

ADVECO

ADplus Water Heater Range

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Adveco ADplus Water Heaters



Tough, floor-standing condensing high capacity water heaters with built-in storage for instantaneous commercial DHW applications

- + Highly efficient for lower operating costs
- + 70 kW, 115kW and 140kW variants
- + Ultra-low carbon and NO_x emissions
- + Fast recovery times
- + Works in direct contact with soft mains water
- + Long-lasting titanium stainless steel construction
- + Built-in redundancy*
- + Compact space-saving, cost-saving design

H2O%



*ADplus115 & 140



Low NO_x

27
mg/kWh

Low CO

19
ppm

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The New Priority - Reducing Energy Used For DHW

Energy saving legislation and commercial building insulation techniques have significantly reduced heating demands, resulting in greater focus on the need to address fuel consumption and emissions generated by the production of hot water.

At the same time the popularity of high performance showers, cascade showers, jacuzzis, wellness and fitness centres, have driven up daily demands for year round hot water within the commercial sector.

The extremely efficient Ecologic pre-mix burner enables the ADplus range to achieve ideal combustion efficiency (106% net). Optimised burning reduces the amount of fuel consumed and minimises carbon and NO_x emissions in the atmosphere.

The ADplus range also offers whisper quiet operation (as low as 66dB).



FEATURE & 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
- 20% hydrogen blend compatible

The Adveco ADplus for reliably delivering consistent, low peak, commercial hot water (DHW) demands...

PERFECT FOR REFURBISHMENT PROJECTS

With a floor-standing vertical layout, ADplus water heaters are able to optimise valuable plant room space, delivering high power from a smaller footprint. With just 10cms clearance required between each unit, even large systems remain compact and straightforward to install. Featuring single or dual 70 kW condensing AISI 316Ti (Titanium) stainless steel heat exchangers, ADplus can also be installed in cascade sequence of up to eight units delivering 1120 kW for larger scale commercial projects.

LOWER ENVIRONMENTAL IMPACT

Reduce energy use, costs and emissions from buildings that are already on-gas or off-grid. Ultra-low CO and NO_x emissions.

FAST RECOVERY TIMES TO MEET CONSTANT DEMANDS

Able to rapidly reload the built-in 120 litre storage tank for fast recovery times. Up to 2534 l/h at ΔT 50°C. ADplus is ideal for DHW applications with low peak demands and high continuous withdrawals, without any problem for small withdrawals, as typically seen in restaurants and canteens

RESISTANT TO MOST MAINS WATER CONDITIONS

ADplus' titanium primary heat exchangers can be directly supplied by mains water while remaining resistant to aggressive chlorinated waters and corrosive soft water. With a built-in recirculating pump, ADplus not only maximises performance from the heat exchangers, but also protects them from limescale deposition to increase the system's lifespan

ADplus Key Components

AIR FILTER

Protects the burner, combustion chamber and heat exchanger from dust and impurities, ensuring enhanced efficiency

HEAT EXCHANGER WITH PREMIX BURNER

Patented design with titanium stainless steel construction for exceptional resistance to corrosion. Premixing ensures the air/gas ratio is constant at each point of turndown, reducing polluting emissions and optimising efficiency

CONDENSATE ACIDITY NEUTRALISER

Specifically sized to restore tolerable pH values. Significantly reduces the acidity of condensing water

CONDENSATE BLOCKED DRAIN SWITCH

Condensate level sensor blocks the boiler when the condensate level is above the permitted threshold



FAN & FLUE BACK PREVENTER

Stops possible flue gas recirculation between different exchangers

ANTI-LIMESCALE RECIRCULATING PUMP

Load the water storage tank while preventing the formation of limescale on the heat exchanger surface, for long term high performance

BUILT-IN STAINLESS STEEL TANK

Corrosion resistant 120 litres storage tank with electronic anodic protection and high-quality polyurethane thermal insulation



High Quality Manufacture

Multiple heat exchanger in ADplus 115 & 140

By combining two load-balanced heat engines within a single floor standing chassis, ADplus 115 & 140 ensure uniform wear and built-in redundancy as standard.

Continuous non-welded run and large bore, three-pass design

Durable and corrosion resistant titanium-stabilised stainless steel construction provides high-capacity heat transfer, high flow rates, with minimal pressure loss and corrosion resistance. The unique, efficient three-pass design uses large bore, circular cross sections to reduce scale formation.

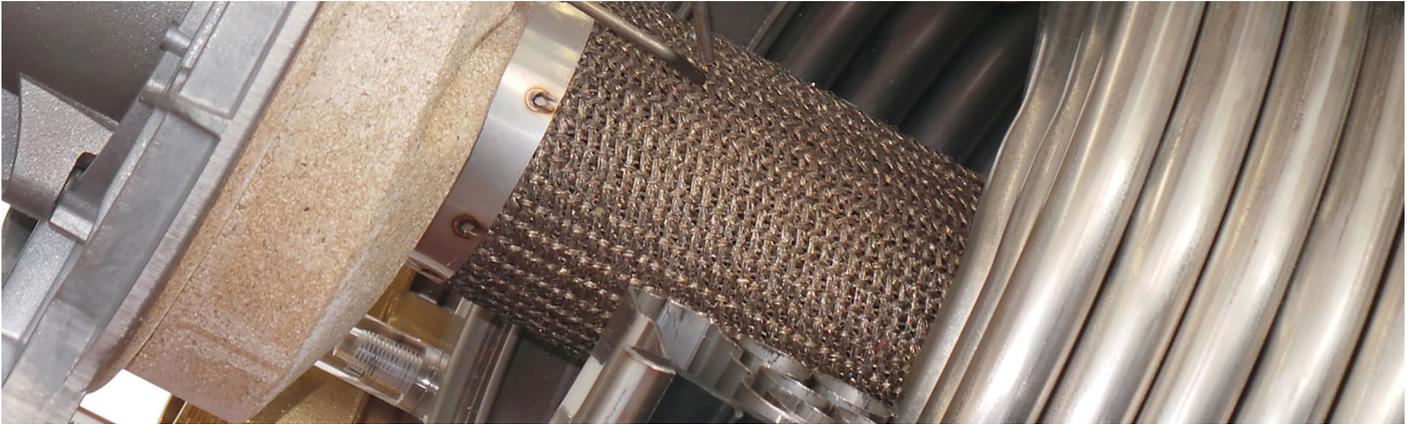
Five-year heat exchanger and burner warranty

Peace of mind with long-term warranty from failure or manufacturing defect. Includes two year commissioned warranty for all parts and labour.



ADplus water heaters feature AISI 316Ti titanium-stabilised stainless steel heat exchangers

Optimal Efficiency For Improved Savings



The Ecologic premix burner, manufactured from high performance Fecralloy to deliver at very high temperatures, spreads short and perfectly nourished flames for high-efficiency combustion. This patented system, optimised through a constant air/gas ratio at each point of the turndown range. High efficiency DHW is then maximised by guaranteeing the speed of the inlet water inside the heat exchanger. ADplus achieves this by regulating the correct water flow in accordance with inlet water hardness.

106% combustion efficiency
Reduced energy costs via efficient use of fuel energy

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Easy To Install And Maintain

With a floor-standing vertical layout, ADplus water heaters are able to optimise valuable plant room space.

Featuring single or dual 70 kW condensing AISI 316Ti Titanium stainless steel heat exchangers, ADplus can be installed in cascade sequence of up to eight units delivering for larger-scale commercial projects which remain compact and straightforward to install.

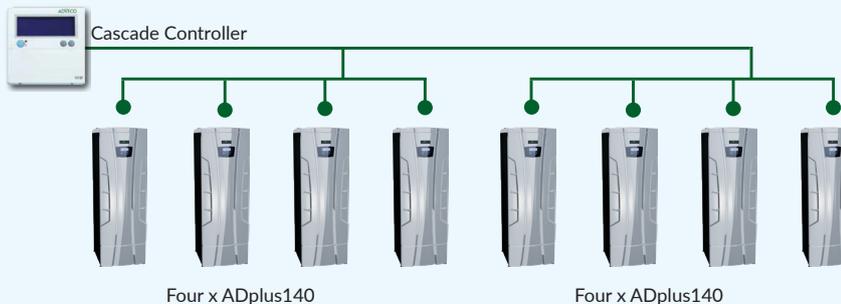
- Compact size and weight that will fit through a standard 65cm wide door
- Floor standing arrangement with adjustable feet
- No need for an expensive frame
- Full access from the front for easy maintenance
- Pre-wired terminal box for easy electrical connection of sensors, pumps and control boards
- Ideal for soft water applications. Hard water areas over 150ppm require use of a water softener down to 100ppm.



<65cms working clearance>

ADplus in Cascade

Connect and control up to eight ADplus140 units in cascade for 1120 kW



- No framework requirement for immediate cost savings. Connect at a minimum of 10cm to occupy less plant room floor space
- Full temperature control and self-check maintenance functions
- Up to 325/min of DHW at Δt 50°C

More Efficient Control

The ADplus range's digital back-lit control panel provides intuitive electronic temperature control, water flow monitoring and setting of correct water speed according to hardness. This helps prolong the life of the heat exchanger and efficiency of the system.

The control board also displays boiler phases and error messages.



Seamless System Integration

With an optional 885IF interface, control of AD water heater is enabled through 0-10V analog signal, MODBUS digital signal or dedicated interface, that can be integrated to all devices with Lon-Works or BACnet protocol.

Perfect for commercial, industrial and apartment systems.

ADplus can be configured, monitored and remotely controlled to reduce energy consumption and lower the cost and frequency of maintenance visits.

Control Board Management

- Sanitary circuit pump
- Output modulation
- Monitor water flow in l/min
- Pump unlock system
- Auto diagnostic of all components and functions: visualisation of errors and lockouts, temperature sensors, ionisation current, fan rotation speed, water flow rate and water pressure
- Anti-freeze device
- Low water flow protection
- Low water pressure protection
- Flue blocked pressure switch

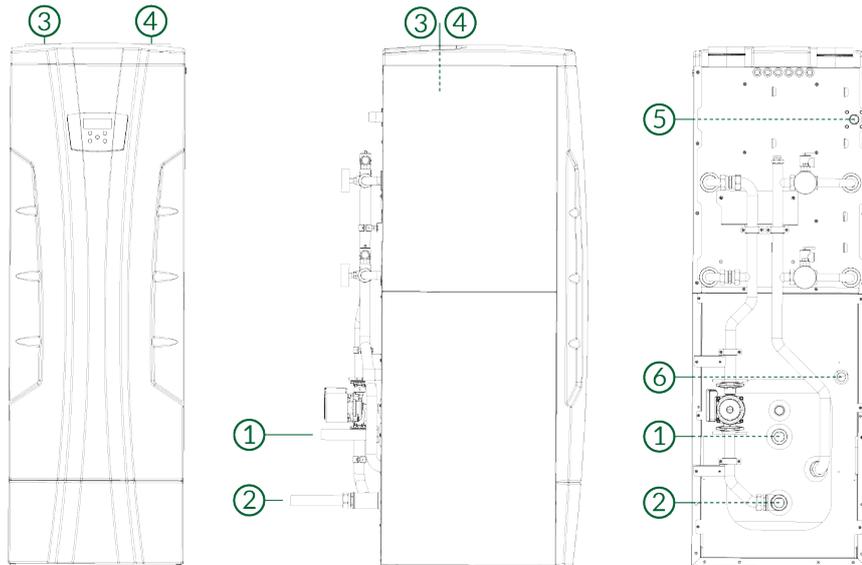
Technical Specifications

		Units	ADplus70	ADplus115	ADplus140
Gross heat input range	Maximum	kW	77.6	128.3	155.4
	Minimum		16.3	13.3	16.3
Heat output range	Maximum	kW	74.0	121.7	148.0
	Minimum		15.6	12.8	15.6
Maximum efficiency (net)	At max. output	%	105.1	105.0	105.1
	At min. output		106.3	106.6	106.3
DHW Recovery (ΔT 50°C)		l/h	1270	2102	2534
DHW 10-minute peak		l	331	470	543
Gas flow rate	Natural gas	m ³ /h	7.39	12.22	14.80
	LPG	kg/h	5.43	8.97	10.87
Heat exchanger water capacity		l	5.7	9.2	11.4
DHW temperature Range		°C	20 - 80	20 - 80	20 - 80
System pressure range		bar	1 - 11	1 - 11	1 - 11
Supply		V / Hz	230 / 50	230 / 50	230 / 50
Electrical consumption	Maximum	W	472	542	622
	Minimum		60	60	60
CO emissions (0% O ₂ with natural gas)		ppm	19	19	19
NO _x emissions (0% O ₂ with natural gas)		mg / kWh GCV	27	28	27
Approved flue types			B23	B23	B23
Flue gas mass flow rate	Maximum	kg/h	115	190	230
	Minimum		25	20	25
Flue gas temperature at outlet	Maximum	°C	80	80	80
	Minimum		30	30	30
Sound power level (LWA)		dB	66	70	70
Maximum water hardness		ppm	150	150	150
Appliance mass	Empty	kg	180	218	218
	Full		312	350	350

Connections & Dimensions

Connections

Model	DHW Supply (1)	Cold Water Inlet (2)	Air Intake (3)	Flue Gas Outlet Exhaust (4)	Gas Inlet (5)	Condensate Drain (6)
ADplus70	1 ½"	1 ½"	Ø110 mm	Ø110 mm	1"	Ø28 mm
ADplus115	1 ½"	1 ½"	Ø110 mm	Ø110 mm	1"	Ø28 mm
ADplus140	1 ½"	1 ½"	Ø110 mm	Ø110 mm	1"	Ø28 mm



Dimensions

Model	H x W x D (mm)
ADplus70	1815 x 600 x 706
ADplus115	1815 x 600 x 706
ADplus140	1815 x 600 x 706

Note fittings and flanges are not factory assembled

Flue Connections

Standard Flue	Size:	110 mm PP	160 mm PP
Suitable for:		ADplus 70 ADplus 115 ADplus 140	ADplus 70* ADplus 115* ADplus 140*
Adaptor			Required: 110-160mm 0718025
Flue Terminals	Vertical: Horizontal:	MB0025 MB0028	0718761 100035790094
Flue Extension 1m		0718102	0718122
Flue Bends	45° Bend: 90° Bend:	0718140 0718141	0718160 0718161
Roof Flashings	Flat: 15-55° Pitched:	0146184 MB0033	0746066 100035790099
Flue Bracket		0169158	100035790092

Maximum flue runs		110 mm PP	160 mm PP
ADplus70	Straight Run:	10m	19.2m
	Loss Per Bend (45°/90°):	- 2.0 m / - 4.0 m	- 1.4 m / - 2.8 m
ADplus115	Straight Run:	10.0 m	19.2m
	Loss Per Bend (45°/90°):	- 2.0 m / - 4.0 m	- 1.4 m / - 2.8 m
ADplus140	Straight Run:	10.0 m	19.2m
	Loss Per Bend (45°/90°):	- 2.0 m / - 4.0 m	- 1.4 m / - 2.8 m

External flue
size:

110/160 mm PP/SS

160 mm/225 mm PP/SS

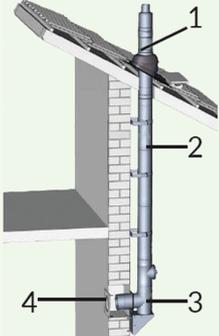
Suitable for:

ADplus 70; ADplus 115; ADplus140

ADplus70*; ADplus115*; ADplus140*

*Requires adaptor:

110-160 mm: 0718025



The diagram shows a cross-section of a building's exterior wall with a brick chimney. A metal flue pipe is installed vertically. Component 1 is the External Riser Kit at the roofline. Component 2 is a 1m Extension Kit. Component 3 is a 90° External Bend at the base of the wall. Component 4 is a 45° External Bend at the base of the wall. The flue pipe is shown with various fittings and seals.

1, 3, 4: External Riser Kit:	MB0026	MB0029
2: 1m Extension Kit:	MB0027	MB0030
45° External Bend:	n/a	200075045316
90° External Bend:	n/a	200075045326

UNI 11528 legislation allows the connection of two appliances with similar characteristics in the same flue system even if they serve different installations. The ADplus condensing water heater can be combined with an Adveco MD condensing boiler, connecting them in the same flue system. Both appliances can be dimensioned according to real DHW and heating needs with optimised performance and condensing effect.

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