

# Prana HT

## Air Source High Temperature Heat Pumps

HIGH TEMPERATURE HEAT PUMP DESIGNATION MEANS THE UNIT IS DESIGNED TO DELIVER A 60°C OUTPUT TEMPERATURE AT A -5°C AMBIENT CONDITION



### Unit Description



The Climaveneta Prana HT range represents the next generation of commercial 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 Climaveneta Prana 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 either new build or retrofit applications within the commercial sector.
- The specifier can choose to carry out a minimal amount of modifications to an existing heating system when applying a 65°C Prana HT to a retrofit application and as a result can potentially achieve significant installation benefits in terms of cost & time savings when replacing existing Oil or Gas fired boilers.
- 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 Prana HT range is more than capable of operating with high efficiency in UK & Irish winter temperatures.
- These units incorporate a complete control system for prioritised sanitary hot water production along with full weather compensated heating controls. This allows the unit to function efficiently as either a medium or high temperature heat pump with prioritised 65°C sanitary hot water production (a reversible option for chilled water production is also available).
- This advanced control means that these units are able to operate with very low system volumes which reduces buffer tank size and can considerably reduce installation costs.
- 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.

### Unit Summary

**MTD UNITS:** AW HT

**CAPACITY:** 40kW-100kW

**POWER SUPPLY:** Three Phase models

These units provide heating and hot water up to 65°C output temperatures with a reversible cooling option also available.

#### HIGH EFFICIENCY & PERFORMANCE: COP 4.2 (420% efficient)

\*Average coefficient of performance (COP) for the Prana HT range (LN-CA) based on EN14511 conditions.

Average COP 3.6 (360% efficient) @ 7°C ambient & 45°C flow temp.

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:

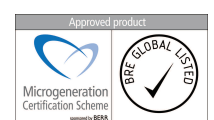
- 65°C operation at -12°C ambient temperature
- Prioritised 65°C sanitary hot water production (100% duty)
- Weather compensated heating control (max 65°C output)
- Reversible unit also available
- Multiple unit capability for parallel operation
- High COP 4.20
- MSC accredited heat pumps (relevant models)
- Maximum defrost efficiency
- Minimum design operating temperature -20°C

\*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.



\*(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).

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



Certificate Number MSC HP0005 Heat Pumps

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## 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)
- 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
- Outside air sensor wired
- Remote internal keyboard kit wired (optional)
- 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 hydronic kits, see current price list or contact ICS HPT or your distributor for details.

AW HT		0122CA	0122LN-CA	0152CA	0152LN-CA	0202CA	0202LN-CA	0262CA	0262LN-CA	0302CA	0302LN-CA
Pt	(1) (kW)	37.6	38.0	50.6	50.2	67.9	68.5	83.7	84.7	100.7	99.0
Pa	(1) (kW)	8.9	8.9	12.2	12.1	16.3	16.4	19.9	20.0	23.2	23.0
COP	(1)	4.22	4.27	4.15	4.14	4.17	4.18	4.21	4.24	4.34	4.30
COP EN14511:3	(1)	4.21	4.25	4.13	4.12	4.14	4.15	4.17	4.20	4.30	4.27
Pt	(2) (kW)	38.0	38.4	51.3	51.0	68.8	69.4	84.9	85.8	102.0	100.3
Pa	(2) (kW)	10.7	10.7	14.4	14.3	19.4	19.4	23.6	23.7	27.7	27.6
COP	(2)	3.55	3.59	3.57	3.56	3.55	3.58	3.60	3.62	3.68	3.63
Pf	(3) (kW)	34.1	34.0	43.8	43.8	60.3	60.2	76.4	76.2	91.6	90.3
Pa	(3) (kW)	11.5	11.6	14.7	15.0	20.4	20.5	25.9	26.1	31.3	32.9
EER	(3)	2.97	2.93	2.98	2.93	2.96	2.94	2.95	2.92	2.93	2.74
Sound Power level	dB(A)	84	80	86	82	87	83	87	83	87	84
Sound Pressure Level	dB(A)	52	49	54	51	55	51	55	51	55	52
Circuits		2	2	2	2	2	2	2	2	2	2
Length		1420	1420	1420	1420	1420	1420	1620	1620	1620	1620
Width		1120	1120	1120	1120	1120	1120	1120	1120	1120	1120
Height		1695	1695	2195	2195	2745	2745	2745	2745	2745	2745



### MODULAR CAPABILITY

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

### 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.



### Note:

1. Heating 35°C flow/7°C ambient
2. Heating 45°C flow/7°C ambient
3. Cooling 12°C/7°C 35°C ambient



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