

# Sirius WH

Wall Hung Stainless Steel Condensing Boilers

Single Boiler Applications: 50 to 110kW

Modular Boiler Applications: up to 880kW



Working towards  
a cleaner future

**POTTERTON**  
COMMERCIAL  
heating specialists



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## 1.1 Background

Potterton Commercial's Sirius WH is a technically sophisticated range of wall hung, stainless steel condensing boilers. Backed by a unique, fully comprehensive five year warranty, and the built in reliability you can sit back and relax after the installation.

Lightweight, low noise and easy to install, the Sirius WH is also extremely energy efficient (up to 107% net) as well as offering advanced ultra low NOx performance, exceeding Class 5. Using the latest stainless steel heat exchanger technology in conjunction with the most sophisticated control system, the Sirius WH delivers maximum condensing performance. Sirius WH boilers are easy to service with good internal space for providing easy access to key components.

## 1.2 Product

The Potterton Commercial Sirius WH is available in five outputs, with nominal outputs of: 50, 60, 70, 90 & 110kW. These sizes make it the perfect choice for large domestic applications as well as for use in a range of light commercial premises e.g. small hotels, bars and restaurants etc. The boilers can also be arranged in modular format up to 880kW. This also enables the boiler to be suitable for use in general commercial applications such as hospitals, schools and colleges etc.

## 1.3 Benefits

### Peace of mind

The Potterton Commercial Sirius WH is manufactured to ISO9001 Quality Standards using only components of the finest quality. Ensuring the range delivers exceptional reliability. Potterton Commercial also provides a fully comprehensive five star parts and labour warranty on the Sirius WH boilers\*, when commissioned by Potterton Commercial. Otherwise our standard one year warranty applies.

### Environmentally Friendly

The Sirius WH generates net operating efficiency levels of up to 107% at 50°C/30°C and is fully Part L2 compliant. An in-built weather compensation facility optimises seasonal efficiency (full modulation down to 30% and encourages the boiler to condense whenever possible).

### Fuel Flexibility

Supplied for use with natural gas or LPG (propane) optional.

### User-friendly Controls

Full on-board diagnostics indicate any faults on the user-friendly display panel. The in-built time control (one heating phase) provides the end-user simple control with full diagnostics.

## 1.4 Design

Designed for wall hung applications, this lightweight boiler weighs from only 64kg and is perfect for use where floor space is at a premium. Its smart, white steel casing also makes it appropriate for use in applications where a commercial boiler maybe on show e.g. in a staff room, office or lobby area.

## 1.5 Options

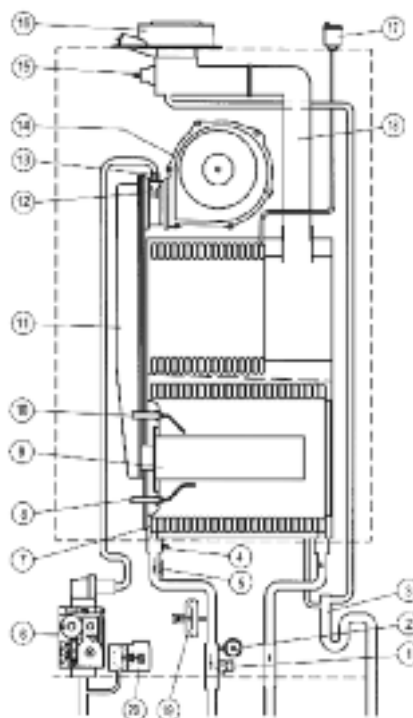
The Sirius WH range comes with a variety of options to enable the specifier to customise each installation: flue accessories, modular pipework kits and Building Management Controls. (Please see relevant sections for more details.)

\*Terms & Conditions apply



## 1.6 Construction

The Sirius WH, condensing boiler comprises of the latest in stainless steel heat exchangers, mounted in a smart, white steel casing. For ease of access, the full premix burner has been sited at the front of the boiler. Water and gas connections are made at the bottom of the boiler, concentric flue outlets are at the top of the boiler and the controls are accessible by a push open door. All servicing is carried out from the front of the boiler.



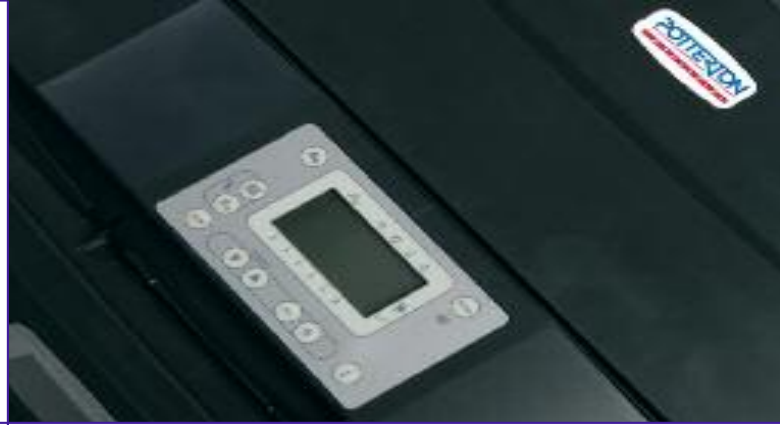
## 1.7 Exploded View & Description

- |                             |                               |
|-----------------------------|-------------------------------|
| 1. Boiler Drain Point       | 11. Air/Gas Mixing Chamber    |
| 2. Pressure Gauge           | 12. Venturi                   |
| 3. Siphon                   | 13. Gas Diaphragm             |
| 4. Boiler Temp NTC Sensor   | 14. Fan                       |
| 5. Overheat Thermostat      | 15. Flue Thermostat           |
| 6. Gas Valve                | 16. Flue Spigot               |
| 7. Heat Exchanger           | 17. Automatic Air Vent        |
| 8. Flame Detector Electrode | 18. Flue Joint                |
| 9. Pre-mix Burner           | 19. Hydraulic Pressure Switch |
| 10. Ignition Electrode      | 20. Gas Pressure Switch       |

## 2.1 System Requirements

The Potterton Commercial Sirius WH is suitable for systems with a minimum water pressure of 1 Bar (10 metres vertical head), with a maximum working pressure of 4 Bar.

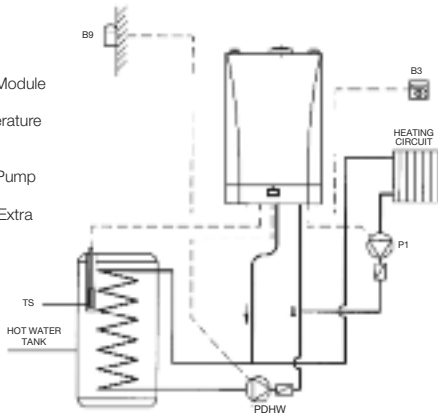
All installations should comply with all relevant codes of practice, British Standards and current Building Regulations. Maximum efficiencies can only be achieved when the Sirius WH boilers are installed within fully condensing systems. Typical heating system layouts and their controls can be seen in the diagrams that follow.



## 2.2 Single Boiler DHW & CT (Constant Temperature)

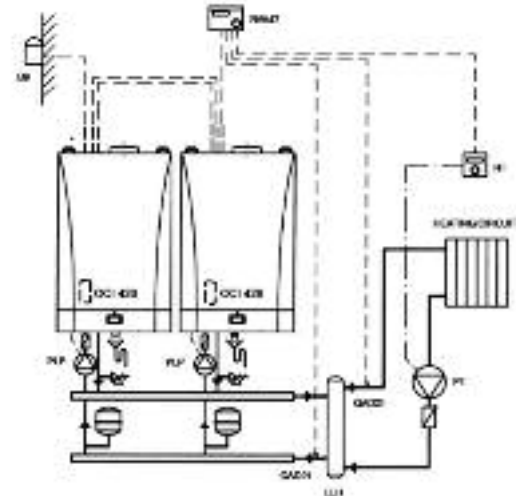
- TS: Tank Sensor (BCC/QAZ36)\*
- B3: Room Control Module (BCC/QAA73)\*
- B9: Outdoor Temperature Sensor (QAC34)
- P1: Heating Pump
- PDHW: Hot Water Pump

(\*) Available Optional Extra



Application	With QAA73 Remote Control	With RT Room Thermostat
	Terminal Board	Terminal Board
DHW Pump (PDHW)	M3: 13-14	M3: 13-14
Heating Pump (P1)	M3: 11-12	M3: 11-12
DHW Sensor (TS)	M2: 7-8	M2: 7-8
Remote Control (QAA73)	M2: 1-2	NO
Room Thermostat (RT)	M2: 3-4 Open	M2: 3-4

## 2.4 Modular Boiler CT



- RVA47: Sequence controller (BCC/RVA47)\*
- RT: Room Thermostat (BCC/RT)\*
- B9: Temperature Sensor (QAC34) supplied with the gas boiler
- OC1420: Bus Communication Module (BCC/OC1420)\*
- QAD21: Flow Sensor (BCC/QAD21)\*
- RVA Housing: RVA Housing for mounting controller (BCC/RVAH)\*
- PLP: Primary Loop Pump
- P1: Heating Pump
- LLH: Low Loss Header

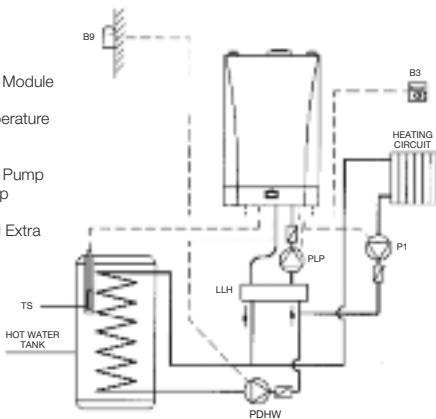
(\*) Available Optional Extra

Application	Terminal Board
Primary Pump (PLP)	M1: A-B
Heating Pump (P1)	RVA 47
Room Thermostat (RT)	RVA 47
Flow/Return Sensor (QAD 21)	RVA 47

## 2.3 Single Boiler DHW & CT with Primary Loop

- TS: Tank Sensor (BCC/QAZ36)\*
- B3: Room Control Module (BCC/QAA73)\*
- B9: Outdoor Temperature Sensor (QAC34)
- P1: Heating Pump
- PDHW: Hot Water Pump
- PLP: Primary Pump

(\*) Available Optional Extra



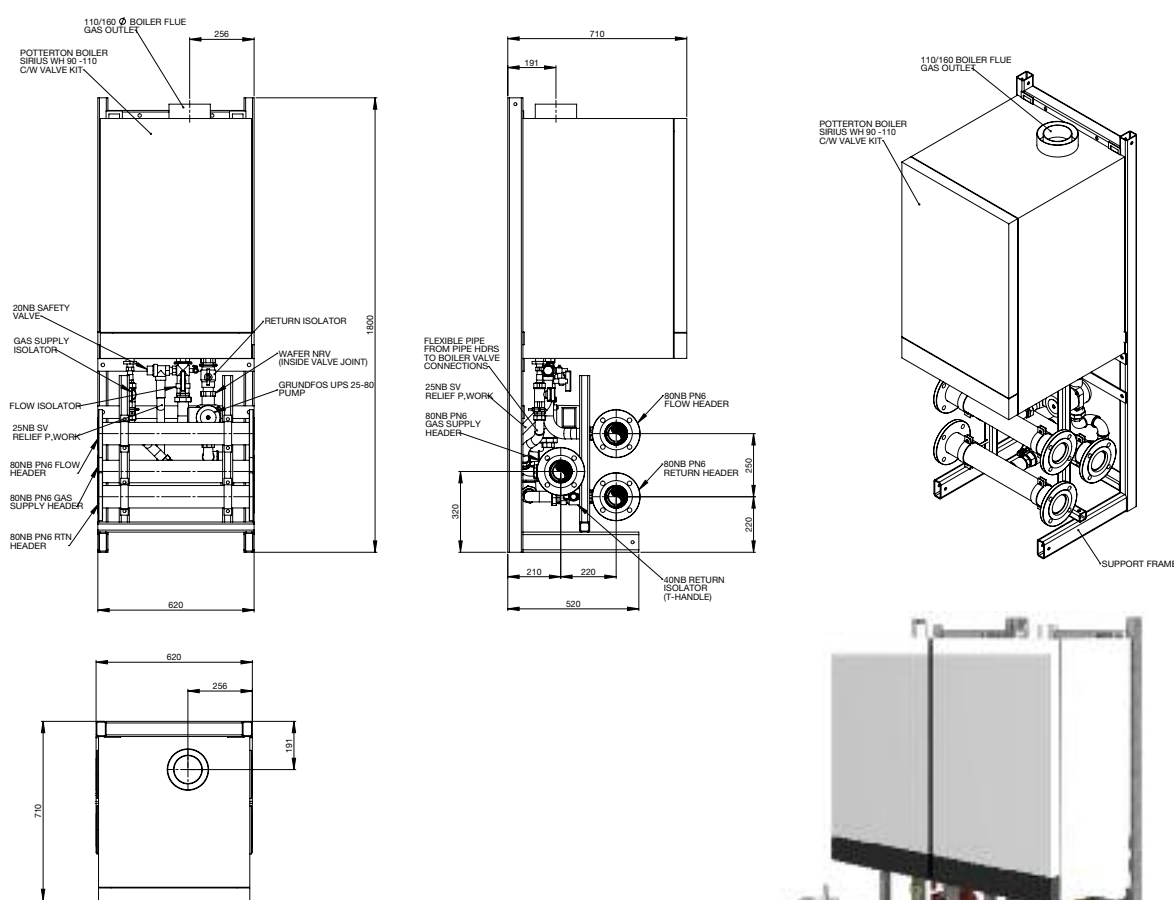
Application	With QAA73 Remote Control	With RT Room Thermostat
	Terminal Board	Terminal Board
Primary Pump (PLP)	M1: A-B	M1: A-B
DHW Pump (PDHW)	M3: 13-14	M3: 13-14
Heating Pump (P1)	M3: 11-12	M3: 11-12
DHW Sensor (TS)	M2: 7-8	M2: 7-8
Remote Control (QAA73)	M2: 1-2	NO
Room Thermostat (RT)	M2: 3-4 Open	M2: 3-4

### 3.1 Pipe-work Options

Optional pipe-work header kits are available for modular applications. This should facilitate the installation process, removing the need to fabricate additional pipe-work on site. Manufactured to ISO 9001, the kits are fully tested and supplied in a ready-to-use single package.

### 3.2 Modular Pipe-work Options

Prefabricated pipework modules facilitate the ease of installation. Using flange connections for flow, return and gas manifolds pre-mounted to a boiler frame the installation of modular boilers now take minutes. Sized for up to 4 modules in a row or 8 modules back to back complete with a low-loss header ensures the maximum utilisation of the boiler room location.



NOTE: Drawings are for illustration purposes, for full technical and dimensional detail please contact the Technical Hotline on 0845 070 1057.

### 3.3 Pipe-work Kits

Model	Sirius WH 50/70			Sirius WH 90/110			
	No of Boilers	Flow & Return Header Size	Gas Header Header Size	Low Loss Header Size	Flow & Return Header Size	Gas Header Header Size	Low Loss Header Size
1		50mm	50mm	100mm	50mm	50mm	100mm
2		50mm	50mm	100mm	50mm	50mm	100mm
3		50mm	50mm	100mm	80mm	80mm	100mm
4		80mm	80mm	100mm	80mm	80mm	100mm
5		80mm	80mm	100mm	80mm	80mm	100mm
6		80mm	80mm	100mm	80mm	80mm	100mm

## 4.1 Controls Options

A versatile range of control options are available to meet most project requirements – from large domestic applications to commercial projects such as hospitals and schools. Whether your project is a single boiler, heating only installation, or a multiple boiler installation with multiple heating and hot water zones, the Sirius WH offers a controls solution to suit.

The Sirius WH controls options can be used in conjunction with a building's existing system and are fully compatible with most available types. Supported by the Potterton Commercial Technical Team, assistance for system specification and design is available to help you design the best controls system for your application.

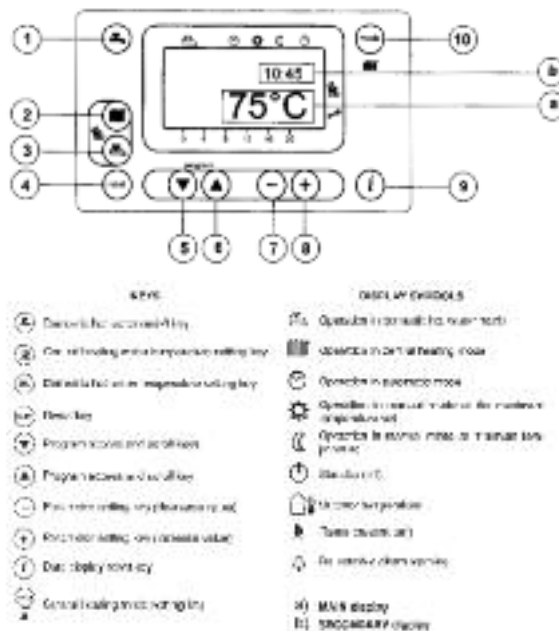
## 4.2 Single Boiler Application Controls & Sales Codes

### Standard Boiler – Sirius WH





Product	Sales Code
WH50	BWH50
WH60	BWH60
WH70	BWH70
WH90	BWH90
WH110	BWH110

### Standard Boiler Controls

The Potterton Commercial Sirius WH range of boilers are supplied with a fully integrated Human Machine Interface (HMI) control system. This control and display panel allows the service engineer immediate and accurate information on faults and provides the end user with flexible programming for heating and hot water services. An outside weather compensation sensor, pump overrun facilities and full remote fault diagnostics (fully compatible with existing systems) are also supplied as standard.



## 4.3 Optional Single Boiler Controllers

Control Type	Sales Code	Description
<b>QAA73</b>	BCC/QAA73	 <p>Remote programmable digital room thermostat allowing weather compensation and night set-back for zone control. Programmable up to 3 phases per day for heating and DHW, holiday functions and frost protection.</p> <p>Allows service engineer entry to in-built programming of the boiler control unit allowing building characteristics to be altered and set.</p>
<b>RT</b>	BCC/RT	 <p>Remote room thermostat, allowing simple temperature control.</p>
<b>QAZ36</b>	BCC/QAZ36	 <p>Immersion sensor for use when hot water control is required using an indirect cylinder.</p>
<b>AGU2.500</b>	BCC/AGU2500	 <p>Clip-in interface for use with a variable temperature circuit allows control of 2nd heating pump and 3-way mixer valve (Drive Open/Drive Shut).</p>

## 4.4 Modular Boiler Application Controls & Sales Codes

The Sirius WH can easily be modularised and is suitable for applications where up to 12 boilers are arranged in cascade formation i.e. up to a maximum of 1320kW. Potterton Commercial offers a range of modular controls options that facilitate optimum sequencing, matching the boiler output to the system load in the most efficient way.

In addition, Potterton Commercial controls can also look after up to 12 heating circuits at a time (including constant

temperature, variable temperature and domestic hot water circuits). It can therefore allow individual zone control and optimisation, individual weather compensation and individual night set-back facilities for each circuit.

Assistance for controls system specification and design is available from the Potterton Commercial technical team to help you design the best controls system for your modular application.

## 4.5 Optional Modular Boiler Controllers

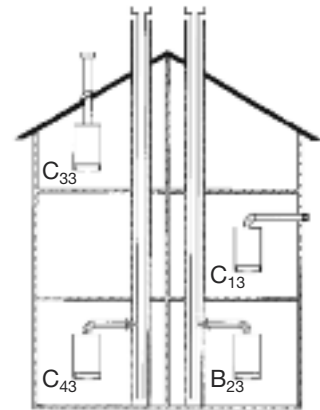
Control Type	Sales Code		Description
<b>RVA47</b>	BCC/RVA47		Sequence controller for the control of up to 12 boilers.
<b>OCI420.A109</b>	BCC/OCI420		Clip-in interface board for bus connection when using the RVA47 Sequence control. One required for every additional boiler in the cascade.
<b>RVA46</b>	BCC/RVA46		Zone controller for the control of CTC and VTC zones. Allows for the control of individual circuit pumps and 3 port motorized valves, with individual room control.
<b>QAZ21</b>	BCC/QAZ21		Immersion sensor for use when hot water control is required using and indirect cylinder.
<b>QAA50</b>	BCC/QAA50		Remote digital room thermostat allowing optimisation and night set-back for zone control.
<b>RVA Housing</b>	BCC/RVAH		Housing for the mounting of RVA controllers

## 5.1 Flue Options

A comprehensive range of flue options is available for the Potterton Commercial Sirius WH, providing full versatility for every application.

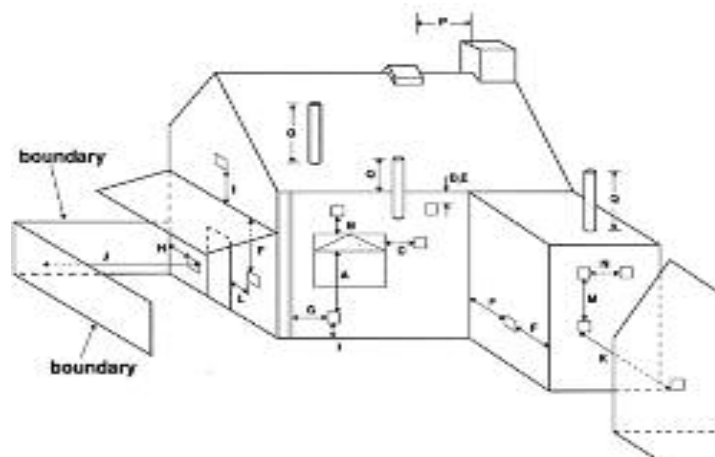
These options include:

- Horizontal Concentric Flue (C13 Room sealed boiler, connected to combined wall outlet)
- Vertical Concentric Flue (C33 Room sealed boiler connected to a combined roof outlet)
- Conventional Flue (B23 Conventional room ventilated boiler without draught diverter).



## 5.2 Flue Terminal Positioning

Minimum clearances for concentric room sealed flue terminals (for conventional flue systems please refer to the relevant British Standards). The terminal shall be positioned so it will not cause a hazard to the health of persons who may be nearby or a nuisance to other persons beyond the property's boundary.



Location	WH50/60	WH70/90/110
<b>A</b> Below an opening	300	600
<b>B</b> Above an opening	300	600
<b>C</b> Horizontally to an opening	300	600
<b>D</b> Below gutters, soil pipes or drain pipes	75	150
<b>E</b> Below eaves	200	500
<b>F</b> Below balcony or car port roof	200	500
<b>G</b> From a vertical drain pipe or soil pipe	150	150
<b>H</b> From an internal or external corner or to a boundary alongside the terminal	300	600
<b>I</b> Above ground, roof or balcony level	300 <sup>(1)</sup>	600 <sup>(1) (2)</sup>
<b>J</b> From a surface or a boundary facing the terminal	600	1000
<b>K</b> From a terminal facing a terminal	1200	2000
<b>L</b> From an opening in the car port into the building	1200	2000
<b>M</b> Vertically from a terminal on the same wall <sup>(3)</sup>	1500	1500
<b>N</b> Horizontally from a terminal on the same wall <sup>(3)</sup>	300	600
<b>P</b> From a structure on the roof	600	1000
<b>Q</b> Above the highest point of intersection with the roof, with a pitch less than 45°	600	1000
<b>Q</b> Above the highest point of intersection with the roof, with pitch greater than 45°	1000	1000

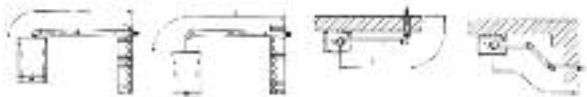
All measurements are in mm.

1. Terminals below 2 meters from ground level require a suitable guard to be fitted.
2. The height to the centre line of the flue terminal shall not be less than 2 meters from occupied external areas.
3. Groups of appliances of 150kW total heat input need to comply with the Clean Air Act with respect to discharge at high level.




### 5.3 Horizontal Concentric Flue (C13)

Boiler	Flue Size	Number of bends 87°			
		1	2	3	4
WH50	Ø80/125	9m	8m	7m	6m
WH60	Ø80/125	9m	8m	7m	6m
WH70	Ø80/125	9m	8m	7m	6m
WH90	Ø100/150	9m	8m	7m	6m
WH110	Ø110/150	9m	8m	7m	6m

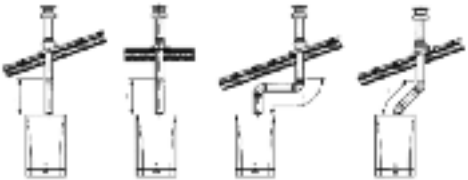


Boiler	Description	Size	Sales Code
WH50/60/70	Horizontal concentric flue Inc: terminal & wall plates	Ø80/125	BWH/HFK/567
WH90/110	Horizontal concentric flue Inc: terminal & wall plates	Ø100/150	BWH/HFK/911




### 5.4 Vertical Concentric Flue (C33)

Boiler	Flue Size	Number of bends 87°			
		1	2	3	4
WH50	Ø80/125	9m	8m	7m	6m
WH60	Ø80/125	9m	8m	7m	6m
WH70	Ø80/125	9m	8m	7m	6m
WH90	Ø110/150	9m	8m	7m	6m
WH110	Ø110/150	9m	8m	7m	6m



Boiler	Description	Size	Sales Code
WH50/60/70	Vertical concentric flue kit	Ø80/125	BWH/VFK/567
WH90/110	Vertical concentric flue kit	Ø100/150	BWH/VFK/911



#### Common Concentric Flue Components

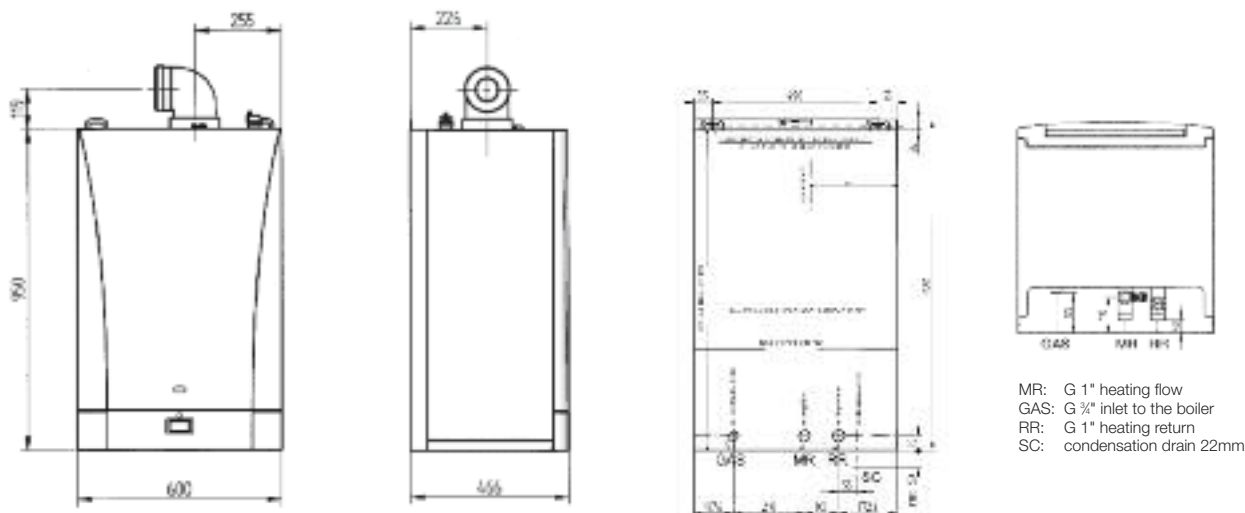
Boiler	Description	Size	Sales Code
WH50/60/70	1 metre concentric extension	Ø80/125	BWH/CFP/567/10
WH50/60/70	0.5 metre concentric extension	Ø80/125	BWH/CFP/567/05
WH90/110	1 metre concentric extension	Ø110/150	BWH/CF/911/10
WH90/110	0.5 metre concentric extension	Ø100/150	BWH/CF/911/05
WH50/60/70	87° concentric elbow	Ø80/125	BWH/CFE/567/87
WH50/60/70	45° concentric elbow	Ø80/125	BWH/CFE/567/45
WH90/110	87° concentric elbow	Ø100/150	BWH/CFE/911/87
WH90/110	45° concentric elbow	Ø100/150	BWH/CFE/911/45
WH50/60/70	Wall stand off brackets – 50mm	Ø125	BWH/SOB/567/50
WH50/60/70	Wall stand off brackets – 300mm	Ø125	BWH/SOB/567/300
WH90/110	Wall stand off brackets – 50mm	Ø150	BWH/SOB/911/50
WH90/110	Wall stand off brackets – 300mm	Ø150	BWH/SOB/911/300
WH50/60/70	Terminal cage guard	Ø125	BWH/CG/567
WH90/110	Terminal cage guard	Ø150	BWH/CG/911
WH50/60/70	Flat roof flashing	Ø125	BWH/CFPRF/567
WH50/60/70	Pitched roof flashing	Ø125	BWH/CFPRF/567
WH90/110	Flat roof flashing	Ø150	BWH/FRF/911
WH90/110	Pitched roof flashing	Ø150	BWH/FRF/911



Note: Images are for illustration, material finish may differ from that shown please check with Potterton Commercial Technical for exact specification on 0845 070 1057.

## 6.1 Dimensions & Technical Data

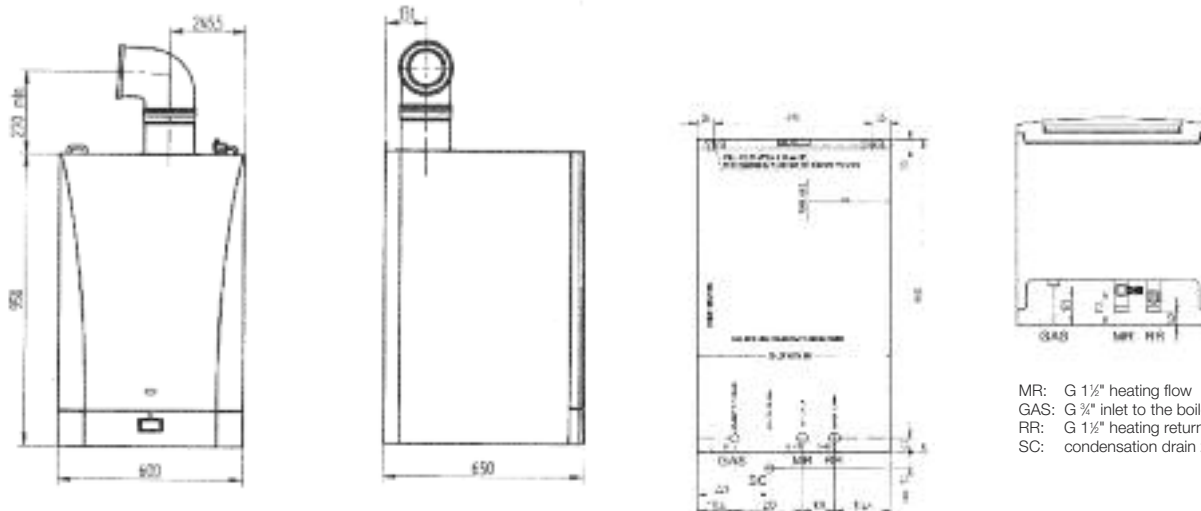
WH50/60/70



Model		WH50	WH60	WH70
Nominal Heat Input (Net)	kW	46.4	56.7	67
Nominal Heat Input (Gross)	kW	51.5	62.9	74.4
Nominal Heat Output 80/60°C	kW	45	55	65
Nominal Heat Output 50/30°C	kW	48.7	59.5	70.3
Gas Consumption (NG)	m <sup>3</sup> /h	4.91	6	7.08
Gas Consumption (LPG)	m <sup>3</sup> /h	1.89	2.31	2.74
Max Flue Gas Temperature	°C	74	78	75
Max Flue Gas Flow Rate	kg/s	0.022	0.027	0.032
Efficiency 100%-30%	%	107 – 97		
NOx	Class	5		
Nominal Gas Inlet Gas Pressure (NG)	mbar	20	20	20
Nominal Gas Inlet Gas Pressure (LPG)	mbar	37	37	37
Ventilation to BS5440 (Single Vent)	cm <sup>2</sup>	197	248.5	N/A
High Level Ventilation to BS6644	cm <sup>2</sup>	N/A	N/A	268
Low Level Ventilation to BS6644	cm <sup>2</sup>	N/A	N/A	134
Hydraulic Resistance @ 15°C Ø	kPa	32	31	34
Hydraulic Resistance @ 20°C Ø	kPa	12	18	20
Hydraulic Resistance @ 30°C Ø	kPa	11	12	12
Water Flow Rate @ 15°C Ø	L/sec	0.72	0.88	1.41
Water Flow Rate @ 20°C Ø	L/sec	0.54	0.66	0.78
Water Flow Rate @ 30°C Ø	L/sec	0.36	0.44	0.52
Cold Feed Size	mm	19	19	25
Open Vent Size	mm	25	25	32
Safety Valve Size to BS5440&BS6644	mm	19	19	19
Flue Types		C13, C33, B23		
Combustion Air/Flue Connection Size	Ø mm	80/125	80/125	80/125
Electrical Supply	V	230	230	230
Maximum Electrical Power Consumption (single phase, 50Hz)	W	75	80	125
Minimum Operating Pressure	bar	1	1	1
Maximum Operating Pressure	bar	4	4	4
Maximum Flow Temperature	°C	85	85	85
Boiler Dry Weight	kg	64	68	72
Water Content	litre	5.1	5.6	6.5

## 6.2 Dimensions & Technical Data

WH90/110



MR: G 1½" heating flow  
 GAS: G ¾" inlet to the boiler  
 RR: G 1½" heating return  
 SC: condensation drain 25mm

Model		WH90	WH110
Nominal Heat Input (Net)	kW	87.2	105
Nominal Heat Input (Gross)	kW	95.9	115.4
Nominal Heat Output 80/60°C	kW	85	102
Nominal Heat Output 50/30°C	kW	91.6	110.3
Gas Consumption (NG)	m³/h	9.22	11.1
Gas Consumption (LPG)	m³/h	3.56	4.29
Max Flue Gas Temperature	°C	74	79
Max Flue Gas Flow Rate	kg/s	0.041	0.050
Efficiency 100%-30%	%	107 – 97	
NOx	Class	5	
Nominal Gas Inlet Gas Pressure (NG)	mbar	20	20
Nominal Gas Inlet Gas Pressure (LPG)	mbar	37	37
High Level Ventilation to BS6644	cm²	174.4	205.4
Low Level Ventilation to BS6644	cm²	348.8	410.8
Hydraulic Resistance @ 15°C Ø	kPa	37.3	41.2
Hydraulic Resistance @ 20°C Ø	kPa	25.4	23.7
Hydraulic Resistance @ 30°C Ø	kPa	11.2	13.4
Water Flow Rate @ 15°C Ø	L/sec	1.35	1.67
Water Flow Rate @ 20°C Ø	L/sec	1.02	1.25
Water Flow Rate @ 30°C Ø	L/sec	0.68	0.83
Cold Feed Size	mm	19	19
Open Vent Size	mm	25	25
Safety Valve Size to BS6644	mm	19	19
Flue Types		C13, C33, B23	
Combustion Air/Flue Connection Size	Ø mm	110/160	110/160
Electrical Supply	V	230	230
Maximum Electrical Power Consumption (single phase, 50Hz)	W	150	200
Minimum Operating Pressure	bar	1	1
Maximum Operating Pressure	bar	4	4
Maximum Flow Temperature	°C	85	85
Boiler Dry Weight	kg	82	86
Water Content	litre	13.7	21

## Commercial sales technical & service enquiries

Tel: 0845 070 1055  
Fax: 0845 070 1059  
Sales hotline: 0845 070 1056  
Technical helpline: 0845 070 1057  
Service hotline: 0845 070 1058  
e-mail: [potterton.commercial@baxigroup.com](mailto:potterton.commercial@baxigroup.com)  
web: [www.pottertoncommercial.co.uk](http://www.pottertoncommercial.co.uk)

## Spares

Potterton Commercial spares are available nationwide through the interpart network of approved stockists. Alternatively please contact:-

### Interpart

Brooks House  
Coventry Road  
Warwick CV34 4LL  
Tel: 0844 871 1540

## Applications & Installations

Our experienced technical support team are available to offer advice on any aspect of heating system design and boiler installation.

Please contact: 0845 070 1057

## Commercial service offices

Our service organisation covers the whole of the UK to look after your needs for all Potterton Commercial products.

Our service office offers a wide range of specialised services including:

- Burner commissioning for all fuels
- Boiler service contracts
- Breakdown and repair services
- Burner and boiler replacement
- Oil/gas conversions
- Water treatment and descaling
- Packaged units

All descriptions and illustrations contained within this leaflet have been carefully prepared, but we reserve the right to make changes and improvements in our products which may affect the accuracy of the information in this leaflet.

PART OF BDR THERMEA

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