 Type 1 B1 flanges rated to PN16 are used on the pipe kits. The pumps on the pipe kits are matched to the boiler models. If more than 14 modules are required use the DN200 pipe kit.

Table 1 Pipe Kit Data

Boiler Model		97/194V 116/232V	97/291V 116/348V	147/294V 196/392V 254/508V	147/441V 196/588V 254/762V	147/294V 196/392V 254/508V	147/441V 196/588V 254/762V
Stack size		2 high	3 high	2 high	3 high	2-High	3-High
Manifold pipe size	mm	DN100		DN150		DN200	
Maximum pressure	bar	10					
Pump model (1)		Magna1 32-40F		Magna1 32-120F		Magna1 32-120F	
Pump residual head (1,2)	kPa	8		12.5		10.5	
Weights (Empty)							
Pipe kit, including pumps	kg	207	281	241	326	281	368
Pipe kit, no pump	kg	191	257	207	275	247	317
Low loss header	kg	125	132	338	349	416	438
Secondary circuit manifold kit	kg	15		30		43	
Water content							
Pipe kit	l	26	34	57	73	80	98
Low loss header	l	34	40	88	100	148	169

Note.

1 : All kits available without pumps if required

2 : Pump residual head intended for use with Hamworthy hydraulic equipment, e.g. low loss headers

Table 2 Maximum Boiler Modules at Alternative Temperature Differentials

		Maximum Number of Modules			
Pipe Kit Header Diameter (mm)	**Module**	**11ºC Temp Diff**	**20ºC Temp Diff**	**30ºC Temp Diff**	**40ºC Temp Diff**
DN100	97	7	13	20	26
	116	6	11	17	21
DN150	147	11	20	31	38
	196	8	15	23	28
	254	6	12	18	22
DN200	147	19	35	53	66
	196	14	26	40	50
	254	11	21	32	38

Note.

The pumps supplied as part of ModuMax pipe kits are designed to work on 20ºC temperature differential. Boiler pressure drop changes dependent on operational temperature differentiial and as such standard pumps are only suitable for 20ºC DT.

Table 3 Header Kit Packaged Dimensions

Model	Depth mm	Width mm	Height mm	Weight Kg
97/196, 116/232	840	835	1447	169
97/291, 116/348	840	935	1988	215
147,294, 196/392, 254/508	840	905	1473	208
147/441, 196/588, 254/762	840	905	2048	265

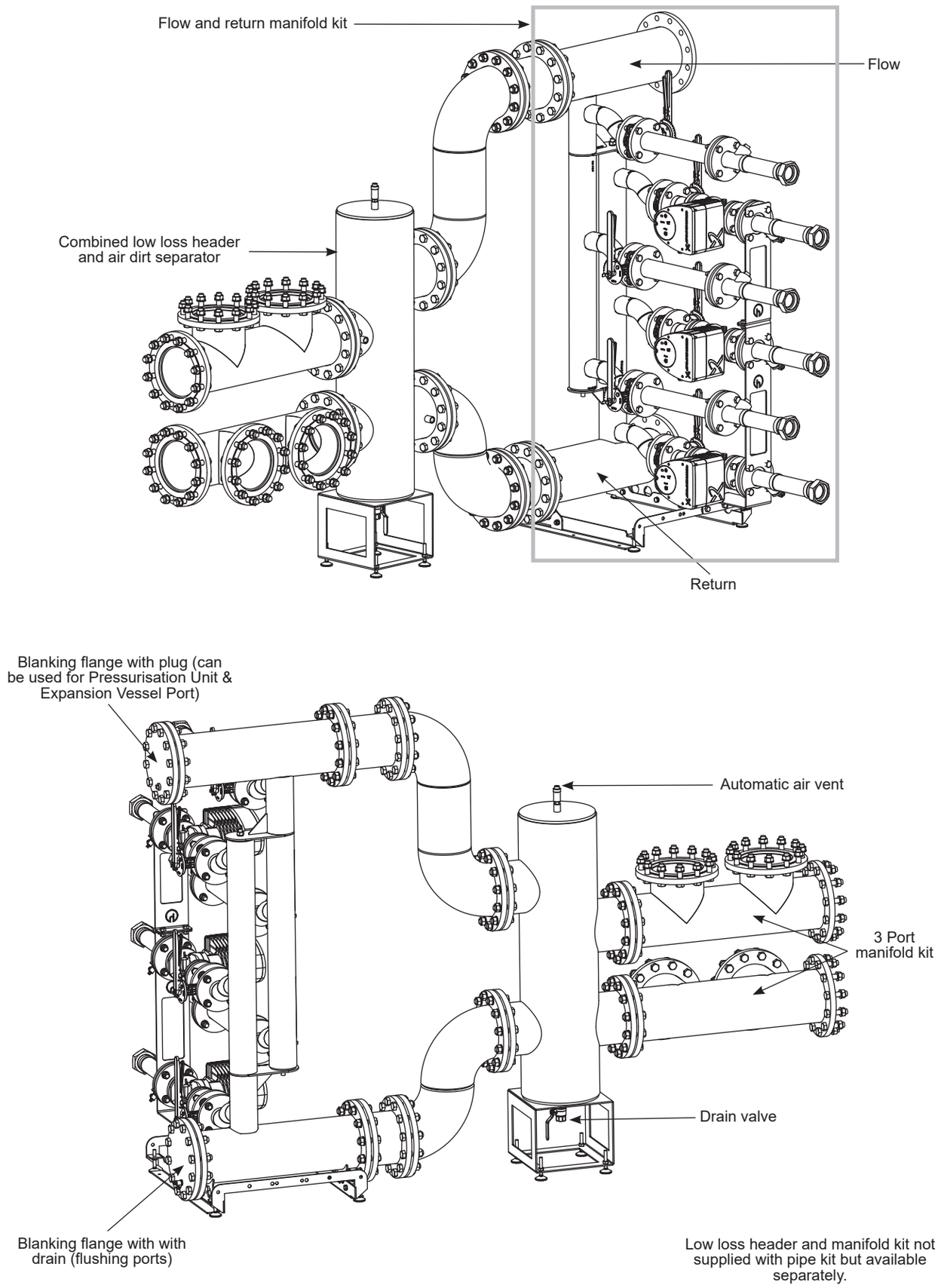

Fig 1. Primary Circuit and Gas Manifold Pipe Kit

NOTES

1.1 Size and Space Requirements

The boiler range has been designed to utilise minimum floor space, therefore it is important that the plant room has sufficient ceiling hight to allow for installation and connection to the flue system allowing for sufficient access at sides and behind the boiler for pipe work connections. See Fig 2.

147, 196, 254

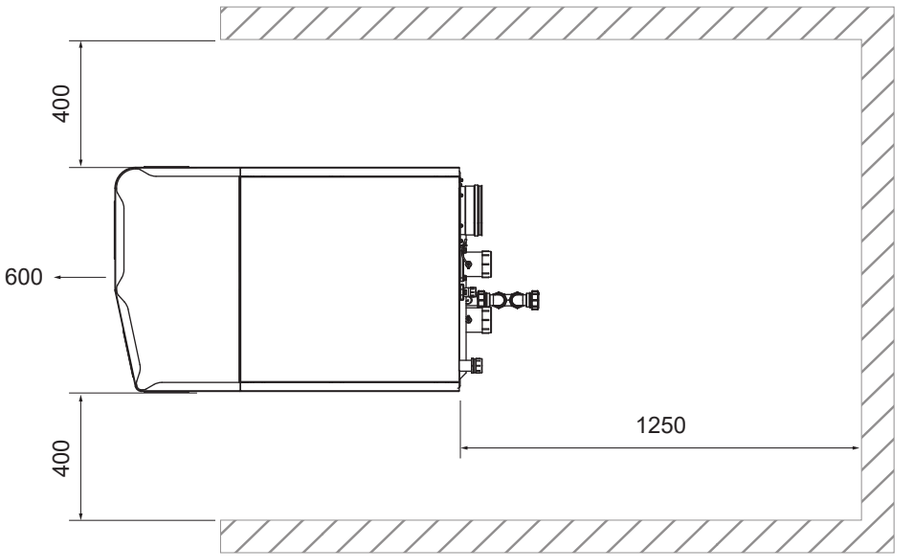

Fig 2. Minimum Clearances

DN100 2-high and 3-high Header Kits

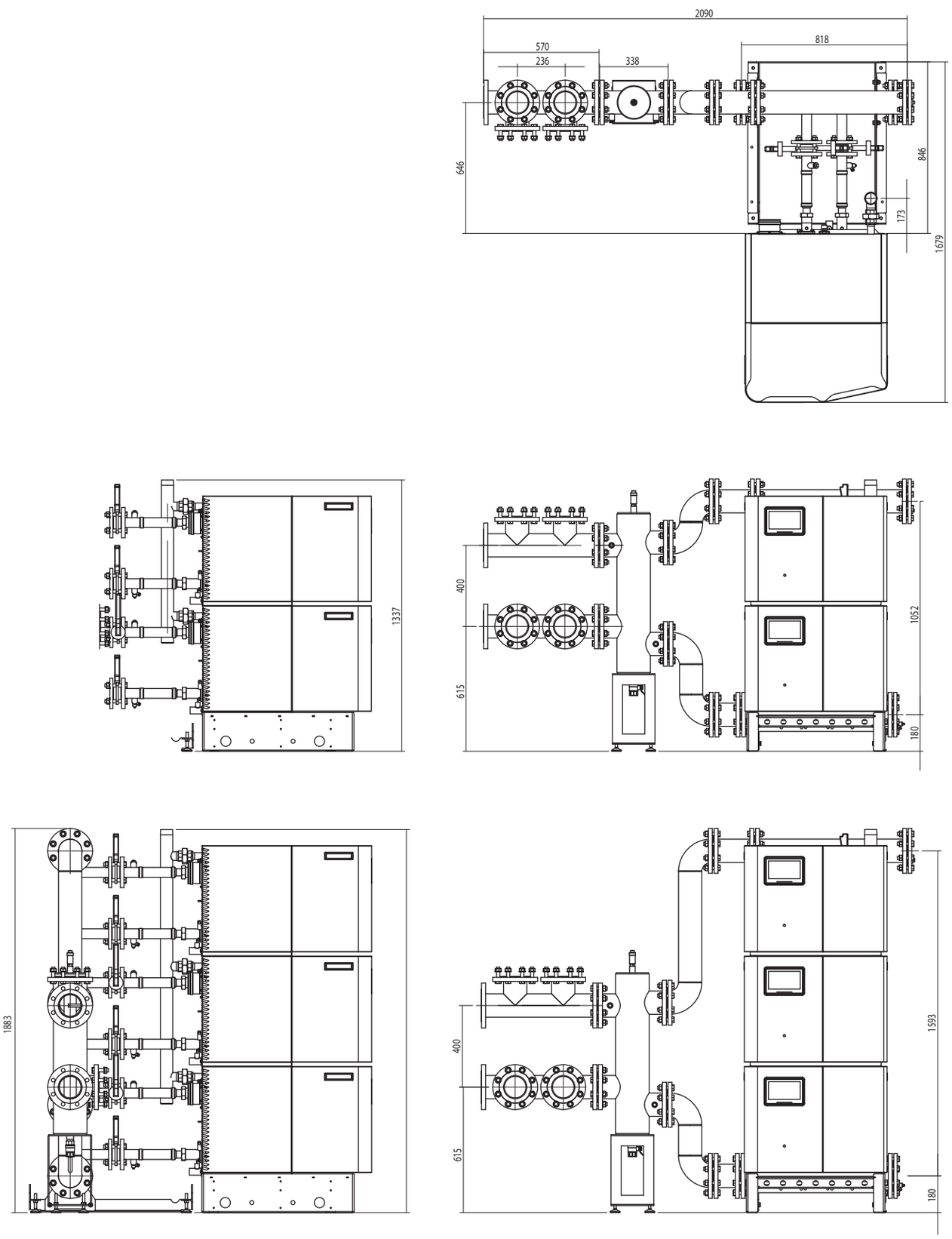

Fig 3. DN100 2H / 3H Primary Circuit and Gas Manifold Pipe Kit

DN100 2-high and 3-high Header Kits with pumps

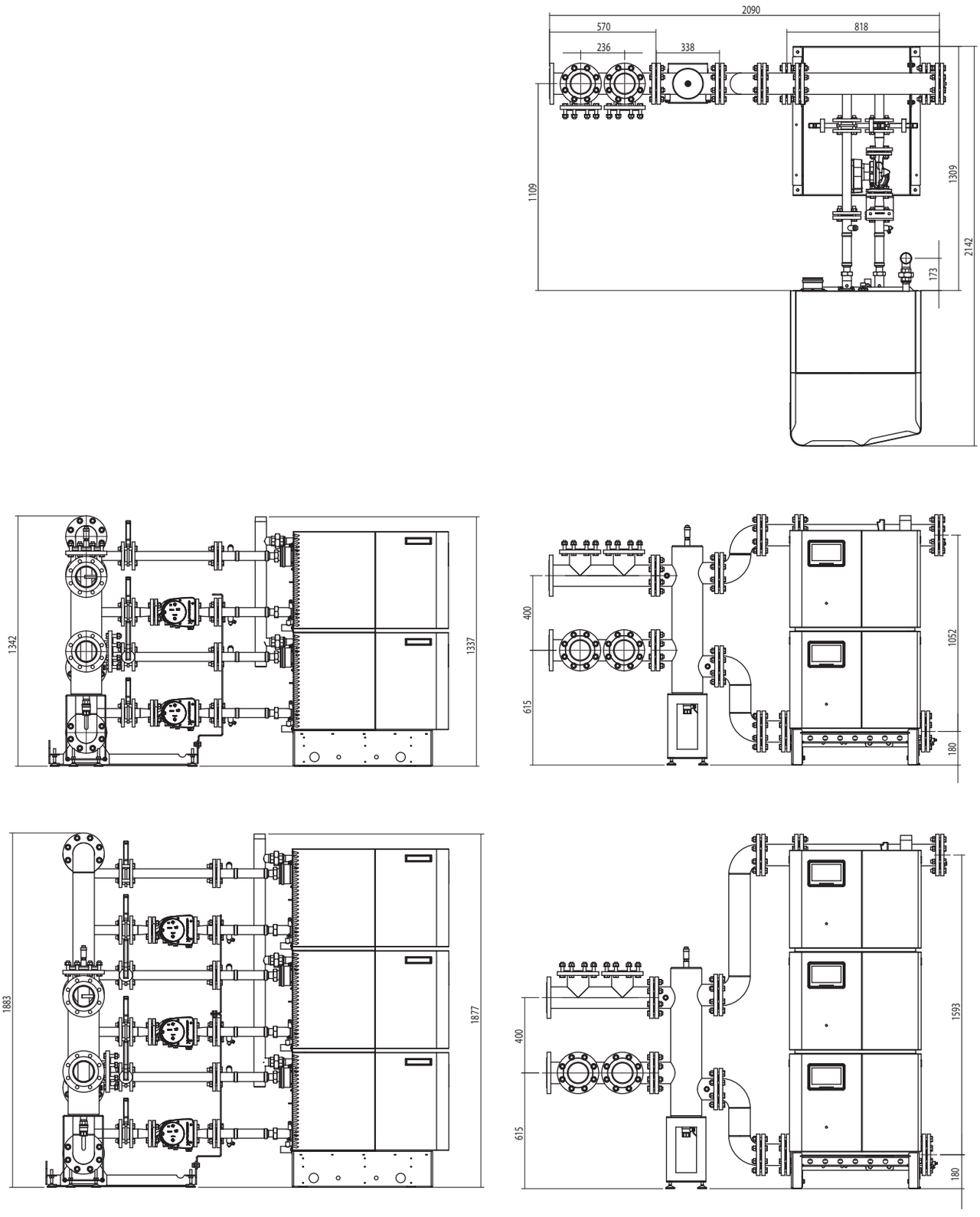

Fig 4. DN100 2H / 3H Primary Circuit and Gas Manifold Pipe Kit with Pumps

DN150 2-high and 3-high Header Kits

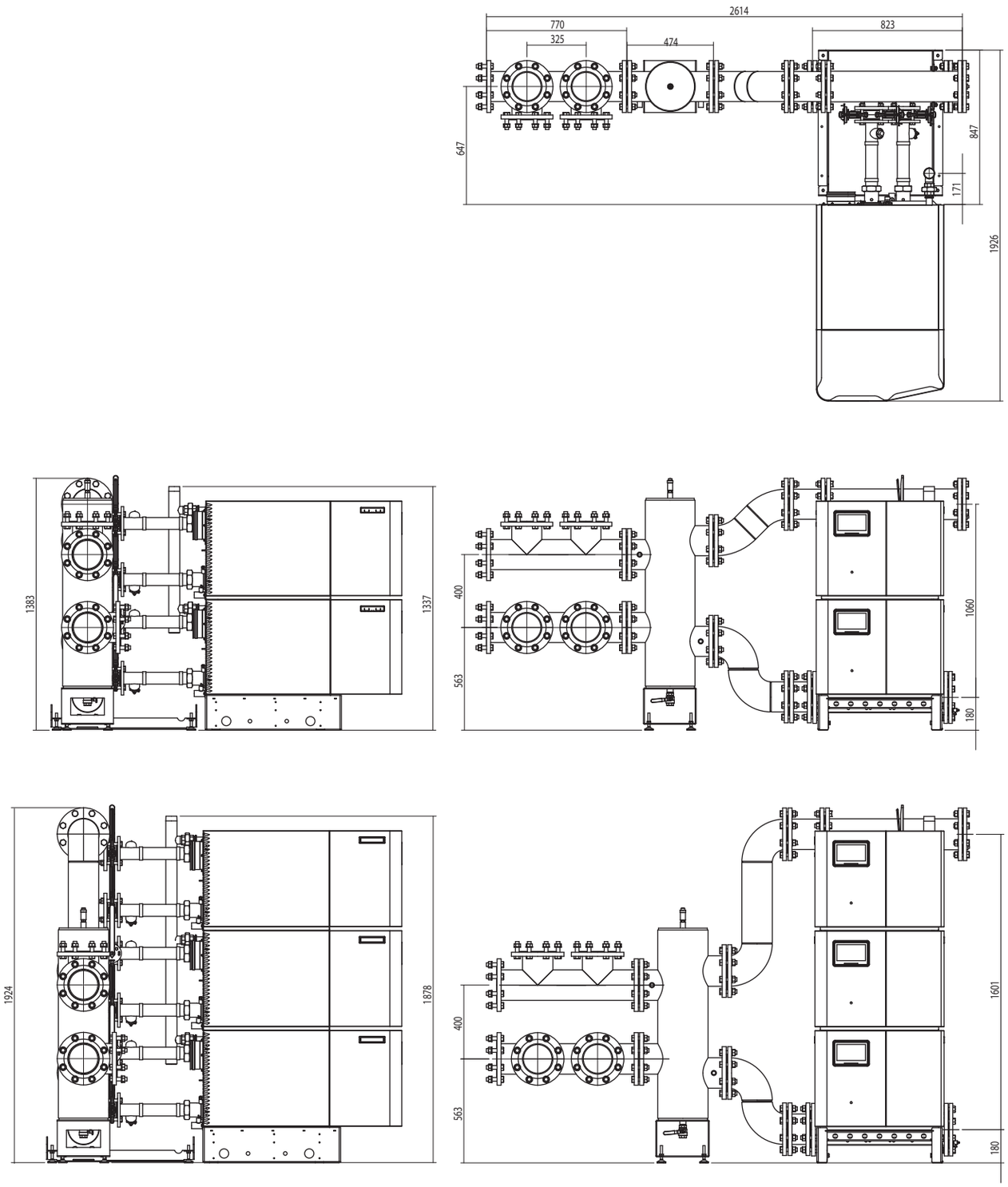

Fig 5. DN150 2H / 3H Primary Circuit and Gas Manifold Pipe Kit

DN150 2-high and 3-high Header Kits with pumps

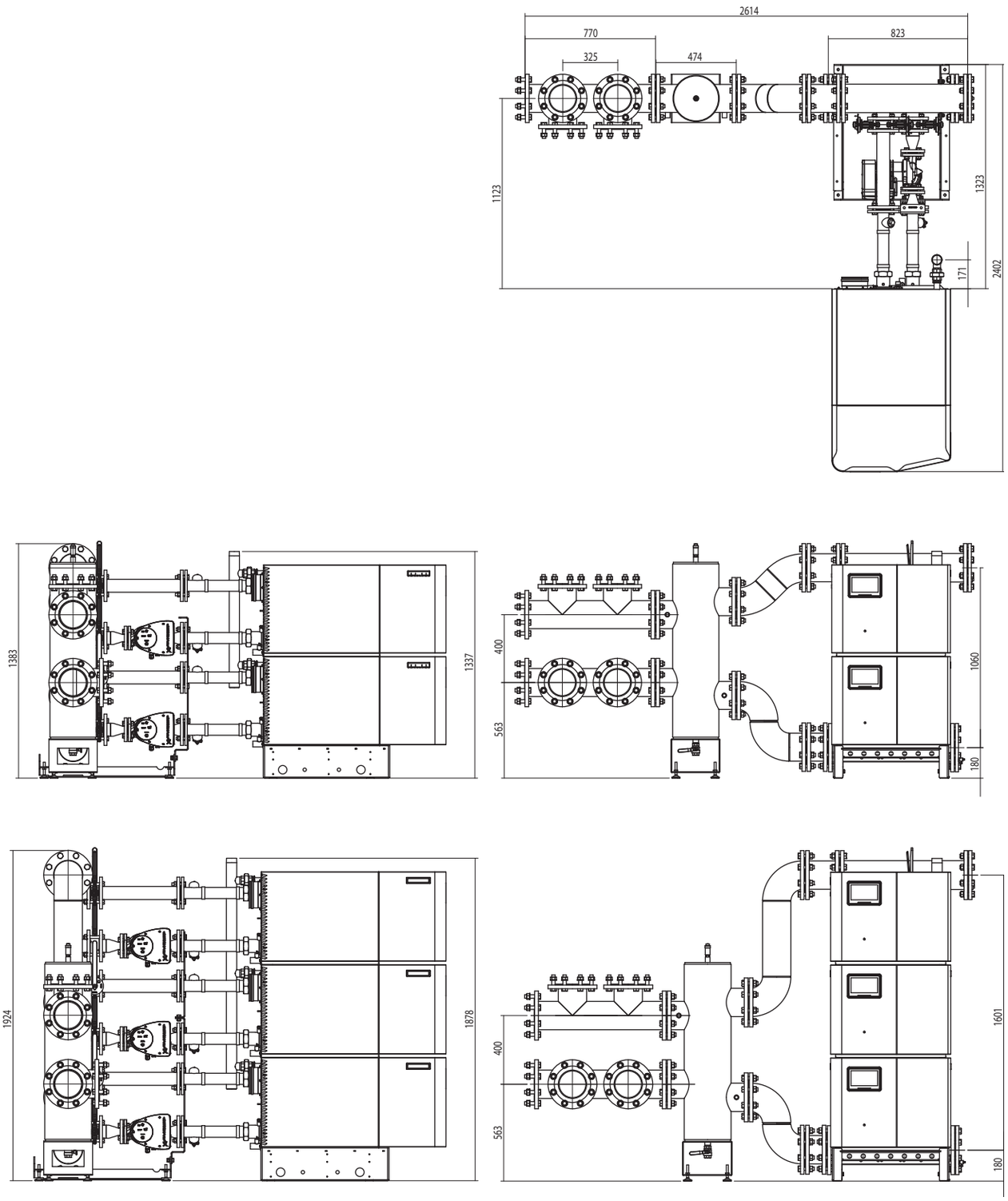

Fig 6. DN150 2H / 3H Primary Circuit and Gas Manifold Pipe Kit with Pumps

NOTES

2.0 DELIVERY

All kits are supplied strapped to wooden pallets. On receiving goods remove any packing materials and, referring to Table 4 to Table 19, inspect the equipment to ensure that all parts are present and undamaged.

⚠ CAUTION: If in any doubt, DO NOT USE THE EQUIPMENT. Instead, contact HHL Technical Department.

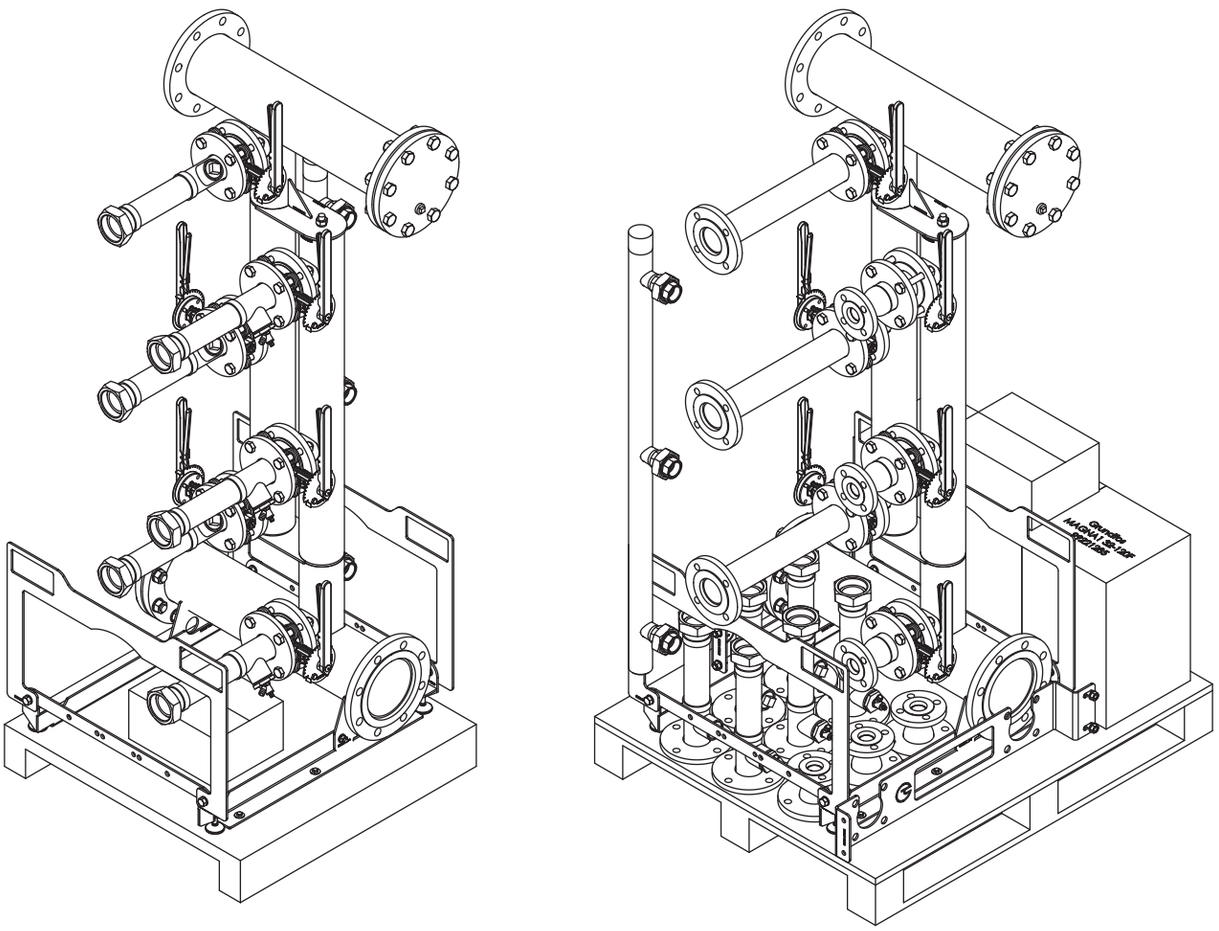

Fig 7. Loose Items Supplied with Manifold Kit

Table 4 Loose items supplied with ModuMax mk4 DN100 2High

Description	Quantity
ModuMax mk4 DN100 2H Flanged Manifold with Hoses and Valves	1
2 High Gas Manifold	1
Bolt set 16 off M16X70	1
DN100-4” PN16 Gasket to BS7531	2
DN40-1½” Gasket Washer	4
ModuMax mk4 Installation Manual	1

Table 5 Loose items supplied with ModuMax mk4 DN100 3High

Description	Quantity
ModuMax mk4 DN100 3H Flanged Manifold with Hoses and Valves	1
3 High Gas Manifold	1
Bolt set 16 off M16X70	1
DN100-4” PN16 Gasket to BS7531	2
DN40-1½” Gasket Washer	6
ModuMax mk4 Installation Manual	1

Table 6 Loose items supplied with ModuMax mk4 DN150 2High

Description	Quantity
ModuMax mk4 DN150 2H Manifold with Hoses and Valves	1
2 High Gas Manifold	1
Bolt Set 16 off M20x70	1
DN150-6” PN16 Gasket to BS7531	2
DN65-2½” Gasket Washer	4
ModuMax mk4 Installation Manual	1

Table 7 Loose items supplied with ModuMax mk4 DN150 3High

Description	Quantity
ModuMax mk4 DN150 3H Manifold with Hoses and Valves	1
3 High Gas Manifold	1
Bolt Set 16 off M20x70	1
DN150-6” PN16 Gasket to BS7531	2
DN65-2½” Gasket Washer	6
ModuMax mk4 Installation Manual	1

Table 8 Loose items supplied with ModuMax mk4 DN200 2High

Description	Quantity
ModuMax mk4 DN200 2H Manifold with Hoses and Valves	1
2 High Gas Manifold	1
Bolt Set 24 off M20x80	1
DN200-8” PN16 Gasket to BS7531	2
DN65-2½” Gasket Washer	4
ModuMax mk4 Installation Manual	1

Table 9 Loose items supplied with ModuMax mk4 DN200 3High

Description	Quantity
ModuMax Mk4 DN200 3H Manifold with Hoses and Valves	1
3 High Gas Manifold	1
Bolt Set 24 off M20x80	1
DN200-8” PN16 Gasket to BS7531	2
DN65-2½” Gasket Washer	6
ModuMax mk4 Installation Manual	1

Table 10 Loose items supplied with ModuMax mk4 DN100 2High With Pumps

Description	Quantity
ModuMax mk4 DN100 2H Flanged Manifold	1
2 High Gas Manifold	1
ModuMax mk4 100 series DN40 Hose with Plug	2
ModuMax mk4 100 series DN40 Hose with drain	2
ModuMax mk4 Reducing Spool DN40 to DN32	2
ModuMax mk4 100 Series Pump Support Kit, Lower	1
Grundfos MAGNA1 32-40F	2
Bolt set 16 off M16X70	1
DN100-4” PN16 Gasket to BS7531	2
DN40-1½” Gasket Washer	4
DN32-1¼” PN16 Gasket to BS7531	4
DN40-1¼” PN16 Gasket to BS7531	4
Bolt Set 8 off M16x60	2
Bolt Set 8 off M16x70	2
ModuMax mk4 Installation Manual	1

Table 11 Loose items supplied with ModuMax mk4 DN100 3High with Pumps

Description	Quantity
ModuMax mk4 DN100 3H Flanged Manifold	1
3 High Gas Manifold	1
ModuMax mk4 100 series DN40 Hose with Plug	3
ModuMax mk4 100 series DN40 Hose with drain	3
ModuMax mk4 Reducing Spool DN40 to DN32	3
ModuMax mk4 100 Series Pump Support Kit, Lower	1
ModuMax mk4 100 Series Pump Support Kit, Upper	1
Grundfos MAGNA1 32-40F	3
Bolt set 16 off M16X70	1
DN100-4” PN16 Gasket to BS7531	2
DN40-1½” Gasket Washer	6
DN32-1¼” PN16 Gasket to BS7531	6
DN40-1¼” PN16 Gasket to BS7531	6
Bolt Set 8 off M16x60	3
Bolt Set 8 off M16x70	3
ModuMax mk4 Installation Manual	1

Table 12 Loose items supplied with ModuMax mk4 DN150 2High with Pumps

Description	Quantity
ModuMax mk4 DN150 2H Manifold	1
2 High Gas Manifold	1
DN65 Hose with Plug	2
DN65 Hose with Drain	2
ModuMax Pump Reducing Spool DN65 to DN32 110mm	2
Support Plate Kit, Lower	1
Grundfos MAGNA1 32-120F	2
DN65-2½” Gasket Washer	4
Bolt Set 16 off M20x70	1
DN150-6” PN16 Gasket to BS7531	2
DN65-2½” PN16 Gasket to BS7531	4
DN40-1¼” PN16 Gasket to BS7531	4
Bolt Set 8 off M16x60	2
Bolt Set 8 off M16x70	2
ModuMax mk4 Installation Manual	1

Table 13 Loose items supplied with ModuMax mk4 DN150 3High with Pumps

Description	Quantity
ModuMax mk4 DN150 3H Manifold	1
3 High Gas Manifold	1
DN65 Hose with Plug	3
DN65 Hose with Drain	3
ModuMax Pump Reducing Spool DN65 to DN32 110mm	3
Support Plate Kit, Lower	1
Support Plate Kit, Upper	1
Grundfos MAGNA1 32-120F	3
DN65-2½” Gasket Washer	6
Bolt Set 16 off M20x70	1
DN150-6” PN16 Gasket to BS7531	2
DN65-2½” PN16 Gasket to BS7531	6
DN40-1¼” PN16 Gasket to BS7531	6
Bolt Set 8 off M16x60	3
Bolt Set 8 off M16x70	3
ModuMax mk4 Installation Manual	1

Table 14 Loose items supplied with ModuMax mk4 DN200 2High with Pumps

Description	Quantity
ModuMax mk4 DN200 2H Manifold	1
2 High Gas Manifold	1
DN65 Hose with Plug	2
DN65 Hose with Drain	2
ModuMax Pump Reducing Spool DN65 to DN32 110mm	2
ModuMax Mk4 DN200 Pump Support Kit Lower	1
Grundfos MAGNA1 32-120F	2
DN65-2½” Gasket Washer	4
Bolt Set 24 off M20x80	1
DN200-8” PN16 Gasket to BS7531	2
DN65-2½” PN16 Gasket to BS7531	4
DN40-1¼” PN16 Gasket to BS7531	4
Bolt Set 8 off M16x60	2
Bolt Set 8 off M16x70	2
ModuMax mk4 Installation Manual	1

Table 15 Loose items supplied with ModuMax mk4 DN200 2High with Pumps

Description	Quantity
ModuMax mk4 DN200 2H Manifold	1
2 High Gas Manifold	1
DN65 Hose with Plug	3
DN65 Hose with Drain	3
ModuMax Pump Reducing Spool DN65 to DN32 110mm	2
ModuMax mk4 DN200 Pump Support Kit, Lower	1
ModuMax mk4 DN200 Pump Support Kit, Upper	1
Grundfos MAGNA1 32-120F	3
DN65-2½" Gasket Washer	6
Bolt Set 24 off M20x80	1
DN200-8" PN16 Gasket to BS7531	2
DN65-2½" PN16 Gasket to BS7531	6
DN40-1¼" PN16 Gasket to BS7531	6
Bolt Set 8 off M16x60	3
Bolt Set 8 off M16x70	3
ModuMax mk4 Installation Manual	1

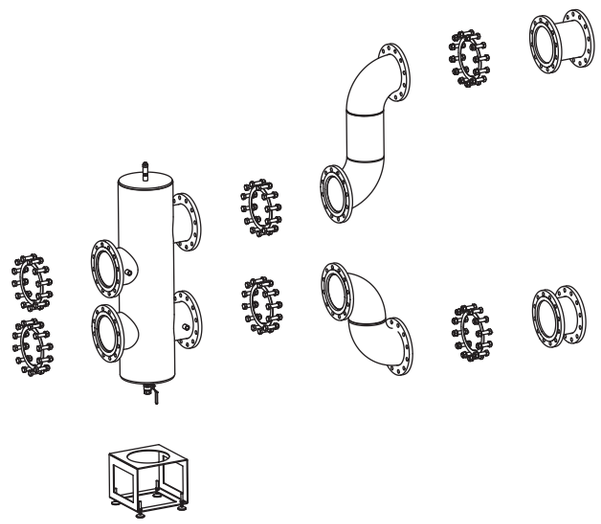

Fig 8. Loose Items Supplied with Low Loss Header & Pipe Work

Table 16 Loose items supplied with 2 & 3 High Low Loss Header and Pipe Work DN100

Description	Quantity
Low Loss Header	1
Lower Pipework	1
Upper Pipework	1
Lower Spacer Spool	1
Upper Spacer Spool	1
Bolt Set 16 off M16x70	3
DN100-4" PN16 Gasket to BS7531	6
DN100 LLH Support Fabrication	1

Table 17 Loose items supplied with 2 & 3 High Low Loss Header and Pipe Work DN150

Description	Quantity
Low Loss Header	1
Lower Pipework	1
Upper Pipework	1
Lower Spacer Spool	1
Upper Spacer Spool	1
Bolt Set 16 off M20x70	3
DN150-6" PN16 Gasket to BS7531	6
DN150 LLH Support Fabrication	1

Table 18 Loose items supplied with Secondary Manifold DN100 – 223871

Description	Quantity
DN100 Secondary Manifold	2
Bolt Set 16 off M16x70	3
DN100 4in PN16 Gasket	6

Table 19 Loose items supplied with ModuMax mk4 DN100 2High with Pumps

Description	Quantity
DN150 Secondary Manifold	2
Bolt Set 16 off M20x70	3
DN150 6in PN16 Gasket	6

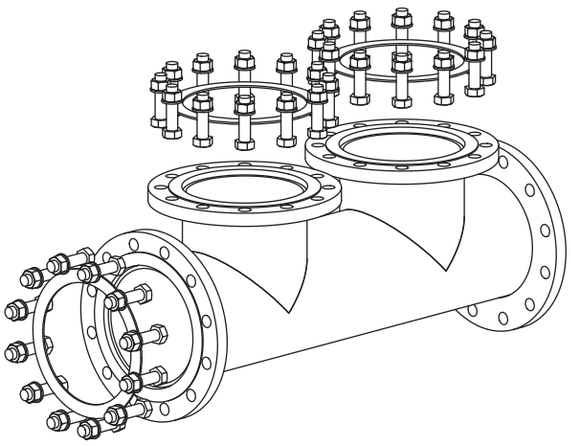

Fig 9. Loose Items Supplied with Secondary Manifold

3.0 SITE LOCATION AND PREPARATION

3.1 Site Location.

- The floor or plinth for the pipe work kit must be both flat and level to ensure correct alignment of fittings and connections.
- The floor or plinth must be sufficiently strong to support the weight of both the boilers and pipe work kit where used.
- The floor or plinth must be fireproof in accordance with BS 6644.
- The plant room must have sufficient space for installation of boilers, pipe work, pumps controls, flues ventilation, access and servicing and other items of plant.

3.2 Gas Supply.

- Gas supply pipes must be in accordance with BS 6891 or IGE/UP/2
- Gas supply connections to the boiler must not be smaller than the connection on the boiler - DN65 all models.
- Gas installation must be soundness tested to BS 6891 or IGE/UP/1 & IGE/UP/1A.
- Gas installation must be purged to BS 6891 or IGE/UP/1 & IGE/UP/1A.
- Boiler inlet gas pressure; nominal 20mbar (minimum 17.5mbar) for Natural Gas or nominal 37 mbar (minimum 25mbar) for LPG dynamic at the connection to the boiler.
- Boiler house gas isolation valve must be clearly identified and installed close to the entrance / exit.

3.3 Water Supply

- Pressurised system to comply with BS 7074.
- The system water MUST be treated and maintained with an appropriate inhibitor (eg. Sentinel X100) and the PH MUST be managed between 7 & 8.5.
- In hard water areas (>180mg CaCO3/litre) precautions such as water treatment are strongly recommended to prevent the build up of sludge and scale.
- Leaks in the system pipework should be fixed to prevent dilution of water treatment. To monitor the volume of make-up water entering the system, a water meter must be fitted and readings recorded in a log book to be retained on site. Do not top up with more than 5% of the installation's water content in any one year.
- Maximum working water pressure is 10bar.

3.4 Condensate Connections

- Provision must be made for removal of condensate from the boiler and flue system.
- Condense is mildly acidic, typically pH3 - pH5.
- Condense pipe work must be non-corrosive and not copper. Hamworthy recommends Polypropylene plastic waste pipe.
- Condense may be discharged to a standard drain subject to National or Local regulations.
- Location of condense pipe work should prevent freezing within tundishes, traps and pipe work.
- The connection to the boiler condense drain accepts a straight push-fit coupling for 34mm o.d. (1¼") Polypropylene plastic waste pipe.
- Maximum condensate production - 15 l/h per 100kW firing capacity

4.0 ASSEMBLY INSTRUCTIONS

1. Position the flow and return manifold that will be nearest to the low loss header first. Adjust the levelling feet so that there is a 25mm gap between the floor and the underside of the manifold foot. Level the lower horizontal return manifold using the rear levelling feet, by raising up the lowest side and then set the return branch vertical by adjusting the front levelling feet.

2. If an additional flow and return manifold is required it should now be positioned next to the previous manifold kit. Align the connecting flanges on the lower and upper manifolds allowing a small gap to insert the flange gasket.

Note. It may be necessary to loosen the nuts securing the upper flow manifold to the lower return manifold, if it is difficult to align the top flange.

Fit flange gaskets and fasteners to the lower and upper flanges. Using some of the fasteners pull the flange faces together so that they are parallel to each other and trap the gasket. Do not fully tighten the fasteners at this stage. If another flow and return manifolds is required, it should be positioned now and the process repeated.

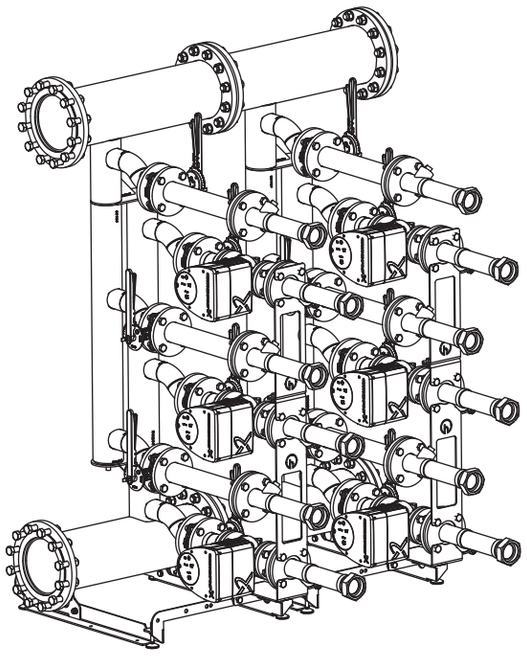

Fig 10. Additional Flow and Return Manifold

3. Check the horizontal and vertical alignments of the manifolds and make any necessary adjustments. Fit blanking flanges and gaskets to closed end of manifold. Fully tighten all flange fasteners.

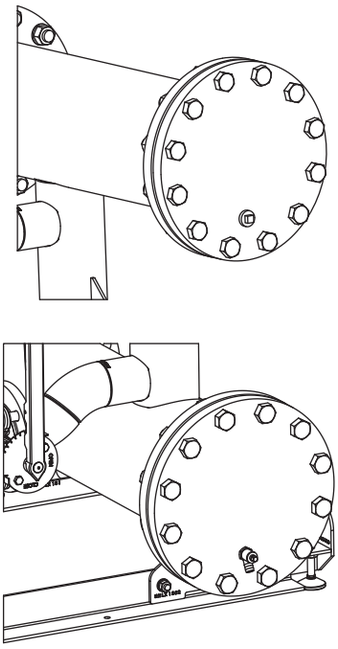

Fig 11. Blanking Flange Position

4. Using suitable handling equipment lift the upper flow pipe into position. Insert the flange gasket and fasteners, using some of the fasteners to trap the gasket in position. Do not fully tighten the fasteners at this stage.

Install pumps and spools using supplied fixings and gaskets. Ensure pump is fitted in correct orientation (flow arrow on pump flange)

5. Fit the lower return pipe to the bottom flange on the return manifold. Insert the flange gasket and fasteners, using some of the fasteners to trap the gasket in position Do not fully tighten the fasteners at this stage.

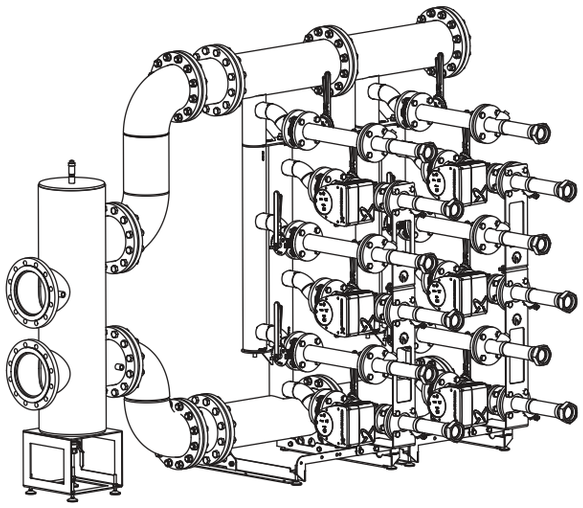

Fig 12. Upper & Lower Pipe Positions

⚠ Caution: With the upper & lower pipe fitted the manifold assembly is unstable and could tip sideways. The lower return pipe must be supported to prevent the manifold assembly falling over.

6. Position the low loss header support frame next to the lower return pipe. Lower the low loss header onto the support frame and align the upper & lower flanges using the adjustable feet on the support frame. Insert the flange gasket and fasteners, using some of the fasteners to trap the gasket in position. Check alignment of the upper and lower pipes and then fully tighten all the fasteners. Make any final adjustments to the low loss header support frame.

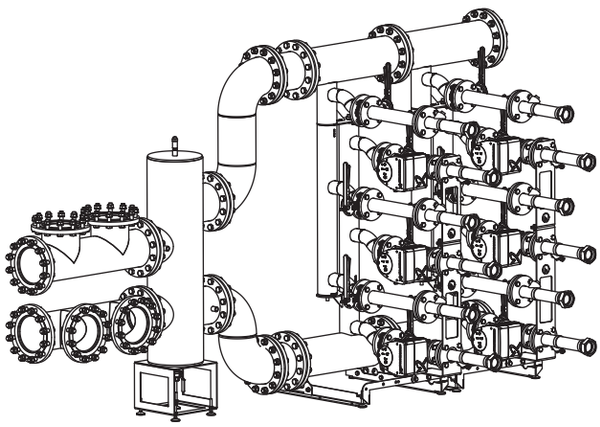

Fig 13. Low Loss Header Positions

7. If required the secondary circuit three port manifolds can now be connected to the low loss header.

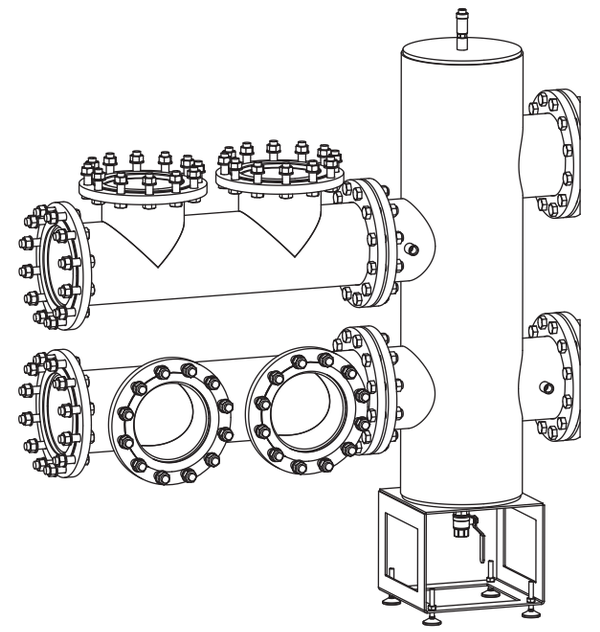

Fig 14. Secondary Circuit Manifold Position

8. Install gas manifold pipework and carry out soundness / tightness test

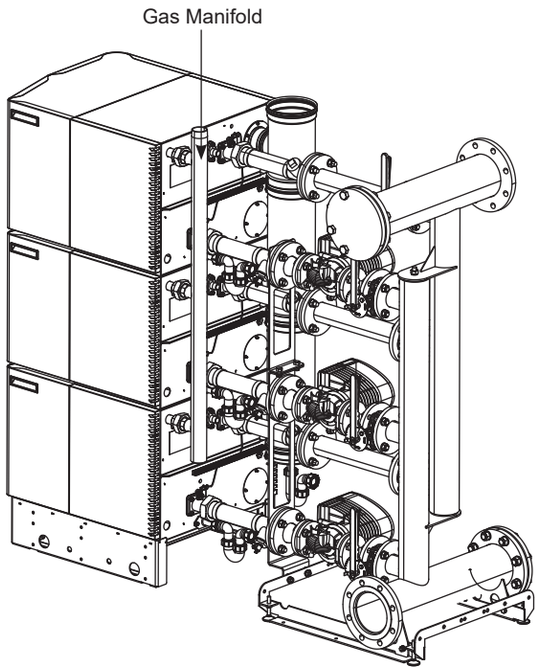

Fig 15. Gas Manifold Position

9. Apply thread sealant and fit relief valve (not Hamworthy supply). The valve should be installed so that it vents to a safe and visible location.

10. The boiler can now be moved to its final position. The base of the boiler has been purposely designed so that a standard pallet truck can be used for manoeuvring purposes. When installing multiple arrays of boilers position the first boiler on the right hand side. This will ensure that there is sufficient access fit the flue cascade manifold. Position the Boiler as per the recommended distances as shown in Fig 2 to Fig 5. Place one of each sealing washer (supplied) into the nuts of each flexible hose. Screw the nut of the flexible hoses onto the matching hydraulic connections at the back of the boiler. Tighten to produce a leak proof seal.

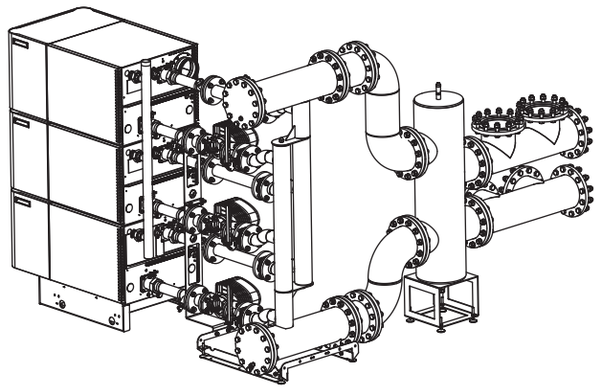

Fig 16. Boiler Position

11. Assemble the flue header ensuring all the tee's are inline. Lubricate the seals in the flue elbow at the back of the boiler with silicon grease (Do not use petroleum based grease). Push the tee's into the flue elbows ensuring they are fully engaged and the seals have not been displaced. Position the flue to its final position. Fit the condensate P-trap to the flue manifold.

12. The next boiler can now be positioned. Ensure that the recommended distances between boilers are maintained.

5.0 FILLING & VENTING HYDRAULIC PIPE WORK

1. Pipe kits are pre-assembled with an Automatic Air Vent. During filling all valves on the pipe kits should be open & the Automatic Air Vent caps should be loose for fast venting. It is recommended that the guidance given in BS6644:2005 is followed & that a check is made with the Local Authority for any specific local requirements.

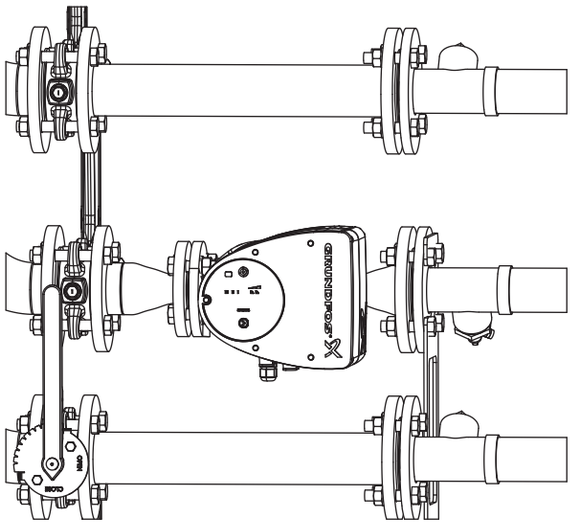

Fig 17. Pump Manual Bleed Point

2. To ensure that the Pumps are fully bled, there is a manual bleed point before each of the pumps, these should be blead before running the pumps.

6.0 TESTING & PURGING GAS PIPE WORK

1. Once the gas supply pipe has been connected to the manifold, the gas pipe work must be strength & tightness tested to IGE/UP/1 & 1A.

2. To purge the gas installation to IGE/UP/1 & 1A an isolating valve (not HHL supply) will need to be fitted instead of the R1/2” plug assembled to the socket at the base of the Gas Manifold Pipe. The gas pipe work can then be purged by connecting to this isolating valve.

7.0 ELECTRICAL SUPPLY TO PUMPS

- The Mains Electrical Supply to the pumps must correspond to the specifications on the name plate.
- The electrical connection must be established via a fixed power cable (3 x 1.5 mm2 minimal cross-section), equipped with a plug and socket connector or an all-pole switch with a minimum contact opening width of 3 mm.The following minimum requirements are to be met if shutdown takes place by means of an onsite network relay: nominal current ≥ 10 A, nominal voltage 250Vac.
- Fuse protection: 10/16 A, slow-blow or automatic fuse with C characteristic
- A motor protection switch supplied by the customer is not required. Nevertheless, if such a protection switch is available in the installation, it must be bypassed or set to the highest possible current.
- Leakage current per pump Ieff ≤ 3.5 mA (as per EN 60335)
- It is recommended to safeguard the pump with a residual-current-operated protection switch.
- When dimensioning the residual-current-operated protection switch, take the number of pumps connected and their nominal motor currents into account.
- All connection cables must be installed so that they do not touch the pipe and/or the pumps or motor housing.
- Wiring external to the appliance MUST be in accordance with the current I.E.T. (BS7671) Wiring Regulations and any local regulations which apply.

⚠ WARNING: Risk of fatal electrical shock! There may be dangerous contact voltage at the contacts of the IF Module interface. If no IF Module (accessory) is plugged into the module compartment, the stopper must cover the IF Module interface so that it cannot be touched. Make sure that it is seated correctly.

Note. Commission pumps only if they are fitted with the correct modular cover. Check that the cover seal is correctly seated.

8.0 PUMP CONTROL SETTINGS

Table 20 Pumps used on Boiler Modules

Compatible Boiler Models		**97/194V 116/232V**	**97/291V 116/348V**	**147/294V 196/392V 254/508V**	**147/441V 196/588V 254/762V**	**147/294V 196/392V 254/508V**	**147/441V 196/588V 254/762V**
Stack Size		2-High	3-High	2-High	3-High	2-High	3-High
Manifold Pipe Size	mm	DN100		DN150		DN200	
Pump Model		Magna1 32-40F		Magna1 32-120F		Magna1 32-120F	
Pump Max Running Current	A	0.59		1.48		1.48	

Each pump will be controlled from the boiler, the boiler will give a 230V controlled signal out of terminal connection QX1 which will energise a contactor/relay (not supplied via Hamworthy).

Check that the pump has a five minute over run when the boiler is disabled, this can be extended in the parameter setting as required.

The pump is supplied as a default set to the second proportional curve. This setting can be adjusted to best suit your particular system by clicking the arrow button.

9.0 RECOMMENDED SPARES

When replacing any part of this appliance, care must be taken to only use spare parts which conform fully to the safety and performance requirements of the boiler. Reconditioned or copy parts which are not approved by Hamworthy may affect safe operation.

A comprehensive range of spare parts is available, for purchase directly from Hamworthy please see hamworthy-heating.com for further information, alternatively please contact our spares team on 01482 498665 and the team will be happy to assist.

NOTES

Useful User Information				
Installer		Site Address		
Boiler Type	Boiler Size(s)	Unit No(s)	Serial No.(s)	Flue

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