

DeLonghi

CLIMAVENETA

MTD

Ground Source & Geothermal Heat Pumps



UNIT SUMMARY

MTD Units: WW/WWR & BW/BWR

Capacity: 7kW-43kW

Power Supply: Single & Three Phase

These units provide heating and hot water up to 55°C with the option to also provide heating and cooling.

HIGH EFFICIENCY & PERFORMANCE:

COP 4.28 (428% efficient)

BWR MTD source flow temperature 0°C/-3°C & output flow temp 35°C*

COP 5.52 (552% efficient)

WWR MTD source flow temperature 5°C/10°C & output flow temp 35°C*

*Average COP for the BWR & WWR MTD ranges

FEATURES & OPERATIONAL BENEFITS:

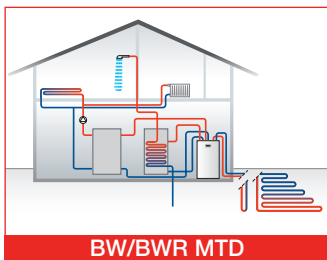
- MCS accredited Heat Pumps, certificate HP0005
- Full DHW and heating control
- Heating only or reversible Heat Pump
- Built in plant and circulation pump
- High value and high performance
- 55°C output temperature

Unit Description

The DeLonghi Prana MTD Ground Source & Geothermal Heat Pump ranges are able to provide heating or cooling and domestic hot water whilst providing a high level of specification with the benefit of value and efficiency.

- These units incorporate a built in heating system circulation pump, a built in source pump to function with horizontal or vertical collectors. Full control for hot water production including Y Plan valve operation is also incorporated along with full weather compensation options, also the units are able to function with any Heat Pump optimised thermal store or cylinder.
- The modulating source pump controls efficiency and maximises the performance on part loads by drawing the correct amount of source water through the unit to match the load requirement of the property at any time.
- 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.
- This standard provides a high specification unit with high performance and specification in a practical and functional package.
- 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

Available Models



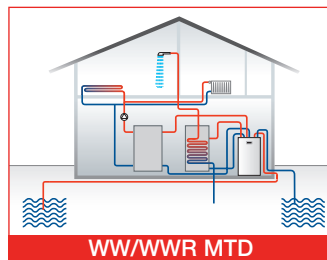
Ground Source Heat Pumps

Heat energy is collected from the ground by 1 of 2 methods:

- At a depth of approximately 1.2 metres using horizontal collectors
- Utilising closed loop borehole probes at vertical depths of 30m-120m.

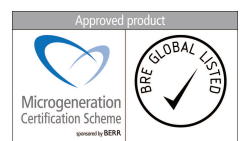
This source heat is then transferred via the heat pump as high grade heat via the building.

Both Ground Source and Geothermal heat pumps are potentially able to provide both free cooling and/or mechanical cooling.



Geothermal Heat Pumps

Heat Energy is collected from the ground using open loop boreholes at vertical depths of 30m-100m. The Heat Pump then transfers this energy as high grade heat into the building.



Certificate Number MCS HP0005 Heat Pumps

*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).



heatpump
TECHNOLOGY

The Heat Pump Specialists



Main Components

- Housing and base are made from hot-galvanized epoxy powder coated sheet metal
- Case panels are insulated within low noise material for further improvement of silence
- Hermetic scroll compressors with oil sump heater and electronic overheating protection with centralised manual reset
- The water circuit is complete with:
 - variable flow water pump (system side)
 - variable flow source pump
 - source side modulating valve for models WWR (water source units), this will switch off the water flow whenever the compressor is not in operation.
 - differential pressure switch on source side and system side
 - expansion vessel (Heat Pump circuit only)
 - safety valve
 - manual filling assembly
 - pressure gauge
 - manual air vent valve
- Heat exchangers on the system and source side are brazed plate models in AISI 316 stainless steel providing high efficiency and a low pressure drop, complete with vapour barrier closed-cell heat insulation
- Soft start for 230V/1/50Hz (45 amps)
- The electronic menu allows control of:
 - plant and Geothermal ground circuits (BWR) / modulating valve (WWR)
 - domestic hot water production by control of an external three-way valve (Y Plan)
 - a zone of direct heating
 - external heating source
 - weather compensation (sensor is accessory)

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.

WW/WWR - MTD		0011	0021	0025	0031	0041	0021	0025	0031	0041	0051	0061	0071	0091	0101	0121
Heating capacity (W10/W35)	(1) kW	7.20	7.80	9.70	12.1	15.3	7.80	9.80	12.1	15.9	18.1	21.1	26.2	30.5	35.0	43.8
Compressor power input	kW	1.40	1.49	1.81	2.30	2.88	1.40	1.73	2.17	2.90	3.40	3.70	4.60	5.20	6.00	7.60
COP*		5.14	5.23	5.36	5.26	5.31	5.57	5.66	5.58	5.48	5.32	5.70	5.70	5.87	5.83	5.76
Heating capacity (W10/W50)	(2) kW	6.60	7.30	9.00	11.3	14.3	7.20	8.80	11.1	14.9	16.4	19.4	24.0	28.0	31.8	40.6
Compressor power input	kW	2.00	2.20	2.70	3.40	4.10	2.10	2.50	3.10	4.20	4.60	5.10	6.60	7.10	8.50	10.6
COP*		3.30	3.32	3.33	3.32	3.49	3.43	3.52	3.58	3.55	3.57	3.80	3.64	3.94	3.74	3.83
Cooling Capacity (W30/W18)	(3) kW	7.10	7.60	9.80	12.0	15.1	7.60	9.50	12.0	15.7	18.0	21.3	26.9	30.7	34.8	44.8
Compressor power input	kW	1.60	1.70	1.96	2.53	3.27	1.60	1.84	2.50	3.30	3.70	4.10	5.15	5.95	7.00	8.80
EER*		4.44	4.47	5.00	4.74	4.62	4.75	5.16	4.80	4.76	4.86	5.20	5.22	5.16	4.97	5.09
Cooling Capacity (W30/W7)	(4) kW	5.20	5.60	7.20	8.80	11.3	5.60	7.30	8.90	11.8	13.2	15.7	19.8	22.9	26.0	33.4
Compressor power input	kW	1.53	1.70	2.00	2.60	3.20	1.63	1.90	2.41	3.19	3.80	4.00	5.10	5.80	6.80	8.40
EER*		3.40	3.29	3.60	3.38	3.53	3.44	3.84	3.69	3.70	3.47	3.93	3.88	3.95	3.82	3.98
BW/BWR - MTD		0011	0021	0025	0031	0041	0021	0025	0031	0041	0051	0061	0071	0091	0101	0121
Heating capacity (B0/W35)	(5) kW	5.40	5.90	7.30	9.20	11.7	5.90	7.50	9.10	12.2	13.7	16.0	19.8	23.0	26.5	33.3
Compressor power input	kW	1.34	1.50	1.82	2.35	2.80	1.40	1.74	2.10	2.80	3.40	3.50	4.40	4.90	5.80	7.30
COP*		4.03	3.93	4.00	3.92	4.18	4.21	4.31	4.33	4.36	4.03	4.57	4.50	4.69	4.57	4.56
Heating capacity (B0/W50)	(6) kW	5.10	5.70	7.00	8.90	11.1	5.70	6.80	8.50	11.7	12.4	14.9	18.3	21.3	24.4	31.3
Compressor power input	kW	1.90	2.20	2.70	3.40	4.00	2.20	2.50	3.00	4.20	4.50	4.90	6.40	7.00	8.30	10.0
COP*		2.68	2.60	2.60	2.62	2.78	2.59	2.72	2.83	2.79	2.76	3.04	2.86	3.04	2.94	3.13
Cooling Capacity (B30/W18)	(3) kW	7.10	7.60	9.80	12.0	15.1	7.60	9.50	12.0	15.7	18.0	21.3	26.9	30.7	34.8	44.8
Compressor power input	kW	1.60	1.70	1.96	2.53	3.27	1.60	1.84	2.50	3.30	3.70	4.10	5.15	5.95	7.00	8.80
EER*		4.44	4.47	5.00	4.74	4.62	4.75	5.16	4.80	4.76	4.86	5.20	5.22	5.16	4.97	5.09
Cooling Capacity (B30/W7)	(4) kW	5.20	5.60	7.20	8.80	11.30	5.60	7.30	8.90	11.8	13.2	15.7	19.8	22.9	26.0	33.4
Compressor power input	kW	1.53	1.70	2.00	2.60	3.20	1.63	1.90	2.41	3.19	3.80	4.00	5.10	5.80	6.80	8.40
EER*		3.40	3.29	3.60	3.38	3.53	3.44	3.84	3.69	3.70	3.47	3.93	3.88	3.95	3.82	3.98

Common data		0011	0021	0025	0031	0041	0021	0025	0031	0041	0051	0061	0071	0091	0101	0121	
Type of compressor		scroll															
N.° of compressors	n°	1															
Refrigerant		R-410A															
Plant side pump type		circulator										centrifugal					
Source side pump type (BW-BWR units)		circulator				centrifugal		circulator				centrifugal					
Power supply	V/Ph/Hz	230V~ 50Hz						400V-3N~ 50Hz									
Starting current (all single phase models have (7) a maximum 45A soft start fitted as standard)	A	26	27	37	44	59	32	35	48	64	64	75	75	75	75	75	
Sound pressure	(8) dB(A)	41	41	42	42	47	41	42	42	47	47	48	55	55	59	59	
Height/Length/Width	mm	980/560/575										1150/680/780					
Net weight	(7) kg	148	148	150	152	160	148	150	152	160	170	175	220	230	235	250	

Note

BWR/MTD

- (1) Heating mode: Plant side inlet water temperature at 30°C & outlet at 35°C, Source side inlet water temperature at 10°C & outlet at 5°C
- (2) Heating mode: Plant side inlet water temperature at 45°C & outlet at 50°C, Source side inlet water temperature at 10°C & outlet at 5°C
- (3) Cooling mode: Plant side inlet water temperature at 23°C & outlet at 18°C, Source side inlet water temperature at 30°C & outlet at 35°C
- (4) Cooling mode: Plant side inlet water temperature at 12°C & outlet at 7°C, Source side inlet water temperature at 30°C & outlet at 35°C
- (5) Heating mode: Plant side inlet water temperature at 30°C & outlet at 35°C, Source side inlet water temperature at 0°C & outlet at -3°C (Gly 25 %)
- (6) Heating mode: Plant side inlet water temperature at 45°C & outlet at 50°C, Source side inlet water temperature at 0°C & outlet at -3°C (Gly 25 %)



Certificate Number MCS HP0005
Heat Pumps



- (7) Standard unit data (MTD/S model with soft starter for 230V/1/50Hz)
- (8) 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.

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