

Commercial Boiler Guide

27 to 4000kW

Condensing cast aluminium/silicon
30 to 300kW

Condensing stainless steel
50 to 160kW

Modular and prefabricated solutions
60 to 1150kW

Heat Pumps
21.3 to 41.2kW

Atmospheric cast iron
50 to 348kW

Pressure jet steel
290 to 4000kW

Heatboxes
Heating and domestic hotwater interface units

Pressure jet cast iron
27 to 800kW

Condensing oil
98 and 131kW

Working towards
a cleaner future

POTTERTON
COMMERCIAL

heating specialists

Potterton Commercial manufacture a comprehensive range of gas and oil boilers for commercial applications.

A long established and prestigious company, the Potterton brand can be traced back as far as 1850 when Thomas Potterton established the company in Balham, London. Now Potterton is one of the most prestigious names in the heating industry and remains firmly at the forefront of gas boiler production and development.

Our commercial boiler range is highly regarded by specifiers and meets the Part L2 boiler operating efficiency legislation. In addition to our wide range of traditional commercial boilers, we have a technologically advanced range of condensing boilers in order to meet the demand for higher efficiency and low carbon products.

| | | |
|--------------------------------|--|----|
| Condensing Aluminium | Paramount three | 4 |
| | Eurocondense three | 5 |
| Condensing Stainless | Sirius FS | 6 |
| | Sirius WH | 7 |
| Prefabricated Solutions | Paramount three MB Series | 8 |
| | Sirius WH MB Series | 10 |
| | Ecoskid | 12 |
| Heat Pumps | GEOflo | 14 |
| | A-Cubed | 15 |
| Atmospheric Cast Iron | Derwent Compact plus | 16 |
| | Derwent Prestige plus | 17 |
| Pressure Jet Steel | Arizona Evolution | 18 |
| Heat Boxes | Sirius SAT | 20 |
| Pressure Jet Cast Iron | NXR2 | 21 |
| | NXR3 | 22 |
| | NXR4 | 23 |
| Hot Water | Calorifier | 24 |
| Oil Condensing | Logo Condense and Carbo Condense | 25 |
| Flue Heat Recovery | Fumeco | 26 |
| Building Regulations | Part L2 A&B for non-domestic buildings | 27 |

Why Potterton Commercial?

High efficiency and the environment

The Potterton Commercial boiler range has been highly regarded by specifiers and users for almost 50 years, and meets all current and proposed U.K & European standards. We provide condensing outputs from 30 to 300kW, pressure jet outputs from 22 to 4000kW and atmospheric gas outputs from 50 to 348kW.

Customer service excellence

Potterton Commercial provides nationwide boiler erection, assembly and commissioning services, along with extensive after sales backup.

We have dedicated staff based at our Service Office who, as well as controlling our erection and commissioning services, also offer annual service maintenance contracts.

Providing the reassurance you need

All Potterton Commercial products are manufactured using high specification materials with strict quality assurance procedures and are covered by a standard one year warranty. We have full confidence in our manufacturing and quality systems and the 10 year warranty* supports this confidence. When our dedicated team of engineers erect and commission our boilers, we provide a commitment to replace any heat exchanger that has failed due to manufacturing defect.

The 10 year warranty provides peace of mind covering both parts and labour. Qualifying boilers: Derwent Compact plus, Derwent Prestige plus, Paramount three, Eurocondense three, NXR2, NXR3 & NXR4. The Sirius WH and Sirius FS, if commissioned by Potterton Commercial, are backed up by the 5 year warranty* on all parts and labour if a fault occurs due to a manufacturing defect.

Accessible support nationwide

At Potterton Commercial, we have national coverage for both sales and service. We can therefore offer site surveys via our sales team, technical support or service network if required.

Potterton Commercial has all the relevant technologies you would expect from a blue chip company such as e-mail access to sales, service and technical support, should you require it, as well as a comprehensive website

Innovative thinking

At Potterton Commercial, we have a comprehensive, competitive product range, as well as a market leading warranty and are always looking to the future, developing tomorrow's needs today through pre-fabrication.

Also, with the completion of a dedicated Commercial Boiler training centre at our head office, available for engineer training and familiarisation and our nationwide service and technical backup, we are truly unique in the industry.

Sales:

0845 070 1056

Technical:

0845 070 1057

www.pottertoncommercial.co.uk

* Terms and conditions apply



heating specialists

Paramount three

30kW – 115kW

Condensing cast aluminium/silicon

- Wall hung condensing boiler available in 6 outputs from 30 – 115kW
- Up to 95% gross, seasonal efficiency
- Suitable for Natural Gas & LPG with pre-mix fully modulating control 25 – 100%
- Ultra low NOx <25mg/kW/hr
- 10 year warranty on aluminium/silicon alloy heat exchanger*
- Optional flueing, pipework, sequence & zone controls available
- Integrated control panel – ISR Plus
- Modular header kits available for up to 12 boilers

* Subject to conditions



Performance details

| Model | | 30 | 40 | 60 | 80 | 95 | 115 |
|------------------------------------|---|--------|--------|---------|---------|---------|---------|
| Nominal output @ 50/30°C | kW | 31.31 | 39 | 60.1 | 79.7 | 98.1 | 118.6 |
| Nominal output @ 80/60°C | kW | 29.2 | 36.8 | 56.3 | 74.7 | 92.2 | 111.7 |
| Input kW net maximum | kW | 30 | 38 | 58 | 77 | 95 | 115 |
| Input kW net minimum | kW | 5.6 | 9 | 14 | 21 | 20 | 25 |
| 100% output efficiency (gross) | % | 87.6 | 87.3 | 87.4 | 87.4 | 87.4 | 87.5 |
| 30% output efficiency (gross) | % | 96.9 | 95.9 | 96.1 | 96.8 | 96.4 | 96.2 |
| Seasonal boiler efficiency (gross) | % | 95.1 | 94.3 | 94.4 | 95.0 | 94.4 | 94.5 |
| Flue spigot size | Ø mm | 80/125 | 80/125 | 110/160 | 110/160 | 110/160 | 110/160 |
| Gas consumption (NG) | m ³ /hr | 3.2 | 4 | 6.1 | 8.1 | 10.1 | 12.2 |
| Flue gas volume | kg/hr | 53.28 | 67.32 | 102.6 | 136.4 | 168.1 | 203.8 |
| Flow rate @ 11°C ΔT | l/sec | 0.63 | 0.8 | 1.22 | 1.67 | 2.06 | 2.50 |
| Flow rate @ 20°C ΔT | l/sec | 0.35 | 0.44 | 0.67 | 0.92 | 1.13 | 1.36 |
| Hydraulic resistance @ 11°C ΔT | kPa | 29 | 37 | 25.4 | 27 | 39 | 48 |
| Hydraulic resistance @ 20°C ΔT | kPa | 10 | 14 | 8 | 9 | 13 | 18 |
| Maximum operating pressure | bar | 3 | 3 | 4 | 4 | 4 | 4 |
| Minimum operating pressure | bar | 1 | 1 | 1 | 1 | 1 | 1 |
| Maximum flow temperature | °C | 85 | 85 | 85 | 85 | 85 | 85 |
| Minimum flow temperature | °C | 20 | 20 | 20 | 20 | 20 | 20 |
| Water content | l | 3.6 | 3.6 | 4.7 | 5.8 | 7.8 | 7.8 |
| Weight empty | kg | 53 | 53 | 61 | 72 | 84 | 84 |
| Power requirements | 230V 50Hz 1Ph – Isolator and 6.3A fuse required | | | | | | |
| Electrical consumption | W | 55 | 60 | 75 | 105 | 170 | 200 |
| Height | mm | 900 | 900 | 975 | 975 | 975 | 975 |
| Width | mm | 480 | 480 | 480 | 480 | 480 | 480 |
| Length | mm | 407 | 407 | 447 | 542 | 585 | 585 |

Eurocondense three

125kW – 300kW

Floor Standing Condensing Boiler

- Outputs available from 125 to 300 kW
- Maximum energy utilisation. Standard efficiency of up to 106.6% net (96% gross)
- Up to 94.4% gross, seasonal efficiency to Part L2
- High modulation range from 16% to 100% of nominal output (6:25 to 1)
- Heat exchanger profile designed to ensure highly efficient heat transfer
- Compact dimensions and small footprint
- Lightweight aluminium/silicon heat exchanger
- Top mounted hydraulic and flue connections
- NOx < 35mg/kWh
- 10 year warranty on the aluminium/silicon alloy heat exchanger*
- ECA approved

*subject to conditions



Performance details

| | | EC three 125 | EC three 170 | EC three 215 | EC three 260 | EC three 300 |
|---------------------------------------|-----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Output 80 / 60°C Min – Max (NG) | kW | 19.2 – 121.6 | 26.8 – 165.8 | 33.5 – 210.1 | 40.2 – 254.5 | 45.9 – 294.0 |
| Output 50 / 30°C Min – Max (NG) | kW | 21.3 – 133.1 | 29.8 – 181.3 | 37.4 – 229.6 | 44.9 – 278.1 | 51.4 – 321.3 |
| Input (Gross) (NG) | kW | 22.2 – 138.8 | 31.1 – 188.7 | 38.9 – 238.7 | 46.6 – 288.6 | 53.3 – 333.0 |
| Output 80 / 60°C Min – Max (LPG) | kW | 33.5 – 121.6 | 33.5 – 165.8 | 46.0 – 210.1 | 55.5 – 254.5 | 55.5 – 294.0 |
| Output 50 / 30°C Min – Max (LPG) | kW | 37.2 – 133.1 | 37.3 – 181.3 | 51.2 – 229.6 | 62 – 278.1 | 62.1 – 321.3 |
| Input (Gross) (LPG) | kW | 38.9 – 138.8 | 38.9 – 188.7 | 53.3 – 238.7 | 64.4 – 288.6 | 64.4 – 333 |
| Efficiency @ 80 / 60°C 100% Load | % Gross | 87.74 | 87.94 | 88.13 | 88.28 | 88.37 |
| Efficiency @ 50 / 30°C 100% Load | % Gross | 96.03 | 96.17 | 96.31 | 96.45 | 96.57 |
| Seasonal Efficiency - Part L2 (gross) | % | 94.3 | 94.5 | 94.6 | 94.8 | 94.9 |
| Gas Consumption (Natural Gas) | m ³ /h | 2.1 – 13.2 | 3.0 – 18.0 | 3.7 – 22.8 | 4.4 – 27.5 | 5.1 – 31.7 |
| Gas Consumption (LPG) | Kg/h | 2.7 – 9.7 | 2.7 – 13.2 | 3.7 – 16.7 | 4.5 – 20.2 | 4.5 – 23.3 |
| Inlet Gas Pressure (Natural Gas) | mbar | 18 – 25 | 18 – 25 | 18 – 25 | 18 – 25 | 18 – 25 |
| Inlet Gas Pressure (LPG) | mbar | 37 | 37 | 37 | 37 | 37 |
| Flue Gas Volume @ 80/60 °C (NG) | m ³ /h@STP | 24.5 – 152.9 | 34.3 – 208.0 | 42.8 – 263.1 | 51.4 – 318.1 | 58.7 – 367.1 |
| Flue Gas Volume @ 50/30 °C (NG) | m ³ /h@STP | 22.5 – 142.0 | 31.5 – 193.0 | 39.3 – 243.9 | 47.1 – 294.7 | 53.9 – 339.7 |
| Flue Gas Volume @ 80/60 °C (LPG) | m ³ /h@STP | 40.6 – 145.1 | 40.6 – 197.4 | 55.7 – 249.6 | 67.3 – 301.8 | 67.3 – 348.3 |
| Flue Gas Volume @ 50/30 °C (LPG) | m ³ /h@STP | 38.6 – 134.2 | 37.8 – 182.3 | 52.2 – 230.4 | 63.1 – 278.4 | 62.5 – 320.9 |
| Max Flue Gas Pressure @ Outlet | mbar | 1 | 1 | 1 | 1 | 1 |
| Min Flue Gas Pressure @ Outlet | mbar | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Water Flow Rate @ 11°C ΔT | l/s | 2.89 | 3.94 | 4.99 | 6.05 | 7.02 |
| Water Flow Rate @ 20°C ΔT | l/s | 1.49 | 2.03 | 2.57 | 3.11 | 3.58 |
| Hydraulic Resistance @ 11°C ΔT | kPa | 9.00 | 11.00 | 12.10 | 12.70 | 12.90 |
| Hydraulic Resistance @ 20°C ΔT | kPa | 2.8 | 3.4 | 3.7 | 3.9 | 4.0 |
| Water Content | Litres | 29 | 34 | 38 | 45 | 53 |
| Dry Weight | Kg | 205 | 240 | 285 | 314 | 344 |
| Max Operating Pressure | bar | 6 | 6 | 6 | 6 | 6 |
| Min Operating Pressure | bar | 1 | 1 | 1 | 1 | 1 |
| Maximum Flow Temperature °C | 88 | 88 | 88 | 88 | 88 | 88 |
| NOx Level (Dry @ 0% O ₂) | mg/kWh | 35 | 35 | 35 | 35 | 35 |
| High Level Ventilation* (BS 6644) | cm ² | 277.6 | 377.4 | 477.4 | 577.2 | 666 |
| Low Level Ventilation* (BS 6644) | cm ² | 555.2 | 754.8 | 954.8 | 1154.4 | 1332 |
| Dimension W x D x H | mm | 692 x 1008 x 1389 | 692 x 1008 x 1389 | 692 x 1171 x 1389 | 692 x 1264 x 1389 | 692 x 1357 x 1389 |
| Flow & Return Connection Size | mm | DN65 PN6 | DN65 PN6 | DN65 PN6 | DN65 PN6 | DN65 PN6 |
| Flow & Return Connection Type | | Flange | Flange | Flange | Flange | Flange |
| Gas Connection Size | inch | 1 | 1½ | 1½ | 1½ | 1½ |
| Gas Connection Type | | Male Threaded | Male Threaded | Male Threaded | Male Threaded | Male Threaded |
| Flue Connection Size | mm | 160 | 160 | 200 | 200 | 200 |
| CO ₂ Content – Natural Gas | % | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 |
| CO ₂ Content – LPG | % | 11 | 11 | 11 | 11 | 11 |
| Flue Gas Temperatures @ 80/60 °C | °C | 57 – 61 | 57 – 61 | 57 – 61 | 57 – 61 | 57 – 61 |
| Flue Gas Temperatures @ 50/30 °C | °C | 30 – 37 | 30 – 37 | 30 – 37 | 30 – 38 | 30 – 38 |
| Electrical Connection | V/Hz | 230/50 | 230/50 | 230/50 | 230/50 | 230/50 |
| Power Consumption | W | 170 | 200 | 330 | 350 | 410 |

* Ventillation size is based on a single conventionally flued boiler

Sirius FS

50kW – 160kW

Condensing fabricated stainless steel

- Floor standing condensing boiler available in 6 outputs from 50kW to 160kW
- Up to 94% gross, seasonal efficiency
- Suitable for Natural Gas with pre-mix fully modulating control 35 – 100%
- Ultra low NOx <39mg/kW/hr
- 5 year parts & labour warranty*
- Optional pipework, sequence & zone controls, room sealed options available
- All models only 450mm wide
- Integrated control panel with volt free connections for BEMS connection
- ECA approved

* Subject to conditions



Performance details

| Model | | FS50 | FS70 | FS90 | FS105 | FS130 | FS160 |
|------------------------------------|---|-------|-------|-------|-------|-------|-------|
| Nominal output @ 50/30°C | kW | 48.7 | 70.3 | 91.6 | 107.8 | 129.7 | 162 |
| Nominal output @ 75/60°C | kW | 45 | 65 | 85 | 100 | 120 | 150 |
| Input kW net maximum | kW | 46.4 | 67 | 87.2 | 102.7 | 123.2 | 154 |
| Input kW net minimum | kW | 12.2 | 13.8 | 33.1 | 36.8 | 40 | 41.5 |
| 100% output efficiency (gross) | % | 86 | 86 | 86 | 86 | 86 | 86 |
| 30% output efficiency (gross) | % | 96 | 96 | 96 | 96 | 96 | 96 |
| Seasonal boiler efficiency (gross) | % | 94 | 94 | 94 | 94 | 94 | 94 |
| Hydraulic resistance @ 15°C ΔT | kPa | 32 | 35 | 36 | 40 | 31 | 31 |
| Hydraulic resistance @ 20°C ΔT | kPa | 25 | 20 | 24 | 23 | 23 | 20 |
| Flue spigot size | ∅ mm | 80 | 80 | 100 | 100 | 100 | 100 |
| Gas consumption | m ³ /hr | 4.91 | 7.08 | 9.26 | 10.9 | 13.8 | 16.35 |
| Max flue gas flow rate | kg/s | 0.022 | 0.031 | 0.041 | 0.049 | 0.058 | 0.073 |
| Flow rate @ 15°C ΔT | l/sec | 0.71 | 1.03 | 1.35 | 1.59 | 1.91 | 2.39 |
| Flow rate @ 20°C ΔT | l/sec | 0.53 | 0.35 | 1.02 | 1.19 | 1.43 | 1.79 |
| Maximum operating pressure | bar | 4 | 4 | 4 | 4 | 4 | 4 |
| Minimum operating pressure | bar | 1 | 1 | 1 | 1 | 1 | 1 |
| Maximum flow temperature | °C | 85 | 85 | 85 | 85 | 85 | 85 |
| Minimum flow temperature | °C | 30 | 30 | 30 | 30 | 30 | 30 |
| Water content | l | 5.1 | 6.5 | 13.7 | 21 | 23.3 | 25.3 |
| Weight empty | kg | 60 | 68 | 75 | 83 | 95 | 103 |
| Power requirements | 230V 50Hz 1Ph – Isolator and 6.3A fuse required | | | | | | |
| Height | mm | 850 | 850 | 850 | 850 | 850 | 850 |
| Width | mm | 450 | 450 | 450 | 450 | 450 | 450 |
| Length | mm | 621 | 693 | 801 | 871 | 1014 | 1132 |

Sirius WH

50kW – 110kW

Condensing fabricated stainless steel

- Wall hung condensing boiler available in 5 outputs from 50kW to 110kW
- Stainless steel heat exchanger
- Up to 94% gross, seasonal efficiency
- Suitable for gas & LPG with pre-mix fully modulating control 35 – 100%
- Ultra low NOx <39mg/kW/hr
- 5 year parts & labour warranty*
- Optional flueing, pipework, sequence & zone controls available
- Integrated control panel with volt free connections for BEMS connection
- Modular header kits available for up to 12 boilers
- ECA approved



* Subject to conditions

Performance details

| Model | | WH50 | WH60 | WH70 | WH90 | WH110 |
|------------------------------------|-------|---|--------|--------|---------|---------|
| Nominal output @ 50/30°C | kW | 48.7 | 59.5 | 70.3 | 95.9 | 115.4 |
| Nominal output @ 80/60°C | kW | 45 | 55 | 65 | 85 | 102 |
| Input kW net maximum | kW | 46.4 | 56.7 | 67 | 87.2 | 105 |
| Input kW net minimum | kW | 15 | 16 | 20 | 26.2 | 31.5 |
| 100% output efficiency (gross) | % | 88 | 88 | 88 | 88 | 88 |
| 30% output efficiency (gross) | % | 96 | 96 | 96 | 96 | 96 |
| Seasonal boiler efficiency (gross) | % | 95 | 95 | 95 | 95 | 95 |
| Hydraulic resistance @ 15°C ΔT | kPa | 32 | 31 | 34 | 37.3 | 41.2 |
| Hydraulic resistance @ 20°C ΔT | kPa | 12 | 18 | 20 | 25.4 | 23.7 |
| Flue spigot size | Ø mm | 80/125 | 80/125 | 80/125 | 110/160 | 110/160 |
| Gas consumption | m³/hr | 4.91 | 6 | 7.08 | 9.22 | 11.1 |
| Max flue gas flow rate | kg/s | 0.022 | 0.027 | 0.032 | 0.041 | 0.050 |
| Flow rate @ 15°C ΔT | l/sec | 0.72 | 0.88 | 1.41 | 1.35 | 1.67 |
| Flow rate @ 20°C ΔT | l/sec | 0.54 | 0.66 | 0.78 | 1.02 | 1.25 |
| Maximum operating pressure | bar | 4 | 4 | 4 | 4 | 4 |
| Minimum operating pressure | bar | 1 | 1 | 1 | 1 | 1 |
| Maximum flow temperature | °C | 85 | 85 | 85 | 85 | 85 |
| Minimum flow temperature | °C | 30 | 30 | 30 | 30 | 30 |
| Water content | l | 5.1 | 5.6 | 6.5 | 13.7 | 21 |
| Weight empty | kg | 64 | 68 | 72 | 94 | 98 |
| Power requirements | | 230V 50Hz 1Ph – Isolator and 6.3A fuse required | | | | |
| Electrical consumption | W | 75 | 80 | 125 | 150 | 200 |
| Height | mm | 950 | 950 | 950 | 950 | 950 |
| Width | mm | 600 | 600 | 600 | 600 | 600 |
| Length | mm | 466 | 466 | 466 | 650 | 650 |

Paramount three MB Series

60kW – 1150kW

Prefabricated solutions

- A complete heating system including boilers, pumps, pressurisation system and heating controls
- High efficiency modulating condensing boiler with aluminium/silicon alloy heat exchanger technology
- Modular design – the system is supplied in individual modules to allow easy manual handling, with maximum module weight of 160kgs
- Compact and flexible design – minimises site space required for installation, with maximum module width of 620mm allowing it to pass through a standard doorway
- Manufactured to ISO9001 quality systems, backed up by a 5 year parts and labour warranty*
- Comprehensive control system, incorporating an integral control panel SIL rated to IEC 61508
- In-line, back to back or corner configurations

* Subject to conditions

Performance details

| Model | | MB 60 | MB 80 | MB 120 | MB 160 |
|--|-------------------|----------|----------|----------|----------|
| Boilers (N°/Output) | kW | 2 x 30 | 2x40 | 2x60 | 2x80 |
| Number of modules | Boilers | 2 | 2 | 2 | 2 |
| | Control | 1 | 1 | 1 | 1 |
| | Pump | 1 | 1 | 1 | 1 |
| | Pressurisation | 1 | 1 | 1 | 1 |
| Nominal heat input net | kW | 60 | 76 | 116 | 154 |
| Nominal heat input gross | kW | 66.6 | 84.36 | 128.8 | 170.9 |
| Maximum heat output 80/60°C | kW | 58.2 | 73.6 | 112.4 | 149.2 |
| Maximum heat output 50/30°C | kW | 62.62 | 78 | 119 | 158.2 |
| Gas consumption NG | m ³ /h | 6.4 | 8 | 12 | 16 |
| Gas consumption LPG | m ³ /h | 2.54 | 3.22 | 4.92 | 6.42 |
| Nominal inlet gas pressure NG | mbar | 20 | 20 | 20 | 20 |
| Nominal inlet gas pressure LPG | mbar | 37 | 37 | 37 | 37 |
| Conventional flue spigot size | mm | 80 | 80 | 110 | 110 |
| Horizontal balanced flue size (Exhaust / Inlet) | mm | 80/125 | 80/125 | 110/160 | 110/160 |
| Vertical balanced flue size (Exhaust / Inlet) | mm | 80/125 | 80/125 | 110/180 | 110/180 |
| High level ventilation BS6644 2005 for Conventional Flue | cm ² | 120 | 152 | 232 | 308 |
| Low level ventilation BS6644 2005 for Conventional Flue | cm ² | 240 | 304 | 464 | 616 |
| High level ventilation BS6644 2005 for Balanced Flue | cm ² | 120 | 152 | 232 | 308 |
| Low level ventilation BS6644 2005 for Balanced Flue | cm ² | 120 | 152 | 232 | 308 |
| CO₂ content NG | % | | | | |
| CO₂ content LPG | % | | | | |
| NO_x | ppm | | | | |
| Flue gas volume @ STP per boiler | m ³ /h | 43 | 53 | 82 | 108 |
| External pump head available @ 20°CΔT | Kpa | 103 | 95.3 | 96.9 | 85.1 |
| Pump make & model Grundfos Magna UPED | | 40 – 120 | 40 – 120 | 40 – 120 | 40 – 120 |
| Flow rate @ 20°CΔT | l/s | 0.72 | 0.96 | 1.44 | 1.91 |
| Electrical supply | V | 230 | 230 | 230 | 230 |
| Maximum electrical power consumption start | A | 15.25 | 15.25 | 15.25 | 15.25 |
| Normal electrical power consumption run | A | 2.74 | 2.76 | 2.8 | 2.95 |
| Expansion vessel size | litre | 100 | 100 | 100 | 100 |
| Maximum system water volume** | litre | 856 | 856 | 850 | 849 |
| Minimum system water pressure | bar | 1 | 1 | 1 | 1 |
| Maximum system water pressure | bar | 3 | 3 | 4 | 4 |
| Safety valve setting (per boiler) | bar | 3 | 3 | 4 | 4 |
| Maximum flow temperature | °C | 82 | 82 | 82 | 82 |
| Cold water connection size | mm | 15 | 15 | 15 | 15 |
| Gas connection size (PN16) | mm | 50 | 50 | 50 | 50 |
| Heating flow & return connection size (PN16) | mm | 50 | 50 | 50 | 50 |
| Condensate connection size O/D (Plastic) | mm | 40 | 40 | 40 | 40 |
| Maximum module dimensions/weight | | | | | |
| Water content | litre | 115.3 | 115.3 | 121.3 | 122.9 |
| Maximum condensate discharge rate | l/h | 4.2 | 5.6 | 8.4 | 11.2 |
| Estimated annual condensate discharge rate (Usage : 2000 h/annum) | litre | 2520 | 3360 | 5040 | 6720 |
| Ph value of discharged condensate | PH | | | | |



| MB 190 | MB 230 | MB 345 | MB 460 | MB 575 | MB 690 | MB 805 | MB 920 | MB 1035 | MB 1150 |
|----------|----------|-----------------------------------|----------|----------|----------|----------|----------|----------|----------|
| 2x95 | 2x115 | 3x115 | 4x115 | 5x115 | 6x115 | 7x115 | 8x115 | 9x115 | 10x115 |
| 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 190 | 230 | 345 | 460 | 575 | 690 | 805 | 920 | 1035 | 1150 |
| 210.9 | 255.3 | 382.9 | 510.6 | 638.2 | 765.9 | 893.6 | 1021.2 | 1148.8 | 1276.5 |
| 184.4 | 223.4 | 335.1 | 446.8 | 558.5 | 670.2 | 781.9 | 893.6 | 1005.3 | 1117 |
| 196.6 | 237.2 | 355.8 | 474.4 | 593 | 711.6 | 830.2 | 948.8 | 1067.4 | 1186.0 |
| 20.2 | 24.4 | 36.6 | 48.8 | 61 | 73.2 | 85.4 | 97.6 | 109.8 | 122 |
| 7.72 | 9.34 | 14.01 | 18.68 | 23.35 | 28.02 | 32.69 | 37.36 | 42.03 | 46.7 |
| 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| 110/160 | 110/160 | 110/160 | 110/160 | 110/160 | 110/160 | 110/160 | 110/160 | 110/160 | 110/160 |
| 110/180 | 110/180 | 110/180 | 110/180 | 110/180 | 110/180 | 110/180 | 110/180 | 110/180 | 110/180 |
| 380 | 460 | 690 | 920 | 1150 | 1380 | 1610 | 2070 | 2300 | 2300 |
| 760 | 920 | 1380 | 1840 | 2300 | 2760 | 3220 | 3680 | 4140 | 4600 |
| 380 | 460 | 690 | 920 | 1150 | 1380 | 1610 | 1840 | 2070 | 2300 |
| 380 | 460 | 690 | 920 | 1150 | 1380 | 1610 | 1840 | 2070 | 2300 |
| | | 8.3 – 8.8 | | | | | | | |
| | | 9.5 – 10.0 | | | | | | | |
| | | <20 | | | | | | | |
| 135 | 163 | 163 | 163 | 163 | 163 | 163 | 163 | 163 | 163 |
| 74.5 | 57.0 | 81.5 | 58.2 | 49.5 | 31.22 | 53.1 | 45.5 | 36.7 | 27.85 |
| 40 – 120 | 40 – 120 | 50 – 120 | 50 – 120 | 65 – 120 | 65 – 120 | 80 – 120 | 80 – 120 | 80 – 120 | 80 – 120 |
| 2.27 | 2.75 | 4.13 | 5.50 | 6.88 | 8.25 | 9.63 | 11.00 | 12.38 | 13.76 |
| 230 | 230 | 230 | 230 | 230 | 230 | 400 | 400 | 400 | 400 |
| 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 |
| 3.24 | 3.65 | 6.3 | 7.45 | 8.6 | 9.75 | 7.01 | 7.01 | 8.16 | 8.16 |
| 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 845 | 845 | 814 | 795 | 778 | 760 | 743 | 731 | 701 | 683 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| 50 | 50 | 50 | 50 | 50 | 80 | 80 | 100 | 100 | 100 |
| 50 | 50 | 80 | 80 | 80 | 80 | 100 | 100 | 100 | 100 |
| 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | 620(W) x 710(D) x 1800(H) / 160kg | | | | | | | |
| 126.9 | 126.9 | 158.4 | 176.2 | 194.1 | 211.8 | 229.1 | 240.6 | 270.9 | 288.7 |
| 13.3 | 16.1 | 24.1 | 32.2 | 40.2 | 48.3 | 56.3 | 64.4 | 72.4 | 80.5 |
| 7980 | 9660 | 14490 | 19320 | 24150 | 28980 | 33810 | 38640 | 43470 | 48300 |
| | | 6.0 – 8.0 | | | | | | | |

Sirius WH MB Series

100kW – 1100kW

Prefabricated solutions

- A complete heating system including boiler, pumps, pressurisation system and heating controls
- Modular construction. Each module will fit through a standard doorway
- Utilises high efficiency modulating condensing boilers up to 107% net
- Manufactured to ISO9001 quality systems, backed up by a 5 year parts and labour warranty*
- Compact and flexible design minimizing site space required for installation, with an individual module width of 680mm
- Comprehensive control system, incorporating and integral control panel SIL rated to IEC 61508
- In-line, back to back or corner configurations

* Subject to conditions

Performance details

| Model | | SMB 100 | SMB 120 | SMB 140 | SMB 180 |
|---|-------------------|----------|----------|----------|----------|
| Boilers (N°/Output) | kW | 2 x 50 | 2 x 60 | 2 x 70 | 2 x 90 |
| Number of modules | Boilers | 2 | 2 | 2 | 2 |
| | Control | 1 | 1 | 1 | 1 |
| | Pump | 1 | 1 | 1 | 1 |
| | Pressurisation | 1 | 1 | 1 | 1 |
| Nominal heat input net | kW | 92.8 | 113.4 | 134 | 174.4 |
| Nominal heat input gross | kW | 103 | 125.8 | 148.8 | 191.9 |
| Maximum heat output 80/60°C | kW | 90 | 110 | 130 | 170 |
| Maximum heat output 50/30°C | kW | 97.4 | 119 | 140.6 | 183.2 |
| Gas consumption NG | m ³ /h | 9.82 | 12.18 | 14.16 | 18.44 |
| Gas consumption LPG | m ³ /h | 3.78 | 4.7 | 5.48 | 7.12 |
| Nominal inlet gas pressure NG | mbar | 20 | 20 | 20 | 20 |
| Nominal inlet gas pressure LPG | mbar | 37 | 37 | 37 | 37 |
| Conventional flue spigot connection size | mm | 80 | 80 | 80 | 110 |
| Horizontal balancedflue size (Exhaust / Inlet) per boiler | mm | 80/125 | 80/125 | 80/125 | 110/160 |
| Vertical balanced flue size (Exhaust / Inlet) per boiler | mm | 80/125 | 80/125 | 80/125 | 110/180 |
| High level ventilation BS6644 2005 for Conventional Flue* | cm ² | 185.6 | 232 | 268 | 348.8 |
| Low level ventilation BS6644 2005 for Conventional Flue* | cm ² | 371.2 | 464 | 536 | 697.6 |
| High level ventilation BS6644 2005 for Balanced Flue* | cm ² | 185.6 | 232 | 268 | 348.8 |
| Low level ventilation BS6644 2005 for Balanced Flue* | cm ² | 185.6 | 232 | 268 | 348.8 |
| CO₂ content NG | % | 8.7 | 8.7 | 8.7 | 8.7 |
| CO₂ content LPG | % | 10.2 | 10.2 | 10.2 | 10.2 |
| NO_x per boiler | Mg/kwh | 38.4 | 33.9 | 37.7 | 36.9 |
| Flue gas flow volume @ STP per boiler | m ³ /h | 67 | 81.5 | 96 | 126 |
| Circulating pump make / model Grundfos Magna UPED | | 40 – 120 | 40 – 120 | 40 – 120 | 40 – 120 |
| External pump head available @ 20°CΔT | Kpa | 95.1 | 85.57 | 82.08 | 64.9 |
| Flow rate @ 20°CΔT | l/s | 1.19 | 1.35 | 1.67 | 2.15 |
| Electrical supply | V | 230 | 230 | 230 | 230 |
| Maximum electrical power consumption start | A | 15.25 | 15.25 | 15.25 | 15.25 |
| Normal electrical power consumption run | A | 5.89 | 5.93 | 6.33 | 6.55 |
| Expansion vessel size | litre | 100 | 100 | 100 | 100 |
| Maximum external system water volume** | litre | 853 | 852.18 | 843 | 833 |
| Minimum system water pressure | bar | 1 | 1 | 1 | 1 |
| Maximum system water pressure | bar | 4 | 4 | 4 | 4 |
| Safety valve setting (per boiler) | bar | 4 | 4 | 4 | 4 |
| Maximum flow temperature | °C | 82 | 82 | 82 | 82 |
| Cold water connection size | mm | 15 | 15 | 15 | 15 |
| Gas connection size (PN16) | mm | 50 | 50 | 50 | 50 |
| Heating flow & return connection size (PN16) | mm | 50 | 50 | 50 | 50 |
| Condensate connection size O/D (Plastic) | mm | 40 | 40 | 40 | 40 |
| Maximum module dimensions/weight | | | | | |
| Sirius MB Series water content | litre | 122 | 123 | 129.2 | 139 |
| Maximum condensate discharge rate | l/h | 7 | 8.4 | 9.8 | 12.6 |
| Estimated annual condensate discharge rate (Usage: 2000 h/annum) | litre | 4200 | 5040 | 5880 | 7560 |
| Ph Value of discharged condensate* | PH | | | | |



- Ventilation sizes show free grille areas for conventional flue applications located in a boiler room.
 - ** The maximum system water volume has been calculated with cold fill pressure of 1.5 bar and a maximum system operating temperature of 85°C.
- If the system volume is greater than detailed in the above table then an additional expansion vessel will need to be installed, a connection point is supplied on the pressurisation module.

| SMB 220 | SMB 330 | SMB 440 | SMB 550 | SMB 660 | SMB 770 | SMB 880 | SMB 990 | SMB 1100 |
|-----------------------------------|----------|----------|----------|---------|----------|----------|----------|----------|
| 2 x 110 | 3 x 110 | 4 x 110 | 5 x 110 | 6 x 110 | 7 x 110 | 8 x 110 | 9 x 110 | 10 x 110 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 210 | 315 | 420 | 525 | 630 | 735 | 840 | 945 | 1050 |
| 230.8 | 346.2 | 461.6 | 577 | 692.4 | 807.8 | 923.2 | 1038.6 | 1154.0 |
| 204 | 306 | 408 | 510 | 612 | 714 | 816 | 918 | 1020 |
| 220.6 | 330.9 | 441.2 | 551.5 | 661.8 | 772.1 | 882.4 | 992.7 | 1103 |
| 22.2 | 33.3 | 44.4 | 55.5 | 66.6 | 77.7 | 88.8 | 99.9 | 111 |
| 8.58 | 12.87 | 17.16 | 21.45 | 25.74 | 30.03 | 34.32 | 38.61 | 42.9 |
| 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| 110/160 | 110/160 | 110/160 | 110/160 | 110/160 | 110/160 | 110/160 | 110/160 | 110/160 |
| 110/180 | 110/180 | 110/180 | 110/180 | 110/180 | 110/180 | 110/180 | 110/180 | 110/180 |
| 440 | 630 | 840 | 1050 | 1260 | 1470 | 1680 | 1890 | 2100 |
| 880 | 1260 | 1680 | 2100 | 2520 | 2940 | 3360 | 3780 | 4200 |
| 420 | 630 | 840 | 1050 | 1260 | 1470 | 1680 | 1890 | 2100 |
| 420 | 630 | 840 | 1050 | 1260 | 1470 | 1680 | 1890 | 2100 |
| 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 |
| 10.2 | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 | 10.2 |
| 32.9 | 32.9 | 32.9 | 32.9 | 32.9 | 32.9 | 32.9 | 32.9 | 32.9 |
| 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 |
| 40 – 120 | 50 – 120 | 50 – 120 | 65 – 120 | 65-120 | 80 – 120 | 80 – 120 | 80 – 120 | 80 – 120 |
| 54.05 | 74.7 | 55.4 | 45.9 | 30.7 | 47.7 | 42.1 | 39.5 | 28.1 |
| 2.63 | 3.95 | 5.26 | 6.58 | 7.89 | 9.21 | 10.53 | 11.84 | 13.92 |
| 230 | 230 | 230 | 230 | 230 | 400 | 400 | 400 | 400 |
| 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.75 | 15.75 | 15.75 | 15.75 |
| 6.99 | 9.36 | 10.23 | 11.5 | 12.37 | 8.92 | 8.92 | 9.79 | 9.79 |
| 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 819 | 780 | 755 | 736 | 681 | 650.5 | 625.7 | 582 | 501 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| 50 | 50 | 50 | 50 | 80 | 80 | 80 | 100 | 100 |
| 50 | 80 | 80 | 80 | 80 | 100 | 100 | 100 | 100 |
| 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| 620(W) x 710(D) x 1800(H) / 160kg | | | | | | | | |
| 153 | 192 | 216.6 | 241.3 | 291 | 321.5 | 346.2 | 389.3 | 470.6 |
| 15.4 | 23.1 | 30.8 | 38.5 | 46.2 | 53.9 | 61.6 | 69.3 | 77 |
| 9240 | 13860 | 18480 | 23100 | 27720 | 32340 | 36960 | 41580 | 46200 |
| 6.0 – 8.0 | | | | | | | | |

Ecoskid

56kW – 230kW

Prefabricated solutions

- A choice of either a two boiler skid assembly or a single boiler installed along-side an Ecogen Micro-CHP
- A wide range of system outputs from 56kW through to 230kW
- Unit delivered to site fully assembled
- Only requires connection of the gas flow, return and mains water pipe work to the pre-installed isolation valves
- Connection of a single phase 230v supply to the control panel
- The pressure relief pipework has been combined for ease of on site continuation to a suitable discharge point or drain
- Flexible controls for either connection to a BMS or for stand alone control

Performance details – Paramount three

| MODEL NUMBER | | ECO-P56E | ECO-P66E | ECO-P86E | ECO-P106E | ECO-P121E | ECO-P141E |
|--|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Boiler 1 Size (Max Output) | kW | 30 | 40 | 60 | 80 | 95 | 115 |
| Micro-CHP Size (Max Output) | kW | 26 | 26 | 26 | 26 | 26 | 26 |
| Total Output (Min/Max) | kW | 56 | 66 | 86 | 106 | 121 | 141 |
| Gas Consumption @ Max Output – Nat Gas | M ³ /Hr | 5.66 | 6.46 | 8.46 | 10.46 | 12.56 | 14.66 |
| Gas Consumption @ Max Output – LPG | M ³ /Hr | 2.18 | 2.49 | 3.26 | 4.03 | 4.83 | 5.64 |
| Nominal Inlet Gas Pressure (Nat Gas/LPG) | mbar | 19–23 / 35–39 | | | | | |
| Available External Pump (Head – Flow Rate @ 20Δ°C) | kPa – Ltr/sec | 101.15 kPa @ 0.67 | 101.15 kPa @ 0.79 | 101.15 kPa @ 1.03 | 98.59 kPa @ 1.27 | 97.41 kPa @ 1.45 | 99.09 kPa @ 1.69 |
| Electrical Supply Voltage | V / Hz | 230/50 | 230/50 | 230/50 | 230/50 | 230/50 | 230/50 |
| Power Consumption @ Max Flow (Start/Run) | A | 7.94 / -0.9 | 7.96 / -0.88 | 8.00 / -0.84 | 8.15 / -0.69 | 8.44 / -0.4 | 8.85 / -0.01 |
| External Flue Size (Boilers/CHP) | mm | 80/125 60/100 | 80/125 60/100 | 110/160 60/100 | 110/160 60/100 | 110/160 60/100 | 110/160 60/100 |
| Hydraulic Operating Pressure (Min/Max) | Bar | 1bar–3bar | 1bar–3bar | 1bar–3bar | 1bar–3bar | 1bar–3bar | 1bar–3bar |
| Maximum Flow Temperature | °C | 80 | 80 | 80 | 80 | 80 | 80 |
| Skid Weight (Empty) | kg | 486 | 486 | 494 | 505 | 517 | 517 |

| MODEL NUMBER | | ECO-P60 | ECO-P80 | ECO-P120 | ECO-P160 | ECO-P190 | ECO-P230 |
|--|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|
| Number of Boilers | | 2 x 30kW | 2 x 40kW | 2 x 60kW | 2 x 80kW | 2 x 95kW | 2 x 115kW |
| Total Output (Min/Max) | kW | 60 | 80 | 120 | 160 | 190 | 230 |
| Gas Consumption @ Max Output – Nat Gas | M ³ /Hr | 6.4 | 8 | 12 | 16 | 20.2 | 24.4 |
| Gas Consumption @ Max Output – LPG | M ³ /Hr | 2.46 | 3.08 | 4.62 | 6.15 | 7.77 | 9.38 |
| Nominal Inlet Gas Pressure (Nat Gas/LPG) | mbar | 19 – 23 / 35 – 39 | | | | | |
| Available External Pump (Head – Flow Rate @ 20Δ°C) | kPa – Ltr/sec | 108.72 kPa @ 0.72 | 103.81 kPa @ 0.96 | 109.94 kPa @ 1.44 | 109.14 kPa @ 1.91 | 104.31 kPa @ 2.27 | 98.16 kPa @ 2.75 |
| Electrical Supply Voltage | V | 230/50 | 230/50 | 230/50 | 230/50 | 230/50 | 230/50 |
| Power Consumption @ Max Flow (Start/Run) | A | 3.68 / 3.44 | 3.72 / 3.46 | 3.80 / 3.49 | 4.10 / 3.65 | 4.68 / 3.94 | 5.5 / 4.35 |
| External Flue Size | mm | 80 / 125 | 80 / 125 | 110 / 160 | 110 / 160 | 110 / 160 | 110 / 160 |
| Hydraulic Operating Pressure (Min/Max) | Bar | 1bar–3bar | 1bar–3bar | 1bar–4bar | 1bar–4bar | 1bar–4bar | 1bar–4bar |
| Maximum Flow Temperature | °C | 85 | 85 | 85 | 85 | 85 | 85 |
| Skid Weight (Empty) | kg | 424 | 424 | 440 | 462 | 486 | 486 |



Performance details – Sirius WH

| MODEL NUMBER | | ECO-S76E | ECO-S86E | ECO-S96E | ECO-S116E | ECO-S136E |
|--|--------------------|-------------------|------------------|------------------|-------------------|-------------------|
| Boiler 1 Size (Max Output) | kW | 50 | 60 | 70 | 90 | 110 |
| Micro-CHP Size (Max Output) | kW | 26 | 26 | 26 | 26 | 26 |
| Total Output (Min/Max) | kW | 76 | 86 | 96 | 116 | 136 |
| Gas Consumption @ Max Output – Nat Gas | M ³ /Hr | 7.37 | 8.46 | 9.54 | 11.68 | 13.56 |
| Gas Consumption @ Max Output – LPG | M ³ /Hr | 2.84 | 3.26 | 3.67 | 4.50 | 5.22 |
| Nominal Inlet Gas Pressure (Nat Gas/LPG) | mbar | 19 – 23 / 35 – 39 | | | | |
| Available External Pump (Head – Flow Rate @ 20Δ°C) | kPa – Ltr/sec | 101.15 kPa @ 0.91 | 99.34 kPa @ 1.03 | 98.43 kPa @ 1.14 | 98.21 kPa @ 1.39 | 97.32 kPa @ 1.63 |
| Electrical Supply Voltage | V / Hz | 230/50 | 230/50 | 230/50 | 230/50 | 230/50 |
| Power Consumption @ Max Flow (Start/Run) | A | 8.35 / -0.49 | 8.39 / -0.45 | 8.78 / -0.06 | 9.02 / 0.18 | 9.44 / 0.60 |
| External Flue Size (Boilers/CHP) | mm | 80/125 60/100 | 80/125 60/100 | 80/125 60/100 | 110/160 60/100 | 110/160 60/100 |
| Hydraulic Operating Pressure (Min/Max) | Bar | 1bar–3bar | 1bar–3bar | 1bar–3bar | 1bar–3bar | 1bar–3bar |
| Maximum Flow Temperature | °C | 80 | 80 | 80 | 80 | 80 |
| Skid Weight (Empty) | kg | 496 | 501 | 505 | 515 | 519 |

| MODEL NUMBER | | ECO-S100 | ECO-S120 | ECO-S140 | ECO-S180 | ECOP-S220 |
|--|--------------------|-------------------|------------------|------------------|------------------|------------------|
| Number of Boilers | | 2 X 50kW | 2 x 60kW | 2 x 70kW | 2 x 90kW | 2 x 110kW |
| Total Output (Min/Max) | kW | 60 | 80 | 120 | 160 | 190 |
| Gas Consumption @ Max Output – Nat Gas | M ³ /Hr | 8.82 | 12 | 15.6 | 18.44 | 22.2 |
| Gas Consumption @ Max Output – LPG | M ³ /Hr | 3.78 | 4.62 | 6.00 | 7.09 | 8.54 |
| Nominal Inlet Gas Pressure (Nat Gas/LPG) | mbar | 19–23 / 35–39 | | | | |
| Available External Pump (Head – Flow Rate @ 20Δ°C) | kPa – Ltr/sec | 104.76 kPa @ 1.20 | 97.34 kPa @ 1.44 | 93.78 kPa @ 1.67 | 92.22 kPa @ 2.15 | 91.06 kPa @ 2.63 |
| Electrical Supply Voltage | V | 230/50 | 230/50 | 230/50 | 230/50 | 230/50 |
| Power Consumption @ Max Flow (Start/Run) | A | 4.5 / 3.85 | 4.58 / 3.89 | 5.36 / 4.28 | 5.84 / 4.52 | 6.68 / 4.94 |
| External Flue Size | mm | 80 / 125 | 80 / 125 | 80 / 125 | 110 / 160 | 110 / 160 |
| Hydraulic Operating Pressure (Min/Max) | Bar | 1bar–3bar | 1bar–3bar | 1bar–4bar | 1bar–4bar | 1bar–4bar |
| Maximum Flow Temperature | °C | 85 | 85 | 85 | 85 | 85 |
| Skid Weight (Empty) | kg | 446 | 454 | 462 | 482 | 490 |

GEOflo

21.3kW

Ground Source Heat Pump

- 4.7 Coefficient of Performance
- Ultra low noise level of 48 dB(A) at 1 metre
- Compact, small footprint design
- Cascade multi-unit installation configurations
- Optional 500 L buffer tank



Performance details

| | | |
|----------------------------------|-------|---------------------------------|
| Heat Output | kW | 21.3 |
| Coefficient of Performance (CoP) | – | 4.7 |
| Basis for CoP | – | 0°C source temp, 35°C load temp |
| Electrical Power Input | kW | 4.6 |
| Electrical Supply | – | 415V, 3 phase, 50Hz |
| Refrigerant | – | R410A |
| Heat Transfer Medium | – | 70% water, 30% ethylene glycol |
| Minimum Heat Source Temperature | °C | - 6 |
| Maximum Heat Source Temperature | °C | + 20 |
| Maximum Heat Load Temperature | °C | + 60 |
| Noise Level (Sound Pressure) | dB(A) | 48 measured at 1 metre |
| Dimensions (H x W x D) | mm | 1380 x 530 x 700 |
| Footprint (W x D) with access | mm | 1430 x 900 |
| Weight | kg | 230 |

Gas Absorption Heat Pump

- Gas fired renewable solution
- Saves energy and reduces operating costs
- Offers significant reduction in carbon emissions
- Efficiencies in line with expected requirements of ErP Directive
- Cascade possible of up to 48 units to give a total installed capacity of 1.9MW
- Evaporation cycle driven by gas burner supplemented by air
- Cascade with condensing boiler possible
- Supports wide range of systems and solutions
- Unit is enclosed in a weather proof steel casing suitable for outside installation
- Suitable for use on natural gas or LPG



Performance details

| HEATING OPERATION | | | High Temp |
|--|--------------------------------|-------------------|-----------|
| Operating point A7/W35 | G.U.E.* Gross CV | % | 147.1 |
| | G.U.E.* Nett CV | % | 163.3 |
| | heating capacity | kW | 41.2 |
| Operating point A7/W50 | G.U.E.* Gross CV | % | 136.8 |
| | G.U.E.* Nett CV | % | 151.8 |
| | heating capacity | kW | 38.3 |
| Operating point A7/W65 | G.U.E.* Gross CV | % | 107.1 |
| | G.U.E.* Nett CV | % | 118.8 |
| | heating capacity | kW | 30 |
| Nominal water flow rate (ΔT = 10 °C) | | m ³ /h | 2.96 |
| Nominal pressure drops at nominal flow rate (A7/W50) | | kPa | 43 |
| Output water temperature | maximum for heating | °C | 55 |
| | maximum for domestic hot water | °C | 70 |
| Inlet water temperature | maximum for heating | °C | 45 |
| | maximum for domestic hot water | °C | 60 |
| Outside air temperature (dry bulb) | max | °C | 45 |
| | min | °C | -30 |
| BURNER CHARACTERISTICS | | | |
| Heating input (gross CV of natural gas) | | kW | 28 |
| Gas consumption | natural gas G20 | m ³ /h | 2.62 |
| | LPG G31 | kg/h | 2.0 |
| Gas supply pressure | | natural gas | mbar |
| natural gas | | | 17-25 |
| ELECTRICAL CHARACTERISTICS | | | |
| Voltage | | 230 V – 50 Hz | |
| Nominal electrical power | | kW | 1.09 |
| Protection degree | | IP | X5D |
| INSTALLATION DATA | | | |
| Operational weight | | kg | 400 |
| Connections | water | " F | 1¼ |
| | gas | " F | ¾ |
| | exhaust gas | mm | 80 |
| Exhaust gas pipe residual head | | Pa | 80 |
| Dimensions | width | mm | 852 |
| | depth | mm | 1244 |
| | height | mm | 1515 |
| Sound pressure level @ 10m | | dB(A) | 45 |
| Sound pressure level @ 1m | | dB(A) | 65 |

* Gas Utilisation Efficiency

Derwent Compact plus

50kW – 116kW

Atmospheric cast iron

- Available in 5 outputs from 50kW to 116kW
- Fully automatic ignition with two stage operation
- Volt free contacts supplied as standard
- Rear connections – alternative top connections for water flow
- 10 year warranty on the heat exchanger*
- Pipework and system controls available
- LPG option available
- Seasonal efficiency 83% gross

* Subject to conditions



Performance details

| Model | | 4/50 | 5/66 | 6/83 | 7/100 | 8/116 |
|---|--------------------|---|-------|-------|-------|-------|
| Number of sections | | 4 | 5 | 6 | 7 | 8 |
| Output | kW | 48.7 | 66.2 | 82.8 | 99.4 | 115.9 |
| Input (net) | kW | 52.9 | 72 | 90 | 108 | 126 |
| 100% output efficiency (gross) | % | 83 | 83 | 83 | 83 | 83 |
| 30% output efficiency (gross) | % | 83 | 83 | 83 | 83 | 83 |
| Seasonal boiler efficiency (gross) | % | 83 | 83 | 83 | 83 | 83 |
| Maximum flow temperature | °C | 90 | 90 | 90 | 90 | 90 |
| Minimum flow temperature | °C | 55 | 55 | 55 | 55 | 55 |
| Maximum pressure | bar | 5 | 5 | 5 | 5 | 5 |
| Minimum pressure (0.1 to special order) | bar | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Flue gas temperature | °C | 150 | 150 | 150 | 150 | 150 |
| Flue gas volume | m ³ /hr | 95.6 | 126.9 | 158.2 | 191.2 | 222.5 |
| Flue draught requirements | mm | 1-4mm | 1-4mm | 1-4mm | 1-4mm | 1-4mm |
| High level ventilation | cm ³ | 270 | 312 | 355 | 400 | 444 |
| Low level ventilation | cm ³ | 540 | 624 | 710 | 800 | 888 |
| Nominal gas inlet | mbar | 20 | 20 | 20 | 20 | 20 |
| Water flow @ 11°CΔt | l/sec | 1.04 | 1.39 | 1.74 | 2.08 | 2.43 |
| Minimum water flow @ 20°CΔt | l/sec | 0.57 | 0.76 | 0.95 | 1.15 | 1.34 |
| Hydraulic resistance @ 11°CΔt | kPa | 7 | 10.5 | 11.5 | 15.5 | 20 |
| Dry weight | kg | 240 | 285 | 330 | 375 | 415 |
| Water content | l | 25 | 30 | 35 | 40 | 45 |
| Power requirements | | 230V 50Hz 1Ph – Isolator and 6.3A fuse required | | | | |
| Height exc controls | mm | 1004 | 1004 | 1004 | 1004 | 1004 |
| Width | mm | 456 | 456 | 537 | 612 | 699 |
| Length | mm | 1190 | 1190 | 1190 | 1190 | 1190 |
| Nominal Flue Connection | Ømm | 180 | 180 | 200 | 200 | 250 |

Derwent Prestige plus

133kW – 348kW

Atmospheric cast iron

- Available in 7 outputs from 133kW to 348kW
- Proven reliability of cast iron heat exchanger
- Fully automatic ignition with high/low operation
- Volt free contacts supplied as standard
- Side connections
- 10 year warranty on the heat exchanger*
- Optional sequence & zone controls available
- LPG option available
- Commissioning & erection services available
- Seasonal efficiency 83% gross

* Subject to conditions



Performance details

| Model | | 9/133 | 11/166 | 13/199 | 15/232 | 17/265 | 20/315 | 22/348 |
|---|---|-------|--------|--------|--------|--------|--------|--------|
| Number of sections | | 9 | 11 | 13 | 15 | 17 | 20 | 22 |
| Output | kW | 133 | 166 | 199 | 232 | 265 | 315 | 348 |
| Input (net) | kW | 144 | 180 | 216 | 252 | 288 | 342 | 378 |
| 100% output efficiency (gross) | % | 83 | 83 | 83 | 83 | 83 | 83 | 83 |
| 30% output efficiency (gross) | % | 83 | 83 | 83 | 83 | 83 | 83 | 83 |
| Seasonal boiler efficiency (gross) | % | 83 | 83 | 83 | 83 | 83 | 83 | 83 |
| Maximum flow temperature | °C | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| Minimum flow temperature | °C | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| Maximum pressure | bar | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Minimum pressure (0.1 bar available on request) | bar | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Flue gas temperature | °C | 160 | 160 | 160 | 160 | 160 | 160 | 160 |
| Flue gas volume | m ³ /hr | 259 | 323 | 389 | 454 | 518 | 615 | 681 |
| Flue draught requirements | mm | 1-4mm | 1-4mm | 1-4mm | 1-4mm | 1-4mm | 1-4mm | 1-4mm |
| High level ventilation | cm ³ | 495 | 585 | 675 | 765 | 855 | 990 | 1080 |
| Low level ventilation | cm ³ | 990 | 1170 | 1350 | 1530 | 1710 | 1980 | 2160 |
| Nominal gas inlet | mbar | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Water flow @ 11°CΔt | l/sec | 2.8 | 3.5 | 4.2 | 4.9 | 5.6 | 6.4 | 7.1 |
| Minimum water flow @ 20°CΔt | l/sec | 1.6 | 2 | 2.4 | 2.8 | 3.2 | 3.8 | 4.1 |
| Hydraulic resistance @ 11°CΔt | kPa | 12.8 | 18.5 | 25.8 | 33.1 | 41.3 | 39.1 | 48.1 |
| Dry weight | kg | 470 | 560 | 656 | 750 | 845 | 990 | 1090 |
| Water content | l | 48.5 | 57.7 | 67 | 76.3 | 85.5 | 100 | 110 |
| Power requirements | 230V 50Hz 1Ph – Isolator and 6.3A fuse required | | | | | | | |
| Height exc contols | mm | 1052 | 1052 | 1052 | 1052 | 1052 | 1052 | 1052 |
| Width | mm | 793 | 955 | 1117 | 1279 | 1441 | 1684 | 1846 |
| Length inc flue | mm | 1144 | 1144 | 1194 | 1194 | 1244 | 1294 | 1294 |
| Nominal Flue Connection | Ømm | 252 | 252 | 302 | 302 | 352 | 402 | 402 |

Arizona Evolution

290kW – 4000kW

Pressure jet steel

- One piece steel boiler
- Up to 85% gross, seasonal efficiency
- Gas, LPG, oil & dual fuel options
- High/low & fully modulating match tested burners
- Integrated control panel with volt free contacts for BEMS interface
- Commissioning & erection services available
- Available in 18 outputs



Performance details

| Model | | 290 | 325 | 350 | 410 | 465 | 585 | 640 |
|--------------------------------------|--------------------|---------|---------|---------|---------|---------|---------|---------|
| Output | kW | 290 | 320 | 350 | 410 | 465 | 585 | 640 |
| Input | kW | 355.2 | 397.4 | 426.2 | 495.1 | 565 | 702.6 | 771.5 |
| Fuel Consumption | m ³ /hr | 33.35 | 37.31 | 40.02 | 46.49 | 53.05 | 65.97 | 72.44 |
| 100% Gross Output Efficiency | % | 81.6 | 81.8 | 82.1 | 82.8 | 82.3 | 83.3 | 83 |
| 30% Gross Output Efficiency | % | 82.4 | 82.9 | 83.4 | 83.8 | 83.8 | 83.3 | 83.8 |
| Seasonal Efficiency | % | 82.3 | 82.7 | 83.2 | 83.6 | 83.5 | 83.3 | 83.6 |
| Maximum Operating Pressure | bar | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Minimum Operating Pressure | bar | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Max Operating Temperature | °C | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| Minimum Return temperature | °C | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| Water Flow at 20°ΔT | l/sec | 0.29 | 0.26 | 0.24 | 0.20 | 0.18 | 0.14 | 0.13 |
| Hydraulic Resistance at 20°ΔT | kPa | 1.94 | 2.11 | 2.12 | 3.25 | 4.39 | 5.52 | 6.65 |
| High Level Ventilation | cm ² | 959 | 1073 | 1151 | 1337 | 1526 | 1897 | 2083 |
| Low Level Ventilation | cm ² | 1776 | 1987 | 2131 | 2476 | 2825 | 3513 | 3858 |
| Flue Gas Volume | m ³ /hr | 576 | 646 | 691 | 803 | 916 | 1139 | 1251 |
| Flue Gas Temperature | °C | 190-210 | 190-210 | 190-210 | 190-210 | 170-190 | 170-190 | 170-190 |
| Flue Draught Requirements | mm wc | 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 |
| Dry Weight | kg | 520 | 665 | 665 | 665 | 945 | 1087 | 1087 |
| Water Content | litres | 250 | 320 | 320 | 320 | 565 | 635 | 635 |
| Dimensions (mm) | Length | 1760 | 1995 | 1995 | 1995 | 2070 | 2070 | 2070 |
| | Width | 800 | 850 | 850 | 850 | 1020 | 1125 | 1125 |
| | Height | 930 | 950 | 950 | 950 | 1105 | 1200 | 1200 |

| 700 | 815 | 930 | 1320 | 1570 | 1850 | 2200 | 2650 | 3000 | 3500 | 4000 |
|---------|---------|---------|-------------|-----------|-----------|-------------|-----------|-------------|------------|------------|
| 700 | 815 | 930 | 1320 | 1570 | 1850 | 2200 | 2650 | 3000 | 3500 | 4000 |
| 839.2 | 976.8 | 1116.7 | 1597.3 | 1899.2 | 2237.8 | 2661.8 | 3205.7 | 3629.7 | 4234.7 | 4851.8 |
| 78.80 | 91.72 | 104.85 | 149.98 | 178.33 | 210.12 | 249.93 | 301.00 | 340.82 | 397.62 | 455.57 |
| 83.4 | 83.4 | 83.3 | 82.6 | 82.7 | 82.7 | 82.7 | 82.7 | 82.7 | 82.7 | 82.4 |
| 84.2 | 84.7 | 83.2 | 82.6 | 82.7 | 82.7 | 82.7 | 82.7 | 82.7 | 82.7 | 82.4 |
| 84.1 | 84.4 | 83.3 | 82.6 | 82.7 | 82.7 | 82.7 | 82.7 | 82.7 | 82.7 | 82.4 |
| 3 | 3 | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 85 | 85 | 85 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| 0.12 | 0.10 | 0.09 | 0.06 | 0.05 | 0.05 | 0.04 | 0.03 | 0.03 | 0.02 | 0.02 |
| 7.79 | 8.93 | 10.67 | 46.7 | 44 | 60 | 45.3 | 64 | 82.7 | 112 | 113 |
| 2266 | 2637 | 3015 | 4313 | 5128 | 6042 | 7187 | 8655 | 9800 | 11434 | 13100 |
| 4196 | 4884 | 5584 | 7987 | 9496 | 11189 | 13309 | 16029 | 18149 | 21174 | 24259 |
| 1361 | 1584 | 1811 | - | - | - | - | - | - | - | - |
| 170-190 | 170-190 | 170-190 | 180-210 | 180-210 | 180-210 | 180-210 | 180-210 | 180-210 | 180-210 | 180-210 |
| 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 | 1 to 4 |
| 1087 | 1339 | 1339 | 2030 | 2780 | 3280 | 4145 | 4465 | 5110 | 6700 | 7500 |
| 635 | 690 | 690 | 1242 | 1418 | 1617 | 2098 | 2324 | 2667 | 4142 | 4455 |
| 2070 | 2350 | 2350 | 2686 | 2781 | 3151 | 3225 | 3545 | 3835 | 3879 | 4279 |
| 1125 | 1125 | 1125 | 1352 | 1462 | 1462 | 1622 | 1622 | 1720 | 1970 | 1970 |
| 1200 | 1200 | 1200 | 1540 | 1650 | 1650 | 1810 | 1810 | 1990 | 2271 | 2271 |

Resistance rates in **RED** are at 15°ΔT

Sirius SAT

Heat Boxes with Wireless Data Transmission

- Integrated system for heat distribution within dwellings
- Wireless data transmission
- Outside weather compensation*
- Stainless steel heat exchanger for DHW production*
- 10 modules in range
- Compact dimensions
- Bottom connections

* Subject to model



Performance details

| Heating Only models | | R | RP | R2Z |
|---|-------|-----|-----|-------|
| Models with pump | | – | • | • |
| Models with 2nd heating zone | | – | – | • |
| Heating temperature regulation with high climatic curve | °C | – | – | 25/80 |
| Heating circuit maximum pressure | bar | 4 | 4 | 4 |
| Water content | litre | 1.5 | 2 | 3.5 |
| Power supply voltage | V | 230 | 230 | 230 |
| Power supply frequency | Hz | 50 | 50 | 50 |
| Power consumption | W | 15 | 110 | 210 |
| Width of the case | mm | 600 | 600 | 800 |
| Height of the case | mm | 650 | 650 | 750 |
| Depth of the case | mm | 150 | 150 | 150 |
| Net weight | Kg | 12 | 13 | 22 |

| Heating and DHP models | | RS | RSP | RS2Z | RA | RA2Z | RST-DE | RSE-DE |
|--|--------|-------|-------|-------|-------|-------|--------|--------|
| DHW production | | • | • | • | • | • | • | • |
| Models with pump | | – | • | • | • | • | • | • |
| Models with 2nd heating zone | | – | – | • | – | • | – | – |
| Hydraulic separation | | No | No | No | No | No | Yes | Yes |
| Heating temperature regulation with high climatic curve | °C | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 | 25/80 |
| DHW regulation | °C | 30/60 | 30/60 | 30/60 | 35/65 | 35/65 | 35/65 | 35/65 |
| DHW production with $\Delta T=40^{\circ}\text{C}$ and inlet water temperature 75°C | l/min | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 12.6 | 12.6 |
| Heating circuit maximum pressure | bar | 4 | 4 | 4 | 4 | 4 | 4 (3) | 4 (3) |
| heating circuit minimum pressure | bar | 1 | 1 | 1 | 1 | 1 | 0.7 | 0.7 |
| DHW circuit maximum pressure | bar | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| DHW circuit minimum pressure | bar | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Water content | litres | 2 | 2.5 | 4 | 2 | 4 | 3 | 3.2 |
| Power supply voltage | V | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| Power supply frequency | Hz | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Power consumption | W | 15 | 110 | 210 | 150 | 210 | 110 | 110 |
| Width of the case | mm | 600 | 600 | 800 | 600 | 800 | 610 | 610 |
| Height of the case | mm | 650 | 650 | 750 | 650 | 750 | 805 | 905 |
| Depth of the case | mm | 150 | 150 | 150 | 150 | 150 | 160 | 160 |
| Net weight | Kg | 16 | 18 | 28 | 16 | 25 | 36.2 | 36.2 |

NXR2

27kW – 69kW

Pressure jet cast iron

NXR2 27kW – 69kW

- Available in 4 outputs from 27kW to 69kW
- Competitive pricing
- On/Off operation
- Fully matched gas & oil burners
- 10 year warranty on heat exchanger*
- Aesthetically pleasing design
- Delivered fully assembled
- Seasonal efficiency 84% gross

* Subject to conditions



Performance details

| | | Version | H | H | H | H |
|---|---|--------------------|-------|-------|-------|------|
| Model | No. | 27 | 42 | 55 | 69 | |
| Output | kW | 27 | 42 | 55 | 69 | |
| Input | kW | 29.5 | 46.1 | 60.4 | 75.6 | |
| Fuel Consumption | Gas | m ³ /hr | 3.12 | 4.88 | 6.39 | 8 |
| | Oil | l/hr | 2.49 | 3.89 | 5.09 | 6.38 |
| 100% output efficiency (gross) | % | 81.3 | 81.3 | 81.4 | 83.4 | |
| 30% output efficiency (gross) | % | 81.5 | 82.5 | 82.8 | 83.07 | |
| Number of sections | | 2 | 3 | 4 | 5 | |
| Nominal flue connection size | ∅ | 139mm | 139mm | 153mm | 153mm | |
| Flue gas volume | m ³ /hr | 0.038 | 0.058 | 0.077 | 0.097 | |
| Water capacity | litres | 45 | 59 | 71 | 85 | |
| Water flow @ 11°CΔt | l/sec | 0.65 | 1 | 1.3 | 1.65 | |
| Hydraulic resistance (Δt = 11°C) | kPa | 0.43 | 2.1 | 0.2 | 0.32 | |
| Maximum water pressure | bar | 4 | 4 | 4 | 4 | |
| Minimum water pressure | bar | 0.5 | 0.5 | 0.5 | 0.5 | |
| Electricity supply | 230V 50Hz 1Ph – Isolator and 6.3A fuse required | | | | | |
| Packaged weight | kg | 310 | 370 | 310 | 360 | |
| Net Weight | kg | 280 | 340 | 280 | 330 | |
| Height | mm | 952 | 952 | 1057 | 952 | |
| Width | mm | 580 | 580 | 580 | 580 | |
| Length | mm | 600 | 760 | 920 | 1080 | |

NXR3

90kW – 290kW

Pressure jet cast iron

- Available in 6 outputs from 90kw to 290kw
- Cast iron sectional high efficiency boiler
- Up to 86% gross, seasonal efficiency
- Oil, gas, LPG & dual fuel options
- On/off, high/low & fully modulating match tested burners
- 10 year warranty on heat exchanger*
- Optional sequence & zone controls available
- Integrated control panel with volt free contacts for BEMS interface
- Commissioning & erection services available

* Subject to conditions



Performance details

| Model | | | 34 | 35 | 36 | 37 | 38 | 39 |
|---|---|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| No. of sections | | | 4 | 5 | 6 | 7 | 8 | 9 |
| Output | | kW | 90 | 130 | 170 | 210 | 250 | 290 |
| Fuel Consumption | Gas | m ³ /hr | 10.04 | 14.5 | 18.95 | 23.51 | 28.06 | 32.62 |
| | Oil | l/hr | 9.97 | 14.39 | 18.8 | 23.33 | 27.84 | 32.37 |
| 100% output efficiency (gross) | Gas & Oil | % | 84 | 84 | 84 | 84 | 84 | 84 |
| 30% output efficiency (gross) | Gas & Oil | % | 86.4 | 86.4 | 86.4 | 86.4 | 86.4 | 86.4 |
| Seasonal boiler efficiency (gross) | Gas & Oil | % | 86 | 86 | 86 | 86 | 86 | 86 |
| Maximum operating pressure | | bar | 6 | 6 | 6 | 6 | 6 | 6 |
| Minimum operating pressure | | bar | 1 | 1 | 1 | 1 | 1 | 1 |
| Maximum operating temperature | | °C | 90 | 90 | 90 | 90 | 90 | 90 |
| Minimum operating temperature | | °C | 55 | 55 | 55 | 55 | 55 | 55 |
| Water flow at 11°CΔt | | l/sec | 1.95 | 2.81 | 3.68 | 4.55 | 5.41 | 6.28 |
| Hydraulic resistance at 11°CΔt | | kPa | 0.9 | 1.7 | 2.8 | 3.9 | 5.8 | 9.3 |
| High level natural ventilation | | cm ³ | 194 | 280 | 366 | 454 | 542 | 630 |
| Low level natural ventilation | | cm ³ | 388 | 560 | 732 | 908 | 1084 | 1260 |
| Flue gas volume | | m ³ /hr | 126 | 182 | 237 | 294 | 351 | 409 |
| Flue draught requirements | | wg | 0 to -4mm | 0 to -4mm | 0 to -4mm | 0 to -4mm | 0 to -4mm | 0 to -4mm |
| Dry weight | | kg | 612 | 730 | 848 | 966 | 1068 | 1184 |
| Water content | | l | 112 | 136 | 160 | 184 | 208 | 232 |
| Power requirements | 230V 50Hz 1Ph – Isolator and 6.3A fuse required | | | | | | | |
| Height exc controls | | mm | 1180 | 1180 | 1180 | 1180 | 1180 | 1180 |
| Width | | mm | 800 | 800 | 800 | 800 | 800 | 800 |
| Length inc flue spigot | | mm | 995 | 1165 | 1335 | 1505 | 1675 | 1845 |
| Nominal Flue Connection | | Ømm | 180 | 180 | 180 | 180 | 200 | 200 |

NXR4

320kW – 800kW

Pressure jet cast iron

- Available in 9 outputs from 320kW to 800kW
- Cast iron sectional high efficiency boiler
- Up to 86% gross, seasonal efficiency
- Gas, LPG, oil & dual fuel options
- High/low and fully modulating match tested burners
- 10 year warranty on the heat exchanger*
- Optional sequence & zone controls available
- Integrated control panel with volt free contacts for BEMS interface
- Commissioning & erection services available

* Subject to conditions



Performance details

| Model | | | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| No. of sections | | | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Output | | kW | 320 | 380 | 440 | 500 | 560 | 620 | 680 | 740 | 800 |
| Fuel consumption | Gas | m ³ /hr | 36 | 42.7 | 49.4 | 56.1 | 62.9 | 69.7 | 76.4 | 83.2 | 89.9 |
| | Oil | l/hr | 35.7 | 42.4 | 49 | 55.7 | 62.5 | 69.1 | 75.8 | 82.5 | 89.2 |
| 100% output efficiency (gross) | Gas | % | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 |
| | Oil | % | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| 30% output efficiency (gross) | Gas | % | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| | Oil | % | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Seasonal boiler efficiency (gross) | Gas | % | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 |
| | Oil | % | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 | 89 |
| Maximum operating pressure | | bar | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Minimum operating pressure | | bar | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Maximum operating temperature | | °C | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| Minimum operating temperature | | °C | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| Water flow at 11°CΔt | | l/sec | 6.93 | 8.23 | 9.52 | 10.82 | 12.12 | 13.42 | 14.72 | 16.02 | 17.32 |
| Hydraulic resistance at 11°CΔt | | kPa | 1.56 | 2.16 | 2.84 | 3.61 | 4.46 | 5.39 | 6.42 | 7.51 | 8.68 |
| High level natural ventilation | | cm ³ | 695 | 824 | 954 | 1084 | 1215 | 1345 | 1475 | 1606 | 1736 |
| Low level natural ventilation | | cm ³ | 1390 | 1649 | 1908 | 2168 | 2341 | 2690 | 2950 | 3212 | 3472 |
| Flue gas volume | | m ³ /hr | 472 | 560 | 648 | 736 | 825 | 914 | 1002 | 1091 | 1179 |
| Flue draught requirements | | wg | 1 to -4mm | 1 to -4mm | 1 to -4mm | 1 to -4mm | 1 to -4mm | 1 to -4mm | 1 to -4mm | 1 to -4mm | 1 to -4mm |
| Dry weight | | kg | 1589 | 1745 | 1884 | 2028 | 2166 | 2315 | 2445 | 2585 | 2725 |
| Water content | | l | 302 | 334 | 366 | 398 | 430 | 462 | 494 | 526 | 558 |
| Power requirements | 230V 50Hz 1Ph – Isolator and 6.3A fuse required | | | | | | | | | | |
| Height exc controls | | mm | 1295 | 1295 | 1295 | 1295 | 1295 | 1295 | 1295 | 1295 | 1295 |
| Width | | mm | 1070 | 1070 | 1070 | 1070 | 1070 | 1070 | 1070 | 1070 | 1070 |
| Length | | mm | 1640 | 1780 | 1920 | 2060 | 2200 | 2340 | 2480 | 2620 | 2760 |
| Nominal Flue Diameter | | Ømm | 300 | 300 | 300 | 350 | 350 | 350 | 350 | 350 | 350 |

Calorifier

250L – 800L

Hot water

- Glass-lined (enamelled) steel calorifier
- Available in 4 capacities of 250L, 350L, 500L & 800L
- All units can be installed in single or in modular arrangements of up to 4 units
- Designed to allow for ease of transportation and installation, with purpose made crating and compact dimensions
- A magnesium anode provides additional cathodic protection and can easily be checked and replaced
- Available in Vented or Unvented options



Full technical details available from www.pottertoncommercial.co.uk

Performance details

Direct Distribution – domestic hot water storage at 60°C – cold water feed at 10°C

| Calorifier Size | Capacity (litres) | Primary Pump Flow for 11°C ΔT (lit/sec) | Primary Side Pressure Drop (meters water column) | Primary 80°C | | | |
|-----------------|-------------------|---|--|-----------------------|----------------------------|---|-----------------|
| | | | | Peak Draw (lit/10min) | Hourly Production (lit/hr) | D.H.W Pressure Drop (meters water column) | Power Used (kW) |
| 250 | 250 | 1.15 | 2.0 | 353 | 913 | 0.010 | 53 |
| 2 x 250 | 500 | 2.30 | 2.5 | 706 | 1826 | 0.047 | 106 |
| 3 x 250 | 750 | 3.45 | 2.6 | 1056 | 2739 | 0.040 | 159 |
| 4 x 250 | 1000 | 4.60 | 4.8 | 1412 | 3652 | 0.020 | 212 |
| 350 | 350 | 1.41 | 2.4 | 476 | 1120 | 0.015 | 65 |
| 2 x 350 | 700 | 2.80 | 2.5 | 952 | 2240 | 0.077 | 129 |
| 3 x 350 | 1050 | 4.21 | 2.6 | 1428 | 3360 | 0.060 | 194 |
| 4 x 350 | 1400 | 5.60 | 2.8 | 1904 | 4480 | 0.033 | 258 |
| 500 | 500 | 1.67 | 4.2 | 649 | 1326 | 0.017 | 77 |
| 2 x 500 | 1000 | 3.34 | 4.3 | 1298 | 2652 | 0.100 | 154 |
| 3 x 500 | 1500 | 4.97 | 4.5 | 1947 | 3978 | 0.075 | 229 |
| 4 x 500 | 2000 | 6.67 | 4.9 | 1940 | 5304 | 0.050 | 307 |
| 800 | 800 | 2.65 | 8.5 | 1036 | 2102 | 0.023 | 122 |
| 2 x 800 | 1600 | 5.30 | 8.6 | 2072 | 4204 | 0.130 | 244 |
| 3 x 800 | 2400 | 7.95 | 8.7 | 3108 | 6306 | 0.093 | 365 |
| 4 x 800 | 3200 | 10.60 | 8.9 | 4144 | 8408 | 0.070 | 488 |

| Tank Size | L | 250 | 350 | 500 | 800 |
|-----------|----|------|------|------|------|
| Depth | mm | 705 | 705 | 807 | 1007 |
| Width | mm | 707 | 707 | 805 | 1005 |
| Height* | mm | 1425 | 1835 | 1835 | 1835 |

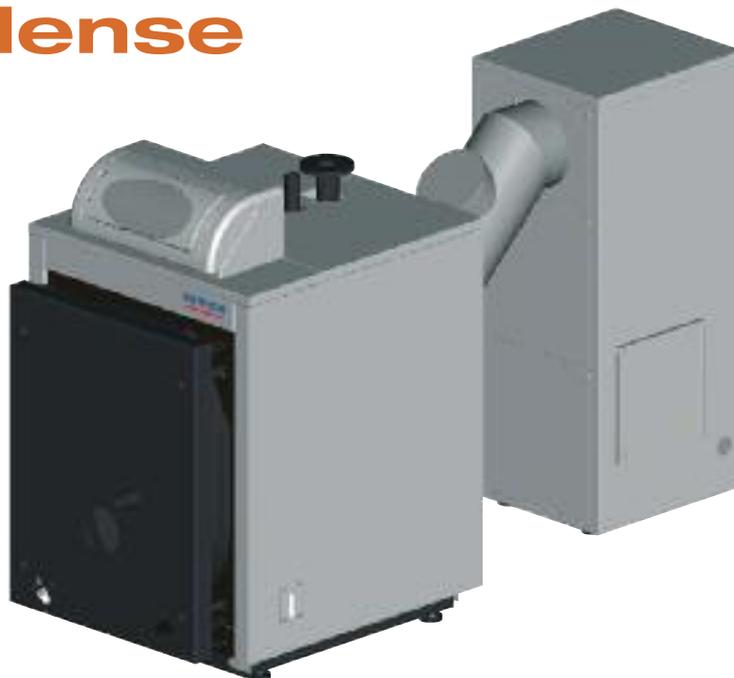
*including connections

Logo Condense

Carbo Condense

Oil fired condensing technology

- 98 & 131kW
- Steel shell boiler combined with carbon heat exchanger
- Suitable for both gaseous and liquid fuels
- Increased efficiency by 8.5% from standard oil-fired boilers



Performance details

| Model | | LC 98C | LC 131C |
|-----------------------------|--------|--------|---------|
| Output | (kW) | 98.0 | 130.9 |
| Input at 50 / 30 °C | (kW) | 99.4 | 131.9 |
| Input at 80 / 60 °C | (kW) | 94.4 | 125.8 |
| Efficiency at 40 / 30 °C | % | 102.5 | 102.5 |
| Efficiency at 75 / 60 °C | % | 101.0 | 101.0 |
| Final Flue gas temperatures | °C | 71 | 73 |
| Flue gas resistance | (mBar) | 0.63 | 0.83 |
| Length* | mm | 2178 | 2438 |
| Height | mm | 1325 | 1325 |
| Width | mm | 830 | 830 |

*excluding burner, including flue transition piece

Fumeco

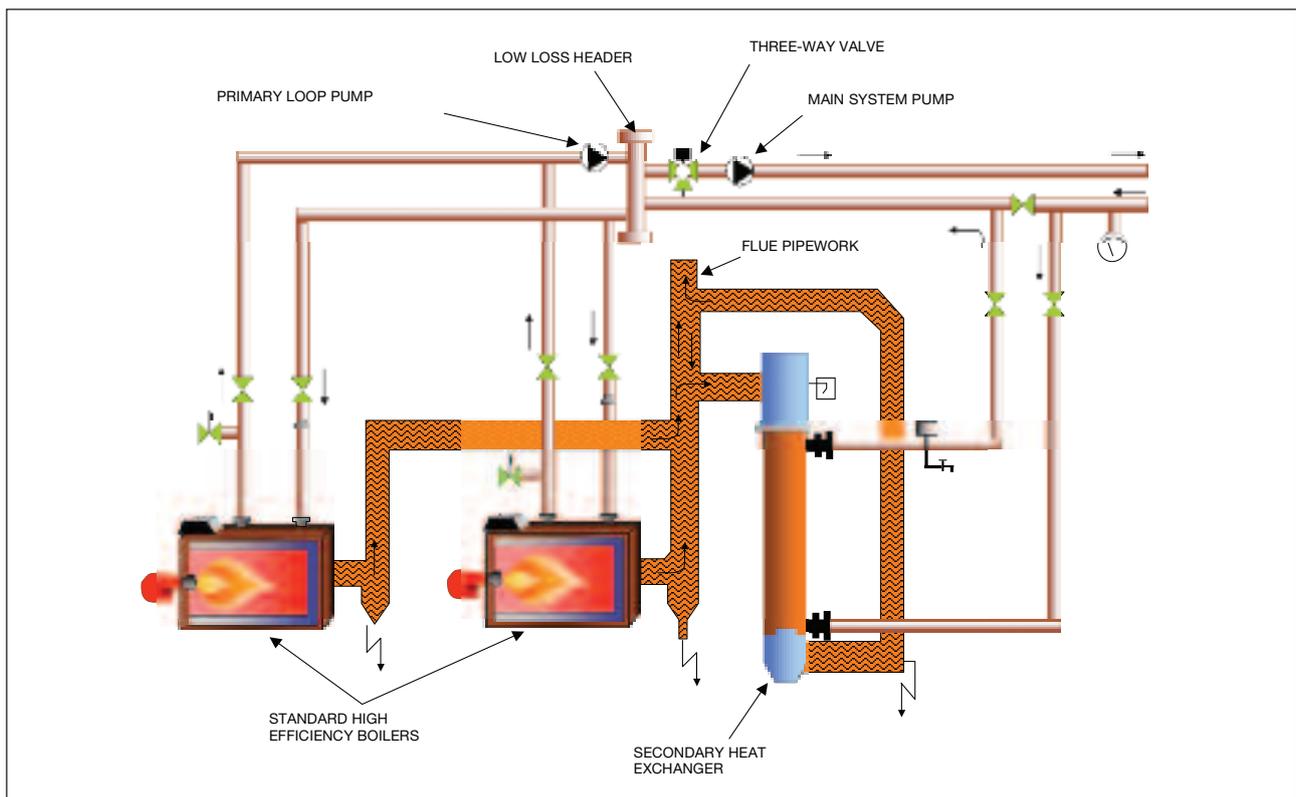
Flue heat recovery

- Heat recovery solutions
- Recovers up to 80% of the latent heat in the flue gases
- High efficiency performance
- Suitable for retro-fit applications and new installations
- Reduces energy consumption, costs and emission levels
- Suitable for gas fired appliances
- 'V' Type – Fanned version
- 'S' Type – Unfanned version



Performance details

| Type V or S | | 25.15 /73 | 30.15 /111 | 35.15 /157 | 40.15 /191 | 45.15 /273 | 50.15 /330 | 55.15 /411 | 60.15 /475 | 65.15 /523 | 70.15 /651 |
|------------------------|-------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Maximum boiler output | kW | 314 | 477 | 675 | 820 | 1173 | 1418 | 1766 | 2041 | 2247 | 2800 |
| Dry weight | kg | 200 | 210 | 280 | 340 | 400 | 470 | 570 | 650 | 705 | 835 |
| Fanned motor | kW | 1.1 | 1.1 | 1.1 | 2.2 | 2.2 | 3 | 3 | 3 | 3 | 3 |
| Unfanned pressure drop | mm.wg | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| Construction | | Stainless Steel | | | | | | | | | |



Building Regulations

Part L2 A&B For non-domestic buildings

Summary of the minimum provisions for boiler systems

| | Minimum Seasonal Boiler Efficiency (based on Gross CV) | Minimum Controls Package | Heating Efficiency Credits | Minimum Effective Heat Generating Seasonal Efficiency* | |
|----------------------------------|--|--|--|--|---|
| Boilers in new buildings | Natural gas, LPG or oil: Single boiler systems - 86% Multiple boiler system - 82% for any individual boiler, | All boiler sizes: Package A | Heating efficiency credits are not applicable for new build | Natural Gas - 86% LPG - 87% Oil - 84% | |
| | | Timing and temperature demand control, zone-specific where building floor area > 150 m ² . Weather compensation (except where constant temperature supply is needed) | | | Package A |
| | | 100kW - 500kW: Packages A+B | | | Package B |
| | | Optional start/stop control with night set-back or frost protection Two stage firing facility OR multiple boilers Measures to limit heat loss from non-firing modules Sequence control for multiple boilers only | | | |
| >500kW: Packages A+B+C | Package C | | | | |
| Boilers in existing buildings | Natural gas - 82% LPG - 81% Oil - 84% | Zone control where the building floor area > 150 m ² as a minimum on/off control for the zone Room thermostat which controls through a diverter valve (diverter valve not needed for condensing boilers) Time clock control | Boiler oversized no more than 20% | 2 | Natural Gas - 84% LPG - 85% Oil - 86% |
| | | | Sequential control of multiple boilers | 1 | |
| | | | Monitoring and targeting | 1 | |
| | | | Thermostatic radiator valves (TRVs) | 1 | |
| | | | Weather compensation with mixing valve (a) | 1.5 | |
| | | | Addition of TRVs or temperature zone control to (a) above or to (b) or (c) below for full building temperature control | 1 | |
| | | | Room thermostat or sensor controlling boiler water temp in relation to heat load (b) | 0.5 | |
| | | | Direct acting weather compensation (c) | 2 | |
| | | | Optimised start | 1.5 | |
| | | | Optimised stop | 0.5 | |
| | | | Optimised start/stop | 2 | |
| | | | Full zoned time control | 1 | |
| | | | Full Building Management System | 4 | |
| | | | De-centralised heating system | 1 | |
| Multiple boilers | 1 | | | | |

* Note. The Effective Heat Generating Seasonal Efficiency of a boiler system is the Seasonal Boiler Efficiency plus the total Heating Efficiency Credits that can be claimed for that system.

So what does this mean?

New buildings other than dwellings

- a. Single boiler system Natural Gas (SBE) 86%
- b. Multiple boiler system Natural Gas (SBE)
Any individual boiler (SBE) 82%
Overall system (EHGSE) 86%
- c. The relevant minimum controls package is adopted

This means
Either all boilers meet 86%
or
A mix standard efficiency and condensing boilers to meet 86%

Example calculation:

| | |
|---------------------------------------|--------------|
| Design Load = 300kW – Boiler Capacity | |
| B1 Eurocondense three 125 kW (SBE) | 94.4% |
| B2 Eurocondense three 125 kW (SBE) | 94.4% |
| B3 Compact Plus 100kW (SBE) | 83% |
| Total EHGSE | 91.4% (Pass) |

Existing buildings other than dwellings (Heating Efficiency Credits available)

| | SBE | EHGSE |
|-----|-----|-------|
| Gas | 82% | 84% |
| LPG | 81% | 85% |
| Oil | 84% | 86% |

+ Minimum controls package

This means
Either all boilers meet 84% (Natural Gas)
or
A mix of boilers and credits to meet 84% (Natural Gas)

Credit points example calculation:

| | |
|--------------------------------------|------------|
| Derwent Compact Plus (SBE) | 83% |
| Thermostatic radiator valves (TRV's) | 1% |
| Total | 84% (Pass) |

Commercial Sales Technical & Service Enquiries

Sales: 0845 070 1056
Technical: 0845 070 1057
Fax: 0845 070 1059
e-mail: potterton.commercial@baxicommercialdivision.com
web: 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

Service and Maintenance

heateam

Commercial Service

Our service organisation, **heateam Commercial Service** 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



For more information, or to talk to an advisor, call

0845 070 1058

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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POTTERTON
COMMERCIAL

heating specialists

