AWR DHW2 XE 0021m - 0101ts

Reversible heat pump, total heat recovery, air source for outdoor installation 5.80-22.8 kW



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 highest during the summer cycle, when, thanks to the full recovery of the heat, the production of hot water is free. During the combined use, the DHW exchanger uses the temperature of the discharge gases to gets 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 a significant increase in the overall COP, which go hand in hand with electricity and space reduction.

Advantages, combined with the possibility of completely eliminating the traditional boiler, making heat pumps PRANA DHW the ideal solution for energy saving applications in residential, hotel and small sector.

Version

Basic

SL Super-low noise version

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.

High efficiency and low pressure drop stainless steel AISI 316 plate exchangers (at the domestic hot water side). It is positioned next after the compressor and it ensures the domestic hot water production. The unit has full or partial recovery system, with the constant optimization of efficiency through logic advanced adjusting controller

High efficiency and low pressure drop stainless steel AISI 316 plate exchangers meet the supply of both hot and cold water for the facility, regardless of the domestic hot water

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:

Variable flow circulator plant side, the curves are selected by control. Class A energy efficiency

Variable flow circulator domestic hot water side. Class A energy efficiency.

Pressure switch system side

Expansion tank

Safety valve

Manual filling assembly

Pressure gauge

Air vent valve (plant side).

Accessory

- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- · Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration 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 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump

Controls

NADISYSTEM

Electronic control Nadisystem provides great application flexibility. The remote keyboard kit wired indoor and outdoor temperature sensors allow dynamic control of delivery temperature water, optimizing comfort in the room and increasing the energy efficiency. The electronic board allows you to manage:

- -Wired remote control, backlit display complete with remote temperature and humidity probe
- -outdoor temperature sensor for water plant side modular set point compensation
- -a zone of direct heating for radiator, floor heating or fan coil
- -a zone with mix valve for floor heating
- -Electrical heating element 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 pump in cascade (with N-CM component)
- -several solutions through appropriate configurations of the controller and use of dedicated extension modules (accessorie), up to 5 zone

The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.





APPLICATION HYDRONIC TERMINAL

AWR DHW2 XE / B) // L " :	0021m	0025m	0041m	0025t	0041t	
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	
COOLING ONLY (GROSS VALUE)	(4)	1.147	5.00	0.00	10.0	0.00	0.00	
Cooling capacity	(1)	kW	5,80	6,90	10,0	6,90	9,90	
Total power input	(1)	kW	2,20	2,60	3,60	2,50	3,50	
EER	(1)	kW/kW	2,64	2,65	2,78	2,76	2,83	
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)	(4)(0)	1.107	F 0.4	0.00	40.0	0.00	0.04	
Cooling capacity	(1)(2)	kW	5,81	6,93	10,0	6,93	9,94	
EER ESEER	(1)(2)	kW/kW	2,67	2,68	2,83	2,79	2,88	
	(1)(2)	kW/kW	3,09	3,15	3,31	3,28	3,38	
HEATING ONLY (GROSS VALUE)	(2)	1.\^/	7.00	0.70	40.5	0.00	40.0	
Total heating capacity	(3)	kW kW	7,30	8,70 2,70	12,5 3,80	8,60 2,60	12,3	
Total power input COP	(3)		2,30 3,17				3,70	
	(3)	kW/kW	3,17	3,22	3,29	3,31	3,32	
HEATING ONLY (EN14511 VALUE)	(2)(3)	LAA	7 20	0.67	12.5	0.57	10.2	
Total heating capacity COP	(2)(3)	kW/kW	7,29 3,21	8,67	12,5 3,33	8,57	12,3 3,37	
		KVV/KVV	3,∠1	3,25	٥,٥٥	3,34	3,31	
COOLING WITH TOTAL HEAT RECOVI		I ₂ \A/	4.05	6.00	8.91	6.00	8.83	
Cooling capacity	(4) (4)	kW	4,95 2,12	6,02	3,54		3,37	
Total power input	(4)	kW kW	6,95	2,47 8,34	3,54 12,2	2,47 8,32	12,0	
Recovery heat exchanger capacity	(4)	KVV	0,93	0,34	12,2	0,32	12,0	
TOTAL RECOVERY ONLY Total heating capacity	(3)	kW	7 20	8,70	12,5	8,60	12.3	
Total neating capacity Total power input	(3)	kW	7,30 2,30	2,70	3,80	2,60	3,70	
	(5)	KVV	2,30	۷,10	5,60	۷,00	3,70	
ENERGY EFFICIENCY	(Dan 511001	C/00C4\						
SEASONAL EFFICIENCY IN COOLING	(Reg. EU 201	0/2281)						
Ambient refrigeration	/4.41	1147						
Prated,c	(11)	kW	-	-	-	-	•	
SEER	(11)(12)	0/	-	-	-	-	•	
Performance ηs	(11)(13)	% (2042)	-	-	-	-	-	
SEASONAL EFFICIENCY IN HEATING			F 00	0.04	0.40	E 75	0.00	
PDesign SCOP	(5) (5)(14)	kW	5,83	6,01	9,49	5,75	9,33	
Performance ns	(5)(14)	%	3,23 126	3,20 125	3,41 134	3,25 127	3,43 134	
Seasonal efficiency class	(5)(15)	70	A+	125 A+	134 A+	A+	A+	
•	(3)		Αſ	ΑТ	Αт	ΑΤ	MT.	
EXCHANGERS		N.						
HEAT EXCHANGER USER SIDE IN RE			0.20	0.33	0.40	0.22	0.47	
Water flow	(1) (1)	I/s kPa	0,28	0,33 105	0,48	0,33 105	0,47	
Available unit's head		KPa	60,4	105	95,2	105	95,7	
HEAT EXCHANGER USER SIDE IN HE.		I/c	0.25	0.42	0.60	0.42	0.50	
Water flow	(3)	I/s kPa	0,35 55,1	0,42 96.8	0,60 82,1	0,42 97,2	0,59 83,2	
Available unit's head				90,0	0Z, I	91,2	03,2	
HEAT EXCHANGER RECOVERY USER		·RIGERAT l/s		0.40	0.59	0.40	0.58	
Water flow	(4)	kPa	0,34 8,27	0,40 8,54	0,59	0,40 8,50	10,58	
Pressure drop			0,∠1	0,34	11,3	0,30	10,9	
HEAT EXCHANGER RECOVERY USER			0.35	0.44	0.50	0,41	0.50	
Water flow Pressure drop	(4)	I/s kPa	0,35 8,79	0,41 9,04	0,59 11,5	8,86	0,59 11,3	
•	(4)	NГа	0,79	3,04	11,0	0,00	11,0	
REFRIGERANT CIRCUIT		N°	1	1	1	1	1	
Compressors nr. No. Circuits		N°	1	1	1	1	1	
Refrigerant charge		kg	5,76	6,36	13,0	6,36	13,0	
		kg	5,70	0,30	13,0	0,30	13,0	
NOISE LEVEL	(6)(7)	dD(A)	60	70	74	70	71	
Sound power level in cooling	(6)(7)	dB(A)	69 65	70 70	71 70	70 65	71 70	
Sound power level in heating Sound Pressure	(6)(8) (9)	dB(A)	54	70 55	70 55	55	70 55	
	(8)	dB(A)	04	55	55	55	55	
SIZE AND WEIGHT	(10)	mane	1250	1250	1700	1250	1700	
A B	(10)	mm	1250	1250	1700	1250	1700 650	
в Н	(10) (10)	mm	420	420 1125	650 1200	420 1125	1200	
	(10)	mm kg	1125 165	165	295	165	295	
Operating weight	(10)	KU.	100	100	290	100	290	

- Notes:

 1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.

 2 Values in compliance with EN14511-3:2013.

 3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C 87% R.H.

 4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (auxiliary side) heat exchanger recovery water (in/out) 45°C/50°C.

 5 Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]

 6 Sound power level in cooling exthores.

- 6 Sound power on the basis of measurements made in compliance with ISO 9614.
 7 Sound power level in cooling, outdoors.
 8 Sound power level in heating, outdoors.
 9 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.
 10 Unit in standard configuration/execution, without optional accessories.
 11 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]
 12 Seasonal space heating energy index
 13 Seasonal energy efficiency of the space cooling
 14 Seasonal performance coefficient
 15 Seasonal space heating energy efficiency
 The units highlighted in this publication contain HFC R407C [GWP₁₀₀ 1774] fluorinated greenhouse gases.



APPLICATION FLOOR HEATING

Power supply		\// ₂	0021m	0025m	0041m	0025t	0041t
COOLING ONLY (GROSS VALUE)		V/ph/Hz	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50
Cooling ONLY (GROSS VALUE) Cooling capacity	(1)	kW	8,21	9.76	13.9	9,78	13.9
Fotal power input	(1)	kW	2,18	2,60	3,68	2,50	3,62
EER	(1)	kW/kW	3,77	3,75	3,78	3,91	3,84
ESEER	(1)	kW/kW					
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	8,22	9,79	13,9	9,81	13,9
EER ESEER	(1)(2)	kW/kW kW/kW	3,83 3,09	3,83 3,15	3,85 3,31	3,99 3,28	3,91 3,38
HEATING ONLY (GROSS VALUE)	(1)(2)	KVV/KVV	3,09	3,13	3,31	3,20	3,30
Total heating capacity	(3)	kW	7,59	9,00	12.9	8,84	12.6
Total power input	(3)	kW	1,87	2,17	3,06	2,08	2,99
COP	(3)	kW/kW	4,06	4,15	4,22	4,25	4,21
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	7,58	8,96	12,8	8,81	12,6
COP	(2)(3)	kW/kW	4,14	4,19	4,27	4,30	4,29
COOLING WITH TOTAL HEAT RECOVERY		1110	7.00	0.70	40.7	0.70	40.0
Cooling capacity	(4)	kW	7,20	8,76	12,7	8,73	12,8
Fotal power input Recovery heat exchanger capacity	(4) (4)	kW kW	2,01 9,10	2,35 11,0	3,43 16,0	2,35 10,9	3,31 15,9
TOTAL RECOVERY ONLY	(4)	N.V.V	9,10	11,0	10,0	10,5	10,0
Total heating capacity	(3)	kW	7,59	9,00	12,9	8,84	12.6
Fotal power input	(3)	kW	1,87	2,17	3,06	2,08	2,99
ENERGY EFFICIENCY	. ,		,	-,	-,	_,-,-	, . <u>-</u>
SEASONAL EFFICIENCY IN COOLING (Re	g. EU 20	16/2281)					
Ambient refrigeration	J	,					
Prated,c	(11)	kW	-	-	-	-	-
SEER	(11)(12)		-	-	-	-	-
Performance ηs	(11)(13)	%	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Re			= a -				
PDesign	(5)	kW	5,83	6,01	9,49	5,75	9,33
SCOP	(5)(14)	0/	3,23	3,20	3,41	3,25	3,43 134
Performance ηs Seasonal efficiency class	(5)(15) (5)	%	126 A+	125 A+	134 A+	127 A+	134 A+
EXCHANGERS	(0)			Α'	Λ'	Α'	Λ'
HEAT EXCHANGER USER SIDE IN REFRI	GERATIC) N					
Vater flow	(1)	I/s	0,39	0,47	0.67	0,47	0.67
Available unit's head	(1)	kPa	51,7	91,7	74,3	91,6	74,2
HEAT EXCHANGER USER SIDE IN HEATI			,-		,-	,-	,—
Vater flow	(3)	I/s	0,37	0,43	0,62	0,43	0,61
Available unit's head	(3)	kPa	54,1	95,5	80,3	96,2	81,7
HEAT EXCHANGER RECOVERY USER SII	DE IN RE	FRIGERAT	ION				
Nater flow	(4)	I/s	0,44	0,53	0,77	0,53	0,77
Pressure drop	(4)	kPa	14,2	14,8	19,3	14,7	19,1
HEAT EXCHANGER RECOVERY USER SI			0.05	0.44	0.50	0.44	0.50
Vater flow	(4)	I/s kPa	0,35 8,79	0,41 9,04	0,59 11,5	0,41 8,86	0,59 11,3
Pressure drop REFRIGERANT CIRCUIT	(4)	Kra	0,79	9,04	11,5	0,00	11,3
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	<u></u> 1	1	1
Refrigerant charge		kg	5,76	6,36	13,0	6,36	13,0
NOISE LEVEL							
Sound power level in cooling	(6)(7)	dB(A)	69	70	71	70	71
Sound power level in heating	(6)(8)	dB(A)	65	70	70	65	70
Sound Pressure	(9)	dB(A)	54	55	55	55	55
SIZE AND WEIGHT	(40)		4050	4050	4700	4050	4700
A	(10)	mm	1250	1250	1700	1250	1700
3 1	(10) (10)	mm	420 1125	420 1125	650 1200	420 1125	650 1200
	(10)	mm kg	165	165	295	165	295
Operating weight	(10)	ng ng	100	100	200	100	200

APPLICATION HYDRONIC TERMINAL

Power supply COOLING ONLY (GROSS VALUE) Cooling capacity			0065t	0101t	
		V/ph/Hz	400/3/50	400/3/50	
Cooling conocity					
	(1)	kW	15,1	22,8	
Total power input	(1)	kW	5,10	7,80	
EER ESEER	(1)	kW/kW kW/kW	2,96	2,92	
COOLING ONLY (EN14511 VALUE)	(1)	KVV/KVV			
Cooling capacity	(1)(2)	kW	15,2	22,9	
EER	(1)(2)	kW/kW	2,95	2,95	
SEER	(1)(2)	kW/kW	3,30	3,14	
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(3)	kW	19,0	28,8	
Total power input	(3)	kW	5,90	8,80	
COP	(3)	kW/kW	3,22	3,27	
HEATING ONLY (EN14511 VALUE)	(0)(0)	1.147	40.0	00.7	
Total heating capacity COP	(2)(3)	kW kW/kW	18,9 3,21	28,7 3,29	
COOLING WITH TOTAL HEAT RECOVERY	(2)(3)	KVV/KVV	3,21	3,29	
Cooling capacity	(4)	kW	14.1	21,3	
Fotal power input	(4)	kW	4,61	6,76	
Recovery heat exchanger capacity	(4)	kW	18,5	27,7	
OTAL RECOVERY ONLY					
Total heating capacity	(3)	kW	19,0	28,8	
Total power input	(3)	kW	5,90	8,80	
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN COOLING (Reg	. EU 20	16/2281)			
Ambient refrigeration					
Prated,c	(11)	kW	-	-	
SEER Performance ne	(11)(12) (11)(13)	%	-	-	
Performance ηs SEASONAL EFFICIENCY IN HEATING (Reg			-	-	
SEASONAL EFFICIENCY IN HEATING (Reg PDesign	. EU 813 (5)	8/2013) kW	15,1	20,5	
SCOP	(5)(14)	IX V V	3,43	3,30	
Performance ηs	(5)(15)	%	134	129	
Seasonal efficiency class	(5)		A+	A+	
XCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIG	ERATIO	N			
Water flow	(1)	l/s	0,72	1,09	
Available unit's head	(1)	kPa	110	107	
HEAT EXCHANGER USER SIDE IN HEATIN			0.00	,	
Nater flow	(3)	I/s	0,92	1,39	
Available unit's head	(3) E IN DE	kPa	105	97,9	
IEAT EXCHANGER RECOVERY USER SID Vater flow	(4)	FRIGERAT I/s	0,89	1,33	
Pressure drop	(4)	kPa	10,1	9,65	
HEAT EXCHANGER RECOVERY USER SID			10,1	3,00	
Vater flow	(4)	I/s	0,91	1,38	
Pressure drop	(4)	kPa	10,5	10,3	
REFRIGERANT CIRCUIT			,		
Compressors nr.		N°	1	1	
No. Circuits		N°	1	1	
Refrigerant charge		kg	16,7	18,0	
IOISE LEVEL					
Sound power level in cooling	(6)(7)	dB(A)	73	74	
	(6)(8)	dB(A)	74	75	
Sound power level in heating		dB(A)	57	58	
Sound power level in heating Sound Pressure	(9)				
Sound power level in heating Sound Pressure SIZE AND WEIGHT		` ,	4700	4700	
Sound power level in heating Sound Pressure SIZE AND WEIGHT	(10)	mm	1700	1700	
Sound power level in heating Sound Pressure BIZE AND WEIGHT	(10) (10)	mm mm	650	650	
ound power level in heating ound Pressure IZE AND WEIGHT	(10)	mm			



APPLICATION FLOOR HEATING

AWR DHW2 XE / SL Power supply COOLING ONLY (GROSS VALUE) Cooling capacity					
COOLING ONLY (GROSS VALUE)			0065t	0101t	
		V/ph/Hz	400/3/50	400/3/50	
Cooling capacity				6	
_ , , 5	(1)	kW	21,0	31,3	
Total power input	(1)	kW	5,57	8,47	
EER ESEER	(1)	kW/kW	3,77	3,70	
	(1)	kW/kW			
COOLING ONLY (EN14511 VALUE)	(1)(2)	kW	21,1	31,4	
Cooling capacity EER	(1)(2)	kW/kW	3,80	3,75	
SEER	(1)(2)	kW/kW	3,30	3,14	
EATING ONLY (GROSS VALUE)	(- //-/	1000/1000	0,00	0,14	
otal heating capacity	(3)	kW	19,4	29,4	
otal power input	(3)	kW	4,68	7,06	
COP	(3)	kW/kW	4,15	4,16	
HEATING ONLY (EN14511 VALUE)			,	,	
otal heating capacity	(2)(3)	kW	19,3	29,3	
COP	(2)(3)	kW/kW	4,13	4,19	
COOLING WITH TOTAL HEAT RECOVERY					
Cooling capacity	(4)	kW	20,5	30,4	
otal power input	(4)	kW	4,67	6,78	
ecovery heat exchanger capacity	(4)	kW	24,8	36,8	
OTAL RECOVERY ONLY					
Total heating capacity	(3)	kW	19,4	29,4	
otal power input	(3)	kW	4,68	7,06	
NERGY EFFICIENCY					
EASONAL EFFICIENCY IN COOLING (Reg	g. EU 20	16/2281)			
mbient refrigeration					
Prated,c	(11)	kW	-	-	
SEER	(11)(12)	4.1	-	-	
Performance ηs	(11)(13)	%	-	-	
SEASONAL EFFICIENCY IN HEATING (Reg			45.4	60.5	
PDesign	(5)	kW	15,1	20,5	
SCOP Porformance no	(5)(14)	0/	3,43	3,30	
Performance ηs	(5)(15) (5)	%	134 A+	129 A+	
easonal efficiency class	(3)		A ⁺	A+	
	CD A TIC	NA 1			
IEAT EXCHANGER USER SIDE IN REFRIG Vater flow		I/s	1,01	1,50	
vater flow Available unit's head	(1)	kPa	1,01	93,5	
ivaliable unit's nead IEAT EXCHANGER USER SIDE IN HEATIN		ri⁻a	102	30,0	
TEAT EXCHANGER USER SIDE IN HEATIN Vater flow	(3)	I/s	0.93	1,41	
vailable unit's head	(3)	kPa	104	97,0	
HEAT EXCHANGER RECOVERY USER SID				0.,0	
Vater flow	(4)	l/s	1,20	1,78	
ressure drop	(4)	kPa	18,2	17,1	
IEAT EXCHANGER RECOVERY USER SID			,-	,.	
Vater flow	(4)	I/s	0,91	1,38	
Pressure drop	(4)	kPa	10,5	10,3	
REFRIGERANT CIRCUIT			,-	,-	
Compressors nr.		N°	1	1	
lo. Circuits		N°	1	1	
		kg	16,7	18,0	
Refrigerant charge		AD(A)	73	74	
Refrigerant charge	(6)(7)	UB(A)			
efrigerant charge OISE LEVEL ound power level in cooling	(6)(7) (6)(8)	dB(A) dB(A)	74	75	
efrigerant charge OISE LEVEL ound power level in cooling ound power level in heating			74 57	75 58	
defrigerant charge IOISE LEVEL Sound power level in cooling Sound power level in heating Sound Pressure	(6)(8)	dB(A)			
Refrigerant charge IOISE LEVEL Sound power level in cooling Sound power level in heating Sound Pressure SIZE AND WEIGHT	(6)(8)	dB(A)			
Refrigerant charge NOISE LEVEL Sound power level in cooling Sound power level in heating Sound Pressure SIZE AND WEIGHT	(6)(8) (9)	dB(A) dB(A)	57	58	
efrigerant charge OISE LEVEL ound power level in cooling ound power level in heating ound Pressure IZE AND WEIGHT	(6)(8) (9) (10)	dB(A) dB(A) mm	57 1700	58 1700	



