

DeLonghi

CLIMAVENETA



HT 65°C

Air Source Heat Pumps



UNIT SUMMARY

HT Units: AW HT

Capacity: 10kW-20kW

Power Supply: Single Phase & Three Phase models

These units provide heating and hot water up to 65°C with the option to also provide heating and cooling.

HIGH EFFICIENCY & PERFORMANCE:

COP 4.22 (422% efficient)

*Average coefficient of performance (COP) for the AW HT range based on EN14511 conditions i.e. ambient temperature of 7°C and 35°C flow temperature

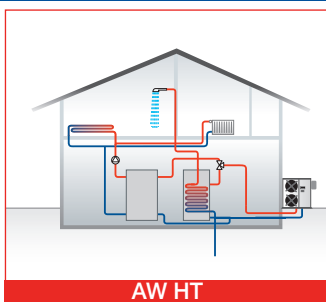
COP 3.77 (377% efficient @ 2°C ambient & 35°C flow temp)

FEATURES & OPERATIONAL BENEFITS:

- MCS accredited Heat Pumps, certificate HP0005**
- Full DHW and heating control
- Built in circulation pump
- High COP 4.22
- Full floating control for high efficiency and
- Minimum defrost time with a minimum operating temperature of -20°C
- 65°C operation at -12°C ambient temperature

*Please note that this unit is capable of providing a maximum output temp of 65°C, the unit will provide this output temperature for heating only at the times of year where it is necessary. ie: The weather compensation control incorporated within the unit will provide correspondingly lower output temperatures to match external ambient temperatures, therefore providing a high seasonally corrected Coefficient of Performance.

Available Models



Air Source Heat Pumps

Heat energy is collected from the external ambient air using the Heat Pumps integral evaporator coil. This energy is then transferred as high grade heat into the building.

AW HT

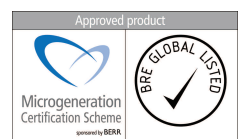
Unit Description

The DeLonghi Prana AW HT represents the next generation of Air Source Heat Pumps with an output temperature of 65°C. Unlike medium temperature Heat Pumps these units are able to provide an output of 65°C in ambient temperatures as low as -12°C with a minimum operating temperature of -20°C.

- This DeLonghi AW HT range of Air Source Heat Pumps provides an extremely high level of performance and a high level of specification which makes them ideal for retrofit applications for both the residential and commercial sectors.
- The fact that the installer has to only provide minimal modifications to the existing heating distribution system and hot water cylinder/tank (due to the 65°C output temperature of the unit) provides significant installation benefits in terms of cost & time on a retrofit or boiler replacement application.
- The nominal refrigeration COP* (efficiency) of these units is very high averaging over 4.2 but importantly the performance of these units in reducing ambient temperatures is also at an extremely high level.
- Designed to operate in ambient temperatures as low as -20°C the AW HT range is more than capable of operating with high efficiency in UK & Irish winter temperatures.
- These units incorporate a built in heating system circulation pump, control for hot water production including Y Plan valve operation along with full weather compensation and sophisticated controls which give a very short defrost cycle of approximately 6 minutes in lower ambient temperatures.
- A modulating source fan controls efficiency and maximises the performance on part loads by drawing the correct amount of air through the unit to match the load requirement of the property at any time, so reduces running costs and also allows the units to function with any Heat Pump optimised thermal store or cylinder.
- This advanced control means that these units are able to operate with very low system volumes, a minimum open circuit volume of 3.5 litres per nominal kW of Heat Pump capacity is required which can remove the need for buffer tanks and secondary pumps hence reducing installation costs considerably.
- These DeLonghi-Climaveneta units are high specification Heat Pumps which are built to exacting standards with regard to efficiency and functionality. All the units are European manufactured and benefit from the DeLonghi-Climaveneta approach to product development and quality management providing the complete package that would be expected from a premier manufacturer.
- Microgeneration scheme accreditation allows access to grant funding and also guarantees performance and manufacturing quality.

**Accreditation scheduled for this range July 09

*(COP is shown without circulation pump input power. Please note that unlike most other Heat Pumps these units incorporate built in circulation pumps, therefore by not including the circulation pump input power we are able to provide a direct performance comparison with other units).



Certificate Number MCS HP0005 Heat Pumps

heatpump
TECHNOLOGY

The Heat Pump Specialists

DeLonghi
CLIMAVENETA

Main Components

- Housing and base are made from hot-galvanized epoxy powder coated sheet metal
- High efficiency and low pressure drop stainless steel (AISI 316) water exchangers, with anti-freeze heating element and differential pressure switch
- High efficiency cycle EVI Hermetic Scroll Compressor (with hot gas direct injection into the compressor) to reach 65°C, with the crankcase heater and thermal protection
- Condensers finned tubes with copper and aluminium fins high exchange surface (100% fully quality tested); sub cooling circuit to prevent the icing at the basement
- Axial electric fans, external rotor, electric motor with a 6-pole fitted with thermal protection, housed in aerodynamic conveyor profile with safety grill
- A condense collecting tray within water discharge
- Condensing coil protection grills
- Soft start for 230V/1/50Hz units (45 amps)

- The water circuit comes complete with:
 - circulation pump for all models
 - differential pressure switch on plant side
 - expansion vessel – Heat Pump circuit only
 - safety valve
 - manual filling assembly
 - pressure gauge
- Outside air sensor wired
- Remote internal keyboard kit wired
- The electronic board PRO EXTENDED allows for control of:
 - circulation pump on system side
 - domestic hot water control by external Y Plan three-way valve (accessory)
 - outdoor temperature sensor for modulating set point weather compensation

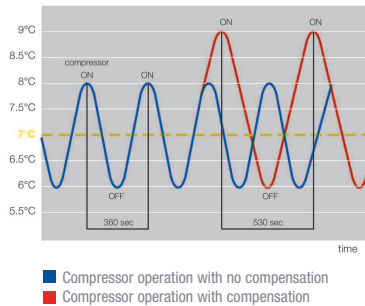
NB: Optional equipment includes a range of tanks & cylinders plus standard installation packs, see current price list or contact ICS HPT or your distributor for details.



Modulating Fan

Smart full floating electronic control monitors the main components to improve performance and maximise efficiency. There is a pressure transducer located in the external heat collection coil to modulate the fans' supply voltage, which enables:

- Performance to be improved under standard and extreme conditions
- Quieter running when operating on partial load
- Maximum compressor efficiency with optimised performance



Floating Setpoint

An algorithm optimises the setpoint of the output water automatically every 3 minutes based on the compressor operating time and the temperature of the water in the system. Water storage is no longer essential as it is compensated by the floating set feature, resulting in:

- Minimised size
- Minimised weight
- An open system volume of only 3.5L per kW is required to maintain efficient performance
- Minimum system response time when operating on varying load conditions

AW HT			0031	0041	0041	0061
Heating capacity (A7/W35)	(1)	kW	10,4	14,9	14,1	19,7
Total power input (compressor & fans)		kW	2,5	3,5	3,3	4,7
COP*			4,16	4,26	4,27	4,19
Heating capacity (A2/W35)	(2)	kW	9,1	13,1	12,5	17,5
Total power input (compressor & fans)		kW	2,5	3,4	3,3	4,6
COP*			3,64	3,85	3,79	3,79
Heating capacity (A2/W50)	(3)	kW	9,1	13,6	12,8	17,6
Total power input (compressor & fans)		kW	3,1	4,5	4,2	6,0
COP*			2,94	3,02	3,05	2,92
Heating capacity (A-7/W65)	(4)	kW	7,8	12,4	11,4	14,8
Total power input (compressor & fans)		kW	3,8	5,7	5,4	7,6
COP*			2,05	2,18	2,11	1,95
Heating capacity (A-12/W65)	(5)	kW	6,9	11,5	10,6	13,6
Total power input (compressor & fans)		kW	3,4	5,4	5,4	7,4
COP*			2,03	2,13	1,96	1,84

Type of compressor		scroll				
N.° of compressors	n°	1				
Refrigerant		R-407C				
Plant side pump type		circulator				
Power supply	V/Ph/Hz	230V~ 50Hz			400V-3N~ 50Hz	
Starting current (all single phase models have a maximum 45A soft start fitted as standard)	(6)	A	44	72	64	101
Sound pressure	(7)	dB(A)	59	59	59	60
Height/Length/Width	mm	1240x900x420	1390x900x420	1390x900x420	1390x900x420	
Net weight	(6)	kg	140	160	170	180

Note

AW-HT

- (1) Heating mode: external air temperature 7°C b.s.- 6°C b.u., inlet water at 30°C & outlet at 35°C
- (2) Heating mode: external air temperature 2°C b.s.- 1°C b.u., inlet water at 30°C & outlet at 35°C
- (3) Heating mode: external air temperature 2°C b.s.- 1°C b.u., inlet water at 45°C & outlet at 50°C
- (4) Heating mode: external air temperature -7°C b.s.- 1°C b.u., inlet water at 60°C & outlet at 65°C
- (5) Heating mode: external air temperature -12°C b.s.-11°C b.u., inlet water at 60°C & outlet at 65°C

- (6) Standard unit data
- (7) Sound pressure at 1 meter distance from the external surface of the unit, free field.

* According to the Eurovent standard without circulation pump input power.



Certificate Number MCS HP0005 Heat Pumps



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