

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
- Cooling mode up to 46° C
- Versions available:
 - Cooling only compact version (500-700)
 - L** Cooling only compact silenced version (280-700)
 - A** Cooling only, high efficiency (500-700)
 - E** Cooling only, high efficiency, silenced version (280-700)

- C** Condensing unit
 - (◊) standard mechanical thermostatic valve up to +4°C.
 - (Y) Mechanical thermostatic valve (low water temperature - down to -6°C).
 - (X) Electronic thermostatic valve also for low water temperature (down to -6°C)
 - Standard and 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 temperatu-

- re (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 (**for size from 280 to 350 cooling only, TP3 is provided as an accessory**)
- Automatic reset of alarms before total block
- Messages in 4 languages.
- Historic alarm

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**
- **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.
- **TP 3:** High pressure transducer, allows to view

the value of the related working pressure (one per circuit), **for size from 280 up to 350 cooling only.**

- **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)	° - L	17	17	17	17	13	13	13	13	13	
	A - E	17	17	17	17	13	13	13	13	22	
VT (01-02-03-04-05-06-07-08-09-10)	° - L	13	13	13	13	10	10	10	10	10	
	A - E	13	13	13	13	10	10	10	10	22	
⁽¹⁾ DCPX	°	-	-	-	-	64	64	64	64	64	
	L	56	56	56	56	standard	standard	standard	standard	standard	
	A	-	-	-	-	64	64	64	64	64	
	E	56	56	57	57	standard	standard	standard	standard	standard	
DCPX vers. with enlarged fans	°	-	-	-	-	64	64	64	64	64	
	L	60	60	60	61	standard	standard	standard	standard	standard	
	A	-	-	-	-	64	64	64	64	65	
	E	61	61	61	61	standard	standard	standard	standard	standard	
DRE	All	281	301	331	351	501	551	601	651	701	
GP	° - L	3	3	3	3	2 (x2)	2 (x2)	2 (x2)	2 (x2)	2 (x2)	
	A - E	3	4	4	4	2 (x2)	2 (x2)	2 (x2)	2 (x2)	2 (x3)	
RIF	All	50	50	50	51	52	52	53	53	53	
PRM1	All	✓	✓	✓	✓	✓	✓	✓	✓	✓	
TP3	All	✓	✓	✓	✓	standard	standard	standard	standard	standard	

NB>

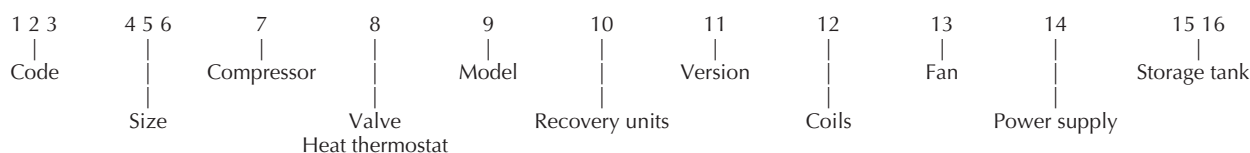
The versions available for sizes 280,300,330,350 are only (L - E).

⁽¹⁾ Accessories DCPX includes: DCPX + TP3

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
- Y - Mechanical thermostatic valve also with processed water down to -6°C
- X - Electronic thermostatic valve also with processed water down to -6°C

Model:

- ° - Cooling only
- C - Condensing unit

Heat recovery units

- ° - Without recovery units
- D - With desuperheaters
- T - With total heat recovery units

Version:

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

Batteries:

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

Fans:

- ° - Standard

M - Enlarged (280-700)

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 c
- 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:

- options D - T - C are incompatible with option Y;
- the standard options are shown by the symbol °;
- the 0350 size is not available with a 500V 3~ 50Hz power supply;

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

This is a size 0350 NRL unit with standard mechanical thermostatic valve, cooling only model, compact silenced version, with aluminium condensing coils, standard fans, electrical panel for compressors with 400V 3~ 50Hz motors and without storage tank.

Technical data

Mod. NRL	Vers.	280	300	330	350	500	550	600	650	700	
Cooling capacity	(kW)	°	-	-	-	-	97	103	126	137	156
		L	53	63	68	81	87	93	113	127	144
		A	-	-	-	-	98	104	129	143	163
		E	57	65	74	83	90	95	117	129	150
Total power input	(kW)	°	-	-	-	-	34.8	38.2	45.9	53.9	60.0
		L	20.3	22.6	26.1	28.4	38.5	42.5	50.9	57.6	64.8
		A	-	-	-	-	30.2	34.2	40.1	44.6	52.3
		E	16.8	19.4	21.8	25.1	33.1	36.7	44.3	51.6	56.6
Water flow rate	(l/h)	°	-	-	-	-	16680	17720	21670	23560	26830
		L	9120	10840	11700	13930	14960	16000	19440	21840	24770
		A	-	-	-	-	16860	17890	22190	24600	28040
		E	9800	11180	12730	14280	15480	16340	20120	22190	25800
Pressure drop	(kPa)	°	-	-	-	-	53	59	64	61	74
		L	51	46	54	55	43	48	51	52	63
		A	-	-	-	-	44	49	54	60	68
		E	43	39	35	42	37	41	44	49	58
EER	(W/W)	°	-	-	-	-	2.79	2.70	2.75	2.54	2.60
		L	2.61	2.79	2.61	2.85	2.26	2.19	2.22	2.20	2.22
		A	-	-	-	-	3.25	3.04	3.22	3.21	3.12
		E	3.39	3.35	3.39	3.31	2.72	2.59	2.64	2.50	2.65
ESEER	(W/W)	°	-	-	-	-	3.43	3.32	3.87	3.58	3.67
		L	3.16	3.37	3.15	3.45	3.40	3.30	3.83	3.56	3.65
		A	-	-	-	-	3.83	3.59	4.28	4.26	4.15
		E	3.94	3.89	3.94	3.84	3.78	3.55	4.15	4.13	4.02
Power supply		400V 3N~ 50Hz with thermomagnetic switches									
Total current input	(A)	°	-	-	-	-	63	67	81	88	100
		L	36	40	44	51	70	75	90	99	111
		A	-	-	-	-	55	60	71	77	90
		E	30	34	37	45	60	64	78	89	97
Maximum current (FLA)	(A)	All	46	53	58	63	76	81	100	112	122
Starting current (LRA)	(A)	All	155	184	190	200	214	220	232	243	261
Type of compressors	All	Scroll									
Compressors (no./circuit)	L	°	-	-	-	-	3/2	3/2	4/2	4/2	4/2
		L	2/2	2/2	2/2	2/2	3/2	3/2	4/2	4/2	4/2
		A	-	-	-	-	3/2	3/2	4/2	4/2	4/2
		E	2/2	2/2	2/2	2/2	3/2	3/2	4/2	4/2	4/2
Type of fans		Axial									
Fan air flow rate	(m ³ /h)	°	-	-	-	-	34600	34600	34600	34600	33600
		L	14200	14200	14200	20200	28400	28700	27700	29400	28600
		A	-	-	-	-	34100	34100	32600	32600	50000
		E	22000	22000	27000	27000	21100	22200	21800	22800	32500
Number of fans	(no.)	°	-	-	-	-	2	2	2	2	2
		L	4	4	4	6	2	2	2	2	2
		A	-	-	-	-	2	2	2	2	3
		E	6	6	8	8	2	2	2	2	3
Evaporator	All	Plates									
Plumbing connections	All	Victaulic									
Dimension of plumbing connections (Ø)	All	2"½	2"½	2"½	2"½	2"½	2"½	2"½	2"½	2"½	
Input power low-head pump	(kW)	All	1.1	1.1	1.1	1.1	1.5	1.5	1.5	1.5	1.8
Input power high-head pump	(kW)	All	1.5	1.5	1.5	1.5	1.8	1.8	3.0	3.0	3.0
Input current low-head pump	(A)	All	2.7	2.7	2.7	2.7	3.6	3.6	3.6	3.6	5.0
Input current high-head pump	(A)	All	3.6	3.6	3.6	3.6	5.0	5.0	5.7	5.7	5.7
Pump useful head low-head cooling mode	(kPa)	°	-	-	-	-	123	111	91	83	91
		L	104	106	96	89	141	130	117	103	117
		A	-	-	-	-	127	117	94	76	78
		E	113	114	114	104	140	132	117	104	106
Pump useful head high-head cooling mode	(kPa)	°	-	-	-	-	161	150	184	178	134
		L	143	144	135	129	179	168	210	198	162
		A	-	-	-	-	166	156	188	172	140
		E	152	153	153	140	179	171	215	201	170
Storage tank capacity	All	300	300	300	300	500	500	500	500	500	
Sound power	db(A)	°	-	-	-	-	82	82	82	83	83
		L	73	73	74	75	77	77	77	78	78
		A	-	-	-	-	82	82	82	83	85
		E	74	74	75	76	74	74	74	75	77
Sound pressure	db(A)	°	-	-	-	-	50	50	50	51	51
		L	41	41	42	43	45	45	45	46	46
		A	-	-	-	-	50	50	50	51	53
		E	42	42	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.

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

Technical data version "C"

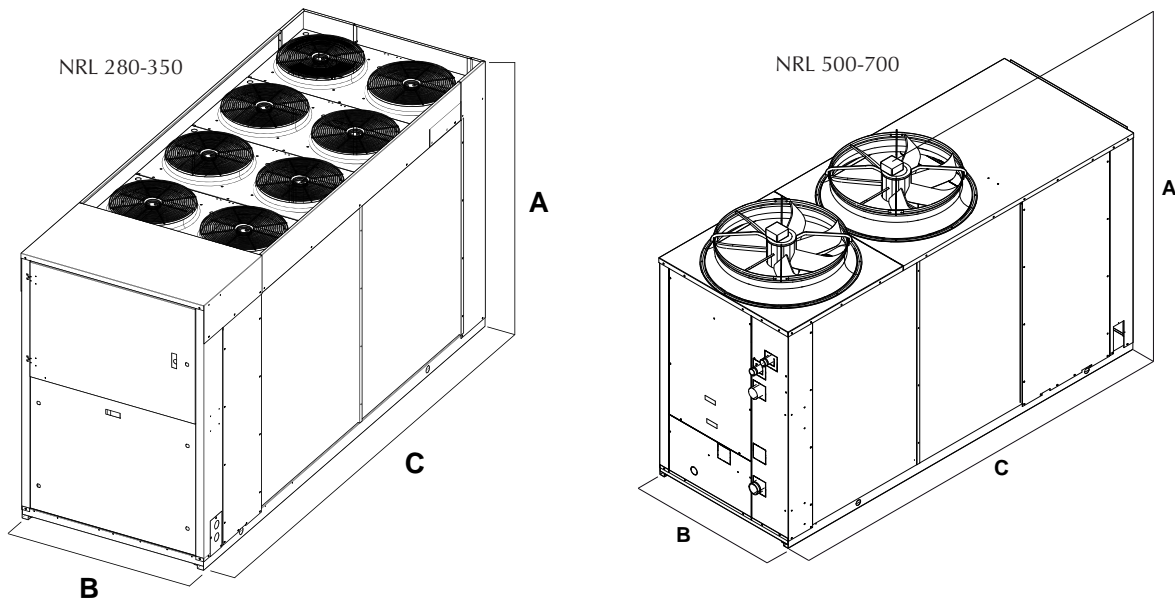
Mod. NRL C	Vers.	280	300	330	350	500	550	600	650	700	
Cooling capacity	(kW)	°	-	-	-	-	100	106	130	141	161
		L	55	65	70	83	90	96	116	131	148
		A	-	-	-	-	101	107	133	147	168
		E	59	67	76	85	93	98	121	133	155
Total power input	(kW)	°	-	-	-	-	35.1	38.5	46.3	54.4	60.5
		L	20.5	22.8	26.3	28.7	38.8	42.9	51.4	58.1	65.4
		A	-	-	-	-	30.5	34.5	40.5	45.0	52.8
		E	17.0	19.6	22.0	25.3	33.4	37.0	44.7	52.1	57.1
EER	(W/W)	°	-	-	-	-	2.85	2.75	2.80	2.59	2.65
		L	2.67	2.85	2.66	2.91	2.31	2.23	2.27	2.25	2.27
		A	-	-	-	-	3.31	3.10	3.28	3.27	3.18
		E	3.46	3.42	3.47	3.38	2.78	2.64	2.70	2.55	2.71
Maximum current (FLA)	(A)	All	46	53	58	63	76	81	100	112	122
Starting current (LRA)	(A)	All	155	184	190	200	214	220	232	243	261
Input current	(A)	°	-	-	-	-	63.6	67.6	81.7	88.8	100.9
		L	36.3	40.4	44.4	51.5	60.8	75.2	90.7	99.9	112.0
		A	-	-	-	-	59.5	62.6	75.7	82.7	95.9
		E	35.3	39.4	43.4	49.4	70.5	64.9	78.9	89.9	97.9
Sound pressure	db(A)	°	-	-	-	-	50	50	50	51	51
		L	41	41	42	43	45	45	45	46	46
		A	-	-	-	-	50	50	50	51	53
		E	42	42	43	44	42	42	42	43	45

Performance values refer to the following conditions:

- Cooling:
 - evaporation temperature 5°C
 - outside air temp. 35 °C
 - 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	° - L	2450	2450	2450	2450	2950	2950	2950	2950	
			A - E	2450	2950	2950	2950	2950	2950	2950	3950	
Weight when empty (kg)			° - L	675	684	688	704	868	872	968	983	1091
			A - E	686	751	761	767	955	959	1142	1155	1323

NB>

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

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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R410A



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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
- Operating limits with cooling mode up to 46°C
 - Max. processed water temperature 18° C
- Versions available
 - Cooling only compact version
 - L Cooling only compact silenced version

- A Cooling only, high efficiency
- E Cooling only, high efficiency, silenced version
- C - Condenser unit
 - Electronic thermostatic valve also for low water temperature (down to -6°C)
 - (°) standard mechanical thermostatic valve
 - (Y) Mechanical thermostatic valve (low water temperature - down to -6°C).
 - 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).
- Rotation of compressors and pumps according to operating hours (manual rotation from 1400 to 1800)
- Safety capacity control
- Low pressure transducers and high pressure trasducer (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:** 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.**
- **GP:** Protection grille, protects the external

- coil from accidental knocks.
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- or AER485P2 accessory.
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- **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.
- **VT:** Anti-vibration support, to be fitted below the unit base.
- **PRM1 e 2:** 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.

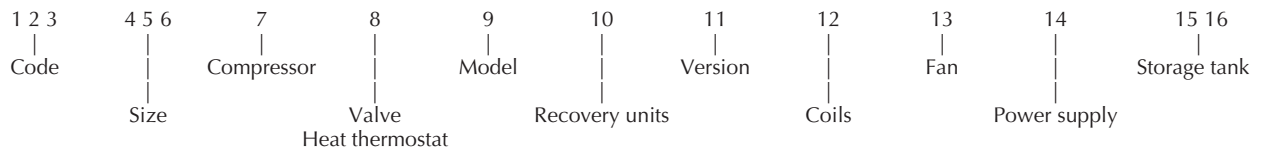
Compatibility of accessories

Mod. NRL	Vers.	750	800	900	1000	1250	1400	1500	1650	1800
AER485	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
DUALCHILLER	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
MULTICHILLER	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
PGS	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
AERWEB30	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
TRX1	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
AVX	All	-	✓	✓	✓	✓	✓	✓	✓	✓
VT	All	23	-	-	-	-	-	-	-	-
	°	64	64	64	65	65	66	66	67	67
DCPX	L	standard	standard	standard	standard	standard	standard	standard	standard	standard
	A	64	66	66	66	67	67	67	68	68
	E	standard	standard	standard	standard	standard	standard	standard	standard	standard
	°	65	65	65	65	65	66	66	68	68
DCPX "M" vers. with enlarged fans	L	standard	standard	standard	standard	standard	standard	standard	standard	standard
	A	65	66	66	66	68	68	68	68	68
	E	standard	standard	standard	standard	standard	standard	standard	standard	standard
DRE	All	751	801	901	1001	1251	1401	1501	1651	1801
GP	° - L	10 (x3)	10 (x3)	10 (x3)	10 (x4)	10 (x4)	350	350	350	350
	A - E	10 (x3)	260	260	260	350	350	350	500	500
TP2	All	(x2)	(x 2)	(x 2)	(x 2)	(x 2)	(x 2)	(x 2)	(x 2)	(x 2)
RIF	° - L	53	87	89	91	91	93	94	94	94
	A - E	53	88	90	92	92	93	94	94	94
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:

075, 080, 090, 100, 125, 140, 150, 165, 180

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 (not available in versions with storage tank)

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).

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:

- options D - T - C are not compatible with option Y
- the standard options are shown by the symbol °;
- the 750 size not available for 500V 3~ 50Hz alimentation.

Example of the commercial code: **NRL0900°°°°°°°°00**

This is a size 090 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 storage tank.

Technical data

Mod. NRL		Vers.	750	800	900	1000	1250	1400	1500	1650	1800	
Cooling capacity	(kW)	°	190	211	231	257	303	338	375	412	449	
		L	174	190	210	235	271	302	336	366	393	
		A	195	218	242	271	322	357	399	437	469	
		E	180	203	224	250	298	329	367	409	436	
Total power input	(kW)	°	69	78	92	104	121	142	161	175	187	
		L	75	88	101	113	134	157	177	192	208	
		A	62	69	81	93	106	124	142	154	167	
		E	68	76	88	101	115	134	154	165	179	
Water flow rate	(l/h)	°	32680	36290	39730	44200	52120	58140	64500	70860	77230	
		L	29930	32680	36120	40420	46610	51940	57790	62950	67600	
		A	33540	37500	41620	46610	55380	61400	68630	75160	80670	
		E	30960	34920	38530	43000	51260	56590	63120	70350	74990	
Pressure drop	(kPa)	°	86	66	68	73	80	73	79	59	59	
		L	72	55	57	61	65	59	64	48	46	
		A	88	66	70	70	73	78	61	61	62	
		E	75	58	61	61	63	67	52	54	54	
EER	(W/W)	°	2.75	2.71	2.51	2.47	2.50	2.38	2.33	2.35	2.40	
		L	2.32	2.16	2.08	2.08	2.02	1.92	1.90	1.91	1.89	
		A	3.15	3.16	2.99	2.91	3.04	2.88	2.81	2.84	2.81	
		E	2.65	2.67	2.55	2.48	2.59	2.46	2.38	2.48	2.44	
ESEER	(W/W)	°	3.87	4.19	3.97	3.98	3.96	3.76	3.68	3.72	3.79	
		L	3.85	4.10	3.95	3.95	3.84	3.65	3.61	3.62	3.59	
		A	4.19	4.39	4.27	4.17	4.34	4.12	4.02	4.06	4.02	
		E	4.05	4.27	4.20	4.08	4.28	4.05	3.93	4.02	4.02	
Power supply		400V-3-50Hz (*)										
Total input current	(A)	°	122	142	166	189	208	249	286	305	319	
		L	113	153	177	200	226	269	308	328	348	
		A	113	136	158	180	196	235	273	289	304	
		E	109	145	169	192	211	251	292	306	324	
Maximum current (FLA)	(A)	°-L	144	170	192	217	261	290	319	358	391	
		A-E	144	173	195	217	267	296	325	365	398	
Starting current (LRA)	(A)	°-L	320	345	401	426	529	499	528	626	659	
		A-E	320	348	404	426	535	505	534	633	666	
Type of compressors		All Scroll										
Compressors (no./circuit)		°-L	4/2	4/2	4/2	4/2	4/2	5/2	5/2	6/2	6/2	6/2
		A-E	4/2	4/2	4/2	4/2	4/2	5/2	6/2	6/2	6/2	6/2
Type of fans		All Axial										
Fan air flow rate	(m³/h)	°	51400	54900	54150	75800	73200	77000	76000	108300	106200	
		L	42700	38430	40575	53060	51240	57700	60800	75810	74340	
		A	49000	72800	71500	70200	106200	104100	102000	125800	122000	
		E	35300	50960	51805	52650	74340	75420	76500	91110	91500	
Number of fans	(no.)	°-L	3	3	3	4	4	4	4	6	6	
		A-E	3	4	4	4	6	6	6	8	8	
Evaporator		All Plates										
Plumbing connections		All Victaulic										
Dimension of plumbing connections (Ø)	All	2"1/2	4"	4"	4"	4"	4"	4"	4"	4"	4"	
Input power low-head pump	(kW)	All	3.0	3.4	3.4	3.4	4.6	4.6	5.9	5.9	5.9	
Input power high-head pump	(kW)	All	5.5	5.7	5.7	5.7	8.3	8.3	8.3	10.5	10.5	
Input current low-head pump	(A)	All	6.2	5.8	5.8	5.8	7.8	7.8	10.0	10.0	10.0	
Input current high-head pump	(A)	All	11.0	9.7	9.7	9.7	14.1	14.1	14.1	17.8	17.8	
Pump useful head low-head	(kPa)	°	81	100	92	91	111	102	88	109	99	
		L	92	120	112	111	139	133	116	134	130	
		A	71	109	95	85	103	82	106	94	82	
		E	82	122	111	104	125	108	125	111	102	
Pump useful head high-head	(kPa)	°	201	219	211	208	256	246	220	246	237	
		L	212	241	232	229	286	279	258	271	267	
		A	191	227	213	200	247	222	226	233	221	
		E	202	237	226	216	264	246	250	245	236	
Storage tank capacity	(l)	All	700	700	700	700	700	700	700	700	700	

(*) The power supply for the 075 size is: 400V-3N-50Hz.

Performance values refer to the following conditions:

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

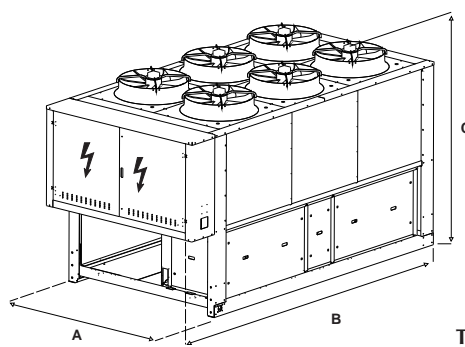
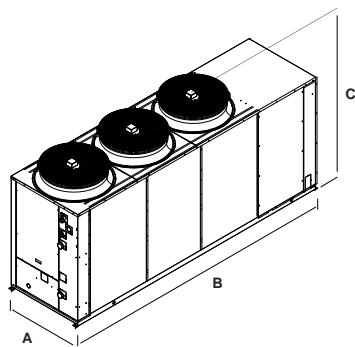
- ♪ Sound pressure measured in free field conditions, in cooling mode at distance of 10m and direction factor = 2. In accordance with the ISO 3744 standard
 - Power supply voltage: 400 V

Mod. NRL		Vers.	750	800	900	1000	1250	1400	1500	1650	1800
♪ Sound power	dB(A)	°	85.0	86.0	86.0	90.0	91.0	90.5	90.5	92.0	92.0
		L	80.0	83.0	83.0	87.0	88.0	87.5	87.5	89.0	89.0
		A	85.0	88.0	88.0	88.0	91.0	90.5	90.5	91.5	93.5
		E	77.0	83.0	83.0	83.0	86.0	85.5	85.0	86.5	88.5
♪ Sound pressure	dB(A)	°	53.0	54.0	54.0	58.0	59.0	58.5	58.5	60.0	60.0
		L	48.0	51.0	51.0	55.0	56.0	55.5	55.5	57.0	57.0
		A	53.0	56.0	56.0	56.0	59.0	58.5	58.5	59.5	61.5
		E	45.0	51.0	51.0	51.0	54.0	53.5	53.0	54.5	56.5

Technical data version "C"

Mod. NRL C		Vers.	750	800	900	1000	1250	1400	1500	1650	1800
Cooling capacity	(kW)	°	196	220	241	269	316	352	391	430	469
		L	179	198	219	245	283	315	351	383	410
		A	201	227	252	282	335	372	415	463	497
		E	185	211	233	260	311	343	382	426	454
Total power input	(kW)	°	70	81	95	108	125	147	166	182	194
		L	76	91	105	117	139	163	183	199	216
		A	62	71	83	95	109	127	145	152	165
		E	69	78	91	103	118	138	158	169	184
EER	(W/W)	°	2.80	2.71	2.53	2.48	2.52	2.39	2.35	2.37	2.42
		L	2.37	2.19	2.09	2.09	2.03	1.94	1.91	1.92	1.90
		A	3.22	3.19	3.03	2.97	3.08	2.92	2.86	3.05	3.02
		E	2.70	2.71	2.57	2.52	2.64	2.48	2.42	2.52	2.47
Maximum current (FLA)	(A)	°-L	144	170	192	217	261	290	319	358	391
		A-E	144	173	195	217	267	296	325	365	398
Starting current (LRA)	(A)	°-L	320	345	401	426	529	499	528	626	659
		A-E	320	348	404	426	535	505	534	633	666
Input current	(A)	°	123	147	172	196	215	258	297	316	331
		L	134	158	183	207	234	279	319	340	361
		A	110	140	163	185	202	241	281	289	302
		E	121	149	173	197	216	258	299	315	333
♪ Sound power	dB(A)	°	85.0	86.0	86.0	90.0	91.0	90.5	90.5	92.0	92.0
		L	80.0	83.0	83.0	87.0	88.0	87.5	87.5	89.0	89.0
		A	85.0	88.0	88.0	88.0	91.0	90.5	90.5	91.5	93.5
		E	77.0	83.0	83.0	83.0	86.0	85.5	85.0	86.5	88.5
♪ Sound pressure	dB(A)	°	53.0	54.0	54.0	58.0	59.0	58.5	58.5	60.0	60.0
		L	48.0	51.0	51.0	55.0	56.0	55.5	55.5	57.0	57.0
		A	53.0	56.0	56.0	56.0	59.0	58.5	58.5	59.5	61.5
		E	45.0	51.0	51.0	51.0	54.0	53.5	53.0	54.5	56.5

Dimensions (mm)



The drawings are only examples!

Mod. NRL		Vers.	750	800	900	1000	1250	1400	1500	1650	1800	
Height	(mm)	C	° - L	1975	1975	1975	1975	2450	2450	2450	2450	
			A - E	1975	2450	2450	2450	2450	2450	2450	2450	
Width	(mm)	A	° - L	1500	1500	1500	1500	2200	2200	2200	2200	
			A - E	1500	2200	2200	2200	2200	2200	2200	2200	
Depth	(mm)	B	° - L	4350	4355	4355	5355	5355	4250	4250	4250	
			A - E	4350	3400	3400	3400	4250	4250	4250	5750	5750
Weight when empty (kg)			°	1382	1730	1860	2015	2135	2765	2960	3055	3160
			L	1382	1740	1870	2025	2145	2775	2970	3065	3170
			A	1663	2120	2265	2410	2710	2910	3125	3620	3735
			E	1663	2135	2280	2425	2725	2925	3140	3635	3750

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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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 STORAGE TANK**

Characteristics

- 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
 - Max. processed water temperature 18° C
- Versions available
 - Cooling only compact version
 - L** Cooling only compact silenced version
 - A** Cooling only, high efficiency
- E** Cooling only, high efficiency, silenced version
- C** Condenser unit
- Thermostatic valve (selectable with configurator):
 - (°) 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):
 - "°" Standard.
 - "M" Enlarged
 - "J" Inverter.
- Versions with pumping assembly and tanks 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).
 - 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

- **AER485P1**: 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.
- **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 costant COSφ at 0.95 and also allows an input current reduction (about 10%)
- It must be factory set when the unit is manu-**
- factured**
- **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.

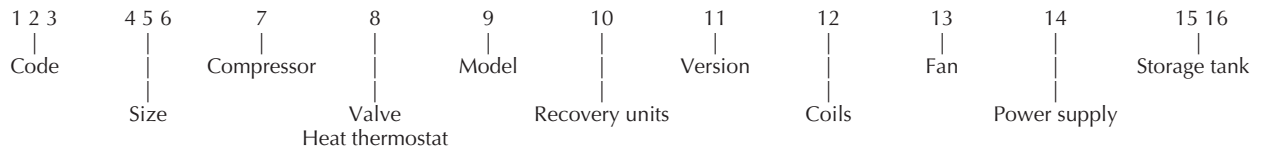
Compatibility of accessories

Mod. NRL	Vers.	2000	2250	2500	2800	3000	3300	3600
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" vers. con ventilatori maggiorati	°	-	-	-	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	-	-	-	RIFNRL2800	RIFNRL3000	RIFNRL3300	RIFNRL3600
	A - E	RIFNRL2000	RIFNRL2250	RIFNRL2500	RIFNRL2800	RIFNRL3000	RIFNRL3300	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

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 (not available with storage tank)

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).

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:

- 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 storage tank.

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"
Storage 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

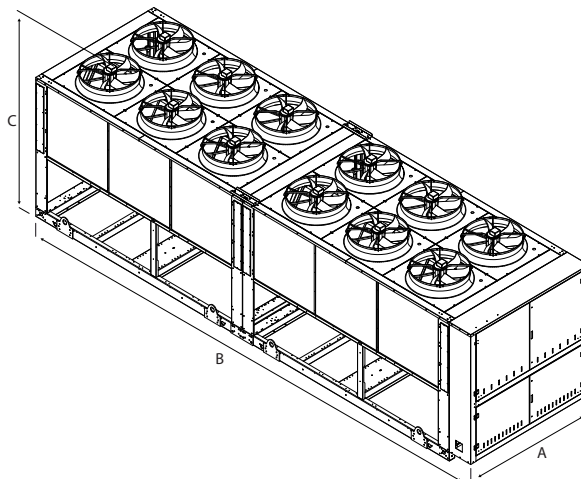
Mod. NRL C	Vers.	2000	2250	2500	2800	3000	3300	3600
Cooling capacity	(kW)							
	°				704	782	860	938
	L				630	702	766	820
	A	564	617	670	744	830	926	994
	E	520	571	622	686	764	852	908
Total power input	(kW)							
	°				284	322	350	374
	L				314	354	384	416
	A	190	204	218	254	290	304	330
	E	206	221	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	2450
Width (mm)	A							
	° - L				2200	2200	2200	2200
	A - E	2200	2200	2200	2200	2200	2200	2200
Depth (mm)	B							
	° - L	-	-	-	8100	8100	8100	8100
	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

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R410A



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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.

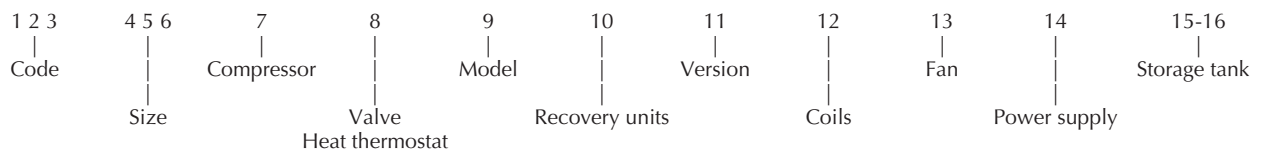
Mod. NRL	Vers.	Compatibility of accessories								
		280	300	330	350	500	550	600	650	700
AER485	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
DUALCHILLER	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
MULTICHILLER	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
PGS	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
AERWEB30	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
TRX1	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
VT (00-P1-P2-P3-P4)	H	-	-	-	-	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:

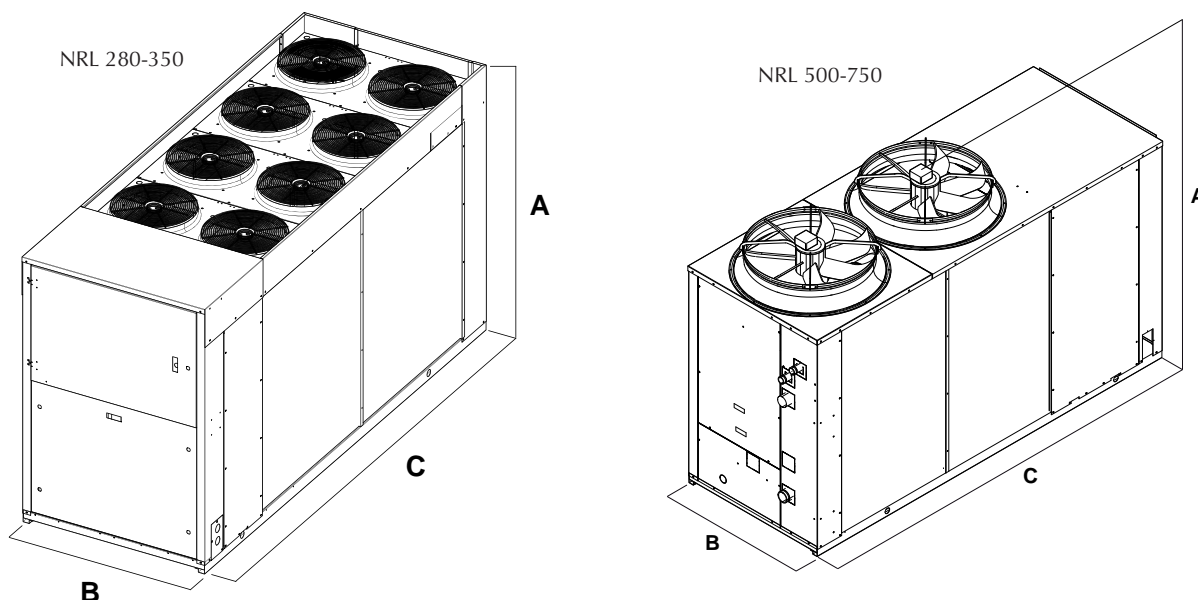
- water outlet temperature 7 °C
- outside air temp. 35 °C
- Δt = 5 °C.

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	1212

NB>

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

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Characteristics

- Available in 9 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 anti-corrosion 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 DCPX fans).
- Versions available:
 - **"H"** Standard compact heat pump.
 - **"HL"** Silenced compact heat pump.
 - **"HA"** High efficiency heat pump.
 - **"HE"** High-efficiency silenced heat pump.
- Thermostatic valve:
 - **"O"** standard mechanical thermostatic valve.
 - **"X"** electronic thermostatic valve, also for low water temperature (down to -6°C).
- Fan unit:
 - **"O"** Standard.
 - **"J"** Inverter.
- 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).
- Rotation of compressors and pumps according to operating hours (manual rotation from 1400 to 1800).
- Safety capacity control.
- Low pressure transducers and high pressure transducer (standard for 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.
- **AVX:** Sprung anti-vibration supports. Select the AVX model from the compatibility table.
- **DCPX:** With this accessory correct operation is possible 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, read by the high pressure transducer in order to keep 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.
- **GP:** Protection grille, protects external coils 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 COSφ 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 accumulators with holes for supplementary electric heaters.
- **VT:** anti-vibration support, to be fitted below the unit base.
- **PRM1-PRM2:** FACTORY FITTED ACCESSORY. It is a manual pressure switch electrically wired in series with the existing automatic highpressure switch on the compressor discharge pipe.

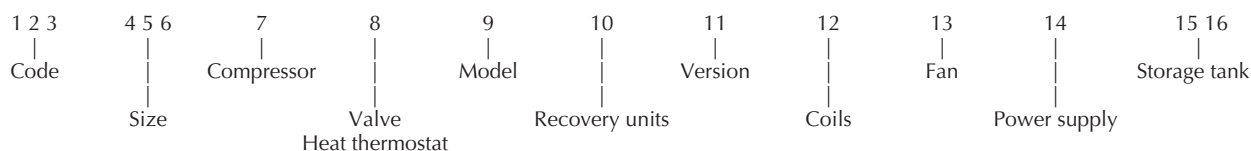
Compatibility of accessories

Mod. NRL	Vers.	750	800	900	1000	1250	1400	1500	1650	1800
AER485	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
DUALCHILLER	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
MULTICHILLER	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
PGS	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
AERWEB30	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
TRX1	All	✓	✓	✓	✓	✓	✓	✓	✓	✓
AVX	All	-	✓	✓	✓	✓	✓	✓	✓	✓
VT	All	23	-	-	-	-	-	-	-	-
DCPX	H	64	65	65	65	65	66	66	68	68
	HL	standard	standard	standard	standard	standard	standard	standard	standard	standard
	HA	65	66	66	66	68	68	68	68	68
	HE	standard	standard	standard	standard	standard	standard	standard	standard	standard
DCPX vers. with enlarged fans	All	NOTE: DCPX not necessary. The fans are already equipped with rpm regulator.								
DRE	All	751	801	901	1001	1251	1401	1501	1651	1801
GP	H - HL	10 (x3)	10 (x3)	10 (x3)	10 (x4)	10 (x4)	350	350	350	350
	HA - HE	10 (x3)	260	260	260	350	350	350	500	500
RIF	H - HL	53	87	89	91	91	93	94	94	94
	HA - HE	53	88	90	92	92	93	94	94	94
PRM1/PRM2	Tutte	✓	✓	✓	✓	✓	✓	✓	✓	✓

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:

075, 080, 090, 100, 125, 140, 150, 165, 180

Compressors:

0 - R410A standard compressors

Thermostatic valve:

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

Model:

H - Heat pump

Heat recovery units

- ° - Without recovery units
- D - With partial recovery (desuperheater)
- T - With total heat recovery (not available in versions with storage tank)

Version:

- ° - Standard compact heat pump
- L - Compact heat pump, silenced version
- A - High efficiency heat pump
- E - High-efficiency heat pump, silenced version

Batteries:

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

Fans:

- ° - Standard
- J - Inverter

Warning:

- the standard options are shown by the symbol °;
- the XD and XT configurations are not available (for temperatures below 4°C only).
- the 750 size not available for 500V 3~ 50Hz alimantation.

Example of the commercial code: **NRL1000°H°E°°04**

This is a size 1000 NRL unit with aluminium condensing coils, PED standard evaporator, electrical panel for compressors with 400V 3~ 50Hz motors and with high-head storage tank and reserve pump.

As you may have noticed, each option is represented in a unique way from all the others, so it is not necessary to indicate (within the commercial code) the standard options (identified by °).

Power supply:

- ° - 400V 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

Technical data

Mod. NRL	Vers.	750	800	900	1000	1250	1400	1500	1650	1800	
Cooling capacity	(kW)	H	176	201	222	262	300	333	367	423	454
		HL	165	184	200	237	265	302	332	373	397
		HA	180	211	239	261	315	351	388	437	472
		HE	175	194	213	231	284	319	355	398	426
Total power input	(kW)	H	70	81	94	101	120	140	159	166	179
		HL	77	90	105	112	136	154	174	187	204
		HA	63	73	82	94	109	126	143	151	162
		HE	69	81	94	107	122	140	158	168	182
Water flow rate	(l/h)	H	30270	34570	38180	45060	51600	57280	63120	72760	78090
		HL	28380	31650	34400	40760	45580	51940	57100	64160	68280
		HA	30960	36290	41110	44890	54180	60370	66740	75160	81180
		HE	30100	33370	36640	39730	48850	54870	61060	68460	73270
Pressure drop	(kPa)	H	74	46	45	50	57	40	40	47	46
		HL	65	39	37	41	45	33	34	37	36
		HA	64	55	56	54	61	48	49	54	54
		HE	60	47	45	43	51	40	41	45	44
EER	(W/W)	H	2.51	2.48	2.36	2.59	2.50	2.38	2.31	2.55	2.54
		HL	2.13	2.04	1.90	2.12	1.95	1.96	1.91	1.99	1.95
		HA	2.85	2.89	2.91	2.78	2.89	2.79	2.71	2.89	2.91
		HE	2.54	2.40	2.27	2.16	2.33	2.28	2.25	2.37	2.34
ESEER	(W/W)	H	3.87	3.98	3.77	3.78	3.76	3.57	3.50	3.53	3.60
		HL	3.85	3.90	3.75	3.75	3.65	3.47	3.43	3.44	3.41
		HA	4.19	4.17	4.06	3.96	4.13	3.91	3.82	3.85	3.82
		HE	4.05	4.06	3.99	3.88	4.06	3.85	3.74	3.81	3.82
Heating capacity	(kW)	H - HL	201	227	256	293	340	384	427	468	503
		HA - HE	204	233	263	293	344	388	433	484	523
Total power input	(kW)	H - HL	65	75	85	96	111	126	141	155	166
		HA - HE	61	74	83	93	110	124	139	153	163
Water flow rate	(l/h)	H - HL	34570	39040	44030	50400	58480	66050	73440	80500	86520
		HA - HE	35090	40080	45240	50400	59170	66740	74480	83250	89960
Pressure drop	(kPa)	H - HL	96	61	62	65	78	54	55	59	58
		HA - HE	82	68	69	69	76	58	60	66	66
COP	(W/W)	H - HL	3.08	3.03	3.01	3.05	3.06	3.05	3.03	3.02	3.03
		HA - HE	3.33	3.15	3.17	3.15	3.13	3.13	3.12	3.16	3.21
Power supply	All	400V-3-50Hz (*)									
Total input current	(A)	H - HL	113	136	156	179	193	227	261	279	290
		HA - HE	109	138	157	177	197	231	265	282	293
Maximum current (FLA)	(A)	H - HL	144	173	195	221	265	294	323	365	398
		HA - HE	144	177	199	221	274	303	332	373	406
Starting current (LRA)	(A)	H - HL	320	348	404	430	533	503	532	633	666
		HA - HE	320	352	408	430	542	512	541	641	674
Type of compressors	All	Scroll									
Compressors / no. circuit (no.)	All	4/2	4/2	4/2	4/2	4/2	5/2	6/2	6/2	6/2	
Type of fans	All	Axial									
Fan air flow rate	(m3/h)	H	50200	64500	63750	85600	80800	87400	86800	124200	122400
		HL	41700	45200	44600	59900	56600	65500	69400	86900	85700
		HA	48000	85600	84600	83600	126000	124200	122400	168000	165600
		HE	34600	59920	59220	60610	88200	90000	91800	117600	115920
Number of fans	(n°)	H	3	3	3	4	4	4	4	6	6
		HL	3	3	3	4	4	4	4	6	6
		HA	3	4	4	4	6	6	6	8	8
		HE	3	4	4	4	6	6	6	8	8
Evaporator	All	Plates									
Plumbing connections	All	Victaulic									
Dimension of plumbing connections (Ø)		H - HL	3"	3"	3"	3"	3"	4"	4"	4"	4"
		HA - HE	3"	3"	3"	3"	4"	4"	4"	4"	4"
Input power low-head pump	(kW)	All	3.0	3.4	3.4	3.4	4.6	4.6	5.9	5.9	5.9
Input power high-head pump	(kW)	All	5.5	5.7	5.7	5.7	8.3	8.3	8.3	10.5	10.5
Input current low-head pump	(A)	All	6.2	5.8	5.8	5.8	7.8	7.8	10.0	10.0	10.0
Input current high-head pump	(A)	All	11.0	9.7	9.7	9.7	14.1	14.1	14.1	17.8	17.8
Pump useful head low-head cooling mode	(kPa)	H	97	125	120	118	142	149	142	122	115
		HL	109	138	135	134	165	167	157	145	141
		HA	104	123	114	111	128	128	125	106	95
		HE	110	135	132	131	150	149	141	126	119
Pump useful head high-head cooling mode	(kPa)	H	211	243	237	233	285	290	274	257	251
		HL	235	257	253	250	309	310	297	280	276
		HA	224	240	230	225	269	266	246	241	232
		HE	231	252	249	247	293	289	272	261	255
Tank capacity	(l)	All	700	700	700	700	700	700	700	700	

(*) The power supply for the 075 size is: 400V-3N-50Hz.

Mod. NRL	Vers.	750	800	900	1000	1250	1400	1500	1650	1800	
♪ Sound power	dB(A)	H	85.0	88.5	88.5	90.5	93.5	91.0	90.5	92.0	94.0
		HL	80.0	85.5	85.5	87.5	90.5	88.0	87.5	89.0	91.0
		HA	85.0	88.5	88.5	88.5	91.5	91.0	91.5	92.0	94.0
		HE	77.0	83.0	83.0	83.5	86.0	85.5	85.0	86.5	88.5
♪ Sound pressure	dB(A)	H	53.0	56.5	56.5	58.5	61.5	59.0	58.5	60.0	62.0
		HL	48.0	53.5	53.5	55.5	58.5	56.0	55.5	57.0	59.0
		HA	53.0	56.5	56.5	56.5	59.5	59.0	58.5	60.0	62.0
		HE	45.0	51.0	51.0	51.0	54.0	53.5	53.0	54.5	56.5

Performance values refer to the following conditions:

■ Cooling:

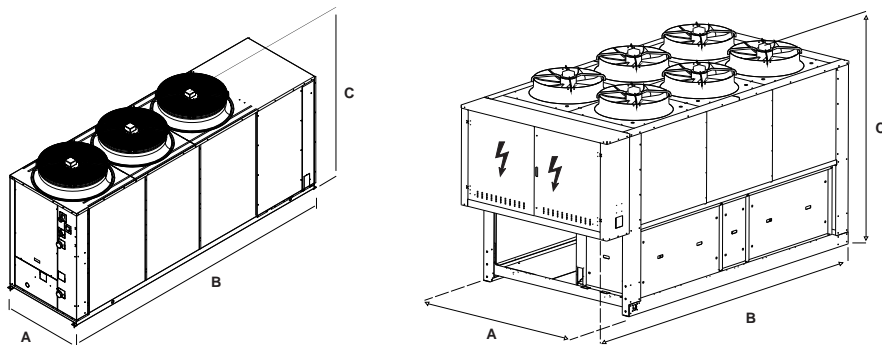
- water outlet temperature 7 °C
- outside air temp. 35 °C
- Δt = 5 °C.

■ 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)



The drawings are only examples!

Mod. NRL	Vers.	750	800	900	1000	1250	1400	1500	1650	1800	
Height	(mm) C	H - HL	1975	1975	1975	1975	1975	2450	2450	2450	2450
		HA - HE	1975	2450	2450	2450	2450	2450	2450	2450	2450
Width	(mm) A	H - HL	1500	1500	1500	1500	1500	2200	2200	2200	2200
		HA - HE	1500	2200	2200	2200	2200	2200	2200	2200	2200
Depth	(mm) B	H - HL	4350	4355	4355	5355	5355	4250	4250	4250	4250
		HA - HE	4350	3400	3400	3400	4250	4250	4250	5750	5750
Weight when empty (kg)		H	1487	1800	1940	2170	2320	2930	3140	3220	3330
		HL	1487	1800	1950	2180	2320	2940	3150	3230	3340
		HA	1748	2150	2300	2460	2750	2990	3190	3680	3800
		HE	1748	2160	2310	2470	2760	3000	3200	3690	3810

Warning: the weights refer to versions without storage tank and pump.

Selection AVX

Mod. NRL	Vers.	AVX	Mod. NRL	Vers.	AVX
NRL800H - HL	"00"	701	NRL1400H - HL	"00"	722
NRL800H - HL	"01-02-03-04"	702	NRL1400H - HL	"01-02-03-04"	723
NRL800H - HL	"P1-P2-P3-P4"	703	NRL1400H - HL	"P1-P2-P3-P4"	724
NRL800HA - HE	"00"	704	NRL1400HA - HE	"00"	722
NRL800HA - HE	"01-02-03-04"	705	NRL1400HA - HE	"01-02-03-04"	723
NRL800HA - HE	"P1-P2-P3-P4"	706	NRL1400HA - HE	"P1-P2-P3-P4"	724
NRL900H - HL	"00"	707	NRL1500H - HL	"00"	722
NRL900H - HL	"01-02-03-04"	708	NRL1500H - HL	"01-02-03-04"	728
NRL900H - HL	"P1-P2-P3-P4"	709	NRL1500H - HL	"P1-P2-P3-P4"	729
NRL900HA - HE	"00"	710	NRL1500HA - HE	"00"	730
NRL900HA - HE	"01-02-03-04"	711	NRL1500HA - HE	"01-02-03-04"	731
NRL900HA - HE	"P1-P2-P3-P4"	712	NRL1500HA - HE	"P1-P2-P3-P4"	732
NRL1000H - HL	"00"	713	NRL1650H - HL	"00"	733
NRL1000H - HL	"01-02-03-04"	714	NRL1650H - HL	"01-02-03-04"	728
NRL1000H - HL	"P1-P2-P3-P4"	715	NRL1650H - HL	"P1-P2-P3-P4"	729
NRL1000HA - HE	"00"	716	NRL1650HA - HE	"00"	734
NRL1000HA - HE	"01-02-03-04"	711	NRL1650HA - HE	"01-02-03-04"	735
NRL1000HA - HE	"P1-P2-P3-P4"	712	NRL1650HA - HE	"P1-P2-P3-P4"	736
NRL1250H - HL	"00"	713	NRL1800H - HL	"00"	730
NRL1250H - HL	"01-02-03-04"	717	NRL1800H - HL	"01-02-03-04"	728
NRL1250H - HL	"P1-P2-P3-P4"	718	NRL1800H - HL	"P1-P2-P3-P4"	732
NRL1250HA - HE	"00"	719	NRL1800HA - HE	"00"	737
NRL1250HA - HE	"01-02-03-04"	720	NRL1800HA - HE	"01-02-03-04"	738
NRL1250HA - HE	"P1-P2-P3-P4"	721	NRL1800HA - HE	"P1-P2-P3-P4"	736

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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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**
- **E STORAGE TANK**

Characteristics

- Available in 7 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.
- 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 DCPX fans).
- Versions available:
 - "H" Standard compact heat pump.
 - "HL" Silenced compact heat pump.
 - "HA" High efficiency heat pump.
- "HE" High-efficiency silenced heat pump.
- Thermostatic valve (selectable with configurator):
 - "O" standard mechanical thermostatic valve.
 - "X" electronic thermostatic valve, also for low water temperature (down to -6°C).
- Fan unit (selectable with configurator):
 - "O" Standard.
 - "M" Enlarged.
 - "J" Inverter.
- Versions with pumping assembly and tanks 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).
 - Auto rotation of compressors and pumps according to operating hours (for all sizes)
 - Safety capacity control.
 - Low and high pressure transducers (standard for all versions).
 - Automatic reset of alarms before total block.
 - Messages in 4 languages.
 - Alarm Log.

Accessories

- **AER485P1**: RS-485 interface for supervision systems with MODBUS protocol.
- **AVX**: Sprung anti-vibration supports. Select the AVX model from the compatibility table.
- **DCPX**: With this accessory correct operation is possible 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, read by the high pressure transducer in order to keep 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.
- **GP**: Protection grille, protects external coils 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 δ at 0.95 and also allows an input current reduction (about 10%)
It must be factory set when the unit is manufactured.
- **TRX1**: Metal cap that replaces the plastic cap, mounted for protection in 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.

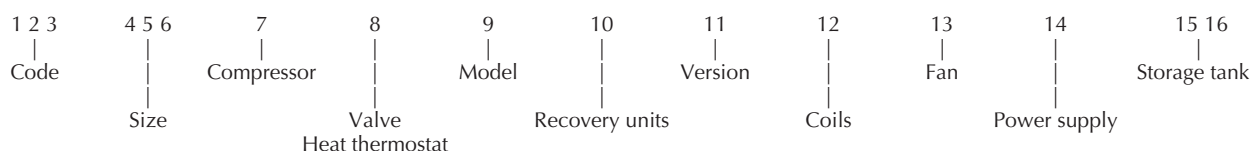
Compatibility of accessories

Mod. NRL	Vers.	2000	2250	2500	2800	3000	3300	3600
AER485P1	All	✓	✓	✓	✓	✓	✓	✓
PGS	All	✓	✓	✓	✓	✓	✓	✓
TRX1	All	✓	✓	✓	✓	✓	✓	✓
DCPX	H	-	-	-	78	78	82	82
	HL	standard	standard	standard	standard	standard	standard	standard
	HA	78	80	82	82	82	82	82
	HE	standard	standard	standard	standard	standard	standard	standard
GP	H - HL	-	-	-	350 x 2	350 x 2	350 x 2	350 x 2
	HA - HE	260 x 2	260 350	350 x 2	350 x 2	350 x 2	500 x 2	500 x 2
RIF	H - HL	-	-	-	RIFNRL2800	RIFNRL3000	RIFNRL3300	RIFNRL3600
	HA - HE	RIFNRL2000	RIFNRL2250	RIFNRL2500	RIFNRL2800	RIFNRL3000	RIFNRL3300	RIFNRL3600
PRM1/PRM2	Tutte	✓	✓	✓	✓	✓	✓	✓
AVX (00)	H - HL	-	-	-	785	791	791	791
	HA - HE	767	773	779	785	791	798	798
AVX (01-02-03-04)	H - HL	-	-	-	786	792	792	792
	HA - HE	768	774	780	786	792	799	799
AVX (P1-P2-P3-P4)	H - HL	-	-	-	787	793	793	793
	HA - HE	769	775	781	787	793	800	800

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
- X - Electronic thermostatic valve also for low water temperature (down to -6°C)

Model:

H - Heat pump

Heat recovery units

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

Version:

- H - Standard compact heat pump
- HL - Compact heat pump, silenced version
- HA - High efficiency heat pump
- HE - High-efficiency heat pump, silenced version

Coils:

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

Fans:

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

Warning:

- the standard options are shown by the symbol °;
- the XD and XT configurations are not available (for temperatures below 4°C only).

Example of the commercial code: **NRL200°H°E°°°04**

This is a size 200 NRL unit with aluminium condensing coils, PED standard evaporator, electrical panel for compressors with 400V 3~ 50Hz motors and with high-head storage tank and reserve pump.

As you may have noticed, each option is represented in a unique way from all the others, so it is not necessary to indicate (within the commercial code) the standard options (identified by °).

Power supply:

- ° - 400V 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

Technical data

Mod. NRL	Vers.	2000	2250	2500	2800	3000	3300	3600	
Cooling capacity	(kW)	H			666	734	846	908	
		HL			604	664	746	794	
		HA	522	576	630	702	776	874	944
		HE	462	515	568	638	710	796	852
Total power input	(kW)	H			280	318	332	358	
		HL			308	348	374	408	
		HA	188	203	218	252	286	302	324
		HE	214	229	244	280	316	336	364
Water flow rate	(l/h)	H			114550	126250	145510	156180	
		HL			103890	114210	128310	136570	
		HA	89780	99070	108360	120740	133470	150330	162370
		HE	79460	88580	97700	109740	122120	136910	146540
Pressure drops	(kPa)	H			40.2	40.4	46.9	45.7	
		HL			33.4	33.6	37	35.5	
		HA	53.5	61.4	61.4	48.0	48.6	54.0	53.5
		HE	42.7	50.6	50.6	40.3	41.2	45.4	44.1
EER	(W/W)	H			2.38	2.31	2.54	2.54	
		HL			1.96	1.90	1.99	1.95	
		HA	2.78	2.84	2.89	2.79	2.71	2.89	2.91
		HE	2.16	2.25	2.33	2.28	2.25	2.37	2.34
ESEER	(W/W)	H			3.57	3.50	3.53	3.60	
		HL			3.47	3.43	3.44	3.41	
		HA	3.96	4.04	4.13	3.91	3.82	3.85	3.82
		HE	3.88	3.97	4.06	3.85	3.74	3.81	3.82
Heating capacity	(kW)	H - HL			768	854	936	1006	
		HA - HE	586	637	688	776	866	968	1046
Total power input	(kW)	H - HL			252	282	310	332	
		HA - HE	186	203	220	248	278	306	326
Water flow rate	(l/h)	H - HL			132100	146890	160990	173030	
		HA - HE	100790	109560	118340	133470	148950	166500	179910
Pressure drops	(kPa)	H - HL			53.7	55.4	58.8	57.8	
		HA - HE	68.8	75.5	75.5	58.2	60.1	66.3	65.9
COP	(W/W)	H - HL			3.05	3.03	3.02	3.03	
		HA - HE	3.15	3.14	3.13	3.13	3.12	3.16	3.21
Power supply	(A)	(All)			400V - 3 - 50Hz				
Type of fan					Axial				
Total air flow rate	(m³/h)	H			174800	173600	248400	244800	
		HL			131000	138800	173800	171400	
		HA	167200	209600	252000	248400	244800	336000	331200
		HE	121200	148800	176400	180000	183600	235200	231800
Total input current fan group	(A)	H - HL			28.8	28.8	43.2	43.2	
		HA - HE	28.8	36.0	43.2	43.2	43.2	57.6	57.6
Maximum current (FLA)	(A)	H - HL			588	646	730	796	
		HA - HE	442	495	548	606	664	747	813
Starting current (LRA)	(A)	H - HL			797	855	998	1064	
		HA - HE	651	763	816	815	873	1015	1081
Type					Scroll				
Compressors no. circuit	(no.)	All	8/4	8/4	8/4	10/4	12/4	12/4	12/4
Evaporator		All				Plates			
Type of plumbing connections		All				Victaulic			
Number of plumbing connections			2	2	2	2	2	2	2
Plumbing connections	(Ø)	H - HL			4"	4"	4"	4"	
		HA - HE	4"	3"/4"	4"	4"	4"	4"	4"
Storage tank capacity	(l)	All	2x700	2x700	2x700	2x700	2x700	2x700	2x700
Input power low-head pump	(kW)	All	7.4	3.7+4.8	9.6	9.6	13.0	13.0	13.0
Input power high-head pump	(kW)	All	13.0	6.5+8.6	17.2	17.2	17.2	24.7	24.7
Input current low-head	(A)	H/HL			16.3	22	22	22	
		HA/HE	12.4	6.2+8.1	16.2	16.3	16.3	22.0	22.0
Input current high-head	(A)	H/HL			29.2	29.2	42.4	42.4	
		HA/HE	22.0	11+14.6	29.2	29.2	29.2	42.4	42.4
Useful pump head low-head (**)	(kPa)	H			149	142	122	115	
		HL			167	157	145	141	
		HA	111	128	128	128	125	106	95
		HE	131	150	150	149	141	126	119
Useful pump head high-head (**)	(kPa)	H			290	274	257	251	
		HL			310	297	280	276	
		HA	225	269	269	266	246	241	232
		HE	247	293	293	289	272	261	255
Sound power	(dBA)	H			93.5	93.5	95.0	95.0	
		HL			90.5	90.5	92.0	92.0	
		HA	91.5	93.3	94.5	94.0	93.5	95.0	97.0
		HE	86.0	87.8	89.0	88.5	88.0	89.5	91.5

Mod. NRL	Vers.	2000	2250	2500	2800	3000	3300	3600
Sound pressure	H				62	61.5	63.0	65.0
	HL				59	58.5	60.0	62.0
	HA	59.5	61.3	62.5	62	61.5	63.0	65.0
	HE	54.0	55.8	57.0	56.5	56.0	57.5	59.5

** The useful head is calculated in the cooling mode

Performance values refer to the following conditions:

■ Cooling:

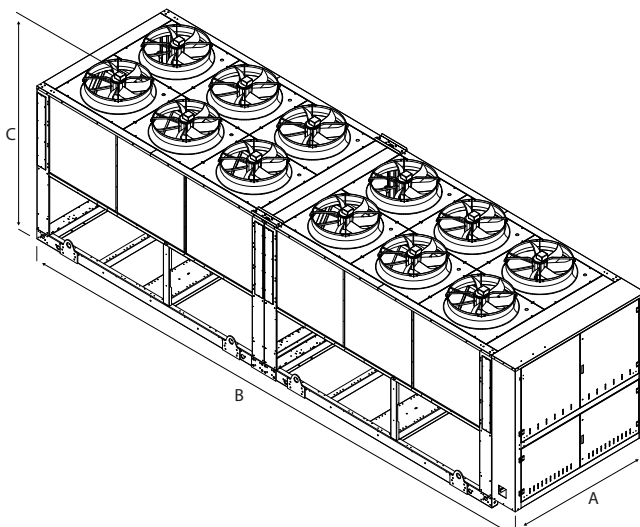
- water outlet temperature 7 °C
- outside air temp. 35 °C
- $\Delta t = 5$ °C.

■ Heating:

- water outlet temperature 45 °C
- outside air temp 7 °C D.B. 6 °C W.B.;
- $\Delta t = 5$ °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.	200	225	250	280	300	330	360	
Height	(mm) C	H - HL	-	-	-	2450	2450	2450	2450
		HA - HE	2450	2450	2450	2450	2450	2450	2450
Width	(mm) A	H - HL	-	-	-	2200	2200	2200	2200
		HA - HE	2200	2200	2200	2200	2200	2200	2200
Depth	(mm) B	H - HL	-	-	-	8100	8100	8100	8100
		HA - HE	6400	7250	8100	8100	8100	11100	11100
Weight when empty	(kg)	H - HL	-	-	-	6080	6490	6660	6880
		HA - HE	4930	5360	5780	6190	6630	7710	7980