

NRL

Chillers, air-cooled with axial flow fans
Cooling capacity from 500 kW to 938 kW



R410A



Aermec adheres to the EUROVENT Certification Programme. The products concerned appear in the EUROVENT Certified Products Guide.



- **HIGH EFFICIENCY VERSION**
- **SILENCED HIGH EFFICIENCY VERSION**
- **COMPACT VERSION**
- **SILENCED COMPACT VERSION**

- **4 COOLING CIRCUITS**
- **CIRCULATION PUMP**
- **CIRCULATION PUMP AND ACCUMULATOR TANK**

Characteristics

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> • Available in 7 different sizes • Refrigerant R410A. • 4 cooling circuits • High efficiency even with partial loads • Heat exchangers optimised to exploit the excellent heat transfer characteristics of the R410A • High-efficiency scroll compressors • Axial flow fans with reduced noise level • Solid construction with polyester anticorrosion painted finish • Operating limits with cooling mode up to 46°C <ul style="list-style-type: none"> - Max. processed water temperature 18° C • Versions available <ul style="list-style-type: none"> ◦ Cooling only compact version L Cooling only compact silenced version A Cooling only, high efficiency | <ul style="list-style-type: none"> E Cooling only, high efficiency, silenced version C Condenser unit • Thermostatic valve (selectable with configurator): <ul style="list-style-type: none"> (°) standard mechanical thermostatic valve (Y) low water temperature mechanical thermostatic valve (down to -6°C) (X) electronic thermostatic valve also for low water temperature (down to -6°C) • Fan unit (selectable with configurator): <ul style="list-style-type: none"> - "°" Standard. - "M" Enlarged - "J" Inverter. • Versions with pumping assembly and tanks complete with water filter, flow switch, expansion tank, a charging unit and antifree- | <ul style="list-style-type: none"> ze electric heater. • Microprocessor control system <ul style="list-style-type: none"> - Control of the inlet water temperature, with the possibility of selecting the control of the outlet water - Summer condensation control with 0-10V modulating signal depending on pressure, compensated according to the outside air temperature (with DCPX accessory). - Auto rotation of compressors and pumps according to operating hours - Safety capacity control - Low and high pressure transducers (standard on all the versions) - Automatic reset of alarms before total block - Messages in 4 languages. - Alarm Log |
|---|---|---|

Accessories

- **AER485:** RS-485 interface for supervision systems with MODBUS protocol.
- **AVX:** Sprung anti-vibration supports. Select the AVX model from the compatibility table.
- **DCPX:** This accessory allows correct operation with outside temperatures below 10°C and down to -10°C. It is made up of an electronic regulation card that varies the fan rpm on the basis of the condensation pressure, once the high pressure transducer is read for the purposes of keeping it sufficiently high FOR the proper functioning of the unit. It also allows correct heating operation with outside temperatures greater than 30°C and up to 42°C.
- **DRE:** Electronic starting current reduction device. **Can only be installed in the factory.**
- **GP:** Protection grille, protects the external coil from accidental knocks.
- **PGS:** Daily/Weekly Programmer.
- **Allows you to programme two time bands per day (two switch on/off cycles) and to have differentiated programming for each day of the week.**
- **RIF:** Current rephaser. Parallel connection with the motor makes the reduction of input current possible. **This can only be installed when the machine is being made and must therefore be specified when the order is placed.**
- **AERWEB30:** The AERWEB device allows remote control of a chiller via a serial link from a standard PC. Using additional modules, the device allows to control the chiller via the telephone network, using the **AER-MODEM** accessory; or via the GSM network, using the **AERMODEMGSM** accessory. AERWEB can pilot up to 9 chillers, but each of these **must** be equipped with the AER485 or AER485P2 accessory.
- **DUALCHILLER:** Simplified control system to switch on and off, and command, two chillers (using Aermec GR3 command) in a single system, as if they were a single unit.
- **MULTICHILLER:** 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.
- **TRX1:** Metal cap that replaces the plastic cap, mounted for protection in the accumulators with holes and supplementary electric heaters.
- **PRM1-PRM2:** FACTORY FITTED ACCESSORY. It is a manual pressure switch electrically wired in series with the existing automatic high pressure switch on the compressor discharge pipe.

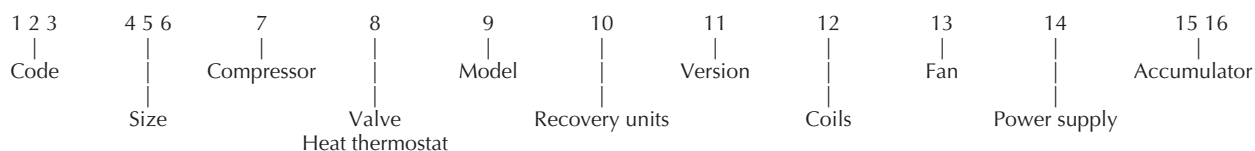
Compatibility of accessories

Mod. NRL	Vers.	2000	2250	2500	2800	3000	3300	3600
AER485	All	✓	✓	✓	✓	✓	✓	✓
DUALCHILLER	All	✓	✓	✓	✓	✓	✓	✓
MULTICHILLER	All	✓	✓	✓	✓	✓	✓	✓
PGS	All	✓	✓	✓	✓	✓	✓	✓
AERWEB30	All	✓	✓	✓	✓	✓	✓	✓
TRX1	All	✓	✓	✓	✓	✓	✓	✓
	°	-	-	-	78	78	81	81
DCPX	L	standard	standard	standard	standard	standard	standard	standard
	A	78	79	81	81	81	82	82
	E	standard	standard	standard	standard	standard	standard	standard
	°	-	-	-	78	78	82	82
DCPX "M" vers. con ventilatori maggiorati	L	standard	standard	standard	standard	standard	standard	standard
	A	78	80	82	82	82	82	82
	E	standard	standard	standard	standard	standard	standard	standard
GP	° - L	-	-	-	350 x 2	350 x 2	500 x 2	500 x 2
	A - E	260 x 2	260 350	350 x 2	350 x 2	350 x 2	500 x 2	500 x 2
RIF	° - L	-	-	-	RIFNRL2800	RIFNRL3000	RIFNRL3300	RIFNRL3600
	A - E	RIFNRL2000	RIFNRL2250	RIFNRL2500	RIFNRL2800	RIFNRL3000	RIFNRL3300	RIFNRL3600
PRM1/PRM2	All	✓	✓	✓	✓	✓	✓	✓

Choice of Unit

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

Field configurator:



Code:

NRL

Size:

200, 225, 250, 280, 300, 330, 360

Compressors:

0 - R410A standard compressors

Thermostatic valve:

- ° - Standard mechanical thermostatic valve up to +4°C
- Y - Low water temperature mechanical thermostatic valve down to -6°C
- X - Electronic thermostatic valve also for low water temperature (down to -6°C)

Model:

- ° - Cooling only
- C - Condensing unit

Heat recovery units

- ° - Without recovery units
- D - With partial recovery (desuperheater)
- T - With total heat recovery

Version:

- ° - Compact
- L - Compact, silenced version
- A - High efficiency
- E - High efficiency, silenced version

Batteries:

- ° - Aluminium
- R - Copper
- S - Tinned copper
- V - Varnished

Fans:

- ° - Standard
- M - Enlarged
- J - Inverter

Power supply:

- ° - 400V 3~ 50Hz with thermomagnetic switches
- 2 - 500V 3~ 50Hz with thermomagnetic switches (contact the company head office for versions with DCPX).

Accumulator:

- 00 - without accumulator
- 01 - low-head accumulator and single pump
- 02 - low-head accumulator and reserve pump
- 03 - high-head accumulator and single pump
- 04 - high-head accumulator and reserve pump
- 05 - accumulator (with holes for supplementary electric heaters) low-head and single pump
- 06 - accumulator (with holes for supplementary electric heaters) low-head and reserve pump
- 07 - accumulator (with holes for supplementary electric heaters) high-head and single pump
- 08 - accumulator (with holes for supplementary electric heaters) high-head and reserve pump
- 09 - double hydraulic ring
- 10 - double hydraulic ring with supplementary electric heater
- P1 - without accumulator, with low-head pump
- P2 - without accumulator, with low-head pump and reserve pump
- P3 - without accumulator, with high-head pump
- P4 - without accumulator, with high-head pump and reserve pump

Warning:

- options D - T - C are not compatible with option Y
- the standard options are shown by the symbol °;

Example of the commercial code: **NRL200°°°°°°°°00**

This is a size 200 NRL unit with standard mechanical thermostatic valve up to +4°C, cooling only model, compact, with aluminium condensing coils, standard fans, electrical panel for compressors with 400V 3~ 50Hz motors and without accumulator.

Technical data

Mod. NRL	Vers.	2000	2250	2500	2800	3000	3300	3600	
Cooling capacity	(kW)	°				676	750	824	898
		L				604	672	733	786
		A	542	593	644	714	798	874	938
		E	500	548	596	658	734	818	872
Total power input	(kW)	°				284	322	350	374
		L				314	354	384	416
		A	186	199	212	248	284	308	334
		E	202	216	230	268	308	330	358
Water flow rate	(l/h)	°				116270	129000	141730	154460
		L				103890	115580	125900	135190
		A	93220	102000	110770	122810	137260	150330	161340
		E	86000	94260	102510	113180	126250	140700	149980
Pressure drops	(kPa)	°				73.0	78.6	59.5	58.8
		L				59.1	63.8	47.9	45.9
		A	70.4	72.6	72.6	77.8	60.8	60.8	61.7
		E	60.7	63.0	63.0	66.9	52.1	53.7	53.9
EER	(W/W)	°				2.38	2.33	2.35	2.40
		L				1.92	1.90	1.90	1.89
		A	2.91	2.98	3.04	2.88	2.81	2.84	2.81
		E	2.48	2.54	2.59	2.46	2.38	2.48	2.44
ESEER	(W/W)	°				3.76	3.68	3.72	3.79
		L				3.65	3.61	3.62	3.59
		A	4.17	4.25	4.34	4.12	4.02	4.06	4.02
		E	4.08	4.18	4.28	4.05	3.93	4.02	4.02
Supply	(A)	(All)	400V-3-50Hz						
Type of fan	Axial								
Compressors	(no.)	° - L				10/4	12/4	12/4	12/4
		A - E	8/4	8/4	8/4	10/4	12/4	12/4	12/4
Total air flow rate	(m³/h)	°				154000	152000	216600	212400
		L				115400	121600	151620	148680
		A	140400	176400	212400	208200	204000	266000	244000
		E	105300	126990	148680	150840	153000	192300	183000
Operating current	(A)	°				498	572	610	638
		L				538	616	656	696
		A	361	377	393	470	547	563	589
		E	384	403	421	502	583	613	649
Maximum current (FLA)	(A)	° - L				580	638	716	782
		A - E	434	484	534	592	650	729	795
Starting current (LRA)	(A)	° - L				789	847	984	1050
		A - E	643	752	802	801	859	997	1063
Type of compressors	Scroll								
Compressors	(no.)	° - L				10/4	12/4	12/4	12/4
		A - E	8/4	8/4	8/4	10/4	12/4	12/4	12/4
Evaporator	All								
Type of plumbing connections	Victaulic								
Number of plumbing connections			2	2	2	2	2	2	2
Plumbing connections	(Ø)	°-L				4"	4"	4"	4"
		A-E	4"	3"/4"	4"	4"	4"	4"	4"
Tank capacity	(l)	All						2 x 700	
Input power low-head pump	(kW)	°				9.6	9.6	13.0	13.0
		L				9.6	9.6	9.6	9.6
		A	7.4	3.7+4.8	9.6	9.6	9.6	9.6	9.6
		E	15.4	7.7+4.8	9.6	9.6	9.6	9.6	9.6
Input power high-head pump	(kW)	°/L				17.2	17.2	24.7	24.7
		A/E	13.0	6.5+8.6	17.2	17.2	17.2	17.2	17.2
Input current low-head pump	(A)	°/L				16.3	16.3	22.0	22.0
		A/E	12.4	6.2+8.1	16.2	16.3	16.3	22.0	22.0
Input current high-head pump	(A)	°/L				29.2	29.2	42.4	42.4
		A/E	22.0	11+14.6	29.2	29.2	29.2	42.4	42.4
Useful pump head low-head	(kPa)	°				102	88	109	99
		L				133	116	134	130
		A	85	103	103	82	106	94	82
		E	104	118	125	108	125	111	102
Useful pump head high-head	(kPa)	°				246	220	246	237
		L				279	258	271	267
		A	200	227	247	222	226	233	221
		E	216	245	264	246	250	245	236
Sound power	(dBA)	°				93.5	93.5	95.0	95.0
		L				90.5	90.5	92.0	92.0
		A	91	93	94	93.5	93.5	94.5	96.5
		E	86.0	88	89.0	88.5	88.0	89.5	91.5

Mod. NRL	Vers.	2000	2250	2500	2800	3000	3300	3600
Sound pressure μ	(dBA)							
	°	-	-	-	61.5	61.5	63.0	63.0
	L	-	-	-	58.5	58.5	60.0	60.0
	A	59	61	62	61.5	61.5	62.5	64.5
	E	54	56	57	56.5	56	57.5	59.5

Mod. NRL C	Vers.	2000	2250	2500	2800	3000	3300	3600
Cooling capacity	(kW)							
	°				704	782	860	938
	L				630	702	766	820
	A	564	617	670	744	830	926	994
	E	520	571	622	686	764	852	908
Total power input	(kW)							
	°				284	322	350	374
	L				314	354	384	416
	A	190	204	218	254	290	304	330
	E	206	221	236	276	316	338	368
EER	(W/W)							
	°				2.39	2.36	2.36	2.42
	L				1.93	1.92	1.92	1.90
	A	2.97	3.02	3.07	2.93	2.86	3.05	3.01
	E	2.52	2.58	2.64	2.49	2.42	2.52	2.47
Maximum current (FLA)	(A)							
	°/L				580	638	716	782
	A	434	484	534	592	650	729	795
Starting current (LRA)	(A)							
	°/L				789	847	984	1050
	A	643	752	802	801	859	997	1063
Input current	(A)							
	°				516	594	632	662
	L				558	638	680	722
	A	370	387	404	482	562	578	604
	E	394	413	432	516	598	630	666
Sound pressure	db(A)							
	°				61.5	61.5	63	63
	L				58.5	58.5	60	60
	A	59	61	62	61.5	61.5	62.5	64.5
	E	54	56	57	56.5	56	57.5	59.5

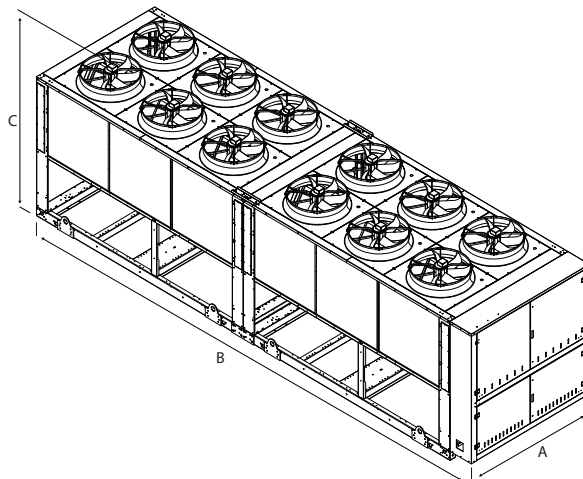
Performance values refer to the following conditions:

■ Cooling:

- water outlet temperature 7 °C
- outside air temp. 35 °C
- $\Delta t = 5$ °C.

- μ Sound pressure measured in free field conditions, in cooling mode, at distance of 10m and direction factor = 2. In accordance with the ISO 3744 standard
- Power supply voltage: 400 V

Dimensions (mm)



Mod. NRL	Vers.	2000	2250	2500	2800	3000	3300	3600	
Height	(mm)								
	C	° - L	-	-	-	2450	2450	2450	2450
		A - E	2450	2450	2450	2450	2450	2450	
Width	(mm)								
	A	° - L				2200	2200	2200	
		A - E	2200	2200	2200	2200	2200	2200	
Depth	(mm)								
	B	° - L	-	-	-	8100	8100	11100	11100
		A - E	6400	7250	8100	8100	8100	11100	11100
Weight when empty (Kg)									
		° - L	-	-	-	5630	6020	6220	6420
		A - E	4820	5240	5660	6060	6510	7590	7850

The technical data in this document are not binding. Aermec S.p.A. shall have the right to introduce at any time whatever modifications deemed necessary for the improvement of the product.

Aermec S.p.A.
Via Roma, 996 - 37040 Bevilacqua (VR) - Italy
Telephone 0442633111 - Telefax 044293730
www.aermec.com