

2024 **PRODUCT GUIDE**

Low carbon, electric and gas domestic hot water systems for bespoke commercial building projects



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In the past decade, we have seen a seismic shift in thinking driven by the wide acceptance of the harmful effects of global warming and a need to address its root causes, culminating in the drive to make the UK net zero by 2050. COP28 has agreed a need to transition from fossil fuel consumption, yet with most of the national infrastructure currently 'on gas' and delivering half of the UK's non-transport primary energy needs, consultants, contractors, building owners and operators will be looking at their options.

Working with you for a lower carbon future



Under the current Government's Net Zero strategy, despite similar carbon intensities for heating from either gas or electric, the latest regulations as outlined in the Heat & Buildings Strategy deem gas systems alone to be too carbon polluting in commercial-scale buildings. The EU has aggressive plans to remove fossil fuels by 2040 and drive greater incorporation of solar systems and wider electrification, and we expect the UK to respond accordingly.

To decarbonise domestic hot water (DHW) applications there are currently two core technology options, air source heat pumps (ASHP) or solar thermal. Although both can provide low or zero-carbon heat, neither can fully replace an existing water heating system, since commercial DHW systems must operate in excess of 60°C. However, both technologies can be used as a source of preheat to reduce energy use. Both will work equally well with after heat provided by either gas or direct electric.


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WORKING TOWARDS A
**ZERO CARBON
FUTURE**

50
YEAR HISTORY

CONTINUED
GROWTH
IN TURNOVER
for 10 YEARS

IN HOUSE
TRAINING
FACILITIES



For buildings already on gas and that rely on large amounts of DHW - a large proportion of current commercial UK properties - solar preheat is the preferable option. Depending on the site and its energy consumption habits, solar thermal will typically provide around 30% of the hot water demand.

For new build properties, the expectation is for specification to default to a mixture of heat pumps and direct electric afterheat. This does however come currently with higher operational costs compared to equivalent gas-based systems. Commercial sites with existing gas should really look at continuing to use it.

While we must all recognise the importance of excluding fossil fuels from future commercial systems and advocate all-electric systems for new builds, it is important to understand the implicit costs and difficulties of retrofit and replacement of systems throughout the thousands of legacy commercial buildings that define the UK's urban landscape. The hybrid approach is unavoidable for commercial projects and is the most sensible, practical, and cost-effective option. Whether all-electric or using gas after heat, commercial organisations can actively drive sustainability and retain control of operational expenditure for decades to come.

Adveco historically traded as A.O. Smith Water Heaters

We can help you achieve
NET ZERO
by **2050**

Adveco's expanding portfolio of low carbon and renewable technology, high efficiency condensing gas water heaters and boilers, enables us to design, supply and support bespoke applications that work for you today. This means commercial hot water and heating systems are more cost-effective to install and operate, whilst delivering optimal efficiency that helps reduce carbon emissions. Critically, our approach will also futureproof your systems, bridging to emerging technologies that will ultimately deliver those nationwide net zero targets by 2050.

Thank you for accompanying us on this exciting journey.

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HOT WATER SPECIALISTS

LOW CARBON

ADV16W Air Source Heat Pump



R-32

- 16 kW
- Single and three phase options
- A+++ Seasonal space heating efficiency class Working flow 35°C / Ambient 7°C
- SCOP 3.41 Working flow 55°C / Ambient 7°C
- SCOP 4.62 Working flow 35°C / Ambient 7°C
- DHW 10-55°C
- Ambient operating range 43°C to -25°C



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The Adveco ADV16W monobloc air source heat pump (ASHP) provides an energy efficient solution that delivers domestic hot water (DHW).

It is a complete all-year-round, integrated heating system which can replace, or work in synergy with traditional gas or the latest generation of electric boilers as part of a hybrid DHW application.

The ADV16W offers the highest degree of efficiency without compromise to overall performance or reliability. Capable of providing continuous hot water supply up to 60°C for 55°C DHW, even when ambient air temperatures fall as low as -25°C, the ADV16W delivers effective pre-heat for hybrid DHW while significantly reducing building emissions.

Easy to install and operate

The ADV16W is designed for installation in any type of commercial property, especially buildings with limited space.

Being a compact monobloc system, its single unit, installed outdoors, maximises available space in the plant room. This brings significant cost savings, bringing significant cost savings as installation is quicker and easier. No need for refrigerant piping and the product is pre-charged at the factory.

Two-door design for easy access to internal components for easy maintenance. ADV16W provides Low voltage enable and fault signals, MODBUS support, built-in external pump and cascade controls and a remote digital control interface as standard. Energy consumption data for running cost analysis also comes as standard.

ADV22/30W Air Source Heat Pumps

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The ADV22W and ADV30W air source heat pumps are designed for larger commercial projects with greater daily demands for low-carbon domestic hot water (DHW). Created for three phase capacity installations, the 22 and 30 kW variants offer all the features of the ADV-W range of ASHPs in a compact, easy to install configuration that minimises footprint.

Low Global Warming Potential

The use of R-32 refrigerant with lower global warming potential (GWP) should any leak provides a proven, safe way to immediately reduce a building's energy consumption and operational costs. ADV-W ASHPs can therefore help reduce emissions to meet new carbon targets without compromising reliability or performance from compact form factors.

Cutting The Noise

ADV-W meets all considerations relating to noise pollution, providing quiet operation for enhanced comfort and an optimised working environment.

Ultra-low operational noise ensures workers, residents within the building and particularly neighbours are not disturbed.

At one metre, ADV-W ASHPs produce less noise than a normal conversation.

R-32

- 22 & 30 kW
- Three phase
- A++ to A+++ Seasonal space heating efficiency class. Working flow 35°C / Ambient 7°C
- SCOP 3.22 (22Kw) / 3.14 (30 kw) Working flow 55°C / Ambient 7°C
- SCOP 4.53 (22kW) / 4.19 (30kW) Working flow 35°C / Ambient 7°C
- DHW 10-55°C
- Ambient operating range 43°C to -25°C

HOT WATER SPECIALISTS

LOW CARBON

ADV65W Air Source Heat Pump



R-32

- 65 kW
- Three phase
- A+++ Seasonal space heating efficiency class. Working flow 35°C / Ambient 7°C
- SCOP 3.36 Working flow 55°C / Ambient 7°C
- SCOP 4.47 Working flow 35°C / Ambient 7°C
- Hot water output up to 65°C DHW 30-62°C
- Ambient operating range -20°C to +43°C
- Quiet operation, sound Pressure @1m A7W45 64dB(A) plus

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Available in two models (65 to 110 kW three-phase capacity) ADV65/110W ASHP provides an energy- efficient hydronic system for supplying heated water for DHW (domestic hot water) applications.

Or can be circulated to low-temperature heat emitters (floor heating loops or low-temperature radiators) to provide space heating. The 4-way valve in the outdoor unit can reverse the refrigerant cycle so that the hydronic system can provide chilled water for cooling using fan coil units.

SIMPLE TO INSTALL

All functions are achieved with a single outdoor unit, bringing significant cost savings. Installation is quick and easy with the integrated hydro module. There is no need for refrigerant piping and the product is pre-charged at the factory.

EFFICIENT PERFORMANCE

All DC Inverter enables quick start-up and less frequent start/stop, and more precise consumption on real load delivering efficient operation and energy savings.

DHW capacity, maintaining continuous hot water supply up to 65°C even with outdoor temperatures as low as -10°C. Minimum operation ambient temperature -25°C.

Refrigerant cooling technology with microchannel heatsink dramatically reduces heating of electric control system.

SMART CONTROLS FOR LARGE SCALE PROJECTS

Smart controls for intelligent climate curves that adjust water temperature automatically. Plus group control for up to a maximum of 16 units with one controller. Supports a maximum of 16 controllers for connecting up to 256 units to BMS systems

ADV110W Air Source Heat Pumps



R-32

- 110 kW
- Three phase
- A+++ Seasonal space heating efficiency class. Working flow 35°C / Ambient 7°C
- SCOP 3.23. Working flow 55°C / Ambient 7°C
- SCOP 4.23 Working flow 35°C / Ambient 7°C
- Hot water output up to 65°C DHW 30-62°C
- Ambient operating range -20°C to +43°C
- Quiet operation, sound Pressure @1m A7W45 64dB(A) plus silent mode option



The ADV110W

EASY TO MAINTAIN

Clear access to internal components for maintenance and USB function for programme upgrade.

DESIGNED FOR THE UK CLIMATE

Multiple layers of operational protection including alternative cycle duty/defrosting operation, back-up functionality and anti-corrosion protection.

ADV65/110W also reserves an auxiliary electric heater control port to provide additional heating capacity, plus backup in case of heat pump malfunction or anti-freeze protection of the outside water piping in winter.

Low Global Warming Potential

The use of R-32 refrigerant with lower global warming potential (GWP) should any leak provides a proven, safe way to immediately reduce a building's energy consumption and operational costs. ADV-W ASHPs can therefore help reduce emissions to meet new carbon targets without compromising reliability or performance from compact form factors.

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LOW CARBON

FPI32 Air Source Heat Pump Range



- Reduced operation costs
- 80% reduction in Global Warming Potential*
- Compact and easy to install
- Integrated controls for easy operation
- Low maintenance
- Very high Seasonal COP
- Quieter operation



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R-32

The Advenco FPI32 range of 6kW, 9kW & 12kW Air Source Heat Pumps (ASHP) delivers an easy to install method for commercial sites to achieve lower cost water heating or cooling.

The FPI32 range provides excellent levels of performance, especially throughout the UK's relatively mild winters. With sleek looks and quiet operation, this more compact monobloc design is capable of providing domestic hot water (DHW) at up to 55°C, or cool water to -7°C for use in fan coils.

The FPI32 range offers an above average system COP of as much as 5.23 for the 6kW and 4.94 for the 12kW variant. Seasonal COP offers a very high range from 4.71 (12kW) to 4.74 (6kW).

The cornerstone of a hybrid system

When packaged in combination with a gas appliance and control system, the FPI32 presents an attractive option to meet the hot water and space heating demands of a property with less adaptation.

The availability of two heat sources is extremely advantageous, giving a property the versatility of switching to the gas boiler at time of network peak. This not only reduces operational costs, but means the heat pump can be reduced in size, such as the compact FPI32-6 or FPI32-9. These hybrid systems can operate at a higher temperature grade, as well as remaining effective at very low temperatures when compared to a standalone electric ASHP system.

*Compared to R-410A FPI models

L70 Air Source Heat Pump



REDUCE
70%
OF CO₂ EMISSIONS
COMPARED TO GAS-BASED DHW SYSTEMS



A high capacity air-to-water monobloc heat pump designed to provide high temperature, hybrid, domestic hot water (DHW) and heating.

Rated 70kW for typical UK operation at 5°C, the L70 is perfect for large scale commercial applications and can operate as part of a cascade installation for projects demanding greater capacity.

Cut CO₂ Emissions from Hot Water & Heating

The L70 can deliver flow temperatures up to 60°C, providing 55°C preheat for hybrid applications, dramatically lowering CO₂ when analysed using the carbon intensity figures from the new SAP10.

Compared to gas systems, the carbon emissions are reduced by around 70% when using the L70's seasonal coefficient of performance (SCOP) of 3.47 (measured at 55°C flow temperature for the Ecodesign warm European temperature zone with a reference design temperature of 2°C).

- High capacity output up to 70 kW
- Compact design ensures efficient use of space
- Large DHW output range from 25°C to 60°C
- Cascade support for large and highly demanding applications
- Specifically designed for the UK climate, supporting ambient temperatures from -20°C to +35°C
- COP 3.65 (7°C ambient) to 2.83 (-10°C ambient) at 35°C water temperature
- Seasonal coefficient of performance (SCOP) as high as 4.08.
- SCOP of 3.39 measured at 35°C flow temperature (Ecodesign average European temperature zone with a reference design temperature of -10°C).
- Built-in automatic reverse cycle frost protection

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FUSION-E | FUSION-Eplus Electric Water Heaters

FUSION-T | FUSION-Tplus Packaged Renewable Electric Water Heaters



- | 300 - 750 litre capacity stainless steel hot water cylinders
- | 9, 12 or 24 kW mounted electric boiler
- | 6 or 12 kW FPI-32 ASHP preheat
- | 6 kW direct electric immersion heating for added resilience
- | 80 pre-sized variants, all with left or right pipework options
- | Compact, easy to install with pre-built pipework
- | Tough enough to resist corrosive soft water or minimises limescale in hard water areas
- | Dedicated control system for simple operation and maintenance checks

Advenco's next generation FUSION range offers a low carbon, all-electric packaged hot water system that mounts a choice of 9, 12 or 24 kW ARDENT electric boiler directly to a tough ATSI single-coil or ATST twin-coil stainless steel cylinder. Easy to install and maintain, FUSION water heaters are presized for commercial projects.

With the addition of a 6 or 12 kW FPI-32 air source heat pump (ASHP) to supply preheat, projects can integrate greater sustainability to reduce carbon emissions and control operational costs. Advenco's advanced controls balance the energy input from the ASHP and electric boiler to maximise system efficiency.

For projects requiring additional resilience FUSION provides the option to integrate a 6 kW electric immersion with automatic control and alerts for assured business continuity.



FUSION is a modern, future-proof system that embraces electric water heating and the option to incorporate air source heat pumps (ASHP) to lower carbon emissions in line with government calls for net zero. As an all-electric system, it uses familiar technology that is relatively simple and quick to install, cost-effective, reduces carbon emissions and removes dangerous NO_x emissions for improved indoor air quality (IAQ) for enhanced occupant comfort.

With an increased heating capacity over first generation Advenco FUSION systems, now up to 33 kW, the latest generation of FUSION systems offers greater versatility for meeting domestic hot water (DHW) demands across a range of properties used for commercial operations.

The packaged format enables flexibility to specify from a range of cylinders, primary electrical heating, air source heat pumps for pre-heat, immersions for back-up all supported by Advenco's bespoke controls to ensure optimal, efficient operation.

FUSION is a perfect response for building projects with small to medium basin and sink led hot water demands.

Designed for Greater Efficiency

The design of efficient systems depends on harmoniously balancing the different elements to ensure that they do not work against each other. FUSION, through a mix of innovative design and dedicated controls ensures the ASHP preheat and electric boiler work seamlessly to deliver the highest operational efficiencies.

FUSION controls incorporate a set of submetering options to monitor the heat pump, boiler and water flow. This provides clear sight of energy and water usage to better manage day-to-day operations. Timer controls and remote control via BMS ensure FUSION is only operating when required, maximising energy demands. For added resilience the FUSIONplus models incorporate automated controls and alerts for an immersion heater.

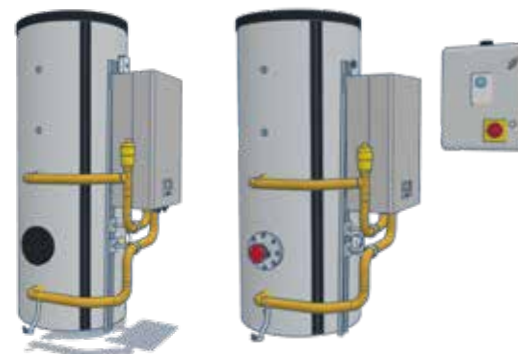
UP TO **56%**
CARBON EMISSIONS SAVINGS

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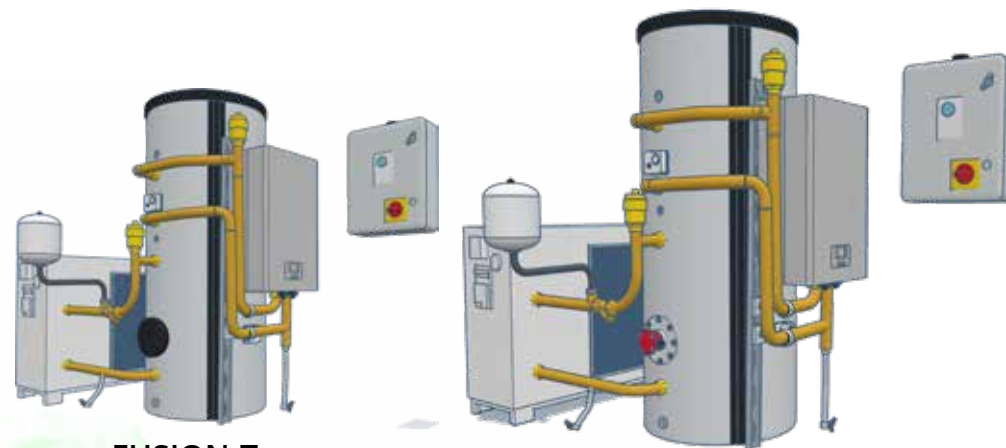
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FUSION-E

FUSION-Eplus



FUSION-T

FUSION-Tplus

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Solar Thermal System



Proven, Sustainable, Cost Effective

Designed to support commercial buildings which use large amounts of daily hot water, solar thermal will be a valuable addition to any new build hot water application as well as an ideal technology to address decarbonisation goals for existing properties with gas connections. Applications designed around our high-performance flat plate collectors with integrated drain back protection.

Combine with gas-fired water heating, electric boiler or heat pump and electric boiler to reduce energy demands, cutting carbon emissions and operational costs.

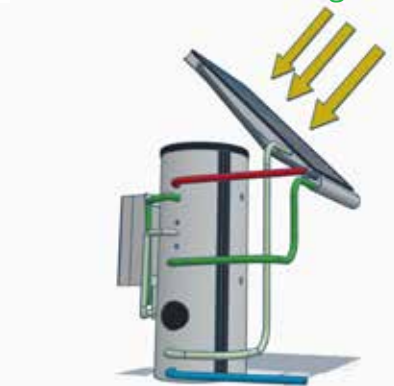
- Ideal for renewable applications with large roof area and predictable hot water demands
- Reliable, low maintenance with assured system longevity
- Smaller footprint than PV for equivalent thermal generation
- No operational noise for zero sound pollution



| Solar thermal preheat for gas-fired water heating



| Solar thermal preheat for electric water heating



| ASHP, solar thermal mid-heat & electric water heating





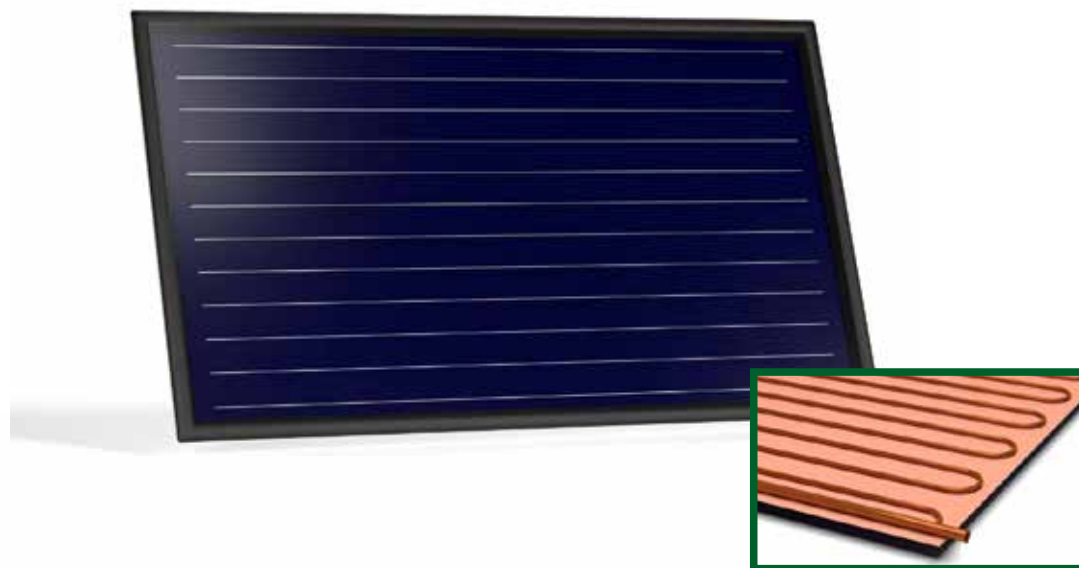
Collectors

Adveco's large flat plate collectors are designed to help reduce energy demands, cutting carbon emissions and reducing operational costs associated with the provision of hot water.

The large, modular design supports a variety of roof and wall mounting options to meet the needs of both new build and refurbishment projects.

The collectors house a low-weight, high-performance copper meander absorber manufactured with high-quality ultrasonic welding that assures system longevity and free movement of solar fluid within the collector plate.

- High-efficiency flat panel design
- High-performance copper meander absorber
- Supports mounting on most buildings
- Temperature resistant up to 200°C
- Dimensions LxWxD (mm) 2100 x 1200 x 85
- Weight 37 kg



| Flat plate collector with copper meander absorber which can be installed in a variety of ways to maximise collection of solar energy for water heating

Solar Thermal Systems



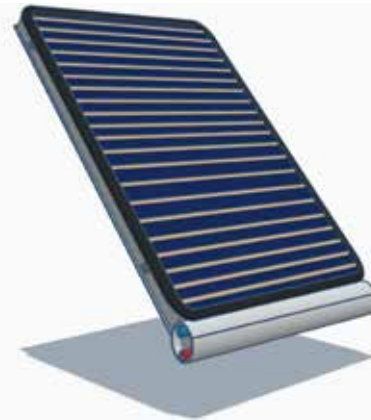
Drain Back Systems

Overheating and air pockets can lead to costly and potentially damaging malfunctions in solar thermal systems. Overheated glycol fluid in the collector and pipework can quickly render systems completely inoperable and, in worst case scenarios, can require a complete system replacement.

Adveco Drain Back counters these problems, as well as issues relating to high system pressure, dirty pumps and non-return valves, plus corrosion from acidic heat transfer medium all resulting from very high temperatures seen in modern solar thermal systems.

A simple gravity-driven process within the compact module Drain Back module ensures trouble free operation and system longevity for improved returns on investment in renewables for water heating in commercial buildings.

- Proven overheat protection concept
- Automatically drains fluid if power is cut
- Available in two versions 1190 & 2090
- Length 1.19m / 2.09m
- Volume 7 litres / 13 litres
- Collectroe field size 5m²/ 10m²



| Drain back unit integrated into flat plate collector



HR001 Heat Recovery

A standalone Heat Recovery Unit providing a convenient, packaged unit to recover refrigerant system waste heat.

Connecting between the fridge and freezer condenser units and a hot water installation, the HR001 is capable of achieving temperatures as high as 50°C.

Pre-wired and installed within a grey IP rated housing It incorporates two independent heat recovery circuits, plate heat exchangers, glycol pumps, temperature differential controller, expansion vessel, pressure relief and isolation valves.

Proven, Sustainable, Cost Effective

Deployed HR001 appliances run on average six hours per circuit per day, recovering 155 kWh per week of otherwise wasted heat.

Assuming 75% gas and 25% electric split, each unit on average provides more than £400 in annual savings, and can be considerably greater, meaning payback periods can be as little as 3½ years.

The HR001 is industry recognised for its innovation, named finalist in the commercial heating categories in the 2019 HVR Awards and winning Highly Commended in the 2020 H&VNews Awards' commercial heating category.

- Dual Fridge and Freezer Heat Recovery Circuits
- Supply 230V / 1ph / 50Hz
- Capacity 3kW per circuit
- Fluid 1 Refrigerant R404A / Fluid 2 Tycofor L
- Expansion Vessel 2L
- Protection IP55
- Weight 35kg
- Dimensions HxWxD (mm) 800 x 600 x 30



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HOT WATER



ARDENT Electric Boilers



The ARDENT range of wall-hung and floor-standing electric boilers provide a high capacity, reliable, and compact response for hot water and central heating demands in commercial buildings

Designed to serve an indirect water heater or heating system, multiple electric heating elements immersed into ARDENT's integrated water storage tank provide a rapid and reliable source of thermal energy for heat outputs from 9 to 100 kW

Integrates with heat pump systems to provide a high-temperature energy source during the coldest months

As part of an indirect hot water system can help eliminate scale build-up common on direct electrical immersion heaters

Features & Benefits

- Electric-only operation avoids reliance on gas energy supplies
- Multiple heating elements per unit provide built in redundancy
- Stepped element control to reduce start-up current and wear on heating elements
- Integrated overheat safety protection
- Simple integration into existing system

9-100 kW

- | ARDENT Standard Wall - Hung 24 & 36 kw Heat Output
- | ARDENT Plus Wall-Hung 9, 12 & 24 kw Heat Output
- | ARDENT Floor-Standing 60, 80 & 100 kw Heat Output

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Electric Water Heating

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I Stainless Steel Buffer Electric (SSB-E)

One or two element mounting flanges can be used to house up to four primary immersion heaters in addition to the back-up immersion heater, delivering electrical heating outputs of up to 84 kW with inbuilt redundancy.

I DRE Electric Water Heater

Three-phase electric water heater for commercial applications.

Fitted with 3 – 9 incoloy-sheathed elements to deliver heating capacities from 9 – 54 kW Water capacities from 200 – 300 litres.

I EES

EES is a vertical electric water heater with a capacity from 115 to 450 litres for small commercial applications. Two replaceable Incoloy-sheathed elements are provided with an independent control thermostat (adjustable: 43 – 77°C).

DRE & EES boast A.O. Smith's patented PermaGlas Ultra Coat second-generation glass coating technology to prevent corrosion.



I DRE ELECTRIC WATER
HEATER



I EES

AO Smith Water Heaters



Electric Immersions

I EB & E Electric Immersions

The Adveco EB and E series are a range of electric immersion heaters and kits for use with water heating systems. Capable of serving as primary or backup heat sources in a wide variety of applications, they are an excellent choice for low carbon top up heating when paired with renewables. Installation of supplementary electric immersion heaters also grants a reliable level of reserve heating capacity in the event of a primary heat source failure.

Adveco's Immersion heaters boast a Nicalloy 825 sheath with stainless-steel flange and gasket. Connecting directly into the clean-out access or side port of its compatible range of tanks, they are capable of reaching operating temperatures of up to 90°. The EB and E rangers offer a choice of 25 electric immersions with outputs ranging from 3 to 36 kW and operating pressures up to 6 and 10 bar.



I EB ELECTRIC IMMERSIONS

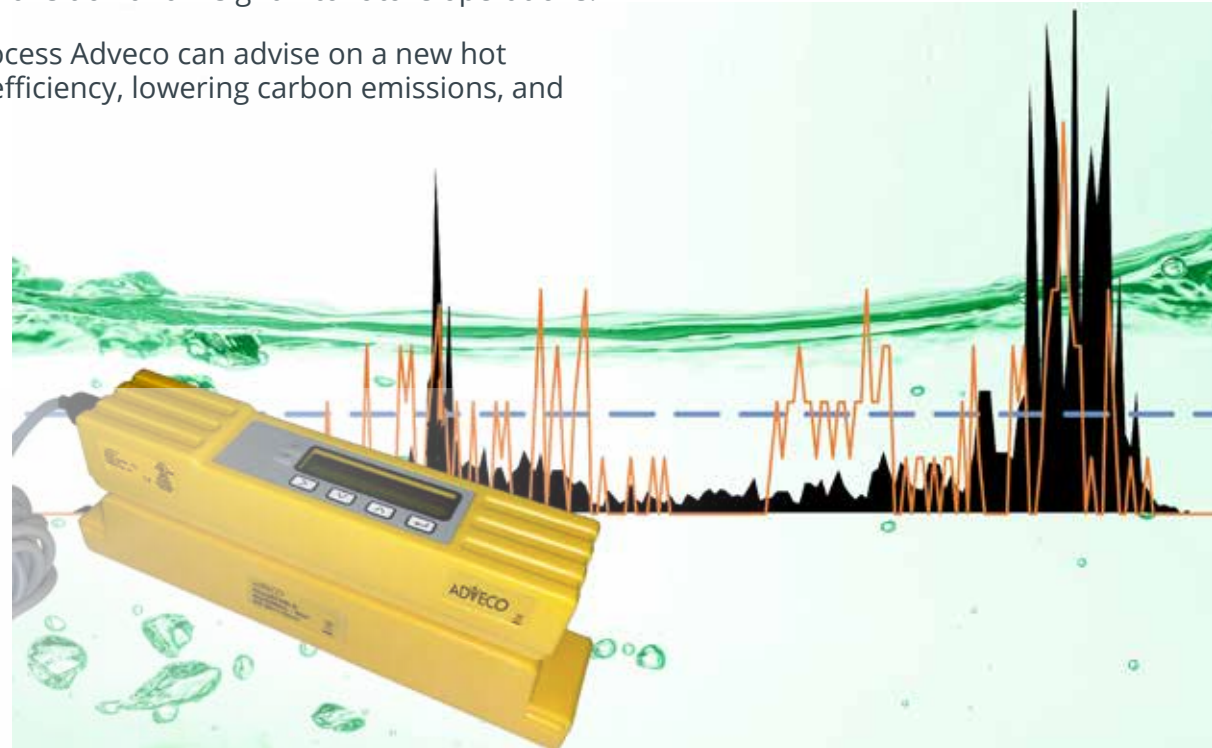
Live Metering

Data gathering, sizing and bespoke system recommendation for commercial properties intending to replace legacy gas-fired hot water systems.

Live Metering from Advenco supplies business-critical information to create more sustainable applications that are optimised to meet all hot water storage and delivery demands. All while critically operating within the capability of the existing electrical supply of the building for the most cost-effective transition and insight into future operations.

With factual data recorded during the typically 30-day Live Metering process Advenco can advise on a new hot water system which meets the demands of a building while increasing efficiency, lowering carbon emissions, and managing costs.

- ✓ Quick, non-invasive temporary installation
- ✓ Visual site assessment & engineering report
- ✓ Consistent 6 minute data 24 hours per day
- ✓ Bespoke theoretical hot water modelling
 - Daily & annual hot water demands
 - Annual estimated energy consumption
 - Annual estimated carbon emissions
 - Annual estimated operational costs
- ✓ 50% cashback of monitoring fee available



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Advenco AD Water Heaters

I AD 70T, 140T, 210T, 280T

The Advenco AD offers a range of floor-standing, high-efficiency condensing gas water heaters designed to provide a reliable way to meet large capacity, semi-instantaneous commercial domestic hot water (DHW) demands.

The AD range is ideal for soft water areas, providing quality and reliability you can trust for all your commercial DHW projects.

AD models are perfect for new building works as well as refurbishment projects from hotels and restaurants, to schools, hospitals, residential flats, leisure and wellness centres.

- Able to work in direct contact with mains water
- Modern, innovative and attractive design
- Appliances range from 70 kW to 280 kW
- 20% Hydrogen blend ready

H2O%



I AD 70T & 140T



IAD 210T & 280T

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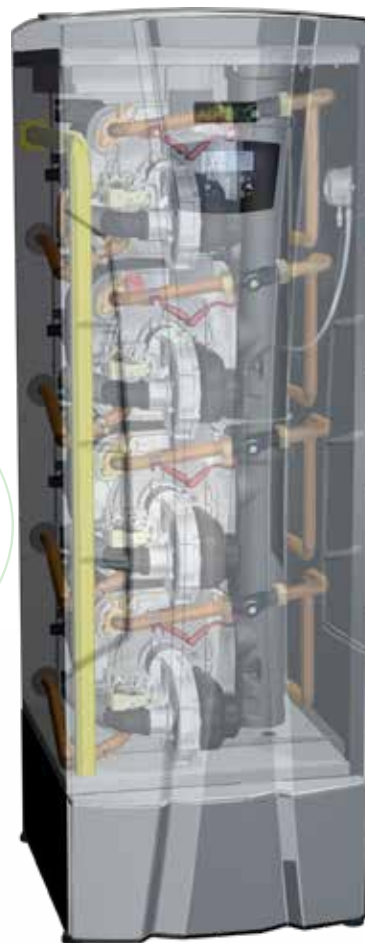
Features & Benefits

- High capacity semi-instantaneous and instantaneous production of domestic hot water
- Modern, compact floor standing arrangement
- Extremely high quality AISI 316Ti heat exchangers for lasting reliability and efficiency
- Multiple heat engines for improved efficiency and built-in redundancy (AD 140T, 210T, and 280T)
- High efficiency pre-mix burner provides large modulation range
- High maximum run pressure up to 11 bar
- Turndown ratio up to 1:20
- Low emissions, built with Class 6 technology for NO_x at 27mg/kWh
- Supports natural gas or LPG
- Acid condensate neutraliser included
- Integrated flue back preventer
- Flue gas non-return valve for overpressure cascade flue systems
- Standard flue systems using low cost 110-160 mm diameter PP

106%
combustion efficiency

Reduced energy costs via efficient use of fuel energy

5 YEAR
HEAT EXCHANGER &
BURNER WARRANTY



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Low CO
19 ppm

Low NO_x
27 mg/kWh

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Advenco ADplus Instantaneous Water Heaters

I ADplus 70T, 115T, 140T

ADplus is a range of high-power gas-fired condensing water heaters offering three variants with 70 kW, 115 kW and 140 kW rated heat output.

ADplus is designed as a high-capacity and reliable method for delivering instantaneous hot water to a commercial building. The built-in stainless steel 120-litre storage tank enables the ADplus to serve as a semi-storage system, providing always available and instantaneous supply with quick recovery times for large-scale continuous provision of DHW. For smaller on-demand needs, ADplus heats what is necessary, with no ignition for smaller withdrawals providing considerable energy savings.

- + Fast recovery times
- + Able to work in direct contact with mains water
- + Modern, innovative and attractive design
- + Appliances range from 70 kW to 140 kW
- + Ultra-low carbon and NOx emissions
- + 20% Hydrogen blend ready

H2O%

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Features & Benefits

- High capacity instantaneous production of domestic hot water
- Built-in 120 litre water tank
- Modern, compact floor standing arrangement
- Extremely high quality AISI 316Ti heat exchangers for lasting reliability and efficiency
- Multiple heat engines for improved efficiency and built-in redundancy (ADplus115 & 140)
- High efficiency pre-mix burner provides large modulation range
- High maximum run pressure up to 11 bar
- Low emissions, built with Class 6 technology for NO_x at 27mg/kWh
- Supports natural gas or LPG
- Acid condensate neutraliser included
- Integrated flue back preventer & non-return valve for overpressure cascade flue systems
- Standard flue systems using low cost 110-160 mm diameter PP



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5 YEAR
HEAT EXCHANGER &
BURNER WARRANTY

Low CO
19
ppm

Low NO_x
27
mg/kWh

106%
combustion efficiency

Reduced energy costs via efficient use of fuel energy

Advenco AD Wall-Mounted Water Heaters

I AD 16, 22, 27

The Advenco AD wall-mounted range of high efficiency condensing gas-fired water heaters is designed to provide a compact, high capacity and reliable method for delivering instantaneous hot water to a building

These 'A' class energy efficient water heaters are available in three rated heat outputs, 27 kW (AD16), 33 kW (AD22) and 61 kW (AD37).

When combined with a water cylinder, AD wall-mounted helps meet peak withdrawals without increasing the water heater power. AD wall-mounted can also integrate with solar thermal systems to supply top-up heating when solar radiation during winter months is not enough to guarantee the required temperature for DHW demands.

By reducing energy consumption, AD can deliver operational savings of up to 30% compared to traditional water heaters for a wide range of commercial applications that demand large production of DHW, such as sports facilities, gyms, B&Bs, cafés, and other light commercial businesses

- Extremely compact wall-mounted form factor
- Appliances range from 27 kW to 61 kW
- Durable design for both soft and hard water applications
- 20% Hydrogen blend ready



H2O%

IAD 16, 22 & 27

Features & Benefits

- Instantaneous production of domestic hot water (DHW)
- Compact wall-mounted arrangement
- Extremely high quality AISI 316Ti heat exchanger for lasting reliability even in soft water
- High efficiency pre-mix burner provides large modulation range
- Built-in circulating pump for instant response and reduced scale
- Low emissions, NO_x at 16-29mg/kWh
- Carbon emissions just 10-19 ppm
- Supports natural gas or LPG
- Standard flue systems using low cost 80/125mm diameter PP

107% combustion efficiency
Reduced energy costs via efficient use of fuel energy

Condensing Gas Water Heaters

I BFC Cyclone

A wide range of condensing gas water heaters.

Nominal outputs from 31 – 122 kW

Efficiencies up to 97% gross

Water capacities from 217 – 480 litres

One year parts and labour warranty (three years on tank)

I IR Innovo

A range of fully room-sealed condensing gas water heaters.

Efficiencies up to 98% gross

Outputs from 11.7 to 31.3 kW

Water capacities from 160 – 380 litres

NOX emissions from 22 – 37 mg/kWh

Two years parts and labour warranty (three years on tank)

I Twister II

A fully room-sealed stainless steel condensing gas water heater

Efficiencies up to 93% gross

Stainless steel tank; no anodes simplify maintenance

Premix Low-NOx burner

Plug-and-Play technology for quick and easy installation



I IR INNOVO



I BFC CYCLONE



ITWISTER II



Stainless Steel Buffers & Calorifiers



I SSI

I SSB-D

I SSB, SSI, SST

Versatile range of high quality domestic hot water tanks constructed from high-grade AISI 316L austenitic stainless steel suitable for use as hot water buffers, and single or dual core calorifiers from 200 – 2,500 litres.

- Available with 0, 1, or 2 high capacity stainless steel heat exchange coils from 18 – 108 kW each.
- Up to 216 kW with two coils
- Electric immersion capacities from 3 – 84 kW
- Direct connection flanges for use with high flow instantaneous water heaters

I Stainless Steel Buffer Direct (SSB-D)

Using a specialised flange in the lower port of the SSB, direct large bore flow and return connections can be made to a water heater.



ATSx Hot Water Tank Range

The Advenco ATSx range of stainless steel hot water tanks serve as buffer vessels and indirect hot water calorifiers suitable for use with lower capacity, high pressure commercial applications in all water conditions...

I ATSI - Stainless Steel Indirect Cylinders

A high-quality indirect water heater. Each vessel features a single internal fixed heating coil at low level for use with an indirect heat source, as well as multiple connection points and a clean-out access flange.

I ATST - Stainless Steel Twin-Coil Cylinders

Twin coil indirect water heater. Each vessel features two internal fixed heating coils, at low and high level, for use with indirect heat sources, as well as multiple connection points and a clean-out access flange

I ATSH- Stainless Steel High Capacity Cylinders

A single high-capacity coil indirect water heater for use with a high powered indirect heat source, as well as multiple connection points and a clean-out access flange

I ATSR - Stainless Steel Renewables Cylinders

A high-quality indirect water heater featuring two internal fixed heating coils with an increased surface area designed for use with renewable heat sources, at low and high level, as well as multiple connection points and a clean-out access flange.

I ATSB - Stainless Steel Buffer Cylinders

A high-quality buffer vessel featuring a single high-capacity coil, multiple connection points as well as a clean-out access flange.

- Vessels rated up to 1000 litres
- 10 bar as standard
- Single coil, twin coil and plate heat exchanger options for maximising transfer of energy
- Corrosion resistant stainless steel construction



I ATSI



I ATST



I ATSH



I ATSR



I ATSB

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GL Hot Water Cylinders

The Adveco GL family of hot water cylinders for commercial vented and unvented hot water (DHW) applications.

Available in three ranges - GLC, GLE and GLT - and offering a wide range of sizes and configurations, GL addresses the bespoke needs of commercial hot water projects including direct electric heating, buffer storage, indirect heating & preheat.

I GLC 200 -3000 - Indirect Cylinders

Calorifiers with a single fixed indirect heating coil to serve as indirect water heaters or preheat vessels for vented and unvented domestic hot water applications. Available in 200 to 3000 litres capacities and can also accept a 180mm 3-36kW electric immersion. 200 to 1000 litres models also incorporate an additional side connection providing greater versatility for installation.



I GLE 200-5000 Buffer or Electric Water Heater

Designed to serve as buffer vessel or electric water heater with sizes from 200 to 5000L. The GLE supports duty immersions from 3 to 36 kW, as well as secondary supplementary immersions from 3 to 6 kW for additional heating



I GLT200-3000 Twin-Coil Calorifier

Twin-coil calorifiers serve as indirect water heaters for vented and unvented domestic hot water applications. Available in 200 to 3000 litres capacities, the tanks incorporate two fixed indirect heating coils designed for use with two separate heat sources. 200 to 1000 litres models also incorporate an additional side connection providing greater versatility for installation.



- Tough carbon steel shell
- High-quality corrosion-resistant enamelled inorganic lining
- Magnesium sacrificial anode and temperature gauge included as standard
- Tank working temperatures up to 85°C
- Tank maximum working pressure up to 10 bar
- Tough PVC jacket enclosing rigid high-density polyurethane foam or removeable polyester fibre insulation for 750 L or greater models for easier installation.



AO Smith Indirect and Storage Tanks

I Indirect and Storage Tanks Range

I Zero to two internal heating coils with capacities from 46 – 156 kW

I 300 – 3000 litres for a wide range of applications

I A.O. Smith patented PermaGlas Ultra Coat second-generation glass coating technology prevents corrosion.

I IT

An indirect water heater for a wide range of applications. This water heater is fitted with 1 heat exchanger. This appliance is available in capacities varying from 300 to 2800 litres. The tank has a PermaGlas Ultra Coat second-generation glass coating to prevent corrosion.

I ITS

An indirect water heater for a wide range of applications. This water heater is fitted with two single-wall spiral heat exchangers. This appliance is available in capacities varying from 289 up to 1007 litres.

I ST

A storage vessel is available in capacities varying from 208 up to 2820 liters which makes it very suitable to numerous applications. The ST storage vessel has PermaGlas Ultra Coat second-generation glass coating to prevent corrosion



I INDIRECT AND STORAGE TANKS - IT, ITS, ST

MSS Premium Carbon Steel Buffer Vessels

A range of carbon steel primary system buffer vessels carefully designed to fit any hot water or heating application that requires an inertia tank or energy storage vessel.

The MSS range features numerous high-, mid-, and low-level connections to ensure compatibility with almost any heating application. Such tappings enable the tanks to be used with multiple return flow temperatures or multiple heat sources, such as renewables or low- and high-grade heaters.

MSS vessels are ideal for hot water applications using heat pumps operating at lower temperatures as greater flow is needed to raise the kilowatts of the system.

The range includes buffer vessels with capacities from 300L to 5,000L. All tanks are rated to 6 bar working pressure standard, options to 10 bar, and temperatures up to 95°C.



| MSS Premium Carbon Steel Buffer Vessels

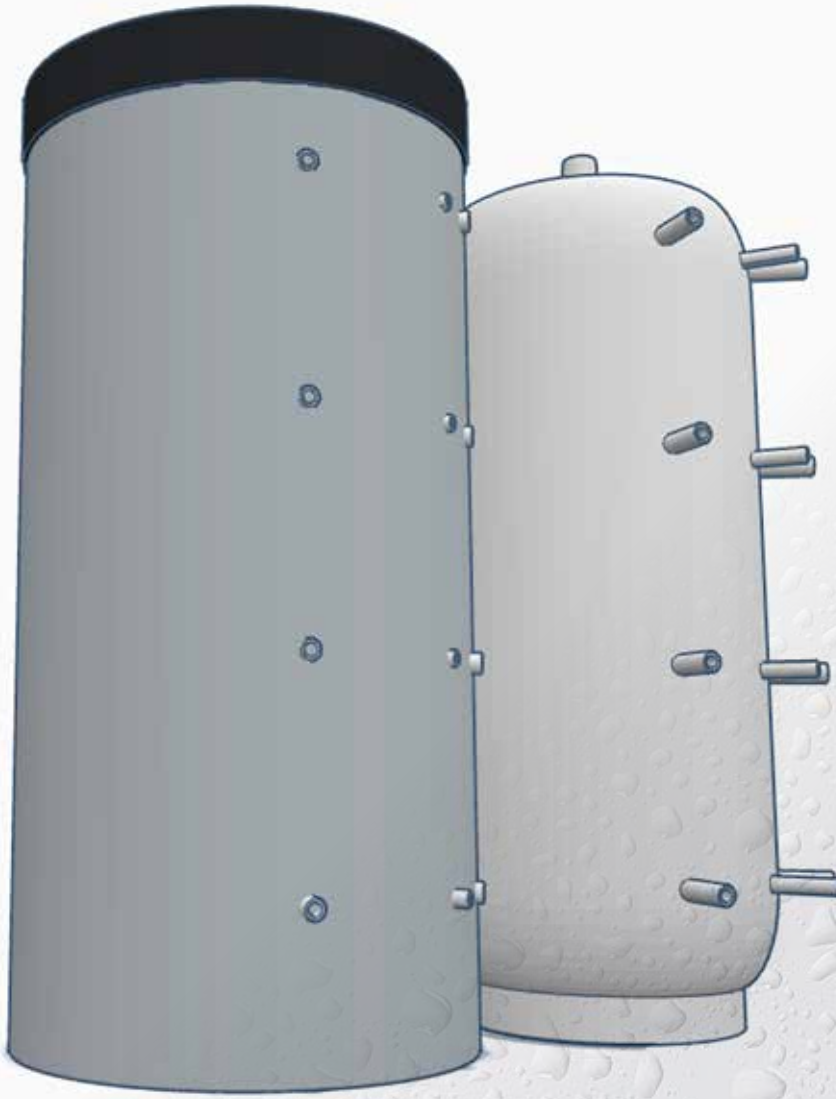
- From 300 – 5,000 litres
- Rated for 6 bar working pressure as standard.
10 bars options available on request.
- Working temperatures up to 95°C

Buffers

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I MSB Carbon Steel Buffers

A standard range of carbon steel primary system buffer vessels designed to fit most heating application that requires an inertia tank or energy storage vessel.

The MSB range features numerous high-, mid-, and low-level connections to ensure compatibility with almost any heating application. Such tapings enable the tanks to be used with multiple return flow temperatures or multiple heat sources, such as renewables or low- and high-grade heaters.

I MSB Carbon Steel Buffers

- From 300 – 5,000 litres capacity
- Rated 3 Bar standard. Options to 6 Bar working pressure
- Working temperatures up to 95°C

CWS Premium Carbon Steel Chilled Water System Tanks

CWS is a specialised range of premium carbon steel primary system vessels designed to serve a diverse range of cooling applications typically incorporating heat pumps, chillers or fan coils which require chilled water storage.

The CWS range offers 10 models from 300 litre to 5000 litre capacity. This extra capacity enables a chiller system to considerably improve performance by ensuring better temperature control, increasing chiller longevity, reducing condenser cycling and improving system start-up times.

Each vessel features multiple large bore flanges providing high-capacity connections as standard at high and low levels providing greater versatility to cater for a wide range of system applications with moderate to high flow rates. These tappings enable the tanks to be used with multiple cooling sources, including heat pumps.

Each CWS tank is supplied with dual-layer insulation, the inner lining providing an anti-condensation underlay, and then a further 100mm of outer insulation.



| CWS - Premium Chilled Water System Tanks

- From 300 – 5,000 litres
- Large connections for a wide range of commercial applications
- High, mid, and low-level connections
- Dual insulation featuring inner anti-condensation lining
- Rated for 6 bar working pressure as standard.
- Ideal for use with heat pump based cooling

CWT - Chilled Water Tank

A versatile range of 18 carbon steel primary system vessels from 300-5000 litres. The CWT range has been carefully designed to serve a wide range of central heating and chiller applications that require a tank or energy storage vessel to expand the total system volume and increase thermal inertia.

The CWT features high and low-level flow and return connections, plus additional middle connections to cater for systems featuring multiple heat or chiller sources, low and high-grade sources, or varying flow and return temperatures.

I CWT - Chilled Water Tanks

- From 300 – 5,000 litres
- 3 bar working pressure. 6 bar on request.
- Working temperature range -10 to +95 C
- High-quality carbon steel construction
- Multiple high, middle and low connections



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MD High Capacity Floor-Standing Condensing Gas Boiler Range



Fully condensing with low flue gas temperatures

Models with heat inputs of 70, 140, 210 and 280 kW Improves energy efficiency

Enables use of low-cost PP flues

Output range from 14 kW – 2.24 MW with turn down ratio as great as 20:1

Patented AISI 316Ti (titanium-stabilised stainless steel) heat exchanger

Durable and corrosion resistant

11 bar working pressure

Suitable for large, high pressure applications

Class 6 Low NOX emissions

34 mg/kWh, satisfies ErP directive

Integrated flue gas non-return valve

Enables overpressure flue systems

Prevents flue gas recirculation

Intelligent system controller

Includes maintenance self-check

for BMS integration

Acid condensate neutraliser

Refillable limestone bed reduces acidity

Space saving design

Stacked heat exchanger design delivers maximum output from minimal footprint



106%
COMBUSTION
EFFICIENCY


LOW NO_x
34mg/kWh

5 YEAR
HEAT EXCHANGER &
BURNER WARRANTY

H2O%

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MD High Capacity Wall-Mounted Condensing Gas Boiler Range



5 YEAR
HEAT EXCHANGER &
BURNER WARRANTY

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A range of 10 high efficiency commercial wall-mounted gas condensing boiler variants with rated heat outputs of 15, 24 and 34 kW for light commercial central heating and DHW projects.

The MD15, MD24 and MD34 have two variants to accommodate either central heating only or DHW via an indirect water heater. A third variant of the MD24 and MD34 includes an integrated Plate Heat Exchanger for instantaneous DHW.

With a 60kW heat output, the MD60 is designed to meet the demands of commercial central heating. Available in two variants, it can be selected with (MD60C), or without (MD60A), an integrated system pump.

MD offers integrated run/fault signal for connection to a BMS system. With 0-10 V input on the MD, a BMS system incorporating interior/exterior sensors can deliver automated heating control with these boilers.

The entire MD wall-mounted range is supported by a two-year parts and labour warranty when boilers are commissioned by Adveco. Burner & heat exchanger come with a five year guarantee.

I MD15, MD24, MD34

Ultra-low NOX emissions at 25-31 mg/kWh

Uses low cost 60/100 mm diameter PP concentric flue system

Natural gas or LPG

I MD60

Ultra-low NOX emissions at 27.9 mg/kWh

Uses low cost 80/125 mm diameter PP concentric flue systems

Natural gas or LPG

H2O%

HOT WATER SPECIALISTS

Bespoke Prefabricated Plant Rooms



- | Relocate essential services and maximise space
- | Protect project timescales
- | Improve quality and speed of works
- | Improve the sustainability of your building
- | Reduce a building's energy demands & cut operational costs Gain system resilience



Adveco will size, design, and manufacture to order bespoke Packaged Plant Room enclosures suitable for placement beside or on top of buildings with a flat roof space. Integrating and combining gas, electric and low carbon technologies including ASHP, into a single packaged hybrid system also provides a timely answer to meeting new sustainability targets while future-proofing the system for integration with new energy sources, such as green gas and hydrogen. When delivered to the project location, the plant room module can be easily sited, requiring just external pipework and final electrical connections to be completed.

Advenco Packaged e-32 Hot Water System



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The Advenco Packaged E-Hot Water System standardises our plant room offering with a system built around an inverter-driven Advenco FPi-9 ASHP mounted on the outside of a reinforced wall of the GRP housing, and an Advenco 200L GLC indirect preheat tank. This preheated water is transferred into an Advenco 200L GLE direct electric water heater that provides reliable high-temperature water in a convenient, packaged unit.

Advenco's Packaged E-Hot Water System makes particular use of the FPi-9 ASHP to provide the system preheat from 10°C to 50°C, supplying 70% of the DHW load.

Purpose specified immersions lower the heat intensity, without detrimental effect to the demands for hot water, meaning the Packaged E-Hot Water System is also more resistant to scale.

Advenco's Packaged E-Hot Water System is ideal for a wide range of commercial properties with regular hot water demands such as restaurants and boutique hotels, offices, schools, and light industry. The system is also perfect for both new builds or refurbishment where space is at a premium.

Control your CO₂ and NO_x emissions

The ASHP based pre-heat configuration, used in the Advenco Packaged e-Hot Water System, can demonstrate a 47% reduction in CO₂ emissions for the same output of 500,000 litres of hot water each year when compared with a similar direct electric-only system. Advenco's MD boiler and AD water heater ranges offer market-leading efficiency, for some of the lowest emissions for their category.



HOT WATER SPECIALISTS

SERVICES

Application Design & System Sizing

- Bespoke applications and system design catered to the client's needs
- On-site metering and assessment services to set accurate system design requirements
- Meticulous inhouse sizing and manual checking for more accurate and effective results
- Avoid costly oversizing
- As an independently operated business, the application design team will recommend optimal products or can help meet client preferences to achieve best results
- Improve efficiency to gain more from capital investment and reduce operational expenditure across the life of a system



Peace Of Mind For Your Business-Critical Systems

- Ensure the installation is tested and meets all current legislation
- Unlock extended and labour warranties with Advenco commissioning
- Receive priority callout in the unlikely event of a breakdown within the warranty period
- Faster, single visit resolution with official parts always carried on our vehicles
- Extended product warranties will start from Advenco commissioning date and not delivery date

MANUFACTURER APPROVED COMMISSIONING



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Dedicated training facilities at Advenco's Farnborough headquarters



Accredited Training

As a provider of heating and hot water technologies, Advenco Ltd. is committed towards the continued growth of knowledge and experience of professionals in the energy and sustainability sector.

Accredited with CIBSE, we are pleased to be able to provide Continuing Professional Development (CPD) seminars for the industry and customers. A range of training courses hosted at your venue, remotely via the web or within the training facilities at Advenco's head office in Farnborough are available now. Contact us or visit <https://adveco.co/training/> to learn more or request a session.

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Designing, supplying and servicing domestic hot water systems that help best address the needs of commercial buildings for our zero-carbon future



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For Award Winning Expertise In Sustainable Hot Water

