

DeLonghi

CLIMAVENETA

MTD

Air Source Heat Pumps



UNIT SUMMARY

MTD Units: AWR MTD
Capacity: 6kW-18kW
Power Supply: Single Phase & Three Phase models

These units can provide heating or cooling and hot water up to 55°C, the efficient unit design incorporating supplementary heating enables the AWR MTD to operate efficiently in low ambient conditions to -15°C.

HIGH EFFICIENCY & PERFORMANCE:

COP 4.33 (433% efficient)

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

COP 3.82 (382% efficient @ 2°C ambient & 35°C flow temp)

FEATURES & OPERATIONAL BENEFITS:

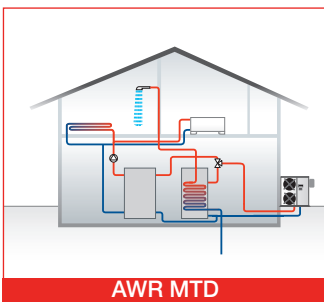
- MCS accredited Heat Pumps, certificate HP0005
- Full DHW and heating control
- Reversible operation can provide cooling for A/C applications
- Built in circulation pump
- 55°C output temperature (50°C at -5°C ambient)
- High efficiency modulating source fan(s) and circulation pump
- Minimum defrost time operating to -15°C ambients
- Supplementary Electric Heating Included for -5°C ambient operation

Unit Description

The DeLonghi Prana AWR MTD range of Air Source Heat Pumps provide an extremely high level of performance and a high level of specification. The nominal refrigeration COP* (efficiency) of these units is very high averaging over 4.3 and importantly the performance of these units when operating in lower ambient temperatures is also at a very high level. Designed to operate in ambient temperatures as low as -15°C the AWR MTD 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.
- In addition to these features these units also have a built in supplementary heater which provides additional capacity in ambient temperatures below -5°C.
- These units also provide reversible operation, this means they can provide cooling whilst being able to prioritise hot water production, this means that when connected via a fan coil distribution system these AWR MTD units can provide a complete residential or light commercial climate control option.
- 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.

Available Models



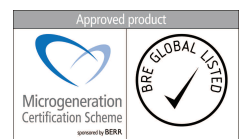
AWR MTD

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.

- Microgeneration scheme accreditation allows access to grant funding and also guarantees performance and manufacturing quality

*(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



The Heat Pump Specialists



Main Components

- Condensate drain pan kit.
- Condensing coil protection grills
- 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
- 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 freezing at the base.
- Axial electric fans, external rotor, electric motor with a 6-pole fitted with thermal protection, housed in an aerodynamic profile with safety grill
- Low external air temperature device:
 - fan speed regulation with pressure switch which maximises efficiency at part load
- Electrical modulating frost protection heating within the base which minimizes the risk of condensate freezing during periods of low ambient temperature
- Soft start for 230V/1/50Hz units (45 amps)
- Reversible operation allows the production of chilled water for an air-conditioning circuit
- The electronic controller menu allows management of:
 - circulation pump on the system side
 - domestic hot water production via control of the external three-way valve (not supplied)
 - 24 hour timer operation for a cylinder heater
 - control of the incorporated supplementary heating element
 - outdoor temperature sensor for modulating set point weather compensation
- Phase sequence control relay
- The water circuit comes complete with:
 - variable flow circulation pump for all models
 - differential pressure switch on plant side
 - expansion vessel (Heat Pump circuit only)
 - safety valve
 - manual filling assembly- pressure gauge- manual air vent valve

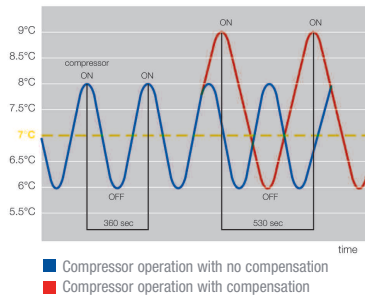
NB: Optional equipment includes a range of tanks & cylinders plus standard installation packs, see current price list or contact ICS HPT or your distributor for details.



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

AWR MTD		0011	0025	0031	0041	0031	0041	0051	0061
Heating capacity (A7/W35)	(1) kW	6.70	8.70	11.0	14.0	10.9	14.5	16.4	18.3
Total power input (compressors & fans)	kW	1.60	2.00	2.60	3.20	2.50	3.20	3.90	4.10
COP*		4.19	4.35	4.23	4.38	4.36	4.53	4.21	4.46
Heating capacity (A2/W35)	(2) kW	5.80	7.60	9.70	12.4	9.60	12.8	14.4	16.1
Total power input (compressors & fans)	kW	1.60	2.00	2.60	3.20	2.50	3.20	3.90	4.00
COP*		3.63	3.80	3.73	3.88	3.84	4.00	3.69	4.03

Common data		0011	0025	0031	0041	0031	0041	0051	0061
Type of compressor		scroll							
N.° of compressors	n°	1							
Refrigerant		R-410A							
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	26	37	44	59	48	64	64	74
Sound pressure	(7) dB(A)	57	58	59	59	59	59	60	60
Height/Length/Width	mm	940/900/370		1240/900/420			1400/900/420		
Net weight	(9) kg	125	150	155	165	155	165	175	180

Note

AWR MTD & AWR MTD/B

- (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 2°C b.s.- 1°C b.u., inlet water at 30°C and outlet at 35°C
- (3) Heating mode: external air temperature 7°C b.s.- 6°C b.u., inlet water at 45°C and outlet at 50°C
- (4) Cooling mode: external air temperature 35°C b.s., inlet water at 23°C and outlet at 18°C
- (5) Cooling mode: external air temperature 35°C b.s., inlet water at 12°C and outlet at 7°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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