

AERMEC

NRL

0800/1800
heat pump

R410A



Aermec adheres to the EUROVENT Certification programme up to 600kW cooling. The products concerned appear in the EUROVENT Certified products guide.

Air/Water Reversible heat pumps for external installation
Scroll compressors, plate heat exchangers and axial fans
Cooling capacity 183 ÷ 470kW
Heating capacity 228 ÷ 526kW

Variable Multi Flow®

VMF



- EUROVENT EFFICIENCY'S CLASS "A" IN HEATING OPERATION*
- HIGH EFFICIENCIES ALSO AT PARTIAL LOADS
- FAST AND EASY INSTALLATION

* HA version, except for sizes 1250 and 1504

Characteristics

Reversible heat pumps for external installation for the production of chilled/ heated water with high performance and low electric absorption scroll compressors, axial fans, external copper coils with aluminium fins, system-side plate heat exchanger.

In the units with desuperheater, but in cooling-only operation, it is possible to produce free hot water. The basement, the structure and the paneling are in steel treated with polyester anti-corrosion paint.

Version

NRL_H Standard heat pumps

NRL_HL Standard heat pumps Low noise version

NRL_HA High efficiency version

NRL_HE High efficiency version Low noise version

Operating limits: Work at full load down to -15°C external air temperature in winter season, up to 46°C in summer season. Hot water pro-

duction up to 55°C (for more details please refer to the technical documentation)

- Units with two refrigerant circuits designed to reach the maximum performance at full load, granting high efficiencies also at partial loads and assuring continuity in case of stop of one of the two circuits.
- Water filter and high and low pressure transducers are standard supplied. The flow switch is standard in all the configurations for compact versions (0800-1200 H/HL), for the other sizes and configurations it is provided only with the hydronic-kit.
- Possibility of integrated hydronic kit which includes the main hydraulic components; it is available in different configurations with or without buffer tank, one or two pumps high and low head.
- Microprocessor adjustment, with keyboard and LCD display, for easy consultation and intervention on the unit via a menu available in several

languages.

Adjustment includes complete management of the alarms and their log.

- The presence of a programmable timer allows setting time bands of operation and a possible second set-point
- The temperature control takes place with the integral proportional logic, based on the water output temperature.
- Night Mode: it is possible to set a silenced operation profile.

Perfect for night operation, since it guarantees greater acoustic comfort in the evenings, and a high efficiency in the time of greater load.

Night Mode is standard on all low noise versions. For all other versions either the DCPX accessory or "J" inverter fan must be specified to allow Night Mode to operate.

Accessories

- **AER485P1:** RS-485 interface for supervising systems with MODBUS protocol.
- **PGD1:** Simplified remote panel. Allows control of basic unit functions and alarm notification.
- **MULTICHILLER_PCO:** 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 evaporators.
- **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

- **GP:** Protective grille. Condenser coil external protection against accidental or hail damage.
- **DCPX:** Device for condensation temperature control, with continuous speed modulation of fans by using a pressure transducer.
- **AVX:** anti-vibration support, to be fitted below the sheet metal base of the unit.

Accessories factory fitted only

- **DRE:** Current soft starter device, Available only with power supply 400V/3N.
- **RIF:** Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current
- **PRM1:** It is a manual pressure switch electrically wired in series with the existing automatic high pressure switch on the compressor discharge pipe.
- **COMPATIBILITY with the VMF SYSTEM** For more information on the system refer to the manual.

Accessory Compatibility

Mod. NRL	Vers.	0800	0900	1000	1250	1404	1504	1655	1800
AER485P1	Alls	•	•	•	•	•	•	•	•
PGD1	Alls	•	•	•	•	•	•	•	•
AERWEB300	Alls	•	•	•	•	•	•	•	•
MULTICHILLER_PCO	Alls	•	•	•	•	•	•	•	•
DCPX	(1) H	65	65	65	65	66	66	68	68
	(1) HL	standard	standard	standard	standard	standard	standard	standard	standard
	(1) HA	66	66	66	68	68	68	68	68
GP	(1) HE	standard	standard	standard	standard	standard	standard	standard	standard
	(2) H/HL	10 (x3)	10 (x3)	10 (x4)	10 (x4)	350	350	350	350
AVX "00"	HA/HE	260	260	260	350	350	350	500	500
	H/HL	701	707	713	713	722	722	733	730
AVX "01...04"	HA/HE	704	710	716	719	725	730	734	737
	H/HL	702	708	714	717	723	728	728	728
AVX (P1-P2-P3-P4)	HA/HE	705	711	711	720	726	731	735	738
	H/HL	703	709	715	718	724	729	729	732
HA/HE	706	712	712	721	727	732	736	736	
Accessories factory fitted only									
DRE	Alls	801	901	1001	1251	1404	1504	1655	1801
RIF	H/HL	87	89	91	91	92	92	93	94
	HA/HE	88	90	92	92	92	92	93	94
PRM1	Alls	•	•	•	•	•	•	•	•

- (1) DCPX Standard in the models with desuperheater; In the low noise versions; Not necessary fields with ventilatori inverter
(2) (x3)(x4) the number in brackets indicates the quantity to order

Unit Configurator

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

Campo Code

1,2,3 NRL

4,5,6,7 Size

0800-0900-1000-1250-1404-1504-1655-1800

8 Expansion valve:

- ° Standard (leaving water temperature down to 4°C)
- X Electronic expansion valve (leaving water temperature down to 4°C) contact head office for lower temperatures (3)

9 Model

H Heat pumps

10 Heat recovery

- ° Without recovery
- D With desuperheater (4)

11 Version

- ° Standard
- L Standard in low noise operation
- A High efficiency
- E High efficiency in low noise operation

12 Coil

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

13 Fans

- ° Standard
- J Inverter

14 Power supply

- ° 400V/3/50Hz with circuit breakers

15-16 Hydronic kit (5)

- 00 Without hydronic kit
- 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)
- 09 double hydraulic circuit
- 10 double hydraulic circuit with immersion heater
- P1 n°1 low head pump
- P2 n°2 low head pump
- P3 n°1 high head pump
- P4 n°2 high head pump

(3) The option X is not compatible with the option D (only for temperature lower than 4°C)

(4) The desuperheater can be used exclusively in the cold operation

(5) The buffer tank with holes and supplementary electric heaters leave the factory with plastic protection caps. Before loading the system, if the installation of an electric heater is not envisaged it is compulsory to replace the plastic caps.

Technical data

Mod. NRL	Vers.		0800	0900	1000	1250	1404	1504	1655	1800
Cooling capacity	H	kW	200	221	261	299	332	366	421	452
	HL	kW	183	199	236	264	301	331	372	396
	HA	kW	210	238	260	313	350	386	435	470
	HE	kW	193	212	230	283	318	354	397	424
Total power input	H	kW	82	94.8	102	121	141	160	168	180
	HL	kW	90	106	113	136	155	175	188	204
	HA	kW	74	83.1	95.1	110	127	144	152	164
	HE	kW	82	94.6	107.93	123	141	159	169	183
EER	H	W/W	2.44	2.33	2.55	2.46	2.35	2.28	2.51	2.50
	HL	W/W	2.02	1.88	2.09	1.93	1.94	1.89	1.98	1.94
	HA	W/W	2.84	2.86	2.73	2.83	2.74	2.67	2.85	2.87
	HE	W/W	2.36	2.24	2.13	2.30	2.25	2.22	2.34	2.31
ESEER	H	W/W	3.85	3.66	3.67	3.63	3.50	3.44	3.45	3.53
	HL	W/W	3.79	3.66	3.66	3.56	3.42	3.39	3.39	3.37
	HA	W/W	4.01	3.90	3.82	3.96	3.80	3.72	3.74	3.71
	HE	W/W	3.92	3.87	3.78	3.93	3.77	3.66	3.72	3.74
Water flow rate	H	l/h	34572	38184	45064	51600	57276	63124	72756	78088
	HL	l/h	31648	34400	40764	45580	51944	57104	64156	68284
	HA	l/h	36292	41108	44892	54180	60372	66736	75164	81184
	HE	l/h	33368	36636	39732	48848	54868	61060	68456	73272
Total pressure drop	H	kPa	46	45	49	57	40	40	47	45
	HL	kPa	39	37	41	45	33	33	37	35
	HA	kPa	54	56	54	61	48	48	54	54
	HE	kPa	47	45	43	50	40	41	45	44
Heating capacity	H/HL	kW	228	257	295	342	386	429	470	505
	HA/HE	kW	234	264	295	346	390	435	486	526
Total power input	H/HL	kW	76	86.3	97.5	113	127	143	157	168
	HA/HE	kW	75	84.5	94.7	112	126	141	155	166
COP	H/HL	W/W	3.00	2.98	3.02	3.03	3.02	3.00	2.99	3.00
	HA/HE	W/W	3.11	3.13	3.11	3.09	3.10	3.08	3.13	3.17
Water flow rate	H/HL	l/h	39044	44032	50396	58480	66048	73444	80496	86516
	HA/HE	l/h	40076	45236	50396	59168	66736	74476	83248	89956
Total pressure drop	H/HL	kPa	61	61	65	78	54	55	59	58
	HA/HE	kPa	68	68	68	75	58	60	66	66

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.

	Vers.		0800	0900	1000	1250	1404	1504	1655	1800	
Electrical data											
Total input current cooling mode	(1)	H	A	142	166	189	208	249	286	305	319
	(1)	HL	A	153	177	200	226	269	308	328	348
	(1)	HA	A	136	158	180	196	235	273	286	304
	(1)	HE	A	145	169	192	211	251	292	306	324
Total input current heating mode	(1)	H	A	136	156	179	193	227	261	279	290
	(1)	HL	A	136	156	179	193	227	261	279	290
	(1)	HA	A	138	157	177	197	231	265	282	293
	(1)	HE	A	138	157	177	197	231	282	282	293
Maximum current (FLA)	H/HL	A	173	195	221	265	282	312	349	398	
	HA/HE	A	177	199	221	274	290	320	357	406	
Starting current (LRA)	H/HL	A	348	404	430	533	616	646	683	666	
	HA/HE	A	352	408	430	542	624	654	691	674	
Compressors											
Compressors	Alls	type					Scroll				
	Alls	n°	4	4	4	4	4	4	5	6	
Circuits	Alls	n°	2	2	2	2	2	2	2	2	
Refrigerant	Alls	type					R410A				
System side exchanger											
Exchanger		type					Plate				
		n°	1	1	1	1	1	1	1	1	
hydraulic connections	(1)	(in/out)	ø	3"	3"	3"	3"	4"	4"	4"	

(1) Data of the versions without hydronic module integrated

	Vers.	0800	0900	1000	1250	1404	1504	1655	1800	
Fans standard										
Fans	Alls	Axial								
Air flow rate cooling mode	H	m ³ /h	64500	63750	85600	80800	87400	86800	124200	122400
	HL	m ³ /h	45200	44600	59900	56600	65500	69400	86900	85700
	HA	m ³ /h	85600	84600	83600	126000	124200	122400	168000	165600
	HE	m ³ /h	59920	59220	60610	88200	90000	91800	117600	115920
Number fans	H	n°	3	3	4	4	4	4	6	6
	HL	n°	3	3	4	4	4	4	6	6
	HA	n°	4	4	4	6	6	6	8	8
	HE	n°	4	4	4	6	6	6	8	8
Hydronic kit										
Buffer tank	l	700	700	700	700	700	700	700	700	
Useful static pressure	kPa	For more information, refer to the technical documentation								
Dati sonori										
Sound power	H	db(A)	88.5	88.5	90.5	93.5	91.0	90.5	92.0	94.0
	HL	db(A)	85.5	85.5	87.5	90.5	88.0	87.5	89.0	91.0
	HA	db(A)	88.5	88.5	88.5	91.5	91.0	91.5	92.0	94.0
	HE	db(A)	83.0	83.0	83.5	86.0	85.5	85.0	86.5	88.5
Sound pressure	H	db(A)	56.5	56.5	58.5	61.5	59.0	58.5	60.0	62.0
	HL	db(A)	53.5	53.5	55.5	58.5	56.0	55.5	57.0	59.0
	HA	db(A)	56.5	56.5	56.5	59.5	59.0	58.5	60.0	62.0
	HE	db(A)	51.0	51.0	51.0	54.0	53.5	53.0	54.5	56.5
Power supply	V/ph/Hz	400V/3/Hz								

Sound power (cooling mode)

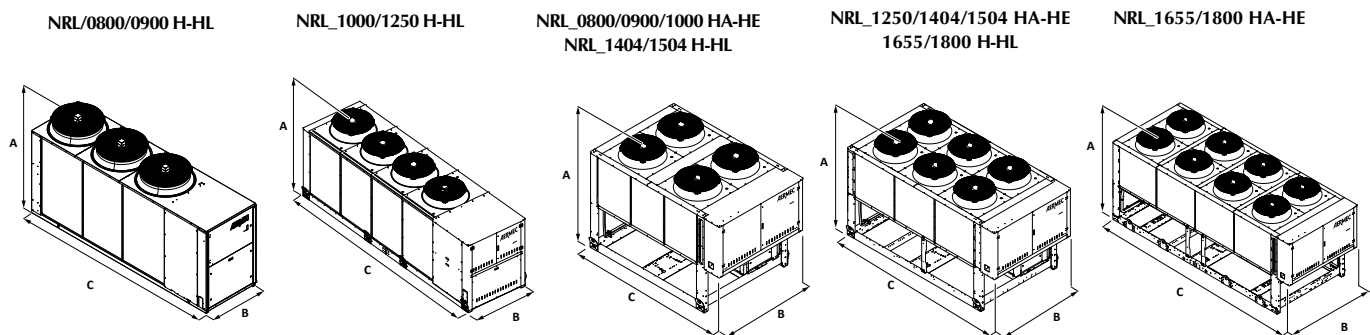
Aermec determines sound power values on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification.

Sound pressure (cooling mode)

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

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

Dimensions (mm)



Mod. NRL	U.M.	Vers.	800	900	1000	1250	1404	1504	1655	1800
Height	(mm) A	H/HL	1975	1975	1975	1975	2450	2450	2450	2450
		HA/HE	2450	2450	2450	2450	2450	2450	2450	2450
Width	(mm) B	H/HL	1500	1500	1500	1500	2200	2200	2200	2200
		HA/HE	2200	2200	2200	2200	2200	2200	2200	2200
Depth	(mm) C	H/HL	4355	4355	5355	5355	4250	4250	4250	4250
		HA/HE	3400	3400	3400	4250	4250	4250	5750	5750
Weight empty	(kg)	H	1800	1940	2170	2320	2930	3140	3220	3330
		HL	1800	1950	2180	2320	2940	3150	3230	3340
		HA	2150	2300	2460	2750	2990	3190	3680	3800
		HE	2160	2310	2470	2760	3000	3200	3690	3810

Warning: the weights refer to versions without hydronic module integrated