

NRL 2000/3600 cooling only

R410A



Aermec participate in the EUROVENT program: LCP, up to 600 kW the products are present on the site www.eurovent-certification.com
* Not certified model

Air cooled chiller with axial fans
Cooling capacity 497kW÷994kW



- **HIGH EFFICIENCY VERSION**
- **LOW NOISE HIGH EFFICIENCY VERSION**
- **COMPACT VERSION**
- **LOW NOISE COMPACT VERSION**
- **4 REFRIGERANT CIRCUITS**
- **PUMP ASSEMBLY OPTION**
- **PUMP ASSEMBLY AND BUFFER TANK OPTION**

Characteristics

- Available in 7 sizes
- Refrigerant R410A
- 4 refrigerant circuits
- High efficiency even at part load
- Heat exchangers optimised to benefit from the excellent heat transfer characteristics of R410A
- High efficiency scroll compressors
- Axial fans with low sound level
- Solid construction with polyester anti-corrosion painted finish
- Operating limits in cooling up to 46 °C ambient
 - Maximum leaving water temperature 18 °C
- Versions available:
 - Compact cooling only
 - L Compact low noise cooling only
 - A High efficiency cooling only
 - E **High efficiency low noise cooling only**
 - C Condensing unit
- Expansion valve (selected in unit configurator):
 - (°) standard thermostatic expansion valve
 - (Y) thermostatic expansion valve for low liquid temperature down to -6 °C
 - (X) electronic expansion valve
- Fan unit (selected in unit configurator):
 - "O" Standard
 - "M" High static pressure
 - "J" Inverter
- Pump assembly and buffer tank options complete with water filter, flow switch, expansion tank, charging point, and anti-freeze electric heater
- Microprocessor control system:
 - Control from the entering water temperature, with the possibility of selecting control of the leaving water temperature
 - Summer condensation control with 0-10V modulating signal depending on pressure, compensated according to the outside air temperature (with DCPX accessory)
- Automatic rotation of compressors and pumps based on operating hours (for all sizes)
- Load limiting safety control
- Low and high pressure transducers (standard for all units)
- Automatic reset of alarms before tripping
- Display in 4 languages
- Alarm history

Accessories

- **AER485P1**: RS-485 interface for supervision systems with MODBUS protocol.
- **AVX**: spring anti-vibration mounts. Select the AVX model from the compatibility table.
- **DCPX**: Low ambient device for cooling operation below 10 °C down to -10 °C. Pressure transducers read the condensing pressure and the electronic controller varies fan speed to maintain adequate pressure for correct unit operation. It also allows a correct operation by heating with external temperatures above 30 °C and up to 42 °C.
- **GP**: Protection grille protects the external coil from accidental damage.
- **PGS**: Daily/Weekly Programmer. Allows two daily time-clock programmes (two switch on/off cycles) and different programmes for each day of the week.
- **RIF**: Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current. Must be requested at time of order and is available factory fitted only.
- **TRX1**: Metal cap that replaces the plastic cap, mounted as shipping protection, for immersion heater holes in the buffer tank.
- **PRM1-PRM2**: FACTORY FITTED ACCESSORY. A manual reset pressure switch wired in series with the existing high pressure switch installed on the compressor discharge line.

Mod. NRL	Vers.	Accessory compatibility						
		2000	2250	2500	2808	3008	3310	3600
AER485P1	All	✓	✓	✓	✓	✓	✓	✓
PGS	All	✓	✓	✓	✓	✓	✓	✓
TRX1	All	✓	✓	✓	✓	✓	✓	✓
DCPX	°	-	-	-	78	78	81	81
	L	standard	standard	standard	standard	standard	standard	standard
	A	78	79	81	81	81	82	82
	E	standard	standard	standard	standard	standard	standard	standard
DCPX "M" with high static pressure fans	°	-	-	-	78	78	82	82
	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	350 x 2	350 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	-	-	-	RIFNRL2808	RIFNRL3008	RIFNRL3310	RIFNRL3600
	A - E	RIFNRL2000	RIFNRL2250	RIFNRL2500	RIFNRL2808	RIFNRL3008	RIFNRL3310	RIFNRL3600
PRM1/PRM2	All	✓	✓	✓	✓	✓	✓	✓
AVX (00)	° - L	-	-	-	785	791	791	791
	A - E	767	773	779	785	791	798	798
AVX (01-02-03-04)	° - L	-	-	-	786	792	792	792
	A - E	768	774	780	786	792	799	799
AVX (P1-P2-P3-P4)	° - L	-	-	-	787	793	793	793
	A - E	769	775	781	787	793	800	800

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.

Configuration fields:



Code:

NRL

Size:

2000, 2250, 2500, 2808, 3008, 3310, 3600

Expansion valve:

- ° - Standard thermostatic expansion valve for water temperature down to +4 °C
- Y - Thermostatic expansion valve for low liquid temperature down to -6 °C
- X - Electronic thermostatic valve, max. temp. of water produced: +4°C (for lower temperatures please contact us)

Model:

- ° - Cooling only
- C - Condensing unit

Heat recovery

- ° - Without heat recovery
- D - With partial heat recovery (desuperheater)
- T - With total heat recovery (not available with buffer tank)

Version:

- ° - Compact
- L - Compact low noise
- A - High efficiency
- E - High efficiency low noise

Coil:

- ° - Aluminium
- R - Copper
- S - Tinned copper
- V - Coated aluminium

Fan:

- ° - Standard

M - High static pressure

J - Inverter

Power supply:

- ° - 400V 3~ 50Hz with circuit breakers

Integrated hydronic module:

- 00 - without pump or buffer tank
- 01 - single low head pump and buffer tank
- 02 - single and standby low head pump and buffer tank
- 03 - single high head pump and buffer tank
- 04 - single and standby high head pump and buffer tank
- 05 - single low head pump and buffer tank (with holes for immersion heaters)
- 06 - single and standby low head pump and buffer tank (with holes for immersion heaters)
- 07 - single high head pump and buffer tank (with holes for immersion heaters)
- 08 - single and standby high head pump and buffer tank (with holes for immersion heaters)
- 09 - double hydraulic circuit
- 10 - double hydraulic circuit (with holes for immersion heaters)
- P1 - single low head pump without buffer tank
- P2 - single and standby low head pump without buffer tank
- P3 - single high head pump without buffer tank
- P4 - single and standby high head pump without buffer tank

Attention:

– options D - T - C are not compatible with option Y

– the standard options are shown by the symbol °

Example of configuration code: NRL2000°°°°°°°°00

This is an NRL unit of size 2000, with standard thermostatic expansion valve, cooling only model, without heat recovery, compact version, with aluminium condenser coils, standard fans, and electrical panel for compressor motors 400V 3~ 50Hz, without pump or buffer tank.

Technical Data

Mod. NRL ¹⁾⁰¹	U.M.	Vers.	2000	2250	*2500	*2808	*3008	*3310	*3600
Cooling capacity	(kW)	°	-	-	-	671	741	820	894
		L	-	-	-	600	669	730	783
		A	538	589	*640	709	793	884	949
		E	497	545	594	656	731	815	869
Total power input	(kW)	°	-	-	-	287,49	325,10	353,45	378,72
		L	-	-	-	316,64	357,11	387,61	418,68
		A	187,78	201,12	215,35	251,88	286,45	299,79	324,09
		E	203,31	218,57	232,77	272,18	310,80	332,18	362,36
Water flow rate	(l/h)	°	-	-	-	116100	129000	141728	154456
		L	-	-	-	103716	115584	126076	135192
		A	93052	101824	110768	122636	137084	152736	163916
		E	85828	94256	102684	113348	126248	140696	149984
Pressure drops	(kPa)	°	-	-	-	73	78	59	59
		L	-	-	-	59	64	48	46
		A	70,00	73,00	73,00	78,00	61,00	61,00	62,00
		E	61	63	63	67	52	54	54
ENERGY INDEX									
EER	(W/W)	°	-	-	-	2,34	2,29	2,32	2,36
		L	-	-	-	1,90	1,87	1,88	1,87
		A	2,87	2,98	2,97	2,82	2,77	2,95	2,93
		E	2,44	2,50	2,55	2,41	2,35	2,45	2,40
ESEER	(W/W)	°	-	-	-	3,61	3,53	3,62	3,68
		L	-	-	-	3,54	3,50	3,55	3,52
		A	3,99	4,25	4,14	3,93	3,89	3,93	3,89
		E	3,93	4,02	4,11	3,89	3,83	3,91	3,91
POWER SUPPLY									
Power supply	(A)	(All)	400V-3-50Hz with thermomagnetic switches						
Total input 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	-	-	-	556	616	686	782
		A - E	434	484	534	568	628	698	795
Starting current (LRA)	(A)	° - L	-	-	-	890	950	1020	1050
		A - E	643	752	802	902	962	1032	1063
Compressor type			-	-	-	Scroll			
Compressor / circuit	(n.)	° - L	-	-	-	8 / 4	8 / 4	10 / 4	12/4
		A - E	8/4	8/4	8/4	8 / 4	8 / 4	10 / 4	12/4
FAN TYPE									
Air flow	(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
Fan quantity	(m³/h)	°	-	-	-	8	8	12	12
		L	-	-	-	8	8	12	12
		A	8	10	12	12	12	16	16
		E	8	10	12	12	12	16	16
Evaporator		All	Plates						
Hydraulic connection		All	Victaulic						
Hydraulic connection dimension	(Ø)	°-L	-	-	-	4"	4"	4"	4"
		A-E	4"	3"/4"	4"	4"	4"	4"	4"
HYDRONIC KIT									
Useful head low pump cooling mode	(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 head high pump cooling mode	(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
Buffer tank capacity	n°/l	All	2x700	2x700	2x700	2x700	2x700	2x700	2x700
SOUND DATA									
Sound power	dB(A)	°	-	-	-	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
Sound pressure	dB(A)	°	-	-	-	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

DATA DECLARED IN ACCORDANCE WITH UNI EN 14511: 2011

* EUROVENT Not certified model

Performance values refer to the following conditions:

- Cooling;
- leaving water temperature 7 °C;
- external air temperature 35 °C;
- Δt = 5 °C.

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)

Technical Data

Mod. NRL	U.M.	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 - 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
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 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
Sound pressure	(dBA)	°	-	-	-	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:
- leaving water temperature 7 °C;
- external air temperature 35 °C;
- $\Delta t = 5$ °C.

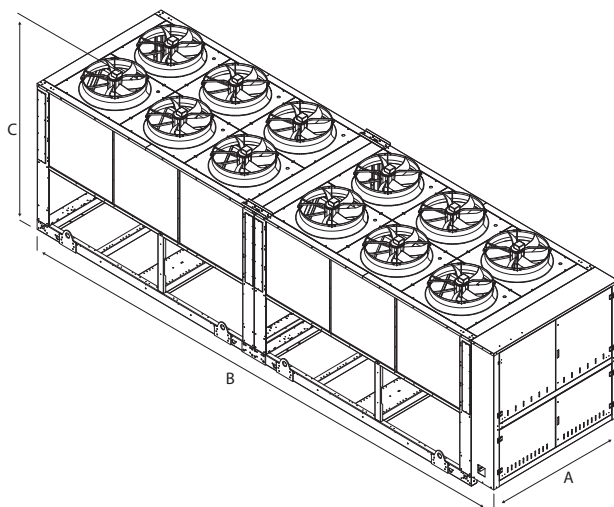
SOUND POWER

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)

Dimensions (mm)



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