# ACV UK PRODUCT GUIDE

## 2019/20

- Stainless steel tank-in-tank technology
- Combined heating and hot water products
- Wall hung condensing gas boilers
- Water heaters
- Cylinders
- Electric boilers

EXCELLENCE IN HOT WATER

ACV

# WHO ARE WE?

ACV has been designing, manufacturing and distributing heating and hot water products for commercial and residential heating applications since 1922.

In the UK, we formed in 1991, providing and servicing the range of tank-in-tank products to the UK and ROI. Based in Dalgety Bay, Scotland, we supply and support ACV products across the country.

Specialists in stainless steel and home of the patented tank-in-tank concept, we've been developing and manufacturing our range of high performance heating and hot water products for nearly 100 years.

# WHAT MAKES OUR PRODUCTS DIFFERENT?

## Stainless steel

This material, which resists corrosion in the most aggressive water, has given our products an exceptional lifetime with minimal maintenance.

## Tank-in-tank

The patented tank within a tank is a simple and effective concept that gives you a reliable DHW performance to match the largest of hot water demands. You can read more about this on page 6.

## Excellence in hot water

Whilst heating requirements have decreased over the years, the demands of modern life have increased the need for a reliable but at the same time economical and environmentally friendly hot water supply.

Our mission is to use our experience to give you the best technology for generating the hot water you need.

Our motto 'Excellence in hot water' reflects the ambition of our team and partners to fulfil our mission and meet your expectations.

## Talk to us today:

**W: www.acv.com/gb**
**T: 01383 820100**
**E: uk.sales@acv.com**

St Davids Business Park, Dalgety Bay, Scotland, KY11 9PF, GB

hot water association DEVELOPING HOT WATER

CIBSE PATRONS

kiwa

ICOM Energy Association

# WELCOME


## PRODUCT SELECTOR

Easily compare and select the products to suit your needs.

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## TANK-IN-TANK

Discover the patented design that gives our products the best performance.

p 6

## COMBINED HEATING AND HOT WATER BOILERS

View our most popular product – a combined gas fired condensing boiler & water heater.

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## HOT WATER GENERATORS AND CYLINDERS

Choose from over 40 products in our range.

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## WALL HUNG GAS BOILERS

Find a wall hung gas boiler for your domestic and commercial installation.

p 40

## ELECTRIC BOILERS

Prepare for a carbon free future by going electric – floor standing and wall hung options.

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## FLUES AND CONTROLS

Complete your system with a large range of controls and flues to choose from.

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# PRODUCT SELECTOR

## Compare and select the products you need to suit your heating and hot water demands.

| | | HeatMaster® C | HeatMaster® TC | WaterMaster | Smart Green SL | Smart SLE | Smart SLE plus | Smart SLME | Smart SL |
|---|---|---|---|---|---|---|---|---|---|
| Domestic/Commercial | | Domestic/ Commercial | Domestic/ Commercial | Domestic/ Commercial | Domestic/ Commercial | Domestic/ Commercial | Domestic/ Commercial | Domestic/ Commercial | Commercial |
| Number of models | | 1 | 6 | 6 | 3 | 2 | 3 | 5 | 3 |
| Product type | | Heating & hot water combi boiler | Heating & hot water combi boiler | Hot water generator | Cylinder | Cylinder | Cylinder | Cylinder | Cylinder |
| Floor standing (FS) or Wall hung (WH) | | FS | FS | FS | FS | FS | FS | FS | FS |
| Continuous flow (l/h) @60°C | Min | 400 | 473 | 473 | 465 | 320 | 576 | 450 | 1037 |
| | Max | 400 | 1754 | 1754 | 769 | 465 | 970 | 1037 | 1232 |
| Storage capacity (DHW) – (l) | Min | 80 | 96 | 96 | 99 | 75 | 126 | 107 | 263 |
| | Max | 80 | 190 | 190 | 164 | 99 | 200 | 283 | 445 |
| Energy efficiency class - Heating | | A | A | | | | | | |
| Energy efficiency class - Hot water | | B | A | A | | | | | |
| Energy efficiency class - Storage | | | | | A | B | B | B/C | B/C |
| Outputs (kW) | | 24.3 | 24.3 - 111.7 | 24.3 - 111.7 | * | * | * | * | * |
| Vented (V) or Unvented (UV) | | UV | UV V | UV V | UV | UV | UV | UV | UV V |
| Fuel | Nat gas | • | • | • | * | * | * | * | * |
| | LPG | • | • | • | * | * | * | * | * |
| | Electric | | | | * | * | * | * | * |








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*Dependent on heat source

Note: Continuous flow data assumes incoming mains water temperature of 10°C.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Domestic/Commercial** | | Commercial | Commercial | Domestic/ Commercial | Domestic/ Commercial | Domestic/ Commercial | Domestic/ Commercial | Commercial |
| **Number of models** | | 2 | 16 | 2 | 7 | 5 | 3 | 5 |
| **Product type** | | Cylinder | Cylinder | Heating & hot water combi boiler | Heating boiler | Heating electric boiler | Heating & hot water electric boiler | Electric boiler |
| **Floor standing (FS) or Wall hung (WH)** | | FS | FS | WH | WH | WH | FS | FS |
| **Continuous flow (l/h) @60°C** | **Min** | 1395 | | 310 | | | 248 | |
| | **Max** | 1562 | | 320 | | | 408 | |
| **Storage capacity (DHW) – (l)** | **Min** | 675 | 489 | 54 | | | 99 | |
| | **Max** | 840 | 2682 | 54 | | | 164 | |
| **Energy efficiency class - Heating** | | | | A | A | D | D | D |
| **Energy efficiency class - Hot water** | | | | B | | | C | |
| **Energy efficiency class - Storage** | | B/C | | | | | | |
| **Outputs (kW)** | | * | * | 23.3 - 31 | 23.3 - 111.8 | 14.4 - 36 | 14.4 - 28.8 | 14.4 - 259.2 |
| **Vented (V) or Unvented (UV)** | | UV V | | UV | | | | |
| **Fuel** | **Nat gas** | * | * | • | • | | | |
| | **LPG** | * | * | • | • | | | |
| | **Electric** | * | * | | | • | • | • |
| | | **HRs** | **LCA** | **Prestige® Excellence** | **Prestige® Solo** | **E-Tech W** | **E-Tech S** | **E-Tech P** |

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# TANK-IN-TANK DESIGN

**Most of our products feature the patented tank-in-tank-concept.**

## What is it?

The tank-in-tank is a Domestic Hot Water (DHW) storage exchanger completely immersed in a steel outer tank that contains primary water from the heating circuit. The inner tank is always made of stainless steel.

## How does it work?

The wall of the inner tank acts as the heat exchanger between the primary circuit (connected to the boiler) and the DHW storage tank.

**TANK-IN-TANK**
TECHNOLOGY

| | |
|---|---|
| FAST **HEAT UP** | RAPID **RECOVERY** |
| REDUCED **FOOTPRINT** | REDUCED **SCALE** |
| LOW **STORAGE** | MINIMUM **HEAT LOSS** |

*Where you see this icon on the page it means the product uses tank-in-tank technology.*

## What are the benefits?

### Fast heat up and rapid recovery

The larger surface area enables quick heat up and fast recovery, as well as providing a continuous flow of hot water under stable conditions.

### Reduced scale build-up

The inner tank is made of stainless steel, which means no anode protection is needed and no contamination, leaking or sludging occurs.

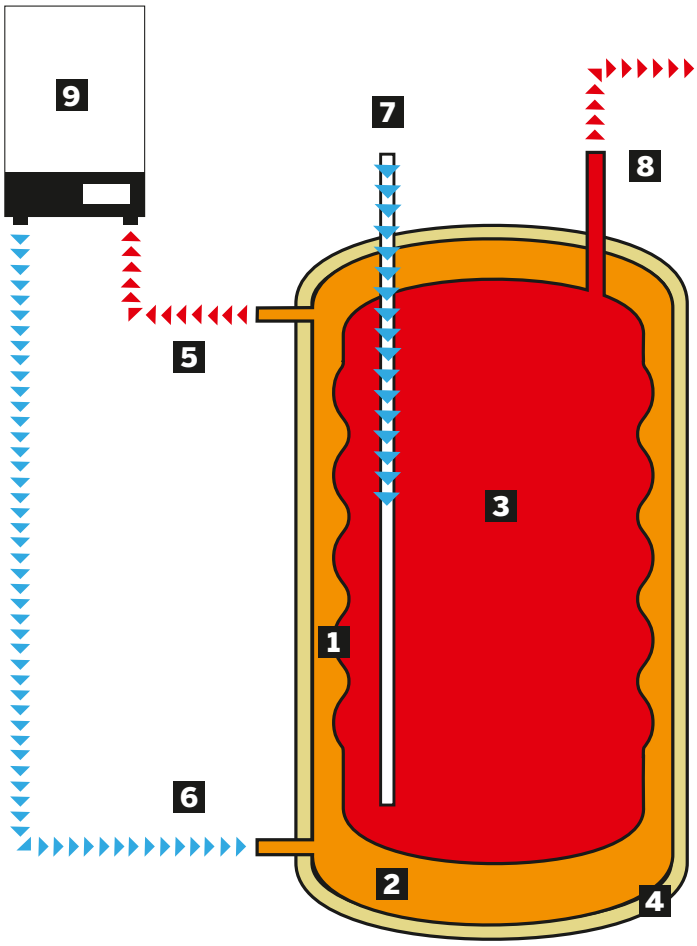
The corrugated design of the tank also reduces scale build up. How? Each DHW draw-off creates a brief underpressure in the tank (at the moment that the draw-off tap is opened), followed by a slight overpressure (upon closure of the draw-off tap). As the inner tank is free to move, its walls expand and contract very slightly under the influence of these pressure changes and prevent the formation of limescale on the exchanger surface.

### Minimum hot water storage, low heat losses and reduced footprint

Thanks to the exceptional heat transfer and high storage temperature of the tank-in-tank system, the volume of hot water stored can be reduced. This gives a more compact water heater design and reducing static heat losses via the exterior walls: both attributes combine to cut initial investment as you can choose a smaller cylinder and reduce operating expenses. To take full advantage of this capability, a TMV (thermostatic mixing valve) is used on the cylinder outlet.

### Legionella protection

Legionella bacteria proliferate in warm water (from 20°C up to 45°C). However, they can be eliminated within a few hours (>50°C) or even minutes (>60°C). The tank-in-tank system prevents the formation of warm pockets because even the base of the inner tank is a heat exchanger that remains at the temperature of the boiler (typically from 60 to 80°C). When our water heater is operating at 60°C and above it ensures that the hot water remains free of legionella bacteria.

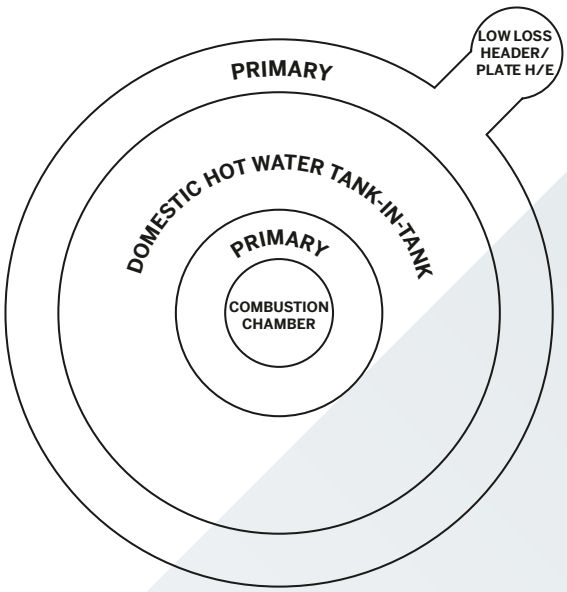



1. Corrugated inner wall – reduces scale build up
2. Primary water for heating – surrounds the inner vessel DHW to reduce heat losses
3. Domestic hot water (DHW)
4. Insulation – high level of insulation to further reduce heat loss
5. Primary flow
6. Primary return
7. Cold water inlet
8. DHW outlet
9. Boiler

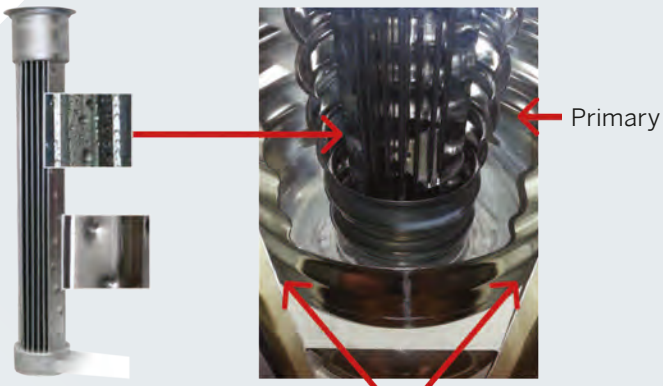
Note: Simplified drawing not representing actual connection positions.

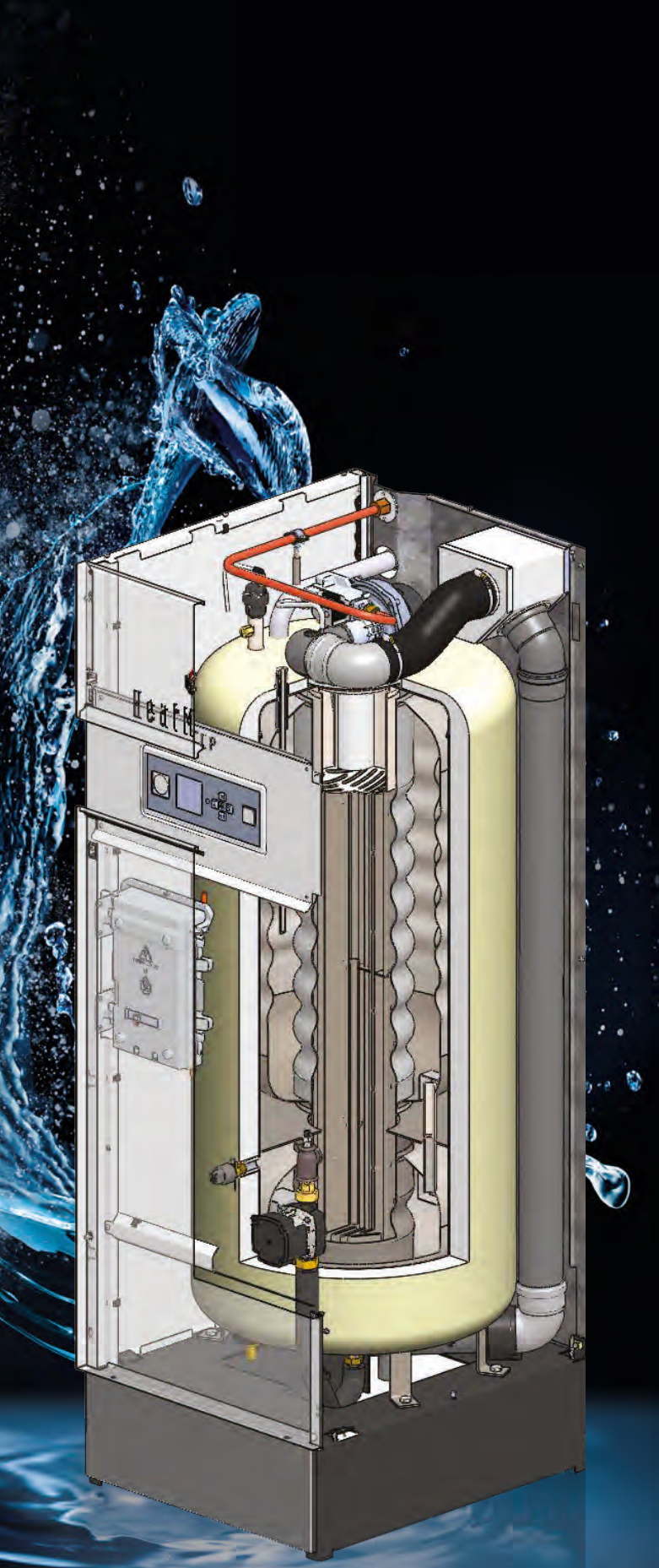
# DOUBLE PRIMARY CIRCUIT

The HeatMaster® and WaterMaster products benefit from a double primary circuit. You can read more about this on the next page.




Birds eye view of product





# HEATMASTER®

## A commercial combi boiler and water heater

Provides heating and hot water from one unit using the patented tank-in-tank concept. The tank is ring-shaped with flue pipes running through its centre. The stainless steel tank holds a limited volume of water to meet short term demand. The wall of the tank becomes an indirect heat exchanger for DHW generation.

## Double primary circuit

The primary circuit of the boiler provides heat during the heating season. The boiler operates in heating mode just like any traditional boiler: The boiler thermostat controls the burner and lights it when the boiler temperature drops below the set-point.

In hot water draw-off mode, a domestic water thermostat senses the introduction of cold water to the tank and cuts off the heating pump in order to save all the boiler's output for heating. Its large heat exchange surface area allows the tank to absorb the generated heat from the burner to gradually warm up the water as it enters the tank.

## Benefit from

- **Quick reheat time** – due to a large heat surface area
- **Safe and hygienic** – no direct flame contact and stainless steel resistant to corrosion
- **High efficiency** – condenses in both heating and hot water (TC models)
- **Minimal heat loss** – highly insulated and DHW inner vessel is surrounded by hot primary water
- **Small footprint** – less hot water required to reach the desired temperature when mixed with cold water, resulting in reduced product size needed

# COMBINED HEATING & HOT WATER BOILERS

## HEATMASTER® C

Combined gas fired condensing boiler & water heater with stainless steel heat exchanger.

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## HEATMASTER® TC

Combined gas fired total condensing boiler & water heater with stainless steel heat exchanger.

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# HEATMASTER® 25C

## Combined gas fired condensing boiler & water heater with stainless steel heat exchanger.

### Available in one size.

- Heating and hot water from one unit saves space, reduces energy use and speeds up installation
- Operates in most efficient mode (condensing) for heating
- Low maintenance with no anode protection required
- Easy to use standardised controls using ACVMax control system
- Low NOx levels – this model qualifies for 2 credits under BREEAM New Construction 2018 (<24mg/kWhr)
- Suited to smaller premises and lower flow rate requirements (smaller DHW tank than 25TC)
- Corrosion-resistant stainless steel heat exchanger backed by a 10-year warranty reduces maintenance and increases system lifespan
- Long life – 25-year guarantee on the corrosion resistant stainless steel cylinder
- Suitable for unvented systems – supplied with 3.5 bar mains unvented kit and DHW mixing valve
- Supplied with LPG kit for on-site conversion
- Reduces legionella risk due to temperature stored at > 60°C


10 YR HEAT EXCHANGER WARRANTY | TANK IN TANK | BIM OBJECTS | NAT GAS LPG | DOMESTIC COMMERCIAL

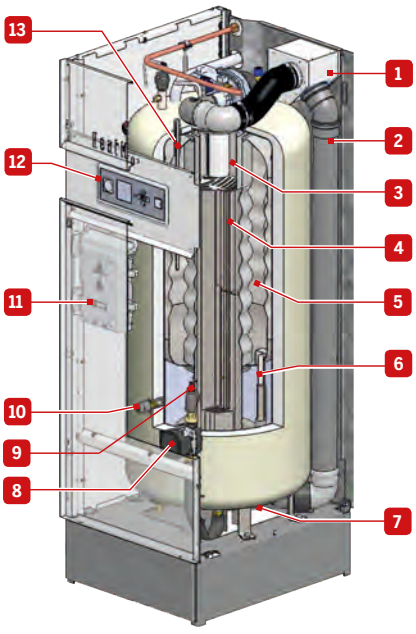
## TANK-IN-TANK TECHNOLOGY

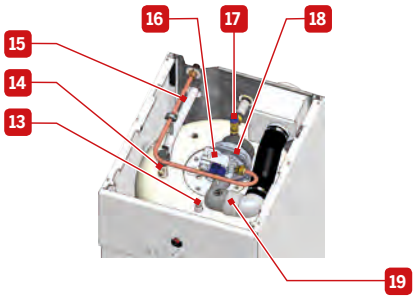
| | |
|---|---|
| FAST **HEAT UP** | RAPID **RECOVERY** |
| REDUCED **FOOTPRINT** | REDUCED **SCALE** |
| LOW **STORAGE** | MINIMUM **HEAT LOSS** |

Read more about Tank-in-Tank P 6

## ANATOMY

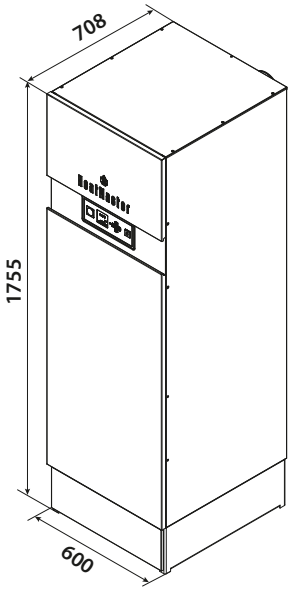
1. Concentric flue gas/air inlet box
2. Flue gas exhaust tube
3. Combustion chamber
4. Stainless steel heat exchanger
5. Stainless steel Tank-in-Tank hot water production tank
6. DHW circuit tube
7. Condensate recovery dish
8. High efficiency circulator pump
9. NTC sensor (heating circuit)
10. Pressure sensor
11. Electrical panel (with spare fuses at back)
12. ACVMax Control panel
13. DHW tank dry well (Sparge tube with temperature sensor)
14. Automatic air vent
15. Gas pipe
16. Gas valve
17. Connection for DHW safety valve*
18. Modulating air/gas premix burner with fan
19. Air inlet

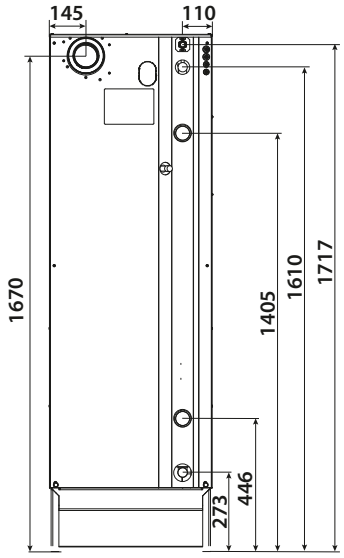


## DIMENSIONS

All dimensions in mm.




## TECHNICAL DATA

| TYPE | UNIT | HM 25 C |
|---|---|---|
| Part number | | A1002007 |
| Fuel | | Natural gas |
| Input max (heating) | kW | 25 |
| Input min (heating) | kW | 5 |
| Output power max (80/60°C) | kW | 24.3 |
| Efficiency at 100% | % | 97.3 |
| Efficiency at 30% load (EN677) | % | 109.0 |
| Capacity (total) | L | 200 |
| Capacity (domestic hot water) | L | 80 |
| Connection - heating | Ø" | 1 F |
| Connection - DHW | Ø" | 1 M |
| Connection gas | Ø" | 3/4 M |
| Water pressure drop boiler at Δt = 20°C | mbar | 3 |
| Gas flow rate (max output) | m³/h | 2.66 |
| Flue connection | Ømm | 80/125 |
| Weight (empty) | kg | 174 |
| Max operating temperature | °C | 87 |
| Max service pressure heating (primary) | bar | 3 |
| Max service pressure (DHW) | bar | 8.6 |
| Voltage | V | 230 |
| Declared load profile | | XXL |
| NOx class | | 5 |
| NOx emissions | mg/kWhr | 22.8 |
| Water heating energy efficiency class | | B |
| Space heating energy efficiency class | | A |
| Electrical consumption | W | 95 |

## DOMESTIC HOT WATER PERFORMANCE

| TYPE | UNIT | HM 25 C |
|---|---|---|
| Peak flow at 40°C | L/10' | 233.5 |
| Peak flow 1st hour at 40°C | L/60' | 748 |
| Continuous flow at 40°C | L/h | 617 |
| Peak flow at 60°C | L/10' | 145 |
| Peak flow 1st hour at 60°C | L/60' | 478 |
| Continuous flow at 60°C | L/h | 400 |

This data assumes an incoming mains water temperature of 10°C.

*ACV UK Ltd advise the installation of a domestic hot water mixing valve on the hot flow immediately after the appliance.

For flue accessories and controls see page 58.

# HEATMASTER® 25TC > 120TC

## Combined gas fired condensing boiler & water heater with stainless steel heat exchanger.

**Available in six sizes.**

- Heating and hot water from one unit saves space, reduces energy use and speeds up installation
- Operates in most efficient mode (condensing) for both heating and hot water
- Low maintenance with no anode protection required
- Reduces legionella risk due to temperature stored at > 60°C
- Corrosion-resistant stainless steel heat exchanger backed by a 10-year warranty reduces maintenance and increases system lifespan
- Suited to high demand and critical hot water premises such as hotels and hospitals
- Long life – 25-year guarantee on the corrosion resistant stainless steel cylinder
- Easy to use standardised controls using ACVMax control system
- Combine with Prestige® heat only boilers or Smart cylinder for highly efficient heating and hot water performance all from one manufacturer
- Suitable for vented or unvented systems (optional unvented kit required)
- Supplied with LPG kit for simple on-site conversion


**TANK-IN-TANK** TECHNOLOGY

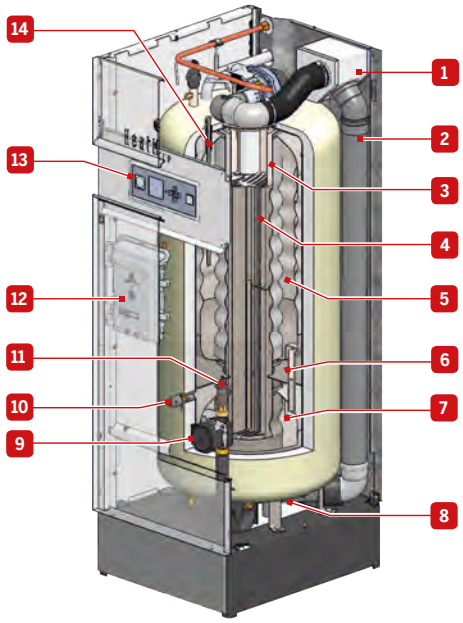
| | |
|---|---|
| FAST **HEAT UP** | RAPID **RECOVERY** |
| REDUCED **FOOTPRINT** | REDUCED **SCALE** |
| LOW **STORAGE** | MINIMUM **HEAT LOSS** |

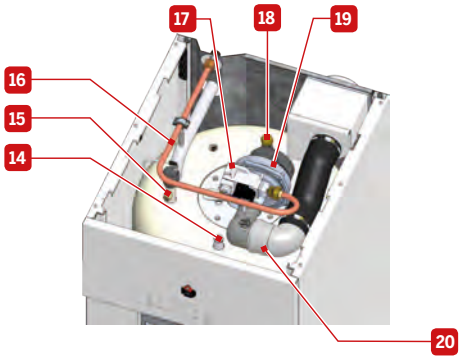
Read more about Tank-in-Tank P 6

10 HEAT EXCHANGER WARRANTY | TANK IN TANK | BIM OBJECTS | NAT GAS LPG | DOMESTIC COMMERCIAL

## ANATOMY

1. Concentric flue gas/air inlet box
2. Flue gas exhaust tube
3. Combustion chamber
4. Stainless steel heat exchanger
5. Stainless steel Tank-in-Tank hot water production tank
6. Primary circuit separation disc
7. Indirect water pre-heater
8. Condensate recovery dish
9. De-stratification pump
10. Pressure sensor
11. NTC Sensor (Heating circuit)
12. Electrical panel (with spare fuses at the back)
13. ACVMax Control panel
14. DHW tank dry well (Sparge tube with temperature sensor)
15. Automatic air vent
16. Gas pipe
17. Gas valve
18. Connection for DHW safety valve*
19. Modulating air/gas premix burner with fan
20. Air inlet
21. Discharge for built-in DHW safety valve / (T & P relief valve) outlet to be connected to the sewage system
22. Gas connection [M]
23. Grommets for electrical wires (low voltage control)
24. Domestic Hot Water outlet [M]
25. Heating supply connection [F]
26. Connection for provided heating safety valve (to be installed).
27. Connection for low temperature heating circuit return (HM 70 - 85 - 120 TC only)
28. Heating return connection [F]
29. Grommets for electrical wires (230 V)
30. Domestic Hot Water inlet [M]
31. Flue connection



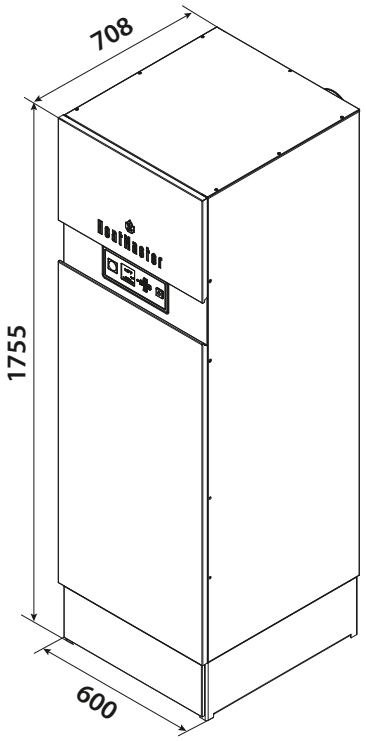


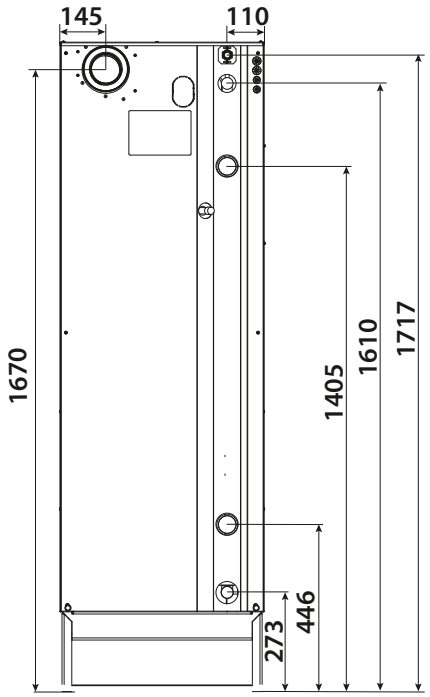
*ACV UK Ltd advise the installation of a domestic hot water mixing valve on the hot flow immediately after the appliance.

# HEATMASTER® 25TC > 120TC

## DIMENSIONS - 25TC > 45TC

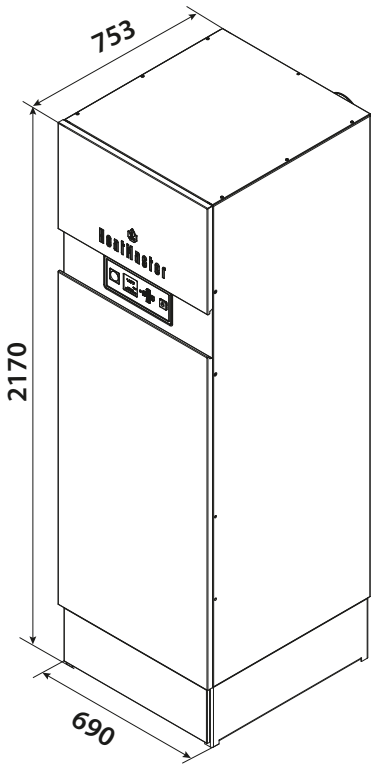
All dimensions in mm.

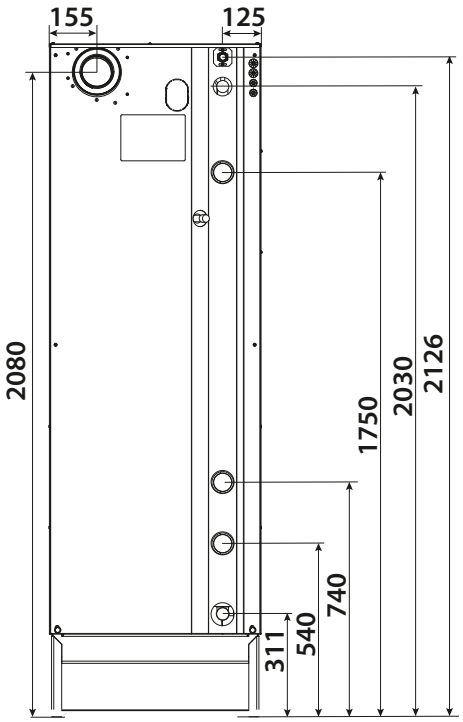



## DIMENSIONS - 70TC > 120TC

All dimensions in mm.



## TECHNICAL DATA

| TYPE | UNIT | HM 25 TC | HM 35 TC | HM 45 TC | HM 70 TC | HM 85 TC | HM 120 TC |
|---|---|---|---|---|---|---|---|
| Part number | | 05652101 | 05652201 | 05652301 | 05652401 | 05652501 | 05652601 |
| Input max (heating) | kW | 25 | 35 | 45 | 69,9 | 85 | 115 |
| Input min (heating) | kW | 5 | 7 | 9 | 21.5 | 21 | 25 |
| Output power max (80/60°C) | kW | 24.3 | 34.1 | 44.1 | 68.0 | 82.9 | 111.7 |
| Efficiency at 100% | % | 97.3 | 97.9 | 98 | 97.3 | 97 | 97 |
| Efficiency at 30% load (EN677) | % | 109.0 | 109.0 | 109.0 | 109.0 | 108 | 108 |
| Capacity (total) | L | 196 | 196 | 196 | 315 | 315 | 315 |
| Capacity (domestic hot water) | L | 96 | 96 | 96 | 190 | 190 | 190 |
| Connection - heating | Ø" | 1 F | 1 F | 1 F | 6/4 F | 6/4 F | 6/4 F |
| Connection - DHW | Ø" | 1 M | 1 M | 1 M | 1 M | 1 M | 1 M |
| Connection gas | Ø" | 3/4 M | 3/4 M | 3/4 M | 3/4 M | 3/4 M | 3/4 M |
| Water pressure drop boiler at Δt = 20°C | mbar | 3 | 6 | 10 | 9 | 14 | 27 |
| Gas flow rate (max output) | m³/h | 2.66 | 3.64 | 4.67 | 7.2 | 8.6 | 12 |
| Flue connection | Ømm | 80/125 | 80/125 | 80/125 | 100/150 | 100/150 | 100/150 |
| Weight (empty) | kg | 177 | 177 | 177 | 298 | 298 | 299 |
| Max operating temperature | °C | 87 | 87 | 87 | 87 | 87 | 87 |
| Max service pressure heating (primary) | bar | 3 | 3 | 3 | 3 | 3 | 3 |
| Max service pressure (DHW) | bar | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 |
| Voltage | V | 230 | 230 | 230 | 230 | 230 | 230 |
| Declared load profile | | XXL | XXL | XXL | N/A | N/A | N/A |
| Electrical consumption | W | 95 | 110 | 126 | 210 | 266 | 327 |
| Space heating energy efficiency class | | A | A | A | A | A | A |
| Water heating energy efficiency class | | A | A | A | A | A | A |
| NOx class | | 6 | 6 | 6 | 6 | 6 | 6 |
| NOx emissions | mg/kWhr | 24.6 | 29.5 | 33.2 | 33.1 | 29.3 | 31.1 |

## DOMESTIC HOT WATER PERFORMANCE

| TYPE | UNIT | HM 25 TC | HM 35 TC | HM 45 TC | HM 70 TC | HM 85 TC | HM 120 TC |
|---|---|---|---|---|---|---|---|
| Peak flow at 40°C | L/10' | 361 | 409 | 471 | 716 | 783 | 900 |
| Peak flow 1st hour at 40°C | L/60' | 1018 | 1328 | 1610 | 2455 | 2895 | 3620 |
| Continuous flow at 40°C | L/h | 788 | 1104 | 1390 | 2087 | 2534 | 3402 |
| Peak flow at 45°C | L/10' | 301 | 339 | 373 | 592 | 646 | 676 |
| Peak flow 1st hour at 45°C | L/60' | 865 | 1127 | 1366 | 2083 | 2456 | 3098 |
| Continuous flow at 45°C | L/h | 676 | 946 | 1192 | 1789 | 2172 | 2928 |
| Peak flow at 60°C | L/10' | 183 | 197 | 320 | 348 | 371 | 440 |
| Peak flow 1st hour at 60°C | L/60' | 577 | 749 | 894 | 1391 | 1638 | 1847 |
| Continuous flow at 60°C | L/h | 473 | 662 | 820 | 1252 | 1520 | 1754 |

This data assumes an incoming mains water temperature of 10°C.

For flue accessories and controls see page 58.

# ARCHIMEDES

## Sizing your hot water system

Archimedes: Greek mathematician, physicist, engineer, inventor, and astronomer? Or our tool to support you.

## Easy to use

This easy to use programme will help you calculate the hot water capacity for a wide range of applications (hotels, hospitals, sports facilities).

## Detailed output

You will get several configurations and technical files to help you with project specification.

## In-house support

Our technical support can back up the software, we are just a phone call away to advise you in choosing the most suitable equipment for your project.

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# HOT WATER GENERATORS AND CYLINDERS

## WATERMASTER

Direct gas fired water heater.

p 18

## SMART GREEN

Stainless steel indirect cylinder with A rated storage class.

p 22

## SMART E

Stainless steel indirect cylinder.

p 24

## SMART E PLUS

Stainless steel indirect cylinder with the addition of multiple ports for domestic hot water.

p 26

## SMART ME

Stainless steel indirect cylinder with additional coil for use with multi-energy sources.

p 28

## SMART L

Stainless steel indirect cylinder.

p 32

## HRs

Stainless steel indirect cylinder with higher outputs.

p 34

## LCA

Glass lined carbon steel tank.

p 36

# WATERMASTER 25 > 120


## Direct gas fired water heater.

### Available in six sizes.

- Can deliver large peak and continuous volumes of hot water
- Operates in most efficient mode (condensing)
- Reduces legionella risk due to temperature stored at > 60°C
- Small footprint allows installation in tight plantrooms
- Low maintenance with no anode protection required
- Long life – 25-year guarantee on the corrosion-resistant stainless steel cylinder
- Compliant with latest Ecodesign regulations for DHW
- Corrosion-resistant stainless steel heat exchanger backed by a 10-year warranty reduces maintenance and increases system lifespan
- Suitable for vented or unvented systems (optional unvented kit required)
- Easy to use standardised controls using ACVMax control system


**TANK-IN-TANK**
TECHNOLOGY

| | |
|---|---|
| FAST **HEAT UP** | RAPID **RECOVERY** |
| REDUCED **FOOTPRINT** | REDUCED **SCALE** |
| LOW **STORAGE** | MINIMUM **HEAT LOSS** |

Read more about Tank-in-Tank P 6

10 yr HEAT EXCHANGER WARRANTY | TANK IN TANK | NAT GAS LPG | DOMESTIC COMMERCIAL

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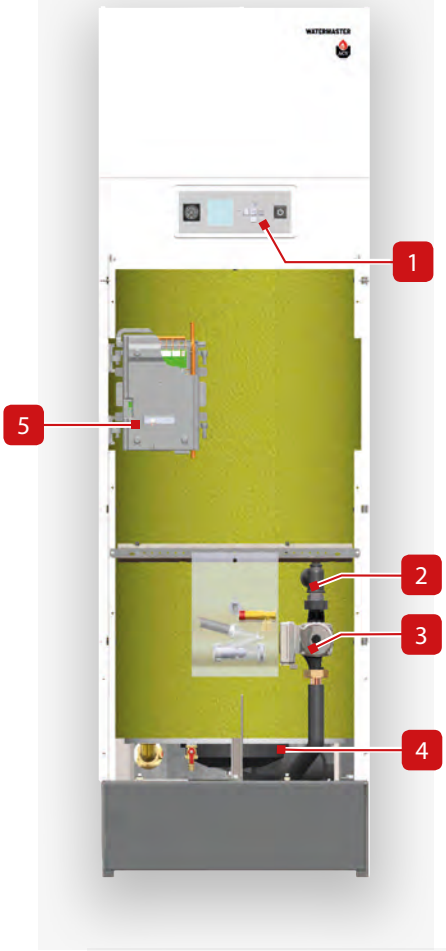
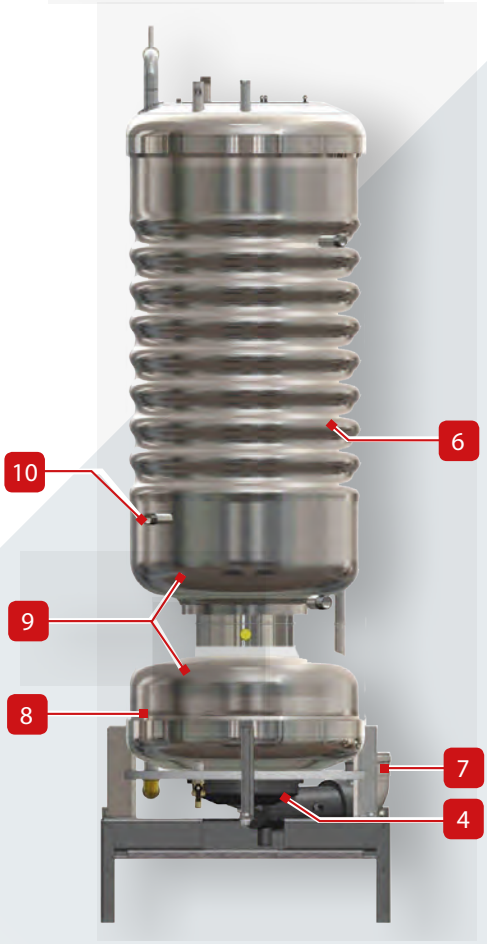
FINALIST

## ANATOMY

1. ACVMax Control panel
2. NTC sensor (primary circuit)
3. De-stratification pump
4. Condensate recovery dish
5. Electrical panel (with spare fuses at the back)
6. Tank-in-tank hot water production tank
7. Flue gas exhaust tube
8. Indirect water pre-heater
9. Primary circuit
10. Pressure sensor

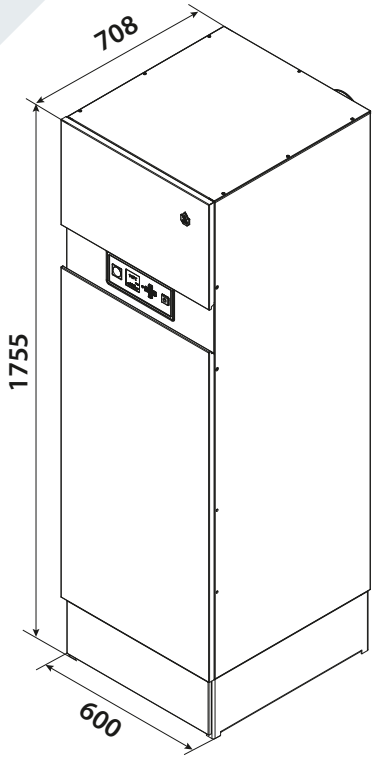


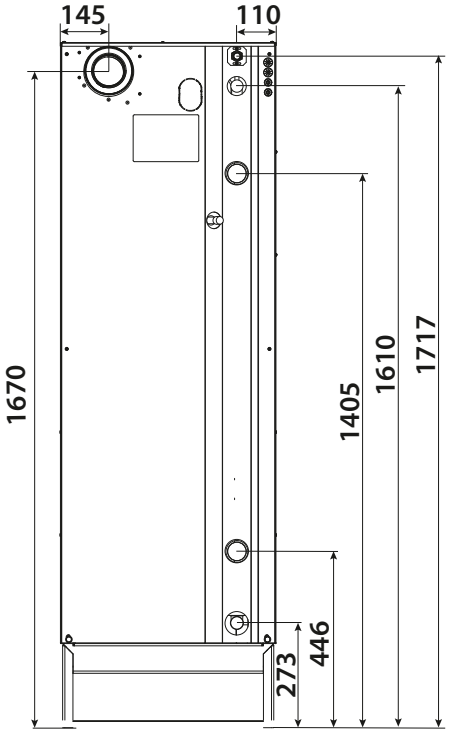



# WATERMASTER 70 > 120

## DIMENSIONS - WM 25 > WM 45

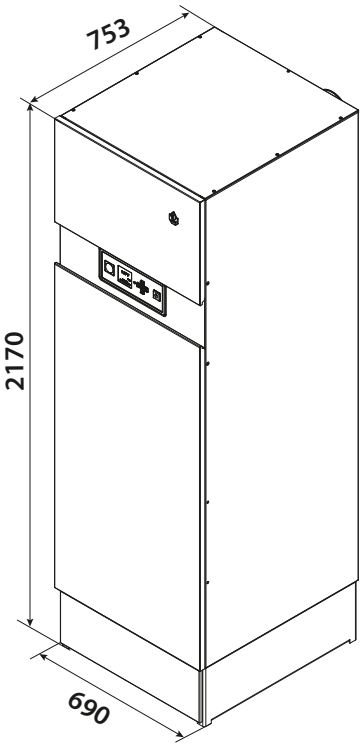
All dimensions in mm.

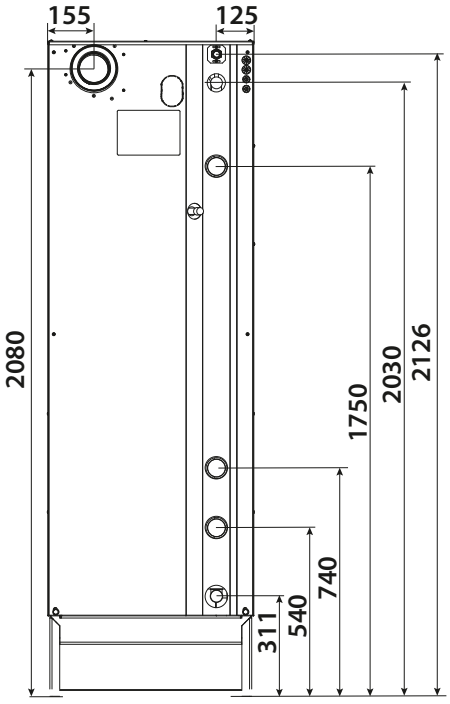



## DIMENSIONS - WM 70 > WM 120

All dimensions in mm.



## TECHNICAL DATA

| TYPE | UNIT | WM25 | WM35 | WM45 | WM70 | WM85 | WM120 |
|---|---|---|---|---|---|---|---|
| Part number | | A1002669 | A1002670 | A1002671 | A1002077 | A1002078 | A1002079 |
| Fuel | | Natural gas | Natural gas | Natural gas | Natural gas | Natural gas | Natural gas |
| Input max (heating) | kW | 25 | 35 | 45 | 69.9 | 85 | 115 |
| Input min (heating) | kW | 5 | 7 | 9 | 21.5 | 21 | 25 |
| Capacity (total) | L | 196 | 196 | 196 | 315 | 315 | 315 |
| Capacity (domestic hot water) | L | 96 | 96 | 96 | 190 | 190 | 190 |
| Connection - heating | Ø" | 1 F | 1 F | 1 F | 6/4 F | 6/4 F | 6/4 F |
| Connection - DHW | Ø" | 1 M | 1 M | 1 M | 1 M | 1 M | 1 M |
| Connection gas | Ø" | 3/4 M | 3/4 M | 3/4 M | 3/4 M | 3/4 M | 3/4 M |
| Water pressure drop boiler at Δt = 20°C | mbar | 3 | 6 | 10 | 9 | 14 | 27 |
| Efficiency at 100% | % | 98.2 | 98.2 | 97.9 | 98.1 | 98 | 97.5 |
| Gas flow rate (max output) | m³/h | 2.66 | 3.64 | 4.67 | 7.4 | 9.0 | 12.2 |
| Gas flow rate (min output) | m³/h | 0.5 | 0.7 | 0.9 | 2.6 | 2.6 | 2.5 |
| Flue connection | Ømm | 80/125 | 80/125 | 80/125 | 100/150 | 100/150 | 100/150 |
| Weight (empty) | kg | 177 | 177 | 177 | 298 | 298 | 299 |
| Max operating temperature | °C | 87 | 87 | 87 | 87 | 87 | 87 |
| Max service pressure heating (primary) | bar | 3 | 3 | 3 | 3 | 3 | 3 |
| Max service pressure (DHW) | bar | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 |
| Voltage | V | 230 | 230 | 230 | 230 | 230 | 230 |
| Electrical consumption | W | 95 | 110 | 126 | 220 | 230 | 380 |
| Declared load profile | | L | L | L | XXL | XXL | XXL |
| NOx class | | 5 | 5 | 5 | 5 | 5 | 5 |

## DOMESTIC HOT WATER PERFORMANCE

| TYPE | UNIT | WM25 | WM35 | WM45 | WM70 | WM85 | WM120 |
|---|---|---|---|---|---|---|---|
| Peak flow at 40°C | L/10' | 361 | 408 | 471 | 716 | 783 | 900 |
| Peak flow 1st hour at 40°C | L/60' | 1018 | 1328 | 1610 | 2455 | 2895 | 3620 |
| Continuous flow at 40°C | L/h | 788 | 1104 | 1390 | 2087 | 2534 | 3402 |
| Peak flow at 45°C | L/10' | 301 | 339 | 373 | 592 | 646 | 676 |
| Peak flow 1st hour at 45°C | L/60' | 865 | 1127 | 1366 | 2083 | 2456 | 3098 |
| Continuous flow at 45°C | L/h | 676 | 946 | 1192 | 1789 | 2172 | 2928 |
| Peak flow at 60°C | L/10' | 183 | 197 | 320 | 348 | 371 | 440 |
| Peak flow 1st hour at 60°C | L/60' | 577 | 749 | 894 | 1391 | 1638 | 1847 |
| Continuous flow at 60°C | L/h | 473 | 662 | 820 | 1252 | 1520 | 1754 |

This data assumes an incoming mains water temperature of 10°C.

*ACV UK Ltd advise the installation of a domestic hot water mixing valve on the hot flow immediately after the appliance.
For flue accessories and controls see page 58.

# SMART GREEN 130 > 210

A

## Stainless steel indirect cylinder with A rated storage class for domestic hot water.

**Available in three sizes.**

- Cost effective solution, simple installation with no de-stratification kit needed and no flue requirements
- Exceptionally low standing losses – cylinder comes with polyurethane foam insulation and thick polypropylene jacket
- Fast heat up and recovery using the unique tank-in-tank design
- Reduces legionella risk due to temperature: stored at > 60°C
- Low maintenance with no anode protection required
- Exceeds regulations with Class A energy rating
- Long life – 25-year guarantee on the corrosion resistant stainless steel cylinder
- Simplified wiring with 'plug and play' electrical connection
- Fits through a standard doorway for access to plant room
- Can easily be coupled to a condensing boiler
- Easy to control using integrated thermostat or option to use boiler controls
- Maximise capacity of the cylinder with DHW mixing valve and 2 port valve supplied as standard
- Suitable for unvented systems – supplied as a complete package including 3.5 bar mains unvented kit

TANK IN TANK | DOMESTIC COMMERCIAL

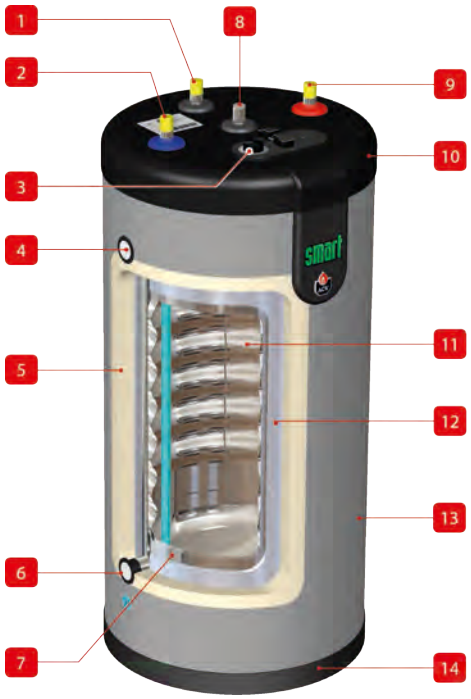
**TANK-IN-TANK TECHNOLOGY**

| | |
|---|---|
| FAST **HEAT UP** | RAPID **RECOVERY** |
| REDUCED **FOOTPRINT** | REDUCED **SCALE** |
| LOW **STORAGE** | MINIMUM **HEAT LOSS** |

Read more about Tank-in-Tank P 6

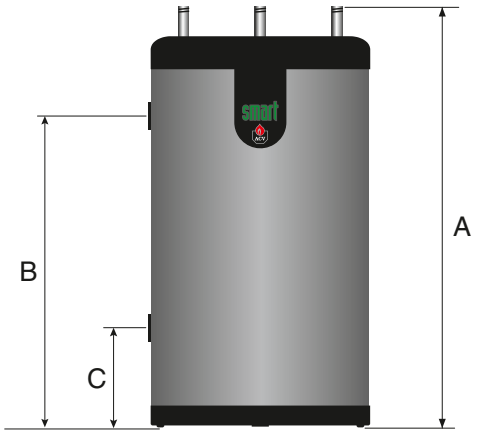
## ANATOMY

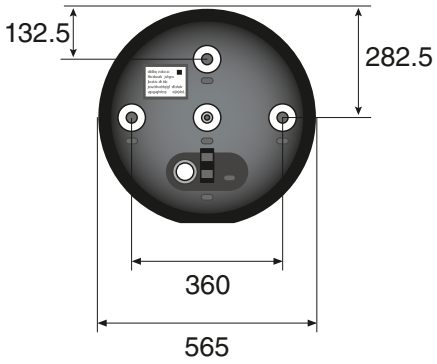
1. Auxiliary connection DHW
2. Cold water inlet connection
3. Control thermostat
4. Flow connection (primary circuit)
5. Polyurethane foam insulation
6. Return connection (primary circuit)
7. Outer steel tank (primary circuit)
8. Manual air bleed valve
9. Hot water outlet connection
10. Polypropylene top lid
11. Stainless steel tank (DHW)
12. Vacuum insulation panel
13. Polypropylene shell
14. Polypropylene base



## DIMENSIONS

All dimensions in mm.




## TECHNICAL DATA

| TYPE | UNIT | SL 130 G | SL 160 G | SL 210 G |
|---|---|---|---|---|
| Part number | | A1002046 | A1002047 | A1002048 |
| Capacity (total) | L | 130 | 161 | 203 |
| Capacity (DHW) | L | 99 | 126 | 164 |
| Connection - primary | Ø" | 1 F | 1 F | 1 F |
| Connection - DHW | Ø" | 3/4 M | 3/4 M | 3/4 M |
| Connection - re-circulation / safety valve | Ø" | 3/4 M | 3/4 M | 3/4 M |
| Max operating temperature (DHW) | °C | 80 | 80 | 80 |
| Max operating pressure (DHW) | bar | 8.6 | 8.6 | 8.6 |
| Max operating pressure heating (primary) | bar | 3 | 3 | 3 |
| Dimensions A | mm | 1025 | 1225 | 1497 |
| Dimensions B | mm | 750 | 960 | 1232 |
| Dimensions C | mm | 235 | 235 | 235 |
| Weight (empty) | kg | 55 | 65 | 75 |
| Energy efficiency storage class | | A | A | A |
| Max service pressure heating (primary) | bar | 3 | 3 | 3 |
| Max service pressure (DHW) | bar | 8.6 | 8.6 | 8.6 |
| Voltage | V | 230 | 230 | 230 |
| Electrical consumption | W | 220 | 230 | 380 |
| Declared load profile | | XXL | XXL | XXL |

## DOMESTIC HOT WATER PERFORMANCE

| TYPE | UNIT | SL 130 G | SL 161 G | SL 203 G |
|---|---|---|---|---|
| Peak flow at 40°C | L/10' | 321 | 406 | 547 |
| Peak flow 1st hour at 40°C | L/60' | 1063 | 1349 | 1820 |
| Continuous flow at 40°C | L/h | 890 | 1132 | 1527 |
| Peak flow at 45°C | L/10' | 275 | 348 | 469 |
| Peak flow 1st hour at 45°C | L/60' | 911 | 1156 | 1560 |
| Continuous flow at 45°C | L/h | 763 | 970 | 1309 |
| Peak flow at 60°C | L/10' | 161 | 209 | 272 |
| Peak flow 1st hour at 60°C | L/60' | 549 | 689 | 913 |
| Continuous flow at 60°C | L/h | 465 | 576 | 769 |
| Reheat time (EN 12897) | min | 10 | 10 | 9 |

This data assumes an incoming mains water temperature of 10°C.

ACV UK Ltd advise the installation of a domestic hot water mixing valve on the hot flow immediately after the appliance.

# SMART E 130 > 160


## Stainless steel indirect cylinder for domestic hot water.

**Available in two sizes.**

- Low cost solution, simple installation with no de-stratification kit needed and no flue requirements.
- Minimal standing losses – cylinder comes with polyurethane foam insulation and thick polypropylene jacket
- Reduces legionella risk due to temperature: hot water stored at > 60°C
- Low maintenance with no anode protection required
- Fits through a standard doorway for access to plant room
- Long life – 25-year guarantee on the corrosion resistant stainless steel cylinder
- Can easily be coupled to a condensing boiler
- Simplified wiring with 'plug and play' electrical connection
- Supplied with 3kW immersion heater (6kW option available)
- Suitable for unvented systems – supplied as a complete package including 3.5 bar mains unvented kit
- Maximise capacity of the cylinder with DHW mixing valve and 2 port valve supplied as standard

TANK IN TANK | DOMESTIC COMMERCIAL

B

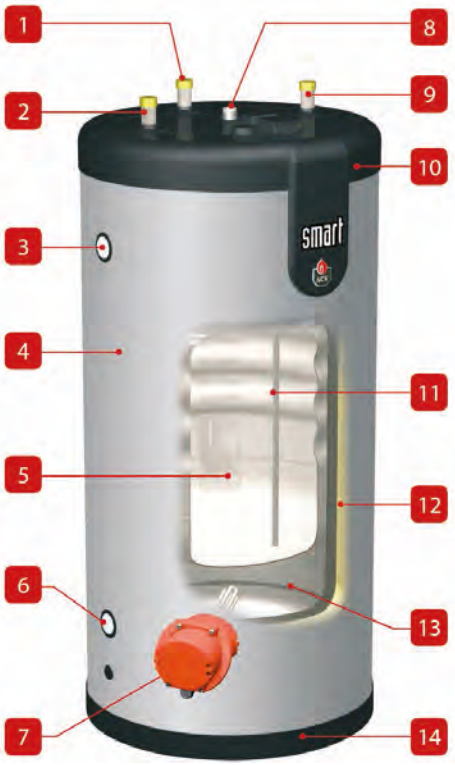
**TANK-IN-TANK** TECHNOLOGY

| | |
|---|---|
| FAST **HEAT UP** | RAPID **RECOVERY** |
| REDUCED **FOOTPRINT** | REDUCED **SCALE** |
| LOW **STORAGE** | MINIMUM **HEAT LOSS** |

Read more about Tank-in-Tank P 6

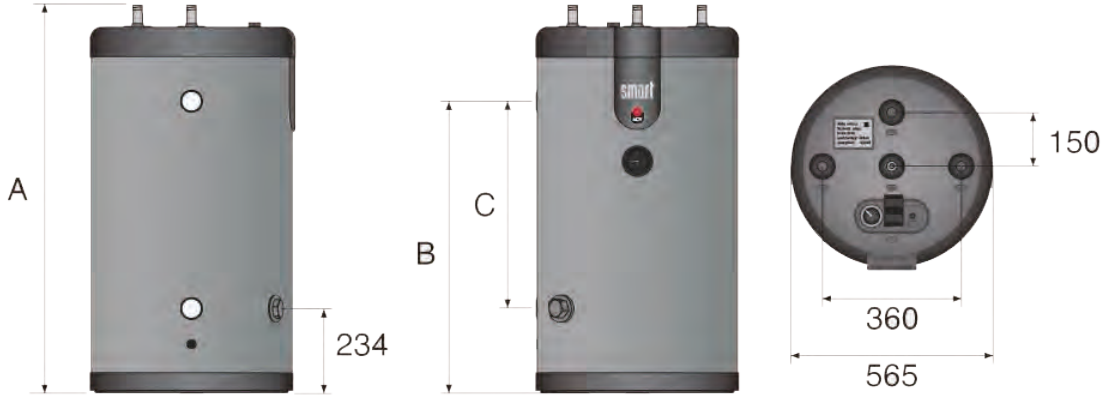
## ANATOMY

1. Auxiliary connection DHW
2. Domestic cold water inlet connection
3. Flow connection (primary circuit)
4. Polypropylene shell
5. Internal stainless steel tank.
6. Return connection (primary circuit)
7. Immersion heater connection
8. Primary air vent
9. Hot water outlet connection
10. Rigid polypropylene top cover
11. Thermostat pocket
12. Polyurethane foam insulation
13. Outer steel tank (primary circuit)
14. Polypropylene base



## DIMENSIONS

All dimensions in mm.




## TECHNICAL DATA

| TYPE | UNIT | SLE 130 | SLE 160 |
|---|---|---|---|
| Part number | | 06618801 | 06618901 |
| Capacity (total) | L | 130 | 161 |
| Capacity (DHW) | L | 75 | 99 |
| Connection - primary | Ø" | 1 F | 1 F |
| Connection - DHW | Ø" | 3/4 M | 3/4 M |
| Connection - re-circulation / safety valve | Ø" | 3/4 M | 3/4 M |
| Max operating temperature | °C | 90 | 90 |
| Max operating pressure heating (primary) | bar | 3 | 3 |
| Max operating pressure (DHW) | bar | 8.6 | 8.6 |
| Dimensions A | mm | 1024 | 1225 |
| Dimensions B | mm | 759 | 959 |
| Dimensions C | mm | 525 | 725 |
| Weight (empty) | kg | 45 | 54 |
| Energy efficiency storage class | | B | B |
| Voltage | V | 230 | 230 |
| Electrical consumption | W | 220 | 230 |
| Declared load profile | | XXL | XXL |

## DOMESTIC HOT WATER PERFORMANCE

| TYPE | UNIT | SLE 130 | SLE 160 |
|---|---|---|---|
| Peak flow at 40°C | L/10' | 236 | 321 |
| Peak flow 1st hour at 40°C | L/60' | 784 | 1063 |
| Continuous flow at 40°C | L/h | 658 | 890 |
| Peak flow at 45°C | L/10' | 202 | 275 |
| Peak flow 1st hour at 45°C | L/60' | 672 | 911 |
| Continuous flow at 45°C | L/h | 564 | 763 |
| Peak flow at 60°C | L/10' | 117 | 161 |
| Peak flow 1st hour at 60°C | L/60' | 384 | 549 |
| Continuous flow at 60°C | L/h | 320 | 465 |
| Reheat time (EN 12897) | min | 10 | 10 |
| Max absorbed heat (Heat source: boiler) | kW | 23 | 31 |

This data assumes an incoming mains water temperature of 10°C.

## OPTIONS

| REFERENCE | DESCRIPTION |
|---|---|
| 10800083 | 6 kW single phase immersion heater (1 x 230V) |
| 10800084 | 6 kW Three phase immersion heater (3 x 400V+N) |

ACV UK Ltd advise the installation of a domestic hot water mixing valve on the hot flow immediately after the appliance.

# SMART E PLUS 210 > 300


## Stainless steel indirect cylinder with the addition of multiple ports for domestic hot water.

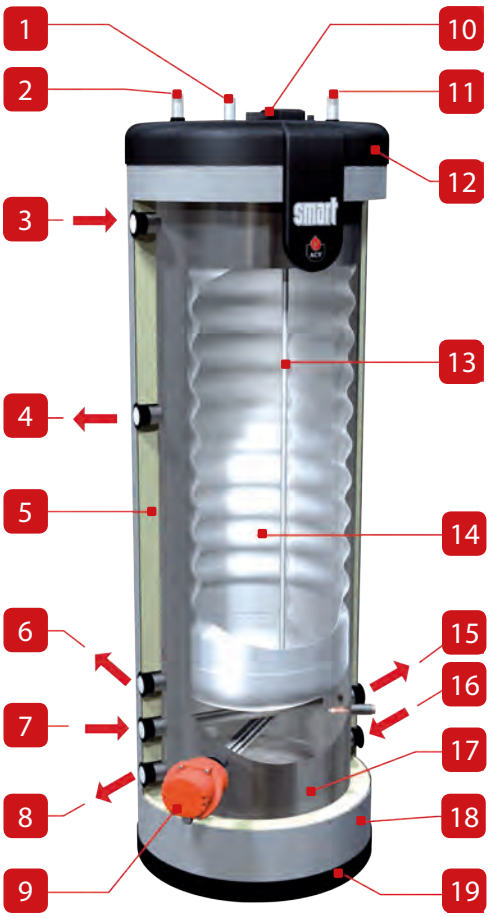
**Available in three sizes.**

- Cost effective solution, simple installation with no de-stratification kit needed and no flue requirements
- Low standing losses – cylinder comes with polyurethane foam insulation and thick polypropylene jacket
- Reduces legionella risk due to temperature: hot water stored at > 60°C
- Low maintenance with no anode protection required
- Long life – 25-year guarantee on the corrosion resistant stainless steel cylinder
- Simplified wiring with 'plug and play' electrical connection
- Can easily be connected to multiple heat sources including heat pumps and condensing boilers
- Suitable for unvented systems – supplied as a complete package including 3.5 bar mains unvented kit
- Maximise capacity of the cylinder with DHW mixing valve and 2 port valve supplied as standard
- Supplied with 3kW immersion heater (6kW option available)
- Most models fit through a standard doorway for access to plant room

TANK IN TANK | DOMESTIC COMMERCIAL

## ANATOMY

1. Auxiliary connection DHW
2. Domestic cold water inlet
3. Flow connection (Primary Circuit)
4. Auxiliary heating return
5. 50 mm insulation rigid polyurethane
6. Auxiliary heating return
7. Flow primary for heat pump connection
8. Return primary for heat pump connection
9. Immersion Heater
10. Manual air vent
11. Domestic Hot Water outlet
12. Rigid polypropylene cover
13. Stainless steel drywell
14. Stainless steel (DHW) inner tank
15. Heating circuit flow
16. Heating circuit return
17. Outer steel tank containing the primary fluid
18. Polypropylene shell
19. Polypropylene base cover




B

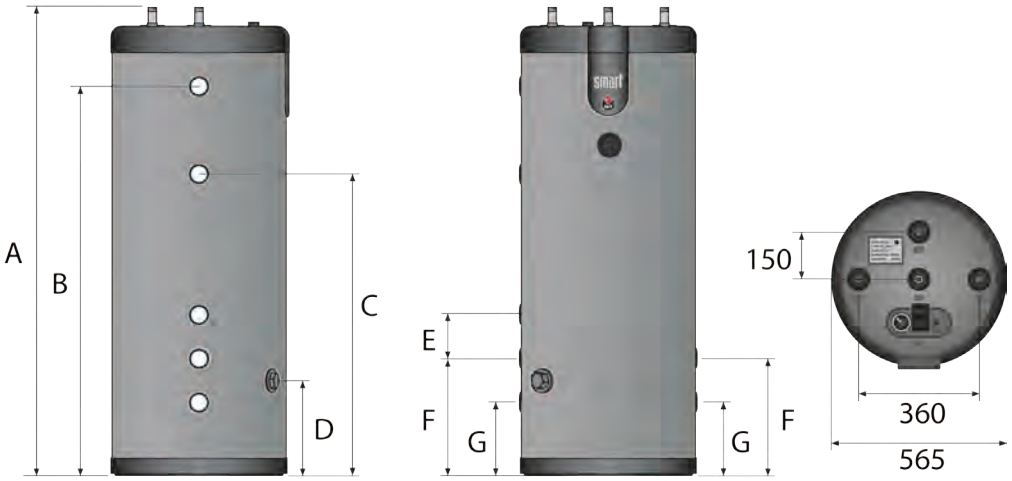
## TANK-IN-TANK TECHNOLOGY

| | |
|---|---|
| FAST **HEAT UP** | RAPID **RECOVERY** |
| REDUCED **FOOTPRINT** | REDUCED **SCALE** |
| LOW **STORAGE** | MINIMUM **HEAT LOSS** |

Read more about Tank-in-Tank P 6

## DIMENSIONS

All dimensions in mm.




## TECHNICAL DATA

| TYPE | UNIT | SLE+ 210 | SLE+ 240 | SLE+ 300 |
|---|---|---|---|---|
| Part number | | 06627301 | 06627401 | 06627501 |
| Capacity (total) | L | 203 | 242 | 293 |
| Capacity (DHW) | L | 126 | 164 | 200 |
| Connection - primary | Ø" | 1 F | 1 F | 1 F |
| Connection - DHW | Ø" | 3/4 M | 3/4 M | 3/4 M |
| Connection - re-circulation / safety valve | Ø" | 3/4 M | 3/4 M | 3/4 M |
| Max operating temperature (DHW) | °C | 80 | 80 | 80 |
| Max operating pressure heating (primary) | bar | 3 | 3 | 3 |
| Dimensions A | mm | 1489 | 1738 | 2050 |
| Dimensions B | mm | 1225 | 1473 | 1783 |
| Dimensions C | mm | 933 | 1064 | 1278 |
| Dimensions D | mm | 288 | 264 | 329 |
| Dimensions E | mm | 130 | 135 | 145 |
| Dimensions F | mm | 338 | 314 | 375 |
| Dimensions G | mm | 228 | 229 | 233 |
| Weight (empty) | kg | 66 | 76 | 87 |
| Energy efficiency storage class | | B | B | B |

## DOMESTIC HOT WATER PERFORMANCE

| TYPE | UNIT | SLE+ 210 | SLE+ 240 | SLE+ 300 |
|---|---|---|---|---|
| Peak flow at 40°C | L/10' | 406 | 547 | 800 |
| Peak flow 1st hour at 40°C | L/60' | 1349 | 1820 | 2360 |
| Continuous flow at 40°C | L/h | 1132 | 1527 | 2100 |
| Peak flow at 45°C | L/10' | 348 | 469 | 640 |
| Peak flow 1st hour at 45°C | L/60' | 1156 | 1560 | 1920 |
| Continuous flow at 45°C | L/h | 970 | 1309 | 1710 |
| Peak flow at 60°C | L/10' | 209 | 272 | 370 |
| Peak flow 1st hour at 60°C | L/60' | 689 | 913 | 1100 |
| Continuous flow at 60°C | L/h | 576 | 769 | 970 |
| Reheat time (EN 12897) | min | 9 | 9 | 9 |
| Max absorbed heat (Heat source: boiler) | kW | 39 | 53 | 68 |

This data assumes an incoming mains water temperature of 10°C.

## OPTIONS

| REFERENCE | DESCRIPTION |
|---|---|
| 10800083 | 6 kW single phase immersion heater (1 x 230V) |
| 10800084 | 6 kW Three phase immersion heater (3 x 400V+N) |

ACV UK Ltd advise the installation of a Domestic hot water mixing valve on the hot flow immediately after the appliance.

# SMART ME 200 > 800


## Stainless steel indirect cylinder with additional coil for use with multi-energy sources to produce domestic hot water.

**Available in five sizes.**

- Ideal for use with renewable energy such as heat pumps, solar, heat recovery and in district heating schemes due to large primary store
- Reduces legionella risk due to temperature: hot water stored at > 60°C
- Low maintenance with no anode protection required
- The carbon steel coil enables this product to be used in a variety of installations including system separation for a heating circuit
- Long life – 25-year guarantee on the corrosion resistant stainless steel cylinder
- Low standing losses – cylinder comes with thick polypropylene jacket (100mm Polyurethane mattress for models SLME600 and SLME800)
- Can provide dual temperature outputs for different circuits such as underfloor heating (low temperature) and DHW (high temperature)
- Suitable for unvented systems – supplied as a complete package including 3.5 bar mains unvented kit*
- Maximise capacity of the cylinder with DHW mixing valve and 2 port valve supplied as standard*
- Supplied with 3kW immersion heater* (6kW option available)
- Smaller models (SLME 400-600) fit through a standard doorway for access to plant room
- Cost effective solution, simple installation with no de-stratification kit needed and no flue requirements

B
C

**TANK-IN-TANK**
TECHNOLOGY

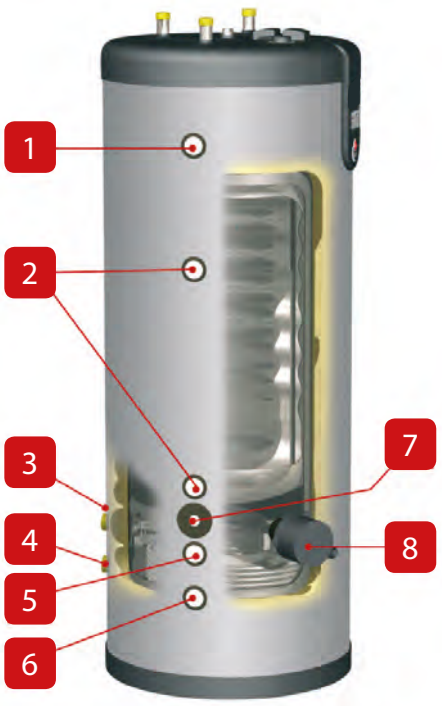
| | |
|---|---|
| FAST **HEAT UP** | RAPID **RECOVERY** |
| REDUCED **FOOTPRINT** | REDUCED **SCALE** |
| LOW **STORAGE** | MINIMUM **HEAT LOSS** |

Read more about Tank-in-Tank P 6

TANK IN TANK | DOMESTIC COMMERCIAL

### ANATOMY

1. Primary hot water flow
2. Primary return
3. Coil flow
4. Coil return
5. Heating circuit flow
6. Heating circuit return
7. Drywell pocket for sensors
8. Immersion heater connection (not available on SLME800)




*Note: except SLME800 that requires sizing separately

## TECHNICAL DATA

| TYPE | UNIT | SLME 200 | SLME 300 | SLME 400 | SLME 600 | SLME 800 |
|---|---|---|---|---|---|---|
| Part number | | 06625101 | 06625201 | 06624601 | 06651301 | 06625301 |
| Capacity (total) | L | 203 | 303 | 395 | 606 | 800 |
| Capacity (DHW) | L | 107.3 | 138 | 176 | 241 | 283 |
| Connection - primary | Ø" | 1 F | 1 F | 1 F | 1 F | 1 F |
| Connection - DHW | Ø" | 3/4 M | 3/4 M | 3/4 M | 3/4 M | 6/4 M |
| Connection - re-circulation / safety valve | Ø" | 3/4 M | 3/4 M | 3/4 M | 3/4 M | 6/4 M |
| Connection - heating element | Ø" | 6/4 F | 6/4 F | 6/4 F | 6/4 F | - |
| Connection - coil | Ø" | 1 M | 1 M | 1 M | 1 M | 1 M |
| Primary heater pressure drop (EN12897:2016) | mbar | 41.6 | 51.2 | 53.5 | 55.6 | 58.5 |
| Corresponding flow in coil | L/h | 3000 | 3000 | 3000 | 3000 | 3000 |
| Pressure drop coil | mbar | 460 | 533 | 533 | 186 | 216 |
| Max absorbed heat (Heat source: coil) | kW | 16.3 | 19 | 25 | 29 | 35 |
| Max operating temperature (DHW) | °C | 80 | 80 | 80 | 80 | 80 |
| Max operating pressure (DHW) | bar | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 |
| Max operating pressure heating (primary) | bar | 3 | 4 | 4 | 4 | 4 |
| Max operating pressure (coil) | bar | 10 | 10 | 10 | 10 | 10 |
| Dim. - Width or Ø (w/o insul. and w/o conn.) | mm | - | - | - | 703 | 780 |
| Weight (empty) | kg | 68 | 99 | 120 | 180 | 220 |
| Energy efficiency storage class | | B | C | C | N/A | N/A |

## DOMESTIC HOT WATER PERFORMANCE

| TYPE | UNIT | SLME 200 | SLME 300 | SLME 400 | SLME 600 | SLME 800 |
|---|---|---|---|---|---|---|
| Peak flow at 40°C | L/10' | 321 | 418 | 558 | 686 | 922 |
| Peak flow 1st hour at 40°C | L/60' | 1063 | 1225 | 1633 | 1872 | 2666 |
| Continuous flow at 40°C | L/h | 890 | 967 | 1289 | 1423 | 2093 |
| Peak flow at 45°C | L/10' | 275 | 348 | 464 | 582 | 790 |
| Peak flow 1st hour at 45°C | L/60' | 911 | 1003 | 1338 | 1559 | 2285 |
| Continuous flow at 45°C | L/h | 763 | 786 | 1048 | 1172 | 1794 |
| Peak flow at 60°C | L/10' | 161 | 206 | 274 | 358 | 504 |
| Peak flow 1st hour at 60°C | L/60' | 536 | 590 | 786 | 935 | 1368 |
| Continuous flow at 60°C | L/h | 450 | 461 | 614 | 693 | 1037 |
| Reheat time (EN 12897) | min | 10 | 10 | 10 | 10 | 10 |
| Max absorbed heat (Heat source: boiler) | kW | 31 | 32 | 43 | 48 | 73 |
| Heating surface coil | m² | 1.4 | 1.8 | 1.8 | 2.5 | 3 |

This data assumes an incoming mains water temperature of 10°C.

## OPTIONS

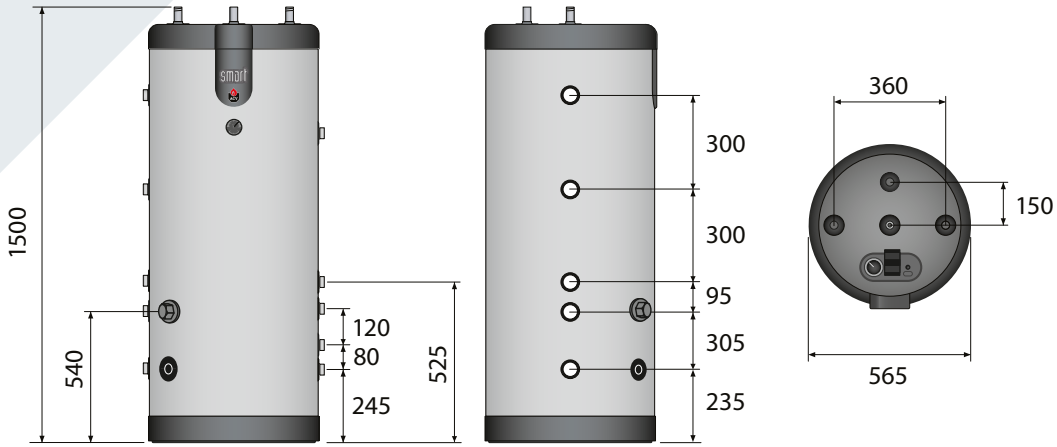
| REFERENCE | DESCRIPTION |
|---|---|
| 10800083 | 6 kW single phase immersion heater (1 x 230V) |
| 10800084 | 6 kW Three phase immersion heater (3 x 400V+N) |

ACV UK Ltd advise the installation of a domestic hot water mixing valve on the hot flow immediately after the appliance.

# SMART ME 200 > 800

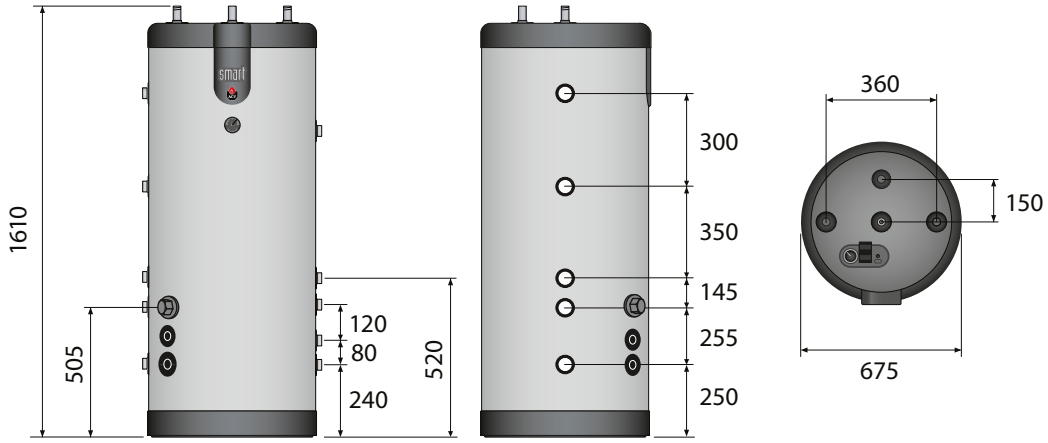
## DIMENSIONS SMART ME 200

All dimensions in mm.



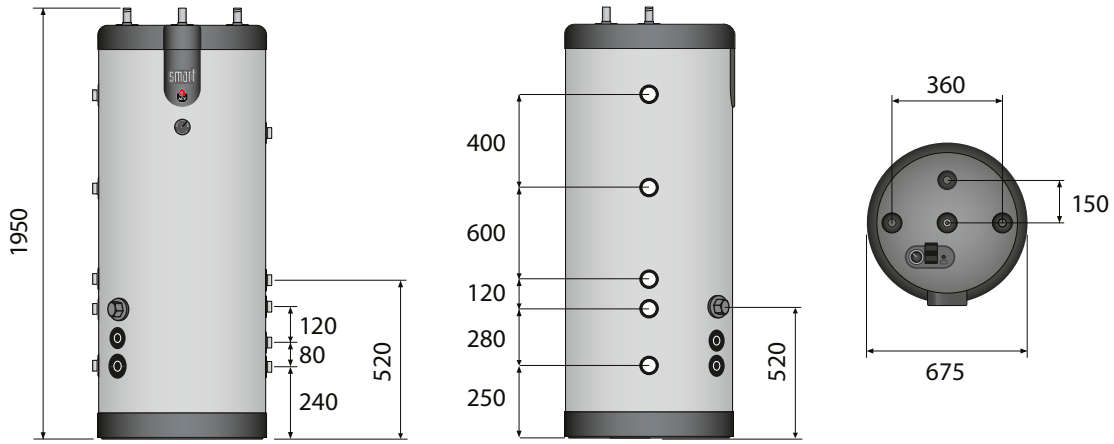

## DIMENSIONS SMART ME 300

All dimensions in mm.



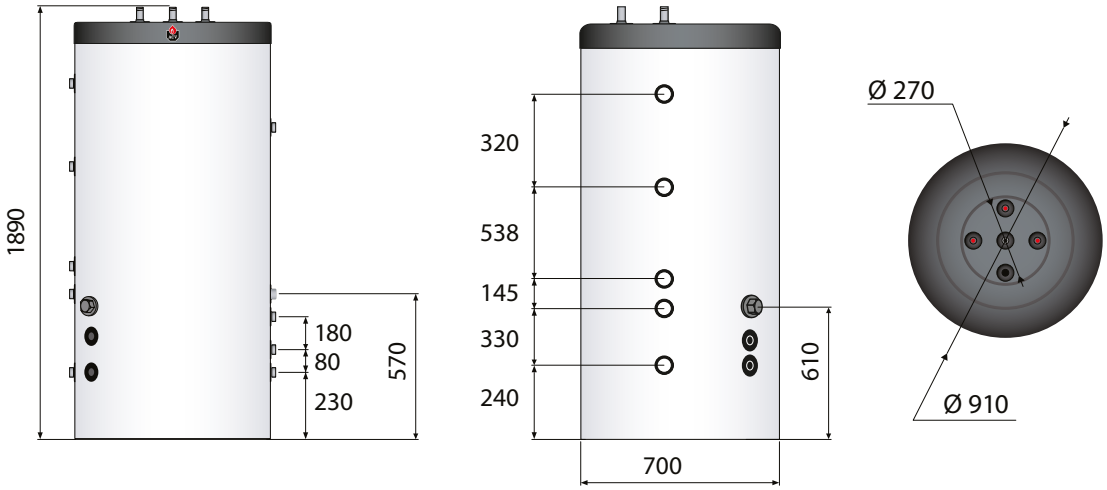

## DIMENSIONS SMART ME 400

All dimensions in mm.



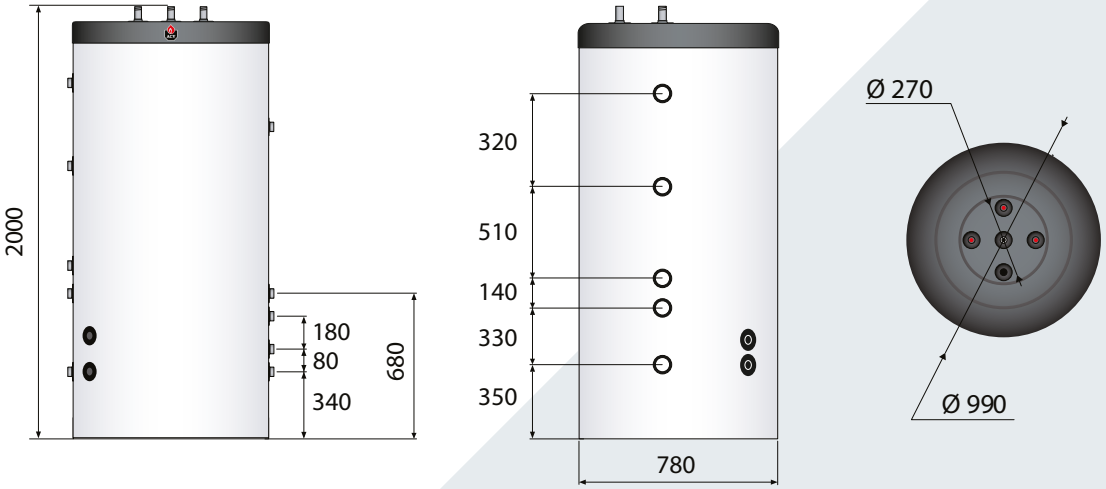
## DIMENSIONS SMART ME 600

All dimensions in mm.




## DIMENSIONS SMART ME 800

All dimensions in mm.



# SMART L 320 > 600

## Stainless steel indirect cylinder for domestic hot water.


### Available in three sizes.

- Cost effective solution, simple installation with no de-stratification kit needed and no flue requirements
- Low maintenance with no anode protection required
- Low standing losses – cylinder comes with polyurethane foam insulation and hard-wearing polypropylene finish
- Reduces legionella risk due to temperature: hot water stored at > 60°C
- Long life – 25-year guarantee on the corrosion resistant stainless steel cylinder
- Simplified wiring with 'plug and play' electrical connection
- Suitable for vented or unvented systems (optional unvented kit required)
- Smaller models (SL 320-420) fit through a standard doorway for access to plant room


TANK IN TANK BIM OBJECTS COMMERCIAL

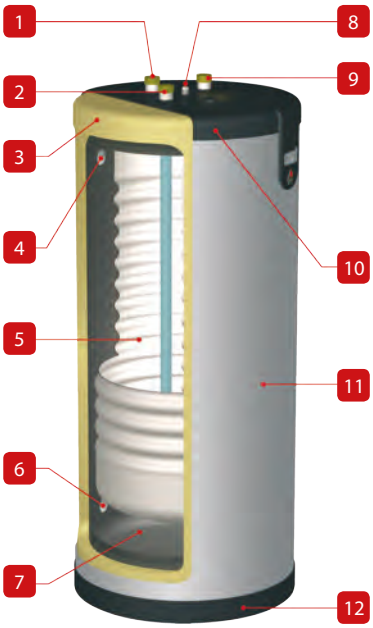
## TANK-IN-TANK TECHNOLOGY

| | |
|---|---|
| FAST **HEAT UP** | RAPID **RECOVERY** |
| REDUCED **FOOTPRINT** | REDUCED **SCALE** |
| LOW **STORAGE** | MINIMUM **HEAT LOSS** |

Read more about Tank-in-Tank P 6

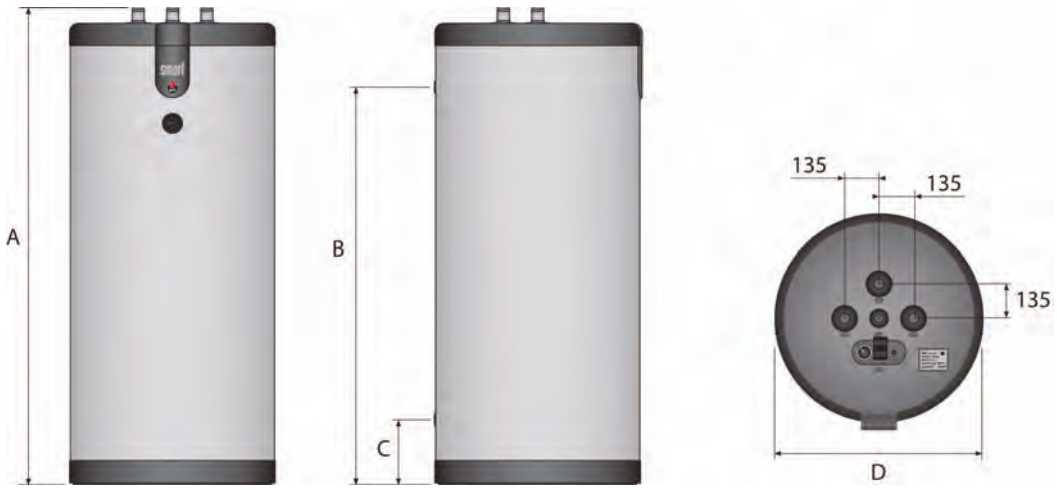
## ANATOMY

1. Auxiliary connection DHW
2. Domestic cold water inlet
3. 50mm rigid polyurethane insulation
4. Flow connection (primary circuit)
5. Internal stainless steel tank
6. Return connection (primary circuit)
7. Outer steel tank containing the primary fluid
8. Manual air vent
9. Domestic hot water outlet
10. Polypropylene lid
11. Outer jacket, thick polypropylene shell
12. Polypropylene reinforced base



## DIMENSIONS

All dimensions in mm.




## TECHNICAL DATA

| Type | UNIT | SL 320 | SL 420 | SL 600 |
|---|---|---|---|---|
| Part number | | 06618501 | 06618601 | 06619301 |
| Capacity (total) | L | 318 | 413 | 606 |
| Capacity (DHW) | L | 263 | 358 | 445 |
| Connection - primary | Ø" | 6/4 F | 6/4 F | 2 F |
| Connection - DHW | Ø" | 6/4 M | 6/4 M | 6/4 M |
| Connection - re-circulation / safety valve | Ø" | 6/4 M | 6/4 M | 6/4 M |
| Max operating temperature (DHW) | °C | 80 | 80 | 80 |
| Max design pressure (DHW) | bar | 10 | 10 | 10 |
| Max operating pressure heating (primary) | bar | 4 | 4 | 4 |
| Dimensions A | mm | 1602 | 2024 | 1901 |
| Dimensions B | mm | 1280 | 1705 | 1583 |
| Dimensions C | mm | 250 | 250 | 255 |
| Dimensions D | mm | 673 | 673 | 817 |
| Weight (empty) | kg | 141 | 167 | 238 |
| Energy efficiency storage class | | C | C | N/A |
| Max operating pressure (coil) | bar | 10 | 10 | 10 |
| Dim. - Width or Ø (w/o insul. and w/o conn.) | mm | - | - | 703 |
| Weight (empty) | kg | 68 | 99 | 180 |
| Energy efficiency storage class | | B | C | |

## DOMESTIC HOT WATER PERFORMANCE

| Type | UNIT | SL 320 | SL 420 | SL 600 |
|---|---|---|---|---|
| Peak flow at 40°C | L/10' | 922 | 1195 | 1345 |
| Peak flow 1st hour at 40°C | L/60' | 2666 | 3151 | 3437 |
| Continuous flow at 40°C | L/h | 2093 | 2536 | 2511 |
| Peak flow at 45°C | L/10' | 790 | 1012 | 1153 |
| Peak flow 1st hour at 45°C | L/60' | 2285 | 2608 | 2946 |
| Continuous flow at 45°C | L/h | 1794 | 2058 | 2152 |
| Peak flow at 60°C | L/10' | 504 | 620 | 706 |
| Peak flow 1st hour at 60°C | L/60' | 1368 | 1513 | 1733 |
| Continuous flow at 60°C | L/h | 1037 | 1153 | 1232 |
| Pre-heating time from 10 to 80°C (Heat source: boiler) | min | 23 | 24 | 35 |
| Max absorbed heat (Heat source: boiler) | kW | 73 | 88 | 88 |
| Heating surface coil | m² | 1.4 | 1.8 | 2.5 |

This data assumes an incoming mains water temperature of 10°C.

## OPTIONS

| REFERENCE | DESCRIPTION |
|---|---|
| XB050019 | Unvented kit Systempak No.3 including 25 litre vessel & mounting kit |
| XB050020 | Unvented kit Systempak No.4 including 60 litre vessel |
| XB050025 | 1" Highflow Heatguard mixing valve (manual) 28MM |

ACV UK Ltd advise the installation of a domestic hot water mixing valve on the hot flow immediately after the appliance.

# HRs 800 > 1000

## Stainless steel indirect cylinder for domestic hot water.

**Available in two sizes.**

- Low maintenance with no anode protection required
- Fast heat up and recovery using the unique tank-in-tank design
- Low standing losses – cylinder comes with polyurethane foam insulation and hard-wearing polypropylene finish
- Large heating surface area reduces boiler cycling
- Reduces Legionella risk due to temperature: hot water stored at > 60°C
- Long life – 25-year guarantee on the corrosion resistant stainless steel cylinder
- Suitable for vented or unvented systems (optional unvented kit required)
- Cost effective solution, simple installation with no de-stratification kit needed and no flue requirements

TANK IN TANK | BIM OBJECTS | COMMERCIAL

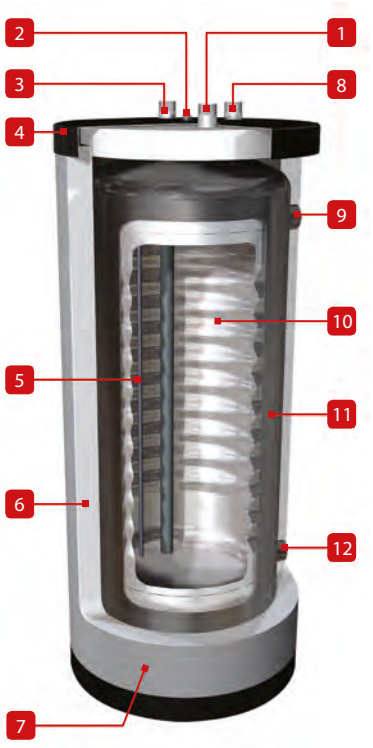
## TANK-IN-TANK TECHNOLOGY

| | |
|---|---|
| FAST **HEAT UP** | RAPID **RECOVERY** |
| REDUCED **FOOTPRINT** | REDUCED **SCALE** |
| LOW **STORAGE** | MINIMUM **HEAT LOSS** |

Read more about Tank-in-Tank P 6

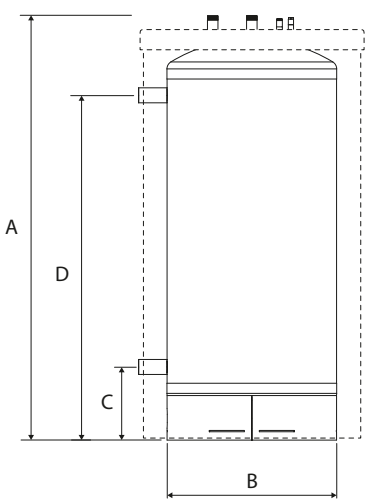
## ANATOMY

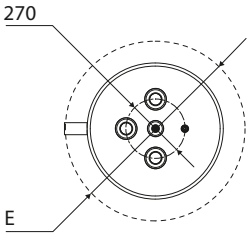
1. DHW return or temp/pressure relief valve connection
2. Manual air vent
3. Cold water inlet connection
4. Rigid top case
5. Stainless steel thermostat pocket
6. 100mm flexible polyurethane foam insulation
7. Outer shell vinyl jacket
8. DHW return connection
9. Primary flow connection
10. Internal stainless steel DHW tank
11. External Tank (primary) steel
12. Primary return connection



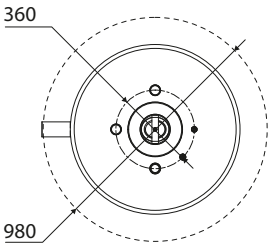
## DIMENSIONS

All dimensions in mm.




HR s 320 - 600




HR s 800 - 1000

## TECHNICAL DATA

| TYPE | UNIT | HRs 800 | HRs 1000 |
|---|---|---|---|
| Part number | | 06633001 | 06633101 |
| Capacity (total) | L | 800 | 1000 |
| Capacity (domestic hot water) | L | 675 | 840 |
| Connection - primary | Ø" | 2 F | 2 F |
| Connection - DHW | Ø" | 6/4 M | 6/4 M |
| Connection - re-circulation / safety valve | Ø" | 6/4 M | 6/4 M |
| Max operating temperature | °C | 85 | 85 |
| Max operating pressure (DHW) | bar | 8.6 | 8.6 |
| Max operating pressure heating (primary) | bar | 4 | 4 |
| Max operating temperature (DHW) | °C | 80 | 80 |
| Dimensions A | mm | 1955 | 2355 |
| Dimensions B | mm | 780 | 780 |
| Dimensions C | mm | 335 | 335 |
| Dimensions D | mm | 1585 | 1985 |
| Weight (empty) | kg | 261 | 308 |
| Dim. - Width or Ø (w/o insul. and w/o conn.) | mm | - | - |
| Weight (empty) | kg | 68 | 99 |

## DOMESTIC HOT WATER PERFORMANCE

| TYPE | UNIT | HRs 800 | HRs 1000 |
|---|---|---|---|
| Peak flow at 40°C | L/10' | 1881 | 2265 |
| Peak flow 1st hour at 40°C | L/60' | 4270 | 4940 |
| Continuous flow at 40°C | L/h | 2868 | 3210 |
| Peak flow at 45°C | L/10' | 1612 | 1941 |
| Peak flow 1st hour at 45°C | L/60' | 3660 | 4234 |
| Continuous flow at 45°C | L/h | 2458 | 2751 |
| Peak flow at 60°C | L/10' | 961 | 1145 |
| Peak flow 1st hour at 60°C | L/60' | 2124 | 2438 |
| Continuous flow at 60°C | L/h | 1395 | 1562 |
| Reheat time (EN 12897) | min | 10 | 10 |
| Max absorbed heat (Heat source: boiler) | kW | 31 | 32 |
| Heating surface coil | m² | 1.4 | 1.8 |

This data assumes an incoming mains water temperature of 10°C.

## OPTIONS

| REFERENCE | DESCRIPTION |
|---|---|
| XB090017 | Unvented kit Systempak No.5 (Vessel & Temp/Pressure relief valve not included) |
| XB090018 | Unvented kit Systempak No.6 (Vessel not included) |
| XB090003 | 1" Temp/Pressure relief valve |
| XB070001 | Horne 32 mixing valve (1.25") |
| XB070002 | Horne 40 mixing valve (1.50") |

ACV UK Ltd advise the installation of a domestic hot water mixing valve on the hot flow immediately after the appliance.

# LCA 1CO 500 > 3000

## Glass lined carbon steel tank with single coil for domestic hot water.

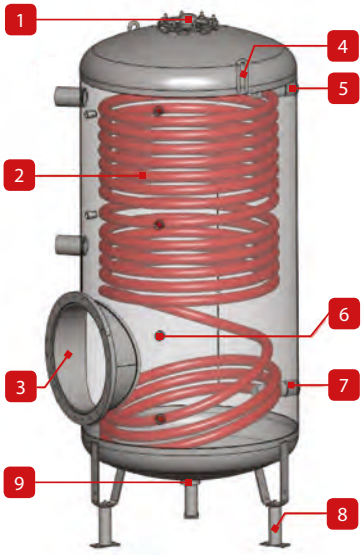
**Available in eight sizes.**

- Low heat loss and reduced wastage of energy due to high insulation (glass wool insulation 100mm classified M1 (non-flammable) with a grey flame retardant flexible PVC jacket supplied separately)
- Suitable for locations with large DHW demands
- Easy to transport and site in the plant room thanks to transportation eyelets and removable legs
- Simple to maintain with large diameter access to allow for full internal cylinder inspection
- Choice of anode positions to prevent corrosion and improve life of cylinder
- Robust enamelled tank that can withstand high temperatures
- Flexible for thermostat position or temperature readings

COMMERCIAL

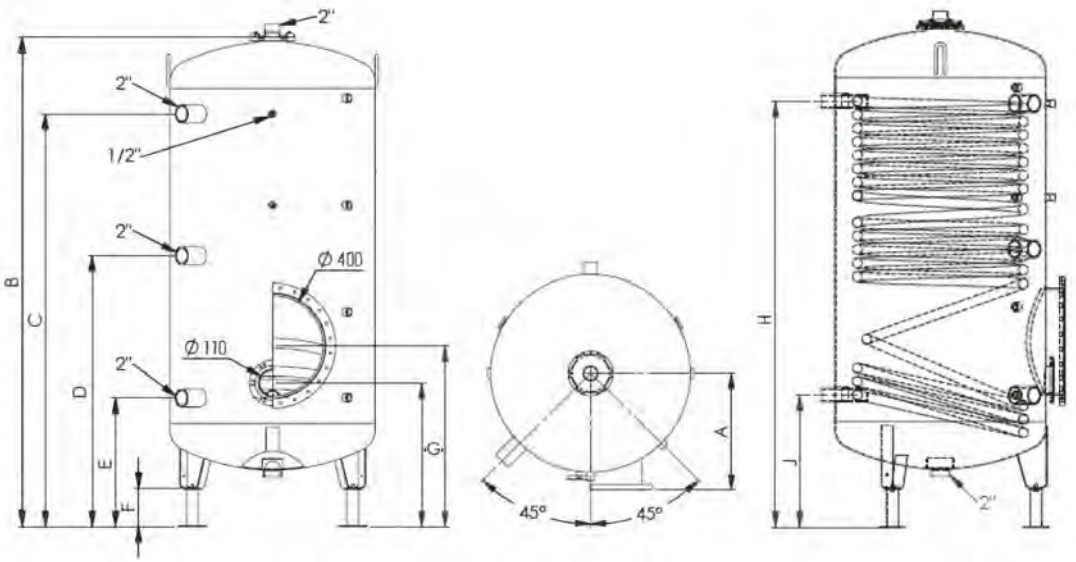
## ANATOMY

1. Hot water return
2. Coil
3. Access hatch
   (hh= handhole access mh= manhole access)
4. Lifting eyes
5. Coil connection
6. Connection for magnesium anode protection
7. Coil connection
8. Removable legs for transport
9. Cold water inlet




## DIMENSIONS

All dimensions in mm.



## TECHNICAL DATA

| TYPE | UNIT | LCA 1CO 500 hh | LCA 1CO 750 hh | LCA 1CO 750 mh | LCA 1CO 1000 mh | LCA 1CO 1500 mh | LCA 1CO 2000 mh | LCA 1CO 2500 mh | LCA 1CO 3000 mh |
|---|---|---|---|---|---|---|---|---|---|
| Part number | | 06633701 | 06633801 | 06637101 | 06637201 | 06637301 | 06637401 | 06637501 | 06637601 |
| Capacity (total) | L | 489 | 709 | 713 | 869 | 1512 | 1688 | 2486 | 2682 |
| Weight (empty) | kg | 177 | 256 | 295 | 362 | 494 | 531 | 678 | 700 |
| Max operating temperature | °C | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Max operating pressure (DHW) | bar | 8 | 8 | 8 | 8 | 7 | 7 | 7 | 7 |
| Max operating pressure (coil) | bar | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Pressure drop coil | mbar | 151 | 201 | 201 | 265 | 289 | 289 | 365 | 365 |
| Height when tilted | mm | 2084 | 2059 | 2059 | 2388 | 2350 | 2518 | 2559 | 2666 |
| Diameter access hatch | Ømm | 110 | 110 | 400 | 400 | 400 | 400 | 400 | 400 |
| Connection - DHW | Ø" | 2 F | 2 F | 2 F | 2 F | 2 F | 2 F | 2 F | 2 F |
| Connection - coil | Ø" | 6/4 F | 6/4 F | 6/4 F | 6/4 F | 6/4 F | 6/4 F | 6/4 F | 6/4 F |

## DIMENSIONS AND CONNECTIONS

| TYPE | UNIT | LCA 1CO 500 hh | LCA 1CO 750 hh | LCA 1CO 750 mh | LCA 1CO 1000 mh | LCA 1CO 1500 mh | LCA 1CO 2000 mh | LCA 1CO 2500 mh | LCA 1CO 3000 mh |
|---|---|---|---|---|---|---|---|---|---|
| Dimensions A | mm | 330 | 425 | 465 | 465 | 620 | 620 | 730 | 730 |
| Dimensions B | mm | 1983 | 1891 | 1891 | 2244 | 2073 | 2261 | 2136 | 2269 |
| Dimensions C | mm | 1752 | 1601 | 1601 | 1956 | 1700 | 1885 | 1680 | 1808 |
| Dimensions D | mm | 1108 | 1051 | 1051 | 1246 | 1150 | 1244 | 1180 | 1245 |
| Dimensions E | mm | 463 | 501 | 501 | 501 | 600 | 600 | 680 | 680 |
| Dimensions F | mm | 150 | 150 | 150 | 150 | 200 | 200 | 200 | 200 |
| Diameter access hatch | Ømm | 110 | 110 | 400 | 400 | 400 | 400 | 400 | 400 |
| Connection - DHW | Ø" | 2 F | 2 F | 2 F | 2 F | 2 F | 2 F | 2 F | 2 F |
| Connection - coil | Ø" | 6/4 F | 6/4 F | 6/4 F | 6/4 F | 6/4 F | 6/4 F | 6/4 F | 6/4 F |

## OPTIONS

| REFERENCE | DESCRIPTION |
|---|---|
| 10800273 | 9 kW electrical immersion heater kit for TP110 |
| 10800274 | 15 kW electrical immersion heater kit for TP110 (LCA ≥ 750) |
| 10800275 | 30 kW electrical immersion heater kit for TP110 (LCA ≥ 750) |
| 10800279 | 45 kW electric immersion kit with armoured resistance to TM400 |
| 10800285 | Coil kit 1m² for TM400 |
| 10800284 | 30 kW electric immersion kit soapstone TM400 (not for LCA 750 and 1000) |
| 10800283 | 15 kW electric immersion kit soapstone TM400 |
| 10800282 | 12 kW electric immersion kit soapstone TM400 |
| 10800281 | 9 kW electric immersion kit soapstone TM400 |
| 10800280 | 60 kW electric immersion kit with armoured resistance to TM400 |
| 10800276 | 9 kW electric immersion kit with armoured resistance to TM400 |
| 10800277 | 15 kW electric immersion kit with armoured resistance for TM400 |
| 10800278 | 30 kW electric immersion kit with armoured resistance to TM400 |
| 10800286 | Coil kit 3m² for TM400 |

ACV UK Ltd advise the installation of a domestic hot water mixing valve on the hot flow immediately after the appliance.

# LCA 500 > 3000

## Carbon steel tank for domestic hot water storage.

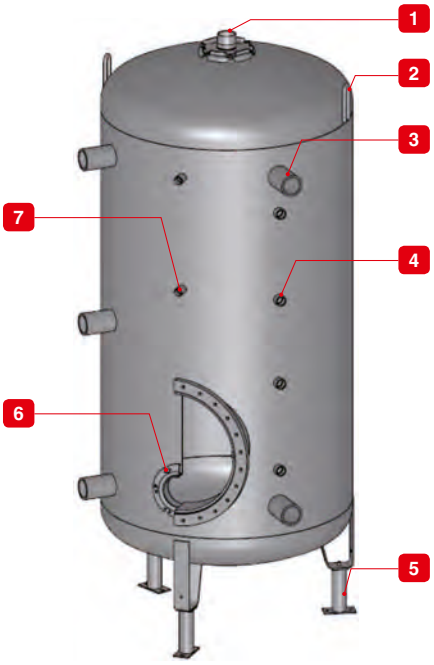
### Available in eight sizes.

- Low heat loss and reduced wastage of energy due to high insulation (glass wool insulation 100mm classified M1 (Non-flammable) with a grey flame retardant flexible PVC jacket supplied separately)
- Suitable for locations with large DHW demands
- Easy to transport and site in the plant room thanks to transportation eyelets and removable legs
- Simple to maintain with large diameter access to allow for full internal cylinder inspection
- Choice of anode positions to prevent corrosion and improve life of cylinder
- Robust enamelled tank that can withstand high temperatures
- Flexible for thermostat position or temperature readings

COMMERCIAL

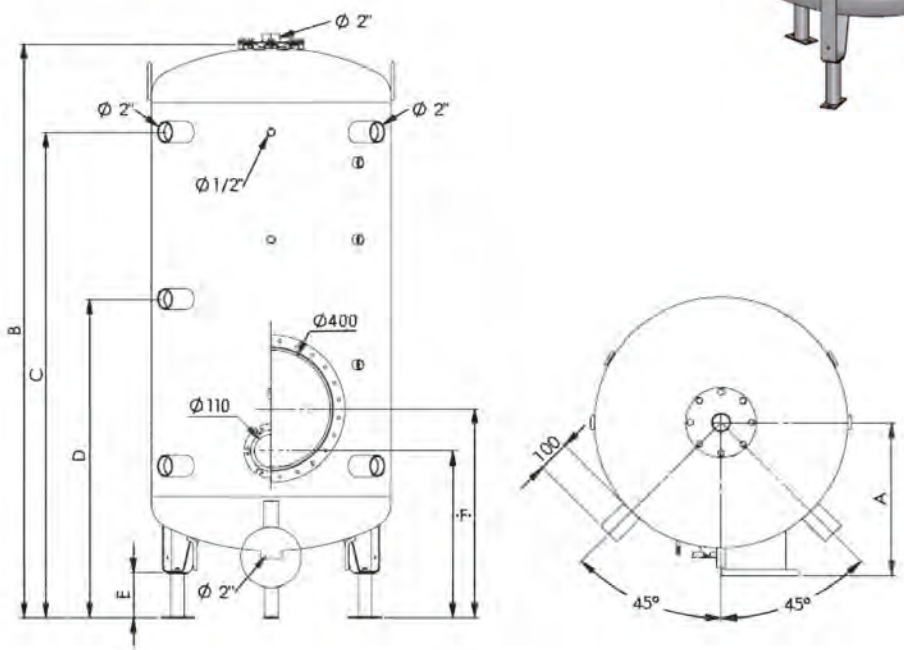
## ANATOMY

1. DHW connection
2. Transportation eyelet
3. Primary nozzles
4. Anode
5. Removable legs for transport
6. Ø110/Ø400 side flange
   (hh= handhole access, mh= manhole access)
7. Thermostat pocket for sensor installation




## DIMENSIONS

All dimensions in mm.



## TECHNICAL DATA

| TYPE | UNIT | LCA 500 hh | LCA 750 hh | LCA 750 mh | LCA 1000 mh | LCA 1500 mh | LCA 2000 mh | LCA 2500 mh | LCA 3000 mh |
|---|---|---|---|---|---|---|---|---|---|
| Part number | | 06634401 | 06634501 | 06637901 | 06638001 | 06638101 | 06638201 | 06638301 | 06638401 |
| Capacity (total) | L | 515 | 744 | 748 | 918 | 1555 | 1731 | 2552 | 2748 |
| Weight (empty) | kg | 124 | 195 | 231 | 283 | 406 | 430 | 559 | 586 |
| Max operating temperature | °C | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Max operating pressure (DHW) | bar | 8 | 8 | 8 | 8 | 7 | 7 | 7 | 7 |
| Height when tilted | mm | 2084 | 2059 | 2059 | 2388 | 2350 | 2518 | 2559 | 2666 |
| Diameter access hatch | Ømm | 110 | 110 | 400 | 400 | 400 | 400 | 400 | 400 |
| Connection - DHW | Ø" | 2 F | 2 F | 2 F | 2 F | 2 F | 2 F | 2 F | 2 F |

## DIMENSIONS

| TYPE | UNIT | LCA 500 hh | LCA 750 hh | LCA 750 mh | LCA 1000 mh | LCA 1500 mh | LCA 2000 mh | LCA 2500 mh | LCA 3000 mh |
|---|---|---|---|---|---|---|---|---|---|
| Dimensions A | mm | 330 | 425 | 465 | 465 | 620 | 620 | 730 | 730 |
| Dimensions B | mm | 1983 | 1891 | 1891 | 2244 | 2073 | 2261 | 2136 | 2263 |
| Dimensions C | mm | 1752 | 1601 | 1601 | 1956 | 1700 | 1888 | 1680 | 1808 |
| Dimensions D | mm | 1108 | 1051 | 1051 | 1246 | 1140 | 1244 | 1180 | 1250 |
| Dimensions E | mm | 150 | 150 | 150 | 150 | 200 | 200 | 200 | 200 |
| Dimensions F | mm | 525 | 551 | 704 | 704 | 803 | 803 | 883 | 883 |

## OPTIONS

| REFERENCE | DESCRIPTION |
|---|---|
| 10800273 | 9 kW electrical immersion heater kit for TP110 |
| 10800274 | 15 kW electrical immersion heater kit for TP110 (LCA ≥ 750) |
| 10800275 | 30 kW electrical immersion heater kit for TP110 (LCA ≥ 750) |
| 10800279 | 45 kW electric immersion kit with armoured resistance to TM400 |
| 10800285 | Coil kit 1m² for TM400 |
| 10800284 | 30 kW electric immersion kit soapstone TM400 (not for LCA 750 and 1000) |
| 10800283 | 15 kW electric immersion kit soapstone TM400 |
| 10800282 | 12 kW electric immersion kit soapstone TM400 |
| 10800281 | 9 kW electric immersion kit soapstone TM400 |
| 10800280 | 60 kW electric immersion kit with armoured resistance to TM400 |
| 10800276 | 9 kW electric immersion kit with armoured resistance to TM400 |
| 10800277 | 15 kW electric immersion kit with armoured resistance for TM400 |
| 10800278 | 30 kW electric immersion kit with armoured resistance to TM400 |
| 10800286 | Coil kit 3m² for TM400 |

ACV UK Ltd advise the installation of a domestic hot water mixing valve on the hot flow immediately after the appliance.

# THE HEART OF THE BOILER

At the heart of the Prestige® boiler lies our reliable stainless steel heat exchanger.

## Excellent heat transfer

- Water flow ensures consistent mixing and high levels of heat transfer
- Ideal temperatures maintained between gas and liquid phases
- Dimples create turbulence in the gas flow, boosting the transfer of energy

## Corrosion resistant

- High grade stainless steel used throughout the whole heat exchanger

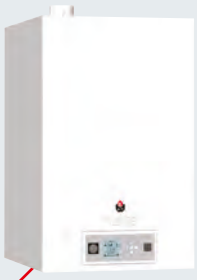
## Long-lasting

- Backed by a 10-year warranty
- Proven technology
- Condensate washes away any impurities in the fire tubes

**10 YR HEAT EXCHANGER WARRANTY**

# WALL HUNG GAS BOILERS

## PRESTIGE® 24 › 32 EXCELLENCE



Wall hung gas fired condensing boiler with stainless steel heat exchanger and integrated tank-in-tank DHW storage cylinder.

p 42

## PRESTIGE® 24 › 32 SOLO

Wall hung gas fired condensing system boiler with stainless steel heat exchanger.

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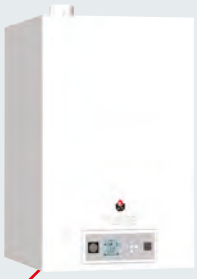
## PRESTIGE® 42 › 120 SOLO



Wall hung gas fired condensing heat only boiler with stainless steel heat exchanger.

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# PRESTIGE 24 > 32 EXCELLENCE


## Wall hung gas fired condensing boiler with stainless steel heat exchanger and integrated tank-in-tank DHW storage cylinder.

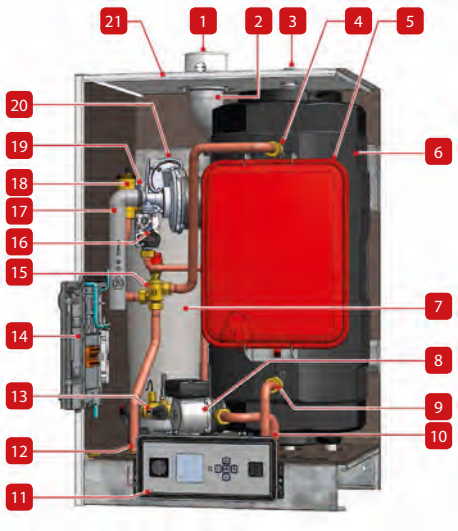
**Available in two sizes.**

- Heating and hot water from one unit saves space, reduces energy use and speeds up installation
- Simple to operate integrated controls plus range of external control options for accurate and intelligent control of system
- Close load matching for more efficient use with a 6:1 turndown ratio
- Stainless steel heat exchanger for a long life, backed up by a 10-year heat exchanger warranty
- Designed for sealed systems with integrated 12l expansion vessel
- Range of flue options – extended flue lengths and choice of configurations
- Simple to operate with integrated ACVMax controls LCD display that can operate two heating circuits or four boilers in a cascade
- Integrated pump
- Configurable hot water priority

10 YR HEAT EXCHANGER WARRANTY | TANK IN TANK | BIM OBJECTS | NAT GAS LPG | DOMESTIC COMMERCIAL

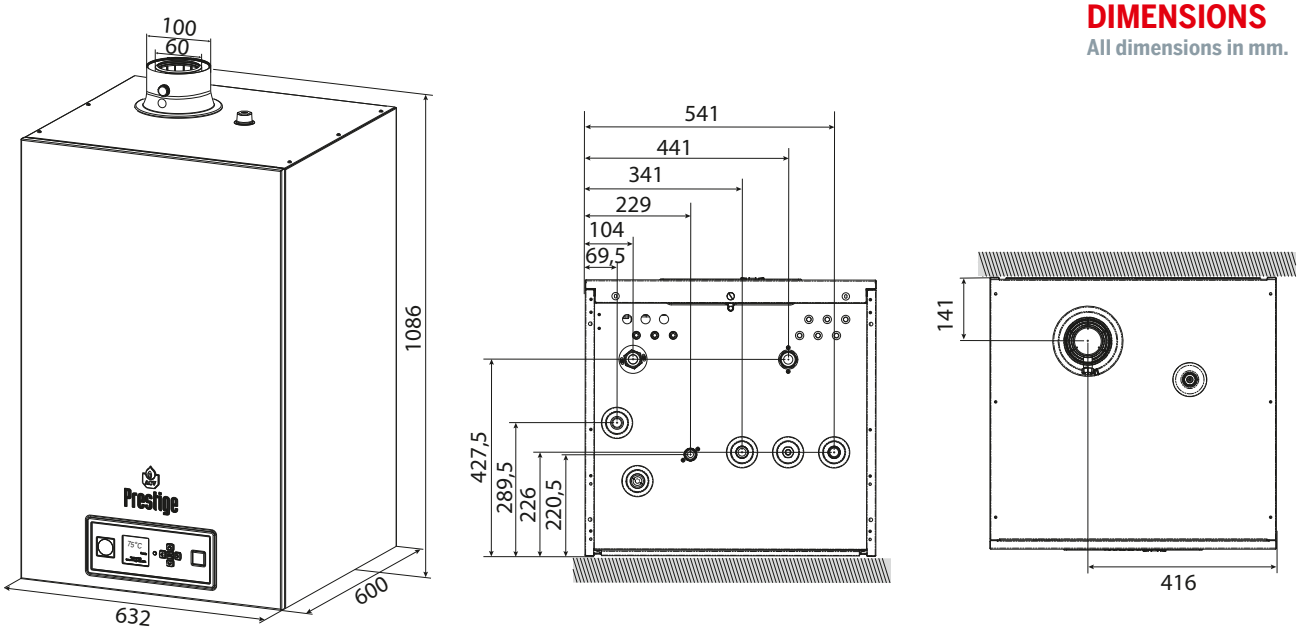
## ANATOMY

1. Concentric flue connection 60 /100mm with measuring element
2. Flue tube
3. DHW tank air vent (manual)
4. Heating supply to DHW tank
5. 12 litre expansion vessel (heating circuit)
6. Internal hot water tank (54 L)
7. Stainless steel heat exchanger
8. High efficiency circulator pump
9. Heating return from DHW tank
10. Heating return
11. Control panel with display and pressure gauge
12. Heating supply
13. Exchanger return multifunctional quick-connection block
14. Electrical panel (with spare fuses at back).
15. Built-in 3-way valve
16. Gas valve assembly
17. Silencer
18. Auto air vent (heating circuit)
19. Flame sight glass
20. Modulating air/gas premix burner with fan
21. Insulated casing



## DIMENSIONS

All dimensions in mm.




## TECHNICAL DATA

| TYPE | UNIT | Prestige 24 Excellence | Prestige 32 Excellence |
|---|---|---|---|
| Part number | | 05648101 | 05648201 |
| Fuel | | Natural gas | Natural gas |
| Input max (heating) | kW | 24 | 32 |
| Output power max (80/60°C) | kW | 23.3 | 31 |
| Output power min | kW | 4.0 | 4.9 |
| Efficiency at 30% load | % | 109 | 109 |
| Efficiency at 100% | % | 97 | 97 |
| Capacity domestic hot water /Primary | L | 54/16 | 54/16 |
| Connection - heating | Ø" | 1 M | 1 M |
| Connection - DHW | Ø" | 3/4 M | 3/4 M |
| Connection gas | Ø" | 3/4 M | 3/4 M |
| Water pressure drop boiler at Δt = 20°C | mbar | 141 | 243 |
| Gas flow rate (max output) | m³/h | 2.54 | 3.39 |
| Flue connection | Ømm | 60/100 | 60/100 |
| Flue: max length of concentric flue pipe | m | 40 | 16 |
| Max operating temperature | °C | 87 | 87 |
| Max service pressure heating (primary) | bar | 3 | 3 |
| Max service pressure (DHW) | bar | 8.6 | 8.6 |
| Voltage | V | 230 | 230 |
| Electrical consumption | W | 82 | 90 |
| Weight (empty) | kg | 92 | 92 |
| Space heating energy efficiency class | | A | A |
| Water heating energy efficiency class | | B | B |
| NOx class | | 5 | 5 |
| NOx emissions | mg/kWh | 38 | 38 |

## DOMESTIC HOT WATER PERFORMANCE

| TYPE | UNIT | Prestige 24 Excellence | Prestige 32 Excellence |
|---|---|---|---|
| Peak flow at 40°C | L/10' | 200 | 224 |
| Continuous flow at 40°C | L/h | 560 | 745 |
| Peak flow at 60°C | L/10' | 102 | 103 |
| Continuous flow at 60°C | L/h | 310 | 320 |

This data assumes an incoming mains water temperature of 10°C.

For flue accessories and controls see page 58.

# PRESTIGE 24 > 32 SOLO


A

## Wall hung gas fired condensing system boiler with stainless steel heat exchanger.

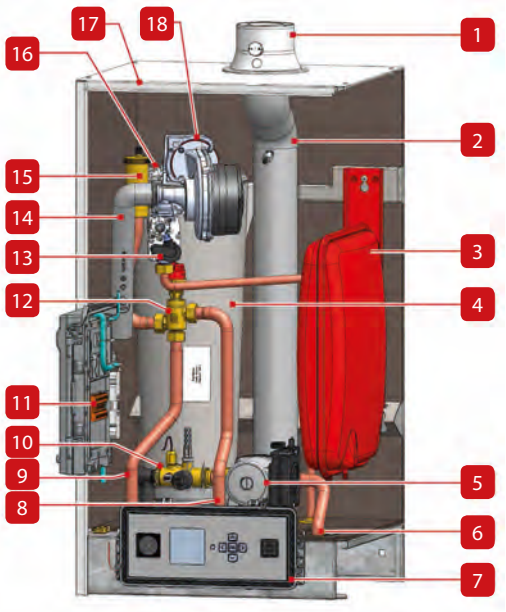
**Available in two sizes.**

- Easy access to components and controls for service, operation and maintenance
- Close load matching for more efficient use with a 6:1 turndown ratio
- Stainless steel heat exchanger for long life, backed up by a 10-year heat exchanger warranty
- Designed for sealed systems with integrated 12l expansion vessel
- Combine with an ACV Smart cylinder for highly efficient heating and hot water performance
- Integrated pump for hot water priority system
- Range of flue options – extended flue lengths and choice of configurations
- Can control high and low temperature heating circuits such as radiators and underfloor heating
- Simple to operate with integrated ACVMax controls LCD that can operate two heating circuits or a four boiler cascade
- NEW optional pipework kits and low loss headers available - see page 48

10 HEAT EXCHANGER WARRANTY | BIM OBJECTS | NAT GAS LPG | DOMESTIC COMMERCIAL

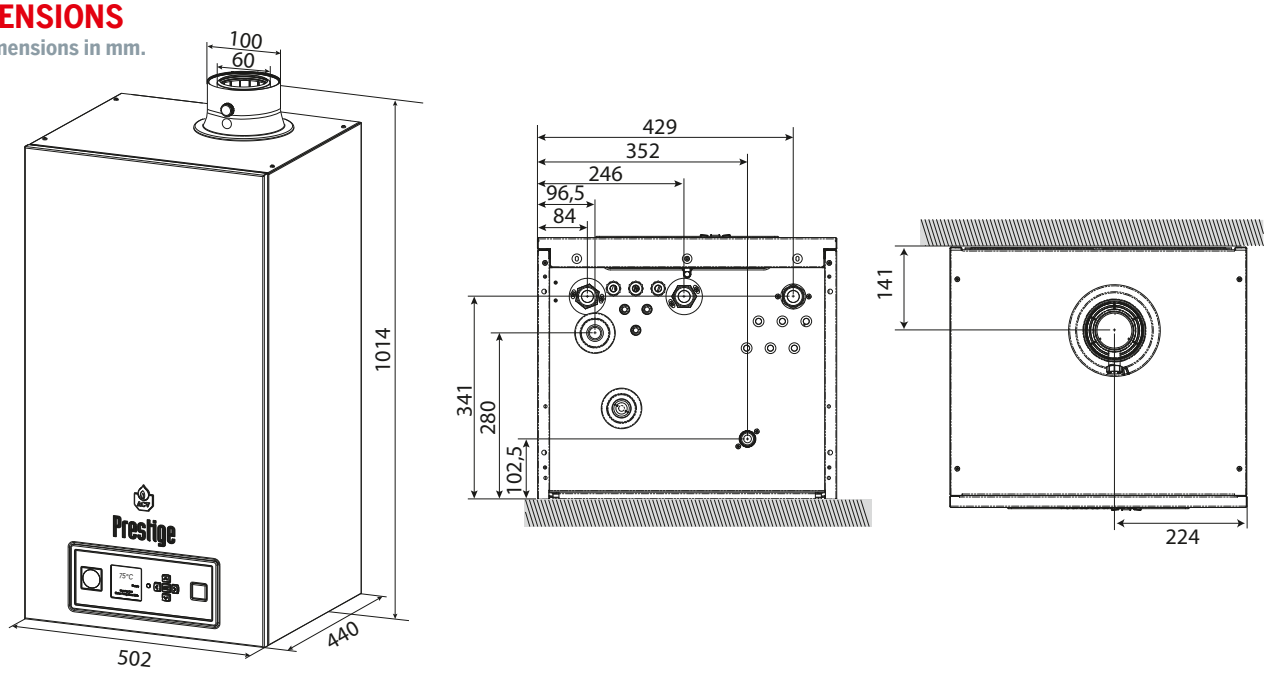
## ANATOMY

1. Concentric flue connection 60 /100mm with flue gas test point
2. Flue tube
3. 12 litre expansion vessel (heating circuit)
4. Stainless steel heat exchanger
5. High efficiency circulator pump
6. Heating return
7. Control panel with display and pressure gauge
8. Connection for external DHW tank
9. Heating supply
10. Exchanger return multifunctional quick connection block (see detail view next page).
11. Electrical panel (with spare fuses at the back).
12. Built-in 3-way valve
13. Gas valve assembly
14. Silencer
15. Auto air vent (heating circuit)
16. Flame sight glass
17. Insulated casing
18. Modulating air/gas premix burner with fan



## DIMENSIONS

All dimensions in mm.

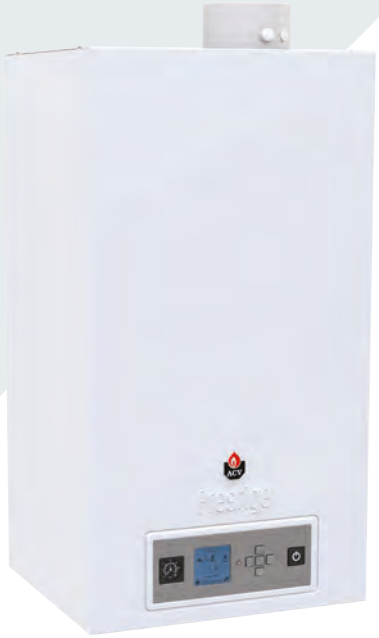



## TECHNICAL DATA

| TYPE | UNIT | Prestige 24 Solo | Prestige 32 Solo |
|---|---|---|---|
| Part number | | 05647901 | 05648001 |
| Fuel | | Natural gas | Natural gas |
| Input max (heating) | kW | 24 | 32 |
| Output power max (80/60°C) | kW | 23.3 | 31.0 |
| Output power min | kW | 4.0 | 4.9 |
| Efficiency at 30% load | % | 109 | 109 |
| Efficiency at 100% | % | 97 | 97 |
| Capacity (primary) | L | 8 | 8 |
| Connection - heating | Ø" | 1 M | 1 M |
| Connection gas | Ø" | 3/4 M | 3/4 M |
| Water pressure drop boiler at Δt = 20°C | mbar | 141 | 243 |
| Gas flow rate (max output) | m³/h | 2.54 | 3.39 |
| Flue connection | Ømm | 60/100 | 60/100 |
| Max operating temperature | °C | 87 | 87 |
| Max service pressure heating (primary) | bar | 3 | 3 |
| Voltage | V | 230 | 230 |
| Electrical consumption | W | 82 | 90 |
| Weight (empty) | kg | 54 | 54 |
| Space heating efficiency class | | A | A |
| NOx class | | 5 | 5 |
| NOx emissions | mg/kWh | 38 | 38 |

For flue accessories and controls see page 58.

# PRESTIGE 42 > 120 SOLO



A

## Wall hung gas fired condensing heat only boiler with stainless steel heat exchanger.

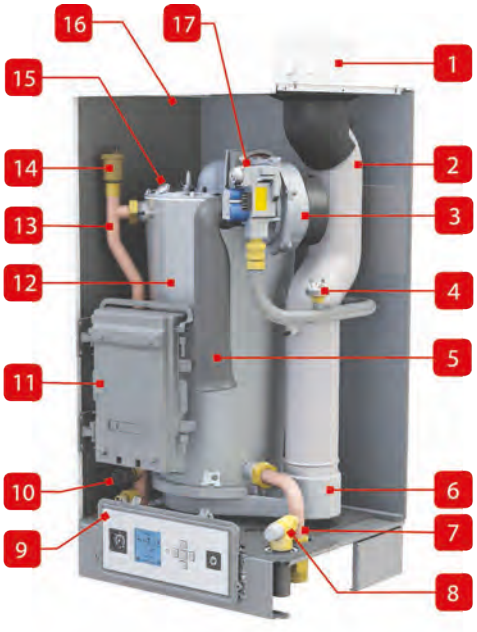
**Available in five sizes.**

- Easy to service and maintain with all components accessible from the front and flame inspection panel
- Compact and lightweight
- Integrated non return valve saves space above the boiler installation
- Stainless steel heat exchanger for a long life, backed up by a 10-year heat exchanger warranty
- Close load matching for more efficient use with a 6:1 turndown ratio
- Simple to operate with integrated ACVMax controls LCD that can operate two heating circuits or a four boiler cascade
- NEW optional pipework kits and low loss headers available - see pages 48
- Supplied with LPG kit for easy on site conversion

10 HEAT EXCHANGER WARRANTY | BIM OBJECTS | NAT GAS LPG | DOMESTIC COMMERCIAL

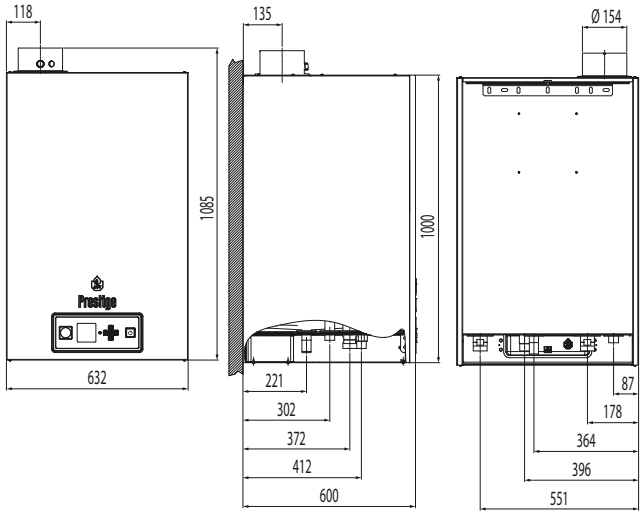
## ANATOMY

1. Concentric flue connection 100/150mm with flue gas test point
2. Flue tube
3. Modulating air/gas premix burner
4. Gas pressure switch
5. Air inlet
6. Condensate recovery dish
7. Cold water return
8. Safety valve
9. Control panel with display and pressure gauge
10. Pressure sensor
11. Electrical panel
12. Stainless steel heat exchanger
13. Water supply
14. Auto air vent
15. Flame sight glass
16. Insulated casing
17. Gas valve



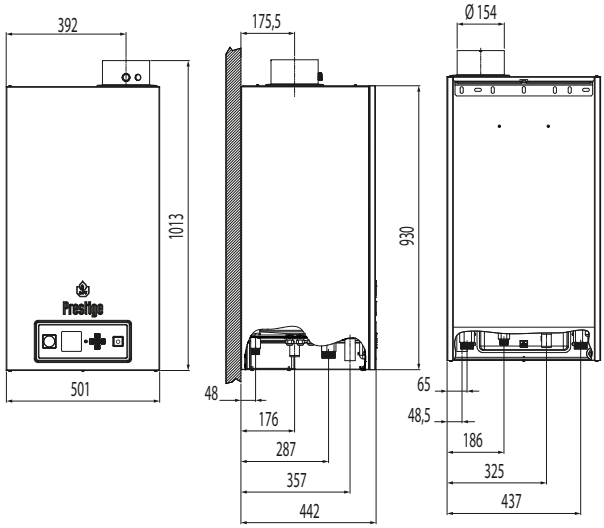
## DIMENSIONS - 42 > 75 SOLO

All dimensions in mm.




## DIMENSIONS - 100 > 120 SOLO

All dimensions in mm.

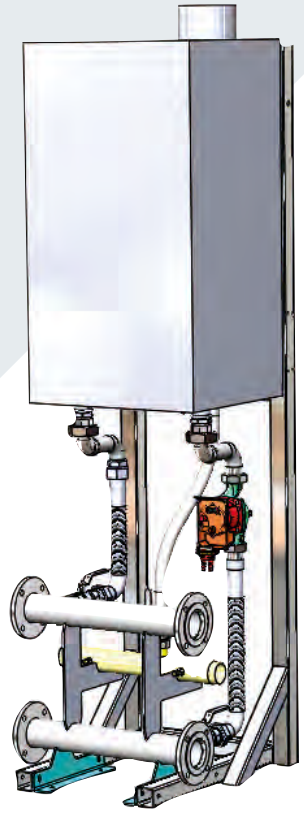



## TECHNICAL DATA

| TYPE | UNIT | Prestige 42 Solo | Prestige 50 Solo | Prestige 75 Solo | Prestige 100 Solo | Prestige 120 Solo |
|---|---|---|---|---|---|---|
| Part number | | 05650201 | 05629801 | 05629901 | 05648401 | 05630001 |
| Fuel | | Natural gas | Natural gas | Natural gas | Natural gas | Natural gas |
| Input max (heating) | kW | 42 | 50 | 69.9 | 99 | 115.3 |
| Input max (heating) HCV | kW | 46.62 | 55.5 | 77.59 | 109.89 | 129.87 |
| Output power max (80/60°C) | kW | 40.7 | 48.5 | 67.8 | 97.5 | 111.8 |
| Output power min (80/60°C) | kW | 5.7 | 6.9 | 9.9 | 12.2 | 12.2 |
| Efficiency at 30% load (EN677) | % | 108.5 | 109 | 108.5 | 108.1 | 108 |
| Connection - heating | Ø" | 5/4 M | 5/4 M | 5/4 M | 6/4 M | 6/4 M |
| Connection gas | Ø" | 3/4 M | 3/4 M | 3/4 M | 1 M | 1 M |
| Water pressure drop boiler at Δt = 20°C | mbar | 23 | 30 | 74 | 42 | 80 |
| Gas flow rate (max output) | m³/h | 4.4 | 5.2 | 7.3 | 10.5 | 12.4 |
| Flue connection | Ømm | 100/150 | 100/150 | 100/150 | 100/150 | 100/150 |
| Weight (empty) | kg | 50 | 54 | 59 | 89 | 93 |
| Max operating temperature | °C | 87 | 87 | 87 | 87 | 87 |
| Max service pressure heating (primary) | bar | 4 | 4 | 4 | 4 | 4 |
| Voltage | V | 230 | 230 | 230 | 230 | 230 |
| Electrical consumption | W | 82 | 77 | 126 | 142 | 178 |
| NOx class | | 5 | 5 | 5 | 5 | 5 |
| NOx emissions | mg/kWh | 28.8 | 35.1 | 43.2 | 34.2 | 39.6 |

For flue accessories and controls see page 58.

# PIPE KITS



**Designed to save time and simplify installation, optional pipe kits are available for the Prestige® wall hung boilers. The kits enable multiple boilers to be easily connected in cascades of one, two, three and four boilers.**

## FEATURES

- Minimal self-assembly – reduced labour time
- High quality rigid frame – no boiler leaning or sagging
- Flexible installation options – can be sited as a stand-alone frame (no need to secure to a wall)
- Complete kit supplied with gas connection pipes with test and purge point, A-rated pumps, blinds, service valves and joining kits
- Option for bespoke configurations by order (lead time increased)
- Choice of low loss headers

| Boiler models | Prestige 42-75 | | Prestige 100-120 | |
|---|---|---|---|---|
| | Size | Part number | Size | Part number |
| 1 boiler (1 x 1 boiler pipe kit) | DN65 | XB080001 | DN80 | XB080005 |
| 2 boilers (1 x 2-boiler pipe kit) | DN65 | XB080002 | DN80 | XB080006 |
| 3 boilers (1 x 2-boiler pipe kit + 1 x 1-boiler pipe kit ) | DN65 | XB080003 | DN80 | XB080007 |
| 4 boilers (2 x 2-boiler pipe kit) | DN65 | XB080004 | DN80 | XB080001 |
| Standard low loss header (including flow sensor temperature pocket) | DN125 | XBACV106503 | DN150 | XBACV108005 |
| Low loss header with air and dirt separator* (including swan necks including flow sensor temperature pocket) | DN125 | XBACV106504 | DN150 | XBACV108006 |

## EACH KIT CONTAINS THE FOLLOWING COMPONENTS:

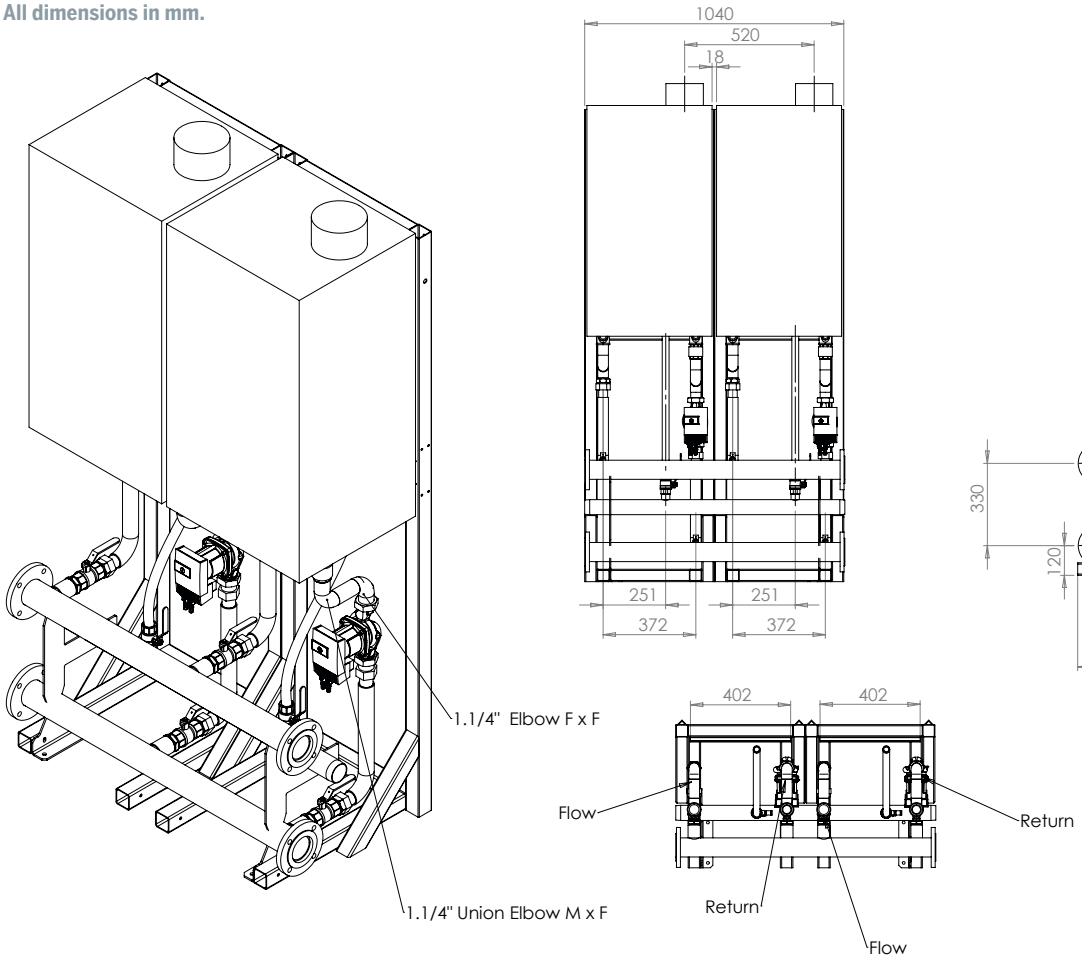
| 1 boiler | 2 boilers | 3 boilers | 4 boilers |
|---|---|---|---|
| 1 x frame for 1-boiler | 1 x frame for 2 boilers | 1 x frame for 2 boilers<br>1 x frame for 1 boiler | 2 x frame for 2 boilers |
| 2 x 3 barg PN06 flanges | 2 x 3 barg PN06 flanges | 2 x 3 barg PN06 flanges | 2 x 3 barg PN06 flanges |
| 1 x Wilo Stratos Para 30/1-8 PN10 T3 pump | 2 x Wilo Stratos Para 30/1-8 PN10 T3 pump | 3 x Wilo Stratos Para 30/1-8 PN10 T3 pump | 4 x Wilo Stratos Para 30/1-8 PN10 T3 pump |
| 2 x Blind ends on manifold, one with drain plug included | 2 x Blind ends on manifold, one with drain plug included | 2 x Blind ends on manifold, one with drain plug included | 2 x Blind ends on manifold, one with drain plug included |
| 2 x Stainless steel flow and return flexible connections | 4 x Stainless steel flow and return flexible connections | 6 x Stainless steel flow and return flexible connections | 8 x Stainless steel flow and return flexible connections |
| 1 x Stainless steel gas hoses | 2 x Stainless steel gas hoses | 3 x Stainless steel gas hoses | 4 x Stainless steel gas hoses |
| 1 x 1-boiler gas pipe header with blank and purge/pressure test point | 1 x 1-boiler gas pipe header with blank and purge/pressure test point | 1 x 2-boiler and 1 x 1-boiler gas pipe header with blank and purge/pressure test point | 2 x 2-boiler gas pipe header with blank and purge/pressure test point |
| | | 1 x header joining kit | 1 x header joining kit |

## ADDITIONAL EXTRAS

Talk to ACV about options for cascading your boilers and hydraulic separation using plate heat exchangers.
* A low loss header with air and dirt separator and magnetic filter is also available on request.

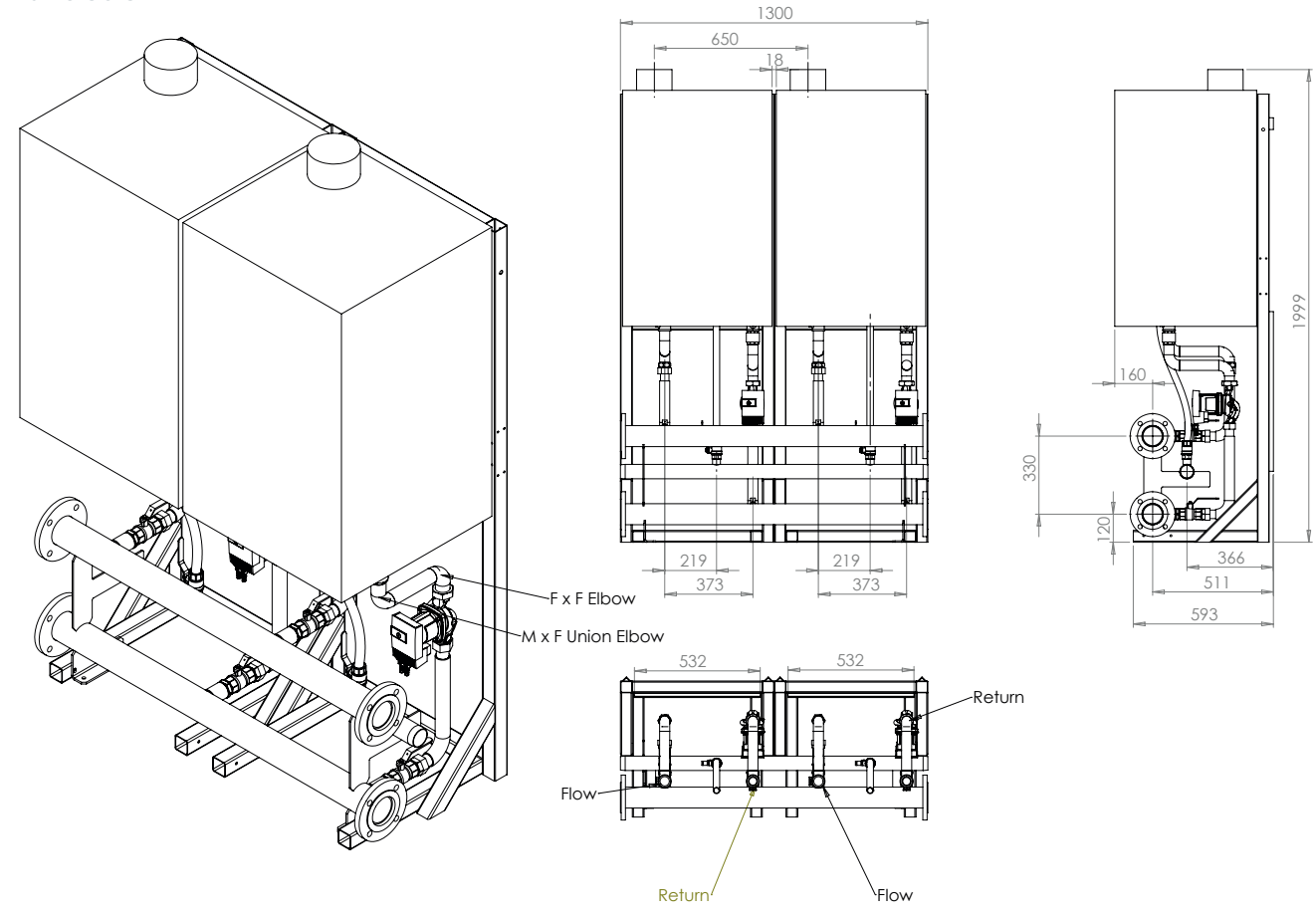
## DIMENSIONS - 42 > 75 SOLO

All dimensions in mm.




## DIMENSIONS - 100 > 120 SOLO

All dimensions in mm.



# WHY GO ELECTRIC?

- Simple and cost effective to install – no flues needed
- Low maintenance – no annual landlord certificate required
- An economical alternative to LPG and Oil for off-grid locations
- Prepare for a carbon-free future

# ELECTRIC BOILERS

## E-TECH W 15 › 36

Wall hung electric sealed system boiler.

p 52

## E-TECH S 160 › 240

Floor standing electric combination boiler.

p 54

## E-TECH P 57 › 259

Floor standing electric boiler.

p 56

# E-TECH W 15 > 36

D

## Wall hung electric sealed system boiler.

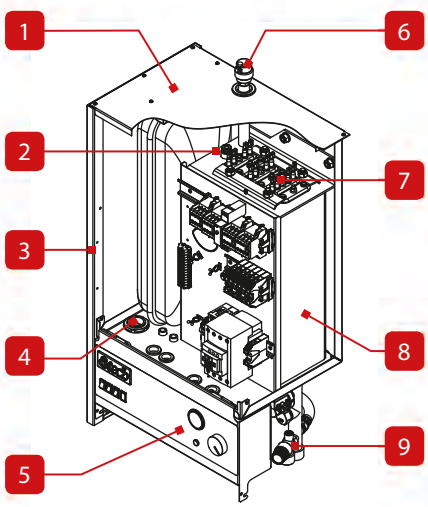
**Available in four sizes.**

- Prepare for a carbon-free future with electric
- Reduced maintenance – no annual landlord certification
- Simple installation anywhere in the building due to no flues needed and quiet operation
- Can provide dual temperature outputs for different circuits such as radiators and underfloor heating*
- All components integrated in one unit (10 litre expansion tank, pressure gauge, safety valve, low water pressure switch, pump and automatic air vent)
- Long life high grade incoloy 800 stainless steel heating element
- Protection from electrical surges due to built-in 3 amp MCB
- Integrated circulating pump for speed of installation
- An economical alternative to LPG and Oil for off-grid locations
- Compatible with different electrical system types
- Perfect match for use with external cylinders for DHW

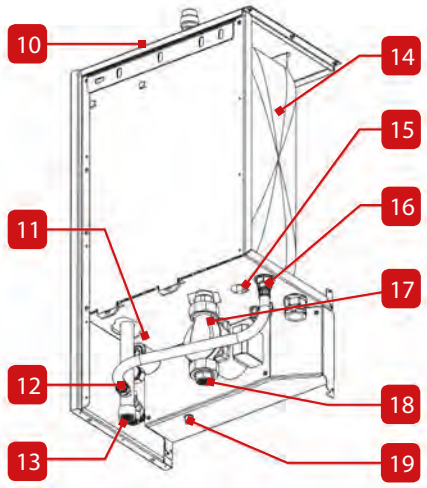
1 YEAR HEAT EXCHANGER WARRANTY | ELECTRIC | DOMESTIC COMMERCIAL

## ANATOMY

1. Top panel
2. Brass pocket
3. Side panel
4. Cable gland
5. Control panel
6. Automatic air vent
7. Heating elements
8. Heating body
9. Pressure safety valve



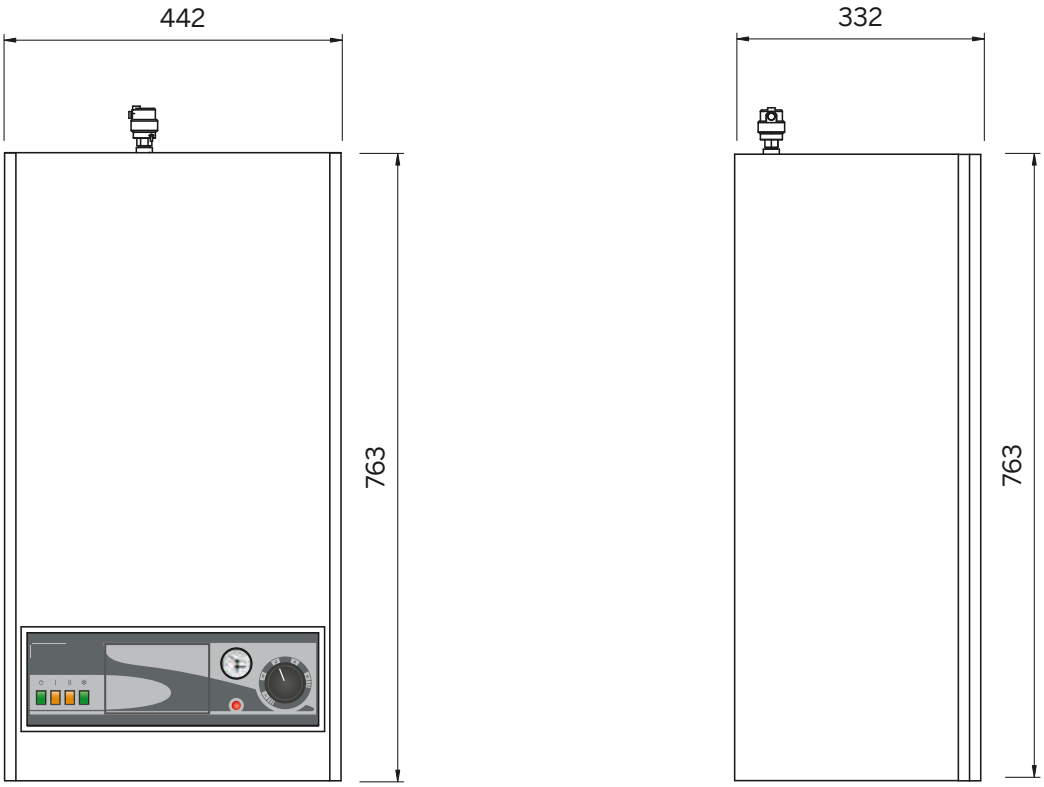

10. Rear panel
11. Water pressure switch
12. Expansion vessel connection
13. Heating return
14. Expansion vessel
15. Expansion vessel valve
16. Expansion vessel connection
17. Circulating pump
18. Heating flow
19. Manual reset high limit pressure gauge




*Always ensure a safety thermostat is fitted to the underfloor heating circuit.

## DIMENSIONS

All dimensions in mm.




## TECHNICAL DATA

| TYPE | UNIT | ETW 15 single phase | ETW 15 3 phase | ETW 22 3 phase | ETW 28 3 phase | ETW 36 3 phase |
|---|---|---|---|---|---|---|
| Part number | | A1002096 | A1002090 | A1002091 | A1002093 | A1002094 |
| Output power max (80/60°C) | kW | 14.4 | 14.4 | 21.6 | 28,.8 | 36.0 |
| Output power min (80/60°C) | kW | 9.6 | 9.6 | 14.4 | 14.4 | 18.0 |
| Connection - heating | Ø" | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| Weight (empty) | kg | 45 | 45 | 45 | 45 | 45 |
| Max operating temperature | °C | 85 | 85 | 85 | 85 | 85 |
| Max service pressure heating (primary) | bar | 3 | 3 | 3 | 3 | 3 |
| Voltage | V | 1x230 | 3x400 (+N) | 3x400 (+N) | 3x400 (+N) | 3x400 (+N) |
| Heating energy efficiency class | | D | D | D | D | D |

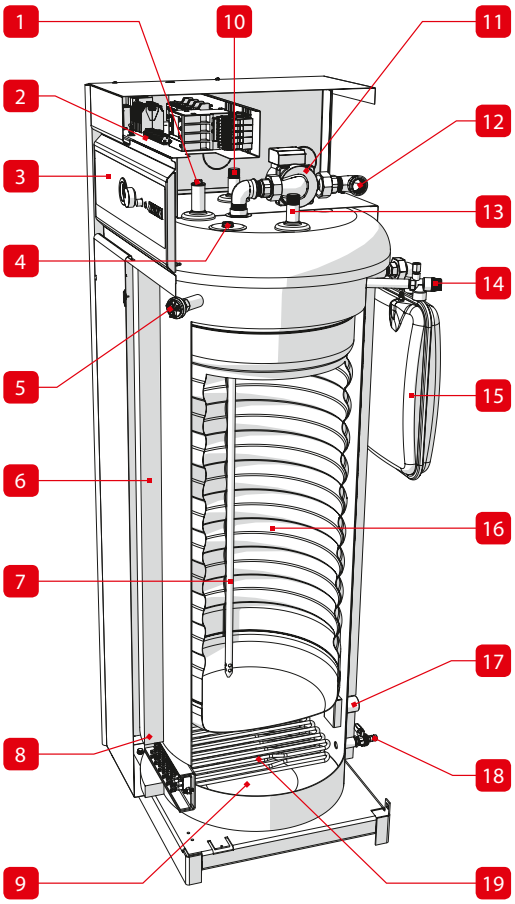
# E-TECH S 160 > 240

## Floor standing electric combination boiler.

**Available in two sizes.**

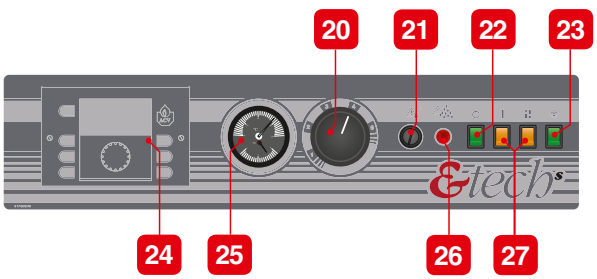
- Prepare for a carbon-free future with electric
- Heating and hot water from unit saves space, money, and speeds up installation
- Simple installation anywhere in the building due to no flues needed and quiet operation
- Low maintenance (no annual landlord certification)
- Can be used as a stand alone water heater
- Low standing losses – boiler insulated with rigid polyurethane foam without CFC projected 70 mm
- Long life – 25-year guarantee on the corrosion resistant stainless steel cylinder
- An economical alternative to LPG and oil for off-grid locations



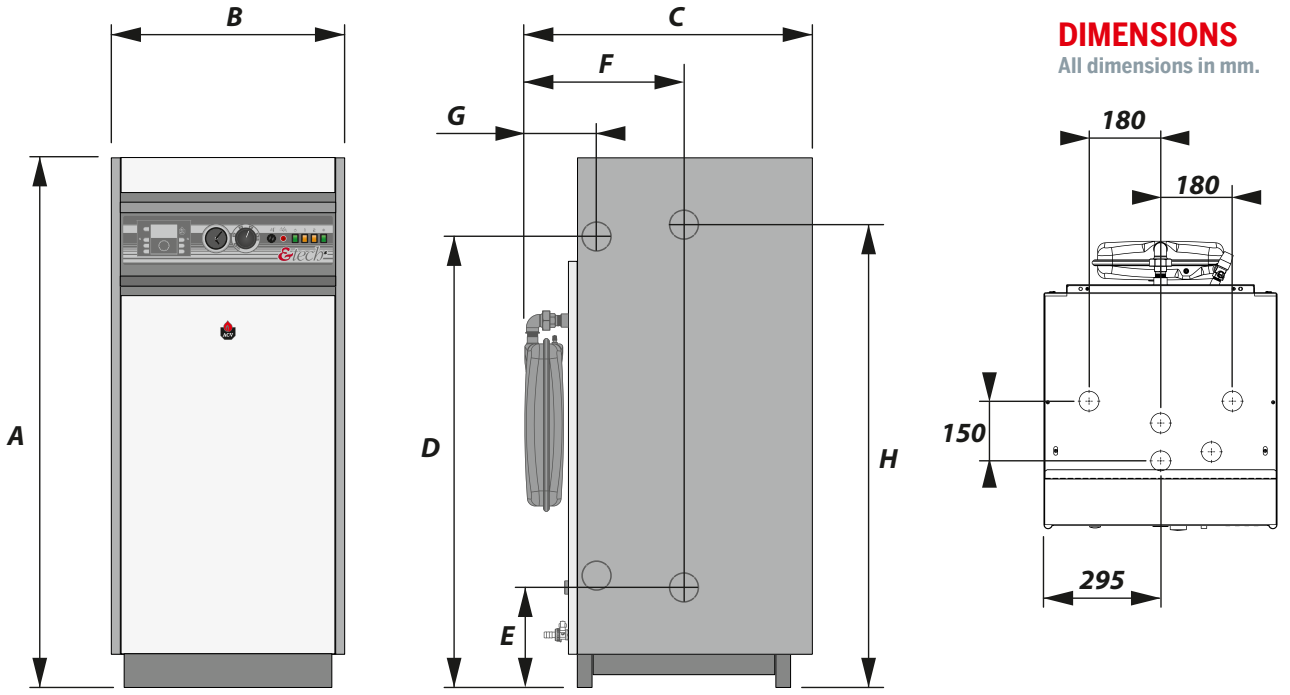



## ANATOMY

1. Auxiliary connection DHW
2. Electrical support
3. Control panel
4. Dry well for limit thermostats (90°C max) and thermometer bulbs
5. Low-water pressure switch
6. Thermal insulation
7. Dip tube
8. Dry well for control thermostat, safety thermostat (103°C) and bulbs.
9. Primary circuit
10. Cold water inlet
11. Heating pump
12. Heating circuit outlet
13. DHW outlet
14. Safety valve (3 bar)
15. Primary expansion vessel
16. Stainless steel tank (DHW)
17. Heating circuit return
18. Drain valve
19. Electrical heating elements




20. Control thermostat (60-85 °C)
21. Safety thermostat
22. ON/OFF switch
23. Summer/winter selector switch
24. Controller (option)
25. Combined temperature and pressure gauge
26. Safety indicator light
27. Power selection switch




## DIMENSIONS

All dimensions in mm.

## TECHNICAL DATA

| TYPE | UNIT | ETS 160 single phase | ETS 160 3 phase | ETS 240 3 phase |
|---|---|---|---|---|
| Part number | | A1002085 | A1002084 | A1002086 |
| Output power max (80/60°C) | kW | 14.4 | 14.4 | 28.8 |
| Capacity (domestic hot water) | L | 99 | 99 | 164 |
| Connection - heating | Ø" | 1 F | 1 F | 1 M |
| Connection - DHW | Ø" | 3/4 M | 3/4 M | 3/4 F |
| Weight (empty) | kg | 115 | 115 | 155 |
| Max operating temperature | °C | 85 | 85 | 85 |
| Max service pressure heating (primary) | bar | 3 | 3 | 3 |
| Dimensions A | mm | 1342 | 1342 | 1818 |
| Dimensions B | mm | 590 | 590 | 590 |
| Dimensions C | mm | 728 | 728 | 728 |
| Dimensions D | mm | 928 | 928 | 1403 |
| Dimensions E | mm | 249 | 249 | 249 |
| Dimensions F | mm | 402 | 402 | 402 |
| Dimensions G | mm | 181 | 181 | 181 |
| Dimensions H | mm | 958 | 958 | 1433 |
| Max service pressure (DHW) | bar | 3 | 10 | 10 |
| Voltage | V | 1x230 + N | 3x400 + N | 3x400 + N |
| Water heating energy efficiency class | | C | C | C |
| Heating energy efficiency class | | D | D | D |

## DOMESTIC HOT WATER PERFORMANCE

| TYPE | UNIT | ETS 160 single phase | ETS 160 3 phase | ETS 240 3 phase |
|---|---|---|---|---|
| Peak flow at 40°C | L/10' | 356 | 356 | 545 |
| Peak flow 1st hour at 40°C | L/60' | 700 | 700 | 1234 |
| Continuous flow at 40°C | L/h | 413 | 413 | 827 |

This data assumes an incoming mains water temperature of 10°C.

# E-TECH P 57 > 259

D

## Floor standing, heat only electric boiler.

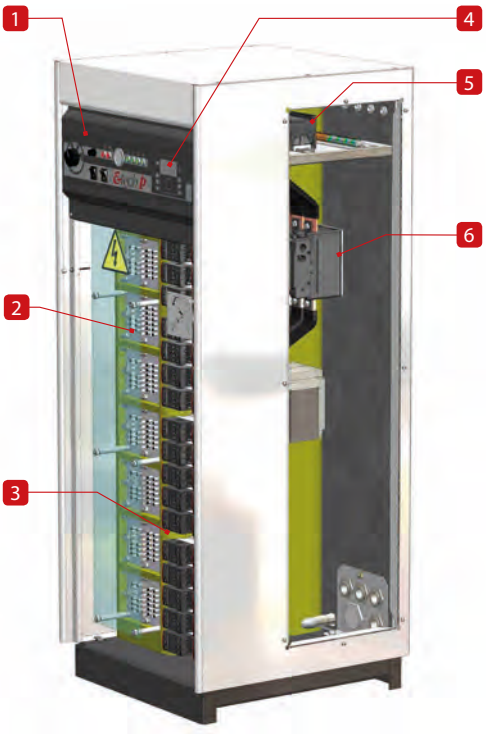
**Available in five sizes.**

- Prepare for a carbon free future with electric
- Quick installation with no flues required plus
- Close load matching with four power stages controlled by stage delay timer
- Robust stove enamelled casing
- Easy to use controls interface – plug and play setup with pre-wired integrated control circuits
- Low maintenance
- Long life high grade incoloy 800 stainless steel heating element
- An economical alternative to LPG and oil for off-grid locations
- Ideal to be used as a temporary heat source or mobile heating
- Suitable to connect to external storage cylinders to produce DHW

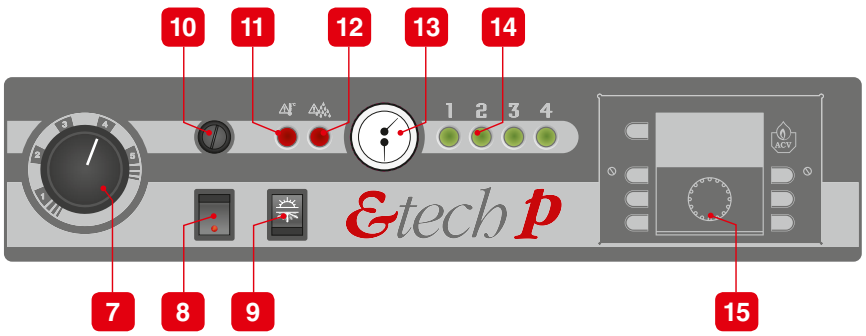
1 YEAR HEAT EXCHANGER WARRANTY | ELECTRIC | COMMERCIAL

### ANATOMY

1. Control panel
2. Heating elements
3. Contactor and safety relays
4. Optional controller
5. Control circuit
6. Main fuses and power connections

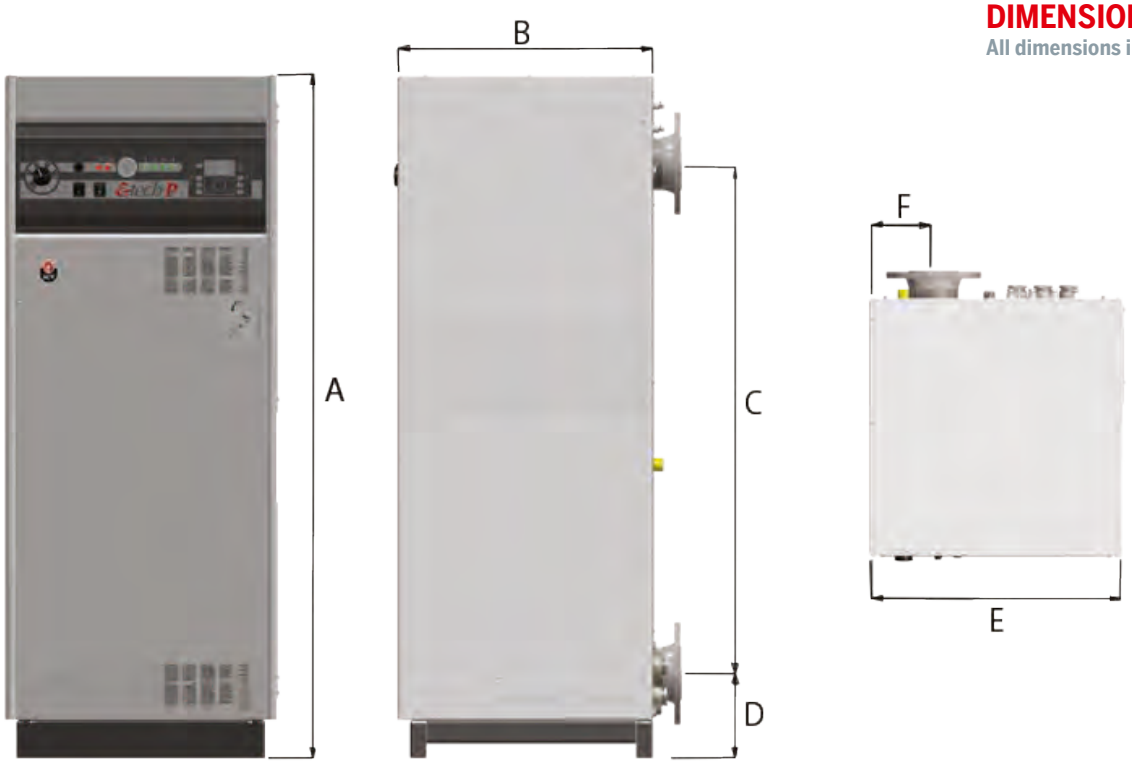



7. Control thermostat
8. ON/OFF switch
9. Summer/winter switch
10. Manual reset high limit thermostat
11. Overheating warning light
12. Minimum water pressure warning light
13. Combined temperature and pressure gauge
14. Power level indicators
15. Optional internal controller



## DIMENSIONS

All dimensions in mm.




## TECHNICAL DATA

| TYPE | UNIT | E-Tech P 57 | E-Tech P 115 | E-Tech P 144 | E-Tech P 201 | E-Tech P 259 |
|---|---|---|---|---|---|---|
| Part number | | 00624201 | 00624301 | 00624401 | 00624801 | 00624501 |
| Voltage | V | 3x400 | 3x400 | 3x400 | 3x400 | 3x400 |
| Electrical power | kW | 14.4 / 57.6 | 28.8 / 115.2 | 36.0 / 144.0 | 50.4 / 201.6 | 64.8 / 259.2 |
| Number of heating elements | | 2 | 4 | 5 | 7 | 9 |
| Connection - heating | Ø" | 2 F | 2 F | 2 F | DN100 | DN100 |
| Max operating temperature | °C | 90 | 90 | 90 | 90 | 90 |
| Max service pressure heating (primary) | bar | 4 | 4 | 4 | 4 | 4 |
| Dimensions A | mm | 1495 | 1495 | 1495 | 1495 | 1495 |
| Dimensions B | mm | 567 | 567 | 567 | 567 | 567 |
| Dimensions C | mm | 550 | 550 | 550 | 1100 | 1100 |
| Dimensions D | mm | 183 | 183 | 183 | 183 | 183 |
| Dimensions E | mm | 542 | 542 | 542 | 542 | 542 |
| Dimensions F | mm | 125 | 125 | 125 | 125 | 125 |
| Weight (empty) | kg | 110 | 123 | 131 | 187 | 200 |
| Capacity (total) | L | 60 | 60 | 60 | 102 | 102 |

# CASCADE

The Prestige® 50-120 and HeatMaster® boilers can be installed in a cascade to offer highly flexible output to meet your building's demand.

## Efficiency

A cascade system allows modulation of heating power, from the minimum output of one boiler up to the maximum output of all the boilers. In a four-boiler cascade, this would give a turndown ratio of at least 16:1. This means heating loads are matched with little wastage, minimising energy usage and carbon emissions.

## Back-up

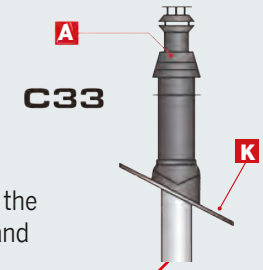
The ACV cascade controllers optimise the potential of the available boilers. If one of the boilers fail, the controller simply adjusts the power of the remaining boilers to compensate.

## Easy maintenance

A boiler in a cascade can be serviced and maintained easily whilst the other boilers operate to meet the demand. This enables the servicing to be carried out at any time of the year and not just during the traditional summer shut-down period.

# FLUES AND CONTROLS

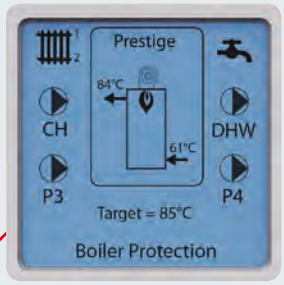
## FLUES




See flue components for the Prestige®, HeatMaster® and WaterMaster ranges.

p 60

## CONTROLS




Understand your control options for the Prestige®, HeatMaster® and E-tech ranges.

p 63

## SCHEMATICS

Example schemes to help with your system design.

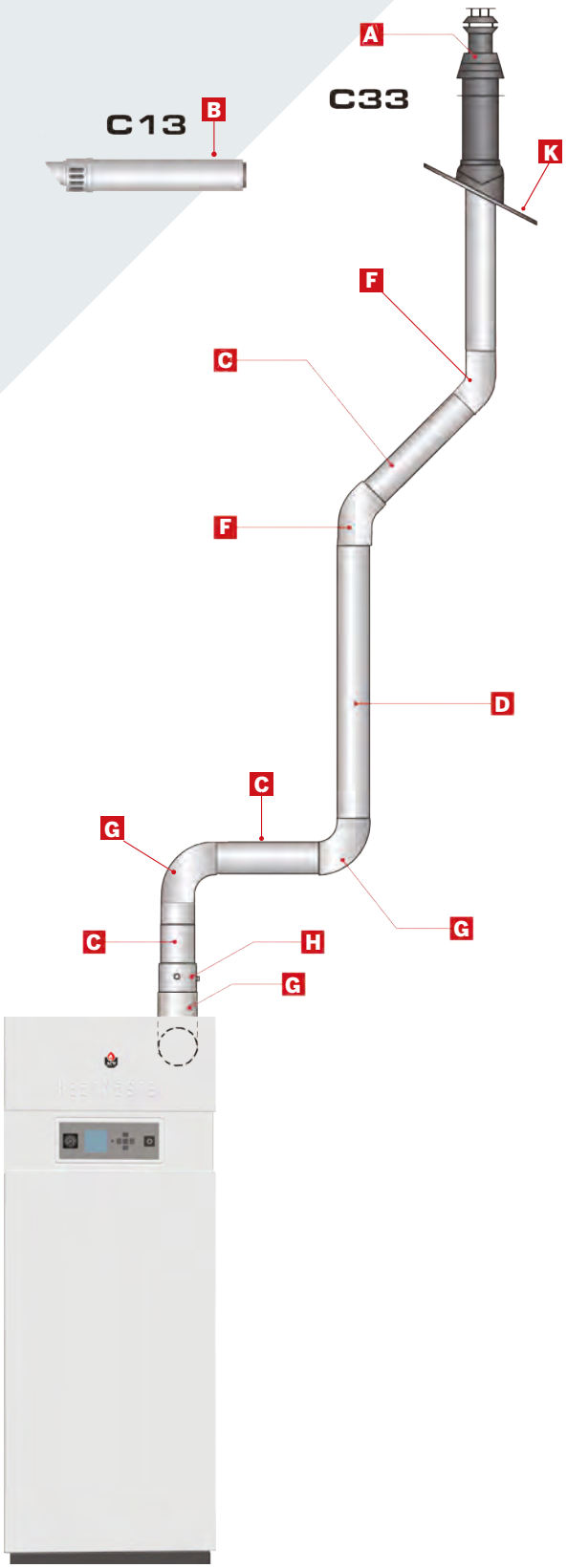
p 66

## OUR SUPPORT

Commissioning, spare parts and training.

p 68

# FLUE COMPONENTS




**Compatible with:**

- HEATMASTER® 25C*,
- HEATMASTER® 25 - 45 TC*
- WATERMASTER 25 - 45
- PRESTIGE® 24 - 32

Flue diameter 80/125mm

## TERMINALS

| | PART NUMBER | DESCRIPTION |
|---|---|---|
| A | 537D6184 | Vertical Terminal |
| B | 537D6185 | Horizontal Terminal |

## FLUE EXTENSIONS

| | PART NUMBER | DESCRIPTION |
|---|---|---|
| C | 537D6187 | 500 mm cuttable length |
| D | 537D6188 | 1000 mm cuttable length |

## ELBOWS

| | PART NUMBER | DESCRIPTION |
|---|---|---|
| F | 537D6190 | 43° - 45° bend |
| G | 537D6191 | 87° - 90° bend |

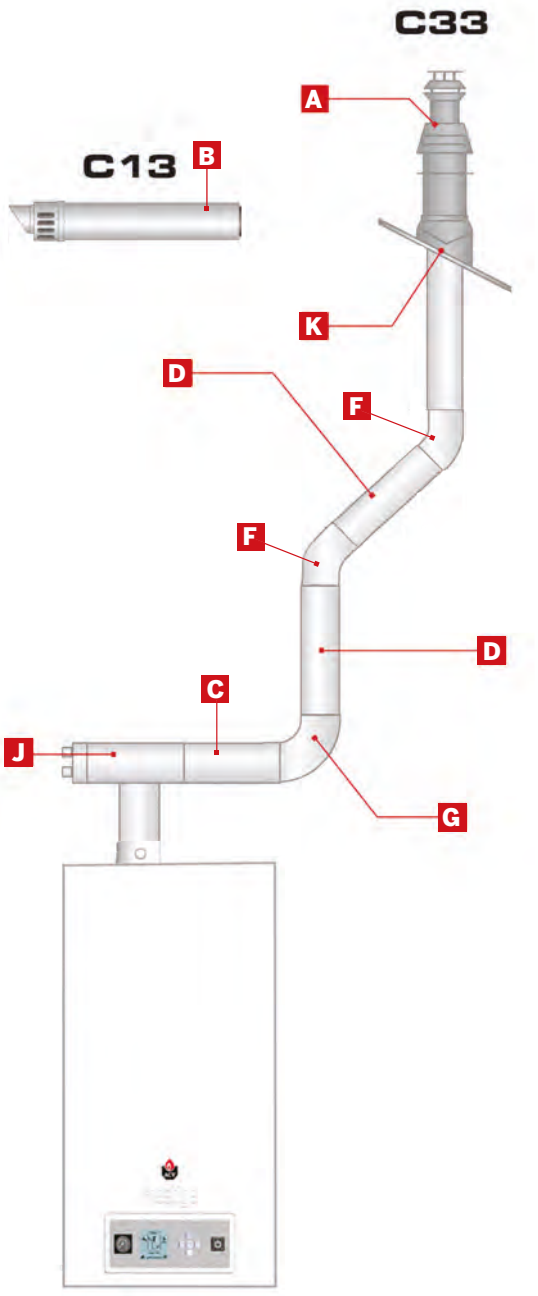
## MEASUREMENT TUBE

| | PART NUMBER | DESCRIPTION |
|---|---|---|
| H | 537D6193 | Measuring tube for flue gas analysis |
| J | 537D6229 | Measurement T-piece with inspection panel (Not Shown) |

## ACCESSORIES

| | PART NUMBER | DESCRIPTION |
|---|---|---|
| K | 537D6182 | Adjustable roof flashing |
| | 537D6183 | Wall bracket DN125 |
| | 537D6364 | Flat roof flashing |

*These boiler models are supplied with an external measuring tube for flue gas analysis as one is not incorporated within the boiler. The manufacturer reserves the right to modify manufacture.*




Compatible with:

## › HEATMASTER® 70 - 85 - 120 TC*

## › WATERMASTER 70 - 85 - 120

## › PRESTIGE® 42 - 50 - 75 - 100 - 120

Flue diameter 100/150mm

### TERMINALS

| | PART NUMBER | DESCRIPTION |
|---|---|---|
| A | 537D6300 | Vertical terminal |
| B | 537D6301 | Wall terminal |

### FLUE EXTENSIONS

| | PART NUMBER | DESCRIPTION |
|---|---|---|
| C | 537D6303 | 500 mm cuttable length |
| D | 537D6304 | 1000 mm cuttable length |

### ELBOWS

| | PART NUMBER | DESCRIPTION |
|---|---|---|
| F | 537D6306 | 43° - 45° elbow |
| G | 537D6307 | 87° - 90° elbow |

### MEASUREMENT TUBE

| | PART NUMBER | DESCRIPTION |
|---|---|---|
| H | 537D6308 | Measuring tube (Not Shown) |
| J | 537D6310 | Measurement T-piece with inspection panel |

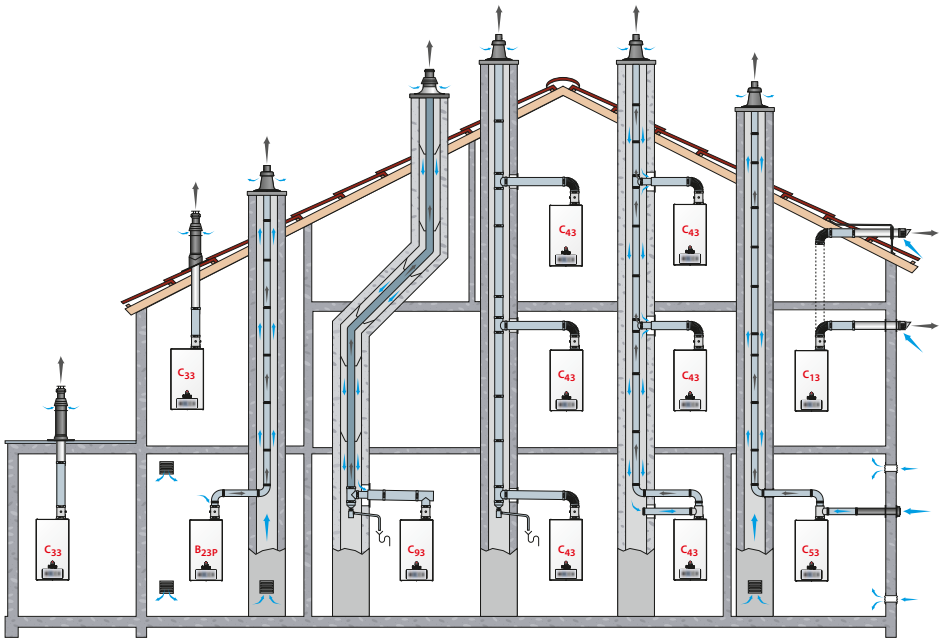
### ACCESSORIES

| | PART NUMBER | DESCRIPTION |
|---|---|---|
| | 537D6208 | Flat roof collar |
| K | 537D6209 | Adjustable roof flashing |

### ADAPTERS (NOT SHOWN)

| | PART NUMBER | DESCRIPTION |
|---|---|---|
| | 537D6207 | Concentric to parallel adaptor Ø 100/150mm - Ø 2 x 100mm |
| | 537D6210 | Bracket Ø 100 mm |

# FLUE CONFIGURATIONS



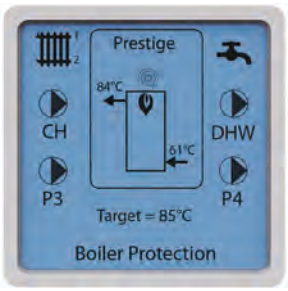

## A TERMINALS

| REFERENCE | DESCRIPTION |
|---|---|
| B23P | Connection to a combustion product exhaust system designed to operate with positive pressure. |
| B23 | Connection to an exhaust duct that discharges the combustion products outside the room where it is installed, with the combustion air being drawn directly from the boiler room |
| C13(x) | Connection using pipes fitted with a horizontal terminal that simultaneously takes in combustion air for the burner and discharges combustion products outside through openings that are either concentric or close enough together to be subjected to similar wind conditions, i.e. openings shall fit inside a square of 50 cm for boilers up to 70 kW and inside a square of 100 cm for boilers above 70 kW. |
| C33(x) | Connection using pipes fitted with a vertical terminal that simultaneously takes in fresh air for the burner and discharges combustion products outside through openings that are either concentric or close enough together to be subjected to similar wind conditions , i.e. openings shall fit inside a square of 50 cm for boilers up to 70 kW and inside a square of 100 cm for boilers above 70 kW. |
| C43(x) | Connection using two pipes to a collective duct system serving more than one appliance; this system of collective ducts features two pipes connected to a terminal unit that simultaneously takes in fresh air for the burner and discharges the combustion products outside through openings that are either concentric or close enough together to be subjected to similar wind conditions. |
| C43(x) | Boilers are suitable for a connection to a natural draught chimney only. |
| C53(x) | Connection to separate ducts for supplying combustion air and discharging combustion products; these ducts may end in zones with different pressure levels, but are not allowed to be installed on opposite walls of the building. |
| C63(x) | Type C boiler meant to be connected to a system for supplying combustion air and discharging combustion products, that is approved and sold separately (Prohibited in some countries (e.g. Belgium) - refer to local regulations and standards in force). Terminals for the supply of combustion air and for the evacuation of combustion products are not allowed to be installed on opposite walls of the building. See also the following additional specifications:<br>• Maximum allowable draught is 200 Pa.<br>• Maximum allowable pressure difference between combustion air inlet and flue gas outlet (including wind pressures) is as follows: 95 Pa (HM 25 TC), 130 Pa (HM 35- 45 TC), 110 Pa (HM 70 TC), 160 Pa (HM 85 TC) and 170 Pa (HM 120 TC). 150 Pa (for P42/P50/P75) and 180 Pa (for P100/P120)<br>• Condensate flow is allowed into the appliance.<br>• Maximum allowable recirculation rate of 10% under wind conditions. |
| C83(x) | Connection using a single or double duct system. The system is made of a normal exhaust flue duct that discharges the combustion products. The appliance is also connected through a second duct fitted with a terminal, that supplies the burner with fresh outdoor air. Please contact your ACV representative for the meters of flue pipes that can be used to connect the appliance(s) |
| C93(x) | Connection using an individual system whose combustion product exhaust duct is installed in an exhaust duct that is integral with the building. The appliance, the exhaust duct and the terminal units are certified as an inseparable assembly. Minimum usable diameter for the vertical duct supplying the combustion air is 100 mm. The C93 configuration enables airtight operation in a pre-existing chimney.<br>The combustion air crosses the space between the tubing and the pre-existing chimney. Make sure to clean the pre-existing chimney thoroughly prior to installation, especially if there is soot or tar residue. Make sure that there is a clearance area for the combustion air at least equivalent to the area that would have been provided by separate concentric ducts or air intake ducts. |

# ACVMAX CONTROLS

ACVMax controls are integrated into the HeatMaster® and Prestige® range of condensing products.

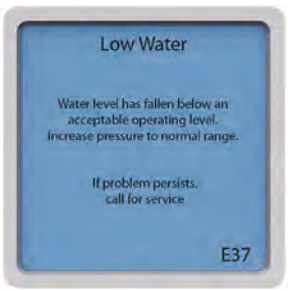
- **Quick to setup** – graphical display shows instructions clearly on screen
- **Easy to use** – all the necessary information available with the push of a button
- **Familiarity** – same control interface across entire condensing range
- **Efficiency** – make best use of your system through sequencing of up to 4 boilers in a cascade without separate controls
- **Maintenance** – easy diagnostics with text error messages and problem solving information
- **Compatibility** – advanced control options, and native support for open protocols such as OpenTherm and Modbus, enabling easy integration to BMS.



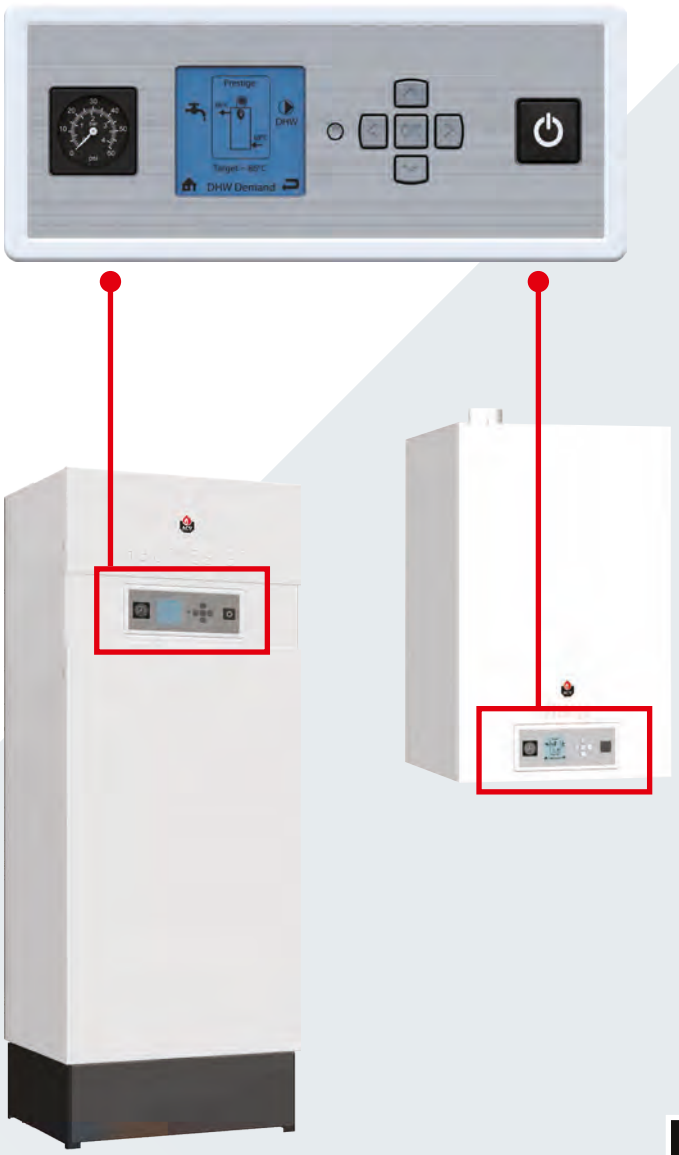

*Graphical user interface*


*Easy installation set up menu covers 80% of standard installations*


*Controls cascades of up to 4 boilers without an additional boiler controller*




*Easy diagnostics with full text error messages and problem solving information*



# CONTROLS

Each HeatMaster® and Prestige® boiler is controlled by an integrated ACVMAX boiler controller.

The controller functions, settings and configurations are accessed via the positive press buttons on the individual fascia panels.

A concise user instructions guide is supplied with each boiler. This guide gives details on initial set up as well as a list of possible error codes.

## CONTROLS FOR SINGLE BOILERS

All functions are easily setup with the EZ WIZARD including control of two heating circuits, one high temp and the other low temp (e.g. underfloor heating).

## CONTROL FEATURES

- Large backlit display – adjustable contrast
- Text and graphical interface
- Configurable DHW priority
- Central heating setpoint adjustment
- Heating circuit 1 (27°C to 82°C on setpoint 1)
- Heating circuit 2 (27°C – 60°C)
- DHW temp adjustment
- Frost protection (raise water temp to 16°C)
- Fault code display
- Lockout
- Incoming supply voltage error
- Low water pressure
- 0-10v input for heating
- Weather compensation when the outside sensor is connected
- Anti-legionella function
- Plain text status screen

## PRESTIGE® INTEGRAL CASCADE OPTION

The Prestige® wall hung boilers can be controlled in a simple master/slave configuration with up to 4 identical boilers when connected using the appropriate wiring accessory. Where cascades of more than four boilers are required then the THETA unit is perfect, allowing up to eight boilers in a cascade.

## CONTROL FEATURES – PARALLEL MODULATION

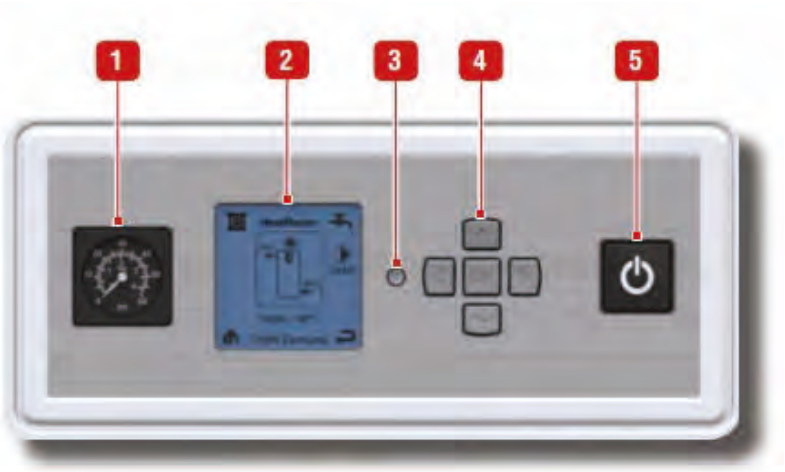
- Parallel modulation acts as early on/late off to ensure the highest number of appliances are running at low outputs
- Master boiler controls the total system output, all low voltage controls wired to this boiler
- When the master boiler reaches twice the minimum output the first slave will be activated, (provided the adjustable stage delay has expired). Both appliances then reduce to minimum output
- The third appliance will be started when the output reaches three times the minimum output with all three, then reducing to minimum output
- The fourth would follow the same pattern
- All appliances then modulate together as one
- Ensures each appliance is always firing at its lowest output ensuring maximum efficiency
- Temperature control is governed by an external system sensor, with the boiler temp control acting as a safety limit
- The auto rotation function ensures that all appliances are run for an even time

## THETA CONTROL

Advanced control enabling cascade options for Prestige® where time and temp control are required (not included as master slave option) and HeatMaster® and WaterMaster installations up to eight appliances.

- Cascade up to eight boilers per theta control unit
- Time and temperature control
- Control 3 heating circuits and DHW
- 1 x Constant temperature circuit
- 2 x Variable temperature circuit
- 1 x DHW circuit primary and secondary pumps
- Supplied with AF200 external sensor for weather compensation
- Supplied with flow temperature sensor for system control
- Holiday mode

**For help and advice on control options for your project, speak to your local ACV contact**
**www.acv.com/gb/customer/contact**



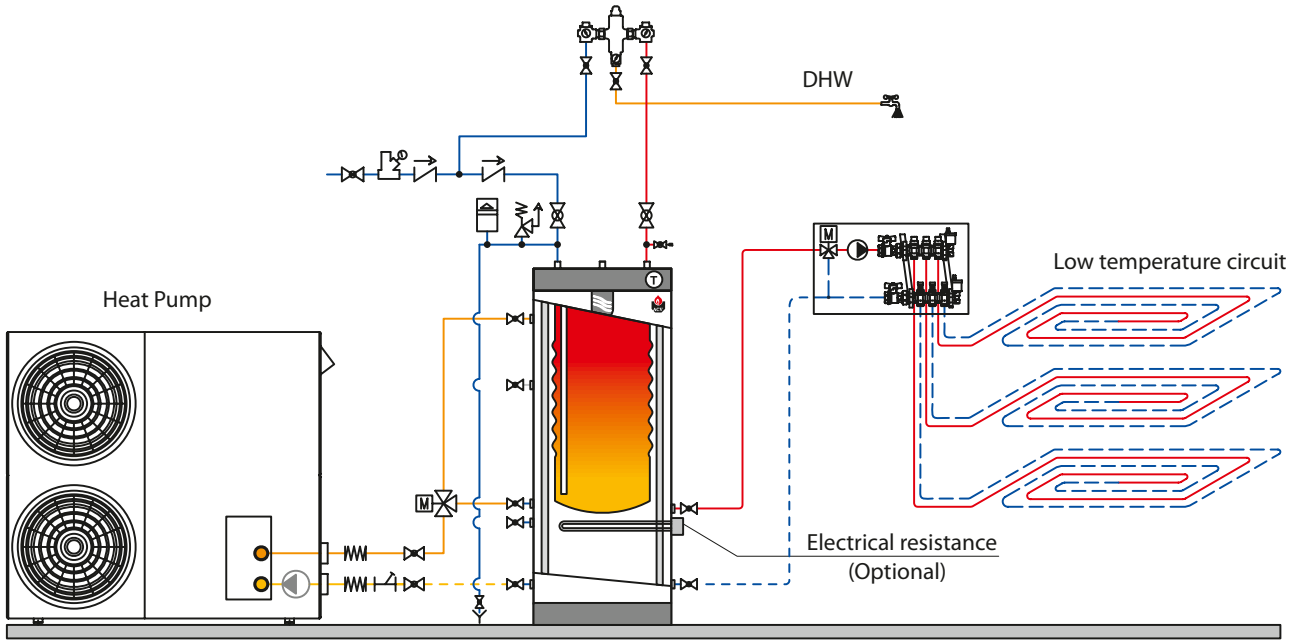

1. Pressure gauge
2. ACVMAX LCD Display
3. Installer button
4. Arrow keys and OK key
5. ON/OFF master switch of the boiler

## CONTROL OPTIONS

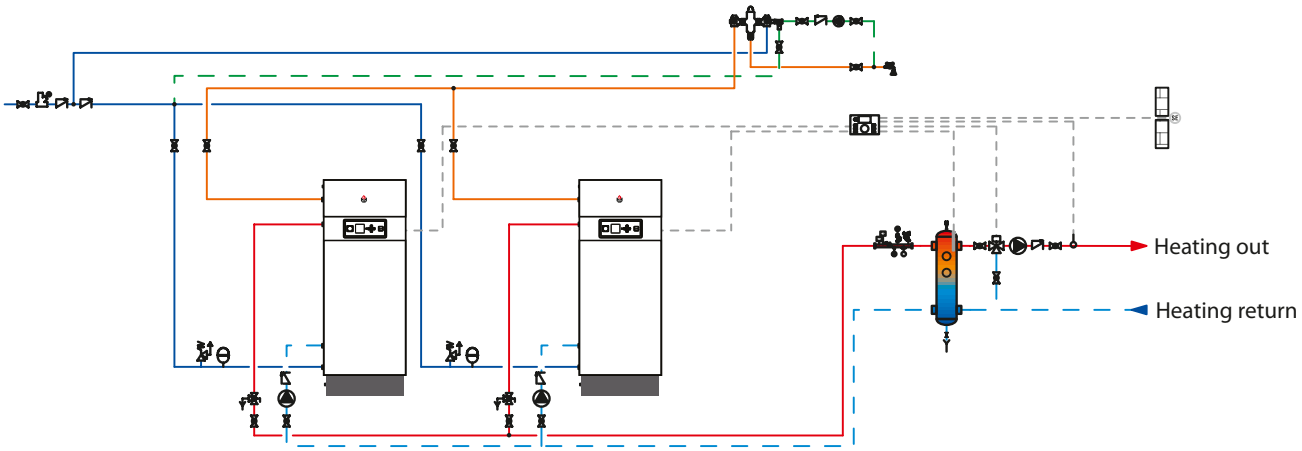
| | CODE | NAME | DESCRIPTION | PRODUCT COMPATIBILITY |
|---|---|---|---|---|
| Time & Temperature Control | 10800358 | RC 30 Wired, On/Off, Programmable Room Thermostat | Programmable room thermostat Affordable / easy to use<br>On / Off<br>7 day - 4 changes per day<br>2 cable connection, Powered by 2 x AA batteries | HeatMaster®*<br>Prestige®*<br>E Tech (room thermostat only)<br>*one required per Heat Circuit used HC1 or HC2 Programmable room thermostat on any MAX control |
| | 10800359 | RC 35, Modulating, OpenTherm, Wired Programmable Room Thermostat | Wired, Modulating, OpenTherm, Programmable room thermostat<br>Improves energy efficiency by up to 15%<br>7 day - 6 changes per day<br>Data and power via 2 wire OpenTherm connection | HeatMaster®*<br>Prestige®*<br>*one required per Heat Circuit, HC1 or HC2 Programmable room thermostat on any MAX control boiler |
| | 10800361 | RC 35 RF, Wireless Modulating, OpenTherm, Programmable Room Thermostat | Wireless Modulating, OpenTherm, Programmable room thermostat<br>Improves energy efficiency by up to 15%<br>7 day - 6 changes per day<br>Connects to boiler via 2 wire OpenTherm relay base station and wireless receiver<br>Room thermostat is wireless, powered by 2 x AA batteries | HeatMaster®*<br>Prestige® units *<br>*one required per Heat Circuit, HC1 or HC2 Programmable room thermostat on any MAX control boiler |
| Prestige® Internal Cascade | 257F1166 | Cascading Cable P-V14 | Internal cascade cable for Prestige® Cascade up to 4 boilers<br>Use with 5476G003 header sensor | Prestige® |
| | 5476G003 | DHW Sensor or Cascade Header Sensor | DHW sensor for controlling cylinder / Header sensor for internal cascade (common flow temperature for cascade setup) | Prestige® |
| | 537D3040 | Contact Sensor | Strap on Contact Sensor, Header sensor (common flow temperature for cascade setup) | Prestige® |
| | 257F1163 | X100 230Volt Optional Wiring Plug | Optional extra for Prestige® boilers to allow wiring of extra 230Volt connections, for pumps and low temperature mixer valves | Prestige® |
| HeatMaster® & Prestige® Cascade | 10800188 | Theta Control Unit Comes with AF200 (external sensor) & Header Sensor, (Requires a pocket) | Theta Control Unit<br>Cascade up to 8 boilers per unit<br>Time and temperature control for<br>Control 3 heating circuits and DHW<br>1 x Constant temperature circuit<br>2 x Variable temperature circuit<br>1 x DHW circuit primary and secondary pumps | HeatMaster®<br>WaterMaster<br>Prestige® |
| | 10800121 | MSK Wall unit | MSK Wall unit, wall housing for Theta control unit (10800188)<br>For wall mounting and wiring Theta | HeatMaster®<br>WaterMaster<br>Prestige®<br>Used in conjunction with Theta |
| | A10800354 | Clip In Interface (One per boiler) | RFF room sensor.<br>One per heating circuit connected to the Theta<br>Room sensor<br>Monitor room temperature for Heat circuit control & information<br>Remote control of operation mode between automatic, constant & setback<br>Increase or decrease the heat circuit setpoint + or – 6°C<br>2 wire bus communication | HeatMaster®<br>Prestige®<br>Used in conjunction with Theta |

# SCHEMATICS

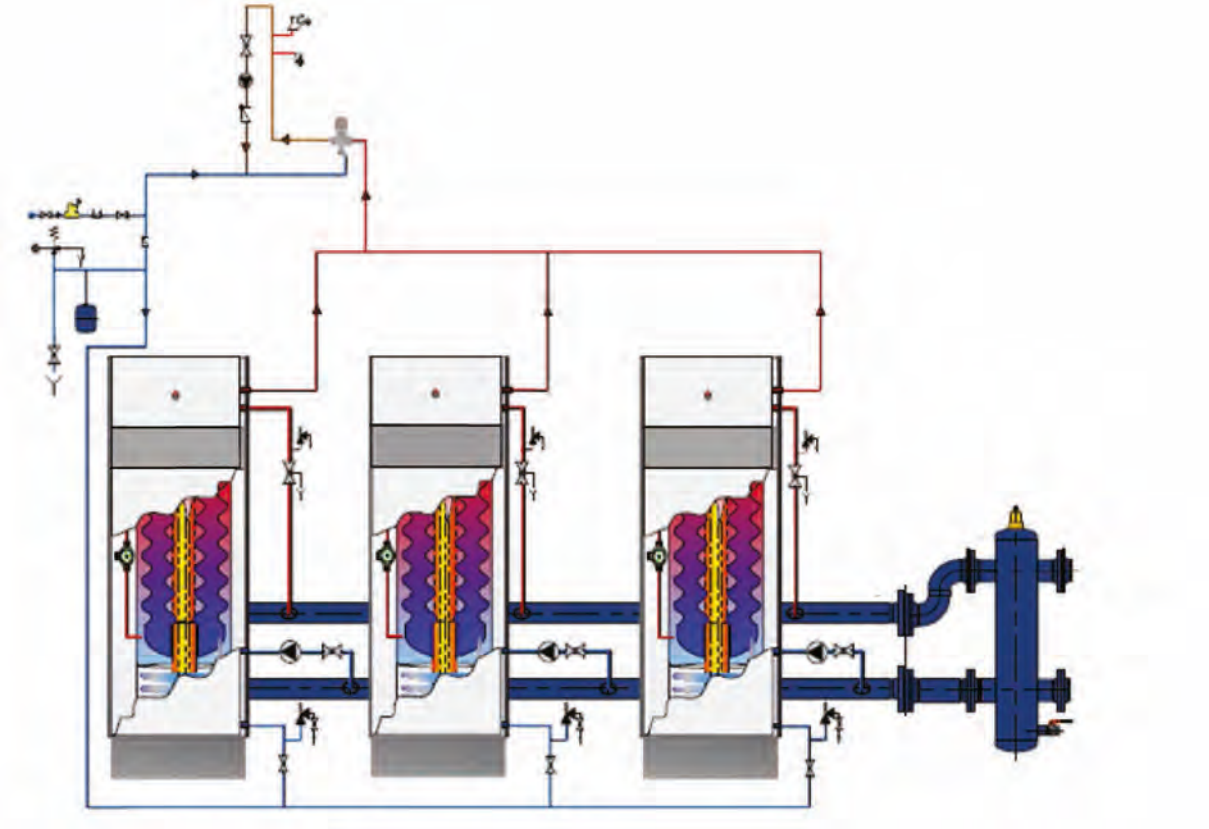
*Scheme 1 - Unvented system showing a variable temperature circuit with heat pump and underfloor heating.*



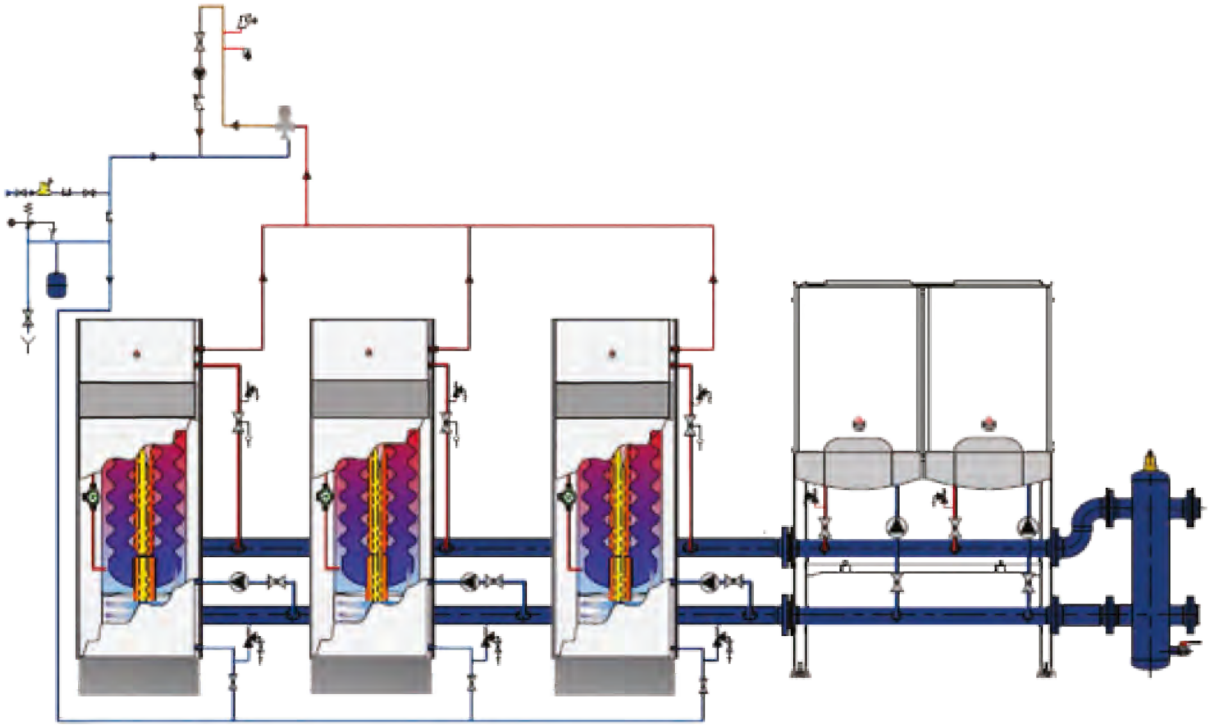

*Scheme 2 - HeatMaster® cascade system with control wiring.*



*Scheme 3 - HeatMaster® hydraulic cascade with low loss header providing domestic hot water and space heating.*



*Scheme 4 - HeatMaster® and Prestige® full cascade incorporating Prestige® boilers for additional kilowatt input. The only total condensing heating and hot water installation.*



# OUR SUPPORT

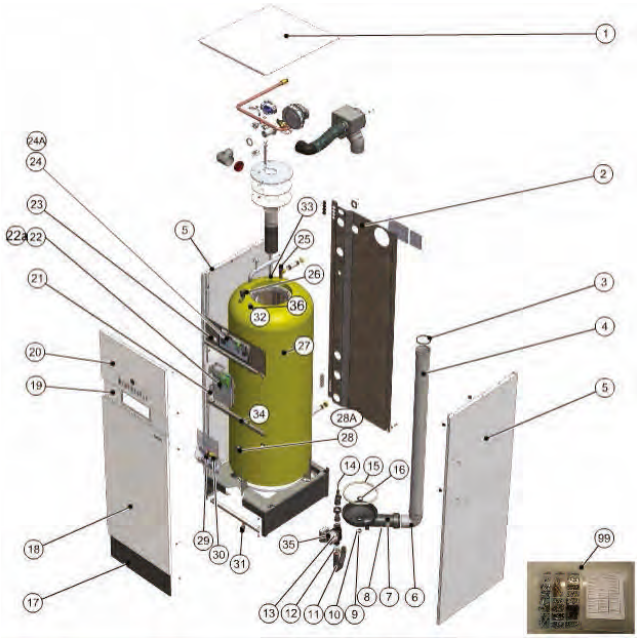
Our support doesn't stop once products are delivered to site. We can assist you after sale with the following services:

## Commissioning

We offer commissioning for all our products. Commissioning by our service agents is a great way to check that your installation is set up and operating in its most efficient state. Ask us about commissioning when you place your order.

## Spare parts

To help you look after your ACV products we keep spare parts available for a minimum of 10 years after end of sales of a product.
Our large online catalogue holds details of spare parts, both for current products and for discontinued products. With simple to follow exploded diagrams, you can easily identify the spare part you need.
**If you need advice on your product and purchasing spares items, get in touch.**



**spareparts.acv.com**

## CPD Seminars

We've been delivering CIBSE-accredited CPD seminars for many years, sharing our specialist hot water knowledge.

This CPD training is suitable for anyone involved in the management of hot water in commercial buildings, including consultants, contractors, public health engineers and specifiers.

You can choose from the following courses:

- Domestic Hot Water (DHW) Sizing Principles
- Tank-in-tank Technology Explained

CIBSE CPD

**Talk to us today 01383 820100**

# CALCULATIONS

## Sizing?

Need help sizing your hot water system, take a look at Archimedes on page 16

# NOTES

## CPD training

Learn more about hot water sizing principles and gain CIBSE CPD hours.
See page 68 for more details.

# HOW CAN WE HELP?

## Site survey

Book one of our hot water experts to visit your site and advise on the best solution.
**www.acv.com/gb/customer/contact**

## Training

View our full CIBSE-accredited CPD and product training offer online.
**www.cibse.org/membership/continuing-professional-development-cpd/directory-of-cpdcourse-providers/acv-uk-ltd**

## Discontinued products

Find installation manuals for all our products.
**www.acv.com/gb/customer/documentation**

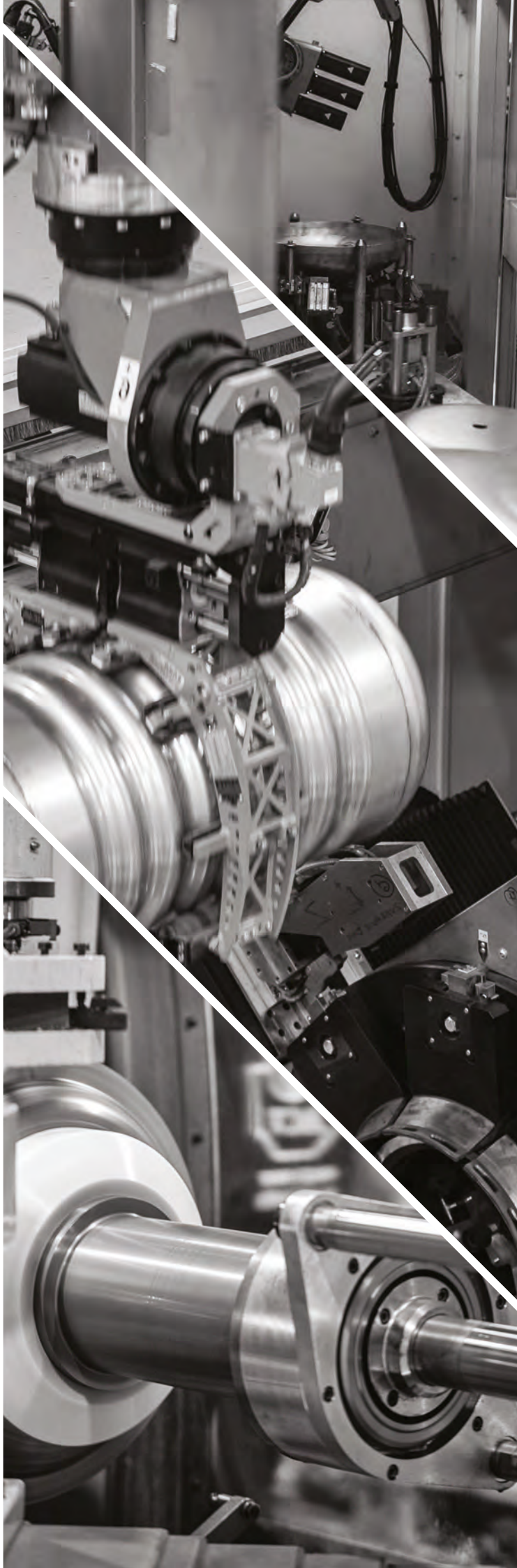
## Your local contact

We have business development managers across the UK to support you. Find out who your local contact is on our website.
**www.acv.com/gb/customer/contact**

## Technical support

You can call our in-house technical support team to help solve your queries from design to aftercare.

**01383 820100**



ACV has been designing, manufacturing and distributing heating and hot water products for commercial and residential applications since 1922.

## Need help?

T: **+44 (0)1383 820 100**
E: **uk.sales@acv.com**
W: **www.acv.com**

**ACV (UK) Ltd**
St. Davids Drive / St. Davids Business Park / Dalgety Bay / Fife / KY11 9PF



**400001004 A**

GROUPE ATLANTIC
UK, ROI & NORTH AMERICA DIVISIONS

**EXCELLENCE IN HOT WATER**
ACV