

NRP

0200/0750

R410A

**Multipurpose
Air/Water for outdoor installation
Axial fans, scroll compressor
Cooling capacity 43 - 184kW
Heating capacity 46 - 206kW**



- **DESIGNED FOR 2 AND 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 **2 or 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
- 2refrigerant circuits
- High efficiency scroll compressors with low power input
- Heat exchangers optimised to benefit from the

excellent heat transfer characteristics of R410A.

- flow switch as standard supply
- Water filter
- Options for integrated hydronic modules with pumps, buffer tank:
 - Buffer tank and pumps or only pumps
 - expansion tank
 - Safety valve
 - Pressure gauge
- 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.
- **AERWEB300:** The AERWEB option allows remote control of a chiller through a standard PC and an ethernet connection with a standard browser; 4 versions available:
 - AERWEB300-6:** Web server to monitor and remote control maximum 6 units on RS485 network;
 - AERWEB300-18:** Web server to monitor and remote control maximum 18 units on RS485 network;
 - AERWEB300-6G:** Web server to monitor and remote control maximum 6 units on RS485

- network with integrated GPRS modem;
- **AERWEB300-18G:** Web server to monitor and remote control maximum 18 units on RS485 network with integrated GPRS modem.
- **MULTICHILLER_NRP:** Control system to switch the individual chillers on and off, and command them, in a system in which several units are installed in parallel, always ensuring a constant delivery to the exchanger.
- **PGD1:** Simplified remote panel. Allows control of basic unit functions and alarm notification. Remote mounted up to 500 m away with TWISTED PAIR SCREENED cable and TCONN6J000.

- **GP:** Protection grille protects the external coil from accidental damage.
- **VT** 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.	0200	0240	0280	0300	0330	0350	0500	0550	0600	0650	0700	0750
AER485P1	Alls	.	.	.	.	.	.	.	.	.	.	.	.
AERWEB300	Alls	.	.	.	.	.	.	.	.	.	.	.	.
MULTICHILLER_NRP	Alls	.	.	.	.	.	.	.	.	.	.	.	.
PGD1	Alls	.	.	.	.	.	.	.	.	.	.	.	.
GP	A	-	-	-	-	-	-	2(x2)	2(x2)	2(x2)	2(x2)	2(x3)	10(x3)
	(1) E	3	3	3	4	4	4	2(x2)	2(x2)	2(x2)	2(x2)	2(x3)	10(x3)
VT (00-P1-P2-P3-P4)	Alls	17	17	17	17	17	17	13	13	13	13	22	23
VT (01-02-03-04-05-06-07-08-09-10)	Alls	13	13	13	13	13	13	10	10	10	10	22	23
VT (R1-R2-R3-R4)	Alls	17	17	17	17	17	17	13	13	13	13	22	23
Accessories factory fitted only													
DRE	(2) Alls	281	281	281	301	331	351	501	551	601	651	701	751
RIF	Alls	54	54	50	50	50	51	52	52	53	53	53	53

(1) (x2)(x3) the number in brackets indicates the quantity to order

(2) Only available for 400V/3N/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 0200-0240-0280-0300-0330-0350-0500-0550-0600-0650-0700-0750 (4)
8	Version A High efficiency E High efficiency in low noise operation
9	System type 2 2-pipe system (cooling + DHW heating) 4 4-pipe system (cooling + heating)
10	Coil ° In aluminium R In copper S In tinned copper V Coated aluminium (epoxy paint)
11	Fans (5) ° Standard M Increased J High static pressure Inverter
12	Power supply (6) ° 400V/3N/50Hz with circuit breakers 1 220V/3/50Hz with circuit breakers
13-14	System integrated hydronic module (7) 00 without pumps or buffer tank 01 n°1 low head pump and buffer tank 02 n°2 low head pump and buffer tank 03 n°1 high head pump and buffer tank 04 n°2 high head pump and buffer tank 05 n°1 low head pump and buffer tank (with holes for immersion heaters) 06 n°2 low head pump and buffer tank (with holes for immersion heaters) 07 n°1 low high pump and buffer tank (with holes for immersion heaters) 08 n°2 low high pump and buffer tank (with holes for immersion heaters) P1 n°1 low head pump P2 n°2 low head pump P3 n°1 high head pump P4 n°2 high head pump
15-16	Heat recovery integrated hydronic module 00 without pumps R1 n°1 low head pump R2 n°2 low head pump R3 n°1 high head pump R4 n°2 high head pump

CONFIGURATION POSSIBILITY BETWEEN HYDRONIC MODULES FOR NRP 0200 ... 0750						
Heat recovery integrated hydronic module						
	00	R1	R2	R3	R4	
System integrated hydronic module	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

(4) The size 0200-0240-0280-0300-0330-0350 only available in low noise version "E"

(5) **Standard on/off fans** for sizes from 0500 to 0750

Increased on/off fans, option available for sizes from 0200 to 0350

Standard Inverter fans for sizes from 0200 to 0350, without useful static pressure

Inverter fan, option for sizes from 0500 to 0750 with useful static pressure

(6) 220V/3/50Hz is not available for size 0750

(7) Buffer tanks with holes for additional heaters are supplied from factory with plastics caps of protection, before system's loading, where the installation of one or all the heaters is not provided, it is mandatory to replace plastic caps with special caps, which are commonly available in the market.

Technical Data

Mod. NRP Multipurpose for 2-pipe system			0200	0240	0280	0300	0330	0350	0500	0550	0600	0650	0700	0750	
Cooling system side															
Cooling capacity	A	kW	-	-	-	-	-	-	100	103	123	140	159	184	
	E	kW	43	50	56	64	68	80	95	99	116	130	152	178	
Total input power	A	kW	-	-	-	-	-	-	32,47	36,00	44,15	50,51	55,16	64,58	
	E	kW	14,01	16,59	18,92	20,89	23,25	27,06	35,23	38,95	48,37	55,51	61,88	70,60	
EER	A	W/W	-	-	-	-	-	-	3,07	2,87	2,80	2,78	2,88	2,85	
	E	W/W	3,05	3,00	2,95	3,05	2,91	2,94	2,68	2,53	2,39	2,35	2,46	2,52	
Water flow rate	A	l/h	-	-	-	-	-	-	17200	17900	21300	24252	27520	31800	
	E	l/h	7400	8600	9630	11000	11700	13770	16340	17030	19874	22530	26300	30867	
Total pressure drop	A	kPa	-	-	-	-	-	-	37	39	37	48	56	67	
	E	kPa	26	37	22	29	22	31	34	35	32	41	51	63	
Heating system side															
Heating capacity	A/E	kW	46	53	60	75	80	84	107	113	138	153	174	206	
Total input power	A/E	kW	13,34	15,63	17,76	22,41	23,96	25,70	32,64	35,08	41,26	45,72	53,80	62,81	
COP	A/E	W/W	3,47	3,41	3,39	3,37	3,35	3,28	3,26	3,21	3,34	3,34	3,23	3,29	
Efficiency Energy Class	(1)	alls	A+	A+	A+	A+	A+	A+	-	-	-	-	-	-	
Water flow rate	A/E	l/h	7912	9116	10300	12900	13760	14448	18232	19270	23564	26144	29756	35260	
Total pressure drop	A/E	kPa	30	42	25	40	31	34	42	45	45	56	65	83	
Heating DHW side															
Heating capacity	A/E	kW	46	53	60	75	80	84	106	112	138	153	174	206	
Total input power	A/E	kW	13,24	15,48	17,73	22,36	24,01	25,57	32,54	34,98	41,33	45,66	53,46	62,35	
COP	A/E	W/W	3,49	3,44	3,40	3,37	3,35	3,30	3,27	3,22	3,33	3,35	3,25	3,30	
Water flow rate	A/E	l/h	7912	9116	10300	12900	13760	14448	18232	19264	23564	26146	29756	35260	
Total pressure drop	A/E	kPa	13	17	21	33	38	19	31	34	51	49	35	50	
Cooling with heat recovery															
Cooling capacity	A/E	kW	46	52	58	69	74	87	103	111	134	148	169	203	
Recovered power	A/E	kW	58	67	75	88	95	111	132	143	175	194	219	262	
Total input power	A/E	kW	13,45	15,82	18,10	20,85	22,90	25,90	31,18	33,37	43,87	48,58	53,03	64,06	
Water flow rate (system side)	A/E	l/h	7852	9040	10040	11868	12745	15000	17800	19195	23070	25598	29163	34925	
Total pressure drop (system side)	A/E	kPa	29	41	24	33	26	36	40	44	42	52	62	81	
Water flow rate (DHW side)	A/E	l/h	9976	11520	12900	15136	16340	19092	22704	24424	29928	33196	37496	44892	
Total pressure drop (DHW side)	A/E	kPa	20	27	33	46	54	33	47	55	82	78	56	81	
TER	(2)	A/E	W/W	7,72	7,58	7,39	7,55	7,41	7,67	7,57	7,62	7,05	7,06	7,33	7,27
Mod. NRP Multipurpose for 4-pipe system															
Cooling system side															
Cooling capacity	A	kW	-	-	-	-	-	-	100	103	123	140	159	184	
	E	kW	43	50	56	64	68	80	95	99	116	130	152	178	
Total input power	A	kW	-	-	-	-	-	-	32,47	36,00	44,15	50,51	55,16	64,58	
	E	kW	14,01	16,59	18,92	20,89	23,25	27,06	35,23	38,95	48,37	55,51	61,88	70,60	
EER	A	W/W	-	-	-	-	-	-	3,07	2,87	2,80	2,78	2,88	2,85	
	E	W/W	3,05	3,00	2,95	3,05	2,91	2,94	2,68	2,53	2,39	2,35	2,46	2,52	
Water flow rate	A	l/h	-	-	-	-	-	-	17200	17900	21300	24252	27520	31800	
	E	l/h	7400	8600	9630	11000	11700	13770	16340	17030	19874	22530	26300	30867	
Total pressure drop	A	kPa	-	-	-	-	-	-	37	39	37	48	56	67	
	E	kPa	26	37	22	29	22	31	34	35	32	41	51	63	
Heating system side															
Heating capacity	A/E	kW	46	53	60	75	80	84	107	113	138	153	174	206	
Total input power	A/E	kW	13,24	15,48	17,73	22,36	24,01	25,57	32,54	34,98	41,33	45,66	53,46	62,35	
COP	A/E	W/W	3,49	3,44	3,39	3,37	3,35	3,28	3,26	3,21	3,34	3,34	3,23	3,29	
Efficiency Energy Class	(1)	alls	A+	A+	A+	A+	A+	A+	-	-	-	-	-	-	
Water flow rate	A/E	l/h	7912	9116	10300	12900	13760	14448	18232	19264	23564	26146	29756	35260	
Total pressure drop	A/E	kPa	13	17	21	33	38	19	31	34	51	49	35	50	
Cooling with heat recovery															
Cooling capacity	A/E	kW	46	52	58	69	74	87	103	111	134	148	169	203	
Recovered power	A/E	kW	58	67	75	88	95	111	132	143	175	194	219	262	
Total input power	A/E	kW	13,45	15,82	18,10	20,85	22,90	25,90	31,18	33,37	43,87	48,58	53,03	64,06	
Water flow rate (cold side)	A/E	l/h	7852	9040	10040	11868	12745	15000	17800	19195	23070	25598	29163	34925	
Total pressure drop (cold side)	A/E	kPa	29	41	24	33	26	36	40	44	42	52	62	81	
Water flow rate (hot side)	A/E	l/h	9976	11520	12900	15136	16340	19092	22704	24424	29928	33196	37496	44892	
Total pressure drop (hot side)	A/E	kPa	20	27	33	46	54	33	47	55	82	78	56	81	
TER	(2)	A/E	W/W	7,72	7,58	7,39	7,55	7,41	7,67	7,57	7,62	7,05	7,06	7,33	7,27

Cooling (14511:2013)

Evaporator water temperature (in/out) 12°C/7°C; External air temperature 35°C

Heating (14511:2013)

Condenser water temperature (in/out) 40°C/45°C; External air temperature 7°C b.s./6°C b.u.

Cooling mode with heat recovery:

heat recovery water temperature (in/out) 40°C/45°C; Evaporator water temperature (out) 7°C

(1) In accordance with the Regulation n° 811/2013 Pdesignh ≤ 70kW

(2) Total Efficiency Ratio

Technical Data

GENERAL DATA				0200	0240	0280	0300	0330	0350	0500	0550	0600	0650	0700	0750
Electrical data															
Total input current	(1)	A	A	-	-	-	-	-	-	55	59	72	82	88	113
	(1)	E	A	28	33	38	41	45	52	60	64	79	91	99	120
Maximum current (FLA)	(1)	A/E	A	36	41	46	53	58	63	76	81	100	112	122	144
Starting current (LRA)	(1)	A/E	A	119	150	155	184	190	200	214	220	232	243	261	320
Compressors															
Compressors		type	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll	scroll
		n°	2	2	2	2	2	2	2	3	3	4	4	4	4
Circuits		n°	2	2	2	2	2	2	2	2	2	2	2	2	2
Capacity control		%	0/50/100	0/50/100	0/50/100	0/50/100	0/50/100	0/50/100	0/50/100	0/50/100	0/50/100	0/25/50/100	0/25/50/100	0/25/50/100	0/25/50/100
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Exchanger side (hot/cold) 2 pipe system / side (cold) 4 pipe system															
Exchanger		type	plate	plate	plate	plate	plate	plate	plate	plate	plate	plate	plate	plate	plate
		n°	1	1	1	1	1	1	1	1	1	1	1	1	1
hydraulic connections	(in/out)	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"
Exchanger side (DHW) 2 pipe system / side (hot) 4 pipe system															
Exchanger		type	plate	plate	plate	plate	plate	plate	plate	plate	plate	plate	plate	plate	plate
		n°	1	1	1	1	1	1	1	1	1	1	1	1	1
hydraulic connections	(in/out)	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"
Fans standard															
Fans		type	axial	axial	axial	axial	axial	axial	axial	axial	axial	axial	axial	axial	axial
		n°	6	6	6	8	8	8	2	2	2	2	3	3	
Air flow rate	A	m³/h	-	-	-	-	-	-	37000	37000	36500	36500	58000	48000	
cooling mode	E	m³/h	20000	20000	20000	26000	26000	26000	20200	21100	21400	22400	31900	34600	
Air flow rate heating mode		m³/h	20000	20000	20000	26000	26000	26000	37000	37000	36500	36500	58000	48000	
System integrated hydronic module															
Buffer tank		l.	300	300	300	300	300	300	500	500	500	500	500	700	
Useful head		kPa	For more information, refer to the selection program or the technical documentation available												
Sound data															
Sound pressure	(2)	A	dB(A)	-	-	-	-	-	-	50	50	50	51	53	53
	(2)	E	dB(A)	42	42	42	43	43	44	42	42	42	43	45	45
Sound power	(2)	A	dB(A)	-	-	-	-	-	-	82	82	82	83	85	85
	(2)	E	dB(A)	74	74	74	75	75	76	74	74	74	75	77	77
Power supply		V/ph/Hz	400V/3N	400V/3N	400V/3N	400V/3N	400V/3N	400V/3N	400V/3N	400V/3N	400V/3N	400V/3N	400V/3N	400V/3N	400V/3N

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).

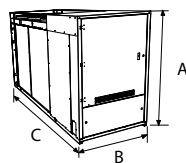
(1) The electrical data of the versions without hydronic module integrated

(2) Calculated in cooling mode

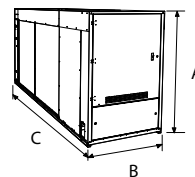
Note: For more information, refer to the selection program or the technical documentation available on the website www.aermec.com

Dimensions (mm)

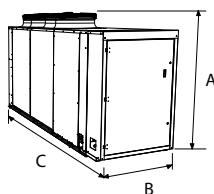
NRP 0200 ÷ 0280



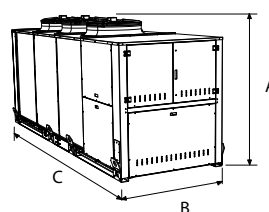
NRP 0300 ÷ 0350



NRP 0500 ÷ 0650



NRP 0700 ÷ 0750



Mod. NRP	Vers	0200	0240	0280	0300	0330	0350	0500	0550	0600	0650	0700	0750
Height (mm)	A	All	1606	1606	1606	1606	1606	1875	1875	1875	1875	1875	1975
Width (mm)	B	All	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1500
Depth (mm)	C	All	2700	2700	2700	3200	3200	3200	3342	3342	3342	4342	4350
Weight when empty (kg)			788	790	792	862	872	894	1233	1237	1359	1378	1939

Aermec reserves the right to make all modification deemed necessary for improving the product at any time with any modification of technical data.

Aermec S.p.A.

Via Roma, 996 - 37040 Bevilacqua (VR) - Italy
Tel. +39 04 42 63 31 11 - Telefax +39 044 29 3577
www.aermec.com