

Prana BWR MTD

Ground Source & Geothermal Heat Pumps



***modular capability

REVERSIBLE HEAT PUMP FOR INDOOR INSTALLATION 40KW - 360KW

Unit Description

- Optimised internally positioned heat pump unit with optional chilled water production, a complete range is available from 40kW-360kW operating through varying source temperature ranges to facilitate either ground source or water source operation.
- The range includes single-circuit/two-compressor versions and also twin circuit/four compressor versions for larger output capacity. This configuration provides excellent load management capability which gives high performance and efficiency along with associated contingency benefits and redundancy.
- The use of R410A enables the unit to operate with high efficiency and performance whilst remaining flexible in operation.
- Climaveneta has designed the Prana BWR MTD 0152-1204 units to be configured with a range of optional accessories for ease of operation when specified across a range of differing applications from ground water source to higher temperature heat recovery from process or production waste water.
- The built-in hydronic module includes the main water circuit components; it is available in various configurations with one or two pumps with high or low head both on the evaporator and the condenser side.
- The W3000 controller provides integrated single unit control but also allows parallel operation of up to 5 units of varying capacity. This allows a completely bespoke system to be configured to match the demands of larger applications.
- The Prana BWR range is also able to connect either singularly or a multi unit modular basis with ModBus/Echelon/Bacnet protocol cards for BMS compatibility
- 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.
- The Prana HT range is designed for modular application to accommodate larger capacity requirements***.

Unit Summary

PRANA BWR MTD UNITS: WW/WWR & BW/BWR

CAPACITY: 40kW-360kW

POWER SUPPLY: Three Phase models

These units provide a heating output to 55°C with the option to also provide cooling with a reversible configuration.

HIGH EFFICIENCY & PERFORMANCE:

COP 4.1 (410% efficient)*

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

COP 5.06 (506% efficient)*

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

*Average COP for the Prana BWR & WWR MTD ranges

NOTE: Actual system efficiency (COP) and annual performance will depend on the distribution/emitter system utilised. Care should be taken to ensure that the heat pump is installed in order to provide efficient operational performance.

FEATURES & OPERATIONAL BENEFITS:

- 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
- Modular control for multiple unit configuration
- Compact footprint for plant room positioning

W3000

The W3000 controller offers the latest control and operating functions developed directly by Climaveneta utilising their experience gained within the field of heat pump design and related plant engineering. The keypad is generously sized with a full operating status display, the controls and detailed LCD make access to machine settings easy and safe. Temperature regulation with a proportional logic capability is related to the return water temperature which provides the ability to satisfy simultaneously heating, sanitary hot water and cooling requests with no need for mode changeover. The diagnostics include full management of alarms with black box function and an alarm recorder for analysis of unit performance. Monitoring is achieved through either Climaveneta devices or with various options for interfacing to ModBus, Bacnet or Echelon & LonTalk protocols. The controller has the compatibility to operate with a remote keyboard (single controller management of up to 10 modular units) along with a full time clock function for efficient programming of operation (standard 4 days and 10 time bands). Exclusive self-adaptive defrost logic, monitoring multiple operational- and ambient parameters are incorporated which allow the unit to reduce the number and duration of the defrost cycles with the benefit of increased overall energy efficiency.



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BWR-MTD		0152	0182	0202	0252	0262	0302	0352	0412	0452	0512
Cooling capacity	(1) kW	43.4	50.1	58.9	66.4	72.6	86.7	101	115	129	144
Total power input	(1) kW	10.0	11.3	13.0	15.2	16.6	19.5	22.7	25.9	28.9	32.2
Condenser heating capacity	(1)	5.8	60.7	71.2	80.7	88.2	105	123	139	156	174
EER		4.34	4.43	4.53	4.37	4.37	4.45	4.46	4.43	4.45	4.46
ESEER		5.80	6.00	6.00	5.70	5.60	5.70	5.80	5.70	5.80	5.80
Heating capacity	(2) kW	50.5	58.2	68.0	77.0	85.0	101	117	132	148	165
Total power input	(2) kW	12.9	14.3	16.7	19.2	21.1	24.7	28.7	32.2	36.0	40.0
COP	(2)	3.91	4.07	4.07	4.01	4.03	4.09	4.07	4.10	4.12	4.14
No. Compressors/No. Circuits N.		2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Sound power	(3) dB(A)	73	74	74	74	75	76	77	77	78	78
Sound pressure	(4) dB(A)										
Length	(5) mm	1055	1055	1055	1055	1055	1222	1222	1222	1222	1222
Width	(5) mm	649	649	649	649	649	843	843	843	843	843
Height	(5) mm	1255	1255	1255	1255	1255	1496	1496	1496	1496	1496
Operating weight	(5) kg	290	305	315	325	330	585	605	660	685	740

BWR-MTD		0552	0612	0604	0704	0804	0904	1004	1104	1204
Cooling capacity	(1) kW	165	186	174	203	228	258	288	329	371
Total power input	(1) kW	36.9	41.6	38.9	45.2	51.6	58.0	64.0	74.0	83.5
Condenser heating capacity	(1)	200	225	211	245	276	312	348	398	450
EER		4.47	4.48	4.47	4.48	4.42	4.45	4.50	4.44	4.44
ESEER		5.90	5.80	5.80	5.90	5.80	5.90	5.90	6.00	5.90
Heating capacity	(2) kW	190	215	202	234	263	297	332	379	428
Total power input	(2) kW	45.9	51.8	49.2	56.6	64.1	72.1	79.5	91.9	104
COP	(2)	4.14	4.14	4.11	4.13	4.10	4.12	4.17	4.13	4.12
No. Compressors/No. Circuits N.		2/1	2/1	4/2	4/2	4/2	4/2	4/2	4/2	4/2
Sound power	(3) dB(A)	79	79	86	87	88	89	90	91	91
Sound pressure	(4) dB(A)									
Length	(5) mm	1222	1222	2227	2227	2227	2227	2227	2227	2227
Width	(5) mm	873	873	877	877	877	877	877	877	877
Height	(5) mm	1496	1496	1780	1780	1780	1780	1780	1780	1780
Operating weight	(5) kg	790	830	1090	1165	1245	1290	1395	1500	1585



MODULAR CAPABILITY

The Prana BWR MTD range is designed for modular application to accommodate multi unit larger capacity requirements***.



Note:

1. Evaporator water (in/out) = 12/7°C, condenser water (in/out) = 30/35°C, based on Eurovent Standard.
2. Evaporator water (in/out) = 12/7°C; Condenser water (in/out) = 40/45°C.
3. Sound power on the basis of measurements made in compliance with ISO 9614 and Eurovent 8/1 for Eurovent certified units; in compliance with ISO 3744 for non-certified units.
4. Sound pressure in open field conditions on reflecting surface (directivity factor Q=2), average value on longest side, at 1 m from the outer surface and at 1 m height in relation to the unit supporting base.
5. Unit in standard configuration/execution, without optional accessories.



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TECHNOLOGY

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