

ADV 65/110W Heat Pumps

Air Source Heat Pumps For Commercial DHW





ADV65/110W Air Source Heat Pumps

65 - 110kW High Temperature R32 ASHP For Commercial DHW

ADV65/110W is an integrated air-to-water heat pump system that provides an energy-efficient method to secure low-carbon domestic hot water (DHW), space heating and cooling for larger commercial buildings.

It is a complete all-year-round 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.





*DHW: -20°C to +43°C (ambient) / 30°C to 62°C (DHW)
Heating: -20°C to +43°C (ambient) / 25°C to 65°C (output water)
Cooling: -15°C to +48°C (ambient) / 0°C to 20°C (output water)*

Key Features

- Optimised performance and expanded operational range with EVI (Enhanced Vapor Injection) DC inverter technology ensures water temperature output up to 65°C at -10°C ambient temperature for consistent 62°C DHW in the cylinder
- Ambient temperature operation -20°C to +43°C for DHW
- R32 refrigerant with low GWP for zero impact on ozone layer & less carbon emissions
- Refrigerant cooling IPM technology controls temperature of electronic components for safe, stable operation
- Modular design for a maximum of 16 connected units with a total capacity of 1,760kW
- A+++ seasonal energy efficiency class

ADV65W Air Source Heat Pump

65 kW



SCOP 3.36

Working flow 55°C / Ambient 7°C

SCOP 4.47

Working flow 35°C / Ambient 7°C

DHW 30-62°C

From hot water output up to 65°C

SEER 4.92

Ambient -20°C to +43°C

ADV110W Air Source Heat Pump

110kW



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

DHW 30-62°C

From hot water output up to 65°C

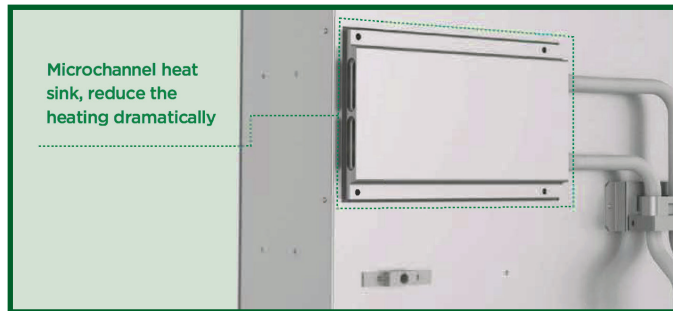
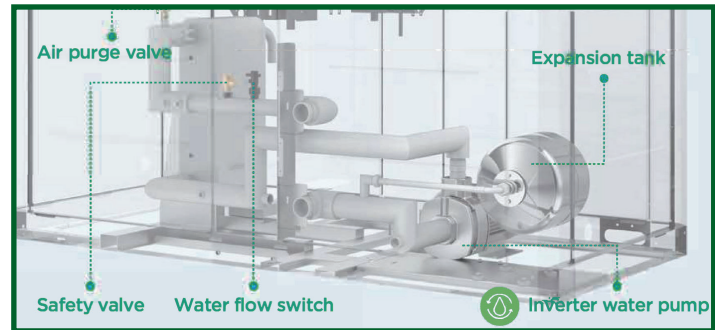
Ambient -20°C to +43°C

ADV65/110W Air Source Heat Pumps

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

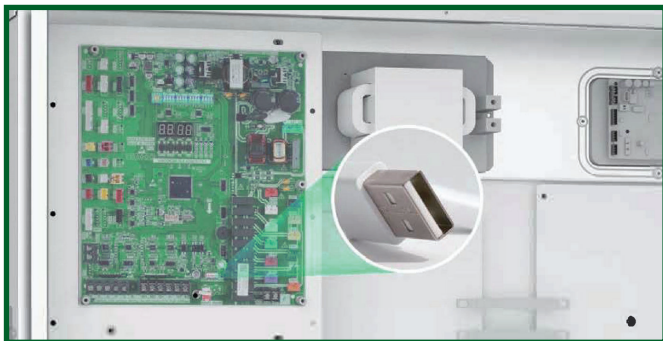
All DC Inverter enables quick start-up and less frequent start/stop, and more precise consumption on real load delivering efficient operation and energy savings.

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

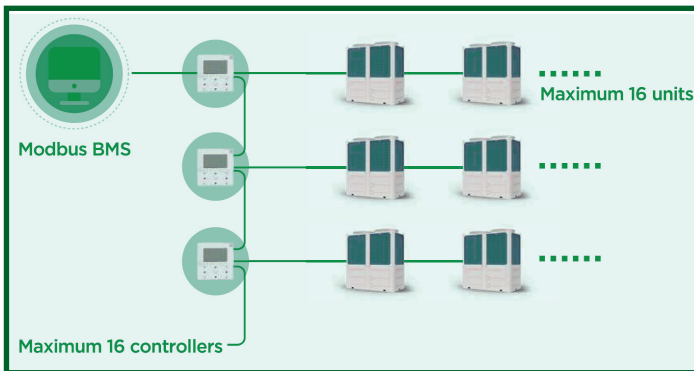
Smart controls for intelligent climate curves that adjust water temperature automatically. Plus group control for up to a maximum of 16 units with one controller. Supports a maximum of 16 controllers for connecting up to 256 units to BMS systems



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.



EASY TO MAINTAIN

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



Reducing Noise Pollution

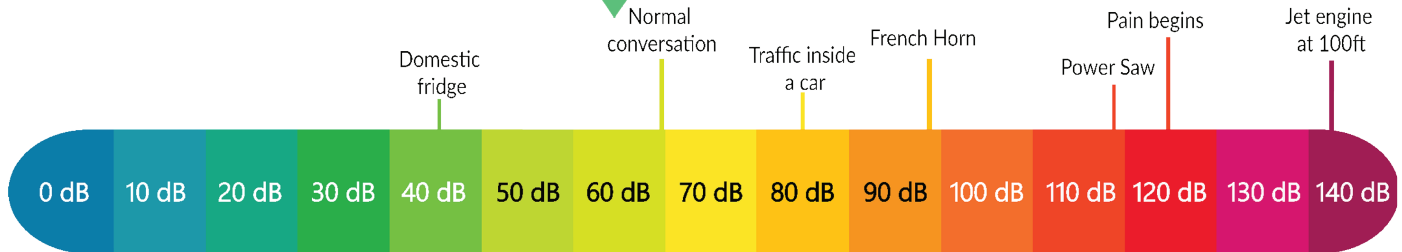


ADV65/110W meets all considerations relating to noise pollution, providing quiet operation with multiple silence modes for enhanced comfort and an optimised working environment.

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

At one metre, ADV65/110W ASHPs produce less noise than a normal conversation.

Illustrative Sound Pressure at 1m (DB(A))



Embracing The Hybrid Approach

A hybrid approach, where an ASHP is packaged in combination with a gas or electric boiler/water heater and control system, presents an attractive option for commercial projects, offering a compact, highly efficient means of delivering high temperature hot water, with considerable carbon savings.

The hybrid approach offers better compatibility with existing heating distribution systems and thermal demands of higher heat loss buildings, meaning less adaptation is required.

Where bespoke system design is required to meet the particular needs of a commercial project, the availability of two heat sources to meet the heating demand of a property is extremely advantageous. It enables a DHW or heating system to operate at a higher temperature grade, as well as remaining effective at very low temperatures. Using a gas or electric boiler to meet peak demands on the coldest of days also means the heat pump can be reduced in size, when compared to the required capacity of a standalone electric heat pump system.

A hybrid system also gives a property the versatility of switching to the gas or electric boiler/water heater at time of network peak, helping reduce operational costs while maintaining higher water temperatures (+60°C) demanded by safe commercial operations.

Although the heat pump does not completely replace an existing heating or DHW system, these hybrid systems keep running costs low, while helping businesses meet their carbon targets in the coming decades and helping bridge the gap to forthcoming zero carbon technologies such as hydrogen.



Environmentally Friendly Technology

Designed to extract heat from the ambient air using an environmentally friendly R-32 refrigerant circuit, ADV65/110W air source heat pumps (ASHP) provide low carbon heat to a building and its hot water system.

Reducing The Global Warming Potential Of Heat Pumps

R-32 is a hydrofluorocarbon (HFC) refrigerant developed to replace refrigerant, which can deplete and damage the ozone layer.

R-32, which offers zero potential for ozone depletion, is non-toxic, non-flammable and has a much lower Global Warming Potential (GWP) than R-410A, the previous refrigerant of choice in ASHPs.

GWP is a means for measuring the impact on the atmosphere of one kilo of released HFC compared to a single kilo of carbon.

A kilo of released R410A would do 2,090 times the damage of a kilo of carbon. With a GWP of 675, R-32 is considerably more environmentally friendly. Using R-32, the ADV65/110W range considerably reduces the GWP of commercial hot water systems.



R-32 Refrigerant

A better way to protect the environment

R-32 (Difluoromethane HFC32), used across the Adveco ADV-W range of heat pumps, is an HFC refrigerant used as the preferred replacement for R410A refrigerant. Not only is the refrigerant more environmentally friendly, it enables higher performance to save energy.

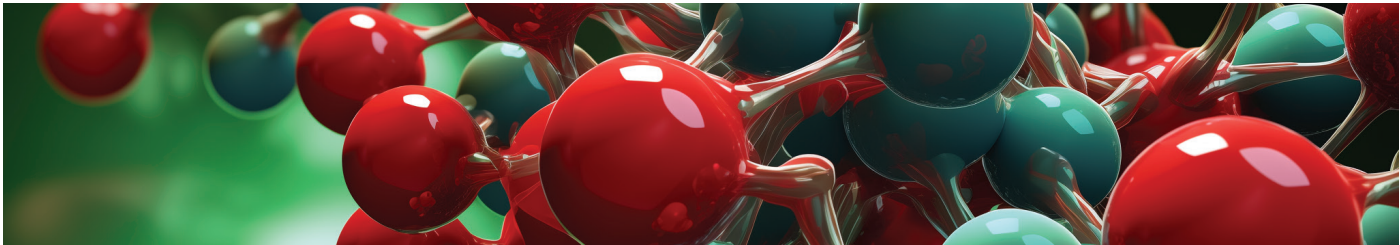
The advantages of R-32 in terms of energy efficiency, safety and especially the much lower Global Warming Potential (GWP) makes ASHP systems based around R-32 refrigerant highly attractive.

They are also more compact with improved operational functionality making the heat pump easy to install, control and maintain.

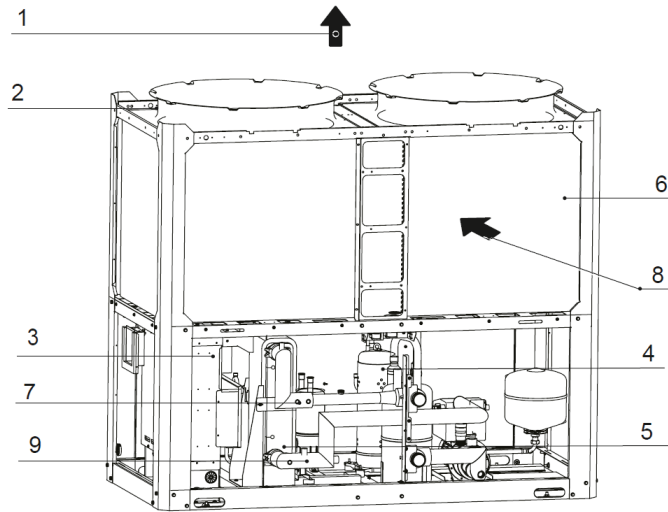
The use of R-32 provides an immediate way of reducing a building's energy consumption and operational costs. Aqua Thermal ASHPs can therefore help reduce emissions to meet new carbon targets without compromising reliability or performance.

R-32

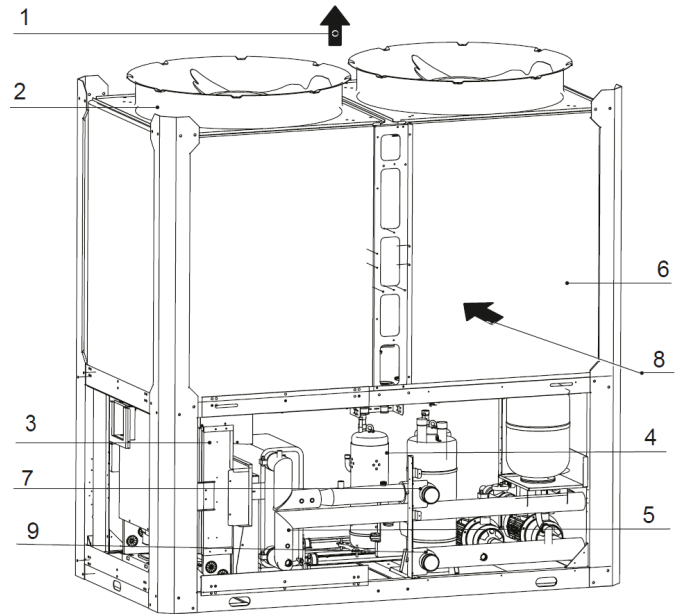
- Much lower Global Warming Potential
- Zero potential for ozone depletion
- Non-toxic
- Non-flammable
- Better energy efficiency compared to R410A refrigerant
- R32 ASHPs require less refrigerant, considerably reducing the size of units
- Easier to recycle
- Quieter operation



ADV65/110W Key Components



ADV65W

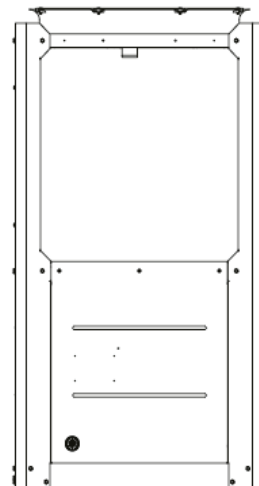
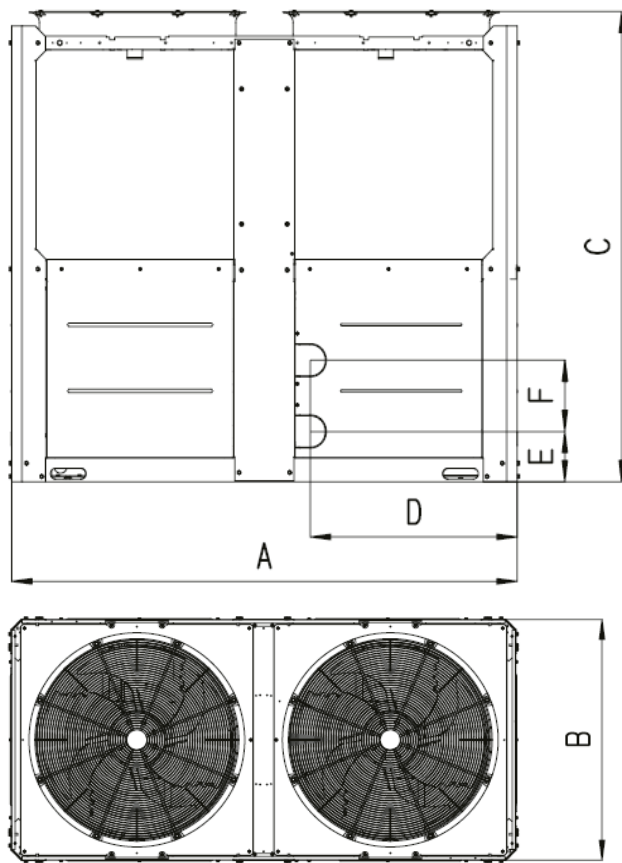


ADV110W

- 1 Air Outlet
- 2 Top cover
- 3 Electric control Box
- 4 Compressor
- 5 Evaporator

- 6 Condenser
- 7 Water Outlet
- 8 Air Inlet
- 9 Water Inlet
- 10 Wire controller (may be placed indoors)

Dimensions



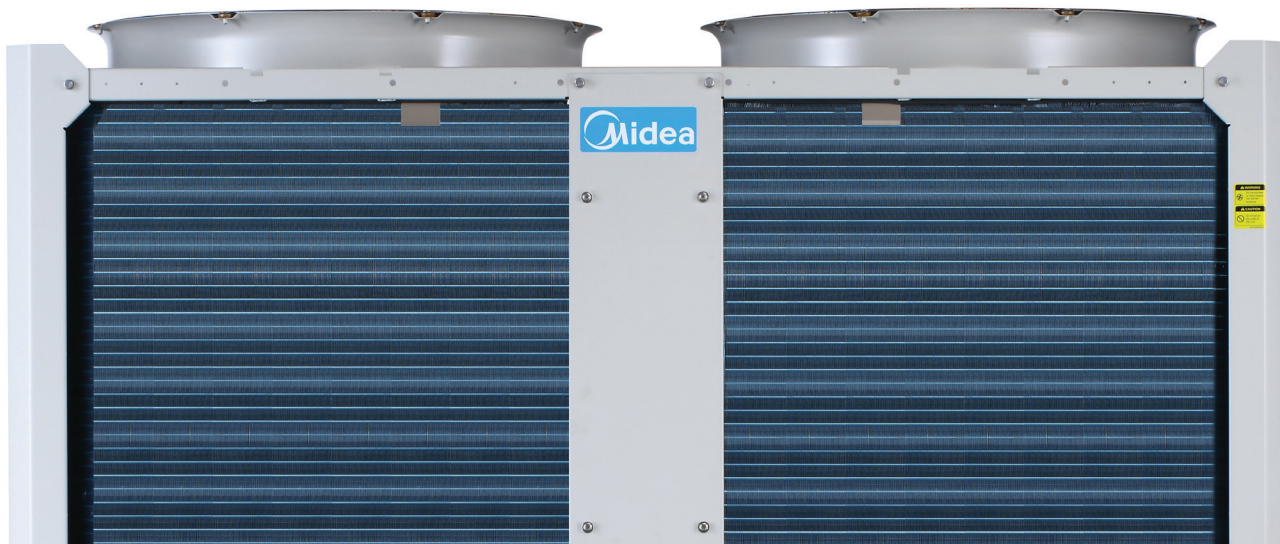
Model	ADV65W	ADV110W
A	2000	2220
B	960	1135
C	1770	2300
D	816	910
E	190	155
F	269	300

All dimensions in mm

Range Specifications

Technical Specifications		ADV65W	ADV110W
Heating Performance Water outlet temperature: 35°C Ambient temperature: 7°C	Heating capacity (kW)	64.55	113.14
	Rated input (kW)	16.37	28.52
	COP	3.95	3.97
	SCOP Average climate conditions	4.47	4.23
Heating Performance Water outlet temperature: 55°C Ambient temperature: 7°C	Heating capacity (kW)	64.15	106.32
	Rated input (kW)	21.68	35.85
	COP	2.96	2.97
	SCOP Average climate conditions	3.36	3.2
Power Supply	V / Ph / Hz	380-415 / 3 / 50	
	Full Load Amps (A)	54	106
Dimensions	Appliance (mm)	2000 x 1770 x 960	2220 x 2300 x 1135
	Packaging (mm)	2085 x 1890 x 1030	2250 x 2445 x 1180
Refrigerant	Type R32 R32		
	Charged Volume (kg)	9.0	15.5
	Throttle Type	Electronic Expansion Valve	
Water Temperature Output Range	Heating (°C)	25 to 65	25 to 65
	Cooling (°C)	0 to 20	0 to 20
Ambient Air Temperature Range	Heating (°C)	-25 to 43	-25 to 43
	Cooling (°C)	15 to 48	15 to 48

Technical Specifications		ADV65W	ADV110W
Noise Data	Sound Power Level @ A7W45 (dB)	83	83
	Sound Pressure @1m A7W45 (dB(A))	64	64
	Sound Power Level @ A7W45 Silent Mode (dB)	77	75
	Sound Power Level @ A7W45 Super Silent Mode (dB)	74	72
Compressor	Type	DC Inverter	
	Rated Load Amps (A)	34.09	34.09
Fan	Type	2x DC Motor	
	Power (kW)	0.39	0.68
	Full Load Amps (A)	1.4	1.7
	Airflow Rate (m3/h)	22000	32500
Water Side Plate Heat Exchanger	Volume (l)	5.17	11.1
	Delivery Head (m)	23.0	18.0
	Rated Water Flow Rate (Heating) (m3/h)	11.2	18.9
	Water Flow Range (m3/h)	3-14	5-26
Pump	Power Supply (V / Ph / Hz)	380V ±10% / 3 / 50-60	
	Rated Power (kW)	1.78	0.93
	Rated Current (A)	3.25	1.83
	Rated Pump Head (m)	27.1	15.0
	Rated Speed (rpm)	3480	2825
Water Connections		DN50	DN65
Water Circuit Pressure Range		1.5 to 10 bar	1.5 to 10 bar
Appliance Mass	Empty/Filled (kg)	475/490	746/767



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