

R410A



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



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

- **2 COOLING CIRCUITS**
- **CIRCULATION PUMP**
- **CIRCULATION PUMP AND STORAGE TANK**

Characteristics

- Available in 9 different sizes
- Refrigerant R410A.
- 2 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
- Extended operating limits with heat pump functioning:
 - Max. processed water temperature 55° C
 - Max. external air temperature 30° C (42° C with speed regulator accessory for the DCPX fans)
- Cooling mode up to 46° C
- Versions available:

- H°** Heat pump, compact version
- HL** Heat pump, compact version, silenced version
- HA** Heat pump, high efficiency version.
- HE** High-efficiency heat pump, silenced version

- Enlarged fans
- Versions with pumping assembly and tank complete with water filter, flow switch, expansion tank, a charging unit and antifreeze electric heater
- Microprocessor control system
 - 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).
- Evaporation control for the heat pump summer operation (with DCPX accessory)
- Intelligent defrosting with the decrease of the pressure
- Rotation of compressors and pumps according to operating hours
- Safety capacity control
- High and low pressure transducer (standard on all 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.
- **VT:** anti-vibration support, set of four vibrationdamping components to fit under the sheet metal base of the unit.
- **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:** Current soft starter device (about 30% reduction for single-circuit-units, 26% for two-circuit-units, 22% for three-circuit-units). Only available for 400V-3-phase power supply. It must be factory set

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:** Capacitor device . Connected in parallel to the motor winding. It allows to maintain a constant COS ϕ at 0.95 and also allows an input current reduction (about 10%). It must be factory set when the unit is manufactured.
- **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:** 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.

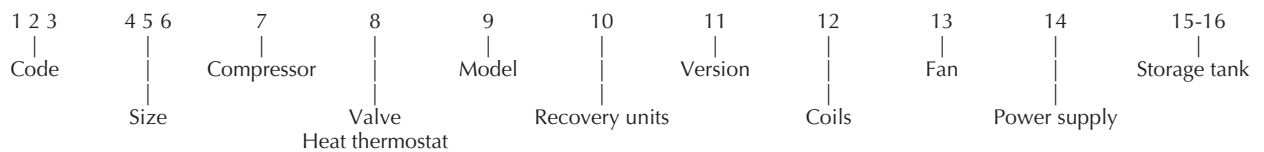
Mod. NRL	Vers.	Compatibility of accessories								
		280	300	330	350	500	550	600	650	700
AER485	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
DUALCHILLER	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
MULTICHILLER	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
PGS	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
AERWEB30	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
TRX1	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
VT (00-P1-P2-P3-P4)	H	-	-	-	-	13	13	13	13	13
	HL	17	17	17	17	13	13	13	13	13
	HA	-	-	-	-	13	13	13	13	22
	HE	17	17	17	17	13	13	13	13	22
VT (01-02-03-04-05-06-07-08-09-10)	H	-	-	-	-	10	10	10	10	10
	HL	13	13	13	13	10	10	10	10	10
	HA	-	-	-	-	10	10	10	10	22
	HE	13	13	13	13	10	10	10	10	22
DCPX	H	-	-	-	-	64	64	64	64	64
	HL	58	58	58	58	standard	standard	standard	standard	standard
	HA	-	-	-	-	64	64	64	64	65
	HE	58	58	59	59	standard	standard	standard	standard	standard
DCPX vers. with enlarged fans (*)	H	-	-	-	-	-	-	-	-	-
	HL	63	63	63	63	-	-	-	-	-
	HA	-	-	-	-	-	-	-	-	-
DRE	H	281	301	331	351	501	551	601	651	701
	HL	-	-	-	-	2 (x2)	2 (x2)	2 (x2)	2 (x2)	2 (x2)
	HA	-	-	-	-	2 (x2)	2 (x2)	2 (x2)	2 (x2)	2 (x3)
GP	H	3	3	3	3	2 (x2)	2 (x2)	2 (x2)	2 (x2)	2 (x2)
	HL	3	3	3	3	2 (x2)	2 (x2)	2 (x2)	2 (x2)	2 (x2)
	HA	-	-	-	-	2 (x2)	2 (x2)	2 (x2)	2 (x2)	2 (x3)
RIF	All	50	50	50	51	52	53	53	53	
PRM1	All	✓	✓	✓	✓	✓	✓	✓	✓	✓

(*) DCPX for versions with enlarged fans not necessary (sizes from 500 up to 700). The fans are already equipped with rpm regulator.

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:

028, 030, 033, 035, 050, 055, 060, 065, 070

Compressors:

0 - R410A standard compressors

Thermostatic valve:

- ° - Standard mechanical thermostatic valve up to +4°C
- X - Electronic thermostat valve for processed water down to -6°C

Model:

H - Heat pump

Heat recovery units

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

Version:

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

Batteries:

- ° - Aluminium
- R - Copper
- S - Tinned copper
- V - In painted copper and aluminium (epoxy paint)

Fans:

- ° - Standard
- M - Enlarged (280-350)
- J - Inverter (500-700)

Power supply:

- ° - 400V 3N~ 50Hz with thermomagnetic switches
- 1 - 230V 3~ 50Hz with thermomagnetic switches
- 2 - 500V 3~ 50Hz with thermomagnetic switches (contact the company head office for versions with DCPX).

Storage tank:

- 00 - without storage tank
- 01 - low-head storage tank and single pump
- 02 - low-head storage tank and reserve pump
- 03 - high-head storage tank and single pump
- 04 - high-head storage tank and reserve pump
- 05 - storage tank (with holes for supplementary electric heaters) low-head and single pump
- 06 - storage tank (with holes for supplementary electric heaters) low-head and reserve pump
- 07 - storage tank (with holes for supplementary electric heaters) high-head and single pump
- 08 - storage tank (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 storage tank, with low-head pump
- P2 - without storage tank, with low-head pump and reserve pump
- P3 - without storage tank, with high-head pump
- P4 - without storage tank, with high-head pump and reserve pump

Warning:

- the XD and XT configurations are not available (for temperatures below 4°C only);
- the 0350 size is not available with a 500V 3~ 50Hz power supply;
- the standard options are shown by the symbol °;

Example of the commercial code: **NRL0350°H°L°°°00**

This is a size 035 NRL unit with standard mechanical thermostatic valve, heat pump model, compact silenced version, with aluminium condensing coils, standard fans, electrical panel for compressors with 400V 3N~ 50Hz motors and without storage tank.

Mod. NRL	Vers.	280	300	330	350	500	550	600	650	700
Input power low-head pump (kW)	All	1.1	1.1	1.1	1.1	1.5	1.5	1.5	1.5	1.9
Input power high-head pump (kW)	All	1.5	1.5	1.5	1.5	1.9	1.9	3.0	3.0	3.0
Pump useful head low-head cooling mode (kPa)	H	-	-	-	-	136	127	113	89	115
	HL	108	110	100	95	148	136	123	109	125
	HA	-	-	-	-	141	133	124	95	113
	HE	135	126	128	120	147	140	135	114	125
Pump useful head high-head cooling mode (kPa)	H	-	-	-	-	174	165	206	184	160
	HL	147	148	139	135	185	174	216	204	171
	HA	-	-	-	-	181	173	211	181	177
	HE	175	165	166	159	186	180	223	200	192
Storage tank capacity (l)	All	300	300	300	300	500	500	500	500	500
Sound power db(A)	H	-	-	-	-	82	82	82	83	83
	HL	73	74	74	75	77	77	77	78	78
	HA	-	-	-	-	82	82	82	83	85
	HE	74	75	75	76	74	74	74	75	77
Sound pressure db(A)	H	-	-	-	-	50	50	50	51	51
	HL	41	42	42	43	45	45	45	46	46
	HA	-	-	-	-	50	50	50	51	53
	HE	42	43	43	44	42	42	42	43	45

Performance values refer to the following conditions:

Cooling:

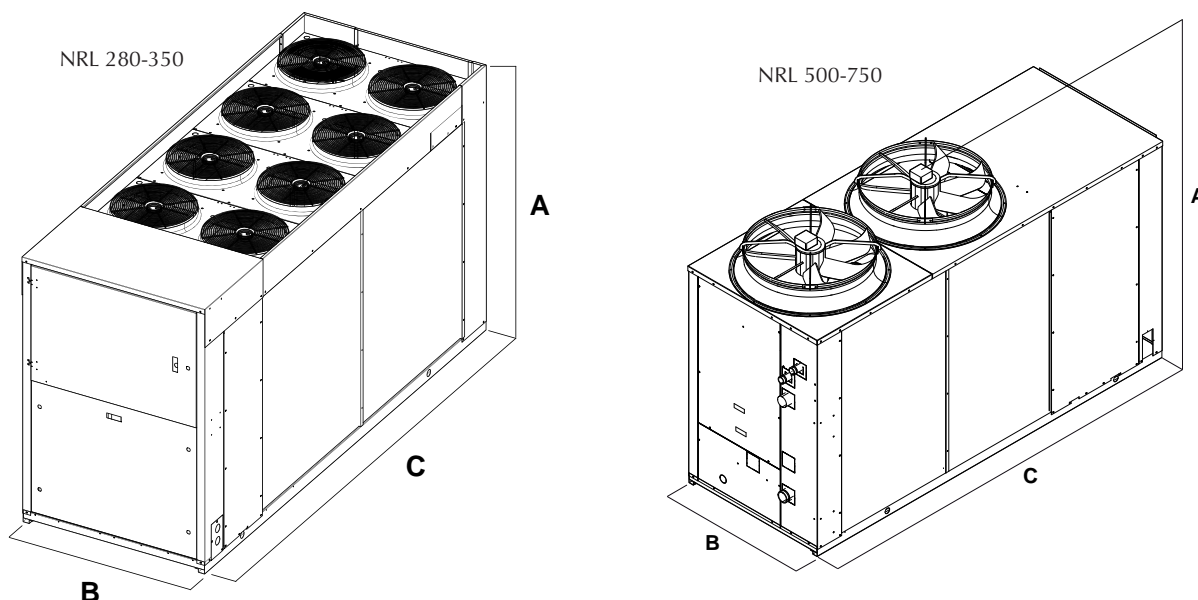
- water outlet temperature 7 °C
- outside air temp. 35 °C
- Δt = 5 °C.

Heating:

- water outlet temperature 45 °C
- outside air temp 7 °C D.B. 6 °C W.B.;
- Δt = 5 °C.

- ♪ 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.	280	300	330	350	500	550	600	650	700
Height (mm)	A	All	1606	1606	1606	1606	1875	1875	1875	1875
Width (mm)	B	All	1100	1100	1100	1100	1100	1100	1100	1100
Depth (mm)	C	H - HL	2450	2450	2450	2450	2950	2950	2950	2950
	HA - HE	2450	2950	2950	2950	2950	2950	2950	2950	3950
Weight when empty (kg)	H - HL		713	724	731	740	913	917	1016	1130
	HA - HE		730	795	805	811	1099	1103	1204	1390

NB>

The versions available for sizes 280,300,330,350 are only (HL - HE).

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.

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