

NRP 0200/0750

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

HFC
Refrigerant
R410A



Aermec participate in the EUROVENT program: LCP the products are present on the site www.eurovent-certification.com



- **DESIGNED FOR 2 AND 4-PIPE SYSTEMS**
- **SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND CHILLED WATER**
- **HIGH EFFICIENCY EVEN AT PART LOAD**

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 High efficiency version

NRP_E High efficiency low noise version

Range of operations

Working at full load up to -15°C outside air temperature in winter, and up to 46°C in summer. Hot water production up to 55°C (for more information see the technical documentation)

- Unit with 2 refrigerant circuits designed to provide maximum efficiency at full load, also ensuring high efficiency at partial loads and ensuring continuity in case one of the circuits stops.
- 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
- Possibility of integrated hydronic kit that encloses the main hydraulic components; it is available in different configurations
- Axial fans for extremely quiet operation
- DCPX as standard.
- Fitted as standard with a device for electronic condensation control so that the unit can work even with low temperatures, adapting the air flow rate to the actual system request in order to reduce consumption.
- 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

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.
- **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.
- **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.

Accessories factory fitted only

Compatibility of accessories

Mod. NRP	Vers.	0200	0240	0280	0300	0330	0350	0500	0550	0600	0650	0700	0750	
AER485P1	Alls	*	*	*	*	*	*	*	*	*	*	*	*	
AERNET	Alls	*	*	*	*	*	*	*	*	*	*	*	*	
MULTICHILLER_NRP	Alls	*	*	*	*	*	*	*	*	*	*	*	*	
PGD1	Alls	*	*	*	*	*	*	*	*	*	*	*	*	
GP	(1) 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	11	11	11	11	22	23	
VT (01-02-03-04-05-06-07-08-09-10)	Alls	13	13	13	13	13	13	11	11	11	11	22	23	
VT (R1-R2-R3-R4)	Alls	17	17	17	17	17	17	11	11	11	11	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

NRP - for 2-pipe system *		0200	0240	0280	0300	0330	0350	0500	0550	0600	0650	0700	0750	
		V/Ph/Hz					400V/3N/50Hz							
Cooling system side (A)														
12°C/7°C	Cooling capacity	(1) kW	/	/	/	/	/	100	103	123	140	159	184	
	Total input power	(1) kW	/	/	/	/	/	32,5	36,0	44,2	50,5	55,2	64,6	
	EER	(1)	/	/	/	/	/	3,07	2,87	2,8	2,78	2,88	2,85	
	ESEER	(1)	/	/	/	/	/	3,71	3,48	4,13	4,09	3,98	3,98	
	Cooling Energy Class Eurovent	(1)	/	/	/	/	/	A	A	A	A	A	A	
	Water flow rate	(1) l/h	/	/	/	/	/	/	17200	17900	21300	24252	27520	31800
Pressure drop	(1) kPa	/	/	/	/	/	/	37	39	37	48	56	67	
Cooling system side (E)														
12°C/7°C	Cooling capacity	(1) kW	43	50	56	64	68	80	95	99	116	130	152	178
	Total input power	(1) kW	14,0	16,6	18,9	20,9	23,3	27,1	35,2	39,0	48,4	55,5	61,9	70,6
	EER	(1)	3,05	3,00	2,95	3,05	2,91	2,94	2,68	2,53	2,39	2,35	2,46	2,52
	ESEER	(1)	3,81	3,78	3,85	3,77	3,85	3,73	3,67	3,45	4,03	3,99	3,87	3,87
	Cooling Energy Class Eurovent	(1)	A	A	A	A	A	A	A	A	A	A	A	A
	Water flow rate	(1) l/h	7400	8600	9630	11000	11700	13770	16340	17030	19874	22530	26300	30867
Pressure drop	(1) kPa	26	37	22	29	22	31	34	35	32	41	51	63	
Heating system side (A) (E)														
40°C/45°C	Heating capacity	(2) kW	46	53	60	75	80	84	107	113	138	153	174	206
	Total input power	(2) kW	13,3	15,6	17,8	22,4	24,0	25,7	32,6	35,1	41,3	45,7	53,8	62,8
	COP	(2)	3,47	3,41	3,39	3,37	3,35	3,28	3,26	3,21	3,34	3,34	3,23	3,29
	Heating Energy Class Eurovent	(2)	A	A	A	A	A	A	A	A	A	A	A	A
	Water flow rate	(2) l/h	7912	9116	10300	12900	13760	14448	18232	19270	23564	26144	29756	35260
	Pressure drop	(2) kPa	30	42	25	40	31	34	42	45	45	56	65	83
Heating DHW side (A) (E)														
40°C/45°C	Heating capacity	(3) kW	46	53	60	75	80	84	106	112	138	153	174	206
	Total input power	(3) kW	13,2	15,5	17,7	22,4	24,0	25,6	32,5	35,0	41,3	45,7	53,5	62,4
	COP	(3)	3,49	3,44	3,4	3,37	3,35	3,3	3,27	3,22	3,33	3,35	3,25	3,3
	Water flow rate	(3) l/h	7912	9116	10300	12900	13760	14448	18232	19264	23564	26146	29756	35260
	Pressure drop	(3) kPa	13	17	21	33	38	19	31	34	51	49	35	50
	Performance under average climatic conditions (Average)													
	Pdesignh	(4)	39	45	51	64	68	71	90	95	116	129	147	174
	SCOP	(4)	3,60	3,53	3,55	3,50	3,50	3,42	3,52	3,50	3,70	3,67	3,55	3,45
	ηs	(4)	141	138	139	137	137	134	138	137	145	144	139	141
	Efficiency Energy Class	(5)	A+	A+	A+	A+	A+	/	/	/	/	/	/	
Cooling with recovery for versions (A) (E)														
40°C/45°C - 7°C/12°C	Cooling capacity	(6) kW	46	52	58	69	74	87	103	111	134	148	169	203
	Recovered power	(6) kW	58	67	75	88	95	111	132	143	175	194	219	262
	Total input power	(6) kW	13,5	15,8	18,1	20,9	22,9	25,9	31,2	33,4	43,9	48,6	53,0	64,1
	Water flow rate system side	(6) l/h	7852	9040	10040	11868	12745	15000	17800	19195	23070	25598	29163	34925
	Pressure drop	(6) kPa	29	41	24	33	26	36	40	44	42	52	62	81
	Water flow rate DHW side	(6) l/h	9976	11520	12900	15136	16340	19092	22704	24424	29928	33196	37496	44892
	Pressure drop	(6) kPa	20	27	33	46	54	33	47	55	82	78	56	81
	TER	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
NRP - for 4-pipe system														
		0200	0240	0280	0300	0330	0350	0500	0550	0600	0650	0700	0750	
Cooling system side (A)														
12°C/7°C	Cooling capacity	(1) kW	/	/	/	/	/	100	103	123	140	159	184	
	Total input power	(1) kW	/	/	/	/	/	32,5	36,0	44,2	50,5	55,2	64,6	
	EER	(1)	/	/	/	/	/	3,07	2,87	2,8	2,78	2,88	2,85	
	Water flow rate	(1) l/h	/	/	/	/	/	/	17200	17900	21300	24252	27520	31800
	Pressure drop	(1) kPa	/	/	/	/	/	/	37	39	37	48	56	67
Cooling system side (E)														
12°C/7°C	Cooling capacity	(1) kW	43	50	56	64	68	80	95	99	116	130	152	178
	Total input power	(1) kW	14,0	16,6	18,9	20,9	23,3	27,1	35,2	39,0	48,4	55,5	61,9	70,6
	EER	(1)	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	(1) l/h	7400	8600	9630	11000	11700	13770	16340	17030	19874	22530	26300	30867
	Pressure drop	(1) kPa	26	37	22	29	22	31	34	35	32	41	51	63
Heating system side (A) (E)														
40°C/45°C	Heating capacity	(3) kW	46	53	60	75	80	84	106	112	138	153	174	206
	Total input power	(3) kW	13,2	15,5	17,7	22,4	24,0	25,6	32,5	35,0	41,3	45,7	53,5	62,4
	COP	(3)	3,49	3,44	3,4	3,37	3,35	3,3	3,27	3,22	3,33	3,35	3,25	3,3
	Water flow rate	(3) l/h	7912	9116	10300	12900	13760	14448	18232	19264	23564	26146	29756	35260
	Pressure drop	(3) kPa	13	17	21	33	38	19	31	34	51	49	35	50
Performance under average climatic conditions (Average)														
	Pdesignh	(4)	39	45	51	64	68	71	90	95	116	129	147	174
	SCOP	(4)	3,60	3,53	3,55	3,50	3,50	3,42	3,52	3,50	3,70	3,67	3,55	3,45
	ηs	(4)	141	138	139	137	137	134	138	137	145	144	139	141
	Efficiency Energy Class	(5)	A+	A+	A+	A+	A+	/	/	/	/	/	/	
Cooling with recovery for versions (A) (E)														
40°C/45°C - 7°C/12°C	Cooling capacity	(6) kW	46	52	58	69	74	87	103	111	134	148	169	203
	Recovered power	(6) kW	58	67	75	88	95	111	132	143	175	194	219	262
	Total input power	(6) kW	13,5	15,8	18,1	20,9	22,9	25,9	31,2	33,4	43,9	48,6	53,0	64,1
	Water flow rate (cold side)	(6) l/h	7852	9040	10040	11868	12745	15000	17800	19195	23070	25598	29163	34925
	Pressure drop	(6) kPa	29	41	24	33	26	36	40	44	42	52	62	81
	Water flow rate (hot side)	(6) l/h	9976	11520	12900	15136	16340	19092	22704	24424	29928	33196	37496	44892
	Pressure drop	(6) kPa	20	27	33	46	54	33	47	55	82	78	56	81
	TER	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

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) Water Total Recovery 40°C/45°C.
 - (4) Efficiencies for low temperature applications (35°C)
 - (5) Efficiency Energy Class in according to regulation n°811/2013 Pdesignh ≤ 70kW
 - (6) Water Total Recovery 40°C/45°C, Water evaporator (7°C)
- TER Global Efficiency

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
			n°	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
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
Refrigerant				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
			n°	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	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
			n°	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	3"
Fans standard															
Fans			type	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 (cooling mode)															
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

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).

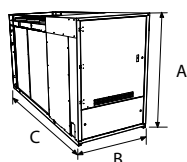
(1) The electrical data of the versions without hydronic module integrated

(2) Calculated in cooling mode

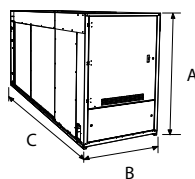
Note: For more information, refer to the selection program or the technical documentation available on the website www.aermec.com

Dimensions (mm)

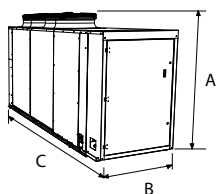
NRP 0200 ÷ 0280



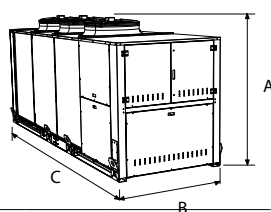
NRP 0300 ÷ 0350



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	3342	4350
Weight when empty (kg)			788	790	792	862	872	894	1233	1237	1359	1378	1591

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

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