

NRP

0800/1800

Multipurpose
Air/Water for outdoor installation
Axial fans, scroll compressor
Cooling capacity 199÷475kW
Heating capacity 242÷547kW

HFC
Refrigerant
R410A



- **DESIGNED WITH SHELL&TUBE FOR 4-PIPE SYSTEMS**
- **HIGH EFFICIENCY VERSION**
- **HIGH EFFICIENCY EVEN AT PART LOAD**
- **OPTION VERSION WITH BUILT-IN HYDRONIC KIT**

Characteristics

NRP is the range of multipurpose external units operating on refrigerant R410A, designed for **4-pipe systems**. With just one unit simultaneous and independent requests for hot and chilled water can be accommodated all year round.

Version

NRP_A Multipurpose high efficiency version

NRP_E Multipurpose high efficiency low noise version

- **Operational limits (1)**
- max. external air temperature 46°C
- Cooling mode
- Maximum leaving water temperature 55°C
- Heating mode
- 2 refrigerant circuits
- Heat exchangers optimised to benefit from the

- excellent heat transfer characteristics of R410A.
- Standard differential pressure switch on both sides (Hot / Cold).
- Axial fans for extremely quiet operation
- Units fitted as standard with fan speed controller (DCPX), which permits operation in the winter with external temperatures down to -10 °C, and in heating mode with external temperatures up to 42 °C
- Microprocessor controls.
 - Control from the leaving water temperature, with the possibility of selecting control of the entering water temperature.
 - Condensing control in summer with a 0-10 V modulating signal based on pressure and compensated for external air temperature
 - Evaporating control in summer for heat pump

- operation
 - Intelligent defrost control on drop of pressure
 - Automatic rotation of compressors and pumps based on operating hours
 - Load limiting safety control
- Metallic protective cabinet with anti-corrosion polyester paint

(1) For more details on operating limits, refer to the technical documentation available on the website www.aermec.com

Accessories

- **AER485P1**: RS-485 interface for supervising systems with MODBUS protocol.
- **AERNET**: The device allows the control, the management and the remote monitoring of a Chiller with a PC, smartphone or tablet using Cloud connection. AERNET works as Master while every unit connected is configured as Slave (max. 6 unit); also, with a simple click is possible to save a log file with all the connected unit datas in the personal terminal for post analysis.
- **PGD1**: Remote control of the chiller operating functions.
- **MULTICHILLER_PCO**: Control system for multiple parallel installed constant flow chillers providing individual chiller on/off and control capability.
- **GP**: Protection grille protects the external coil from accidental damage.
- **AVX**: Anti-vibration mounts to be installed under the base of the unit.

Accessories factory fitted only

- **DRE**: Electronic soft starter which reduces starting current by about 26%.

Available only with 400V power supply.

- **RIF**: Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current.

Compatibility of accessories

Mod. NRP	Vers.	0800	0900	1000	1250	1404	1504	1655	1800	
AER485P1	Alls	•	•	•	•	•	•	•	•	
AERWEB300	Alls	•	•	•	•	•	•	•	•	
MULTICHILLER_NRP	Alls	•	•	•	•	•	•	•	•	
PGD1	Alls	•	•	•	•	•	•	•	•	
GP	Alls	GP260	GP260	GP260	GP350	GP350	GP350	GP500	GP500	
AVX (00)	Alls	704	710	716	719	725	730	734	737	
AVX (P1-P2-P3-P4)	Alls	706	712	712	721	727	732	736	736	
AVX (P1-R1÷P4-R4)	Alls	706	712	712	721	727	732	736	736	
Accessories factory fitted only										
DRE	(1)	Alls	801	901	1001	1251	1404	1504	1655	1801
RIF		Alls	88	90	92	92	92	92	93	94

(1) Only available for 400V/3/50Hz power supply

Unit Configurator

By suitably combining the numerous options available it is possible to configure each model in such a way as to meet the most demanding of system requirements.

Field	Code
1,2,3	NRP
4,5,6,7	Size
	0800-0900-1000-1250-1404-1504-1655-1800
8	Version
	A High efficiency
	E High efficiency in low noise operation
9	System type
	4 4-pipe system (cooling + heating)
10	Coil
	° In aluminium
	R In copper
	S In tinned copper
	V Coated aluminium (epoxy paint)
11	Fans
	° Standard
	J High static pressure Inverter
12	Power supply
	° 400V/3/50Hz with circuit breakers
13-14	System integrated hydronic module
00	without pumps

Technical Data

NRP - for 4-pipe system			0800	0900	1000	1250	1404	1504	1655	1800
Cooling system side (A)										
12°C/7°C	Cooling capacity	(1) kW	217	242	259	321	363	400	439	475
	Total input power	(1) kW	73,5	83,4	89,4	109,4	122,6	136,7	147,2	157,9
	EER	(1)	2,95	2,90	2,89	2,94	2,97	2,93	2,98	3,01
	ηsc	%	160,1	154,0	155,9	155,9	158,7	161,7	152,0	153,7
	SEER		4,08	3,93	3,97	3,97	4,04	4,12	3,88	3,92
	Water flow rate	(1) l/h	37498	41796	44753	55556	62852	69171	75888	81966
	Pressure drop	(1) kPa	59	58	54	64	52	53	55	55
Cooling system side (E)										
12°C/7°C	Cooling capacity	(1) kW	199	216	229	290	331	367	400	428
	Total input power	(1) kW	81,2	95,2	101,3	121,8	135,6	150,6	163,1	176,7
	EER	(1)	2,45	2,27	2,26	2,38	2,44	2,44	2,46	2,42
	ηsc	%	154,7	150,5	152,6	155,5	157,4	157,1	150,5	152,0
	SEER		3,94	3,84	3,89	3,96	4,01	4,00	3,84	3,88
	Water flow rate	(1) l/h	34477	37289	39609	50044	57122	63288	69115	73977
	Pressure drop	(1) kPa	50	47	43	54	43	44	46	45
Heating system side (A) (E)										
40°C/45°C	Heating capacity	(2) kW	242	259	291	385	401	460	505	546
	Total input power	(2) kW	74,3	80,7	89,0	116,0	121,0	139,5	155,0	166,8
	COP	(2)	3,26	3,21	3,27	3,32	3,32	3,3	3,26	3,27
	Water flow rate	(2) l/h	41452	44312	49946	66048	68833	78870	86579	93555
	Pressure drop	(2) kPa	50	44	49	49	44	51	51	53
	Performance under average climatic conditions (Average)									
	Pdesignh	(3)	204	219	246	326	339	389	/	/
	SCOP	(3)	3,60	3,60	3,60	3,70	3,75	3,72	/	/
	ηs	(3)	141	141	141	145	147	146	/	/
Cooling with recovery for versions (A) (E)										
40°C/45°C-7°C/12°C	Cooling capacity	(4) kW	226	254	282	339	384	428	470	503
	Recovered power	(4) kW	291	330	366	434	493	552	601	645
	Total input power	(4) kW	68,92	80,24	89,65	102	116,23	132,97	140,38	151,76
	Water flow rate (cold side)	(4) l/h	38924	43834	48556	58291	66151	73685	80797	86568
	Pressure drop	(4) kPa	63	64	63	70	57	60	62	61
	Water flow rate (hot side)	(4) l/h	49708	56417	62609	74305	84453	94601	102857	110425
	Pressure drop	(4) kPa	72	72	78	63	66	73	72	74
	TER	W/W	7,5	7,29	7,23	7,58	7,55	7,38	7,63	7,57

Date (14511:2013) * Only units configured for 2-pipe systems are certified by Eurovent

(1) Water evaporator 12°C/7°C, External air 35°C (EUROVENT)

(2) Water condenser 40°C/45°C, External air 7°C b.s./6°C b.u. (EUROVENT)

(3) Efficiencies for low temperature applications (35°C)

(4) Water Total Recovery 40°C/45°C, Water evaporator (7°C)

TER Global Efficiency

GENERAL DATA			0800	0900	1000	1250	1404	1504	1655	1800
Electrical data										
Total input current	(1)	A	A	136	158	180	196	235	273	304
	(1)	E	A	145	169	192	211	251	292	324
Maximum current (FLA)	(1)	A/E	A	173	195	217	267	296	325	398
Starting current (LRA)	(1)	A/E	A	348	404	426	535	505	534	666
Compressors										
Compressors		type	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll
		n°	4	4	4	4	4	4	5	6
Circuits		n°	2	2	2	2	2	2	2	2
Capacity control		%								
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Exchanger side cold										
Exchanger		type	Shell&tube							
		n°	1	1	1	1	1	1	1	1
hydraulic connections	(in/out)	Ø	3"	3"	3"	4"	4"	4"	4"	4"
Exchanger side hot										
Exchanger		type	Shell&tube							
		n°	2	2	2	2	2	2	2	2
hydraulic connections	(in/out)	Ø	3"	3"	3"	4"	4"	4"	4"	4"
Fans standard										
Fans		type	axial	axial	axial	axial	axial	axial	axial	axial
		n°	4	4	4	6	6	6	8	8
Air flow rate	A	m³/h	85600	84600	83600	126000	124200	122400	168000	165600
cooling mode	E	m³/h	59920	59220	60610	88200	90000	91800	117600	115920
Air flow rate heating mode		m³/h	85600	84600	83600	126000	124200	122400	168000	165600
Sound data (cooling mode)										
Sound pressure	(2)	A	dB(A)	56,5	56,5	56,5	59,5	59	58,5	60
	(2)	E	dB(A)	51	51	51	54	53,5	53	54,5
Sound power	(2)	A	dB(A)	88,5	88,5	88,5	91,5	91	91,5	92
	(2)	E	dB(A)	83	83	83,5	86	85,5	85	86,5
Power supply		V/ph/Hz	400V/3/50Hz							

Sound power Aermec determines sound power values on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification.

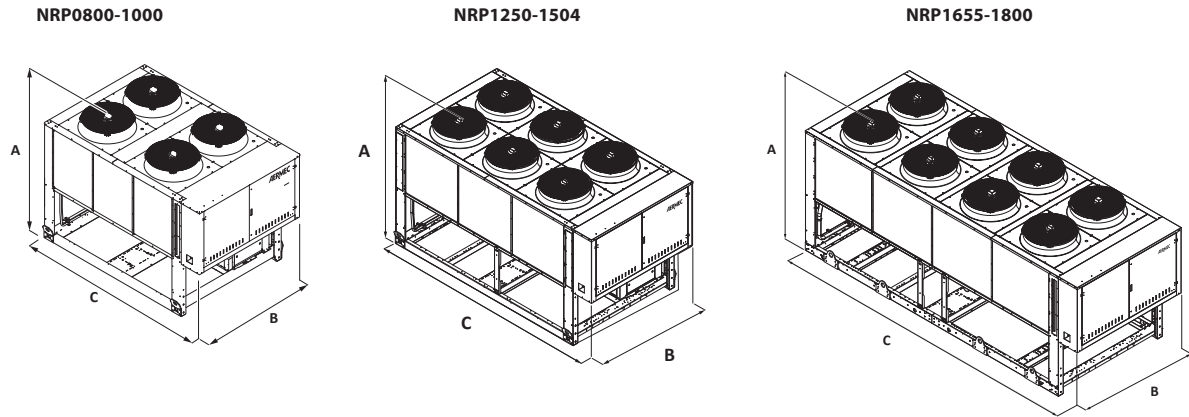
Sound pressure Sound pressure in free field, at 10 m distance from the external surface of the unit (in accordance with UNI EN ISO 3744).

(1) The electrical data of the versions without hydronic module integrated

(2) Calculated in cooling mode

Note: For more information, refer to the selection program or the technical documentation available on the website www.aermec.com

Dimensions (mm)



Mod. NRP		Vers	0800	0900	1000	1250	1404	1504	1655	1800
A	(mm)	Alls	2450	2450	2450	2450	2450	2450	2450	2450
B	(mm)	Alls	2200	2200	2200	2200	2200	2200	2200	2200
C	(mm)	Alls	3400	3400	3400	4250	4250	4250	5750	5750
Weight when empty	(kg)		2270	2460	2640	2970	3220	3430	3950	4090