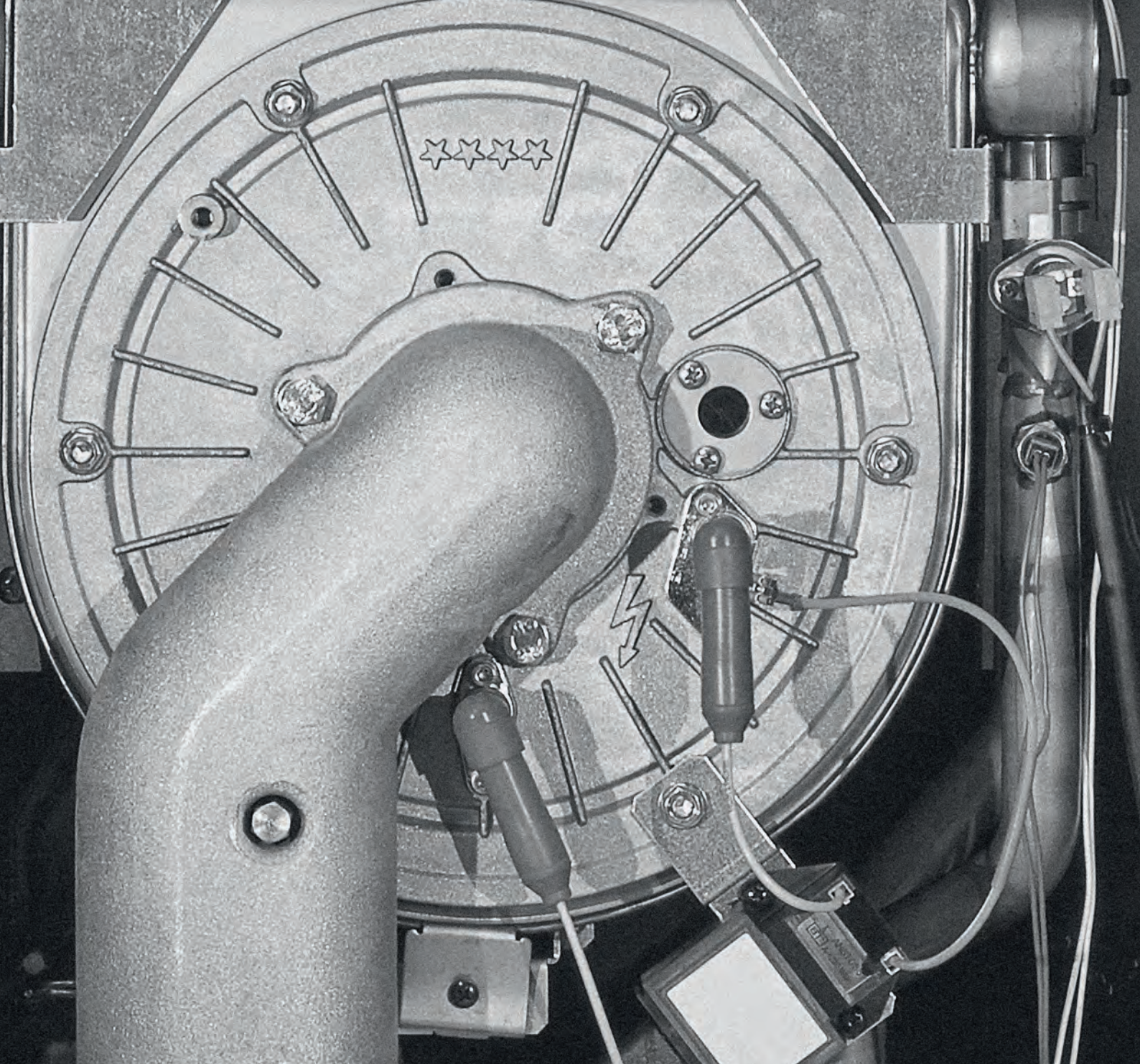




May 2020

Stainless steel range of condensing boilers

Outputs from
50kW to 525kW

Designed to
meet carbon
reduction
targets

Lifetime
service
and support

ErP Compliant 

Totally dependable.

POTTERTON
COMMERCIAL

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RS 33961



**Totally
dependable.**

Welcome

Potterton Commercial is one of the most recognised names in the heating industry.

Our success has been built on making products that customers can rely on, backed up by services they can trust.

You can depend on us to help at every stage of your project, from design and tender, through to installation, commissioning, handover and beyond.

Whatever the application, no matter how big or small, Potterton Commercial is totally dependable.

**High efficiency
condensing
boilers**



**Designed to
meet carbon
reduction
targets**



**Lifetime
service
and support**



Tried. Tested. Trusted.

Solid and dependable Sirius condensing boilers are designed for maximum combustion performance and energy efficiency.



Sirius three WH

Wall-hung
condensing boiler

Compact, lightweight,
industry leading
modulation.

Modulation ratio

Up to **9:1**

Single boiler output

**50kW to
150kW**

Cascade output

Up to
700kW



Sirius three FS

Floor-standing
condensing boiler

Ideal for replacement
projects, large domestic
and all commercial
premises.

Modulation ratio

Up to **9:1**

Single boiler output

**50kW to
250kW**

Cascade output

Up to
1MW



Sirius FS

Floor-standing
condensing boiler

Cost effective heating
solution for large projects,
such as schools, hotels,
nursing homes and
leisure facilities.

Modulation ratio

5:1

Single boiler output

**400kW and
525kW**

Whichever model you choose you can depend on:



Reliability

Our boilers are all factory tested before sale and we will commission them for you to make sure they work reliably and efficiently. We also offer parts and labour warranties for extra peace of mind.



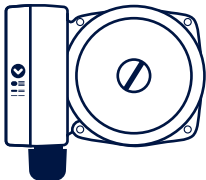
Efficiency

Our modulating boilers will meet the variable heating requirements of any building, optimising energy efficiency and running costs.



Engineering quality

All of our products are manufactured using tried and tested technology, and meet the latest ISO standards.



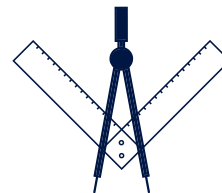
Genuine parts

We support parts for all our boilers for up to 10 years after they have stopped being sold, so the boiler will be supported throughout its lifetime.



Online support

Our website contains all the information you need, including BIM and CAD files, brochures, technical specification sheets, case studies, installation manuals and user guides.



Specification and sales support

Our technical support experts can guide you through building regulations, legislation and building service engineering standards. Our dedicated sales team is never more than a phone call away and our New Design team can work with you to provide a system designed solution for your project.



Sirius three WH



Compact and lightweight, Sirius three WH condensing boilers offer a market-leading modulation ratio of up to 9:1 and come with weather compensation as standard, ensuring high seasonal efficiency all year around.

Single boiler outputs

**50kW to
150kW**

Gross seasonal
efficiency

**Up to
97.3%**

Modulation ratio

Up to 9:1

Cascade output

**Up to
700kW**

Off mains gas

**LPG
option available**

Applications

From large domestic properties to medium sized commercial premises.

Commissioning

Carried out by Potterton Commercial engineers, ensures optimum performance, efficiency and savings and guarantees your free 5 year warranty.

Service plans

We provide expert, professional support, ensuring optimum performance is maintained throughout the lifetime of the boiler.

*Subject to terms and conditions.
See pottertoncommercial.co.uk for more details.

Features and benefits

Features

Benefits

Wide range of outputs: 50, 60, 70, 90, 110, 130, 150kW	Suitable for most commercial applications
Modulation ratio of up to 9:1	Wide modulation ratio reduces constant on/off cycling to improve efficiency and boiler longevity
Gross seasonal efficiency up to 97.3% with weather compensation as standard	Reduced energy consumption
QA75 Twist Knob full text controller	Simple descriptive display and easy to use advanced programming functions
Can be programmed to work with solar thermal, biomass and buffer tanks	Sustainable, energy efficient solution across complete range
Lightweight stainless steel heat exchanger	Reliable and energy efficient heat transfer
Integrated Cascade function	Up to 16 boilers can be managed by the Siemens controller
Low NOx under 24.7mg/kW	Minimises impact on the environment
Optional 0-10 volt output	For quick and simple integration with BMS
LPG options available	Suitable for off-grid applications

Optional accessories

A range of intelligent controls and accessories are available for use with the Sirius three WH boiler range, to meet the heating requirements of the building accurately and efficiently.

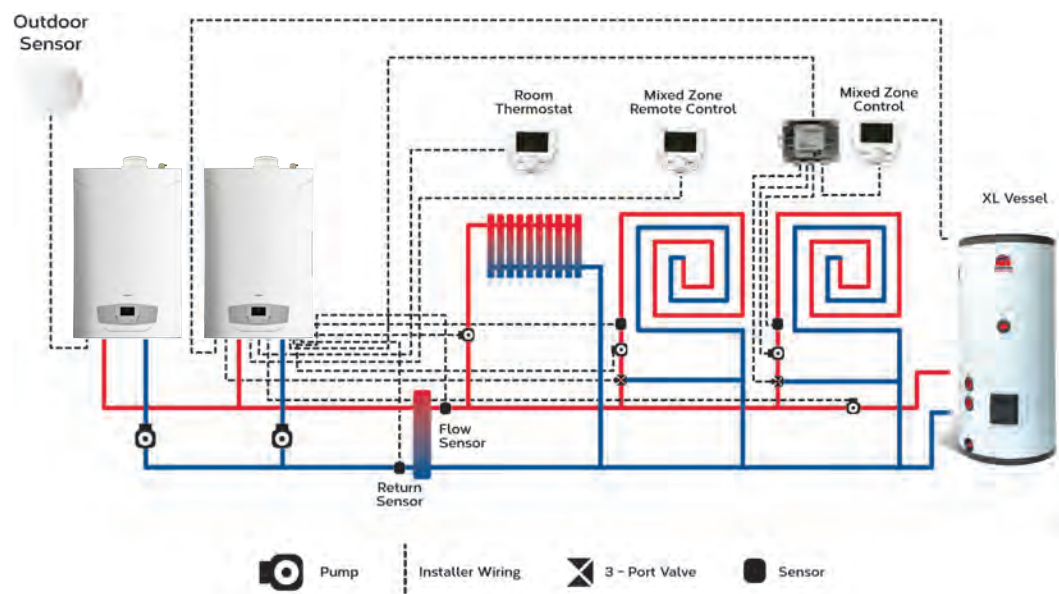
Model	Sales code	Description
Wired remote control – boiler	5140905	Digital space heating control with programming functions for temperature management of heating and hot water circuit(s), boiler cascades and more accurate boiler modulation control.
Extension module	5140909	• Multi-purpose unit • Single boiler functions – control of multiple circuits, control for a mixture of CT and VT circuits and their associated valves and pumps, 0-10 volt connections • Boiler cascade functions – control of multiple circuits, control for a mixture of CT and VT circuits and their associated valves and pumps, 0-10 volt connections, control of boiler cascades.
BM BUS communication module	5140908	A device for two way communication management between boilers in cascades or a variety of zone controllers and the boiler(s).
Flow temperature sensor (boiler)	5103867	Strap-on pipe sensor for monitoring boiler flow temperature. For further improvements to system performance, it is advisable to use a sensor on both flow and return. Only required for cascade configurations.
Zone controller – intelligent wiring centre	5140910	Heating circuit controller for systems using BUS communications with multiple zones that are independently controlled.
DHW temperature sensor	5116436	Immersion dry pocket temperature sensor, providing boiler temperature control for DHW storage vessels.
50 WH LPG conversion kit	5140911	Kit to convert natural gas appliance to LPG fuel type (50kW model).
60 WH LPG conversion kit	5140912	Kit to convert natural gas appliance to LPG fuel type (60kW model).
70 WH LPG conversion kit	5140913	Kit to convert natural gas appliance to LPG fuel type (70kW model).
90 WH LPG conversion kit	5140914	Kit to convert natural gas appliance to LPG fuel type (90kW model).
110 WH LPG conversion kit	5140915	Kit to convert natural gas appliance to LPG fuel type (110kW model).
Boiler frame 50-70kW	7691300	Single Boiler Frame
Boiler frame 90-150kW	7717033	Single Boiler Frame
Primary Loop Pump Kit	5142796	Integral class 'A' pump
50 to 70kW WH flue non-return valve kit	7106820	Flue non-return valve kit for boilers in cascade configurations (50 and 70kW models).
90 to 150kW WH flue non-return valve kit	7700811	Flue non-return valve kit for boilers in cascade configurations (130 and 150kW models).

System requirements

Installations should comply with all relevant codes of practice, British Standards and current Building Regulations. The maximum efficiency of the Sirius three WH can be achieved when it is installed on a fully condensing system with suitable distribution design temperatures.

Typical heating system layout

Cascade option for two or more boilers

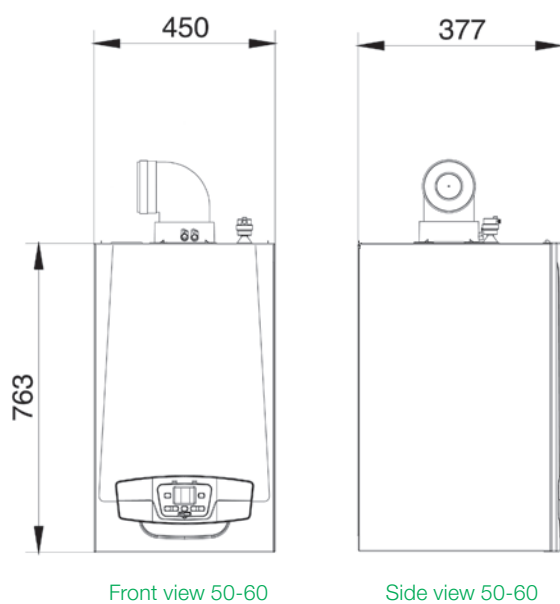


Weather compensated systems

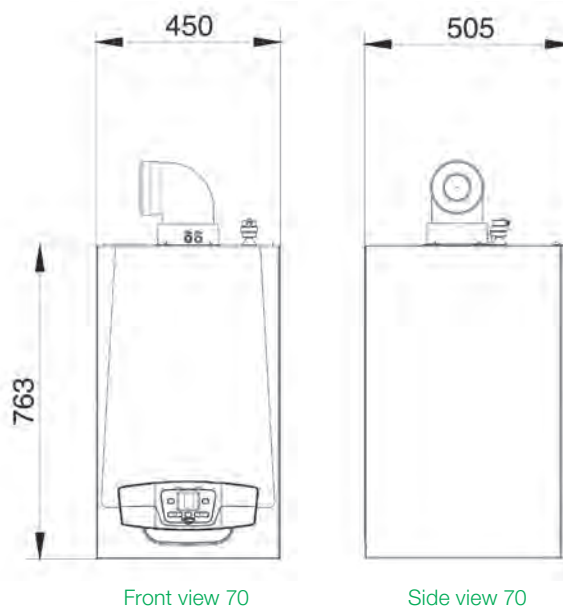
If the heating curve is correctly selected, the outside sensor will dictate the heating flow temperature to match the heating demand of the building. The optional room control will shut down the boiler(s) if the building meets the set-point temperature.

Dimensions

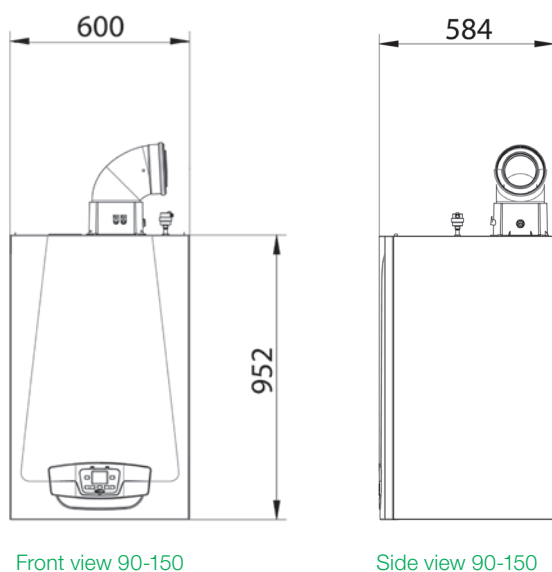
Sirius three WH 50/60kW



Sirius three WH 70kW



Sirius three WH 90/110/130/150kW



Technical specification

Performance	Fuel Type		Sirius three WH 50	Sirius three WH 60	Sirius three WH 70	Sirius three WH 90
Output @ 80/60°C	NG	kW	45.1	55.0	65.1	85.1
Output @ 50/30°C	NG	kW	48.6	59.4	70.3	92.2
Input (Gross) Maximum	NG	kW	51.4	62.8	74.3	97.0
Input (Net) Maximum	NG	kW	46.3	56.6	66.9	87.4
Output @ 80/60°C	LPG	kW	45.1	55.0	65.1	85.1
Output @ 50/30°C	LPG	kW	48.6	59.4	70.3	92.2
Input (LPG) (Gross) Maximum	LPG	kW	51.4	62.8	74.3	97.0
Input (LPG) (Net) Maximum	LPG	kW	47.3	57.8	68.4	89.3

Efficiency	Value %					
Efficiency @ 80/60°C - 100% Load	% Gross		87.8	87.6	87.6	87.7
Efficiency at 50/30°C - 100% Load	% Gross		94.61	94.61	94.61	95.06
Efficiency @ 30% Load	% Gross		97.1	96.8	96.5	96.9
Current Building Regulations - Part L2 Seasonal Efficiency	% Gross		96.6	96.4	96.1	96.5
ErP efficiency rating			A	A	A	N/A

Gas

Gas Consumption (Natural Gas)	m³/h	4.90	5.98	7.07	9.25
Gas Consumption (LPG)	Kg/h	3.60	4.40	5.20	6.60
Inlet Gas Pressure (Natural Gas - G20)	m/bar	17 - 25			
Inlet Gas Pressure (LPG - G31)	m/bar	27 - 45			
Gas Connection Size	inch	¾	¾	¾	1
Gas Connection Type		Male Thread			

Flue

Flue Gas Volume at 80/60°C (NG)	m³/h at STP	67.6	82.6	97.7	127.6
Flue Gas Volume at 50/30°C (NG)	m³/h at STP	62.8	76.5	90.5	117.7
Flue Gas Volume at 80/60°C (LPG)	m³/h at STP	61.5	75.2	88.9	114.1
Flue Gas Volume at 50/30°C (LPG)	m³/h at STP	57.1	69.6	82.4	105.2
Max Flue Gas Pressure @ Outlet (B23)	pa	270	270	270	200

Hydraulic

Water Flow Rate @ 15°C ΔT	l/s	0.72	0.88	1.04	1.36
Water Flow Rate @ 20°C ΔT	l/s	0.54	0.66	0.78	1.02
Water Flow Rate @ 30°C ΔT	l/s	0.36	0.44	0.52	0.68
Hydraulic Resistance @ 15°C ΔT	kPa	85	92	45	35
Hydraulic Resistance @ 20°C ΔT	kPa	48	55	30	22
Hydraulic Resistance @ 30°C ΔT	kPa	22	24	18	10
Water Content	litres	4	5	6	9
Flow & Return Connection Size	inch	1"	1"	1"	1½"
Flow & Return Connection Type		Male Thread			
Flue Connection Size	mm	80/125		80/125	110/160
Maximum Boiler Operating Pressure	bar	4			
Minimum Boiler Operating Pressure	bar	1			
Maximum Flow Temperature	°C	85			

General

Appliance Dry Weight	Kg	40	40	50	83
NOx Level (Dry @ 0% O2)	mg/kWh	29	31	31	31
CO ₂ Content – Natural Gas	%	8.5 - 9	9	8.5 - 9	8.5 - 9
CO ₂ Content – LPG	%	9.5 - 10	9.4 - 10.1	9.5 - 10	9.9 - 10
High Level Ventilation (BS 6644)	cm²	93	113	134	175
Low Level Ventilation (BS 6644)	cm²	185	226	268	350

Electrical

Power consumption	W	80	95	95	130
Nominal Supply Voltage	V/Hz	230 v 1 Ph 50 Hz			

Sirius three WH 110 **Sirius three WH 130** Sirius three WH 150

102	121	140
110.2	130	150
116.4	137.4	158.6
104.9	123.8	143.0
102	121	140
110.2	130	150
116.4	137.4	158.6
107.2	126.6	146.0

87.6	88.4	88.4
94.70	95.1	95.1
96.8	97.8	97.8
96.4	97.3	97.3
N/A	N/A	N/A

11.1	13.1	15.1
7.92	9.8	11.3
	17 - 25	
	27 - 45	
1	1	1
Male Thread		

147.2	181	208
136.2	166	191
139.3	168	184
128.9	153	170
200	180	270

1.63	2.08	2.71
1.22	1.56	2.03
0.81	1.0	1.2
36	69	70
22	41	41
11	18	20
10	10	11
1½"	1½"	1½"
Male Thread		
110/160	110/160	110/160
4	6	
	1	
	85	

93	93	96
22	17	23
9 - 9.2	9.2	9.2
9.5 - 10	10.2	10.2
210	284	286
420	496	572

165	187	283
230 v 1 Ph 50 Hz		

Single boiler outputs

**50kW to
150kW**

Gross seasonal efficiency

Up to
97.3%

Modulation ratio

Up to **9:1**

Cascade outputs

Up to
700kW

High efficiency condensing boilers

Designed to
meet carbon
reduction
targets

Lifetime
service and
support



Cascade frame kit

The Sirius three WH cascade frame kit can accommodate up to up to six boilers, delivering a maximum output of 700kW, spreading heat demand across multiple boilers.



Number of boilers	Maximum output	Modulation ratio
Up to 6	Up to 700kW	9:1 per boiler

Features

Compact, modular floor-standing framework
Adjustable mounting feet
Hydraulically sized flow/return manifolds
Victaulic pipe fittings
Robust insulation kits for flow/return headers, including hydraulic manager
Class A primary circulator pumps
Steel gas manifold pipework with welded brackets
Hydraulic system manager including air and dirt separation, and velocity management
Magnetic filtration optional extra available
Concentric and conventional flue options

Benefits

Saves space and reduces installation time
Safe and stable for uneven surfaces
Matches the designed total flow rate, whatever the system load
Quick and easy jointing. Saves time and effort
Minimises heat loss
ErP ready
Robust, durable flow, return and gas headers
Protects boiler components by ensuring clean system and water and removes air, preventing noise
Additional protection for the boilers and system water
Flexible siting, easy installation

Nationwide commissioning service

To ensure maximum efficiency, cost savings and to guarantee your free 5 year warranty, we offer a full commissioning service, carried out by our own national team of Gas Safe registered, Potterton Commercial trained engineers.

To arrange commissioning of your products simply contact 0345 070 1058

For After Sales Technical Support contact 0345 070 1057

Kit components

All cascade frame kits come with the below items as standard:

Floor-standing boiler frame

Flow/return pipework headers

Gas pipework header

Isolation valve kit for flow/return

Gas isolation valve kit

Grundfos primary loop pumps
(controlled by boilers)

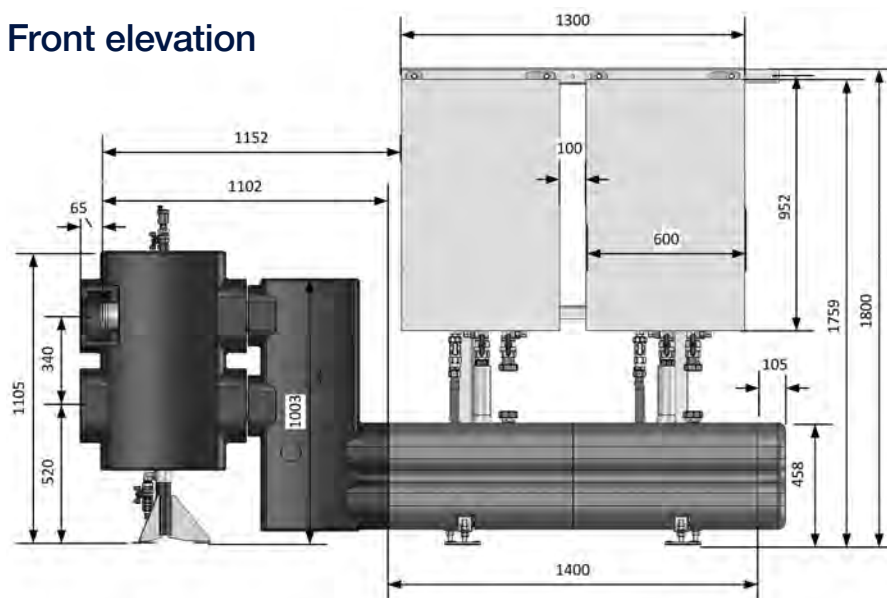
Prefabricated push fit-pipework insulation

Connection kit to low loss header*

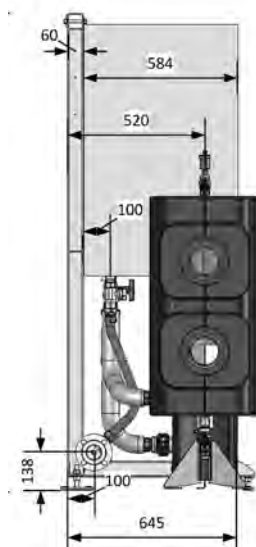
Optional low loss header*

*Subject to package option selected.

Front elevation



Side elevation



These drawings show an example of our x2 boiler Sirius two WH 90 and 110kW cascade frame kit solution.

Other boiler and configuration options will vary in size.

In-line configurations

Part numbers / No. of boilers (Including low loss header)

	2	3	4	5	6
Sirius 50kW	5141060	5141061	5141062	-	-
Sirius 60kW	5141060	5141061	5141062	-	-
Sirius 70kW	5141060	5141061	5141062	-	-
Sirius 90kW	5141064	5141065	5141066	5141067	5141068
Sirius 110kW	5141064	5141065	5141066	5141067	5141068
Sirius 130kW	7718096	7718097	7718098	7718099	-
Sirius 150kW	7718096	7718097	7718098	7718099	-

Part numbers / No. of boilers (Excluding low loss header)

2	3	4	5	6
5141019	5141020	514021	-	-
5141019	5141020	514021	-	-
5141019	5141020	514021	-	-
5141023	5141024	514025	514026	5141027
5141023	5141024	514025	514026	5141027
7718140	7718141	7718142	7718143	-
7718140	7718141	7718142	7718143	-

For single boiler frames please see accessories on page 7

Cascade Accessories

(130 & 150kW cascade systems only)

7717862	Magna 1 25-100 Circulator Pump
7717863	Magna 1 25-120 Circulator Pump
7717864	Magna 3 25-100 Circulator Pump
7717865	Magna 3 25-120 Circulator Pump
7709445	UPMXL 25-125 130 H3 Circulator Pump

Low Loss Headers

5142190	Gas Header DN50
5142191	Flow / Return Header DN65
5142192	Flow / Return Header DN80
5142193	Flow / Return Header DN100

Example configuration

5 x 90kW Sirius three WH

Max output

450kW



For technical details such as CAD drawings and BIM files visit www.pottertoncommercial.co.uk or contact Technical Support on 0345 070 1058 or scan the QR code.



Corner group configurations

Part numbers / No. of boilers (Including low loss header)

Inc. corner piece(s)	4	5	6 (3+3)	6 (2+4)	6 (2+2+2)
Sirius 50kW	5141063	-	-	-	-
Sirius 60kW	5141063	-	-	-	-
Sirius 70kW	5141063	-	-	-	-
Sirius 90kW	514069	5141070	5141071	5141072	5141073
Sirius 110kW	514069	5141070	5141071	5141072	5141073

Part numbers / No. of boilers (Excluding low loss header)

4	5	6 (3+3)	6 (2+4)	6 (2+2+2)
5141022	-	-	-	-
5141022	-	-	-	-
5141022	-	-	-	-
5141028	5141029	5141030	5141031	5141032
5141028	5141029	5141030	5141031	5141032

Example configuration

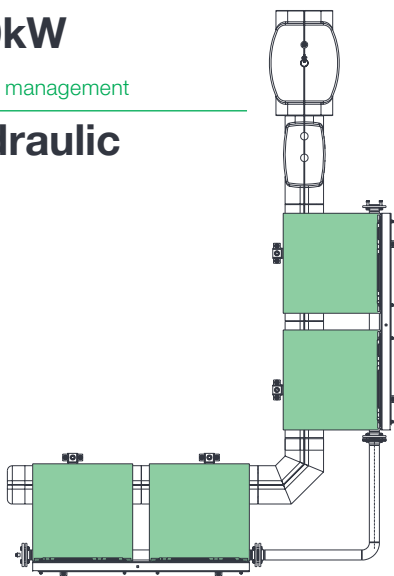
4 x 50kW Sirius three WH

Max output

200kW

System management

Hydraulic



Example configuration

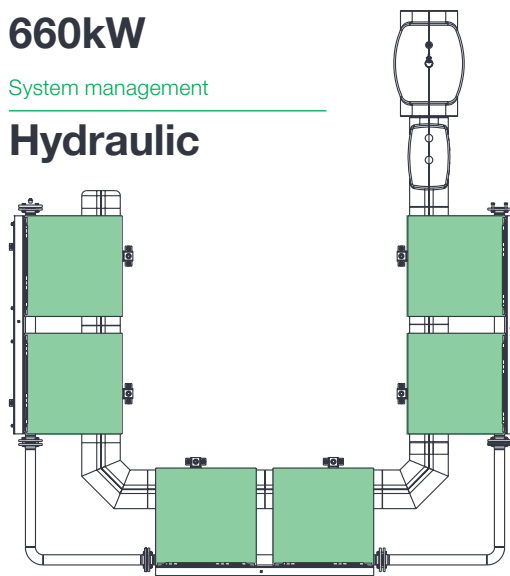
6 x 110kW Sirius three WH

Max output

660kW

System management

Hydraulic



A
Efficiency Rating



Sirius three FS 50-250kW



Compact floor-standing, stainless steel condensing boilers suitable for a variety of applications including replacement projects, large domestic, and commercial premises requiring outputs from 50kW to 1MW.

Single boiler outputs

**50kW to
250kW**

Gross seasonal efficiency

**Up to
97.5%**

Modulation ratio

Up to 9:1

Cascade output

Up to 1MW

Off mains gas

**LPG
option available**

Applications

From large domestic properties to medium sized commercial premises.

Commissioning

Carried out by Potterton Commercial engineers, ensures optimum performance, efficiency, savings and guarantees your 5 year warranty.

Service plans

We provide expert, professional support, ensuring optimum performance is maintained throughout the lifetime of your boiler.

*Subject to terms and conditions.
See pottertoncommercial.co.uk for more details.

Features and benefits

Features

Wide range of outputs: 50, 70, 90, 110, 130, 150, 200, 250kW
Modulation ratio of up to 9:1
Gross seasonal efficiency up to 97.5% with weather compensation supplied as standard
QA75 Twist Knob full text controller
Lightweight stainless steel heat exchanger
Integrated Low Loss Headers and Plate Heat Exchangers (available as options)
Very compact design with castors on the bottom of larger output boiler
Integrated Cascade function
Optional 0-10 volt output
LPG options available
Low NOx under 24.7mg/kW

Benefits

Suitable for a wide range of commercial applications
Wide modulation ratio reduces constant on/off cycling to improve efficiency and boiler longevity
Reduced energy consumption
Simple descriptive display and easy to use advanced programming functions
Reliable and energy efficient heat transfer
Professional finish, easier to install, offers a reduced footprint
Boilers will pass through 700mm doors. Easier to position when space is at a premium. Largest boilers have wheels for enhanced manoeuvrability
Up to 16 boilers can be managed by the Siemens controller
For quick and simple integration with BMS
Suitable for off-grid applications
Minimises impact on the environment

Optional accessories

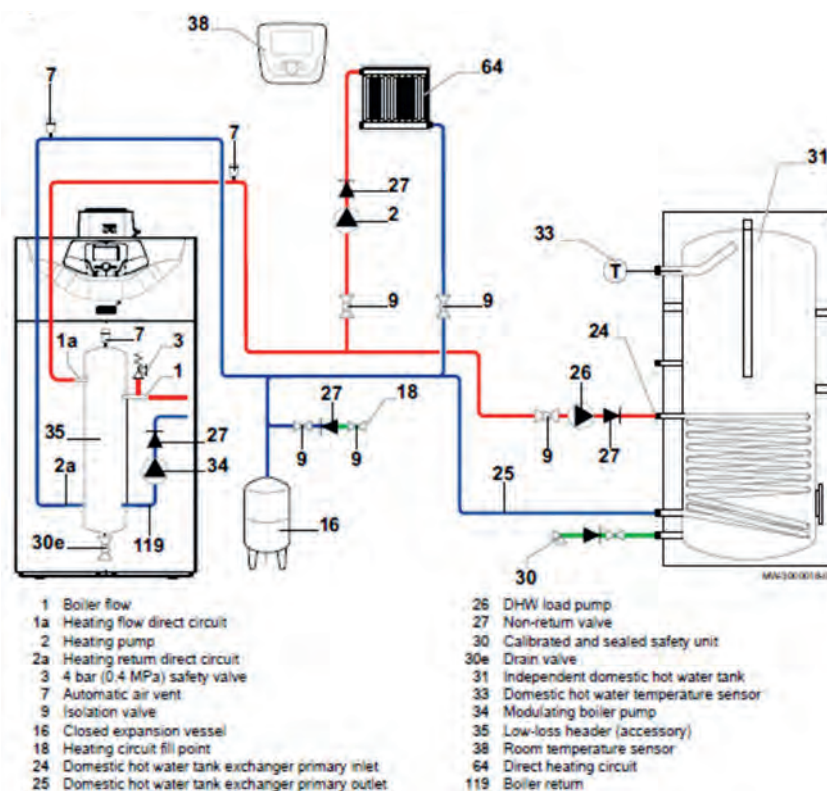
A range of intelligent controls and accessories are available for use with Sirius three FS boilers, to meet the heating requirements of the building accurately and efficiently.

Model	Sales code	Description
Wired remote control – boiler	5140905	Digital space heating control with programming functions for temperature management of heating and hot water circuit(s), boiler cascades and more accurate boiler modulation control.
Extension module	5140909	• Multi-purpose unit. • Single boiler functions – control of multiple circuits, control for a mixture of CT and VT circuits and their associated valves and pumps, 0-10 Volt connections. • Boiler cascade functions - control of multiple circuits, control for a mixture of CT and VT circuits and their associated valves and pumps, 0-10 Volt connections, control of boiler cascades.
BM BUS communication module	5140908	A device for two-way communication management between boilers in cascades or a variety of zone controllers and the boiler(s).
Flow temperature sensor (boiler)	5103867	Strap-on pipe sensor for monitoring boiler flow temperature. For further improvements to system performance, it is advisable to use a sensor on both flow and return. Only required for cascade configurations.
Zone controller – intelligent wiring centre	5140910	Heating circuit controller for systems using BUS communications with multiple zones that are independently controlled.
DHW temperature sensor	5116436	Immersion dry pocket temperature sensor, providing boiler temperature control for DHW storage vessels.
50 FS LPG conversion kit	5140911	Kit to convert natural gas appliance to LPG fuel type (50kW model).
70 FS LPG conversion kit	5140913	Kit to convert natural gas appliance to LPG fuel type (70kW model).
90 FS LPG conversion kit	5140914	Kit to convert natural gas appliance to LPG fuel type (90kW model).
110 FS LPG conversion kit	5140915	Kit to convert natural gas appliance to LPG fuel type (110kW model).
50 to 70kW FS flue non-return valve kit	7106820	Flue non return valve kit for boilers in cascade configurations (50 to 70kW models).
90 to 150kW FS flue non-return valve kit	7700811	Flue non return valve kit for boilers in cascade configurations (90 to 150kW models).

System requirements

All installations should comply with all relevant codes of practice, British Standards and current Building Regulations. The maximum efficiency of the Sirius three FS can be achieved when it is installed on a fully condensing system with suitable distribution design temperatures.

Typical heating system layout



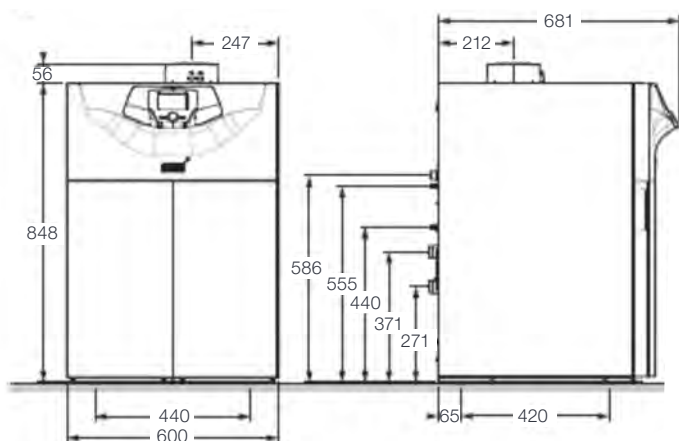
Weather compensated systems



If the heating curve is correctly selected, the outside sensor will dictate the heating flow temperature to match the heating demand of the building. The optional room control will shut down the boiler(s) if the building meets the set-point temperature.

Dimensions

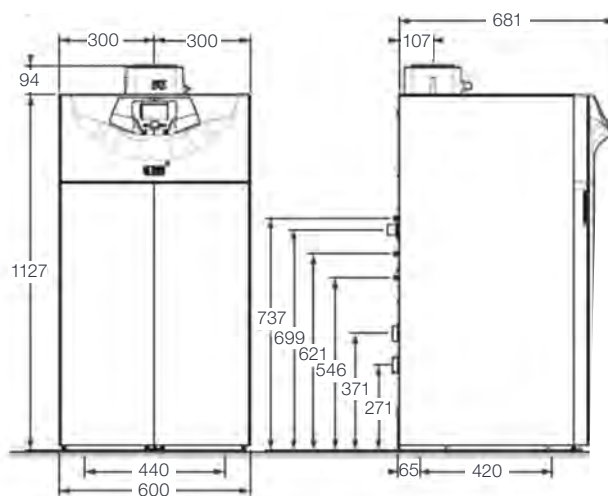
Sirius three FS 50/70kW



Front view 50/70

Side view 50/70

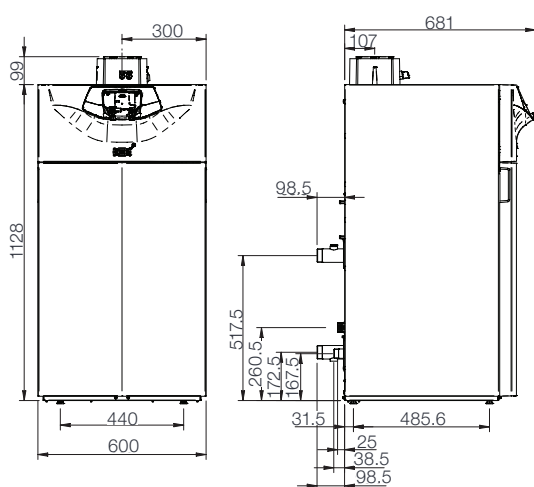
Sirius three FS 90/110kW



Front view 90/110

Side view 90/110

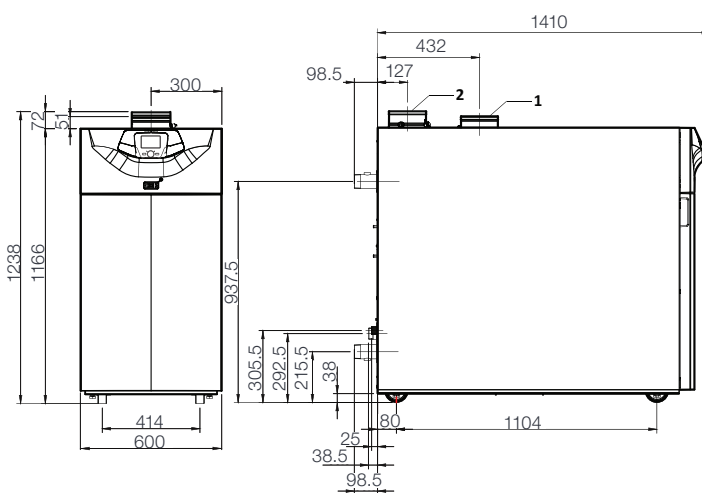
Sirius three FS 130/150kW



Front View 130/150

Side View 130/150

Sirius three FS 200/250kW



Front View 200/250

Side View 200/250

Technical specification

Performance	Fuel Type		Sirius three FS 50	Sirius three FS 70	Sirius three FS 90	Sirius three FS 110
Output @ 80/60°C	NG	kW	45.1	65.1	85.1	102
Output @ 50/30°C	NG	kW	48.6	70.3	92.2	110.2
Input (Gross) Maximum	NG	kW	51.4	74.3	97	116.4
Input (Net) Maximum	NG	kW	46.3	67.0	87.8	104.9
Output @ 80/60°C	LPG	kW	45.1	65.1	85.1	102
Output @ 50/30°C	LPG	kW	48.6	70.3	92.2	110.2
Input (LPG) (Gross) Maximum	LPG	kW	51.4	74.3	97.5	116.4
Input (LPG) (Net) Maximum	LPG	kW	47.3	68.4	89.8	107.2

Efficiency	Value %				
Efficiency @ 80/60°C - 100% Load	% Gross	87.8	87.6	87.7	87.6
Efficiency at 50/30°C - 100% Load	% Gross	94.6	94.6	95.1	94.7
Efficiency @ 30% Load	% Gross	97.1	96.8	96.9	96.8
Current Building Regulations - Part L2 Seasonal Efficiency	% Gross	97.1	96.9	97.0	96.9
ErP efficiency rating		A	A	N/A	N/A

Gas					
Gas Consumption (Natural Gas)	m³/h	4.9	7.07	9.25	11.1
Gas Consumption (LPG)	Kg/h	3.59	5.19	6.79	8.15
Inlet Gas Pressure (Natural Gas - G20)	m/bar		20		
Inlet Gas Pressure (LPG - G31)	m/bar		37		
Gas Connection Size	inch	¾	¾	1	1
Gas Connection Type			Male Thread		

Flue					
Flue Gas Volume at 80/60°C (NG)	m³/h at STP	67.6	97.7	127.6	147.2
Flue Gas Volume at 50/30°C (NG)	m³/h at STP	62.8	90.5	117.7	136.2
Flue Gas Volume at 80/60°C (LPG)	m³/h at STP	61.5	88.9	114.1	139.3
Flue Gas Volume at 50/30°C (LPG)	m³/h at STP	57.1	82.4	105.2	128.9
Max Flue Gas Pressure @ Outlet (B23)	pa		200		

Hydraulic					
Water Flow Rate @ 15°C ΔT	l/s	0.72	1.04	1.36	1.63
Water Flow Rate @ 20°C ΔT	l/s	0.54	0.78	1.02	1.22
Water Flow Rate @ 30°C ΔT	kW	0.36	0.52	0.68	0.81
Hydraulic Resistance @ 15°C ΔT	kPa	94	52	40	40
Hydraulic Resistance @ 20°C ΔT	kPa	54	32	22	22
Hydraulic Resistance @ 30°C ΔT	kPa	22	18	10	11
Water Content	litres	3	5	9	10
Flow & Return Connection Size	inch	1	1	1½	1½
Flow & Return Connection Type			Male Thread		
Flue Connection Size	mm	80/125	80/125	110/160	110/160
Maximum Boiler Operating Pressure	bar		4		
Minimum Boiler Operating Pressure	bar		1		
Maximum Flow Temperature	°C		85		

General					
Appliance Dry Weight	Kg	60	70	104	109
NOx Level (Dry @ 0% O₂)	mg/kWh	27	31	36	22
CO₂ Content – Natural Gas	%	8.5 - 9	8.5 - 9	8.5 - 9	9 - 9.2
CO₂ Content – LPG	%	9.5 - 10	9.5 - 10	9.9 - 10	9.5 - 10
High Level Ventilation (BS 6644)	cm²	93	134	175	210
Low Level Ventilation (BS 6644)	cm²	185	268	350	418

Electrical					
Power consumption	W	100	117	146	185
Nominal Supply Voltage	V/Hz		230 v 1 Ph 50 Hz		

Sirius three FS 130	Sirius three FS 150	Sirius three FS 200	Sirius three FS 250
121	140	184	238
130	150	200	250
137.4	158.6	212	266.4
123.8	142.9	191.0	240.0
121	140	184	238
130	150	200	250
137.4	158.6	212	266.4
126.6	146.0	195.3	245.4

88.4	88.4	87.7	87.4
95.1	95.1	93.9	93.9
97.8	97.8	98.3	98.3
97.3	97.3	97.5	97.5
N/A	N/A	N/A	N/A

13.1	15.1	20.2	25.4
9.8	11.3	14.8	18.6
17-25			
27-45			
1	1	1½	1½
Male Thread			

181	208	331	422
166	191	303	386
207	240	320	400
190	219	292	367
170	280	230	280

2.08	2.71	3.19	3.99
1.56	1.80	2.39	2.99
1.0	1.2	1.6	2.0
69	70	67	65
41	41	41	41
18	20	20	22
10	11	13	15
1½	1½	2	2
Male Thread			
110/160	110/160	150	150
6			
1			
85			

126	132	212	232
17	23	37	39
9.2 - 9.4	9.2 - 9.4	9.2 - 9.4	8.8 - 9
10 - 10.2	10 - 10.2	10.2 - 10.4	10.2 - 10.4
275	317	424	534
550	634	848	1068

187	283	242	369
230 v 1 Ph 50 Hz			

Single boiler outputs

**50kW to
250kW**

Gross seasonal efficiency

Up to
97.5%

Modulation ratio

Up to **9:1**

Cascade outputs

Up to **1MW**

High efficiency condensing boilers

Designed to
meet carbon
reduction
targets

Lifetime
service and
support



Floor-standing cascade pipework kits

The Sirius two FS cascade pipework kit accommodates up to four boilers, delivering a maximum output of 440kW, spreading heat demand across multiple boilers.

Features

Hydraulically sized flow/return pre-fabricated cascade pipework.

Class A primary circulator pumps (per boiler).

Optional commissioning service.

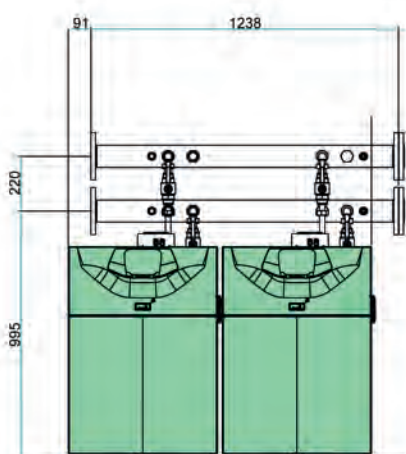
Benefits

Matches the designed boiler flow rate and reduces installation time.

ErP ready.

Provided by our national team of Gas Safe registered, trained engineers.

Front elevation



For illustration purposes only.

Number of boilers

Up to **4**

Maximum output

Up to **1MW**

Modulation ratio

Up to **9:1**
per boiler

Nationwide commissioning service

To ensure maximum efficiency and cost savings, we offer a full commissioning service, carried out by our own national team of Gas Safe registered, Potterton trained engineers.

Part no.	Description	Boiler models	No. of boilers
5142770	Sirius three FS cascade kit x2 (excludes LLH)	50 and 70	2
5142771	Sirius three FS cascade kit x3 (excludes LLH)	50 and 70	3
5142772	Sirius three FS cascade kit x4 (excludes LLH)	50 and 70	4
5142773	Sirius three FS cascade kit x2 (excludes LLH)	90 and 110	2
5142774	Sirius three FS cascade kit x3 (excludes LLH)	90 and 110	3
5142775	Sirius three FS cascade kit x4 (excludes LLH)	90 and 110	4
7718407	Sirius three FS cascade kit x2 (includes LLH)	130	2
7718408	Sirius three FS cascade kit x3 (includes LLH)	130	3
7718409	Sirius three FS cascade kit x4 (includes LLH)	130	4
7718410	Sirius three FS cascade kit x2 (includes LLH)	150	2
7718411	Sirius three FS cascade kit x3 (includes LLH)	150	3
7718412	Sirius three FS cascade kit x2 (includes LLH)	200	2
7718413	Sirius three FS cascade kit x3 (includes LLH)	200	3
7718414	Sirius three FS cascade kit x4 (excludes LLH)	200	4
7718415	Sirius three FS cascade kit x2 (includes LLH)	250	2
7718416	Sirius three FS cascade kit x3 (excludes LLH)	250	3
7718417	Sirius three FS cascade kit x4 (excludes LLH)	250	4

Sirius three FS Low loss header

Fitting a low loss header allows the boiler to maintain the correct flow of water constantly, ensuring maximum reliability and efficiency.

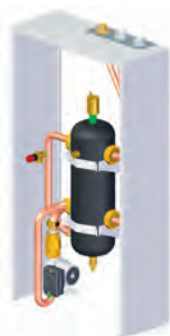
Potterton Commercial offers a low loss header solution for single boiler applications for use with the Sirius three FS. These accessories are easily integrated into the boiler. They are supplied with boiler case extension panels which conceal the low loss header arrangement.



Part No.	Description	Boiler output	No. of boilers	
5142184	Low loss header	50/70kW	1	Sirius three FS Low loss header kit (50 and 70kW)
5142185	Low loss header	90/110kW	1	Sirius three FS Low loss header kit (90 and 110kW)
7663934	Low loss header	130/150kW	1	Sirius three FS - Low Loss Header kit (130 and 150kW)
7672216	Low loss header	200/250kW	1	Sirius three FS - Low Loss Header kit (200 and 250kW)
7680549	Plate to plate heat exchanger kit	130/150kW	1	Sirius three FS - Plate to plate HEX kit (130 and 150kW)
7680558	Plate to plate heat exchanger kit	200/250kW	1	Sirius three FS - Plate to plate HEX kit (200 and 250kW)



Low loss header for Sirius three FS 50kW and 70kW



Low loss header for Sirius three FS 90kW and 110kW



LLH Kit for 250 kW boiler



Plate to plate HEX kit for 130 and 150kW boilers



Plate to plate HEX kit for 200 and 250kW boilers



Sirius FS



The Sirius FS floor-standing condensing boiler provides an energy efficient, cost effective heating solution for large commercial buildings such as schools, hotels, nursing homes and leisure facilities. Both models benefit from the latest burner technology which delivers an impressive modulation ratio of 5:1.

Single boiler outputs

**400kW and
525kW**

Gross seasonal efficiency

97%

Modulation ratio

5:1

Applications

Large commercial premises and packaged plant solutions.

Commissioning

Carried out by Potterton Commercial engineers, ensures optimum performance, efficiency and savings.

Service plans

We provide expert, professional support ensures optimum performance is maintained throughout the lifetime of your boiler.

*Subject to terms and conditions.
See pottertoncommercial.co.uk for more details.

Features and benefits

Features

Stainless steel heat exchanger.
Very compact design.
0-10 V connections as standard.
Free commissioning by Potterton Commercial engineers.
Service plans available.
The controls can be programmed to work with solar thermal, biomass and buffer tanks.

Benefits

Designed for maximum combustion performance and safety.
Easy to fit in confined spaces.
For easy BMS interface.
Ensures optimum performance, efficiency and savings.
Ongoing support, whenever you need it.
Sustainable, energy efficient solution for a wide range of applications.

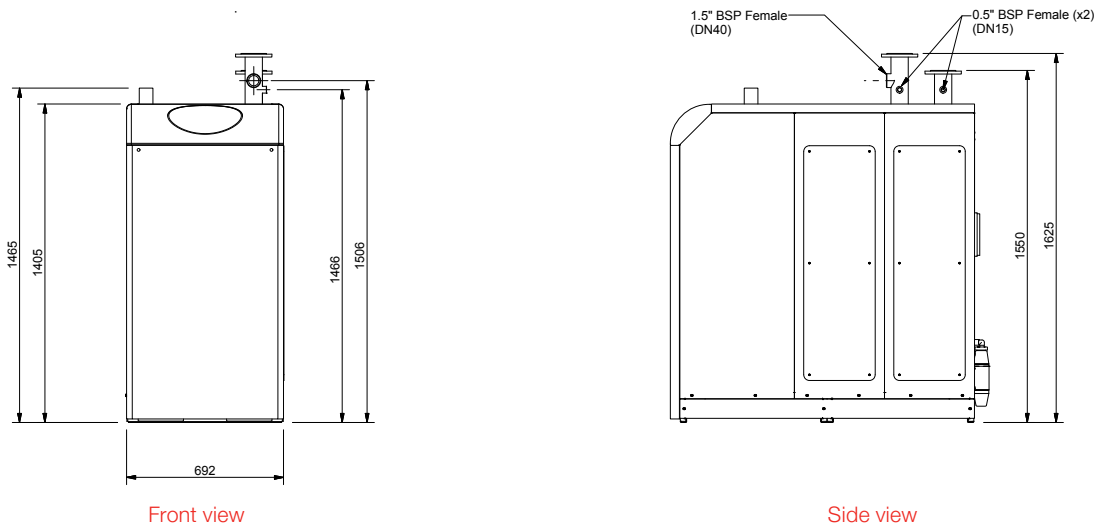
Optional accessories

A range of intelligent controls and accessories are available for use with Sirius FS boilers, to meet the heating requirements of the building accurately and efficiently.

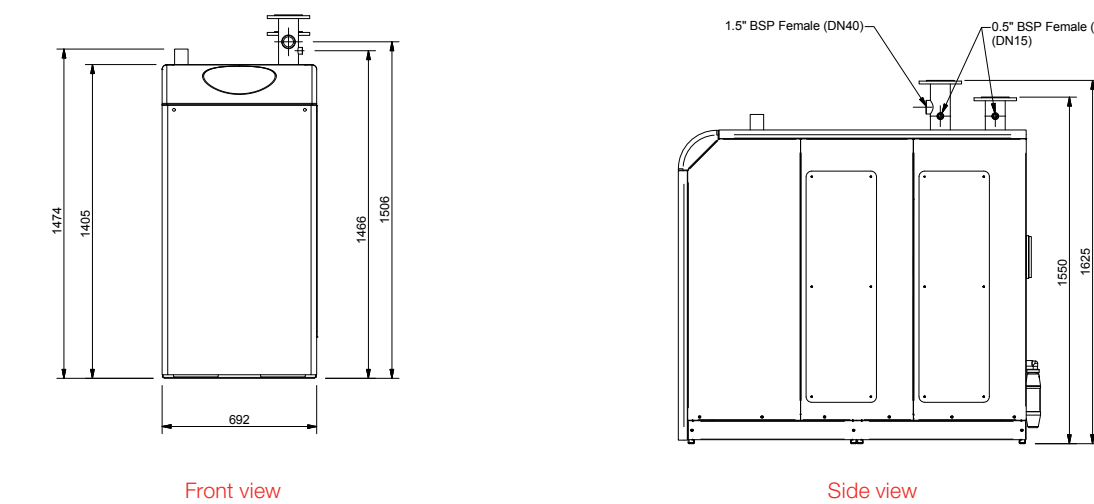
Model	Sales code	Description
Digital thermostat	5138511	Wired digital room thermostat – remote from the boiler. Used to control the temperature operation of the boiler.
Programmable digital room thermostat	5138510	Wired digital programmable room thermostat – remote from the boiler. Used to control the time and temperature operation of the boiler.
DHW temperature sensor	5116436	Immersion, dry pocket temperature sensor providing boiler temperature control for DHW storage vessels.
Variable temperature (VT) extension module	5138513	A module for controlling one additional variable temperature heating circuit.
Flow temperature sensor – boiler	5103867	Strap-on pipe sensor for monitoring boiler flow temperature. For further improvements to system performance, it is advisable to use a sensor on both flow and return. Only required for cascade configurations.
BM BUS module	5136893	Additional clip-in wired module, (one per boiler), to allow the boiler(s) to communicate with each other when installed in cascade as a 'master and slave' configuration.
Volt free relay module	5136906	Volt free fault or run indicators for output to BMS controls.

Dimensions

Sirius FS 400



Sirius FS 525



		Sirius FS 400	Sirius FS 525
Height	mm	1405	1405
Width	mm	692	692
Depth	mm	1341	1558
Service clearance, rear	mm	600	600
Service clearance, right and top	mm	600	600
Service clearance, left	mm	400	400
Service clearance, front	mm	800	800

Technical specification

Performance	Fuel Type		Sirius FS 400	Sirius FS 525
Output @ 80 / 60°C	NG	kW	380	475
Output @ 50 / 30°C	NG	kW	401	527
Input (gross) maximum	NG	kW	421.7	554.9
Efficiency	Value %			
Efficiency @ 50 / 30°C – 100% load	% Gross		95.1	95
Efficiency @ 50 / 30°C – 30% load	% Gross		97.4	97.8
Current building regulations – Part L2 seasonal efficiency	% Gross		97	97.2
Gas				
Gas Consumption (Natural Gas)	m³/h		3.5-40.0	4.5-52.4
Inlet Gas Pressure (Natural Gas - G20)	m/bar		18-20	18-20
Gas connection size	inch		2	
Gas connection type	Threads		Male threads	
Flue				
Flue Gas Volume at 80/60°C (NG)	m³/h at STP		673	875
Flue Gas Volume at 50/30°C (NG)	m³/h at STP			
Max Flue Gas Pressure @ Outlet	mbar		200	250
Minimum Flue Gas Pressure @ Outlet	mbar			
Hydraulic				
Water Flow Rate @ 15°C ΔT	l/s		6.4	8.4
Water Flow Rate @ 20°C ΔT	l/s		4.8	6.3
Hydraulic Resistance @ 15°C ΔT	kPa		73	66
Hydraulic Resistance @ 20°C ΔT	kPa		42	38
Water Content	litres		30	43
Flow & Return Connection Type	flanged		DN65 PN6	DN80 PN6
Flue Connection Size	mm		180	180
Maximum Boiler Operating Pressure	bar		6	
Minimum Boiler Operating Pressure	bar		1	
Maximum Flow Temperature	°C		90	
General				
Appliance Dry Weight	Kg		359	424
NOx Level (Dry @ 0% O ₂)	mg/kWh		45	45
CO ₂ Content – Natural Gas	%		9.0 (8.7)	9
Noise levels @ 1 metre from unit (room-sealed)	dB(A)		59	65
High Level Ventilation (BS 6644)	cm²		760	1000
Low Level Ventilation (BS 6644)	cm²		1520	2000
Electrical				
Power consumption	W		253	322
Nominal Supply Voltage	V/Hz		230V~ / 50Hz	



Flue options

Potterton Commercial offers a comprehensive choice of flues and accessories for Sirius three FS and WH boilers, suitable for practically every application, including horizontal or vertical concentric (C13 and C33) flues for room-sealed applications.

If using conventional (B23) and modular flues, we recommend you consult with a flue expert on the design and supply of the flue system.

Flue

Boiler and output	Flue size	Number of bends 87*			
		1	2	3	4
WH/FS50	Ø 80/125	9m	8m	7m	6m
WH60	Ø 80/125	9m	8m	7m	6m
WH/FS70	Ø 80/125	9m	8m	7m	6m
WH/FS90	Ø 100/150	9m	8m	7m	6m
WH/FS110	Ø 100/150	9m	8m	7m	6m
WH/FS130	Ø 110/150	8m	7m	6m	5m
WH/FS150	Ø 110/150	8m	7m	6m	5m
FS200	Ø 160	(please refer to a flue specialist)			
FS250	Ø 160	(please refer to a flue specialist)			

Common concentric flue components

Boiler and output	Sales code	Flue size	Description	
WH 50/60/70 FS 50/70	5136146	Ø 80/125	Horizontal concentric flue. Inc: terminal and wall plates	
WH/FS 90/110*	5136170	Ø100/150		
WH 50/60/70 FS 50/70	5136147	Ø80/125	Vertical concentric flue kit	
WH/FS 90/110*	5136171	Ø100/150		
WH 50/60/70 FS 50/70	5136148	Ø80/125	1 metre concentric extension	
WH/FS 90/110	5136159	Ø100/150		
WH 50/60/70 FS 50/70	5136149	Ø80/125	0.5 metre concentric extension	
WH/FS 90/110	5136160	Ø100/150		
WH 50/60/70 FS 50/70	5136150	Ø80/125	45° Concentric elbow	
WH/FS 90/110	5136161	Ø100/150		
WH 50/60/70 FS 50/70	5136151	Ø80/125	87° Concentric elbow	
WH/FS 90/110	5136162	Ø100/150		
WH 50/60/70 FS 50/70	5136152	Ø 80/125	Wall stand off brackets	
WH/FS 90/110	5136163	Ø100/150		
WH 50/60/70 FS 50/70	E105	Ø80/125	Terminal cage guard	
WH/FS 90/110	E630	Ø100/150		
WH 50/60/70 FS 50/70	E065	Ø80/125	Flat roof flashing	
WH/FS 90/110	E207	Ø100/150		
WH 50/60/70 FS 50/70	E066	Ø80/125	Pitched roof flashing	
WH/FS 90/110	E208	Ø100/150		
WH 50/60/70 FS 50/70	5136153	Ø80/125	Siphon kit supplied with Condensation trap	
WH 90/110 FS 90/110/130/150	5136164	Ø100/150		
WH 50/60/70 FS 50/70	5136154	Ø80/125	Locking Camp	
WH 90/110 FS 90/110/130/150	5136165	Ø100/150		
WH 50/60/70 FS 50/70	5136155	Ø80/125	80mm Seal	
WH 90/110 FS 90/110/130/150	5136166	Ø100/150		

*110/160 to 100/150 adapter also provided.

External flue kit

External wall starter kit

A Through wall piece with bottom elbow

B Air intake

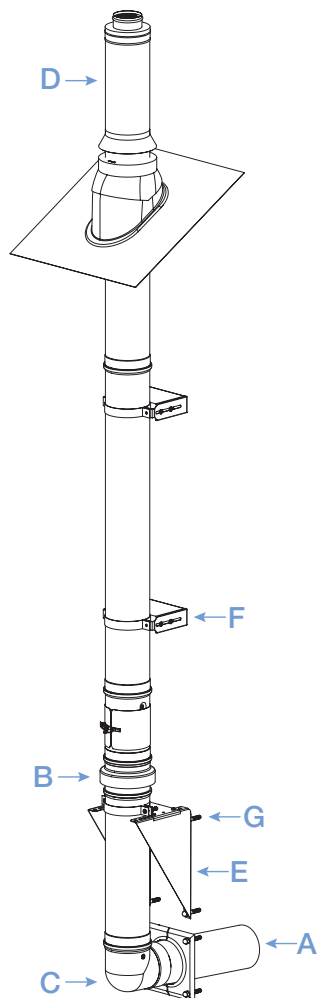
C 80/125-100/150 adapter
(Sirius two WH 50, 60 and 70kW)

D 100/150 flue terminal

E Bottom wall support

F Wall brackets x2

G Fixings x3



Model	WH/FS 50	WH60	WH/FS 70	WH/FS 90	WH/FS 110	WH/FS 130	WH/FS 150
Starter kit	5138541	5138541	5138541	138542	138542	138542	138542
Optional flue accessories							
1 metre extension	5138545	5138545	5138545	5138545	5138545	5138545	5138545
0.5 metre extension	5138546	5138546	5138546	5138546	5138546	5138546	5138546
45° elbow (x2)	5138547	5138547	5138547	5138547	5138547	5138547	5138547
Inspection tee	5138548	5138548	5138548	5138548	5138548	5138548	5138548

Plume management kit

Flue size 80/125 (Sirius three WH/FS 50, 60 and 70kW)

A Horizontal terminal (610mm) including clamp

B Wall plate 125mm (220x220mm) x2

C 90° elbow 80mm x2

D 1 metre extension 80mm including wall bracket

E Nose piece 80mm (150mm)

Does not include initial elbow on boiler.
See below table for options

Flue size 100/150 (Sirius three WH/FS 90/110/130/150kW)

A Horizontal terminal (600mm) including clamp

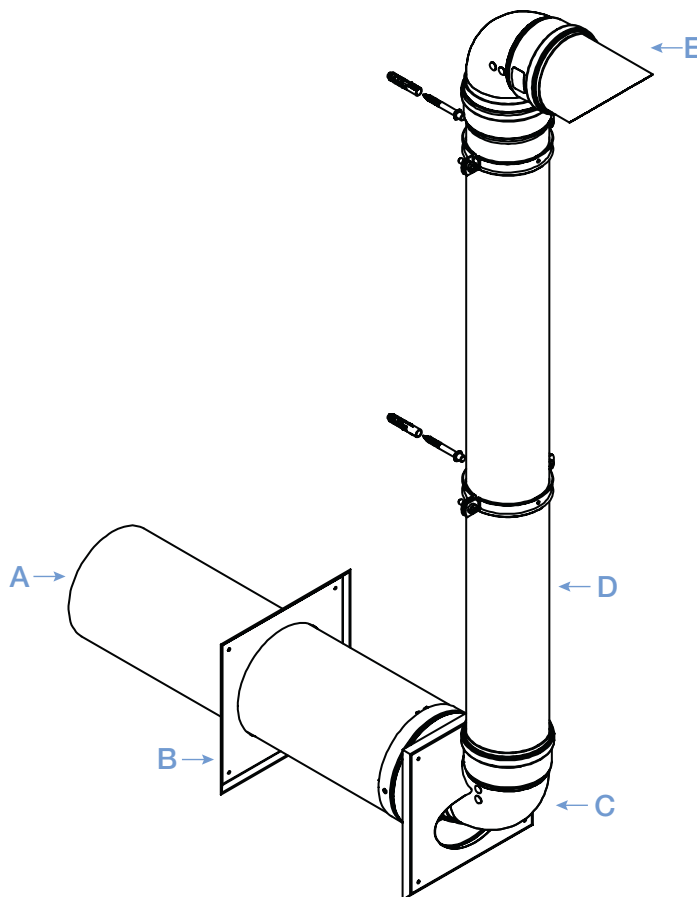
B Wall plate 150mm (220x220mm) x2

C 87° elbow 100mm x2

D 1 metre extension 100mm including wall bracket

E Nose piece 100mm (170mm)

Does not include initial elbow on boiler.
See below table for options



Model	WH/FS 50	W 60	WH/FS 70	WH/FS 90	WH/FS 110	WH/FS 130	WH/FS 150
Plume Management Kit	5136902	5136902	5136902	5138512	5138512	5138512	5138512
Optional flue accessories							
1 metre extension – 80	5138537	5138537	5138537	-	-	-	-
1 metre extension – 100	-	-	-	5138540	5138540	5138540	5138540
45° elbow – 80	5138536	5138536	5138536	-	-	-	-
45° elbow – 100	-	-	-	5138539	5138539	5138539	5138539
90° elbow – 80	5138535	5138535	5138535	-	-	-	-
90° elbow – 100	-	-	-	138538	5138538	5138538	5138538

Cascade flue system

The Potterton cascade flue system is designed for internal use in a plant room and not for external installation. The system is supplied complete with all associated components. The basic PP 150mm and 200mm flue cascade kits are suitable for the connection of two boilers (2 x Sirius three WH or FS) in an in-line configuration using 700mm centres and include a non-return valve. For the connection of additional boilers, simply attach a cascade extension header kit for each additional boiler.

A fall should be maintained to the cascade header which equates to 3 degrees. This means the flue rises 52mm for every metre. Equating this to our flue centres of 700mm, the flue connection length (from the boiler to the header) increases by 36mm for each boiler (e.g. a 4000mm Cascade Header requires a differential of 208mm from one end to the other).

Please note that 110, 130 and 150kW Sirius boilers will require a larger non-return valve which must be purchased separately (item code 7700811). Customers wishing to cascade boilers above 150kW should consult with a specialist chimney supplier for design input.

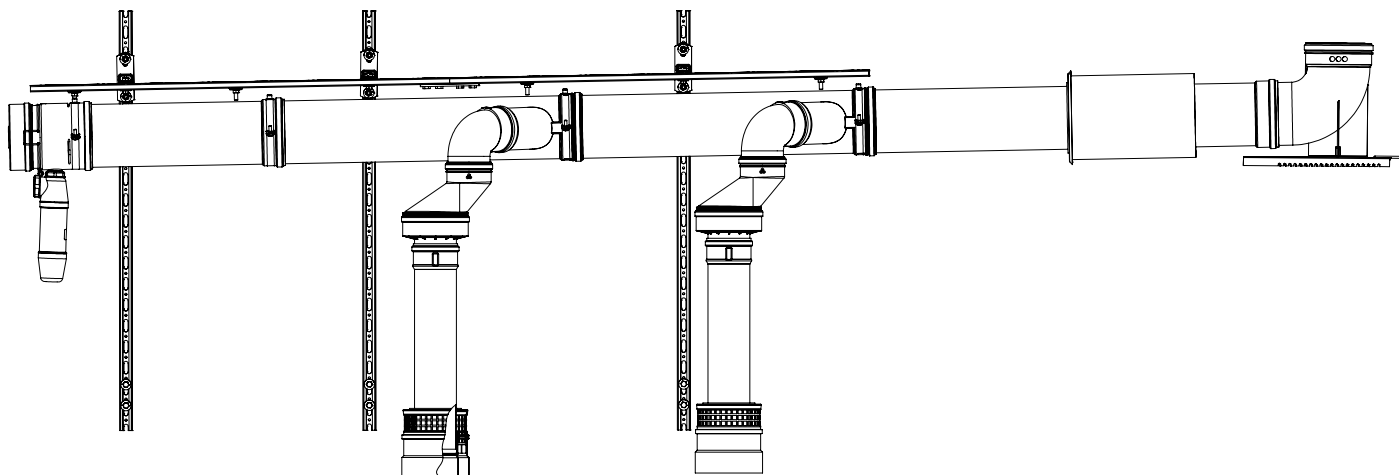
Cascade flue kits

7697347	150mm In-line Flue Cascade Header Kit
7697352	150mm In-line Flue Cascade Header Kit (Extension)
7697355	200mm In-line Flue Cascade Header Kit
7697406	200mm In-line Flue Cascade Header Kit (Extension)

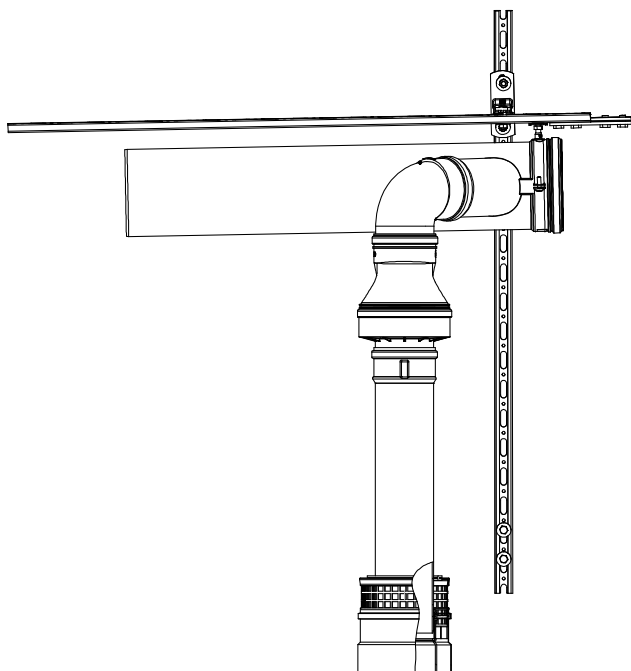
NRVs

50 and 70kW FS flue non return valve kit	5142804	Flue non-return valve kit for boilers in cascade configurations (50 and 70kW models)
50 and 70kW FS flue non return valve kit	5142805	Flue non-return valve kit for boilers in cascade configurations (50 and 70kW models)
50 and 70kW FS flue non return valve kit	7700811	Flue non-return valve kit for boilers in cascade configurations (50 and 70kW models)

Basic cascade flue kit



Basic cascade flue extension kit

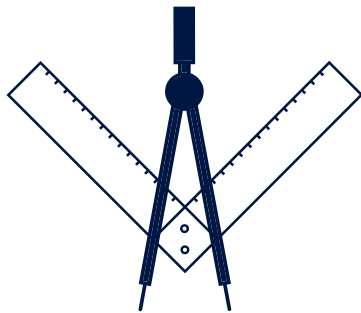


Max no. of boilers in
a cascade connection

Sirius three WH and FS	ø150mm (250kW max)	ø200mm (500kW max)
50kW	5	10
60kW	4	9
70kW	3	7
90kW	2	5
110kW	2	4

Support you can depend on

We want to help you achieve the best results, quickly and cost effectively. Whatever you need, expert support is never more than a phone call away.



Applications support

We can guide you through the requirements of Building Regulations Part L2a and b, and help you meet legislation and building service engineering standards. We can provide application support, advice and solutions by email, on the phone or on site, at all stages of your project.



Technical information

All the technical information you need is easy to find on our website, using your smartphone, tablet or PC:

- BIM files
- CAD files
- Brochures
- Technical specification sheets
- Case studies
- Installation manuals
- User guides



Specification and sales support

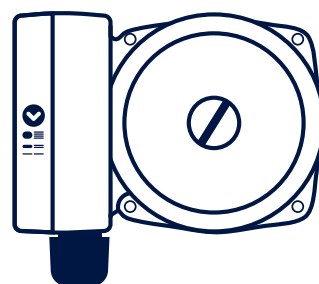
The Potterton Commercial team has achieved the ISO 9001 quality management standard and the Investors in People - bronze award, so you know you can depend on us to give you outstanding service.

We are here to help you book commissioning, service or repair visits, and to register your warranties.

Our technical helpline is manned by former engineers with industry experience. They can provide technical information, installation support and help with fault finding and diagnostics.

We have a national network of engineers who are trained on all our products.

They can provide a commissioning service as well as carrying out service and repair work.



Genuine parts

Genuine manufacturer's parts for all Potterton Commercial boilers are available through a national network of stockists. They are available for up to 10 years after manufacture of the boiler stops, so you know your boiler will be supported.

Visit www.baxigenuineparts.co.uk to find a stockist or to search for a part by name, brand or Gas Council number.

sales 0345 070 1055
technical 0345 070 1057
web pottertoncommercial.co.uk

Registered office address: Baxi Heating UK, Coventry Road, Warwick, CV34 4LL

May 2020

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