

# NRP

Multipurpose air-condensed units with axial fans

## R410A



- **UNITS DESIGNED FOR 2 AND 4-PIPE OUTDOOR INSTALLATION**
- **HIGH EFFICIENCY VERSION**

### Features

NRP is the range of multipurpose outdoor units operating with R410A refrigerant, designed for 2 or 4-pipe applications. Just one unit is capable of satisfying the hot and cold water demand simultaneously and independently as needed during any time of the year with a system which requires no season changeover.

#### Range:

- R410A refrigerant.
- 2 cooling circuits.
- High efficiency also at partial loads.
- Heat exchangers optimised to make use of the excellent heat exchange features of R410A.
- High efficiency scroll compressors

- Axial fans with reduced sound emission.
- Extremely solid structure with anti-corrosion polyester paint.
- Extended operational limits in heat pump functioning mode:
  - Max. temperature of produced water 55° C.
  - Max. temperature of external air up -15 to 42° C.
- As per standard the units mount DCPX, which allows them to work correctly during the winter with outside temperatures as low as -10 °C, as well as hot environment operation with outside temperatures up to 42°C.
- Available versions:
  - "HA" High efficiency heat pump.
  - "HE" High efficiency silenced heat pump.

- Ventilation Unit:
  - "O" Standard.
  - "J" Inverter.
- Versions with pumping unit, water filter, flow switch, expansion vessel.
- Microprocessor adjustment.

### Accessories

- **AVX:** Anti-vibration mounts to be installed under the base of the unit.
- **GP:** Protection grid, protects the external coils from blows.
- **AER485P1:** RS-485 interface for supervising systems with MODBUS protocol.
- **AERWEB300:** Accessory AERWEB allows remote control of a chiller through a common PC and an ethernet connection over a common browser; 4 versions available:
- **AERWEB300-6:** Web server to monitor and remote control max. 6 units in RS485 network;

**AERWEB300-18:** Web server to monitor and remote control max. 18 units in RS485 network;

**AERWEB300-6G:** Web server to monitor and remote control max. 6 units in RS485 network with integrated GPRS modem;

**AERWEB300-18G:** Web server to monitor and remote control max. 18 units in RS485 network with integrated GPRS modem;

- **DRE:** Initial starting current reduction electronic device (approximately 26% in dual circuit). Available only with 400V power supply. **Can only be applied in the factory.**

- **RIF:** Current rephaser. Connected in parallel to the motor, it allows a reduction of the input current (approx. 10%).

**Can only be applied in the factory.**

- **PGD1:** Graphical display, which allows complete management of the unit like the one on board the machine. Can be controlled up to 50 m away with a telephone cable, 200 m with a shielded AWG 24 cable.

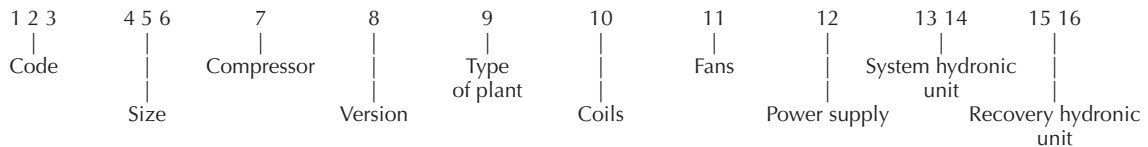
### Compatibility of Accessories

		0800	0900	1000	1250	1400	1500	1650	1800
NRP	00	704	710	716	719	725	730	734	737
AVX	P1-P2-P3-P4	706	712	712	721	727	732	736	736
	P1   R1...P4   R4	706	712	712	721	727	732	736	736
GP	all	GP260	GP260	GP260	GP350	GP350	GP350	GP500	GP500
AER485P1	all	✓	✓	✓	✓	✓	✓	✓	✓
AERWEB300	all	✓	✓	✓	✓	✓	✓	✓	✓
DRE	all	801	901	1001	1251	1401	1501	1651	1801
PGD1	all	✓	✓	✓	✓	✓	✓	✓	✓
RIF	all	88	90	92	92	93	94	94	94

## Choosing the unit

By appropriately combining the variety of options available, it is possible to configure every model in a manner that satisfies all specific system requirements.

### Fields configurator:



#### Code:

NRP

#### Size:

080, 090, 100, 125, 140, 150, 165, 180

#### Compressors:

0 - Standard compressors with R410A

#### Version:

A - High efficiency  
E - Silenced high efficiency

#### Type of plant:

2 - 2-pipe systems.  
4 - 4-pipe systems.

#### Coils:

° - In aluminium  
R - In copper  
S - In tinned copper  
V - Painted (epoxy paint)

#### Fans:

° - Standard  
J - Increased inverters

#### Power supply:

° - 400V/3N/50Hz with magnet circuit breakers  
2 - 500V/3/50Hz with magnet circuit breakers (contact the head office)

#### System hydronic unit:

00 - Without storage tank and pumps  
P1 - Only low head pump  
P2 - Only low head pump and reserve pump  
P3 - Only high head pump  
P4 - Only high head pump and reserve pump

#### Recovery hydronic unit:

00 - Without pumps  
R1 - Only low head pump  
R2 - Only low head pump and reserve pump  
R3 - Only high head pump  
R4 - Only high head pump and reserve pump

		POSSIBLE CONFIGURATIONS BETWEEN HYDRONIC KITS FOR NRP 0800 ... 1000 recovery hydronic unit					
NRP	system hydronic unit	°	R1	R2	R3	R4	
		°	ok	ok	n.d.	ok	n.d.
	P1	ok	ok	n.d.	ok	n.d.	
	P2	ok	ok	n.d.	ok	n.d.	
	P3	ok	ok	n.d.	ok	n.d.	
	P4	ok	ok	n.d.	ok	n.d.	

n.a. = not available

		POSSIBLE CONFIGURATIONS BETWEEN HYDRONIC KITS FOR NRP 1250 ... 1800 recovery hydronic unit					
NRP	system hydronic unit	°	R1	R2	R3	R4	
		°	ok	ok	ok	ok	ok
	P1	ok	ok	ok	ok	ok	
	P2	ok	ok	ok	ok	ok	
	P3	ok	ok	ok	ok	ok	
	P4	ok	ok	ok	ok	ok	

## Technical data

NRP		u.m	Version	800	900	1000	1250	1400	1500	1650	1800
① Cooling capacity	(kW)	A		218	243	260	323	365	402	441	477
		E		200	217	230	291	332	368	402	430
Total input power	(kW)	A		72,4	82,2	88,2	107,7	121,0	135,0	145,3	155,9
		E		80,3	94,3	100,4	120,5	134,4	149,2	161,6	175,1
Water flow rate	(l/h)	A		37498	41841	44753	55506	62852	69171	75888	81966
		E		34477	37289	39609	50044	57122	63288	69115	73977
Pressure drop SISTEM SIDE	(kPa)	A		59	58	54	64	52	53	55	55
		E		50	47	43	54	43	44	46	45
EER	(W/W)	A		3,01	2,96	2,95	3,00	3,02	2,98	3,04	3,06
		E		2,50	2,30	2,29	2,41	2,47	2,47	2,49	2,46
② Heating capacity	(kW)	A / E		241	258	290	384	400	459	503	544
		A / E		73,2	79,7	87,8	114,5	119,5	137,6	153,0	164,6
Total input power	(kW)	A / E		41498	44312	49946	66115	68833	78870	86579	93555
		A / E		73	66	68	93	63	68	72	72
Pressure drop SISTEM SIDE vers. 2 pipe system	(kPa)	A/E		50	44	49	49	44	51	51	53
		A / E		3,29	3,23	3,31	3,36	3,35	3,33	3,29	3,30
COP	(W/W)	A / E		223	251	278	334	379	422	463	496
		A / E		289	328	364	432	491	550	598	642
③ Cooling capacity	(kW)	A / E		66,0	77,0	86,0	98,0	112,0	128,0	135,0	146,0
		A / E		38356	43172	47817	57449	65189	72585	79637	85313
Heating capacity	(kW)	A / E		62	62	62	71	56	58	61	60
		A / E		49709	56417	62609	74305	84453	94601	102857	110425
Total input power	(kW)	A / E		72	72	77	63	66	73	72	74
		A / E		7,76	7,52	7,47	7,82	7,77	7,59	7,86	7,79
Evaporator water flow rate	(l/h)	A / E		<b>Electrical data</b>							
		A / E		Power supply							
Evaporator Pressure drop system side	(kPa)	A / E		400V/3/50Hz							
		A / E		136	158	180	196	235	273	289	304
Recovery water flow rate	(l/h)	A / E		145	169	192	211	251	292	306	324
		A / E		173	195	217	267	296	325	365	398
Recovery water flow rate DHW SIDE/SYSTEM SIDE*	(kPa)	A / E		348	404	426	535	505	534	633	666
		A / E		<b>Compressors</b>							
Overall efficiency (TER)	(W/W)	A / E		4/2	4/2	4/2	4/2	5/2	6/2	6/2	6/2
		A / E		<b>Fans</b>							
		Axial									
Air flow rate	(m³/h)	A		85600	84600	83600	126000	124200	122400	168000	165600
		E		59920	59220	60610	88200	90000	91800	117600	115920
Quantity	(n°)	A / E		4	4	4	6	6	6	8	8
		A / E		<b>Inverter fans (J)</b>							
Static pressure	(Pa)	A		50	50	50	50	50	50	50	50
		E		<b>System side heat exchanger</b>							
		plate									
		Victaulic									
Hydraulic connections	(Ø)	A		3"	3"	3"	4"	4"	4"	4"	4"
		E		<b>hydronic kit</b>							
		<b>Pumps - Available static pressure (cooling mode)</b>									
Low static pressure pump	(kPa)	A		123	114	111	128	128	125	106	95
		E		135	132	131	150	149	141	126	119
High static pressure pump	(kPa)	A		240	230	225	269	266	246	241	232
		E		252	249	247	293	289	272	261	255
		<b>Storage tank</b>									
<b>COOLING MODE FUNCTIONING</b>											
Sound pressure	dB(A)	A		56,5	56,5	56,5	59,5	59	58,5	60	62
		E		51	51	51	54	53,5	53	54,5	56,5
Sound power	dB(A)	A		88,5	88,5	88,5	91,5	91	91,5	92	94
		E		83	83	83,5	86	85,5	85	86,5	88,5
<b>FUNCTIONING IN HEATING MODE</b>											
Sound pressure	dB(A)	A		56,5	56,5	56,5	59,5	59	58,5	60	62
		E		88,5	88,5	88,5	91,5	91	91,5	92	94

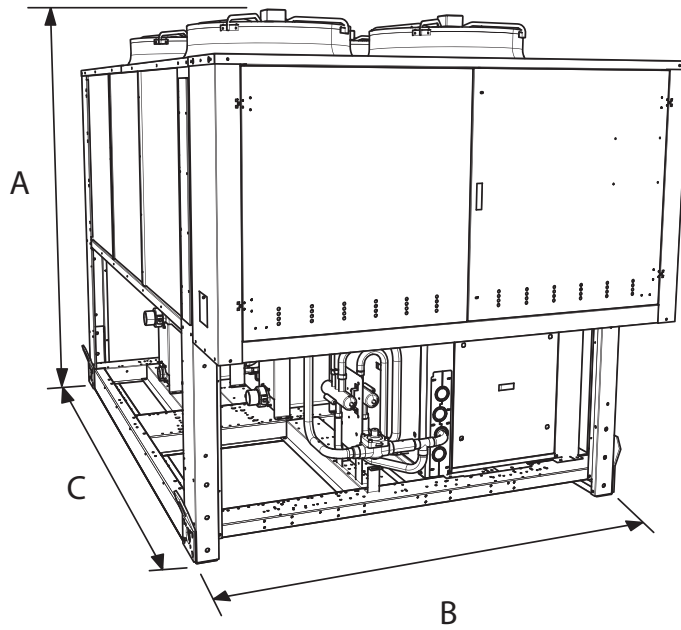
- ① **Cooling**  
TEvaporator outlet water temperature 7°C  
External air temperature 35 °C  
ΔT water 5°C
- ② **Heating**  
Condenser outlet water temperature 45°C  
External air temperature 7°C b.s. 6°C b.u.  
ΔT water 5°C
- ③ **Cooling with recovery**  
Recovery outlet water temperature 45 °C  
Evaporator outlet water temperature 7°C  
ΔT water 5°C

**Sound power**  
Aermec determines sound power values in greement with the ISO 9614-2 Standard, in compliance with that requested by Eurotest certification.

**Sound pressure**  
Sound pressure measured in free field conditions with reflective surface (directivity factor Q=2) at 10mt distance from external surface of unit, in compliance with EN ISO 3744 regulations.

\* **DHW SIDE/SYSTEM SIDE**  
**DHW side**, production of domestic hot water, in 2-pipe systems.  
**System side**, production of hot water, in 4-pipe systems.

## Dimensions (mm)



NRP	u.m	800	900	1000	1250	1400	1500	1650	1800
Height (mm)	A	A/E	2450	2450	2450	2450	2450	2450	2450
Width (mm)	B	A/E	2200	2200	2200	2200	2200	2200	2200
Depth (mm)	C	A/E	3400	3400	3400	4250	4250	4250	5750
Empty weight	(kg)	A/E	2270	2460	2640	2970	3220	3430	3950

Attenzione: i pesi si riferiscono a versioni senza accumulo e pompa.