

DeLonghi

CLIMAVENETA



DHW Twin

Air Source Heat Pumps with Heat Recovery



UNIT SUMMARY

DHW Units: **AWR**
Capacity: **7kW-33kW**
Power Supply: **Single Phase & Three Phase models**

These units provide simultaneous supplies of domestic hot water and heating/air conditioning.

HIGH EFFICIENCY & PERFORMANCE:

COP 3.62 (362% efficient)

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

FEATURES & OPERATIONAL BENEFITS:

- MCS accredited Heat Pumps, certificate HP0005**
- Fully self-contained unit – no external refrigerant pipes
- Standard pipe work installation to suit a plumber or heating engineer
- Highly efficient and flexible design with easy to use controls
- Heating, cooling and domestic hot water provided
- Suitable for large capacity hot water users and simultaneous heating & air conditioning applications

Unit Description

The DeLonghi Prana AWR DHW are a unique range of Air Source Heat Pumps which are capable of providing a high efficiency combination of output conditions:

- Heating only
- Simultaneous heating and hot water to 65°C.
- Hot water only
- Cooling only
- Simultaneous cooling and hot water with up to 100% heat recovery
- Simultaneous cooling and heating with up to 100% heat recovery

These units can be specified to suit a particular application and due to their ability in being able to provide two simultaneous outputs they are able to provide real benefits on both residential and commercial applications.

Residential applications:

- High volume hot water users
- Split temperature output applications i.e. underfloor heating and radiators

When used on these applications significant efficiency benefits can be achieved when compared to single output Heat Pump units.

Commercial applications:

- Air-conditioning and hot water users within the hospitality sector
- Zoned heating & air-conditioning applications (option to conventional VRF)
- Energy recovery from waste water flows or waste heat providing heating & cooling

Within the commercial sector these Heat Pumps provide flexibility and real environmental benefits. As an alternative to conventional VRF systems these units remove all of the refrigerant from within a building and significantly removes the potential for refrigerant leakage therefore complying completely with the objectives of the F Gas regulations. Also when operating on a split heating / hot water and air conditioning load these Heat Pumps will provide up to 100% heat recovery which then benefits the user with free heating or hot water.

A growing demand for energy and heat recovery has created a highly efficient requirement to use these units to recover waste energy from waste water or fluid flows, recovering energy from cooling towers or waste water flows is easily achievable when utilising these units in heat recovery specification.

Also these Heat Pump units will provide up to 100% duty on either primary or secondary heat exchangers along with the ability to provide a combination of load capability heating and hot water simultaneously or heating and cooling simultaneously with up to 100% heat recovery. This allows the Heat Pump units to provide this simultaneous output feature to manage seasonal heating and cooling loads from the same Heat Pump unit.

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.

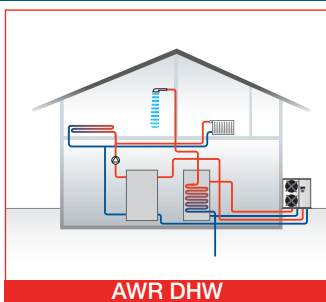
**Accreditation scheduled for this range July 09

*(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

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.

These AWR DHW units provide two simultaneous outputs of heating and hot water or heating/hot water and cooling with up to 100% heat recovery.



heatpump
TECHNOLOGY

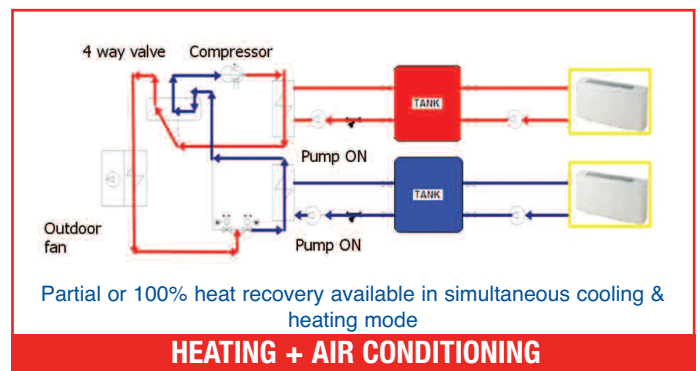
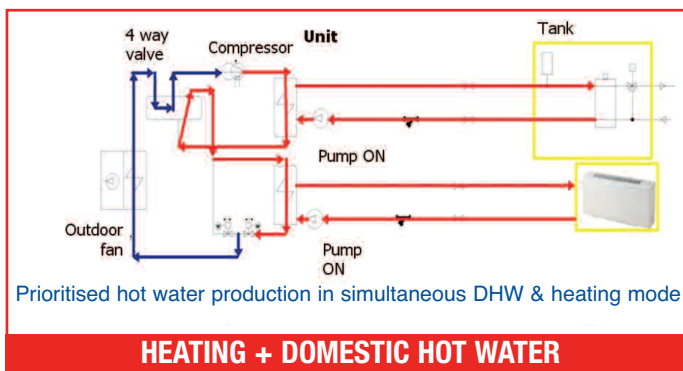
The Heat Pump Specialists



Main Components

- Housing and base are made from hot-galvanized epoxy powder coated sheet metal
- Hermetic scroll type compressors, equipped 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 base
- Axial electric fans, external rotor, electric motor with a 6-pole fitted with thermal protection, housed in aerodynamic profile with safety grill.
 - continuous fan speed regulation with pressure switch for modulating load management
- Primary stainless steel (AISI 316) plate heat exchanger with high efficiency and low pressure drop (providing domestic hot water or heating) positioned directly after the compressor which gives an efficient high temperature output providing an output kW capacity up to 100% of the Heat Pump duty.
- When combined with the secondary heat exchanger (cooling duty) these units will provide either full or partial heat recovery which is constantly optimised via the advanced logic adjusting controller.
- Secondary stainless steel plate heat exchanger providing an output kW capacity up to 100% of the heat pump duty with high efficiency and low pressure drop provides the supply of both hot or cold water for the application with or without any hot water or heating production on the primary heat exchanger.
- The water circuit comes complete with:
 - primary circuit water pump for domestic hot water or heating circuit
 - secondary circuit plant side water pump for heating or cooling circuit
 - differential pressure switch on plant side
 - expansion vessel Heat Pump circuit only
 - safety valve (6 bar)
 - manual filling assembly
 - Pressure gauge
 - venting and draining valve
- Soft start for 230V/1/50Hz units AWR DHW/S

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.



AWR DHW		0021	0025	0041	0025	0041	0065	0101	0065SL	0101SL
Heating capacity (A7/W35)	(1) kW	7.7	9.1	13	9.1	13	21.3	33.5	21.3	33.5
Total power input (compressors & fans)	kW	2.3	2.7	3.7	2.7	3.7	5.6	8.5	5.6	8.5
COP*		3.35	3.37	3.51	3.37	3.51	3.80	3.94	3.80	3.94
Recovery heating capacity (A7/W50)	(2) kW	7.2	8.5	12.1	8.5	12.1	18.1	31.9	18.1	31.9
Power input	kW	3.1	3.7	4.9	3.7	4.9	7.7	12.3	7.7	12.3
COP*		2.32	2.30	2.47	2.30	2.47	2.35	2.59	2.35	2.59
Cooling Capacity (A35/W18)	(3) kW	7.6	8.9	12.7	8.9	12.7	21.1	33.0	21.1	33.0
Total power input (compressors & fans)	kW	2.4	2.7	3.8	2.7	3.8	5.8	9.4	5.8	9.4
EER*		3.17	3.30	3.34	3.30	3.34	3.64	3.51	3.64	3.51
Cooling Capacity (A35/W7)	(4) kW	6.4	7.3	11.2	7.3	11.2	17.0	27.7	17.0	27.7
Total power input (compressors & fans)	kW	2.4	2.7	3.8	2.7	3.8	5.9	9.5	5.9	9.5
EER*		2.67	2.70	2.95	2.70	2.95	2.88	2.92	2.88	2.92

Common data		0021	0025	0041	0025	0041	0065	0101	0065SL	0101SL
Type of compressor		scroll								
N.° of compressors	n°	1								
Refrigerant		R407C								
Plant side pump type		circulator			centrifugal	centrifugal				
DHW side pump type		circulator								
Power supply	V/Ph/Hz	230V~ 50Hz				400V-3N~ 50Hz				
Starting current (all single phase models (5) have a maximum 45A soft start fitted as standard)	A	27	34	51	40	50	101	127	101	127
Sound pressure	(6) dB(A)	57	58	59	58	59	65	66	62	63
Height/Length/Width	mm	1125/1125/370		1125/1250/420	1125/1125/370	1125/1250/420	1200/1700/650	1700/1700/650	1200/1700/650	1700/1700/650
Net weight	(5) kg	144	144	168	144	168	295	378	295	378

Note

AW-HT

- (1) Heating mode: external air temperature 7°C b.s.- 6°C b.u., inlet water at 30°C and outlet at 35°C
- (2) Heating mode: external air temperature 7°C b.s.- 6°C b.u., inlet water at 45°C and outlet at 50°C
- (3) Cooling mode: external air temperature 35°C b.s., inlet water at 23°C and outlet at 18°C
- (4) Cooling mode: external air temperature 35°C b.s., inlet water at 12°C and outlet at 7°C
- (5) Standard unit data - DHW/S model with soft starter for 230V/1/50Hz
- (6) 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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