

AWR MTD2 XE 0011ms - 0091t

High efficiency reversible heat pump,
air source for outdoor installation
5,20-29,2 kW



Heat pumps AWR-MTD2-XE reversible units are able to provide heating, cooling and domestic hot water. Particular attention was paid to the winter, thanks to special technological devices is guaranteed beyond the normal limits of traditional units. Prana AWR-MTD2-XE can be combined with traditional systems or radiant panels, ensuring a high energy efficiency. All units are certified in accordance with the Class A classification Eurovent energy in heating. This makes them particularly suitable for use radiant installations. The installation is greatly simplified through the integration of the hydraulic group simply by connecting the unit to water plant and electricity so that it can be put into operation.

Version

-	Basic
H	integrated electric heater

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.
High efficiency, low drop AISI 316 stainless steel plate exchangers (water side) complete with closed-cell insulation with vapour barrier, anti-freeze heating element and differential pressure switch
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
Modulating electrical resistance to avoid freezing of the base; the resistance is located between wing and base exchanger to improve and facilitate the flow of water during defrosting
Condensate collecting tray (models 0011+0051)
Coil protection grille
Soft starter for 230V/1/50Hz units (ms)
Phase sequence control relay for three phase models
The water circuit comes complete with:
Variable flow circulator for all models
Differential pressure switch.
Expansion tank
Safety valve
Manual filling assembly
Pressure gauge
Air vent valve

The full range is also available with the Class A efficiency rating (in heating).

Accessory

- Wired room terminal with backlit display, and with temperature and humidity probe
- Extension module for system configuration
- Three-way valve for domestic hot water
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Cascade management kit
- Serial card RS485 for ModBus
- External buffer tank and hydronic connecting 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
- domestic hot water production by external three-way valve (accessory)
- 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 MTD2 XE		0011ms	0025ms	0031ms	0041ms	0031t	0041t	0051t	0061t	0091t
Power supply	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1) kW	5,20	6,30	9,20	11,7	8,60	11,9	13,2	15,2	22,1
Total power input	(1) kW	1,70	2,20	3,10	4,00	3,00	4,00	4,60	5,00	7,20
EER	(1) kW/kW	3,06	2,86	2,97	2,92	2,87	2,97	2,87	3,04	3,07
ESEER	(1) kW/kW	3,62	3,63	3,52	3,46	3,42	3,65	3,24	3,55	3,57
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2) kW	5,20	6,30	9,23	11,7	8,63	11,9	13,2	15,2	22,2
EER	(1)(2) kW/kW	3,08	2,89	3,01	2,97	2,91	3,02	2,91	3,06	3,09
ESEER	(1)(2) kW/kW	3,65	3,64	3,62	3,53	3,46	3,70	3,30	3,57	3,61
Cooling energy class		B	C	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3) kW	6,10	7,30	10,8	13,6	10,6	13,8	15,4	17,5	24,6
Total power input	(3) kW	1,90	2,30	3,30	4,10	3,20	4,30	4,60	5,20	7,40
COP	(3) kW/kW	3,21	3,17	3,27	3,32	3,31	3,21	3,35	3,37	3,32
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2) kW	6,10	7,30	10,8	13,6	10,6	13,8	15,4	17,5	24,5
COP	(3)(2) kW/kW	3,23	3,20	3,30	3,35	3,34	3,24	3,38	3,38	3,33
Cooling energy class		A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(10) kW	-	-	-	-	-	-	-	-	-
SEER	(10)(11)	-	-	-	-	-	-	-	-	-
Performance ηs	(10)(12) %	-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(4) kW	6,34	6,40	7,99	9,65	7,56	10,0	11,1	12,7	17,5
SCOP	(4)(13)	3,64	3,58	3,52	3,43	3,27	3,54	3,28	3,43	3,33
Performance ηs	(4)(14) %	143	140	138	134	128	139	128	134	130
Seasonal efficiency class	(4)	A+	A+	A+	A+	A+	A+	A+	A+	A+
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1) l/s	0,25	0,30	0,44	0,56	0,41	0,57	0,63	0,73	1,06
Available unit's head	(1) kPa	54,3	51,2	92,2	81,1	95,4	79,9	78,1	53,8	101
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3) l/s	0,29	0,35	0,52	0,66	0,51	0,67	0,74	0,84	1,19
Available unit's head	(3) kPa	48,4	44,8	82,0	67,5	83,3	66,0	62,9	46,4	95,9
REFRIGERANT CIRCUIT										
Compressors nr.	N°	1	1	1	1	1	1	1	1	1
No. Circuits	N°	1	1	1	1	1	1	1	1	1
Refrigerant charge	kg	2,55	2,60	3,50	4,35	3,50	4,35	4,50	6,10	8,50
NOISE LEVEL										
Sound power level in cooling	(5)(6) dB(A)	69	69	71	71	71	71	71	72	74
Sound power level in heating	(5)(7) dB(A)	70	70	70	70	70	70	70	73	75
Sound Pressure	(8) dB(A)	54	54	56	56	56	56	56	57	58
SIZE AND WEIGHT										
A	(9) mm	900	900	900	900	900	900	900	1550	1550
B	(9) mm	420	420	420	420	420	420	420	450	450
H	(9) mm	1240	1240	1240	1390	1240	1390	1390	1200	1700
Operating weight	(9) kg	145	150	155	170	155	170	180	250	335

Notes:

- 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.
 - Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]
 - 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.
 - Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]
 - Seasonal space heating energy index
 - Seasonal energy efficiency of the space cooling
 - Seasonal performance coefficient
 - Seasonal space heating energy efficiency
- The units highlighted in this publication contain HFC R410A [GWP₁₀₀ 2088] fluorinated greenhouse gases.
 Certified data in EUROVENT

APPLICATION FLOOR HEATING

AWR MTD2 XE		0011ms	0025ms	0031ms	0041ms	0031t	0041t	0051t	0061t	0091t	
Power supply	V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	7,20	8,30	12,3	15,7	11,7	15,8	17,7	20,2	29,2
Total power input	(1)	kW	1,90	2,20	3,30	4,10	3,10	4,20	4,70	5,30	7,80
EER	(1)	kW/kW	3,79	3,77	3,73	3,83	3,77	3,76	3,77	3,81	3,74
ESEER	(1)	kW/kW	3,62	3,63	3,52	3,46	3,42	3,65	3,24	3,55	3,57
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	7,19	8,29	12,3	15,7	11,7	15,8	17,7	20,2	29,3
EER	(1)(2)	kW/kW	3,81	3,80	3,78	3,86	3,83	3,79	3,79	3,82	3,78
ESEER	(1)(2)	kW/kW	3,65	3,64	3,62	3,53	3,46	3,70	3,30	3,57	3,61
Cooling energy class			B	C	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	6,30	7,40	11,2	14,0	10,9	14,0	15,9	17,9	25,1
Total power input	(3)	kW	1,50	1,80	2,60	3,30	2,60	3,30	3,80	4,20	6,00
COP	(3)	kW/kW	4,20	4,11	4,31	4,24	4,19	4,24	4,18	4,26	4,18
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(3)(2)	kW	6,30	7,40	11,2	14,0	10,9	14,0	15,9	17,9	25,0
COP	(3)(2)	kW/kW	4,24	4,16	4,36	4,29	4,25	4,29	4,23	4,29	4,20
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(10)	kW	-	-	-	-	-	-	-	-	-
SEER	(10)(11)		-	-	-	-	-	-	-	-	-
Performance ηs	(10)(12)	%	-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(4)	kW	6,34	6,40	7,99	9,65	7,56	10,0	11,1	12,7	17,5
SCOP	(4)(13)		3,64	3,58	3,52	3,43	3,27	3,54	3,28	3,43	3,33
Performance ηs	(4)(14)	%	143	140	138	134	128	139	128	134	130
Seasonal efficiency class	(4)		A+	A+	A+	A+	A+	A+	A+	A+	A+
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	0,35	0,40	0,59	0,75	0,56	0,76	0,85	0,97	1,40
Available unit's head	(1)	kPa	40,8	38,1	72,0	51,8	76,4	50,9	46,4	37,3	85,4
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	0,30	0,36	0,54	0,67	0,52	0,67	0,76	0,86	1,21
Available unit's head	(3)	kPa	47,2	44,3	79,5	64,8	81,5	64,8	59,7	45,2	95,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	2,55	2,60	3,50	4,35	3,50	4,35	4,50	6,10	8,50
NOISE LEVEL											
Sound power level in cooling	(5)(6)	dB(A)	69	69	71	71	71	71	71	72	74
Sound power level in heating	(5)(7)	dB(A)	70	70	70	70	70	70	70	73	75
Sound Pressure	(8)	dB(A)	54	54	56	56	56	56	56	57	58
SIZE AND WEIGHT											
A	(9)	mm	900	900	900	900	900	900	900	1550	1550
B	(9)	mm	420	420	420	420	420	420	420	450	450
H	(9)	mm	1240	1240	1240	1390	1240	1390	1390	1200	1700
Operating weight	(9)	kg	145	150	155	170	155	170	180	250	335

Notes:

- 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.
- Seasonal space heating energy efficiency class LOW TEMPERATURE in AVERAGE climate conditions [REGULATION (EU) N. 813/2013]
- 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.
- Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]
- Seasonal space heating energy index
- Seasonal energy efficiency of the space cooling
- Seasonal performance coefficient
- Seasonal space heating energy efficiency

The units highlighted in this publication contain HFC R410A [GWP₁₀₀ 2088] fluorinated greenhouse gases.

Certified data in EUROVENT

