CONDENSING COMMERCIAL BOILERS

ideal COMMERCIAL

PRODUCT GUIDE

idealcommercialboilers.com

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BRITISH MANUFACTURING

Ideal Commercial Boilers is the UK's market leader of high efficiency commercial heating solutions.

Operating from its Hull manufacturing plant and offices since 1906, Ideal Commercial Boilers is one of the few true British manufacturers left in the heating industry.

BRITISH MANUFACTURING

BRING BOILERS TO LIFE

Your phone or tablet can let you appreciate our Condensing Boiler range in a new dimension.

The Ideal Commercial Eye app uses the latest technology to project 3D renders from the page of this brochure on to your device.

To see this for yourself, simply download the Ideal Commercial Eye app for free from your device's app store. Open the app and then place your device over the boiler image that has this icon next to it:

DOWNLOAD THE APP

NEW FOR 2019

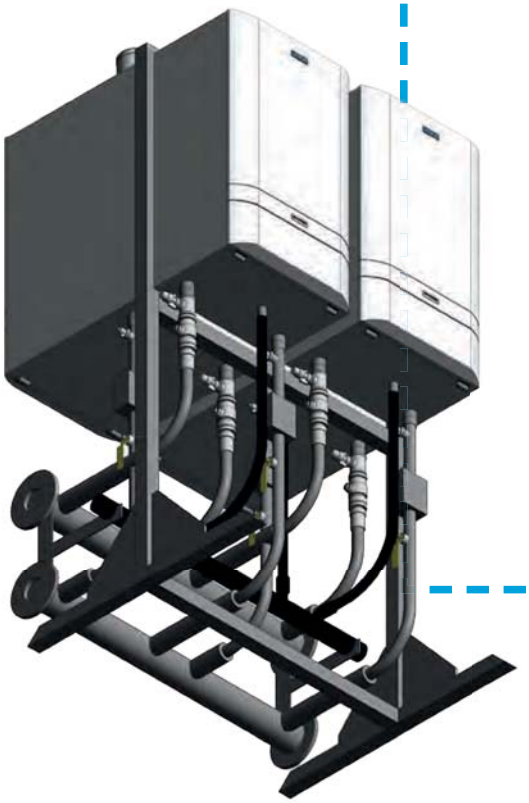
FREE COMMISSIONING EXTENDED!

We are pleased to announce the extension of our award winning Free Commissioning offer. Available on all Evomax, EVO S, Imax Xtra, Imax Xtra EL and Evomod condensing boiler ranges, Free Commissioning can be claimed on installations until 31 December 2019.

5 YEAR HEAT EXCHANGER WARRANTY ON FLOOR STANDING BOILERS

The Heat Exchanger is the heart of a Condensing boiler. We are so proud of those in our floor standing boilers that we are happy to provide a 5 year warranty on all Imax Xtra, Imax Xtra EL and Evomod boiler ranges.

5 YEAR HEAT EXCHANGER WARRANTY*



3D INTERACTIVE MODELS

There is only so much you can get from a brochure. Our new 3D interactive models, available for every Condensing boiler range, allow you to zoom, spin and flip to see more from your desktop, phone or tablet.

Visit **www.idealcommercialboilers.com** to see more.

*5 year heat exchanger warranty subject to terms and conditions. Terms & conditions available at www.idealcommercialboilers.com/downloads. 2 year parts and labour warranty as standard.

EVOMAX

30 - 150kW

5 YEAR WARRANTY*

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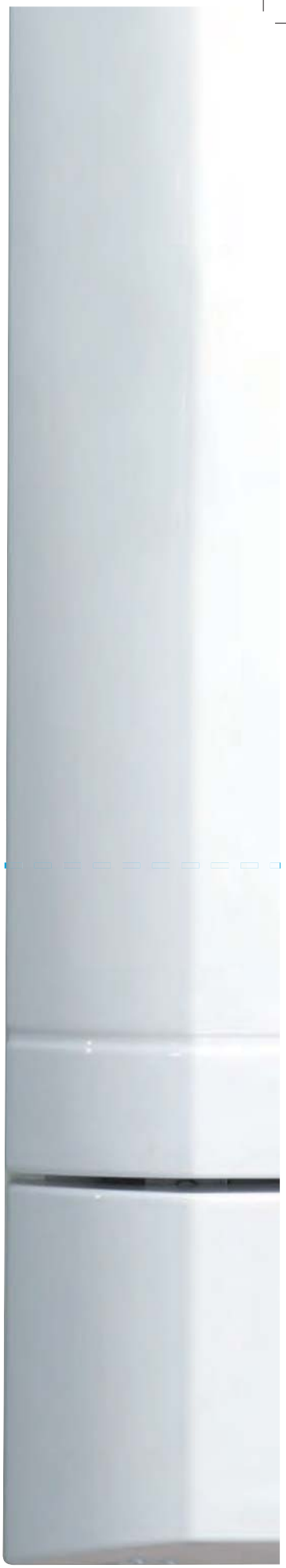
*5 year warranty subject to Terms and Conditions. 5 years parts and labour warranty available subject to being commissioned by Ideal Boilers.
Terms and conditions available at www.idealcommercialboilers.com/downloads




evomax

EVOMAX

30 - 150kW

Qualified for Energy Technology List
www.eca.gov.uk
Authorised User No. 00041

Available in outputs of 30, 40, 60, 80, 100, 120 and 150kW, the Evomax is designed to ensure all installation requirements can be achieved. There is also an LPG Evomax range from 30 - 80 kW for off mains installations.

FEATURES & BENEFITS

- 5 year warranty*
- Robust & light aluminium silicon alloy heat exchanger
- Up to 110% part load efficiency
- High 5:1 turndown
- Compact – one width & height for easy siting
- Simple controls interface with large backlit display
- Comprehensive range of flue, fixing and control options
- Designed for easy installation, commissioning and servicing
- Proven reliability through design, component selection and proving
- NOx <40mg/kWh (Class 5) for all natural gas models for maximum BREEAM points

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WALL HUNG

FLUEING OPTIONS

NOx CLASS 5

BIM

*5 year warranty subject to Terms and Conditions. 5 years parts and labour warranty available subject to being commissioned by Ideal Boilers. Terms and conditions available at www.idealcommercialboilers.com/downloads

DIMENSIONS & CLEARANCES

BOILER	DIM A	DIM B	DIM C
30, 40, 60, 80	360	130	118
100, 120	520	226	118
150	610	233	120

All dimensions in mm

The following minimum clearances must be maintained for operation and servicing:

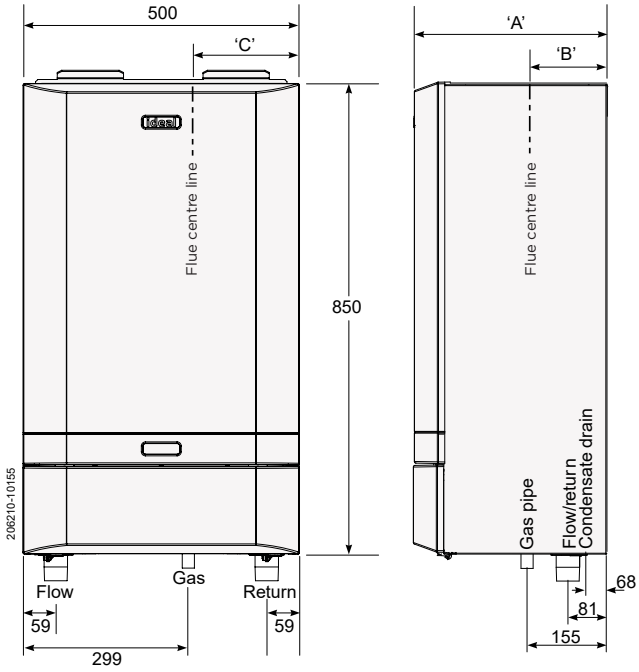
TOP: DEPENDENT ON FLUE SIZE

SIDES: 25mm

FRONT: 450mm

BOTTOM: 300mm

CLEARANCE BETWEEN MULTIPLE BOILER INSTALLATIONS: 25mm



BOILER ASSEMBLY

INTERNAL VIEW

(80kW MODEL SHOWN)

KEY

1. Auto Air Vent

2. Burner Fixings

3. Fan

4. Gas Valve

5. Venturi

6. Flow Thermistor

7. Ignitor Unit

8. Electrode Detection

9. Ignition Electrode

10. Fascia and Controls

11. Door Assembly

12. Water pressure sensor

PERFORMANCE DATA

EVOMAX 30 - 150 KW

MODEL			30	30P	40	40P	60	60P	80	80P	100	120	150
Boiler Output (non-condensing) Mean 70°C	Max	kW	30	30	40	40	60	60	80	80	100	120	150
	Min	kW	6	6	8	8	12	15	16	20	20	24	30
Boiler Output (condensing) Mean 40°C	Max	kW	31.54	30.9	42.0	41.2	63.5	62.1	84.4	82.6	103.9	124.7	158.0
	Min	kW	6.5	6.4	8.5	8.3	12.7	15.5	17.2	21.2	21.6	26.0	32.5
Boiler Input Max Rate	Net	kW	30.4	30.4	40.5	40.5	60.8	60.7	82.0	81.9	102.4	122.9	153.7
	Gross	kW	33.7	33	44.9	44	67.4	66	90.9	88.9	113.6	136.4	170.5
Boiler Input Min Rate	Net	kW	6.1	6.1	8.1	8.1	12.2	15.2	16.4	20.5	20.5	24.6	30.7
	Gross	kW	6.7	6.6	9.0	8.8	13.5	16.5	18.2	22.2	22.7	27.3	34.1
Gas Rate	Max rate	m^3/hr	3.2	1.26	4.3	1.69	6.4	2.53	8.7	3.41	10.8	13.0	16.2
Flue Gas Flow Rate	Max Rate	m^3/hr	47.6	46.5	63.4	62.1	95.1	93.1	128.3	125.4	160.3	192.5	240.7
CO_2 (±0.5%)	Max Rate	%	9.7	11.4	9.7	11.4	9.7	11.4	9.7	11.4	9.7	9,7	9.7
	Min Rate	%	8.7	10.2	8.7	10.2	8.7	10.5	8.7	10.5	8.7	8.7	8.7
NOx with O_2 = 0%	Weighted	mg/kWh	31.0	79	39.1	80	32.3	83.8	39.8	68	39.6	38.8	38.1
		ppm	17.6	45	22.2	45	18.3	47.5	22.9	38.5	22.5	22.0	21.6
Efficiency	Seasonal	%	96.7	97.2	96.2	96.7	96.4	96.9	97.2	97.7	96.7	96.6	96.7
	*SEDBUK 2009	%	89.6	90.6	89.3	90.3	89.4	90.5	n/a	n/a	n/a	n/a	n/a
Operating Temperature	Max	°C	82										

GENERAL DATA

EVOMAX 30 - 150 KW

MODEL		30/30P	40/40P	60/60P	80/80P	100	120	150
Gas Supply		2H - G20 - 20mbar / 3P - G31 - 37mbar						
Gas Supply Connection		G ¾						
Flow Connection		G1 ¼						
Return Connection		G1 ¼						
Max Pressure (sealed system)	Bar (psi)	4.0 (58)						
Maximum Static Head	m	40.7						
Electricity Supply		230V - 50Hz						
Fuse Rating	A	4.0						
Power Consumption	W	126	207	131	265	370	403	400
IP Rating		IP20						
Nominal Flue Size (concentric)	mm	80/125*				100/150		100/150**
Condensate Drain	mm	25						
Water Content	l	3.0		5.0		7.0		9.2
Dry Weight	Kg	49		60.30		75.70		89.75

*Optional kit available on 60/80 models for 100/150mm flue **For use with vertical flues only.

INCLUDED AS STANDARD

BOILER	EVOMAX
Remote indication (run & alarm)	✓
Hours run	✓
BMS (0-10v) operation	✓
Pump overrun	✓
Large backlit LCD controls, including 5 line plain text display	✓

OPTIONAL KITS

BOILER	EVOMAX
Modulating Sequencer kit	✓
Programmable Room Thermostat kit	✓
Outside sensor kit	✓
Tank Sensor kit	✓
Room sensor kit	✓
Safety Interlock kit	✓
Fittings kit	✓
Pump kit	✓
Multi boiler frame & header kits (includes low height options)	✓
Connection kit (includes isolation valve 1¼", non return valve, safety valve and drain cock)	✓

SUGGESTED ENGINEERING SPECIFICATION

The Suggested Engineering Specification is wording designed for specifiers to copy and paste into their specifications to ensure inclusion of Ideal Commercial boilers.

OVERVIEW

The boilers must be fully automatically controlled, wall mounted, fanned, super-efficient condensing appliances utilising an aluminium silicon alloy heat exchanger and be suitable for connection to fully pumped open vented or sealed water systems.

CONTROLS

The condensing boilers must have connectivity for all common types of BMS integration including 0-10v, volt free and OpenTherm connections. Additional modules may be used for BACnet, LONWorks and MODBus gateways. Where no BMS is present a modulating sequencer must be available.

The boiler must be fully modulating with a 5:1 turndown ratio and include control features enabling set point adjustment, heating circuit control of one constant temperature and one DHW circuit or 2 constant temperature circuits, and safety lock out parameters including fault diagnosis for both boiler and external components such as sensors or pumps.

Boiler capabilities must include, with the use of external components, frost protection, weather or room compensation and system pump control.

FLUE

The condensing boilers must be suitable for use with a room sealed flue or open flue applications including C13, C33 and B23 classifications. The combined flue outlet and air inlet must be situated on the top of the boiler.

HYDRAULIC

The condensing boiler must be and be suitable for connection to fully pumped open vented or sealed water systems. All hydraulic connections including flow return and condensate drain must be located on the bottom of the boiler. Hydraulic connections must be uniform across the outputs available in the range to ensure ease of installation and maintenance in mixed output cascades. The boiler must have a maximum operating pressure of 6 bar and be suitable for heating and indirect hot water systems.

DIMENSIONS

The condensing boiler range must have a universal compact width and height across the range to ensure mixed output cascades maintain the same universal configuration. Maximum permitted wall area of 0.43m².

MOUNTING

The condensing boilers can be installed either on the wall or into a prefabricated floor mounted frame. Wall brackets must be located at the top of the boiler and visible from the front to aid installation.

EFFICIENCY

The condensing boilers are capable of high seasonal efficiencies with a minimum requirement of 96.2% and low NOx emissions no greater than 39.8mg/kWH for natural gas and 80mg/kWH for LPG.

30, 40 and 60kW models must have a Seasonal Space Heating Energy Efficiency of A.

APPROVALS

The boiler must be tested and certified to; EN 483, EN 677, PREN 15420, BSEN 15417, BSEN 656, BSEN 60335-2-102, BSEN 55014-1 and BSEN 55014-2 for use with Natural Gas. Boilers are certified to meet the requirements of the EC Gas Appliance Directive, Boiler Efficiency Directive, EMC and Low Voltage Directive.

The manufacturer must be ISO 9001 accredited.

SPECIFICATION

- The 30, 40, 60 and 80kW boiler will be capable of flow rates for common systems using either 11ºC, 15ºC or 20°C temperature differentials.
- The 100kW boiler will be capable of flow rates for common systems using either 15°C or 20°C temperature differentials.
- The 120 and 150kW boiler will be capable of flow rates for common systems using 20°C temperature differentials.

SOURCING

The condensing boiler must be manufactured or finally assembled in the United Kingdom.

CASCADE

The boiler must be configurable up to 6 boilers (max 600kW) in cascade using a prefabricated frame and header kit.

WARRANTY

The boiler must be available with a 5 year warranty.

See pages 74-77 for further system requirements

SYSTEM TEMPERATURE

DIFFERENTIALS

Flow rates for common systems using either 11°C, 15°C or 20°C temperature differentials are given in the table below.

	FLOW RATE (L/MIN)			HYDRAULIC RESISTANCE (MBAR)		
BOILER	**11°C**	**15°C**	**20°C**	**11°C**	**15°C**	**20°C**
Evomax 30 / 30P	39.1	28.7	21.5	425	225	127
Evomax 40 / 40P	52.1	38.2	28.7	875	405	225
Evomax 60 / 60P	78.2	57.3	43.0	435	180	83
Evomax 80 / 80P	104.2	76.4	57.3	750	420	180
Evomax 100	N/A	95.6	71.7	N/A	315	134
Evomax 120	N/A	N/A	86.0	N/A	N/A	218
Evomax 150	N/A	N/A	107.5	N/A	N/A	230

- 30-80 kW boilers must operate with temperature differentials from 11 to 20°C.
- 100 kW boilers must operate with temperature differentials not less than 15 to 20°C.
- 120-150 kW boilers must operate with temperature differentials not less than 20°C.

CONTROL KITS

PROGRAMMABLE ROOM THERMOSTAT KIT.
Timed control of central heating. Includes a built in electronic room sensor, optimised start and on/off controlled DHW.

MODULATING SEQUENCER KIT.
Controls up to 5 boilers for cascade operation. Air and Flow Header sensors are included.

OUTSIDE SENSOR KIT.
Provides weather compensation directly or with Programmable Room Thermostat kit.

TANK SENSOR KIT.
Provides DHW temperature control. Also for use with Sequencer kit.

ROOM SENSOR KIT.
Used with Modulating Sequencer kit for CH control.

SAFETY INTERLOCK KIT.
Provides boiler shut down via an external signal.

FLUE SYSTEMS

A comprehensive range of flue kits are available from Ideal Commercial Boilers including horizontal and vertical concentric and open flue options.

For horizontal flues: this is the distance from the flue outlet centre line on the boiler to the outside wall. Horizontal flue termination is not available for Evomax 150.

For vertical flue: this is the distance from the top of the boiler case to the aperture in the weather collar. If elbows are to be used, then the equivalent length of that fitting must be subtracted from the maximum flue extensions allowed for that flue option.

Note: Horizontal terminal resistance includes 1 x 90° elbow.

When installing Evomax boilers with concentric flue (horizontally or vertically) the Ideal Commercial flue system must be used.

The resistance of flue components, together with the maximum flue resistance each boiler can work against, may be used to calculate the total flue resistance of the system, and to determine if they are acceptable to run on the boiler.

Multiple boilers may be installed with a common flue header.

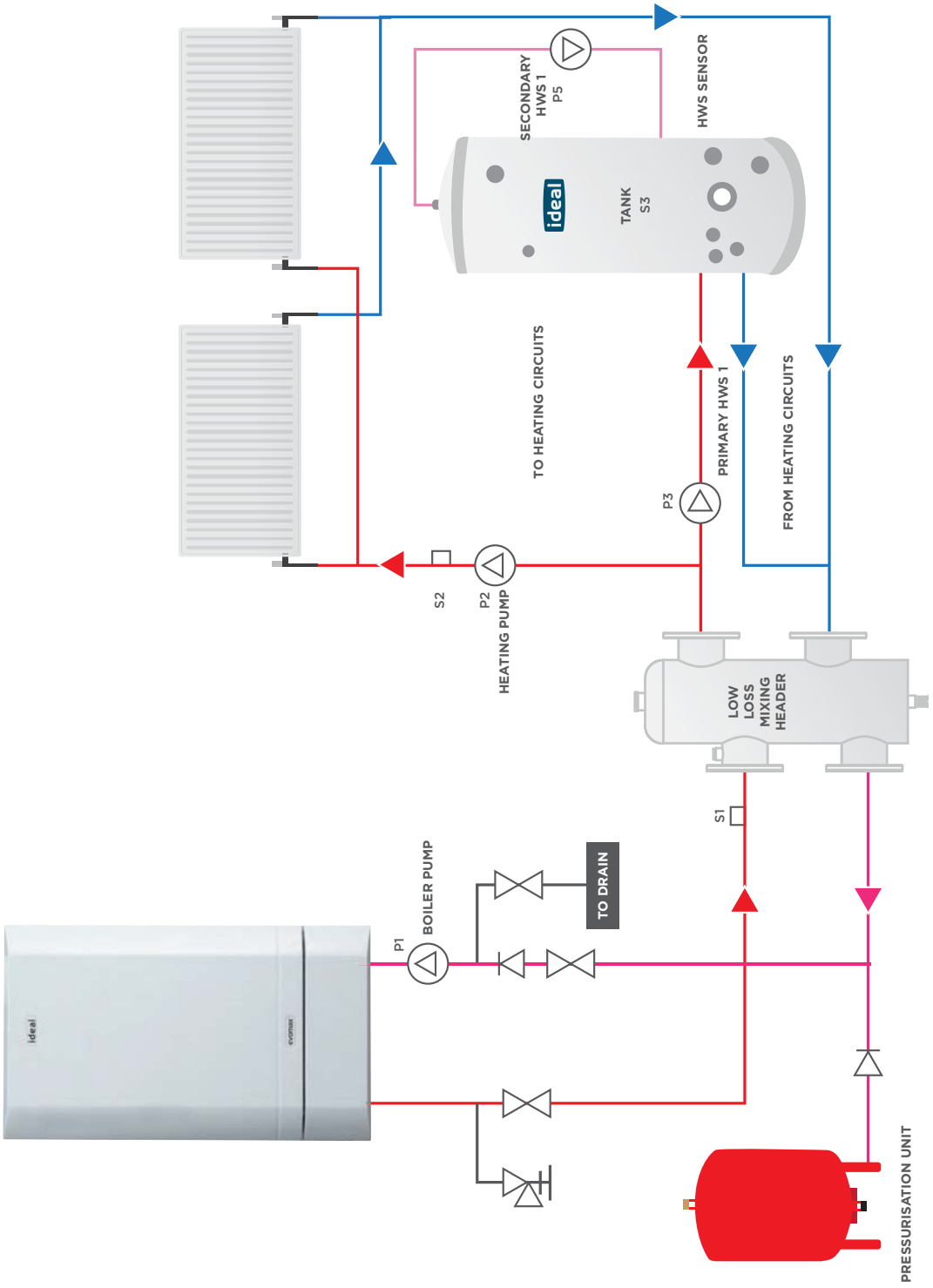
The flue system should be designed and supplied by a specialist flue company. BS 6644 and IGEM UP/10 provide guidance on design and the drainage of condensate from flue stack and headers. Condensate from a flue stack and header must be collected and drained before entering the boiler.

For Ventilation requirements please refer to the installation manual.

For more information on the flue systems refer to the Evomax product and flue guide.

SYSTEM LAYOUT

TYPICAL SYSTEM BOILER LAYOUT



* Low loss header may not be required depending on system design and pump sizing


BOILER
No. 1
evomax

EVOMAX CASCADE

30 - 600kW

BRITISH MANUFACTURING

WALL HUNG

EVOMAX CASCADE

FRAME & HEADER KITS

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FLUEING OPTIONS

NOx CLASS 5

BIM

BOILER FRAME AND HEADER KITS

The Frame and Header Kits are suitable for modular (cascade) boiler installations, and are available up to a maximum output of 600kW, in both in-line and back-to-back arrangements.

IN-LINE KITS

Kits include flow & return headers with mixing header and gas header, all with fixing brackets. For easy connection flexible stainless steel pipe and connections are supplied together with pressure relief valves, boiler shut off valves and drain cock.

Appropriately sized ErP modulating shunt pumps are also included. Flow, return and low loss headers together with the flexible boiler connections are all pre insulated. Separate single boiler frame kits are available for use with in-line kits if required.

BACK-TO-BACK KITS

Kits include all the in-line contents plus the required special frame kits for such compact installations. Both types of kit are available for the following number of boilers and sizes. Mixing header kits and modulating pump kits are also available separately.

AVAILABLE OPTIONS

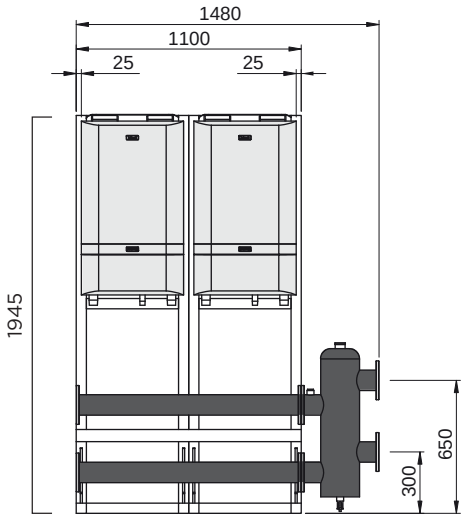
	MODELS	SIZE
2 boilers	30-100	DN80
2 boilers	120-150	DN80
3 boilers	30-100	DN80
3 boilers	120-150	DN100
4 boilers	30-100	DN100
4 boilers	120-150	DN100
5 boilers	30-100	DN100
5 boilers	120	DN100
6 boilers	30-100	DN100

In-line kits do not include the support frame as the boilers can be wall mounted, but a frame kit is available if the wall is unsuitable to facilitate boiler mounting.

For full details of all configurations & specifications, please refer to the installation manual.

Please note, the Evomax boilers are to be ordered separately.

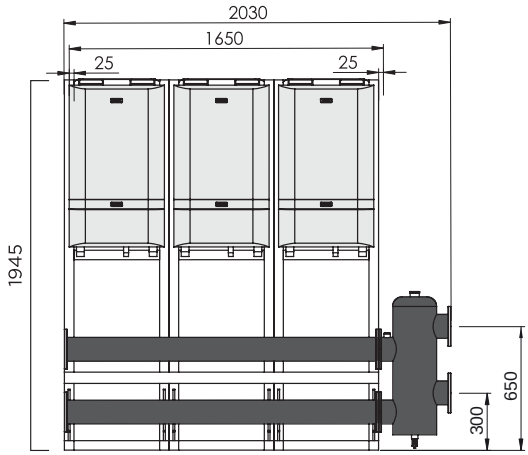
FRAME & HEADER KITS



2 X EVOMAX 30 - 150 KW

HEADER KITS	RATING	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
UIN209799	30-80kW	1945	1100	552	DN80	80/125
	100kW	1945	1100	552	DN80	100/150
UIN209798	120-150kW	1945	1100	552	DN80	100/150

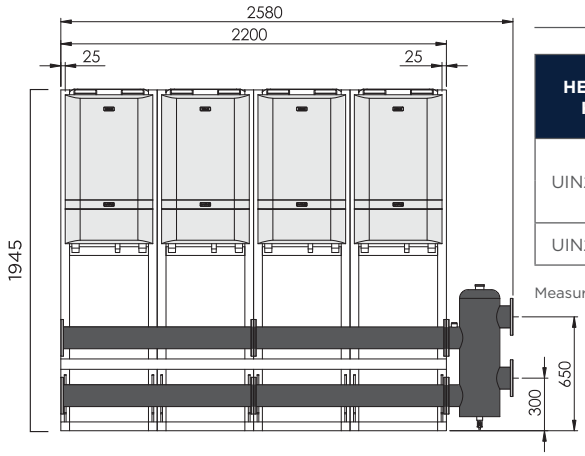
Measurements are without boilers attached. 100-150kW boilers are deeper than Frame and Header Kit.



3 X EVOMAX 30 - 150 KW

HEADER KITS	RATING	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
UIN209801	30-80kW	1945	1650	552	DN80	80/125
	100kW	1945	1650	552	DN80	100/150
UIN209800	120-150kW	1945	1650	552	DN100	100/150

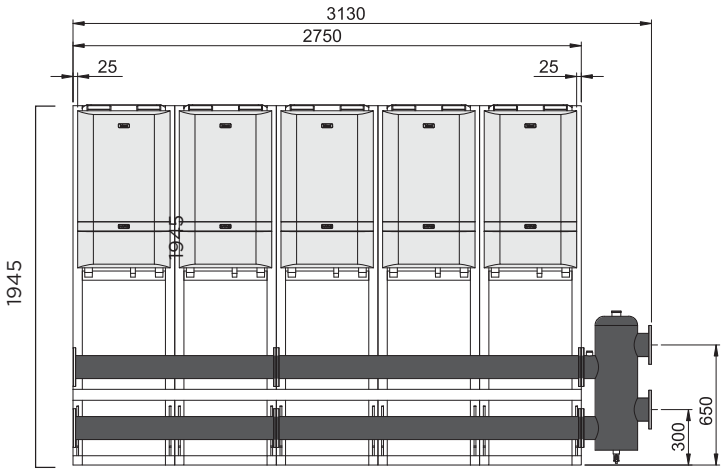
Measurements are without boilers attached. 100-150kW boilers are deeper than Frame and Header Kit.



4 X EVOMAX 30 - 150 KW

HEADER KITS	RATING	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
UIN209803	30-80kW	1945	2200	552	DN100	80/125
	100kW	1945	2200	552	DN100	100/150
UIN209802	120-150kW	1945	2200	552	DN100	100/150

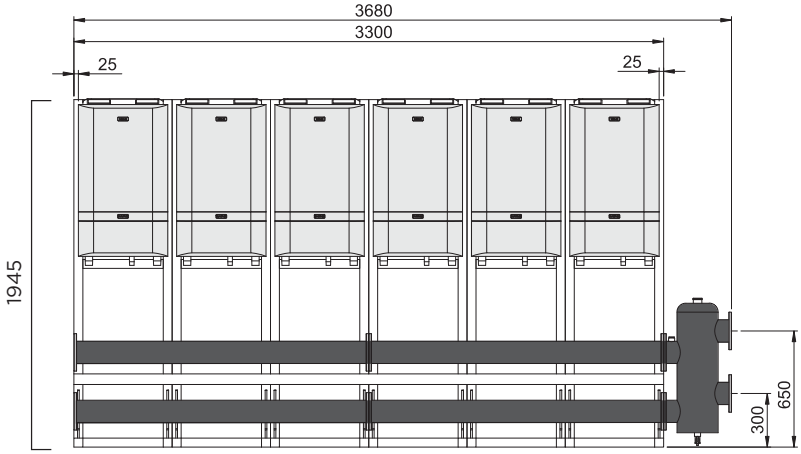
Measurements are without boilers attached. 100-150kW boilers are deeper than Frame and Header Kit.



5 X EVOMAX 30 - 120 KW

HEADER KITS	RATING	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
UIN209805	30-80kW	1945	2750	552	DN100	80/125
	100kW	1945	2750	552	DN100	100/150
UIN209804	120kW	1945	2750	552	DN100	100/150

Measurements are without boilers attached. 100-120kW boilers are deeper than Frame and Header Kit.



6 X EVOMAX 30 - 100 KW

HEADER KITS	RATING	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
UIN209806	30-80kW	1945	3300	552	DN100	80/125
	100kW	1945	3300	552	DN100	100/150

Measurements are without boilers attached. 100kW boilers are deeper than Frame and Header Kit.

FRAME & HEADER KITS

SYSTEM DESIGN OPTIONS

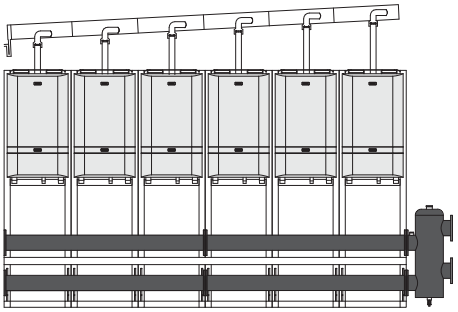
TOTAL OUTPUT REQUIRED KW	NO. OF BOILERS	SIDE BY SIDE OPTION – BOILER MODELS	SIDE BY SIDE FOOTPRINT SIZE W X D (MM)	HEADER KIT PRODUCT NO. SIDE BY SIDE	BOILER MODELS	BACK TO BACK FOOTPRINT SIZE W X D (MM)	FRAME/ HEADER PRODUCT NO. BACK TO BACK
60	2	30	1480 x 552	209799	30	930x950	209901
70	2	30 + 40	1480 x 552	209799	30 + 40	930x950	209901
80	2	40	1480 x 552	209799	40	930x950	209901
90	2	30 + 60	1480 x 552	209799	30 + 60	930x950	209901
100	2	40 + 60	1480 x 552	209799	40 + 60	930x950	209901
110	2	30 + 80	1480 x 552	209799	30 + 80	930x950	209901
120	2	60	1480 x 552	209799	60	930x950	209901
130	3	30, 40 + 60	2030 x 552	209801	30, 40 + 60	480x950	209903
140	2	60 + 80	1480 x 552	209799	60 + 80	930x950	209901
150	3	30, 40 + 80	2030 x 552	209801	30, 40 + 80	480x950	209903
160	2	80	1480 x 552	209799	80	930x950	209901
170	3	30, 60 + 80	2030 x 552	209801	30, 60 + 80	480x950	209903
180	2	80 + 100	1480 x 573	209799	80 + 100	930x1096	209901
190	3	30, 60 + 100	2030 x 573	209801	30, 60 + 100	480x1096	209903
200	2	100	1480 x 573	209799	100	930x1096	209901
210	4	30, 40, 60 + 80	2580 x 552	209803	30, 40, 60 + 80	1480x950	209905
220	3	2 x 60 + 100	2030 x 573	209801	2 x 60 + 100	1480x1096	209903
230	4	30, 40, 60 + 80	2580 x 573	209803	30, 40, 60 + 100	1480x1096	209905
240	2	120	1480 x 663	209798	120	930x1276	209900
250	4	30, 60, 2 x 80	2580 x 552	209803	30, 60, 2 x 80	1480x950	209905
260	3	60, 2 x 100	2030 x 573	209801	60, 2 x 100	1480x1096	209903
270	2	120 + 150	1480 x 663	209798	120 + 150	930x1276	209900
280	3	80, 2 x 100	2030 x 573	209801	80, 2 x 100	1480x1096	209903
290	4	30, 60, 2 x 100	2580 x 573	209803	30, 60, 2 x 100	1480x1096	209905
300	2	150	1480 x 663	209798	150	930x1276	209900
310	4	30, 80, 2 x 100	2580 x 573	209803	30, 80, 2 x 100	1480x1096	209905
320	4	40, 80, 2 x 100	2580 x 573	209803	40, 80, 2 x 100	1480x1096	209905
330	4	30, 3 x 100	2580 x 573	209803	30, 3 x 100	1480x1096	209905
340	4	60, 80, 2 x 100	2580 x 573	209803	60, 80, 2 x 100	1480x1096	209905
350	5	30, 40, 80, 2 x 100	3130 x 573	209805	30, 40, 80, 2 x 100	2030x1096	209907

SYSTEM DESIGN OPTIONS - CONTINUED

TOTAL OUTPUT REQUIRED KW	NO. OF BOILERS	SIDE BY SIDE OPTION - BOILER MODELS	SIDE BY SIDE FOOTPRINT SIZE W X D (MM)	HEADER KIT PRODUCT NO. SIDE BY SIDE	BOILER MODELS	BACK TO BACK FOOTPRINT SIZE W X D (MM)	FRAME/HEADER PRODUCT NO. BACK TO BACK
360	3	120	2030x663	209800	120	1480x1276	209902
370	5	30, 40, 3 x 100	3130x573	209805	30, 40, 3 x 100	2030x1096	209907
380	4	80, 3 x 100	2030x573	209801	80, 2 x 100	1480x1096	209903
390	3	2 x 120 + 150	2030x663	209800	2 x 120 + 150	1480x1276	209902
400	4	100	2580x573	209803	100	1480x1096	209905
410*	5	30, 80, 3 x 100	3130x573	209805	30, 80, 3 x 100	2030x1096	209907
420	3	120, 2 x 150	2030x663	209800	120, 2 x 150	1480x1276	209902
430*	5	30, 4 x 100	2580x573	209805	30, 4 x 100	1480x1096	209905
440*	5	40, 4 x 100	2580x573	209805	40, 4 x 100	1480x1096	209905
450	3	150	2030x663	209800	150	1480x1276	209902
460*	5	60, 4 x 100	3130x573	209805	60, 4 x 100	2030x1096	209907
470*	6	30, 40, 3 x 100	3680x573	209806	30, 40, 3 x 100	2030x1096	209908
480	4	120	2580x663	209802	120	480x1276	209904
490*	6	30, 60, 4 x 100	3680x663	209806	30, 60, 4 x 100	2030x1096	209908
500	5	100	3130x573	209805	100	2030x1096	209908
510	4	3 x 120 + 150	2580x663	209802	3 x 120 + 150	1480x1276	209904
520*	6	40, 80, 4 x 100	3680x573	209806	40, 80, 4 x 100	2030x1096	209908
530*	6	30, 5 x 100	3680x573	209806	30, 5 x 100	2030x1096	209908
540	4	2 x 120, 2 x 150	2580x663	209802	2 x 120, 2 x 150	1480x1276	209904
550		N/A	N/A	N/A	N/A	N/A	N/A
560*	6	60, 5 x 100	3680x573	209806	60, 5 x 100	2030x1096	209908
570	4	120, 3 x 150	2580x663	209802	120, 3 x 150	1480x1276	209904
580*	6	80, 5 x 100	3680x573	209806	80, 5 x 100	2030x1096	209908
590		N/A	N/A	N/A	N/A	N/A	N/A
600	4	150	2580x663	209802	150	1480x1276	209904

* Not suitable configuration for multiline flue

MULTILINE FLUE CASCADE



FEATURES AND BENEFITS

- Allows Evomax boilers installed as open flue to be connected via a common flue header, creating a single line connection point
- Basic kit includes, appliance connection, non-return flue damper, condensate tee and trap and all clips to secure the flue
- Extension pack includes appliance connection, non-return flue damper, and all clips to secure the flue
- Available for both 80/125 & 100/150 flue adaptor applications
- For installations up to 900kW as both a starter kit and extension pack

OPTION	GAS TYPE	EVOMAX MODELS	MAX NUMBER OF BOILERS	MAX SYSTEM CAPACITY
1	Natural gas	Combinations of 100, 120, 150	6	900kW
2		Combinations that include a 30, 40, 60 or 80	6	400kW
3	Propane	Combinations of 30P, 40P, 60P, 80P	6	400kW

Flue height = 570mm from the top of the first boiler in the system. Increase the height 29mm for each adjacent boiler.

EVOMAX CASCADE

LOW HEIGHT FRAME & HEADER KITS

BOILER FRAME AND HEADER KITS

The Low Height Frame and Header Kits make installation much simpler in circumstances of reduced headroom, offering an option of replacing a floor standing atmospheric boiler with a high efficiency model.

Three options are available allowing for outputs from 30 kW to 450 kW.

FEATURES & BENEFITS

- Frame and Header Kits fit easily through standard doorways
- Lift weights are as low as possible
- The Low Height Frame and Header Kit is supplied on one palette shrink wrapped together with all ancillary fittings needed for assembly
- All pipe work connections are supplied with either the boiler, header kit or are pre assembled to the header kit
- Pre assembled to header; the boiler the flow and return flexible connections, which reduce installation time
- Delivered with header kit; connection pipe assembly, non return valves & pipe work connector, all isolation valves, pressure relief valve, drain cock and associated fittings
- The Low Height Frame and Header Kit can be installed with either an Ideal Commercial Sequencer offering direct modulation of the system, reducing running costs, or a proprietary option
- The extremely compact dimensions allow for replacement of existing standard efficiency floor standing boilers, using a single wall mounted condensing boiler up to 150 kW allowing sufficient space to install flue system, pump and pipe headers
- High quality and well-finished components
- Supplied with frames and low energy modulating pumps (ErP approved)

FLUEING OPTIONS

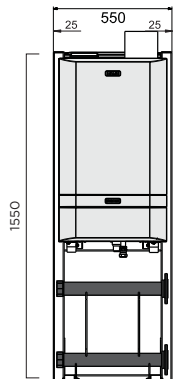
NOx CLASS 5

BIM

AVAILABLE OPTIONS

	MODELS	SIZE	LOW LOSS HEADER KIT
1 Boiler	30-150	DN50 (2"BSP)	✓
2 Boiler	60-300	DN65	✓
3 Boiler	90-450	DN80	✓

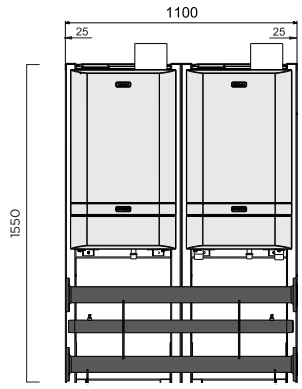
LOW HEIGHT FRAME & HEADER KITS



1 X EVOMAX 30 - 150 KW

HEADER KITS	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
30-80kW	1550	550	642	DN50 (2"BSP)	80/125
100-120kW	1550	550	642		100/150
150kW	1550	550	642		100/150

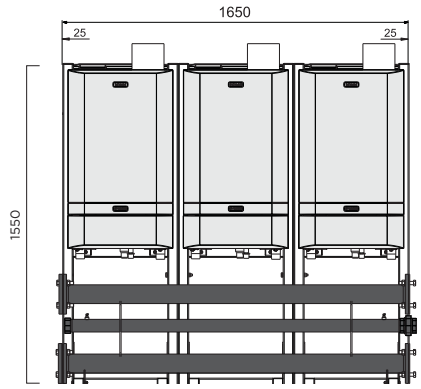
Measurements are without boilers attached. 150kW boilers are deeper than Low Height Frame and Header



2 X EVOMAX 30 - 150 KW

HEADER KITS	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
30-80kW	1550	1100	642	DN65	80/125
100-120kW	1550	1100	642		100/150
150kW	1550	1100	642		100/150

Measurements are without boilers attached. 150kW boilers are deeper than Low Height Frame and Header



3 X EVOMAX 30 - 150 KW

HEADER KITS	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
30-80kW	1550	1650	642	DN80	80/125
100-120kW	1550	1650	642		100/150
150kW	1550	1650	642		100/150

Measurements are without boilers attached. 150kW boilers are deeper than Low Height Frame and Header

LOW HEIGHT FRAME & HEADER KITS

SYSTEM DESIGN OPTIONS

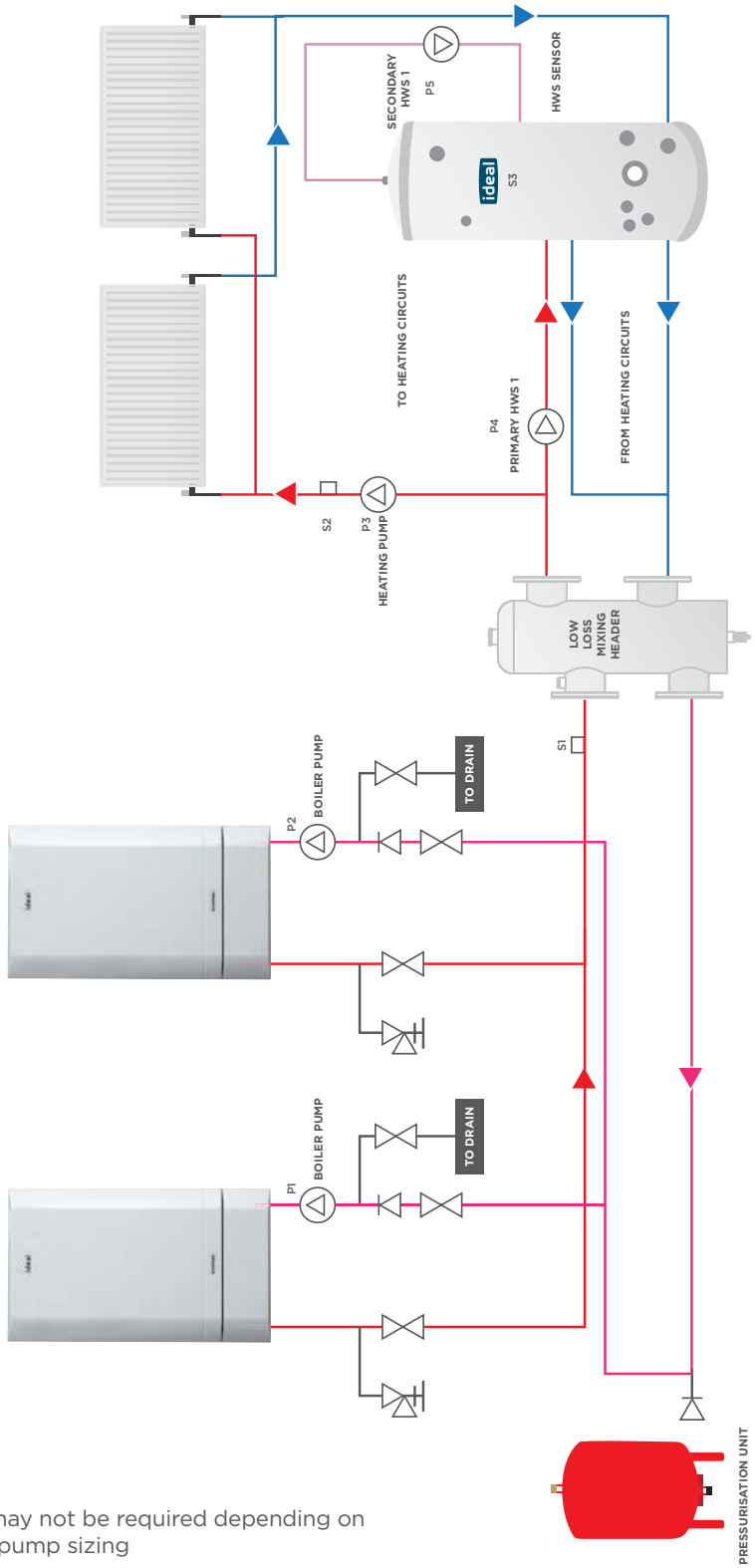
TOTAL OUTPUT REQUIRED KW	NO. OF BOILERS	HEADER	SIDE BY SIDE FOOTPRINT SIZE W X D (MM)	OPTIONAL LOW LOSS HEADER	BOILER MODELS	FRAME/HEADER PRODUCT NO.
30	1	DN50	550 x 642	209394	1	210012
40	1	DN50	550 x 642	209394	1	210012
60	1	DN50	550 x 642	209394	1	210012
80	1	DN50	550 x 642	209394	1	210012
100	1	DN50	550 x 642	209394	1	210012
120	1	DN50	550 x 642	209394	1	210012
150	1	DN50	550 x 666	209394	1	210012
60	2	DN65	1100 x 642	209395	2 x 30	210029
70	2	DN65	1100 x 642	209395	1 x 30 + 1 x 40	210029
80	2	DN65	1100 x 642	209395	2 x 40	210029
90	2	DN65	1100 x 642	209395	1 x 60 + 1 x 30	210029
100	2	DN65	1100 x 642	209395	1 x 60 + 1 x 40	210029
110	2	DN65	1100 x 642	209395	1 x 80 + 1 x 30	210029
120	2	DN65	1100 x 642	209395	2 x 60	210029
130	2	DN65	1100 x 642	209395	1 x 100 + 1 x 30	210029
140	2	DN65	1100 x 642	209395	1 x 80 + 1 x 60	210029
140	2	DN65	1100 x 642	209395	1 x 100 + 1 x 40	210029
150	2	DN65	1100 x 642	209395	1 x 120 + 1 x 30	210029
160	2	DN65	1100 x 642	209395	2 x 80	210029
160	2	DN65	1100 x 642	209395	1 x 100 + 1 x 60	210029
180	2	DN65	1100 x 642	209395	1 x 100 + 1 x 80	210029
180	2	DN65	1100 x 642	209395	1 x 120 + 1 x 60	210029
180	2	DN65	1100 x 666	209395	1 x 150 + 1 x 30	210029
190	2	DN65	1100 x 666	209395	1 x 150 + 1 x 40	210029
200	2	DN65	1100 x 642	209395	2 x 100	210029
200	2	DN65	1100 x 642	209395	1 x 120 + 1 x 80	210029
210	2	DN65	1100 x 666	209395	1 x 150 + 1 x 60	210029
220	2	DN65	1100 x 642	209395	1 x 120 + 1 x 100	210029
230	2	DN65	1100 x 666	209395	1 x 150 + 1 x 80	210029
240	2	DN65	1100 x 642	209395	2 x 120	210029
250	2	DN65	1100 x 666	209395	1 x 150 + 1 x 100	210029
270	2	DN65	1100 x 666	209395	1 x 150 + 1 x 120	210029
300	2	DN65	1100 x 666	209395	2 x 150	210029
90	3	DN80	1650 x 642	252437	3 x 30	210020
100	3	DN80	1650 x 642	252437	1 x 40 + 2 x 30	210020
110	3	DN80	1650 x 642	252437	2 x 40 + 1 x 30	210020
120	3	DN80	1650 x 642	252437	3 x 40	210020
120	3	DN80	1650 x 642	252437	1 x 60 + 2 x 30	210020
130	3	DN80	1650 x 642	252437	1 x 60 + 1 x 40 + 1 x 30	210020
140	3	DN80	1650 x 642	252437	1 x 60 + 2 x 40	210020
150	3	DN80	1650 x 642	252437	2 x 60 + 1 x 30	210020
160	3	DN80	1650 x 642	252437	1 x 80 + 2 x 40	210020
170	3	DN80	1650 x 642	252437	1 x 80 + 1 x 60 + 1 x 30	210020
180	3	DN80	1650 x 642	252437	3 x 60	210020
180	3	DN80	1650 x 642	252437	1 x 100 + 2 x 40	210020
190	3	DN80	1650 x 642	252437	2 x 80 + 1 x 30	210020
200	3	DN80	1650 x 642	252437	2 x 80 + 1 x 40	210020
220	3	DN80	1650 x 642	252437	2 x 80 + 1 x 60	210020

SYSTEM DESIGN OPTIONS - CONTINUED

TOTAL OUTPUT REQUIRED KW	NO. OF BOILERS	HEADER	SIDE BY SIDE FOOTPRINT SIZE W X D (MM)	OPTIONAL LOW LOSS HEADER	BOILER MODELS	FRAME/HEADER PRODUCT NO.
230	3	DN80	1650 x 642	252437	2 x 100 + 1 x 30	210020
240	3	DN80	1650 x 642	252437	3 x 80	210020
240	3	DN80	1650 x 642	252437	2 x 100 + 1 x 40	210020
250	3	DN80	1650 x 642	252437	1 x 120 + 1 x 100 + 1 x 30	210020
260	3	DN80	1650 x 642	252437	1 x 120 + 1 x 100 + 1 x 40	210020
270	3	DN80	1650 x 642	252437	2 x 120 + 1 x 30	210020
280	3	DN80	1650 x 666	252437	1 x 150 + 1 x 100 + 1 x 30	210020
290	3	DN80	1650 x 666	252437	1 x 150 + 1 x 100 + 1 x 40	210020
300	3	DN80	1650 x 642	252437	3 x 100	210020
320	3	DN80	1650 x 642	252437	2 x 100 + 1 x 120	210020
320	3	DN80	1650 x 642	252437	2 x 120 + 1 x 80	210020
340	3	DN80	1650 x 642	252437	2 x 120 + 1 x 100	210020
350	3	DN80	1650 x 666	252437	1 x 150 + 2 x 100	210020
360	3	DN80	1650 x 642	252437	3 x 120	210020
370	3	DN80	1650 x 666	252437	1 x 150 + 1 x 120 + 1 x 100	210020
380	3	DN80	1650 x 666	252437	2 x 150 + 1 x 80	210020
390	3	DN80	1650 x 666	252437	1 x 150 + 2 x 120	210020
400	3	DN80	1650 x 666	252437	2 x 150 + + 1 x 100	210020
420	3	DN80	1650 x 666	252437	2 x 150 + 1 x 120	210020
450	3	DN80	1650 x 666	252437	3 x 150	210020

SYSTEM LAYOUT

TYPICAL SYSTEM BOILER LAYOUT



* Low loss header may not be required depending on system design and pump sizing

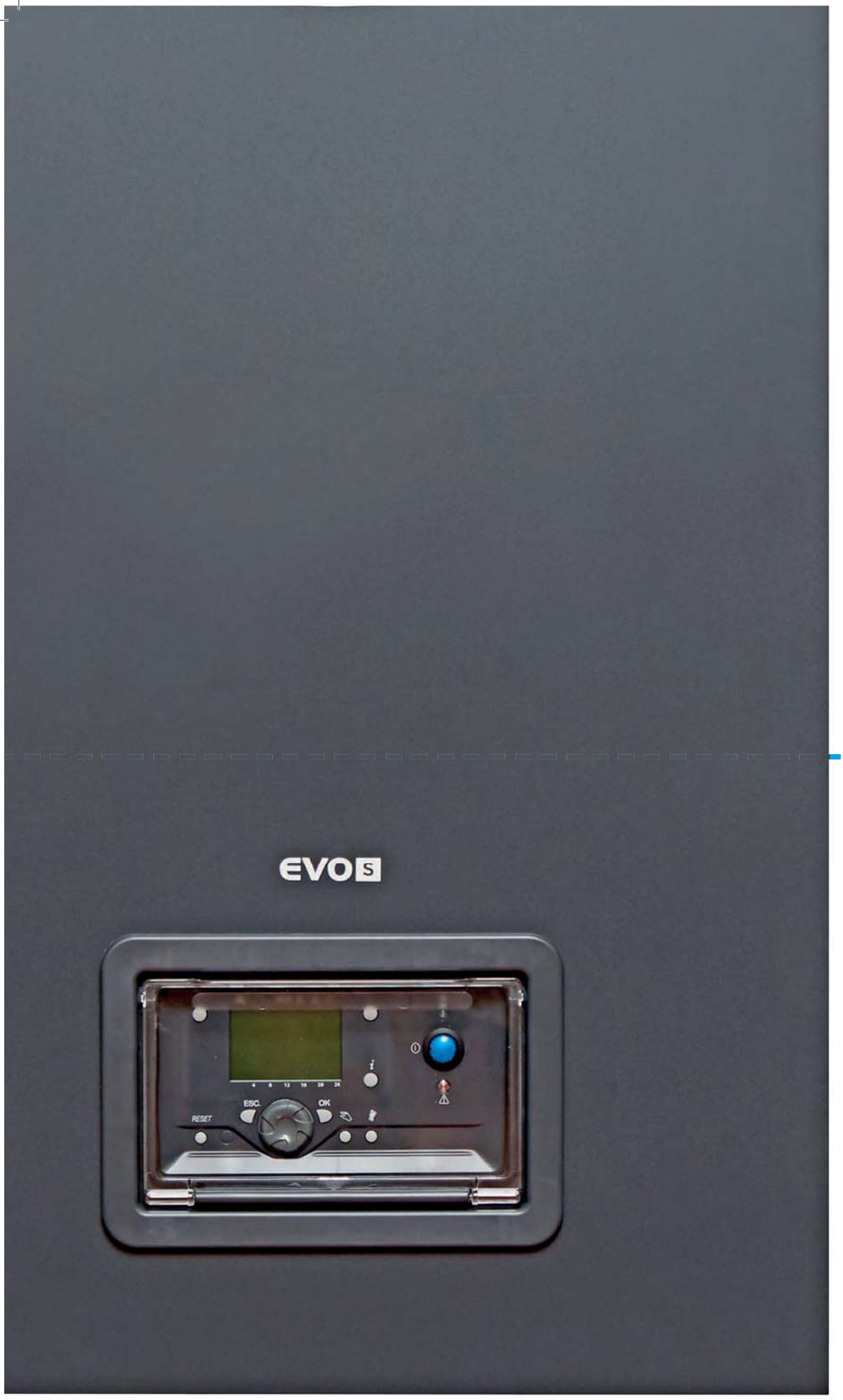
EVO S

50 - 135kW

5 YEAR WARRANTY*

NOx CLASS 6

*5 year warranty subject to Terms and Conditions. 5 years parts and labour warranty available subject to being commissioned by Ideal Boilers. Must be fitted with a Low Loss Header or Plate Heat Exchanger. Terms and conditions available at www.idealcommercialboilers.com/downloads


EVO S
ESC.
OK
RESET

EVO S

50 - 135kW

50, 70, 95, 115 and 135kW, EVO S combines the latest stainless steel heat exchanger technology with straightforward installation and maintenance. 50, 70 and 95kW models can be easily converted to run on LPG.

FEATURES & BENEFITS

- 5 year parts and labour warranty*
- Stainless steel heat exchanger
- Up to 108.9% net efficiency (fully condensing)
- Up to 5:1 turndown
- Compact – one width & height for easy siting
- Simple controls interface with large backlit display
- Low height frame and header kits
- Simple to maintain using quick release internal water and gas couplings
- NOx <40mg/kWh (Class 6)
- Must be installed with a suitable method of system protection, such as a Low Loss Header or Plate Heat Exchanger

WALL HUNG

FLUEING OPTIONS

NOx CLASS 6

BIM

*5 year warranty subject to Terms and Conditions. 5 years parts and labour warranty available subject to being commissioned by Ideal Boilers. Must be fitted with a Low Loss Header or Plate Heat Exchanger. Terms and conditions available at www.idealcommercialboilers.com/downloads.

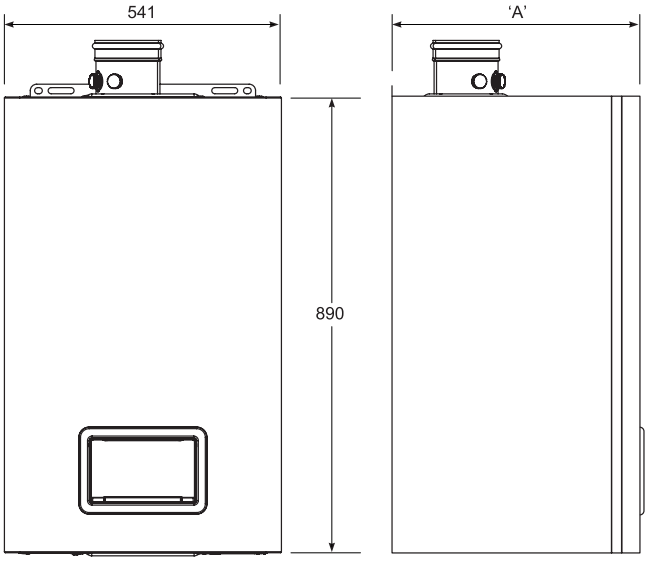
DIMENSIONS & CLEARANCES

BOILER	DIM A
50	477
70, 95	574
115	692
135	800

All dimensions in mm

The following minimum clearances must be maintained for operation and servicing:

- TOP: DEPENDENT ON FLUE
- SIDES: 9mm
- FRONT: 800mm
- BOTTOM: 890mm (not including frame mount)



BOILER ASSEMBLY

INTERNAL VIEW

(50kW MODEL SHOWN)

KEY

1. Ignition Electrode
2. Ignitor Unit
3. Safety Thermostat
4. Fan
5. Gas Valve
6. Controls Housing
7. Control Panel With Protective Cover

PERFORMANCE DATA

EVO S 50 - 135kW

MODEL			50	70	95	115	135
Boiler Output (non-condensing) Mean 70°C (Nat Gas & LPG 50-95, Nat Gas only 115 & 135)	Max	kW	56.4	69.9	95.7	119.5	134.0
	Min	kW	11.5	17.1	19.0	23.9	26.8
Boiler Output (condensing) Mean 40°C (Nat Gas & LPG 50-95, Nat Gas only 115 & 135)	Max	kW	61.0	76.8	104.5	129.5	146.0
Boiler Input Max Rate (Nat Gas & LPG 50-95, Nat Gas only 115 & 135)	Net	kW	58.0	72.1	98.5	123.0	137.9
	Gross	kW	64.4	80.0	109.3	136.5	151.6
Gas Rate, Nat Gas (G20)	Max rate	m^3/hr	6.1	7.6	10.4	13.0	14.6
Gas Rate, LPG (G31)	Max rate	m^3/hr	2.4	3.0	4.0	N/A	N/A
Flue Gas Flow Rate, Nat Gas	Max Rate	m^3/hr	79	98	135	168	189
Flue Gas Flow Rate, LPG	Max Rate	m^3/hr	77	96	128	N/A	N/A
CO_2 (±0.1%), Nat Gas	Max Rate	%	9.2				9.0
	Min Rate	%	8.8				8.6
CO_2 (±0.1%), LPG	Max Rate	%	10.4			N/A	N/A
	Min Rate	%	10.0			N/A	N/A
NOx with O_2 = 0%	Weighted	mg/kWh	35	35	34	36	35
Efficiency	Seasonal	%	96.13	95.50	96.02	95.95	95.75
	*SEDBUK 2009	%	89.2	88.8	89.1	89.1	89.0
Operating Temperature	Max	°C	85				

GENERAL DATA

EVO S 50 - 135kW

MODEL		50	70	95	115	135
Gas Supply		G20 to G31			G20	
Gas Supply Connection		G1"				
Flow Connection		G1 ¼"				
Return Connection		G1 ¼"				
Max Pressure (sealed system)	Bar (psi)	4.0 (58)				
Electricity Supply		230V - 50Hz				
Power Consumption	W	138	96	160	206	263
IP Rating		IP24D				
Nominal Flue Size (concentric)	mm	80/125	100/150			
Condensate Drain	mm	24				
Water Content	l	5.0	9.0	10.2	12.8	15.3
Dry Weight	Kg	60	90	95	100	125
Noise emission @1m: @maximum modulation	dB(A)	59.7	57.3	58.5	61.6	59.3
Noise emission @1m: @minimum modulation	dB(A)	35.8	33.5	34.3	35.4	36.8

OPTIONAL KITS

BOILER	EVO S
Modulating Sequencer kit	✓
Programmable Room Thermostat kit	✓
Outside sensor kit	✓
Tank Sensor kit	✓
Room sensor kit	✓
Multi boiler low height frame & header kits	✓
Clip In kit: +1 circuit, up to 2 per Boiler	✓
LPB Bus Communication Module	✓

SUGGESTED ENGINEERING SPECIFICATION

The Suggested Engineering Specification is wording designed for specifiers to copy and paste into their specifications to ensure inclusion of Ideal Commercial boilers.

OVERVIEW

The boilers must be fully automatically controlled, wall mounted, fanned, super-efficient condensing appliances utilising a stainless steel heat exchanger and be suitable for connection to a sealed water system.

CONTROLS

The condensing boilers must have connectivity for common types of BMS. Additional modules may be used for volt free connectivity. Where no BMS is present a modulating sequencer must be available.

The boiler must be fully modulating with a 5:1 turndown ratio and have control features enabling set point adjustment, heating circuit control of one constant temperature and one DHW circuit or 2 constant temperature circuits, and safety lock out parameters including fault diagnosis for both boiler and external components such as sensors or pumps.

Boiler capabilities must include, with the use of external components, frost protection, weather or room compensation and system pump control.

FLUE

The condensing boilers must be suitable for use with a room sealed flue or open flue applications including C13, C33 and B23 classifications. The combined flue outlet and air inlet must be situated on the top of the boiler.

HYDRAULIC

The condensing boiler must be suitable for connection to a sealed water system. All hydraulic connections including flow return and condensate drain must be located on the bottom of the boiler. Hydraulic connections must be uniform across the outputs available in the range to ensure ease of installation and maintenance in mixed output cascades. The boiler must have a maximum operating pressure of 4 bar and be suitable for heating and indirect hot water systems.

DIMENSIONS

The condensing boiler range must have a universal compact width and height across the range to ensure mixed output cascades maintain the same universal configuration. Maximum permitted wall area of 0.49m^2.

MOUNTING

The condensing boilers can be installed either on the wall or into a prefabricated floor mounted frame. Wall brackets must be located at the top of the boiler and visible from the front to aid installation.

EFFICIENCY

The condensing boilers are capable of high seasonal efficiencies with a minimum requirement of 96.02% and low NOx emissions no greater than 36mg/kWH.

Models <70kW must have a Seasonal Space Heating Energy Efficiency of A.

APPROVALS

The boiler must be tested and certified to; EN 483, EN 677, PREN 15420, BSEN 15417, BSEN 656, BSEN 60335-2-102, BSEN 55014-1 and BSEN 55014-2 for use with Natural Gas. Boilers are certified to meet the requirements of the EC Gas Appliance Directive, Boiler Efficiency Directive, EMC and Low Voltage Directive.

The manufacturer must be ISO 9001 accredited.

SPECIFICATION

The boiler will be capable of flow rates for common systems using 11°C to 20°C temperature differentials.

CASCADE

The boiler must be configurable up to 4 boilers (max 540kW) in cascade using a prefabricated frame and header kit.

WARRANTY

The boiler must be available with a 5 year warranty.

SYSTEM TEMPERATURE

DIFFERENTIALS

Flow rates for common systems using either 11°C, 20°C or 25°C temperature differentials are given in the table below.

	FLOW RATE (L/S)			HYDRAULIC RESISTANCE (MBAR)		
BOILER	**11°C**	**20°C**	**25°C**	**11°C**	**20°C**	**25°C**
EVO S 50	1.2	0.7	0.5	1157	350	224
EVO S 70	1.5	0.8	0.7	909	275	176
EVO S 95	2.1	1.1	0.9	1273	385	246
EVO S 115	2.6	1.4	1.1	1620	490	314
EVO S 135	2.9	1.6	1.3	1700	580	380

CONTROL KITS

MODULATING SEQUENCER KIT.
Controls up to 15 boilers for cascade operation.

OUTSIDE SENSOR KIT.
Provides weather compensation directly or with Programmable Room Thermostat kit.

TANK/CYLINDER SENSOR KIT.
Provides DHW temperature control.

ROOM SENSOR KIT.
Provides room temperature control.

CLIP IN KIT.
Each Clip In give an additional circuit, up to 2 per boiler. Clip In also gives Volt Free run and fault signal.

LPB BUS COMMUNICATION MODULE.
1 module per boiler to enable sequencer.

FLUE SYSTEMS

A comprehensive range of flue kits are available from Ideal Commercial Boilers including horizontal and vertical concentric and open flue options.

When installing EVO S boilers with concentric flue (horizontally or vertically) the Ideal Commercial flue system must be used.

The resistance of flue components, together with the maximum flue resistance each boiler can work against, may be used to calculate the total flue resistance of the system, and to determine if they are acceptable to run on the boiler.

Multiple boilers may be installed with a common flue header which should be designed and supplied by a specialist flue company. BS 6644 and IGEM UP/10 provide guidance on design and the drainage of condensate from flue stack and headers. Condensate from a flue stack and header must be collected and drained before entering the boiler.

For Ventilation requirements please refer to the installation manual and BS6644.

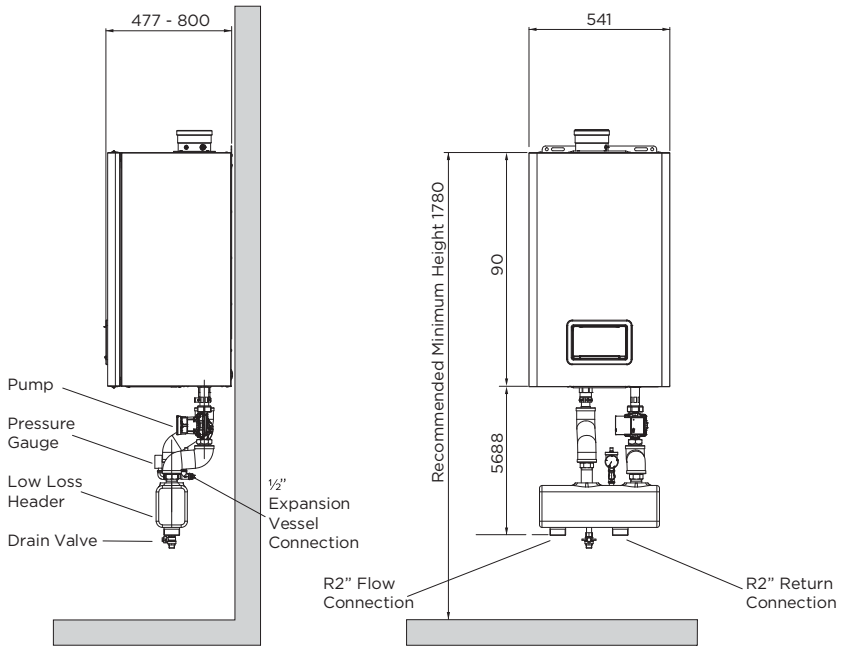
SINGLE BOILER

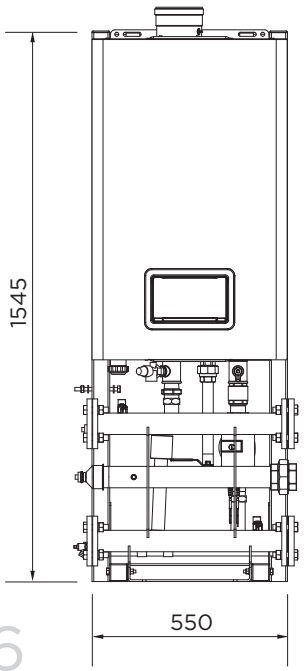
INSTALLATIONS

WHEN INSTALLING A SINGLE EVO S BOILER, THERE ARE WALL HUNG AND FRAME HUNG OPTIONS.

WALL HUNG SINGLE BOILER WITH LOW LOSS HEADER

A simple pipe kit is available for location directly underneath the boiler. When using this pipe kit, the boiler must be mounted to the wall directly so the combined weight of the boiler and low loss header must be accounted for (boiler + 15kg).





FRAME HUNG SINGLE BOILER WITH LOW LOSS HEADER

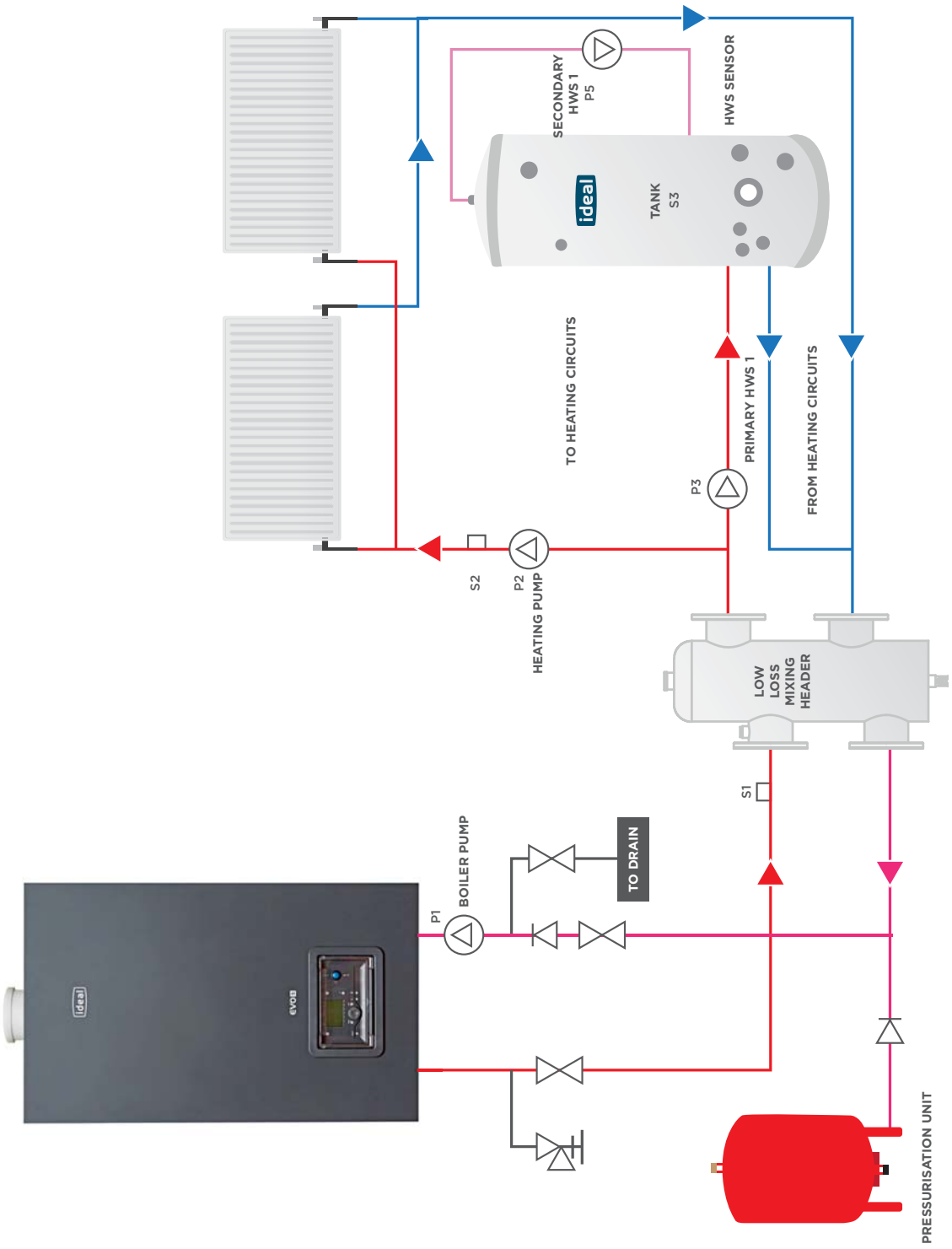
An alternative solution is to use a frame and header kit and a low loss header for installing a single boiler.

FRAME & HEADER KITS	RATING	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
UIN219468	50kW	1545	550	642	DN50	80/125
	70kW	1545	550	642	DN50	100/150
UIN219472	95 - 135kW	1545	550	642	DN80	100/150

All dimensions in mm

SYSTEM LAYOUT

TYPICAL SYSTEM BOILER LAYOUT



EVO S CASCADE

LOW HEIGHT FRAME & HEADER KITS

BOILER LOW HEIGHT FRAME AND HEADER KITS

The Frame and Header Kits are suitable for modular (cascade) boiler installations, and are available up to a maximum output of 540kW.

Kits include flow & return headers with gas header and all with fixing brackets. For easy connection flexible stainless steel pipe and connections are supplied together with pressure relief valves, boiler shut off valves and drain cock. An optional low loss header completes the installation, available to suit either DN50 or DN80 pipe kit assemblies.

Appropriately sized ErP modulating shunt pumps are also included. Flow, return and low loss headers together with the flexible boiler connections are all pre insulated.

NOx CLASS 6

BIM

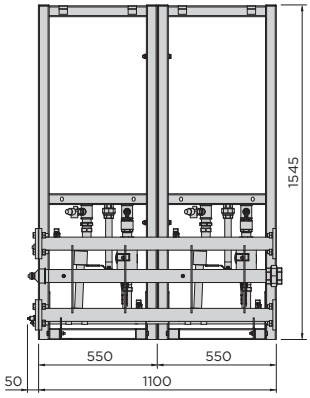
AVAILABLE OPTIONS

	MODELS	SIZE
2 boilers	50, 70	DN50
2 boilers	95 - 135	DN80
3 boilers	50, 70	DN50
3 boilers	95 - 135	DN80
4 boilers	50, 70	DN50
4 boilers	95 - 135	DN80

For full details of all configurations & specifications, please refer to the installation manual, at www.idealboilers.com/downloads

Please note, the EVO S boilers are to be ordered separately.

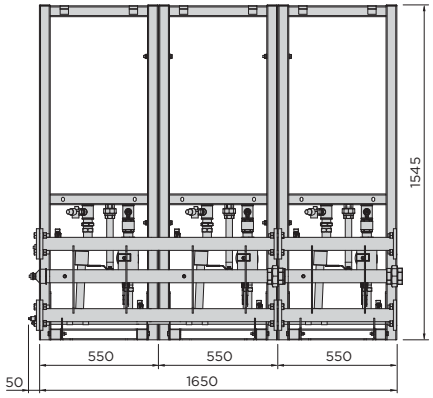
FRAME & HEADER KITS



2 X EVO S 50 - 135kW

FRAME & HEADER KITS	RATING	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
UIN219469	50kW	1545	1100	642	DN50	80/125
	70kW	1545	1100	642	DN50	100/150
UIN 219473	95 - 135kW	1545	1100	642	DN80	100/150

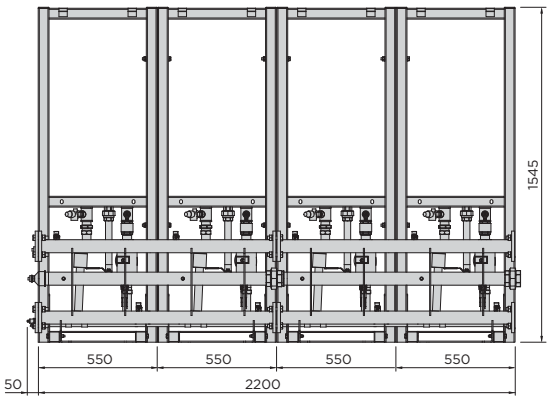
Measurements are without boilers attached.



3 X EVO S 50 - 135kW

FRAME & HEADER KITS	RATING	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
UIN219470	50kW	1545	1650	642	DN50	80/125
	70kW	1545	1650	642	DN50	100/150
UIN219474	95 - 135kW	1545	1650	642	DN80	100/150

Measurements are without boilers attached.



4 X EVO S 50 - 135kW

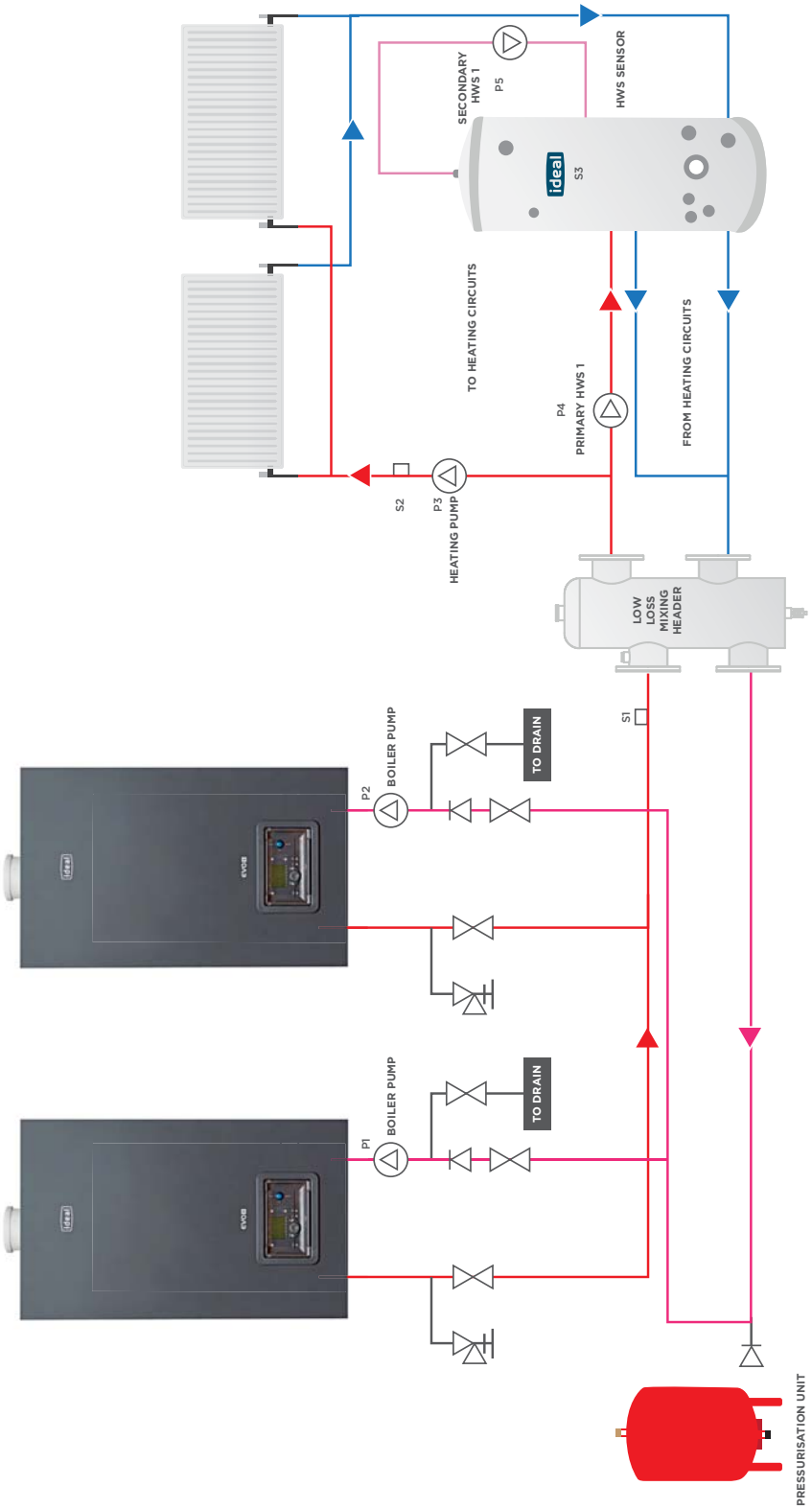
FRAME & HEADER KITS	RATING	HEIGHT (mm)	LENGTH (mm)	DEPTH (mm)	DN FLANGE SIZE	CONCENTRIC FLUE
UIN219471	50kW	1545	2200	642	DN50	80/125
	70kW	1545	2200	642	DN50	100/150
UIN219475	95 - 135kW	1545	2200	642	DN80	100/150

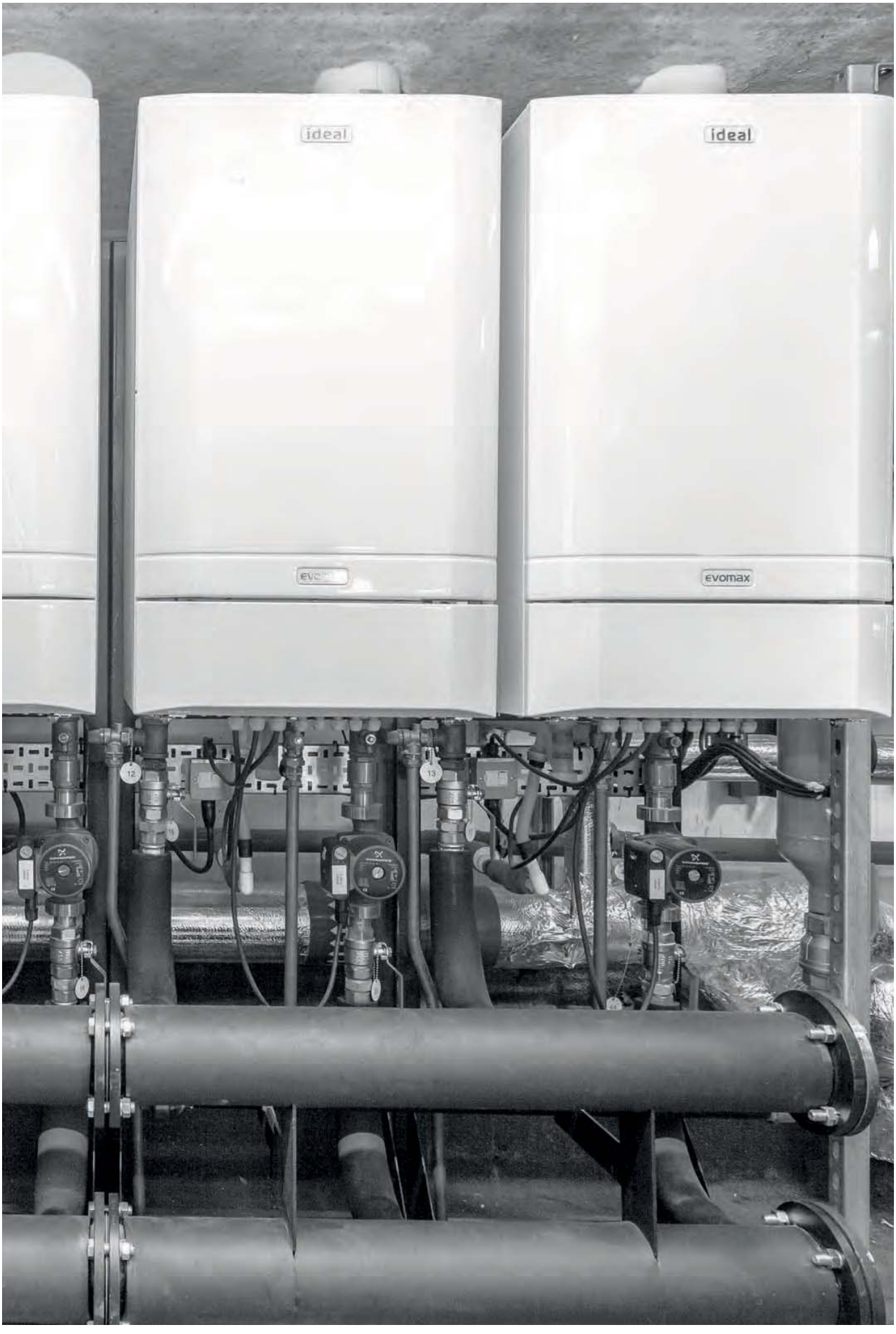
Measurements are without boilers attached.

All dimensions in mm

SYSTEM LAYOUT

TYPICAL SYSTEM BOILER LAYOUT




ideal
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evomax

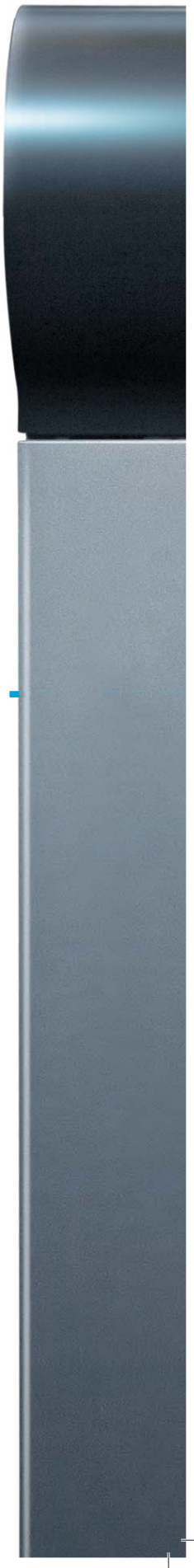
IMAX XTRA

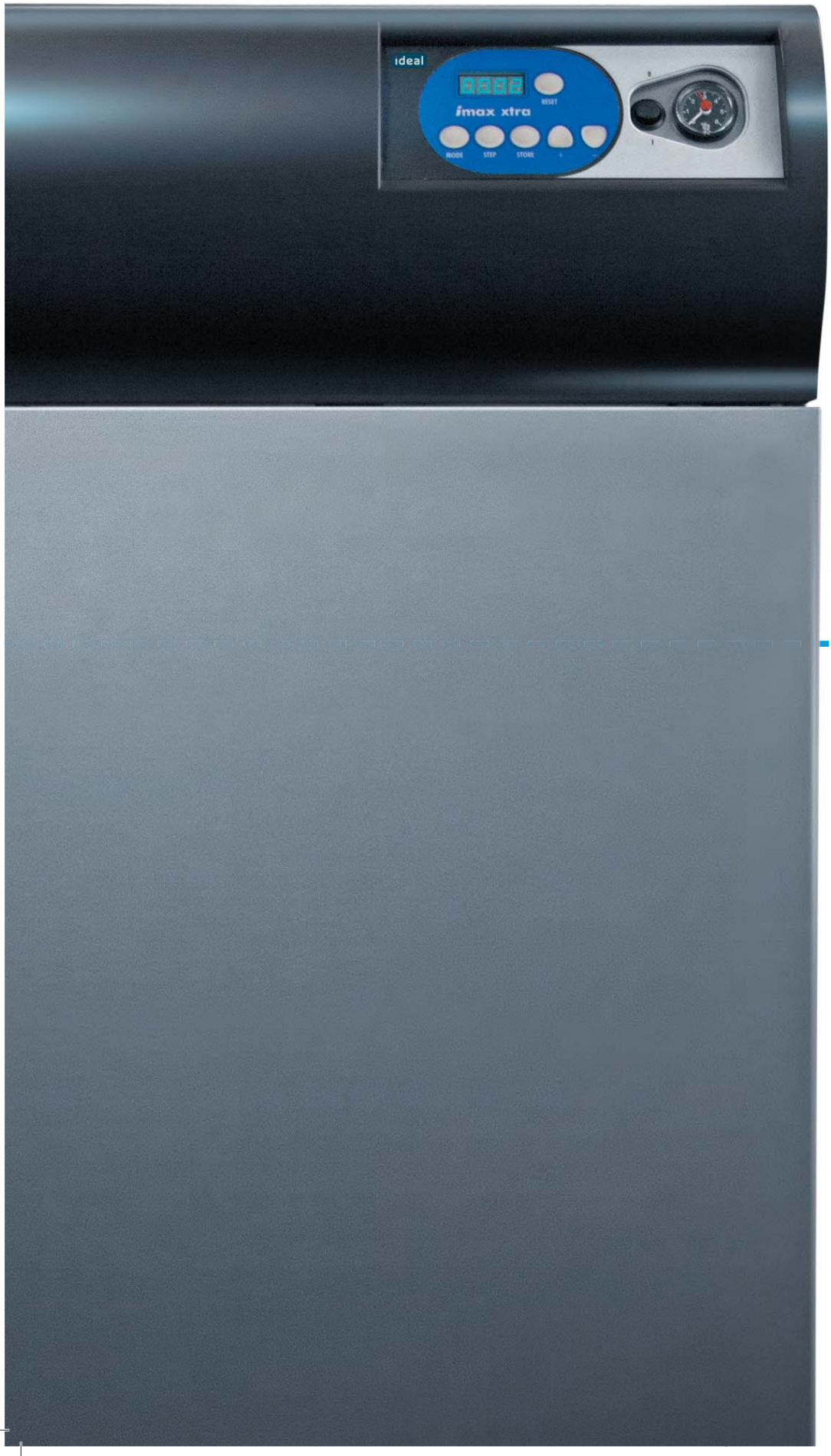
80 - 280kW

5 YEAR HEAT EXCHANGER WARRANTY*

BRITISH MANUFACTURING

*5 year heat exchanger warranty subject to terms and conditions. Terms & conditions available at www.idealcommercialboilers.com/downloads. 2 year parts and labour warranty as standard.




ideal
imax xtra
RESET
MODE
STEP
STORE

IMAX XTRA

80 - 280kW

Qualified for Energy Technology List
www.eca.gov.uk
Authorised User No. 00041

The Imax Xtra range of condensing boilers is offered in six models with outputs from 80 to 280 kW suitable for floor standing application in either single or multiple applications.

DOWNLOAD THE APP

FEATURES & BENEFITS

- 5 year heat exchanger warranty*
- Robust cast aluminium silicon alloy heat exchanger
- In-built commissioning and fault diagnostics
- Volt free contacts and BMS operation standard
- Meets Building Regulations (Part L2)
- Compact size - small footprint
- High 5:1 turndown
- Up to 107.5% net efficiency (fully condensing)
- Fits through standard doorways
- Conventional or room sealed flue options
- Direct weather compensation option
- NOx <40mg/kWh (Class 5) for maximum BREEAM points

FLOOR STANDING

NOx CLASS 5

BIM

ErP COMPLIANT

*5 year heat exchanger warranty subject to terms and conditions. Terms & conditions available at www.idealcommercialboilers.com/downloads.
2 year parts and labour warranty as standard.

DIMENSIONS & CLEARANCES

BOILER	DIM A	DIM B	DIM C
80, 120, 160	600	1150	796
200, 240, 280	600	1150	1048

All dimensions in mm

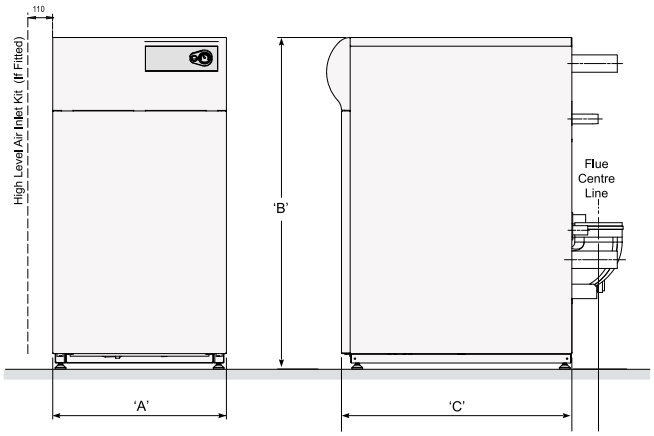
The following minimum clearances must be maintained for operation and servicing:

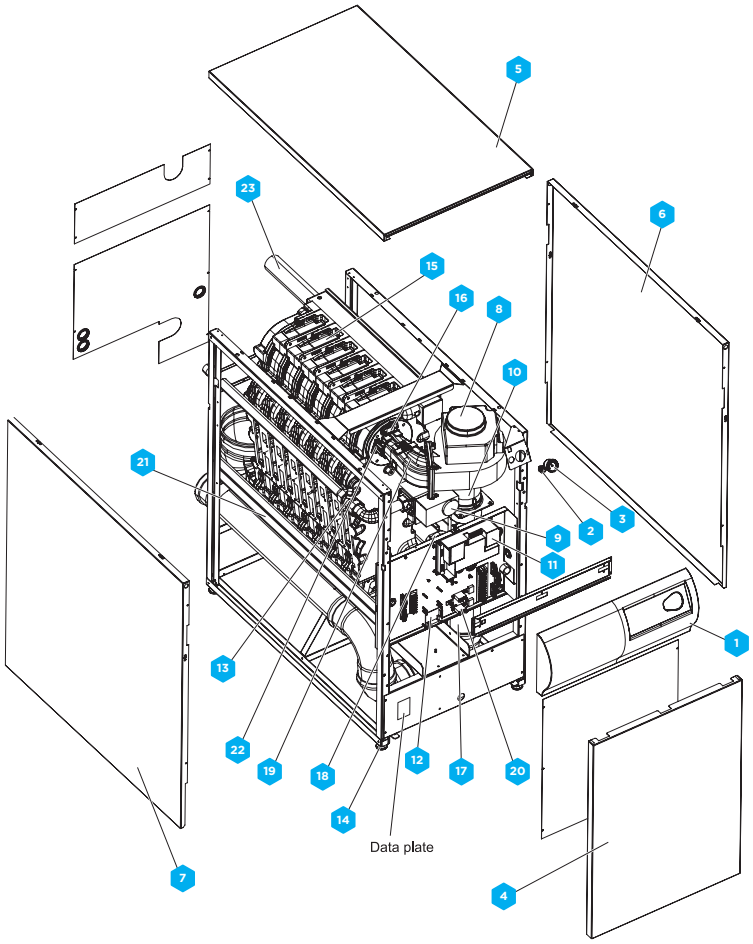
TOP: 500mm

SIDES: LH 450mm | RH 150mm

FRONT: 600mm

REAR: 700mm





BOILER ASSEMBLY

EXPLODED VIEW

(280kW MODEL SHOWN)

KEY

1. Control fascia panel
2. Burner switch
3. Pressure gauge
5. Casing front panel
6. Casing top panel
7. Casing side panel
8. Fan
9. Gas Valve
10. Venturi
11. Control Module
12. Alarm / boiler run relays board
13. Union Gas cock
14. Levelling feet
15. Heat exchanger
16. Sightglass
17. Air inlet
18. Burner manifold
19. Air pressure switch
20. Relay
21. Cable conduit
22. Ignition / detection electrode
23. Manifold - Flow

PERFORMANCE DATA

IMAX XTRA 80 - 280 kW

MODEL			80	120	160	200	240	280
Boiler Output (non-condensing) Mean 70°C (80/60)	Max	kW	78.6	118	157.3	196.6	235.9	275.2
	Min	kW	23.3	23.3	29.1	43.1	47.0	51.0
Boiler Output (condensing) Mean 40°C (50/30)	Max	kW	82.2	123.4	164.5	207.8	249.4	290.9
	Min	kW	25.8	25.8	32.3	47.3	51.6	55.9
Boiler Input Max Rate	Net	kW	80	120	160	200	240	280
	Gross	kW	88.8	133.3	177.7	222.1	266.5	310.9
Boiler Input Min Rate	Net	kW	24	24	30	44	48	52
	Gross	kW	26.6	26.6	33.3	48.9	53.3	57.7
Gas Rate	Max rate	m³/hr	8.1	12.1	16.1	20.1	24.2	28.2
Approx. flue gas volume (@80°C)	Max Rate i.e. non-condensing	m³/hr	121	182	242	302	363	423
Max. Flue Resistance		Pa	100	100	150	150	150	150
Flue Gas CO_2 G20/LNG	Max Rate	%	9.3/9.8					
	Min Rate	%	9.1/9.6					
NOx with O_2 = 0%	Weighted	mg/kWh	26	26	35	26	26	26
		ppm	15	15	20	15	15	15
Seasonal Boiler Efficiency	(Building Regs L2)	%	95.7					
Operating Temperature	Max	°C	90					

For Btu's, multiply gross heat input (kW) by 3412 (Btu)
For ft³/h, divide the gross heat input (Btu/h) by the gross C.V. of the gas (Btu/ft³)

GENERAL DATA

IMAX XTRA 80 - 280 kW

MODEL		80	120	160	200	240	280
Gas Supply		2H - G20 - 20mbar					
Gas Supply Connection	R (in. BSP)	1					
Flow Connection	R (in. BSP)	2					
Return Connection	R (in. BSP)	2					
Hydraulic Resistance Δ 20˚C	mbar	80	85	90	95	100	105
Max Pressure (sealed system)	bar (psi)	6 (87)					
Maximum Static Head	m	61					
Boiler Electricity Supply		230V - 50Hz					
Boiler Fuse Rating		External: 3A* Internal: 2AT, 4AT		External: 5A* Internal: 2AT, 4AT			
Power Consumption (boiler only)	W	250		400			
Air Inlet (optional)	O/D mm	110					
Flue Size dia	mm	150			200		
Condensate drain	mm	21.5					
Boiler dry weight (unpacked)	Kg	132	150	168	198	215	233
Water Content	l	11.0	14.3	17.5	18.4	24.0	27.2

* Electricity supply and Fuse rating for pumps etc. refer to manufacturer's instructions.

OPTIONAL KITS

BOILER	IMAX XTRA
	80 - 280
Modulating sequencer kit including air and flow header sensors	✓
Programmable room thermostat. Kit includes room sensor and interface kit	✓
Tank sensor kit	✓
BMS control kit (0-10V)	✓
Outside sensor kit (weather compensation)	✓
Room sensor kit	✓

BOILER	IMAX XTRA
	80 - 280
Sequencer DHW sensor kit	✓
Control interface kit	✓
Flow, return & gas header kit	N/A
Room sealed air duct connector	N/A
Horizontal flue connector*	N/A
Vertical flue connector*	N/A
Air inlet kit	✓

SUGGESTED ENGINEERING SPECIFICATION

The Suggested Engineering Specification is wording designed for specifiers to copy and paste into their specifications to ensure inclusion of Ideal Commercial boilers.

OVERVIEW

The boilers must be fully automatically controlled, floor standing, fanned, super-efficient condensing appliances utilising an aluminium silicon alloy heat exchanger and be suitable for connection to fully pumped open vented or sealed water systems.

CONTROLS

The condensing boilers must have connectivity for common types of BMS integration including 0-10v & volt free connections. Where no BMS is present a modulating sequencer must be available.

The boiler must be fully modulating with a 5:1 turndown ratio and include control features enabling set point adjustment, heating circuit control of one constant temperature and one DHW circuit or 2 constant temperature circuits, and safety lock out parameters including fault diagnosis for both boiler and external components such as sensors or pumps.

Boiler capabilities must include, with the use of external components, frost protection, weather or room compensation and system pump control.

FLUE

The condensing boilers must be suitable for use with a room sealed flue or open flue applications including C13, C33 and B23 classifications. The flue outlet and air inlet must be situated at the rear of the boiler.

HYDRAULIC

The condensing boiler must be suitable for connection to fully pumped open vented or sealed water systems. All hydraulic connections including flow return and condensate drain must be located on the rear of the boiler. Hydraulic connections must be uniform across the outputs available in the range to ensure ease of installation and maintenance in mixed output cascades.

The boiler must have a maximum operating pressure of 6 bar and be suitable for heating and indirect hot water systems.

DIMENSIONS

The condensing boiler must fit within maximum permitted floor space of 0.48m² (80 – 160kW models) or 0.63m² (200 – 280kW models).

MOUNTING / POSITIONING

The condensing boilers will be floor standing.

EFFICIENCY

The condensing boilers are capable of high seasonal efficiencies with a minimum requirement of 95.7% and low NOx emissions no greater than 35mg/kWH.

APPROVALS

The boilers must be tested and certified by Gastec to EN483 and EN677 for use with Natural Gas.

Boilers are certified to meet the requirements of the EC Gas Appliance Directive, Boiler Efficiency Directive, EMC and Low Voltage Directive.

The manufacturer must be ISO 9001 accredited.

SPECIFICATION

The boiler will be capable of flow rates for common systems using 11°C to 20°C temperature differentials.

SOURCING

The condensing boiler must be manufactured or finally assembled in the United Kingdom.

WARRANTY

The boiler must be available with a 2 year warranty.

SYSTEM APPLICATION

See pages 74-77 for further system requirements

Ideal Imax Xtra boilers are designed for central heating of commercial premises and also for supplying hot water via a calorifier or plate heat exchanger. They are suitable for fully pumped, open vented or pressurised systems and can be connected to heating and/or hot water systems.

They are not suitable for direct hot water supply or gravity heating/hot water systems.

BOILER	IMAX XTRA
Maximum static head:	61 metres (200 feet)
Maximum working pressure:	6 bar (87psi)

Maximum design flow temperature is 82°C (180°F) (This is adjustable to 90°C if required at the control panel).

Pump overrun is provided as standard, and a period of 5 minutes must be allowed for in system design.

Frost protection is built into the boiler control, if the boiler sensor falls below 7°C, this will result in the appliance firing.

This will protect the boiler only, not exposed system elements.

RANGE PACKAGING

The Ideal Imax Xtra 80 - 280 is dispatched from works as one pack as follows.

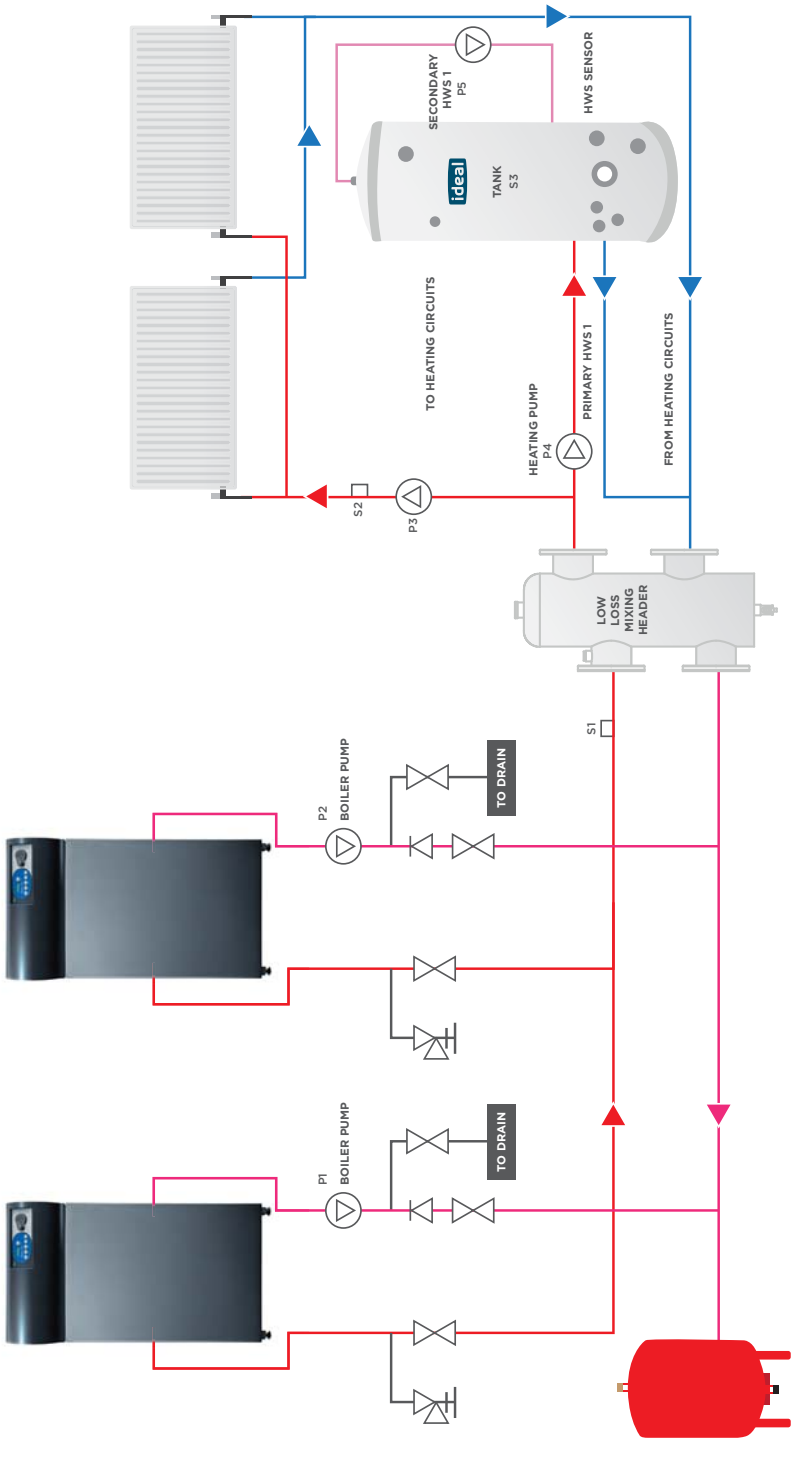
Imax Xtra 80 - 280 comprises:

• Assembled boiler

A full commissioning service is available at an extra charge.

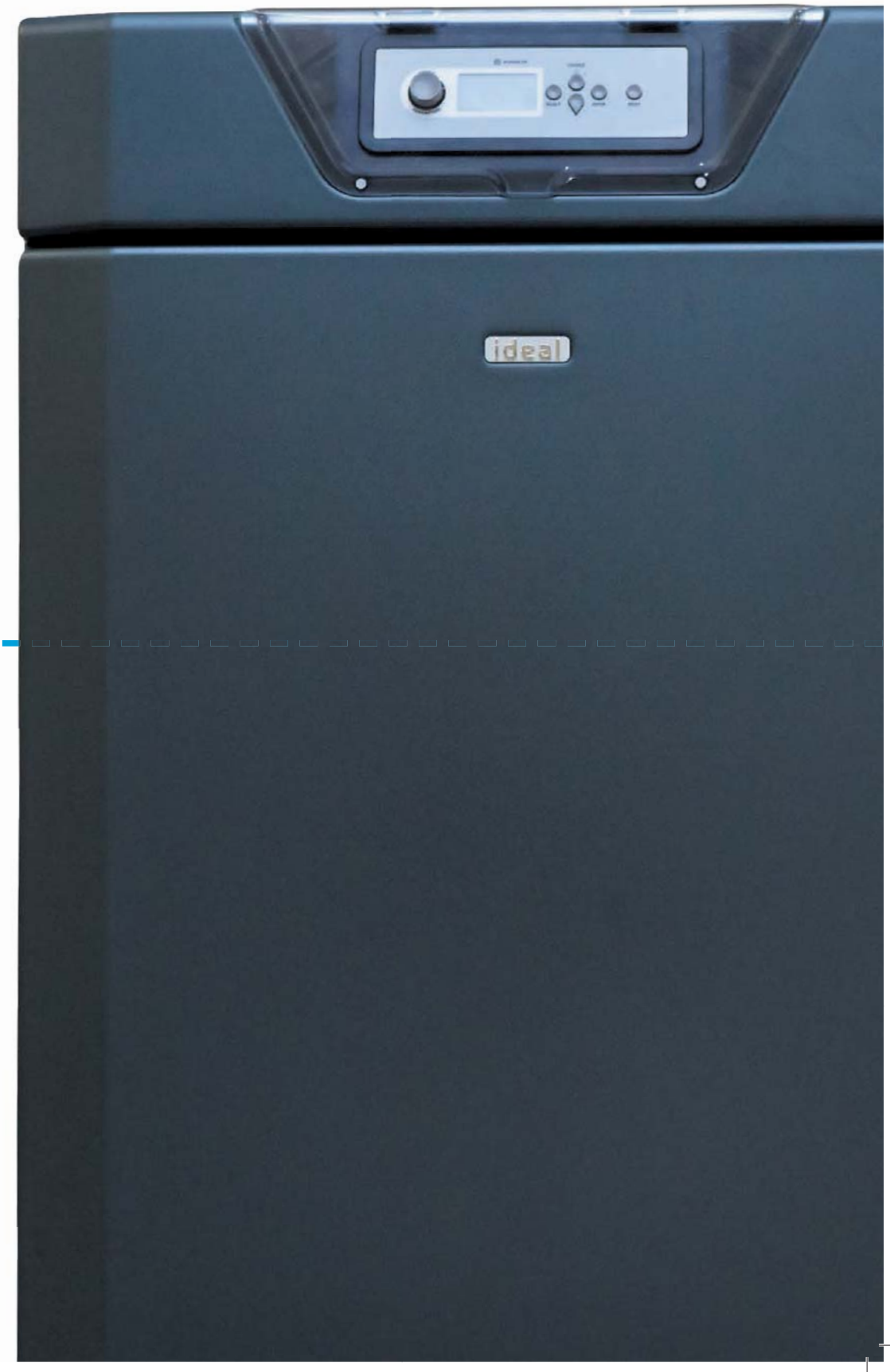
SYSTEM LAYOUT

TYPICAL SYSTEM BOILER LAYOUT



* Low loss header may not be required depending on system design and pump sizing


iIdeal
imax xtra
RESET
MODE
STEP
STORE
+
–
0
1
BAR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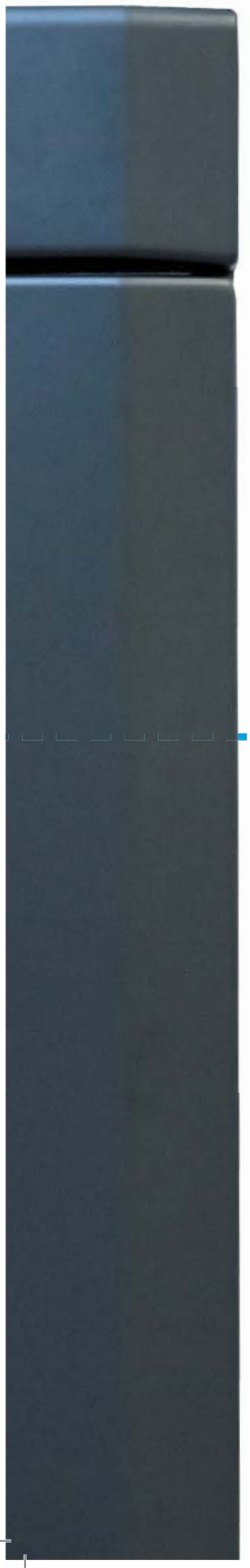


IMAX XTRA EL

320 - 1240kW

5 YEAR HEAT EXCHANGER WARRANTY*

BRITISH MANUFACTURING

*5 year heat exchanger warranty subject to terms and conditions. Terms & conditions available at www.idealcommercialboilers.com/downloads.
2 year parts and labour warranty as standard.

IMAX XTRA EL

320 - 1240kW

The Imax Xtra EL range of condensing boilers is available in 10 models with outputs from 320 to 1240kW. Suitable for floor standing applications in either single or multiple installations.

DOWNLOAD THE APP

FEATURES & BENEFITS

- 5 year heat exchanger warranty*
- Simple control interface with large backlit display
- Volt free contacts
- 0-10V BMS operation standard
- Robust aluminium silicon alloy heat exchanger
- Suitable for single or multiple installations
- Up to 109.8% part load at 30% output
- 2 year parts and labour warranty
- NOx <40mg/kWh
- Natural Gas
- ErP compliant (320 - 395kW)
- Building Regulation Part L2 compliant (470 - 1240kW)

FLOOR STANDING

NOx CLASS 6

BIM

ErP COMPLIANT

*5 year heat exchanger warranty subject to terms and conditions. Terms & conditions available at www.idealcommercialboilers.com/downloads.
2 year parts and labour warranty as standard.

DIMENSIONS & CLEARANCES

BOILER	DIM A	DIM B	DIM C
320, 395, 470, 545, 620	835	1485	1685
715, 790, 940, 1090, 1240	1674	1485	1685

All dimensions in mm

The following minimum clearances must be maintained for operation and servicing:

TOP: 700mm

RIGHT SIDE: 700mm

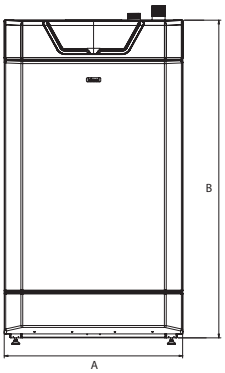
FRONT: 700mm

LEFT SIDE:
320 - 620KW: 150mm
715 - 1240KW: 700mm

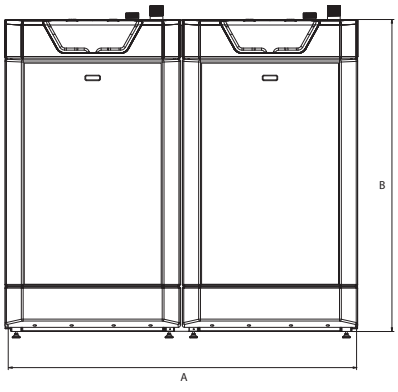
REAR:
320 - 620KW: 150mm*
715 - 1240KW: 1000mm**

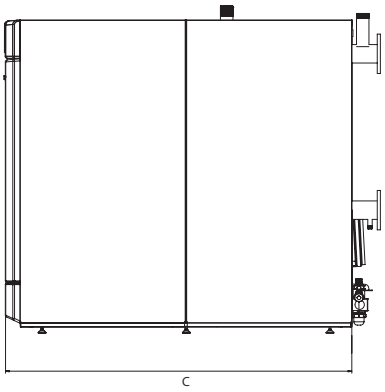
* From rear of flue ** From back of boiler

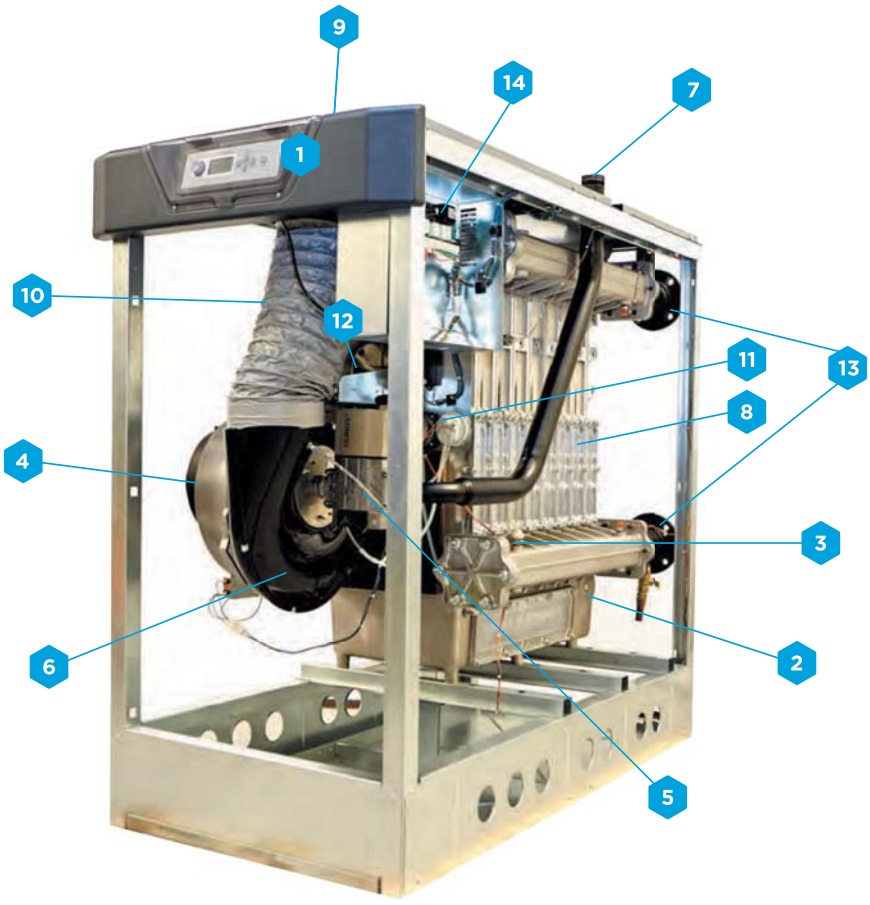
320 - 620kW



715 - 1240kW







BOILER ASSEMBLY

EXPLODED VIEW

(620kW MODEL SHOWN)

KEY

1. Control module
2. External condensate trap
3. Water pressure switch
4. Fan
5. Gas valve
6. Whirlwind
7. Gas inlet
8. Heat exchanger
9. Air inlet
10. Burner manifold
11. Air pressure switches
12. Ignition / detection electrode
13. Manifold - Flow - Return
14. PCB

PERFORMANCE DATA

IMAX XTRA EL 320 - 1240 kW

MODEL			320	395	470	545	620	715	790	940	1090	1240
Boiler output (non condensing) Mean 70°C	Max	kW	298.4	368.3	438.6	508.6	578.2	666.7	736.6	877.2	1017.2	1156.4
	Min	kW	58.9	72.6	85.2	100.7	114.9	131.5	145.2	170.4	201.4	229.8
Boiler output (condensing) Mean 40°C	Max	kW	323.1	399.5	475.8	552.7	628.9	722.6	799.0	951.6	1105.4	1257.8
	Min	kW	66.7	80.5	95.6	113.0	127.6	147.2	161.0	191.2	226.0	255.2
Boiler Input Max Rate	Net	kW	304.8	376.2	447.6	519.0	590.0	681.0	752.4	895.2	1038.0	1180.0
	Gross	kW	338.3	417.5	496.8	576.0	654.8	755.8	835.0	993.6	1152.0	1309.6
Boiler Input Min Rate	Net	kW	61.0	75.2	89.5	103.8	118.0	136.2	150.4	179.0	207.6	236.0
	Gross	kW	67.7	83.5	99.3	115.2	131.0	151.2	167.0	198.6	230.4	262.0
Gas Rate	Max	m³/hr	32.2	39.8	47.4	54.9	62.2	72.0	79.6	94.8	109.8	124.4
Approx. flue gas volume (@80°C)	Max	m³/hr	472.6	583.3	694.0	804.7	914.8	1055.9	1166.6	1388.0	1609.4	1829.6
	Min	m³/hr	95.2	117.4	139.6	162.0	184.2	212.6	234.8	279.2	324.0	368.4
Approx. flue gas temps 50/30°C	Max	°C	43									
	Min	°C	31									
Approx. flue gas temps 80/60°C	Max	°C	63									
	Min	°C	50									
Max. Flue Resistance		Pa	100									
Flue Gas CO_2 G20/LNG	Max Rate	%	9.5									
	Min Rate	%	9.0									
Maximum Flue Temperature		°C	100									
NOx with O_2 = 0%	Weighted	mg/kWh	39.1	38.6	35.8	38.7	38.0	39.1	38.6	35.8	38.7	38.0
		Class	6									
Boiler Efficiency Full Load 80/60°C		%	97.9	97.9	98.0	98.0	98.0	97.9	97.9	98.0	98.0	98.0
Boiler Efficiency Part Load		%	109.7	109.7	109.8	109.8	109.8	109.7	109.7	109.8	109.8	109.8
Boiler Efficiency Full Load 50/30°C		%	106	106.2	106.3	106.5	106.6	106.1	106.2	106.3	106.5	106.6
Seasonal Boiler Efficiency	(Building Regs L2)	Gross %	96.8	96.8	96.9	96.9	97.0	96.8	96.8	96.9	96.9	97.0
Operating Temperature	Max	ºC	90 for sealed system 80 for open vent systems									

For Btu's, multiply gross heat input (kW) by 3412 (Btu)
For ft³/h, divide the gross heat input (Btu/h) by the gross C.V. of the gas (Btu/ft³)

GENERAL DATA

IMAX XTRA EL 320 - 1240 kW

MODEL		320	395	470	545	620	715	790	940	1090	1240
Gas supply pressure	mbar	20									
Gas Supply Connection	R (in. BSP)	2"					2" x 2*				
Flow Connection	R (in. BSP)	3" - DN80 - PN6*									
Return Connection	R (in. BSP)	3" - DN80 - PN6*									
Hydraulic Resistance @ΔT 20°C	mbar	98.0	96.0	94.0	93.0	92.0	102.9	100.8	98.7	97.65	96.6
Max system pressure	bar (psi)	6 (87)									
Boiler electrical supply		230v - 50Hz									
Boiler fuse rating	A	7					7 x 2				
Power consumption (boiler only)	W	610	592	670	625	770	1202	1184	1340	1250	1540
Air Inlet	mm	200					200 x 2*				
Flue Size diameter	mm	250					303			353	
Condensate drain	mm	21.5					21.5 x 2				
Boiler dry weight (unpacked)	kg	417	451	479	507	528	918	952	1008	1066	1106
Water Content	l	47.3	53.3	59.3	65.3	75.3	94.6	106.6	118.6	130.6	150.6

*Optional headers not fitted

OPTIONAL KITS

BOILER	IMAX XTRA EL	IMAX XTRA EL DUAL
	320 - 620	715 - 1240
Modulating Sequencer Kit	✓	✓
DHW Tank Kit	✓	✓
Plant Room Sensor Kit	✓	✓
6 Zone Expansion Kit	✓	✓
Programmable Room Thermostat Kit for use with boiler & modulating Sequencer	✓	✓
Programmable Room Thermostat Kit (for use with boiler only)	✓	✓
Outside Sensor Kit	✓	✓
DHW Tank Sensor Kit	✓	✓
Safety Interlock Kit	✓	✓
Flow & return headers 5" connection		✓
Gas header 3" connection		✓
Dual air inlet		✓

BOILER	IMAX XTRA EL	IMAX XTRA EL DUAL
	320 - 620	715 - 1240
Pump Kit	✓	
LONWorks Gateway Kit	✓	✓
MODBus Gateway Kit	✓	✓
Remote Access Kit	✓	✓
Sealed System Services Flow Manifold Kit	✓	✓
Inlet Air Filter Kit	✓	✓
Condensate Pump Kit	✓	✓
Room Sealed Air Duct Kit	✓	✓
BACNet Gateway Kit	✓	✓

SUGGESTED ENGINEERING SPECIFICATION

The Suggested Engineering Specification is wording designed for specifiers to copy and paste into their specifications to ensure inclusion of Ideal Commercial boilers.

OVERVIEW

The boilers must be fully automatically controlled, floor standing, fanned, super-efficient condensing appliances utilising an aluminium silicon alloy heat exchanger and be suitable for connection to fully pumped open vented or sealed water systems.

CONTROLS

The condensing boilers must have connectivity for all common types of BMS integration including 0-10v, volt free and OpenTherm connections. Additional modules may be used for BACnet, LONWorks and MODBus gateways. Where no BMS is present a modulating sequencer must be available.

The boiler must be fully modulating with a 5:1 turndown ratio and include control features enabling set point adjustment, heating circuit control of one constant temperature and one DHW circuit or 2 constant temperature circuits, and safety lock out parameters including fault diagnosis for both boiler and external components such as sensors or pumps.

Boiler capabilities must include, with the use of external components, frost protection, weather or room compensation and system pump control.

FLUE

The condensing boilers must be suitable for use with a room sealed flue or open flue applications including C13, C33 and B23 classifications. The flue outlet and air inlet must be situated at the rear of the boiler.

HYDRAULIC

The condensing boiler must be suitable for connection to fully pumped open vented or sealed water systems. All hydraulic connections including flow return and condensate drain must be located on the rear of the boiler. Hydraulic connections must be uniform across the outputs available in the range to ensure ease of installation and maintenance.

The boiler must have a maximum operating pressure of 6 bar and be suitable for heating and indirect hot water systems.

DIMENSIONS

The condensing boiler must fit within maximum permitted floor space of 1.41m² (320 – 620kW models) or 2.82m² (715 – 1240kW models).

MOUNTING / POSITIONING

The condensing boilers will be floor standing.

EFFICIENCY

The condensing boilers are capable of high seasonal efficiencies with a minimum requirement of 96.8% and low NOx emissions no greater than 38.7mg/kWH.

APPROVALS

The boilers must be tested and certified by BSI to EN 15502 for use with Natural Gas.

Boilers are certified to meet the requirements of the EC Gas Appliance Directive, Boiler Efficiency Directive, EMC and Low Voltage Directive.

The manufacturer must be ISO 9001 accredited.

SPECIFICATION

The boiler will be capable of flow rates for common systems using 11°C to 20°C temperature differentials.

SOURCING

The condensing boiler must be manufactured or finally assembled in the United Kingdom.

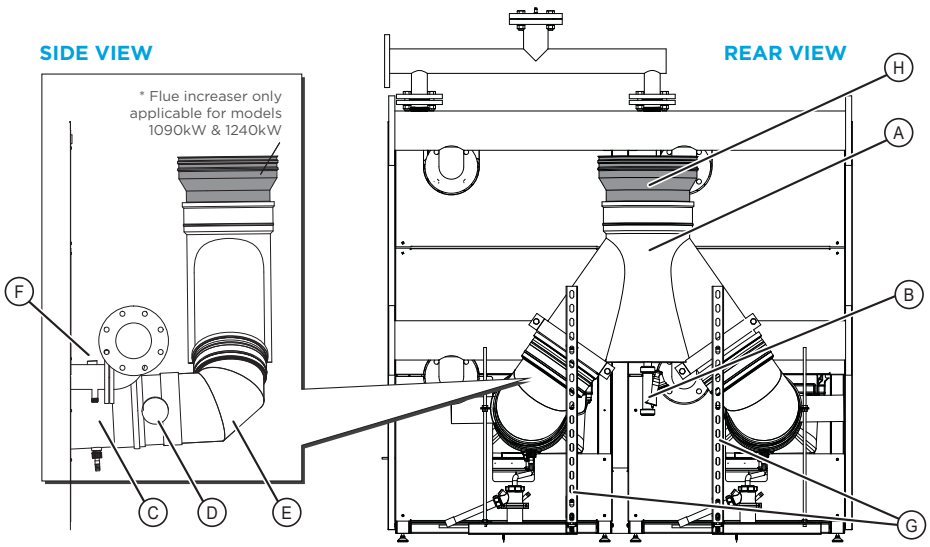
WARRANTY

The boiler must be available with a 2 year warranty.

FLUE COMPONENTS

KEY

A Flue Manifold
B Flue Condensate Drain Trap
C Flue Adapter
D Non Return Valve
E Flue Elbow
F Flue Sample Point
G Flue Bracket Support
H Flue Increaser



FEATURES

- 300mm diameter connection
- Supplied with Boiler
- Rear clearance of 1m from boiler required for installation
- Height of adapter at exit; 1192mm without flue increaser 1355mm with increaser
- Suitable for vertical or horizontal installations

See pages 74-77 for further system requirements

SYSTEM APPLICATION

Ideal Imax Xtra EL boilers are designed for central heating of commercial premises and also for supplying hot water via a calorifier or plate heat exchanger. They are suitable for fully pumped, open vented or pressurised systems and can be connected to heating and/or hot water systems.

They are not suitable for direct hot water supply or gravity heating/hot water systems.

BOILER	IMAX XTRA EL
Maximum static head:	61 metres (200 feet)
Maximum working pressure:	6 bar (87psi)

Maximum design flow temperature is 80°C Open Vented Adjustable to 90°C for sealed system.

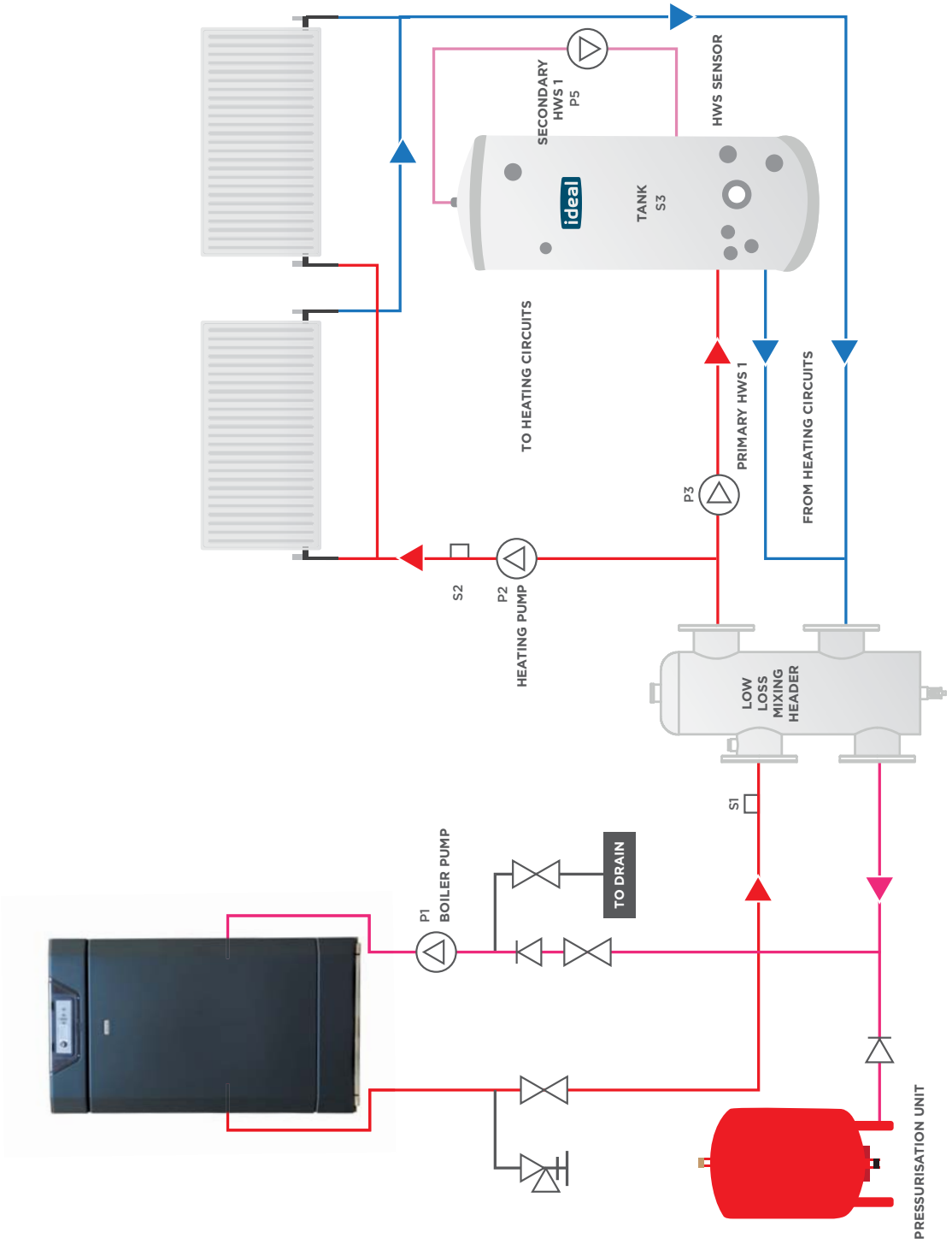
Pump overrun is provided as standard, and a period of 5 minutes must be allowed for in system design.

Frost protection is built into the boiler control, if the boiler sensor falls below 7°C, this will result in the appliance firing.

This will protect the boiler only, not exposed system elements.

SYSTEM LAYOUT

TYPICAL SYSTEM BOILER LAYOUT



* Low loss header may not be required depending on system design and pump sizing


Ideal

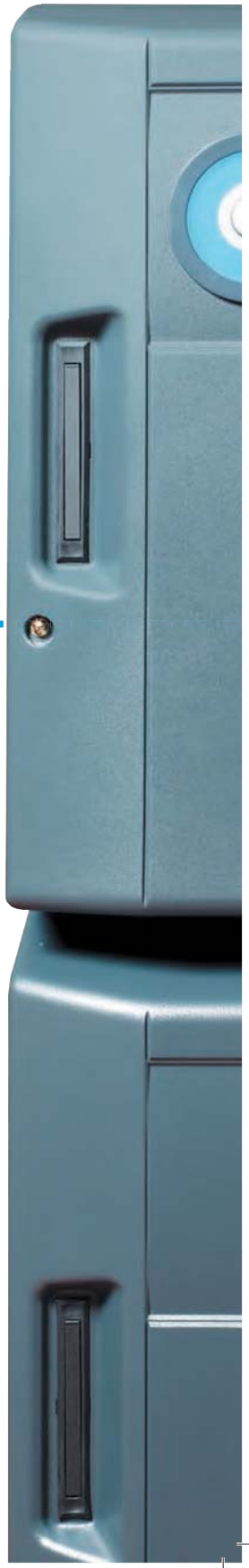
EVOMOD

250 - 1000kW

5 YEAR HEAT EXCHANGER WARRANTY*

BRITISH MANUFACTURING

*5 year heat exchanger warranty subject to terms and conditions. Terms & conditions available at www.idealcommercialboilers.com/downloads.
2 year parts and labour warranty as standard.




ideal

EVOMOD

250 - 1000kW

Qualified for Energy Technology List
www.eca.gov.uk
Authorised User No. 00041

Available in 250, 500, 750 and 1000 kW modules, the Evomod will achieve an output up to 1MW from a single unit solution together with a minimum footprint that enables the product to be installed where space is limited. Each module provides a maximum of 250 kW heat output and will modulate down through a sophisticated control system.

DOWNLOAD THE APP

FEATURES & BENEFITS

- 5 year heat exchanger warranty*
- Modules up to 3 high stacking
- Stainless steel heat exchanger
- Built in module diagnostics, sequencing and remote indication
- Plain text display for fast and easy use
- Single flue outlet, system, gas and electrical connections
- Up to 20:1 turndown: 1MW boiler can modulate down to just 46.7kW
- Easy access for servicing
- Minimum footprint with easy site handling and standard doorway access allowing simplified plant replacement
- NOx <40mg/kWh (Class 5) for maximum BREEAM points
- 2 year parts and labour warranty
- Up to 108.5% net efficiency (fully condensing)
- Single boiler control for all module options

FLOOR STANDING

NOx CLASS 5

BIM

ErP COMPLIANT

*5 year heat exchanger warranty subject to terms and conditions. Terms & conditions available at www.idealcommercialboilers.com/downloads.
2 year parts and labour warranty as standard.

DIMENSIONS & CLEARANCES

BOILER	DIM A	DIM B	DIM C
250	710	860	1339
500	710	1480	1339
750	710	2100	1339
1000	1428	1480	1339

All dimensions in mm

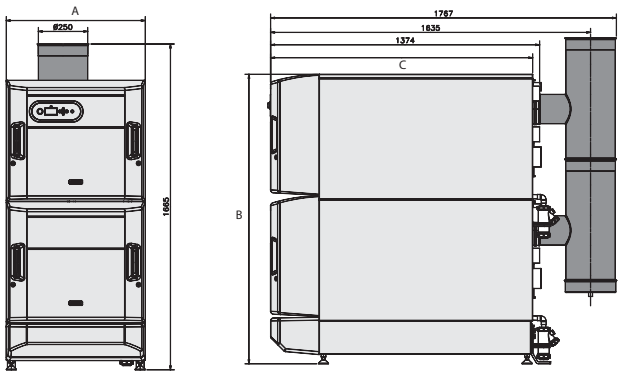
The following minimum clearances must be maintained for operation and servicing:

TOP: 300mm

SIDES:
LH 400mm | RH 450mm

FRONT: 600mm

REAR: 750mm



BOILER ASSEMBLY

EXPLODED VIEW
(500kW MODEL SHOWN)

KEY

1. Fan
2. Gas Valve
3. Venturi
4. Mains Connection Box
5. Heat exchanger
6. Thermistor (flow)
7. Thermistor (return)
8. Condensate Blockage Pressure Switch
9. Flue Sampling Point
10. Water Pressure Switch

PERFORMANCE DATA

EVOMOD 250 - 1000 kW

MODEL			250	500	750	1000
Boiler Output (non-condensing) Mean 70°C (80/60)	Max	kW	232.5	465	697.5	930
	Min	kW	46.7	46.7	46.7	46.7
Boiler Output (condensing) Mean 40°C (50/30)	Max	kW	252.5	505	757.5	1010
	Min	kW	51.4	51.4	51.4	51.4
Boiler Input Max Rate	Net	kW	238	476	714	952
	Gross	kW	264.1	523.2	792.3	1056.4
Boiler Input Min Rate	Net	kW	47.6	47.6	47.6	47.6
	Gross	kW	52.8	52.8	52.8	52.8
Gas Rate	Max rate	m^3/hr	25.2	50.4	75.6	100.8
Approx. flue gas volume (@80°C)	Max Rate i.e. non-condensing	m^3/hr	391	783	1174	1566
Max. Flue Resistance		Pa	105			
Flue Gas CO_2 G20/LNG	Max Rate	%	9.1 ± 0.2			
	Min Rate	%	8.4 ± 0.2			
NOx with O_2 = 0%	Weighted	mg/kWh	39.7			
		ppm	22.5			
Seasonal Boiler Efficiency	(Building Regs L2)	%	95.9			
Operating Temperature	Max	°C	80			

For Btu's, multiply gross heat input (kW) by 3412 (Btu)
For ft^3/h, divide the gross heat input (Btu/h) by the gross C.V. of the gas (Btu/ft^3)

INCLUDED AS STANDARD

BOILER	EVOMOD
Remote indication (run & alarm)	✓
Hours run	✓
BMS (0-10v) operation	✓
Pump overrun	✓
Large backlit LCD controls, including 5 line plain text display	✓

OPTIONAL KITS

BOILER	EVOMOD
Water & gas header assembly packaged	✓
Water & gas header assembly c/w valves packaged	✓
Water connection kit (250)*	✓
Air inlet collar	✓

* If you do not order the water & gas header assembly c/w valves packaged, you must order the water connection kit.

GENERAL DATA

EVOMOD 250 - 1000 kW

MODEL		250	500	750	1000
Gas Supply		2H - G20 - 20mbar			
Gas Supply Connection	R (in. BSP)	R1¼	R2	R2	R2½
Flow Connection	R (in. BSP)	2½" PN16	5" PN16		
Return Connection	R (in. BSP)	2½" PN16	5" PN16		
Hydraulic Resistance Δ 20˚C	mbar	410			
Hydraulic Resistance Δ 20˚C with optional water header pack	mbar	100	105	110	120
Max Press (sealed system)	bar (psi)	6 (87)			
Maximum Static Head	m	61 (200)			
Boiler Electricity Supply		230V - 50Hz			
Boiler Fuse Rating		1 x 5A Internal	2 x 5A Internal	3 x 5A Internal	4 x 5A Internal
Power Consumption (boiler only)	W	350	680	1020	1350
Air Inlet (optional)	O/D mm	300			300 x 2
Flue Size dia	mm	150	250		300
Condensate drain	mm	21.5	2 x 21.5	3 x 21.5	4 x 21.5
Boiler dry weight (unpacked)	Kg	229	420	611	845
Water Content	l	14.8	29.6	44.4	59.2
IP Rating		IP20			

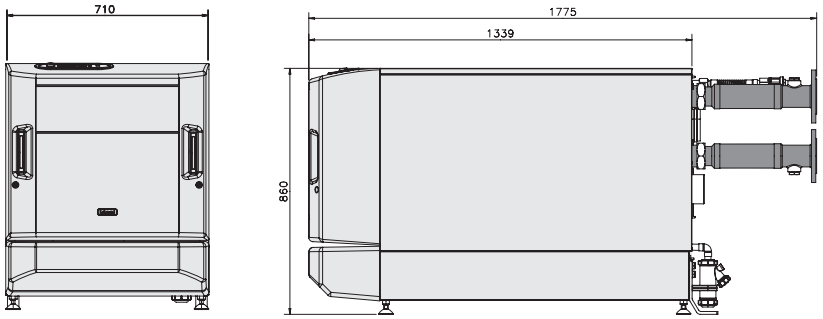
Electricity supply and Fuse rating for pumps etc. refer to manufacturer's instructions.

Note. Natural gas consumption is calculated using a calorific value of 37.8MJ/m3 (1038Btu/ft3) gross or 34 MJ/m3 (910 Btu/ft3) net at 15˚C and 1013.25 mbar.

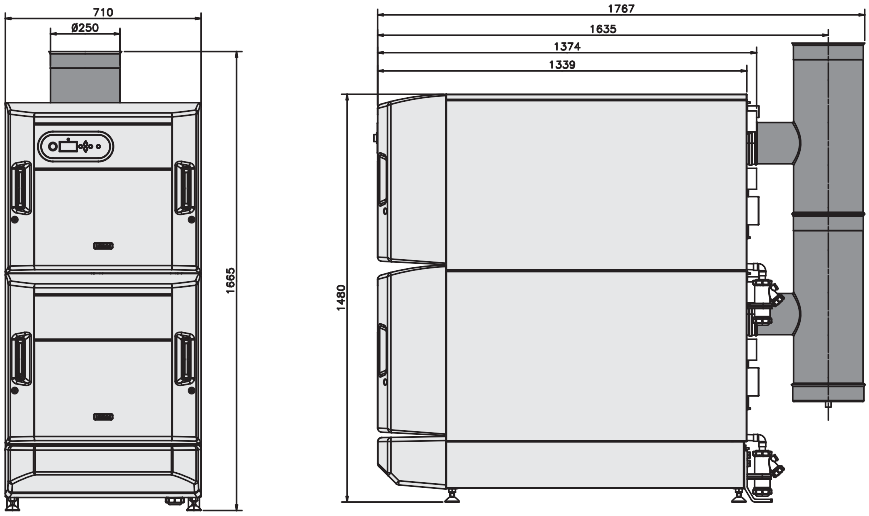
a. For l/s divide the gross heat input (kW) by the gross C.V. of the gas (MJ/m3)
b. For ft/h3 divide the gross heat input (Btu/h) by the gross C.V. of the gas (Btu/ft3)
c. For M3/h multiply L/S by 3.6.

DIMENSIONS

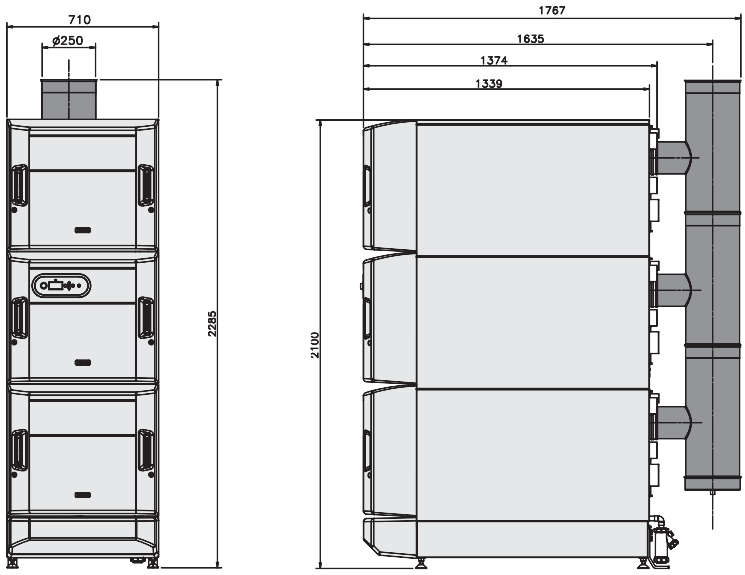
EVOMOD 250 - 1000 kW



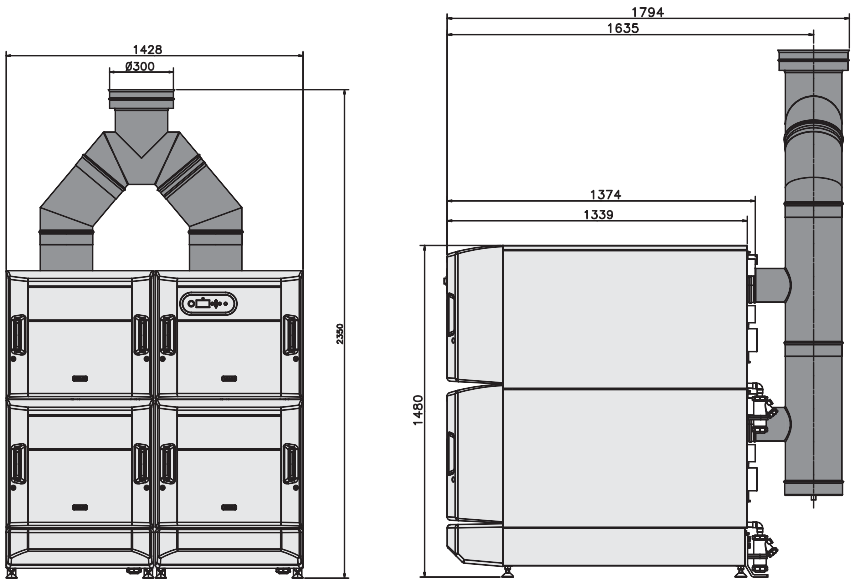
BOILER	HEIGHT (mm)	WIDTH (mm)	DEPTH (mm)
EVOMOD 250 kW	860	710	1339



BOILER	HEIGHT (mm)	WIDTH (mm)	DEPTH (mm)
EVOMOD 500 kW	1480	710	1339



BOILER	HEIGHT (mm)	WIDTH (mm)	DEPTH (mm)
EVOMOD 750 kW	2100	710	1339



BOILER	HEIGHT (mm)	WIDTH (mm)	DEPTH (mm)
EVOMOD 1000 kW	1480	1428	1339

SUGGESTED ENGINEERING SPECIFICATION

The Suggested Engineering Specification is wording designed for specifiers to copy and paste into their specifications to ensure inclusion of Ideal Commercial boilers.

OVERVIEW

The boilers must be fully automatically controlled, floor standing, fanned, super-efficient condensing appliances utilising a stainless steel heat exchanger and be suitable for connection to fully pumped open vented or sealed water systems. The boilers must be modular in design with each module capable of delivering 250kW.

CONTROLS

The condensing boilers must have connectivity for common types of BMS integration including 0-10v and volt free connections. The boiler must be fully modulating with a 5:1 turndown ratio per 250kW module and include control features enabling set point adjustment, heating circuit control of one constant temperature and one DHW circuit or 2 constant temperature circuits, and safety lock out parameters including fault diagnosis for both boiler and external components such as sensors or pumps.

Boiler capabilities must include, with the use of external components, frost protection, weather or room compensation and system pump control.

FLUE

The condensing boilers must be suitable for use with a room sealed flue or open flue applications including C13, C33 and B23 classifications. The flue outlet and air inlet must be situated at the rear of the boiler.

HYDRAULIC

The condensing boiler must be suitable for connection to fully pumped open vented or sealed water systems. All hydraulic connections including flow return and condensate drain must be located on the rear of the boiler. Hydraulic connections must be uniform across the modules available in the range to ensure ease of installation and maintenance. The boiler must have a maximum operating pressure of 6 bar and be suitable for heating and indirect hot water systems.

DIMENSIONS

The condensing boiler must fit within maximum permitted floor space of 0.95m² (when installed 1 module wide) or 1.91m² (when installed 2 modules wide).

MOUNTING / POSITIONING

The condensing boilers will be floor standing.

EFFICIENCY

The condensing boilers are capable of high seasonal efficiencies with a minimum requirement of 95.9% and low NOx emissions no greater than 39.7mg/kWH.

APPROVALS

The boilers must be tested by BSI and conform to EN656, EN13856 and EN15417 for use with Natural Gas. Boilers are certified to meet the requirements of the EC Gas Appliance Directive, Boiler Efficiency Directive, EMC and Low Voltage Directive.

The manufacturer must be ISO 9001 accredited.

SPECIFICATION

The boiler will be capable of flow rates for common systems using 20°C temperature differentials.

SOURCING

The condensing boiler must be manufactured or finally assembled in the United Kingdom.

WARRANTY

The boiler must be available with a 2 year warranty.

See pages 74-77 for further system requirements

SYSTEM APPLICATION

Ideal Evomod boilers are designed for central heating of commercial premises and also for supplying hot water via a calorifier or plate heat exchanger. They are suitable for fully pumped, open vented or pressurised systems and can be connected to heating and/or hot water systems.

They are not suitable for direct hot water supply or gravity heating/hot water systems.

BOILER	EVOMOD
Maximum static head:	61 metres (200 feet)
Maximum working pressure:	6 bar (87psi)

Maximum design flow temperature is 80°C (180°F)

Pump overrun is provided as standard, and a period of 2 minutes must be allowed for in system design.

Frost protection is built into the boiler control, if the boiler sensor falls below 5°C, this will result in the appliance firing.

This will protect the boiler only, not exposed system elements.

RANGE PACKAGING

Evomod 250, 500, 750

The boiler is delivered on a wooden pallet with protective cardboard packing pieces at the front. The side panels & bottom side panels are contained within cardboard packs strapped to the sides of the boilers. The footer is contained in a cardboard box, strapped to the boiler, or placed on the flue header pallet. All condensate traps are individually boxed & stored within the footer box. A protective plastic wrap protects the contents of the pallet. The flue components are in a cardboard box on a separate pallet.

The optional water connection kit (250) comes in a separate box, the optional header kits (500, 750, 1000) come on a separate pallet.

Evomod 1000

This boiler comes packed as above except the boiler is split onto 2 pallets. The header assembly comes split across 2 pallets + a gas manifold.

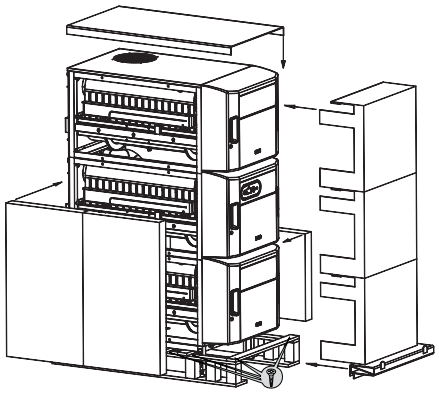
LIST OF PACK CONTENTS:

1. Boiler on pallet(s)
2. Side panel pack(s)
3. Footer pack(s) inc. condensate traps
4. Flue components

To unpack the boiler:

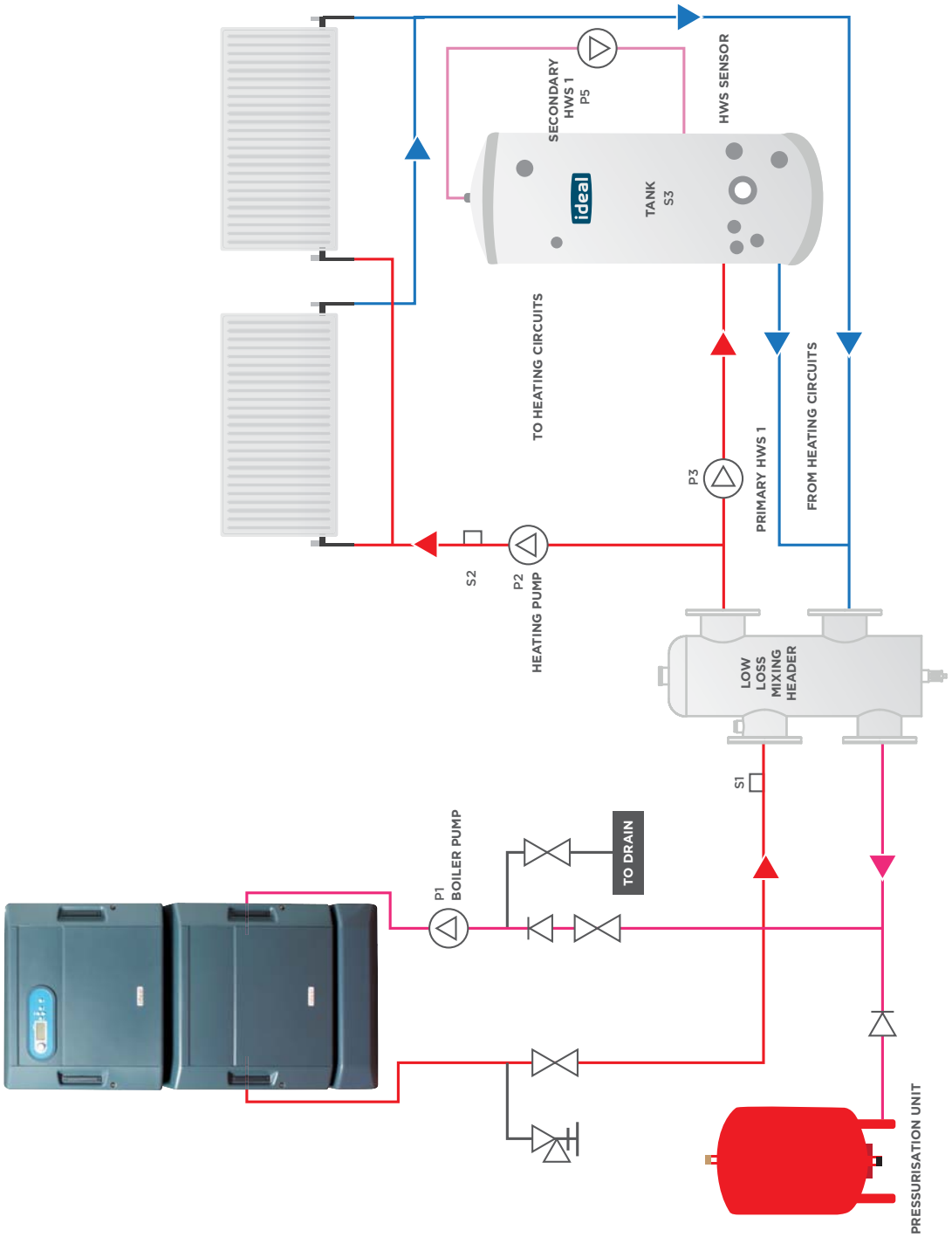
- Remove the plastic wrap
- Unstrap and remove side panel boxes, store in a safe place
- Lift off footer box, store in a safe place
- Retrieve the condensate trap boxes from within the footer box, store in a safe place.
- Remove the protective cardboard packing from the front.
- Remove all screws from the wooden pallet & disassemble the pallet.

A full commissioning service is available at an extra charge.



SYSTEM LAYOUT

TYPICAL SYSTEM BOILER LAYOUT



* Low loss header may not be required depending on system design and pump sizing


ideal
ideal
ideal
ideal


ideal

EVOJET

150 - 1450kW

2 YEAR WARRANTY

PRESSURE JET

EVOJET

150 - 1450kW

The Evojet condensing range of pressure jet boilers are available in 10 models with outputs from 150-1450kW. Floor standing boilers for applications in either single or multiple configurations.

DOWNLOAD THE APP

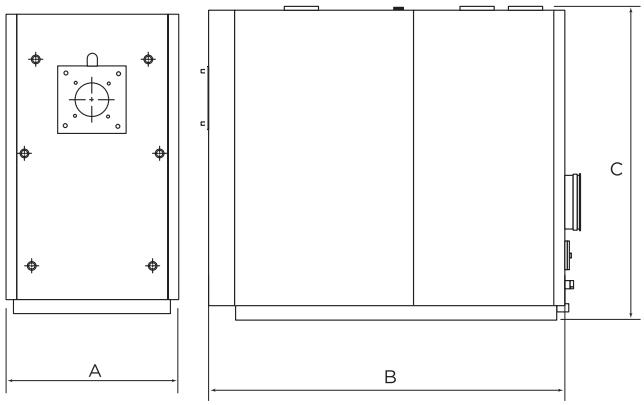
FEATURES & BENEFITS

- Up to 109.3% part load efficiency
- Designed to operate up to 40°C ΔT providing minimum flow rates are achieved
- Dedicated low temp return
- Stainless steel heat exchanger
- Natural gas, LPG, oil and dual fuel models
- Triple flue pass for high operating efficiencies
- Natural gas/LPG burner options - modulating or high / low operation
- Modulation via 0-10 volt BMS, or RWF controller

FLOOR STANDING | NOx CLASS 5 | BIM | DUAL FUEL | ErP COMPLIANT

DIMENSIONS & CLEARANCES

BOILER	DIM A	DIM B	DIM C
150	740	1455	1315
210	740	1455	1315
270	850	1630	1450
350	850	1830	1450
450	900	2035	1630
600	900	2235	1630
800	1060	2560	1910
1000	1060	2810	1910
1250	1180	3010	2030
1450	1225	3080	2180



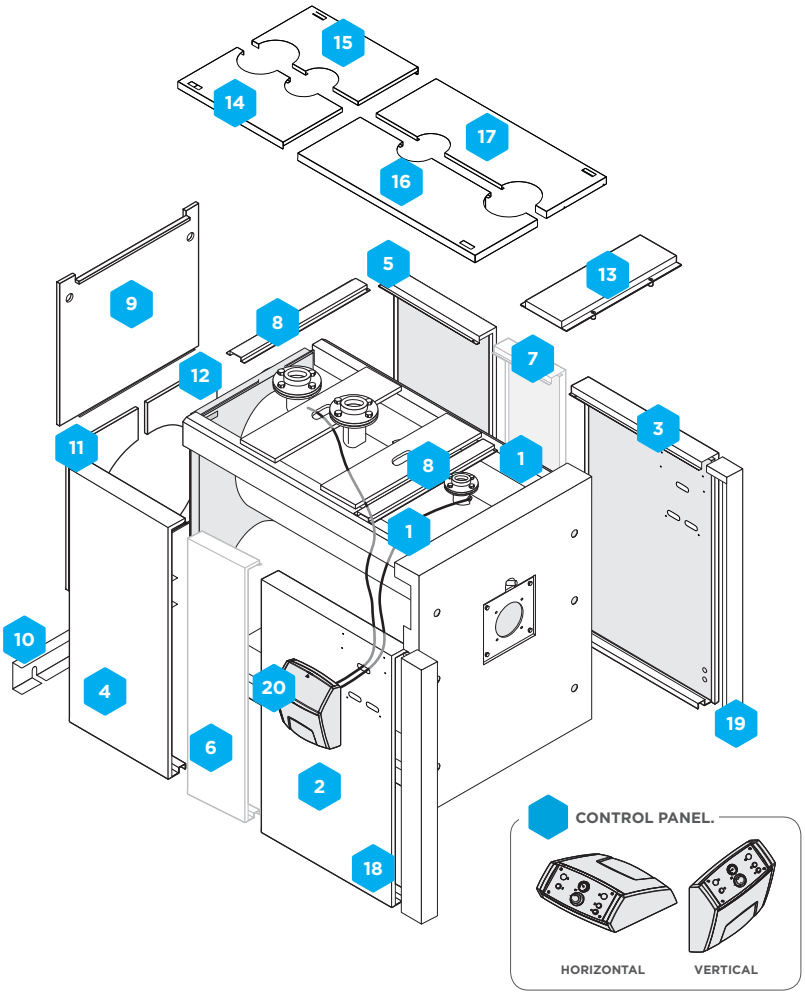
All dimensions in mm

The following minimum clearances must be maintained for operation and servicing:

FRONT: BURNER LENGTH

REAR: 1000mm

SIDES: 150-1250KW 300mm*
1450KW 600mm*



BOILER ASSEMBLY

EXPLODED VIEW

KEY

1. Boiler frame
2. Side Panel
3. Side Panel
4. Rear Panel
5. Rear Panel
6. Central side panel
7. Central side panel
8. Top cross beams
9. Top rear panel
10. Bottom rear bracket
11. Bottom rear panel
12. Bottom rear panel
13. Front top panel
14. Top panel
15. Top panel
16. Top panel
17. Top panel
18. Front trim panel
19. Front trim panel
20. Control panel

PERFORMANCE DATA

EVOJET 150 - 1450 kW (GAS)

MODEL			150	210	270	350	450	600	800	1000	1250	1450
Output Power (80/60)	Max	kW	146.6	205.2	264.3	343.7	441.9	589.2	785.6	982.0	1227.5	1423.9
	Min	kW	108.2	147.1	207.8	264.2	342.2	439.7	586.0	781.0	976.0	1219.7
Output Power (50/30)	Max	kW	160.5	224.7	288.9	374.5	481.5	642.0	856.0	1070.0	1337.5	1551.5
Efficiency Pn (80/60)	Max	%	97.7	97.7	97.9	98.2	98.2	98.2	98.2	98.2	98.2	98.2
	Min	%	97.5	97.7	98.2	98.3	97.5	97.5	97.5	97.5	97.5	97.5
Efficiency Pn (50/30)	Max	%	107									
Efficiency Part Load		%	108.5	109.3	109.2	108.7	108.7	108.7	108.7	108.7	108.7	108.7
Losses from stack for sensible heat (Qmax)		%	1.7	1.7	1.5	1.5	1.9	1.9	1.9	1.9	1.9	1.9
Losses from casing with burner on		%	0.3	0.3	0.5	1.0	0.6	0.6	0.6	0.6	0.6	0.6

For Btu's, multiply gross heat input (kW) by 3412 (Btu)

GENERAL DATA

*Depends on return temperature (30-60°C)
**At Pn max and output T = 80°C, return T = 60°C and CO_2 = 10.3%

EVOJET 150 - 1450 kW (GAS)

MODEL		150	210	270	350	450	600	800	1000	1250	1450
Fuel		GAS (Natural Gas & LPG compatible)									
Constant pressure drop	%	<1									
Flue gas temperature (ΔT)	°C	< 45÷75*									
Flue gas mass flow rate (Q max)**	kg/ sec	0.07	0.09	0.12	0.15	0.20	0.26	0.33	0.43	0.54	0.63
Furnace pressure	mbar	2.0	2.7	3.2	4.6	5.0	5.5	5.7	6.3	6.8	7.4
Furnace volume	dm³	172	172	241	279	442	496	753	845	1037	1249
Total volume of flue gas side	dm³	272	292	413	482	737	860	1290	1454	1763	2097
Heat exchanger surface area	m²	8.20	10.40	13.00	16.30	21.80	28.80	39.60	46.50	56.20	62.28
Volumetric heat load (Q max)	kW/ m³	872	1221	1120	1254	1018	1210	1062	1183	1205	1161
Specific heat load	kW/ m²	18.0	19.9	20.4	20.9	20.1	20.3	18.5	21.0	21.7	22.6
Maximum condensate production	l/h	18.4	27.4	31.9	40.9	52.2	73.8	88.0	111.4	132.7	159.5
Maximum working pressure	bar	6									
Maximum admissible temperature	°C	110									
Maximum working temperature	°C	95									
Pressure drop ΔT 10°C	mbar	43.2	36.0	54.0	46.4	33.8	30.2	128.7	121.5	100.4	150.1
Pressure drop ΔT 20°C	mbar	11.3	10.2	16.3	13.4	9.0	8.5	28.7	30.6	28.4	36.3
Water capacity	l	323	360	495	555	743	770	1320	1395	1825	1900
Weight of boiler	kg	510	530	677	753	1095	1250	1870	2085	2515	3050
Weight of panelling	kg	50	50	60	70	90	120	140	160	215	230

GENERAL DATA

EVOJET 150 - 1450 kW (OIL)

MODEL			210	270	350	450	600	800	1000	1250	1450
Output Power (80/60)	Max	kW	203.7	263.8	343.7	441.9	589.2	785.6	982.0	1227.5	1423.9
	Min	kW	147.1	207.8	264.2	342.2	439.7	586.0	781.0	976.0	1219.7
Efficiency Pn (80/60)	Max	%	97.0	97.7	98.2	98.2	98.2	98.2	98.2	98.2	98.2
	Min	%	97.4	98.5	97.5	97.5	97.5	97.5	97.5	97.5	97.5
Losses from stack for sensible heat (Qmax)		%	1.7	1.5	1.5	1.9	1.9	1.9	1.9	1.9	1.9
Losses from casing with burner on		%	0.3	0.5	1.0	0.6	0.6	0.6	0.6	0.6	0.6

GENERAL DATA

*At Pn max and output T = 80°C, return T = 60°C and CO_2 = 10.3%

EVOJET 150 - 1450 kW (OIL)

MODEL		210	270	350	450	600	800	1000	1250	1450
Fuel		Low Sulphur Oil								
Constant pressure drop	%	<1								
Flue gas temperature (ΔT)	°C	75.0								
Flue gas mass flow rate (Q max)*	kg/sec	0.09	0.12	0.15	0.20	0.26	0.33	0.43	0.54	0.63
Furnace pressure	mbar	2.7	3.2	4.6	5.0	5.5	5.7	6.3	6.8	7.4
Furnace volume	dm³	172	241	279	442	496	753	845	1037	1249
Total volume of flue gas side	dm³	292	413	482	737	860	1290	1454	1763	2097
Heat exchanger surface area	m²	10.40	13.00	16.30	21.80	28.80	39.60	46.50	56.20	62.28
Volumetric heat load (Q max)	kW/m³	1221	1120	1254	1018	1210	1062	1183	1205	1161
Specific heat load	kW/m²	19.9	20.4	20.9	20.1	20.3	18.5	21.0	21.7	22.6
Maximum working pressure	bar	6								
Maximum admissible temperature	°C	110								
Maximum working temperature	°C	95								
Pressure drop ΔT 10°C	mbar	36.0	54.0	46.4	33.8	30.2	128.7	121.5	100.4	150.1
Pressure drop ΔT 20°C	mbar	10.2	16.3	13.4	9.0	8.5	28.7	30.6	28.4	36.3
Water capacity	l	360	495	555	743	770	1320	1395	1825	1900
Weight of boiler	kg	530	677	753	1095	1250	1870	2085	2515	3050
Weight of panelling	kg	50	60	70	90	120	140	160	215	230

GENERAL DATA

EVOJET 150 - 1450 kW

KEY FEATURES

- Twin return water connections
- High water content
- Pressurised combustion chamber for smooth burner operation
- Stainless steel turbulator for maximum heat transfer and increased efficiency
- Double insulated boiler housing
- Front door inspection without removing burner
- Complete with control panel
- Triple flue pass for high operating efficiencies

KEY

1. Burner

2. Flame inspection window with pressure measurement point

3. Door

4. Panelling

5. Outlet

6. Safety device fitting*

7 Heating return (high temperature)

8. Heating return (low temperature)**

9. Blind plug

10. Instrument bulb/ probe socket

11. Combustion chamber

12. Flue connection

13. Flue gas box

14. Inspection door

15. Condensate drain

16. Boiler drain

17. Turbulators

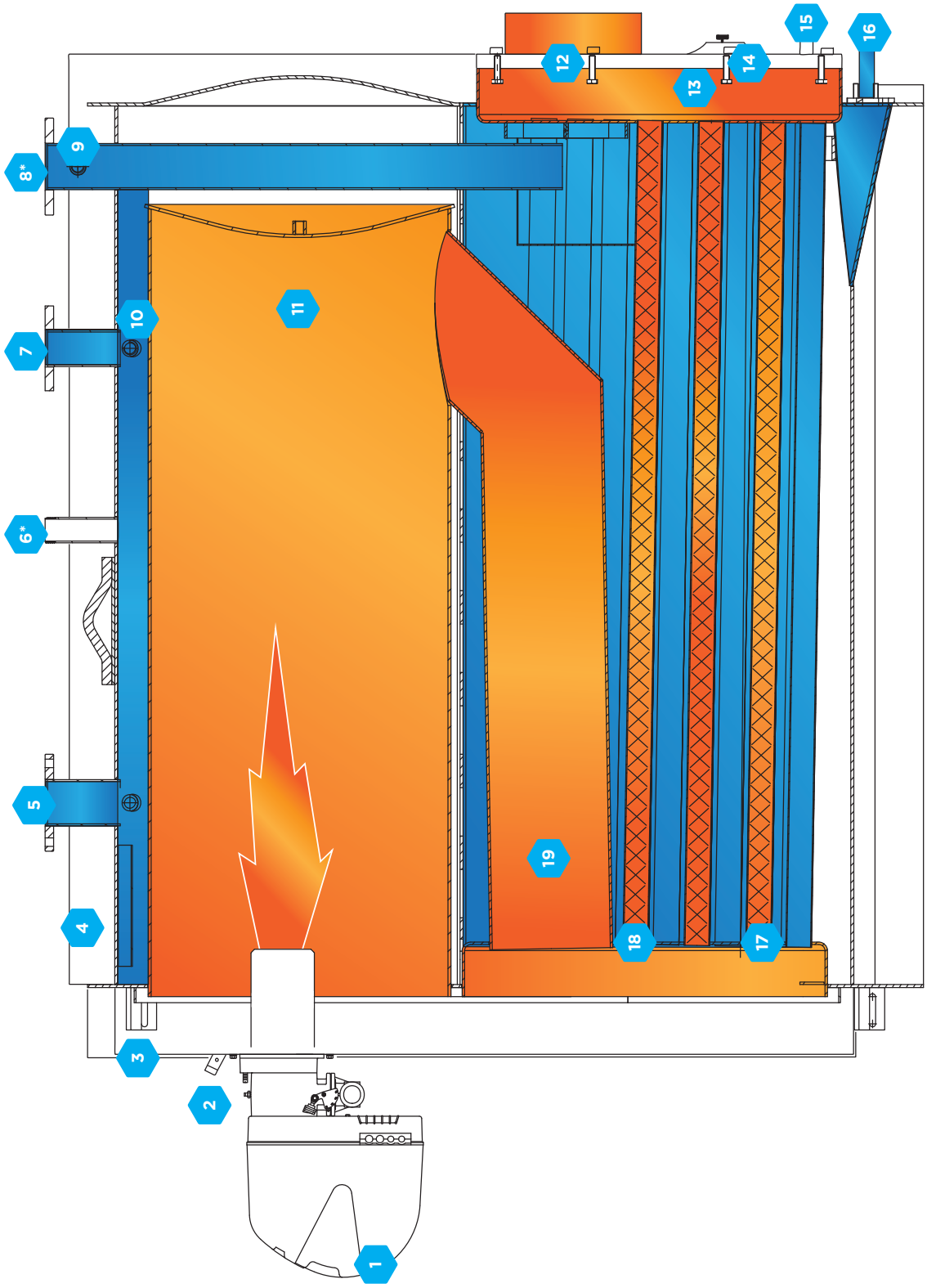
18. Third flue pass

19. Second flue pass

*For 1450 models the safety device fitting is flanged.

**For 1450 models the low temperature heating return is located at the rear of the boiler.

EVOJET CROSS SECTION DIAGRAM



SUGGESTED ENGINEERING SPECIFICATION

The Suggested Engineering Specification is wording designed for specifiers to copy and paste into their specifications to ensure inclusion of Ideal Commercial boilers.

OVERVIEW

The boiler must fully automatically controlled, floor standing condensing boiler with a triple flue pass stainless steel heat exchanger. While they are designed primarily for central heating purposes, in conjunction with a suitable storage cylinder they can also be used to produce domestic hot water on a fully pumped open vented or sealed water systems.

All parts that come into contact with the combustion gases are made from titanium stabilised stainless steel to ensure maximum resistance to the corrosive action of acid condensation.

The boiler must incorporate two return water connections to facilitate multiple applications e.g. CH & DHW and enables the optimum operating efficiency to be achieved.

The boilers must be designed to operate with **Natural Gas, LPG** or **Oil** (delete as required) using pressure-jet or premixed burners. The burner specification will enable the choice of Two Stage / Fully Modulating & Low NOx operation.

CONTROLS

The boiler control options must be selected at the time of purchase:

- Two Stage Burner
- Modulating Burner
- BMS (Boiler Management System) 0-10V
- Oil & Dual Fuel

The boiler must include control features enabling set point adjustment, heating circuit control of one constant temperature, one variable temperature and one DHW circuit and safety lock out parameters including fault diagnosis for both boiler and external components such as sensors or pumps.

Boiler capabilities must include, with the use of external components, frost protection, weather or room compensation and system pump control.

FLUE

The condensing boilers must be suitable for use with a room sealed flue or open flue applications including C13, C33 and B23 classifications. The flue outlet and air inlet must be situated at the rear of the boiler.

HYDRAULIC

The condensing boiler must be suitable for connection to fully pumped open vented or sealed water systems. All hydraulic connections including flow return and condensate drain must be located on the bottom or rear of the boiler. The boiler must have a maximum operating pressure of 6 bar and be suitable for heating and indirect hot water systems.

DIMENSIONS

The condensing boiler must fit within maximum permitted floor space of 0.97m² (150 and 210kW models)/1.23m² (270 and 350kW models)/1.47m² (450 and 900kW models)/2.03m² (800 and 1000kW models)/2.40m² (1250kW model)/2.67m² (1450kW model) (delete as appropriate).

MOUNTING / POSITIONING

The condensing boilers will be floor standing.

EFFICIENCY

The condensing boilers are capable of high seasonal efficiencies with a minimum requirement of 95.9% and low NOx emissions no greater than 39.7mg/kWH.

APPROVALS

The manufacturer must be ISO 9001 accredited.

SPECIFICATION

The boiler must be capable of the below flow rates:

BOILER MODEL	MIN FLOW (L/H)
150	1,700
210	2,400
270	3,100
350	4,000
450	5,100
600	6,800
800	9,100
1000	11,400
1250	14,200
1450	16,500

WARRANTY

The boiler must be available with a 2 year warranty.

PLACE OF INSTALLATION

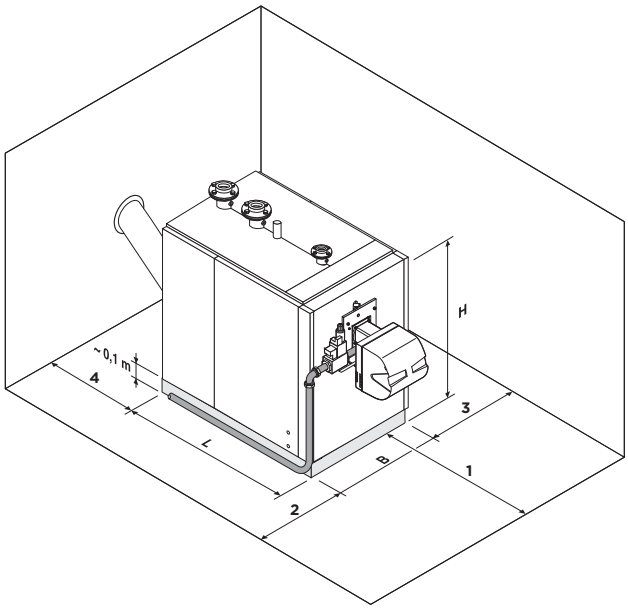
Evojet steel boilers must be installed in a dedicated boiler room, with adequately sized vents, in compliance with BS6644.

If at all possible, the boiler should be installed on a raised base to stop the burner fan sucking up dust and to facilitate installation of a condensate drain system.

The boiler condensate drain must be located above the height of the lid of the system's condensate neutraliser if fitted.

The gas supply pipe must be installed in such a way that the boiler's panelling can be removed and the front door opened without having to remove the burner.

CLEARANCES



DESCRIPTION	BOILER MODEL									
	150	210	270	350	450	600	800	1000	1250	1450
B - Width (mm)	750	750	850	850	900	900	1000	1000	1200	1250
L - Depth (mm)	1350	1350	1620	1820	1930	2140	2400	2700	2920	3100
H - Overall height (boiler + base) (mm)	1420	1420	1540	1540	1700	1700	2010	2010	2130	2280
1 - Front clearance (mm) *	1350	1350	1620	1820	1930	2140	2400	2700	2920	3100
2 - Left clearance min (mm)**	300	300	300	300	300	300	300	300	300	600
3 - Right clearance min (mm)**	300	300	300	300	300	300	300	300	300	600
4 - Rear clearance (mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

* Front clearance can be reduced dependent on the burner used and consideration for turbulator removal

**For further guidance on clearances refer to the installation manual

EVOJET TEMPERATURE CONTROL

The standard Evojet boiler controller is suitable for controlling the temperature using a single jet burner.

Control panels can be installed either on the top of the boiler or on one of its side panels in either vertical or horizontal orientations.

CONTROL PANEL FEATURES INCLUDE:

- Robust ABS housing
- Thermometer
- Overheat lockout / reset button
- Burner lockout indicator
- Compatible with modulating burner controls utilising 0-10 volt BMS
- Compatible with modulating burner controls utilising RWF option

SYSTEM APPLICATION

See pages 74-77 for further system requirements

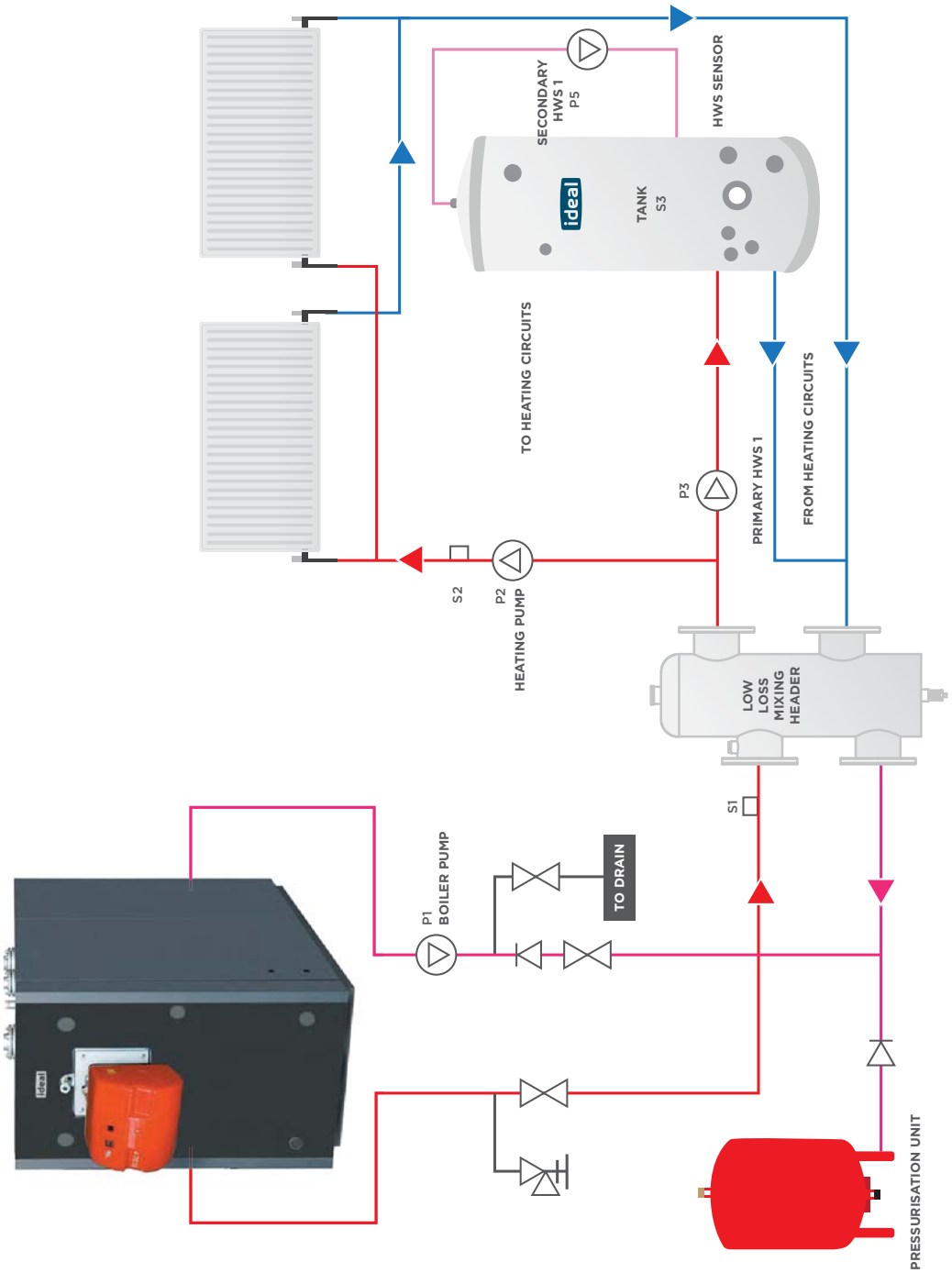
Ideal Evojet boilers are designed for central heating of commercial premises and also for supplying hot water via a calorifier or plate heat exchanger. They are suitable for fully pumped, open vented or pressurised systems and can be connected to heating and/or hot water systems.

They are not suitable for direct hot water supply or gravity heating/hot water systems.

BOILER	EVOJET
Maximum static head:	61 meters
Minimum static head:	10 meters
Maximum working pressure:	6 bar
Minimum working pressure:	1 bar
Maximum design flow temperature:	90˚C

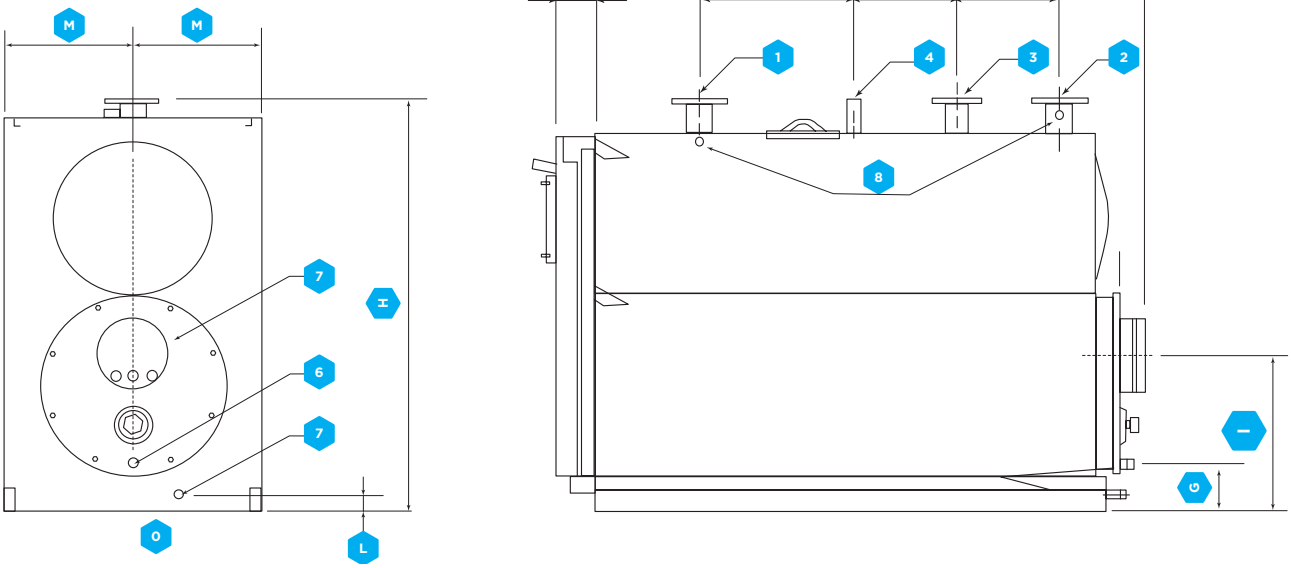
SYSTEM LAYOUT

TYPICAL SYSTEM BOILER LAYOUT

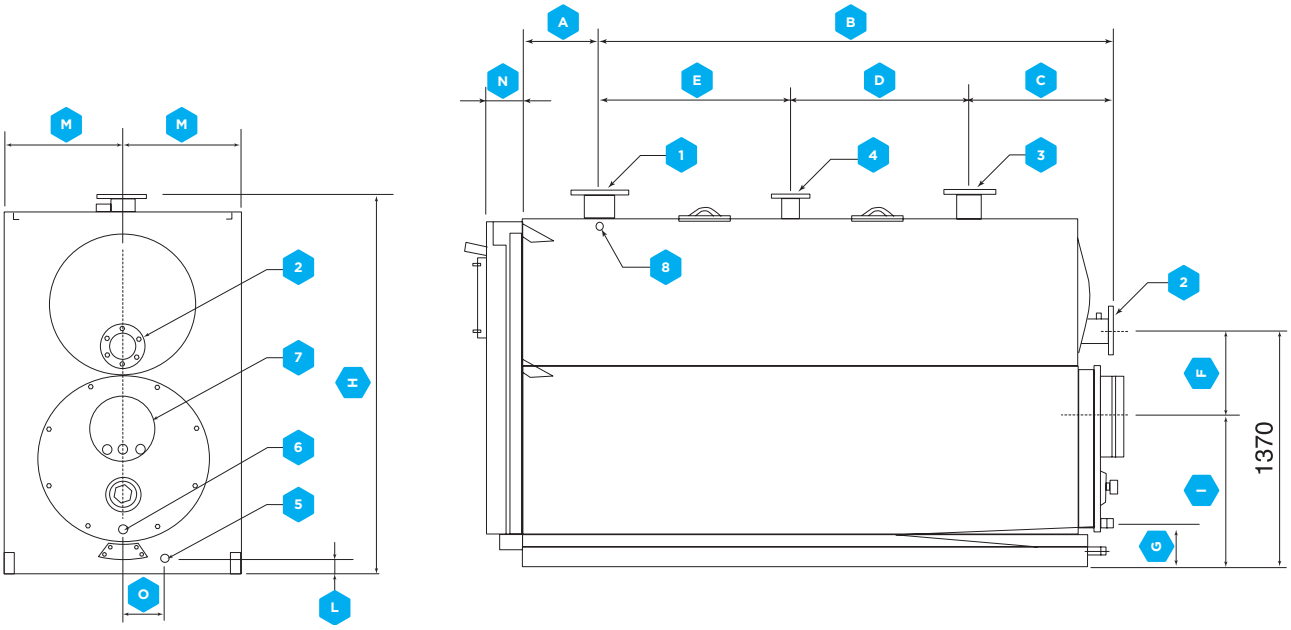


* Low loss header may not be required depending on system design and pump sizing

EVOJET 150 - 1250 MODELS:



EVOJET 1450 MODEL:



SYSTEM CONNECTIONS

Evojet boilers are designed and made for use in central heating installations, but can also be used for domestic hot water production if connected to suitable sub-systems. Water fittings are as specified in the following table:

DESCRIPTION	BOILER MODEL										
	150	210	270	350	450	600	800	1000	1250	1450	
1 - Heating flow*	65	65	65	80	100	100	125	125	150	150	DN
2 - Heating return 1 (Low Temperature)*	65	65	65	80	100	100	125	125	150	150	DN
3 - Heating return 2 (High Temperature)*	50	50	50	65	80	80	80	80	100	100	DN
4 - Safety device fitting	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/2	1" 1/2	80	80	80	80	Ø"- DN
5 - Boiler drain fitting	1"	1"	1"	1"	1"	1"	1" 1/4	1" 1/4	1" 1/4	1" 1/4	Ø"
6 - Condensate drain fitting	1"	1"	1"	1"	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	Ø"- DN
7 - Flue gas exhaust fitting	200	200	250	250	300	300	350	350	400	450	Ø" mm
8 - Instrument bulb/probe sockets	3 x 1/2"	3 x 1/2"	3 x 1/2"	3 x 1/2"	3 x 1/2"	3 x 1/2"	3 x 1/2"	3 x 1/2"	3 x 1/2"	3 x 1/2"	n° x Ø"
A - Distance from burner head to heating flow outlet	300	300	300	315	311	311	410	410	430	440	mm
B - Distance from heating flow outlet to return 1	885	885	1050	1235	1400	1600	1800	2050	2200	2585	mm
C - Distance between heating returns 1 & 2	200	200	300	250	250	300	350	350	350	735	mm
D - Distance between heating return 2 and safety device fitting	285	285	300	450	600	700	750	850	850	850	mm
E - Distance between heating flow outlet and safety device fitting	400	400	450	535	550	600	700	855	1000	1000	mm
F - Distance between heating return 1 and flue gas outlet	200	200	225	225	270	270	325	325	345	560	mm
G - Height of condensate drain	160	160	165	165	215	215	195	195	225	235	mm
H - Height of boiler flanges	1340	1340	1450	1450	1630	1630	1910	1910	2030	2180	mm
I - Height of flue gas outlet	405	405	545	545	645	645	680	680	720	805	mm
L - Height of boiler drain fitting	60	60	55	55	75	75	95	95	105	85	mm
M- Boiler centreline	345	345	375	375	395	395	475	475	535	565	mm
N- Distance from burner head to door	110	110	120	120	125	125	125	125	140	150	mm
O - Distance from Boiler drain fitting	132	132	137	137	125	125	175	175	180	180	mm

*All flanged connections are PN6 according to EN 1092-1

UNIVERSAL SYSTEM REQUIREMENTS OF COMMERCIAL CONDENSING BOILER RANGE.

OPEN SYSTEMS

The system should be vented directly off the boiler flow pipe, as close to the boiler as possible. The cold feed entry should be inverted and MUST be positioned between the pump and the vent, and not more than 150mm (6") away from the vent connection.

There should be a minimum height, 500mm (20") of open vent above the cistern water level. The vertical distance between the highest point of the system and the feed/expansion cistern water level MUST not be less than **DIM A**.

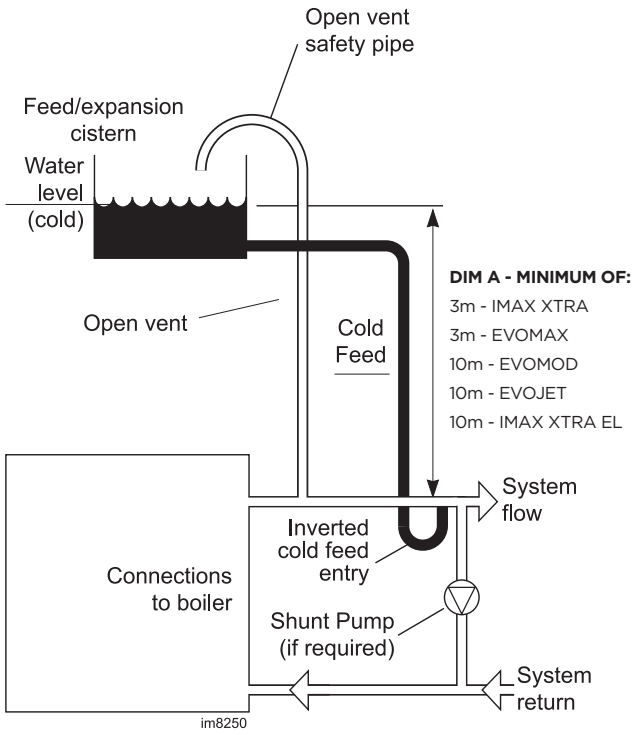
The information provided is based on the following assumptions:

The boiler is at the highest point of the circulation system. Systems designed to raise above the flow tappings will, of course, automatically require a minimum static head higher than shown.

The position of the open vent/safety pipe above the expansion cistern water level is given as a guide only. The final position will depend upon particular characteristics of the system. Pumping over of water into the expansion cistern should be avoided.

COLD FEED/OPEN VENT

The independent cold feed and the open vent must comply with BS 6644 and be of the following minimum size:



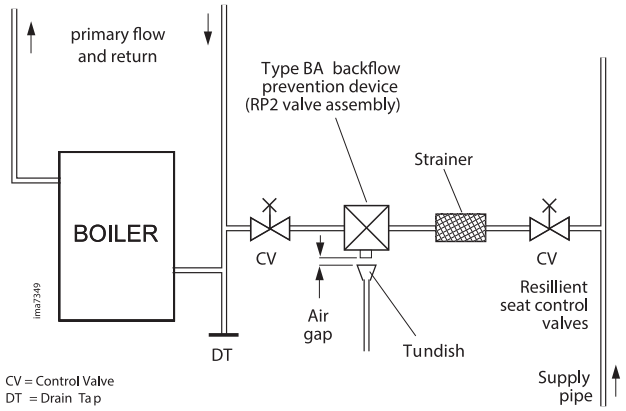
BOILER OUTPUT (KW)	COLD FEED	OPEN VENT
60 - 150	1" (25mm)	1¼" (32mm)
151 - 300	1¼" (32mm)	1½" (38mm)
301 - 600	1½" (38mm)	2" (50mm)
601>	2" (50mm)	A=3.5 x Q_r

The minimum cross-sectional area of the venting pipe(s), A (in mm²) shall be determined using the equation shown here.

Where: Q_r is the rated heat output (kW)

SEALED SYSTEMS

Note. The method of filling, refilling, topping up or flushing sealed primary hot water circuit from the mains for a non-domestic property is shown below.



EVOMAX - 30 - 150kW

GENERAL

A. The information and guidance given above is not intended to override any requirements of these publications or the requirements of the local authority, gas or water undertakings.

B. The installation should be capable of working with flow temperatures of up to 90°C and a temperature differential of up to 20°C.

C. All components of the system, including the heat exchanger of the indirect cylinder, must be suitable for a working pressure of 4 bar (60 lbf/in2) and temperature of 110°C. Care should be taken in making all connections so that the risk of leakage is minimised.

D. The boiler is fitted with an automatic air vent, located in the left top side of the interior. This air vent must never be shut off, as this could result in dry firing of the boiler and subsequent damage to the heat exchanger.

SAFETY VALVE

A spring loaded safety valve complying with the relevant requirements of BS. 6759 Pt. 1 must be fitted in the flow pipe as close to the boiler as possible and with no intervening valve or restriction. The valve should have the following features:

A. A non-adjustable preset lift pressure not exceeding 4 bar (60 lbf/in2).

B. A manual testing device.

C. Provision for connection of a discharge pipe. The valve or discharge pipe should be positioned so that the discharge of water or steam is visible, but will not cause hazard to user or plant.

PRESSURE GAUGE

A pressure gauge covering at least the range 0-4bar must be fitted to the system. The gauge should be easily seen from the filling point and should preferably be connected at the same point as the expansion vessel.

EXPANSION VESSEL

Expansion vessels used must comply with BS. EN 13831. Connection to the system must not incorporate an isolating valve.

IMAX XTRA - 80 - 280kW

Working pressure 6 bar (87psi) maximum.

Particular reference should be made to BS 6644: Section 2; Subsection 11, Guidance note PM5 “Automatically controlled steam and hot water boilers” published by the Health and Safety Executive and Water Regulations Guide.

The information and guidance given below is not intended to override any requirements of either of the above publications or the requirements of the Local Authority, gas or water undertakings.

In general, commercial closed pressurised systems are provided with either manual or automatic water make up. In both instances it will be necessary to fit automatic controls intended to protect the boiler circulating system and ancillary equipment by shutting down the boiler plant if a potentially hazardous situation should arise.

Examples of such situations are low water level and operating pressure or excessive pressure within the system. Depending on circumstances, controls will need to be either manually or automatically reset. In the event of shut down, both visual and audible alarms may be necessary.

Pressure vessels used must comply with EN13831 and must be sized on the basis of the total system volume and initial charge pressure. Initial minimum charge pressure should not be less than 0.5 bar (7.2psi) and must take account of static head and specification of the pressurising equipment.

The maximum water temperatures permissible at the point of minimum pressure in the system is specified in Guidance Note PM5. When make up water is not provided automatically it will be necessary to fit controls which shut down the plant in the event of the maximum system pressure approaching to within 0.35 bar (5psi) of the safety valve setting.

Other British Standards applicable to commercial sealed systems are:

BS 6880: Part 2
BS 1212
BS 6281: Part 1
BS 6282: Part 1
BS 6283: Part 4

IMAX XTRA EL - 320 - 1240kW

Working pressure 6 bar (87psi) maximum.

Particular reference should be made to BS. 6644 and Guidance note PM5 “Automatically controlled steam and hot water boilers” published by the Health and Safety Executive.

The information and guidance given below is not intended to override any requirements of either of the above publications or the requirements of the local authority, gas or water undertakings.

In general commercial closed pressurised systems are provided with either manual or automatic water make up. In both instances it will be necessary to fit automatic controls intended to protect the boiler, circulating system and ancillary equipment by shutting down the boiler plant if a potentially hazardous situation should arise.

Examples of such situations are low water level and operating pressure or excessive pressure within the system. Depending on circumstances, controls will need to be either manual or automatic reset. In the event of a shutdown both visual and audible alarms may be necessary.

Expansion vessels used must comply with BS. 4814 and must be sized on the basis of the total system volume and initial charge pressure.

Initial minimum charge pressure should not be less than 1.2 bar (15psi) and must take account of the static head and specification of the pressurising equipment. The maximum water temperatures permissible at the point of minimum pressure in the system are specified in Guidance Note PM5.

When make up water is not provided automatically it will be necessary to fit controls which shut down the plant in the event of the maximum system pressure approaching to within 0.35bar (5psi) of the safety valve setting. Other British Standards applicable to commercial sealed systems are:

BS. 6880: Part 2
BS. 1212
BS. 6281: Part 1
BS. 6282: Part 1
BS. 6283: Part 4

EVOMOD - 250 - 1000kW

Particular reference should be made to BS. 6644 and Guidance note PM5 “Automatically controlled steam and hot water boilers” published by the Health and Safety Executive.

The information and guidance given below is not intended to override any requirements of either of the above publications or the requirements of the local authority, gas or water undertakings.

In general commercial closed pressurised systems are provided with either manual or automatic water make up.In both instances it will be necessary to fit automatic controls intended to protect the boiler, circulating system and ancillary equipment by shutting down the boiler plant if a potentially hazardous situation should arise.

Examples of such situations are low water level and operating pressure or excessive pressure within the system. Depending on circumstances, controls will need to be either manual or automatic reset. In the event of a shutdown both visual and audible alarms may be necessary.

Expansion vessels used must comply with EN13831 and must be sized on the basis of the total system volume and initial charge pressure. Initial minimum charge pressure should not be less than 1.0 bar (14.7psi) and must take account of the static head and specification of the pressurising equipment. The maximum water temperatures permissible at the point of minimum pressure in the system are specified in Guidance Note PM5.

When make up water is not provided automatically it will be necessary to fit controls which shut down the plant in the event of the maximum system pressure approaching to within 0.35bar (5psi) of the safety valve setting.

Other British Standards applicable to commercial sealed systems are:

BS. 6880: Part 2
BS. 1212
BS. 6281: Part 1
BS. 6282: Part 1
BS. 6283: Part 4

EVOJET - 150 - 1450kW

Working pressure 6 bar (87psi) maximum.

Particular reference should be made to BS 6644: Section 2; Subsection 11, Guidance note PM5 “Automatically controlled steam and hot water boilers” published by the Health and Safety Executive and Water Regulations Guide.

The information and guidance given below is not intended to override any requirements of either of the above publications or the requirements of the Local Authority, gas or water undertakings.

In general, commercial closed pressurised systems are provided with either manual or automatic water make up. In both instances it will be necessary to fit automatic controls intended to protect the boiler circulating system and ancillary equipment by shutting down the boiler plant if a potentially hazardous situation should arise.

Examples of such situations are low water level and operating pressure or excessive pressure within the system. Depending on circumstances, controls will need to be either manually or automatically reset. In the event of shut down, both visual and audible alarms may be necessary.

Pressure vessels used must comply with EN13831 and must be sized on the basis of the total system volume and initial charge pressure. Initial minimum charge pressure should not be less than 0.5 bar (7.2psi) and must take account of static head and specification of the pressurising equipment.

The maximum water temperatures permissible at the point of minimum pressure in the system is specified in Guidance Note PM5. When make up water is not provided automatically it will be necessary to fit controls which shut down the plant in the event of the maximum system pressure approaching to within 0.35 bar (5psi) of the safety valve setting.

Other British Standards applicable to commercial sealed systems are:

BS 6880: Part 2
BS 1212
BS 6281: Part 1
BS 6282: Part 1
BS 6283: Part 4

VENTILATION

OPEN FLUED APPLICATION

Safe, efficient, and trouble-free operation of conventionally flued gas boilers is vitally dependent on the provision of an adequate supply of fresh air to the room in which the appliance is installed.

Ventilation by grilles communicating directly with the outside air is required at both high and low levels. The minimum free areas of these grilles must be in accordance with BS6644 or IGE UP10. The use of an extractor fan in the same room as the boiler (or in an adjacent room in communication) can, in certain conditions, adversely affect the safe operation of the boiler. Where such a fan is already fitted, or if an extractor fan is likely to be installed at a later date, then the advice of the gas supplier should be obtained.

BS 6644 - Inputs greater than 70kW (net)

TOTAL GROSS INPUT RATING OF BOILERS	POSITION OF AIR VENTS	AIR VENT AREAS* (CM2) (AIR DIRECT FROM OUTSIDE)	
70kW to 1.8MW	High level	Boiler room	Enclosure
		2	5
70kW to 1.8MW	Low level	Boiler room	Enclosure
		4	10

*Required area is cm2 per kW of net input. Note: where a boiler installation is to operate in summer months (e.g. DHW) additional ventilation requirements are stated. If operating for more than 50% of time refer to BS 6644.

BALANCED FLUE APPLICATIONS

Room sealed installations require no air from the boiler house for combustion as this is drawn direct from the outside atmosphere.

However, air may be required to ventilate the boiler house and remove any excess heat generated by the boiler (2cm² free area per kW net heat input at both high and low level BS 6644).

Imax Xtra boilers have an air inlet connection which may be used with proprietary ducting if required.

A separate flue connection is still required.

WATER TREATMENT

IMPORTANT

The application of any other treatment to this product may render the guarantee of Ideal Boilers Invalid.

Ideal Boilers recommend Water Treatment in accordance with the Benchmark Guidance Notes on Water Treatment in Central Heating Systems.

If water treatment is used Ideal Boilers recommend only the use of Scalemaster Gold 100, Fernox, MB-1, Adey MC1, Sentinel-X100, CALMAG CM100 inhibitors and associated water treatment products, which must be used in accordance with the manufacturers' instructions.

NOTES

1. It is most important that the correct concentration of the water treatment products is maintained in accordance with the manufacturers' instructions.

2. If the boiler is installed in an existing system any unsuitable additives MUST be removed by thorough cleansing. BS 7593:2006 details the steps necessary to clean a domestic heating system.

3. In hard water areas, treatment to prevent lime scale may be necessary - however the use of artificially softened water is NOT permitted.

4. Under no circumstances should the boiler be fired before the system has been thoroughly flushed.

For further information contact:

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GU21 5RZ
Tel: +44 (0) 870 601 5000

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7560 Daresbury Park
Daresbury, Warrington
Cheshire
WA4 4BS
Tel: 0800 389 4670
www.sentinelprotects.com

Scalemaster Water Treatment Products
Emerald Way, Stone, Staffordshire
ST15 0SR
Tel: 01785 811636

Calmag Ltd.
Riverview Buildings
Bradford Road, Riddlesden,
Keighley, West Yorkshire
BD20 5JH
Tel: +44 (0) 1535 210 320

Adey Professional Heating Solutions
Gloucester Road,
Cheltenham GL51 8NR
Tel: +44 (0) 1242 546700

COMMERCIAL RANGE OVERVIEW.

CONDENSING BOILERS

EVOMAX

- Wall Hung
- Aluminium Alloy Heat Exchanger
- 30-150 kW
- 30-80kW LPG

EVO S

- Wall Hung
- Stainless Steel Heat Exchanger
- 50-135 kW
- 50-90kW LPG

IMAX XTRA

- Floor Standing
- Aluminium Alloy Heat Exchanger
- 80-280 kW

IMAX XTRA EL

- Floor Standing
- Aluminium Alloy Heat Exchanger
- 320-1240 kW

EVOMOD

- Floor Standing
- Stainless Steel Heat Exchanger
- Modular
- 250-1000 kW

EVOJET

- Floor Standing
- Stainless Steel Heat Exchanger
- 150-1450kW
- Condensing Pressure Jet
- Natural Gas, LPG, Oil or Dual Fuel

PRESSURE JET BOILERS

- Floor Standing
- Range of matched burners

VISCOUNT GTS
754-1450 kW

- Cast Iron heat exchanger

VANGUARD L
420-7000kW

- Steel Shell and Tube

VICEROY GTS
450-780 kW

- Cast Iron heat exchanger

HEAT INTERFACE UNITS (HIU)

MODELS AVAILABLE:

LOGIC HIU 50 INDIRECT

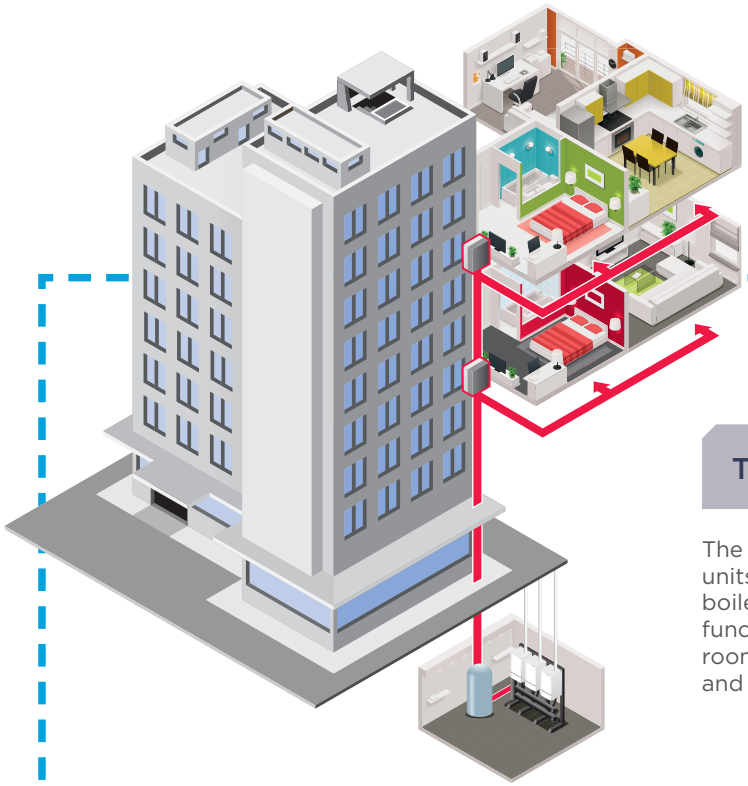
LOGIC HIU 75 INDIRECT

LOGIC HIU 50 DIRECT
MEDIUM TEMP. (MT)

LOGIC HIU 50 DIRECT
HIGH TEMP. (HT)

- Indirect 50 & 75 units with twin plate design
- Direct 50 MT & HT units with single plate design
- Light weight and compact
- Ultrasonic metering options available

DOWNLOAD THE APP



TYPICAL SYSTEM

The Ideal Heat Interface Units are heat energy transfer units. Designed for use in conjunction with centralised boilers, district heating or central energy systems. The function is to efficiently transfer heat from the plant room to the individual dwelling's central heating (CH) and domestic hot water (DHW) systems.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At Ideal Commercial, we are committed to delivering the highest levels of customer service. With over a century of experience in the heating industry, we know how important confidence and trust is to our customers.

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FM 59915 OHS 593264

APPROVAL

These appliances are certified to G.A.D. 90/396 and B.E.D. 92/42 Safety and Performance Directives for gas boilers.

Ideal Commercial Boilers pursues a policy of continuous improvement in design and performance of its products and reserves the right to vary specification without notice. Statutory rights of the consumer are not affected.

PLEASE NOTE:

The information in this brochure was correct at the time of going to print. Ideal Commercial Boilers reserve the right to make any modifications to product specifications or any other details, without prior notification. For further clarification, please enquire in writing to the head office address (address below).

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