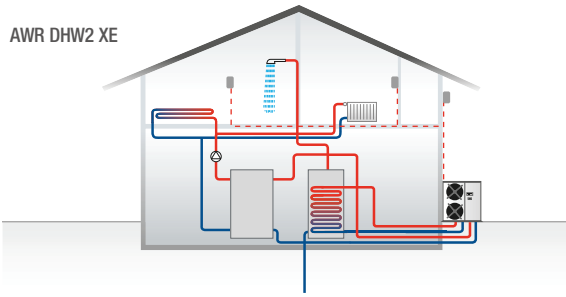


# prana AWR DHW2 XE

AWR DHW2 XE



nadisystem

Remote keypad with temperature and humidity probe



## Versions



### AWR DHW2 XE - B

Reversible air/water heat pump with production of hot domestic water and total heat recovery.



### AWR DHW2 XE - SL

Reversible air/water heat pump with production of hot domestic water and total heat recovery. Super-low noise version.

## Unit description

PRANA DHW is the new HIGH EFFICIENCY heat pump for all year round operation in any operating mode: single cycle (air conditioning, heating, domestic hot water) as well as combined cycle in total heat recovery (domestic hot water together with cooling). Energy efficiency is higher during the summer cycle, when the production of hot water is free, thanks to the full recovery of the heat. During the combined use, the DHW exchanger uses the temperature of the discharged gases to get inside the accumulation sanitary water as high as 65° C. The advanced electronic regulation developed by Climaveneta ensures the highest operational flexibility, fast working condition and a significant increase in the overall COP, which go hand in hand with electricity and space reduction. These advantages, combined with the possibility of completely eliminating the traditional boiler, make PRANA DHW heat pumps the ideal solution for energy saving applications in residential, hotel and the service sector.

## Controls

Electronic control Nadisystem provides great application flexibility. The remote keypad kit wired and outdoor air temperature sensors ensure a dynamic control of delivery water temperature, optimising comfort in the room and increasing the energy efficiency.

The electronic board allows you to manage:

- wired remote control with backlit display and remote temperature/humidity probe
- outdoor temperature probe for water plant side modular set point compensation
- a zone of direct heating for serving the radiator, floor heating or fancoil
- a zone with mix valve for floor heating
- electrical heating device for possible integration and anti-legionella cycle for cylinder
- boiler or electric heater in substitution or in addition
- the room controller can customise up to six time bands. The presence of the programmable timer allows the creation of an operating profile containing up to 6 time bands
- up to 4 heat pumps in cascade (with N-CM component)
- several solutions through appropriate configuration of the controller and use of dedicated extension modules (optional), up to 5 zones

## Features

- Structure and base in hot galvanised epoxy powder coated steel.
- Stainless steel (AISI 316) high efficient and low pressure drop plate to plate exchanger (at the domestic hot water side). It is positioned next after the compressor and it ensures the domestic hot water production. This can work either in full or in partial recovery, with the constant optimisation of efficiency through advanced logic of the controller
- Stainless steel AISI 316 plant side exchangers, which ensure high efficiency and low pressure drop and they meet the supply of both hot and cold water of the building, regardless of the domestic hot water production
- Hermetic scroll type compressors, equipped with the crankcase heater and thermal protection.
- Finned coils made with copper pipes and aluminium fins with large exchange surface area (100% fully quality tested)
- Axial electric fans, external rotor, 6-pole electric motor fitted with thermal protection, housed in aerodynamic conveyor profile with safety grill
- Low external air temperature device: continuous fan speed regulation with pressure switch
- Coil protection grille
- Soft starter for 230V units /ms and 400V units /ts
- The water circuit comes complete with:
  - Plant side variable flow circulator, the curves are selected by control, energy efficiency class A
  - Variable flow circulator domestic (hot water side), energy efficiency class A
  - Plant side differential pressure switch
  - Expansion tank
  - Safety valve
  - Manual filling assembly
  - Pressure gauge
  - Air vent valve

## Main accessories

- Wired room terminal with backlit display and temperature and humidity probe
- Extension module for system configuration
- Electric heater for the heating system
- Electric heater for hot water cylinder and for anti-legionellosis
- Serial card RS485 for ModBus
- Cascade management kit
- Buffer tank 35,100,200 liters
- Hot water cylinder 300,500 liters
- 300 litres thermal store for domestic hot water, for use with the DOMH20 kit
- 300,500,1000 litres thermal store for domestic hot water with solar heat exchanger, for use with DOMH20 kit
- DOMH2015 e DOMH2024 kit for domestic hot water with external heat exchanger plate-to-plate and pump

Reversible heat pump with total heat recovery, air source,  
for outdoor installation 5,80 - 22,8 kW



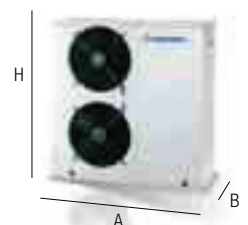
APPLICATION HYDRONIC TERMINAL

AWR DHW2 XE			0021m B	0025m B	0041m B	0025t B	0041t B	0065t SL	0101t SL
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>COOLING ONLY (GROSS VALUE)</b>									
Cooling capacity	(1)	kW	5,80	6,90	10,00	6,90	9,90	15,1	22,8
Total power input	(1)	kW	2,20	2,60	3,60	2,50	3,50	5,10	7,80
EER	(1)	kW/kW	2,64	2,65	2,78	2,76	2,83	2,96	2,92
ESEER	(1)	kW/kW							
<b>COOLING ONLY (EN14511 VALUE)</b>									
Cooling capacity	(1)(2)	kW	5,81	6,93	10,0	6,93	9,94	15,2	22,9
EER	(1)(2)	kW/kW	2,67	2,68	2,83	2,79	2,88	2,95	2,95
ESEER	(1)(2)	kW/kW	3,09	3,15	3,31	3,28	3,38	3,30	3,14
<b>HEATING ONLY (GROSS VALUE)</b>									
Total heating capacity	(3)	kW	7,30	8,70	12,5	8,60	12,3	19,0	28,8
Total power input	(3)	kW	2,30	2,70	3,80	2,60	3,70	5,90	8,80
COP	(3)	kW/kW	3,17	3,22	3,29	3,31	3,32	3,22	3,27
<b>HEATING ONLY (EN14511 VALUE)</b>									
Total heating capacity	(2)(3)	kW	7,29	8,67	12,5	8,57	12,3	18,9	28,7
COP	(2)(3)	kW/kW	3,21	3,25	3,33	3,34	3,37	3,21	3,29
<b>COOLING WITH TOTAL HEAT RECOVERY</b>									
<b>COOLING CAPACITY</b>									
Total power input	(4)	kW	2,12	2,47	3,54	2,47	3,37	4,61	6,76
Recovery heat exchanger capacity	(4)	kW	6,95	8,34	12,2	8,32	12,0	18,5	27,7
<b>TOTAL RECOVERY ONLY</b>									
Total heating capacity	(3)	kW	7,30	8,70	12,5	8,60	12,3	19,0	28,8
Total power input	(3)	kW	2,30	2,70	3,80	2,60	3,70	5,90	8,80
<b>SEASONAL EFFICIENCY IN HEATING (EN14825 VALUE)</b>									
PDesign	(5)	kW	5,83	6,01	9,49	5,75	9,33	15,1	20,5
SCOP	(5)		3,24	3,20	3,42	3,27	3,44	3,44	3,31
Performance $\eta_s$ (Reg. 811/2013 UE)	(5)	%	126	125	134	128	134	134	129
Seasonal efficiency class (Regulation (UE) 811/2013)	(5)		A+	A+	A+	A+	A+	A+	A+
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
Water flow	(1)	m <sup>3</sup> /h	1,00	1,19	1,72	1,19	1,70	2,60	3,93
Available unit's head	(1)	kPa	60,4	104,7	95,2	104,7	95,7	109,6	107,2
<b>HEAT EXCHANGER USER SIDE IN HEATING</b>									
Water flow	(3)	m <sup>3</sup> /h	1,27	1,51	2,17	1,49	2,14	3,30	5,00
Available unit's head	(3)	kPa	55,1	96,8	82,1	97,2	83,2	104,7	97,9
<b>HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION</b>									
Water flow	(4)	m <sup>3</sup> /h	1,21	1,45	2,13	1,45	2,09	3,21	4,81
Pressure drop	(4)	kPa	8,27	8,54	11,3	8,50	10,9	10,1	9,65
<b>HEAT EXCHANGER RECOVERY USER SIDE IN HEATING</b>									
Water flow	(4)	m <sup>3</sup> /h	1,24	1,49	2,14	1,48	2,12	3,28	4,96
Pressure drop	(4)	kPa	8,79	9,04	11,5	8,86	11,3	10,5	10,3
<b>COMPRESSORS</b>									
No. Compressors		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
<b>NOISE LEVEL</b>									
Sound power level in cooling	(6)(7)	dB(A)	69	70	71	70	71	73	74
Sound power level in heating	(6)(8)	dB(A)	65	70	70	65	70	74	75
Noise Pressure	(9)	dB(A)	54	55	55	55	55	57	58
<b>SIZE AND WEIGHT</b>									
A	(10)	mm	1250	1250	1700	1250	1700	1700	1700
B	(10)	mm	420	420	650	420	650	650	650
H	(10)	mm	1125	1125	1200	1125	1200	1700	1700
Operating weight	(10)	kg	165	165	295	165	295	348	390

Notes

AWR DHW2 XE

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
- Values in compliance with EN14511-3:2013.
- Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
- Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (UE) N. 811/2013]
- Sound power on the basis of measurements made in compliance with ISO 9614.
- Sound power level in cooling, outdoors.
- Sound power level in heating, outdoors.
- Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
- Unit in standard configuration/execution, without optional accessories.



# prana AWR DHW2 XE

## APPLICATION FLOOR HEATING

AWR DHW2 XE			0021m B	0025m B	0041m B	0025t B	0041t B	0065t SL	0101t SL
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>COOLING ONLY (GROSS VALUE)</b>									
Cooling capacity	(1)	kW	8,21	9,76	13,9	9,78	13,9	21,0	31,3
Total power input	(1)	kW	2,18	2,60	3,68	2,50	3,62	5,57	8,47
EER	(1)	kW/kW	3,77	3,75	3,78	3,91	3,84	3,77	3,70
ESEER	(1)	kW/kW							
<b>COOLING ONLY (EN14511 VALUE)</b>									
Cooling capacity	(1)(2)	kW	8,22	9,79	13,9	9,81	13,9	21,1	31,4
EER	(1)(2)	kW/kW	3,83	3,83	3,85	3,99	3,91	3,80	3,75
ESEER	(1)(2)	kW/kW	3,09	3,15	3,31	3,28	3,38	3,30	3,14
<b>HEATING ONLY (GROSS VALUE)</b>									
Total heating capacity	(3)	kW	7,59	9,00	12,9	8,84	12,6	19,4	29,4
Total power input	(3)	kW	1,87	2,17	3,06	2,08	2,99	4,68	7,06
COP	(3)	kW/kW	4,06	4,15	4,22	4,25	4,21	4,15	4,16
<b>HEATING ONLY (EN14511 VALUE)</b>									
Total heating capacity	(2)(3)	kW	7,58	8,96	12,8	8,81	12,6	19,3	29,3
COP	(2)(3)	kW/kW	4,14	4,19	4,27	4,30	4,29	4,13	4,19
<b>COOLING WITH TOTAL HEAT RECOVERY</b>									
<b>COOLING CAPACITY</b>									
Total power input	(4)	kW	2,01	2,35	3,43	2,35	3,31	4,67	6,78
Recovery heat exchanger capacity	(4)	kW	9,10	11,0	16,0	10,9	15,9	24,8	36,8
<b>TOTAL RECOVERY ONLY</b>									
Total heating capacity	(3)	kW	7,59	9,00	12,9	8,84	12,6	19,4	29,4
Total power input	(3)	kW	1,87	2,17	3,06	2,08	2,99	4,68	7,06
<b>SEASONAL EFFICIENCY IN HEATING (EN14825 VALUE)</b>									
PDesign	(5)	kW	5,83	6,01	9,49	5,75	9,33	15,1	20,5
SCOP	(5)		3,24	3,20	3,42	3,27	3,44	3,44	3,31
Performance $\eta_s$ (Reg. 811/2013 UE)	(5)	%	126	125	134	128	134	134	129
Seasonal efficiency class (Regulation (UE) 811/2013)	(5)		A+	A+	A+	A+	A+	A+	A+
<b>EXCHANGERS</b>									
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>									
Water flow	(1)	m <sup>3</sup> /h	1,42	1,69	2,40	1,69	2,40	3,62	5,41
Available unit's head	(1)	kPa	51,7	91,7	74,3	91,6	74,2	101,8	93,5
<b>HEAT EXCHANGER USER SIDE IN HEATING</b>									
Water flow	(3)	m <sup>3</sup> /h	1,31	1,56	2,23	1,53	2,18	3,36	5,09
Available unit's head	(3)	kPa	54,1	95,5	80,3	96,2	81,7	104,2	97,0
<b>HEAT EXCHANGER RECOVERY USER SIDE IN REFRIGERATION</b>									
Water flow	(4)	m <sup>3</sup> /h	1,58	1,91	2,78	1,90	2,76	4,32	6,39
Pressure drop	(4)	kPa	14,2	14,8	19,3	14,7	19,1	18,2	17,1
<b>HEAT EXCHANGER RECOVERY USER SIDE IN HEATING</b>									
Water flow	(4)	m <sup>3</sup> /h	1,24	1,49	2,14	1,48	2,12	3,28	4,96
Pressure drop	(4)	kPa	8,79	9,04	11,5	8,86	11,3	10,5	10,3
<b>COMPRESSORS</b>									
No. Compressors		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
<b>NOISE LEVEL</b>									
Sound power level in cooling	(6)(7)	dB(A)	69	70	71	70	71	73	74
Sound power level in heating	(6)(8)	dB(A)	65	70	70	65	70	74	75
Noise Pressure	(9)	dB(A)	54	55	55	55	55	57	58
<b>SIZE AND WEIGHT</b>									
A	(10)	mm	1250	1250	1700	1250	1700	1700	1700
B	(10)	mm	420	420	650	420	650	650	650
H	(10)	mm	1125	1125	1200	1125	1200	1700	1700
Operating weight	(10)	kg	165	165	295	165	295	348	390

## Notes

### AWR DHW2 XE

- Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger air (in) 35°C.
- Values in compliance with EN14511-3:2013.
- Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
- Plant (side) cooling exchanger water (in/out) 23°C/18°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.
- Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (UE) N. 811/2013]
- Sound power on the basis of measurements made in compliance with ISO 9614.
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