

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 30°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:
 - "A" High efficiency heat pump.
 - "E" High efficiency silenced heat pump.
- Ventilation Unit:

- "O" Standard.
- "M" Increased.
- "J" Inverter.
- Versions with pumping unit and tank complete with water filter, flow meter, expansion vessel.
- Microprocessor adjustment.

Accessories

- **VT:** Anti-vibration mounts to be installed under the base of the unit.
- **GP:** Protection grid, protects the external coils from blows.
- **TRX1:** Metal cap that replaces the plastic cap mounted for protection in the storage tanks with holes and integrative resistances.
- **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.**
- **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;
- **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.

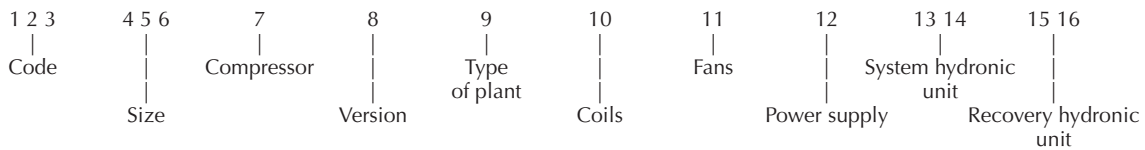
Compatibility of Accessories

		0200	0240	0280	0300	0330	0350	0500	0550	0600	0650	0700	0750
VT	00 P1- P2-P3-P4	17	17	17	17	17	17	13	13	13	13	22	23
	01...08	13	13	13	13	13	13	10	10	10	10	22	23
	P1 R1...P4 R4	17	17	17	17	17	17	13	13	13	13	22	23
GP	HA	-	-	-	-	-	-	GP2x2	GP2x2	GP2x2	GP2x2	GP2x3	GP10x3
	HE	GP3	GP3	GP3	GP4	GP4	GP4	GP2x2	GP2x2	GP2x2	GP2x2	GP2x3	GP10x3
TRX1	all	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DRE	all	281	281	281	301	331	351	501	551	601	651	701	751
RIF	all	54	54	50	50	50	51	52	52	53	53	53	53
AER485P1	all	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AERWEB300	all	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PGD1	all	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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:

020, 024, 028, 030, 033, 035, 050, 055, 060, 065, 070, 075

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
- M - Increased (only 0200-0350)
- J - Increased inverters (only 0500-0750)

Power supply:

- ° - 400V/3N/50Hz with magnet circuit breakers
- 1 - 230V/3/50Hz with magnet circuit breakers (not available from size 0200, 0240, 0750)
- 2 - 500V/3/50Hz with magnet circuit breakers (not available for sizes 0200, 0240, 0350, 0500, 0550, 0700, 0750 contact the head office)

Attention: Sizes 020 to 035 are only available in version "E"

SYSTEM SIDE HYDRONIC KIT

- 00 - Without storage tank
- 01 - Storage tank | low static pressure pump | system side
- 02 - Storage tank | low static pressure pump | reserve pump | system side
- 03 - Storage tank | high static pressure pump | system side
- 04 - Storage tank | high static pressure pump | reserve pump | system side
- 05 - Storage tank with holes for integrative resistance | low static pressure pump | system side
- 06 - Storage tank with holes for integrative resistance | low static pressure pump | reserve pump | system side
- 07 - Storage tank with holes for integrative resistance | high static pressure pump | system side
- 08 - Storage tank with holes for integrative resistance | high static pressure pump | reserve pump | system side
- P1 - Low static pressure pump | system side
- P2 - Low static pressure pump | reserve pump | system side
- P3 - High static pressure pump | system side
- P4 - High static pressure pump | reserve pump | system side

DHW SIDE HYDRONIC KIT:

- 00 - Without Pumps
- R1 - Low static pressure pump
- R2 - Low static pressure pump | reserve pump
- R3 - High static pressure pump
- R4 - High static pressure pump | reserve pump

		NRP 0200 ... 0750 POSSIBLE CONFIGURATIONS BETWEEN HYDRONIC KITS				
		recovery hydronic unit				
		00	R1	R2	R3	R4
system hydronic unit	00	ok	ok	ok	ok	ok
	01	ok	nd	nd	nd	nd
	02	ok	nd	nd	nd	nd
	03	ok	nd	nd	nd	nd
	04	ok	nd	nd	nd	nd
	05	ok	nd	nd	nd	nd
	06	ok	nd	nd	nd	nd
	07	ok	nd	nd	nd	nd
	08	ok	nd	nd	nd	nd
	P1	ok	ok	ok	ok	ok
	P2	ok	ok	ok	ok	ok
	P3	ok	ok	ok	ok	ok
	P4	ok	ok	ok	ok	ok

nd = not available

Technical data

NRP		u.m	Version	200	240	280	300	330	350	500	550	600	650	700	750
① Cooling capacity	(kW)	A	-	-	-	-	-	-	-	100	104	124	141	160	185
		E	43	50	56	64	68	80	95	99	116	131	153	179	
Total input power	(kW)	A	-	-	-	-	-	-	-	32,0	35,5	43,6	49,8	54,3	63,5
		E	13,8	16,3	18,7	20,6	23,0	26,7	34,8	38,5	47,9	54,9	61,1	69,6	
Water flow rate	(l/h)	A	-	-	-	-	-	-	-	17118	17949	21269	24211	27556	31749
		E	7400	8600	9549	10956	11711	13776	16390	17051	19874	22457	26270	30867	
Pressure drop SISTEM SIDE	(kPa)	A	-	-	-	-	-	-	-	37	39	37	48	56	67
		E	26	37	22	29	22	31	34	35	32	41	51	63	
EER	(W/W)	A	-	-	-	-	-	-	-	3,11	2,94	2,83	2,83	2,95	2,91
		E	3,12	3,06	2,96	3,10	2,97	3,00	2,74	2,58	2,41	2,38	2,50	2,58	
② Heating capacity	(kW)	A/E	46	53	60	75	80	84	106	112	137	152	173	205	
		A/E	13,1	15,3	17,5	22,0	23,6	25,3	32,1	34,5	40,6	44,9	52,8	61,4	
Total input power	(kW)	A/E	13,1	15,3	17,5	22,0	23,6	25,3	32,1	34,5	40,6	44,9	52,8	61,4	
		A/E	7912	9116	10236	12833	13732	14526	18242	19290	23507	26146	29796	35340	
Water flow rate	(l/h)	A/E	7912	9116	10236	12833	13732	14526	18242	19290	23507	26146	29796	35340	
		A/E	31	42	25	39	31	34	42	45	45	56	66	83	
Pressure drop SISTEM SIDE vers. 2 pipe system	(kPa)	A/E	31	42	25	39	31	34	42	45	45	56	66	83	
		A/E	13	17	21	33	38	19	31	34	51	49	35	50	
Pressure drop DHW SIDE/SYSTEM SIDE*	(kPa)	A/E	13	17	21	33	38	19	31	34	51	49	35	50	
		A/E	3,50	3,46	3,41	3,40	3,38	3,33	3,30	3,25	3,37	3,39	3,28	3,34	
COP	(W/W)	A/E	3,50	3,46	3,41	3,40	3,38	3,33	3,30	3,25	3,37	3,39	3,28	3,34	
		A/E	45	52	58	68	73	86	102	110	132	147	167	200	
Cooling capacity	(kW)	A/E	45	52	58	68	73	86	102	110	132	147	167	200	
		A/E	58	67	75	88	95	111	132	142	174	193	218	261	
Heating capacity	(kW)	A/E	58	67	75	88	95	111	132	142	174	193	218	261	
		A/E	13,0	15,2	17,5	20,0	22,0	25,0	30,0	32,0	42,0	46,5	51,0	61,0	
Total input power	(kW)	A/E	13,0	15,2	17,5	20,0	22,0	25,0	30,0	32,0	42,0	46,5	51,0	61,0	
		A/E	7740	8944	9890	11696	12556	14792	17544	18920	22704	25198	28724	34400	
Evaporator water flow rate	(l/h)	A/E	7740	8944	9890	11696	12556	14792	17544	18920	22704	25198	28724	34400	
		A/E	30	40	24	33	26	36	39	43	42	52	61	78	
Evaporator Pressure drop system side	(kPa)	A/E	30	40	24	33	26	36	39	43	42	52	61	78	
		A/E	9976	11520	12900	15136	16340	19092	22704	24424	29928	33196	37496	44892	
Recovery water flow rate	(l/h)	A/E	9976	11520	12900	15136	16340	19092	22704	24424	29928	33196	37496	44892	
		A/E	20	27	33	46	54	33	47	55	82	78	56	80	
Recovery water flow rate DHW SIDE/SYSTEM SIDE*	(kPa)	A/E	20	27	33	46	54	33	47	55	82	78	56	80	
		A/E	8,10	7,82	7,57	7,80	7,64	7,88	7,80	7,88	7,29	7,30	7,55	7,56	
Overall efficiency (TER)	(W/W)	A/E	8,10	7,82	7,57	7,80	7,64	7,88	7,80	7,88	7,29	7,30	7,55	7,56	
		Electrical data													
Power supply									400V/3N/50Hz						
Total input current	(A)	A	-	-	-	-	-	-	-	55	59	72	82	88	113
		E	28	33	38	41	45	52	60	64	79	91	99	120	
Maximum curren (FLA)	(A)	A/E	36	41	46	53	58	63	76	81	100	112	122	144	
Peak current (LRA)	(A)	A/E	119	150	155	184	190	200	214	220	232	243	261	320	
Compressors									scroll						
Quantity/circuit	A/E	2/2	2/2	2/2	2/2	2/2	2/2	2/2	3/2	3/2	4/2	4/2	4/2	4/2	
Fans									Axial						
Air flow rate	(m³/h)	A	-	-	-	-	-	-	-	37000	37000	36500	36500	58000	48000
		E	20000	20000	20000	26000	26000	26000	20200	21100	21400	22400	31900	34600	
Quantity	(n°)	A/E	6	6	6	8	8	8	2	2	2	2	3	3	
Increased fans (M)															
Static pressure	(Pa)		70	70	70	70	70	70	-	-	-	-	-	-	
Inverter fans (J)															
Static pressure	(Pa)		-	-	-	-	-	-	50	50	50	50	50	50	
System side heat exchanger									Plate						
Hydraulic connections									Victaulic						
Size of hydraulic connections	(Ø)		2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	3"
hydraulic kit															
Pumps - Available static pressure (cooling mode)															
Low static pressure pump	(kPa)	A	-	-	-	-	-	-	-	141	133	124	95	113	104
		E	132	120	135	126	128	120	147	140	135	114	125	110	
High static pressure pump	(kPa)	A	-	-	-	-	-	-	-	181	173	211	181	177	224
		E	172	160	175	165	166	159	186	180	223	200	192	231	
Storage tank															
Capacity	(l)		300	300	300	300	300	300	500	500	500	500	500	700	
Sound data															
COOLING MODE FUNCTIONING															
Sound pressure	dB(A)	A	-	-	-	-	-	-	-	50	50	50	51	53	53
		E	42	42	42	43	43	44	42	42	42	43	45	45	
Sound power	dB(A)	A	-	-	-	-	-	-	-	82	82	82	83	85	85
		E	74	74	74	75	75	76	74	74	74	75	77	77	
FUNCTIONING IN HEATING MODE															
Sound pressure	dB(A)		42	42	42	43	43	44	50	50	50	51	53	53	
Sound power	dB(A)		74	74	74	75	75	76	82	82	82	83	85	85	

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

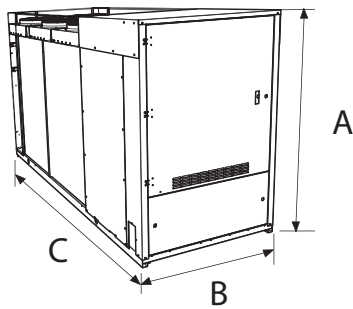
③ **Cooling with recovery**
 Recovery outlet water temperature 45°C
 Evaporator outlet water temperature 7°C
 ΔT water 5°C

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

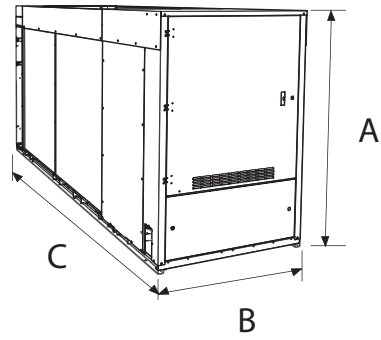
Sound pressure
 Sound pressure measured in free field conditions with reflective surface (directivity factor Q=2) at 10mt distance from external surface of unit, in compliance with EN ISO 3744 regulations.

* **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.

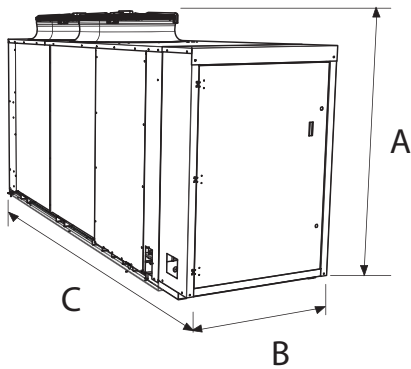
Dimensions (mm)



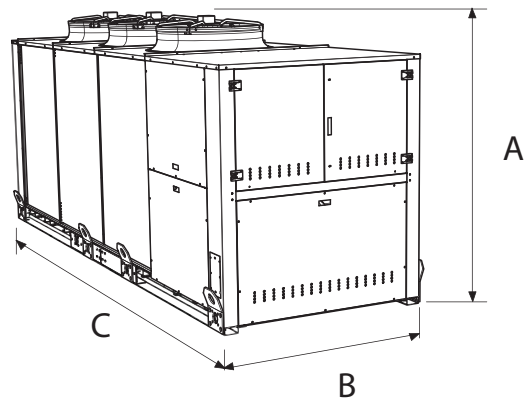
NRP 0200 ÷ 0280



NRP 0300 ÷ 0350



NRP 0500 ÷ 0650



NRP 0700 ÷ 0750

NRP	u.m		200	240	280	300	330	350	500	550	600	650	700	750
Height (mm)	A	A/E	1606	1606	1606	1606	1606	1606	1875	1875	1875	1875	1875	1975
Width (mm)	B	A/E	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1500
Depth (mm)	C	A/E	2700	2700	2700	3200	3200	3200	3280	3280	3280	3280	4280	4350
Empty weight	(kg)	A/E	788	790	792	862	872	894	1233	1237	1359	1378	1591	1939

Attention: the weights refer to versions without storage tank and pump.