NRL
080/180

Reversible heat pump
Air/Water for outdoor installation
Scroll compressors, Plate exchangers, Axial fans
Cooling capacity from 54.30 to 123.05 ton Heating capacity from 666,703 to 1,701,940 BTU/h

60Hz | HFC Refrigerant R410A | Intertek | AHRI

- **HIGH EFFICIENCIES ALSO AT PARTIAL LOADS**
- **EASY AND FAST INSTALLATION**
- **2/4 REFRIGERANT CIRCUITS**

FEATURES

NRL_H is the range of reversible heat pumps for external installation for the chilled/heated water production with high performance scroll compressors and low electric absorption, axial fans, external copper coils with aluminum fins, plate heat exchangers.
IIn the units with desuperheater, but in cooling-only operation, it is possible to produce free hot water. The basement, the structure and the panelling are in steel treated with polyester anti-corrosion paint.

Models
- NRL_H Reversible heat pump

Versions
- NRL_HA High efficiency
- NRL_HE Low noise high efficiency

Operating range:
- Work at full load up to -15°C/5°F dry bulb external air temperature in winter season, up to 46°C/114,8°F in summer season.
- Hot water production up to 55°C/131°F. *(For more details please refer to the technical documentation).*

Units with two refrigerant circuits designed to grant the maximum performance at full load, ensuring high efficiencies also at partial loads and giving continuity in case of stop of one of the two circuit.

- Standard Flow-switch, water filter and high and low pressure transducer.
- Possibility of integrated hydronik -kit, which includes the main hydraulic components; it is available in different configurations with or without buffer tank, one or two high and low head pumps.
- Microprocessor adjustment, with keyboard and LCD display, for easy consultation and intervention on the unit via a menu available in several languages.
- Adjustment includes complete management of the alarms and their log.
- The presence of a programmable timer allows setting time bands of operation and a possible second set-point.
- The temperature control takes place with the integral proportional logic, based on the water output temperature.
- Night Mode: it is possible to set a silenced operation profile.
- Perfect for night operation, since it guarantees greater acoustic comfort in the evenings, and a high efficiency in the time of greater load.

ACCESSORIES

MECHANICAL ACCESSORIES:
AVX
Sprung anti-vibration supports.
Select the AVX model from the compatibility table.

GP
Protection grille, protects the external coil from accidental knocks.

ELECTRICAL ACCESORIES:
AER485P1
RS-485 interface for supervision systems with MODBUS protocol.

AERWEB300
Accessory AERWEB allows remote control of a chiller through a common PC and an ethernet connection over a common browser; 4 versions available:
AERWEB300-6
Web server to monitor and remote control max. 6 units in RS485 network;

AERWEB300-18
Web server to monitor and remote control max. 18 units in RS485 network;
AERWEB300-6G
Web server to monitor and remote control max. 6 units in RS485 network with integrated GPRS modem;
AERWEB300-18G
Web server to monitor and remote control max. 18 units in RS485 network with integrated GPRS modem;

DRE
It allows the reduction of peak power necessary for the machine during start-up phase.

RIF
Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current.

ACCESSORIES CAN ONLY BE FITTED IN THE FACTORY:
MULTICHILLER_PCO
Control system to switch the individual chillers on and off, and command them, in a system in which several units are installed in parallel, always ensuring a constant delivery to the evaporators.

PRM1
It is a manual pressure switch electrically wired in series with the existing automatic high pressure switch on the compressor discharge pipe.

CRATE
Special wood cover for transport.

FL-UL
Flow switch monitors the flow rate and stops the unit in case of insufficient flows.

For more information please contact us.

ACCESSORIES COMPATIBILITY

Hydronic Kit	NRL -HA 080	NRL -HA 090	NRL -HA 100	NRL -HA 125	NRL -HA 140	NRL -HA 150	NRL -HA 165	NRL -HA 180
00	AVX 7003	AVX 7006	AVX 7006	AVX 7009	AVX 7009	AVX 7009	AVX 734	AVX 737
P2 / P4	AVX 7005	AVX 7008	AVX 7008	AVX 7011	AVX 7011	AVX 7011	AVX 736	AVX 736
P1 / P3	AVX 7005	AVX 7008	AVX 7008	AVX 7011	AVX 7011	AVX 7011	AVX 736	AVX 736
02 / 04	AVX 7004	AVX 7007	AVX 7007	AVX 7010	AVX 7010	AVX 7010	AVX 735	AVX 738
01 / 03	AVX 7004	AVX 7007	AVX 7007	AVX 7010	AVX 7010	AVX 7010	AVX 735	AVX 738

UNIT CONFIGURATOR

Field **DESCRIPTION**

1,2,3 **NRL**

4, 5, 6 **SIZE**
080 - 090 - 100 - 125 - 140 - 150 - 165 - 180

7 **COMPRESSOR**
- **0** R410A standard compressor

8 **THERMOSTATIC VALVE**
- **°** standard mechanical thermostatic valve (min. water out temp 39 °F)
- **Y** mechanical thermostatic valve (water out temp range 21 ÷ 39 °F)
- **X** electronic thermostatic valve (min. water out temp 39 °F, contact the factory for lower

9 **MODELS**
- **H** Heat Pump

10 **Heat recovery**
- **°** without recovery
- **D** with desuperheater
- **T** with total heat recovery

11 **VERSION**
- **A** High efficiency
- **E** High efficiency low noise (data on demand)

12 **COILS**
- **°** Alluminium
- **R** Copper
- **S** Copper tin plated
- **V** Epoxy coated

13 **FANS**
- **°** Standard
- **I** Fan speed modulating for condensation control

14 **SUPPLY**
- **6** 230/3/60 with magnet circuit breakers (only for size 100 to 180)
- **7** 460/3/60 with magnet circuit breakers
- **8** 575/3/60 with magnet circuit breakers

15,16 **HYDRONIC KIT**
- **00** without hydronic kit
- **01** tank and single low head pump
- **02** tank and single low head pump and reserve pump
- **03** tank and single high head pump
- **04** tank and single high head pump and reserve pump
- **P1** single low head pump
- **P2** single low head pump and reserve pump
- **P3** single high head pump
- **P4** single high head pump and reserve pump

Configurations not allowed:
YD / YT / YH
HT / HC
CT / CD
T01 / T02 / T03 / T04
"I" ventilation mandatory for Desuperheater "D" option

TECHNICAL DATA

Mod. NRL	Vers.		080	090	100	125	140	150	165	180
Cooling capacity	HA	Tons	54.30	61.91	70.91	91.94	98.72	106.01	113.34	123.05
Total power input	HA	(kW)	65.70	76.00	87.00	112.10	121.40	130.90	151.99	173.32
Water flow rate	HA	gpm	130	148	170	220	236	254	271	294
Pressure drop	HA	psi	6	6	7	5	5	5	6	7
ENERGY INDICES										
EER	All	W/W	9,91	9,77	9,77	9,83	9,75	9,71	8,94	8,51
IPLV	All	BTU/W	13,93	13,66	13,90	13,93	13,73	13,52	13,25	12,84
Heating capacity	HA	BTU/h	666,703	786,738	886,417	1,119,532	1,214,852	1,311,794	1,528,820	1,701,940
Total power input	HA	(kW)	66.15	77.99	89.71	116.69	126.91	134.47	157.41	173.40
Water flow rate	HA	(gpm)	148	174	197	248	269	291	339	377
Pressure drop	HA	p.s.i.	7	8	9	6	7	7	10	12
ENERGY INDICES										
COP	All	W/W	2.95	2.95	2.89	2.81	2.80	2.86	2.84	2.87
IPLV	All	BTU/W	13,93	13,66	13,90	13,93	13,73	13,52	13,25	12,84

Mod. NRL	Vers.		080	090	100	125	140	150	165	180
SCROLL COMPRESSORS										
Quantity / circuits	All	n°/ n°	4/2	4/2	4/2	4/2	4/2	4/2	5/2	6/2
Refrigerant	type	All	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Charges	HA	lbs C1	120.59	121.47	122.80	180.56	180.56	187.39	187.39	187.39
	HA	lbs C2	120.59	121.47	122.80	180.56	180.56	187.39	187.39	187.39
Exchangers user side										
Water connections (in/out)	All	Ø	3"	3"	4"	4"	4"	4"	4"	4"
STANDARD FANS °										
Numbers	HA	n°	6	6	6	8	8	8	8	8
Air flow rate	HA	cfm	73632	73632	73632	99592	99592	99592	99120	97704
SOUND DATA										
Sound pressure	HA	dB(A)	57	60	61	62	63	64	64	64
Sound power	HA	dB(A)	89	92	93	94	95	96	96	96

COOLING (AHRI CONDITIONS)
Outlet water temperature 6,7°C / 44,6°F
Flow rate 0,043l/s per kW
External temperature 35°C / 95°F

HEATING (AHRI CONDITIONS)
Inlet water temperature 40°C / 104°F
Outlet water temperature 45°C / 113°F
External air temperature 7°C d.b / 6°C w.b.

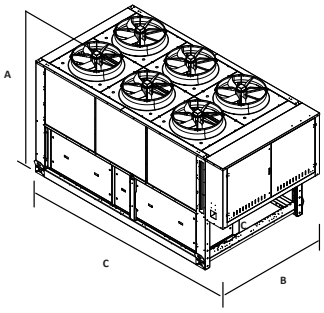
AHRI CONDITIONS
leaving water 6.7°C/44.6°F
flow rate 0.043 l/s per kW (full load)
Load 100% air 35°C /95°F
Load 75% air 26.7°C/80.06°F
Load 50% air 18.3°C /64.94°F
Load 25% air 12.8°C/55.04°F

SOUND PRESSURE
Sound pressure in free field, at 33 ft distance from the external surface of the unit.
Note: For more information, refer to the selection program Magellano or the technical documentation available on the website www.aermec.com

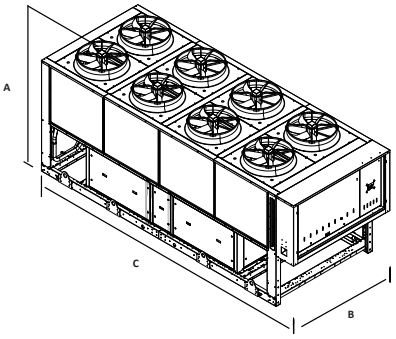
DIMENSIONS AND WEIGHT

Mod. NRL				080	090	100	125	140	150	165	180
Height	A	All	in	96	96	96	96	96	96	96	96
Width	B	All	in	87	87	87	87	87	87	87	87
Depth	C	HA	in	167	167	167	226	226	226	226	226
Weight		HA	lbs	5732	5952	6129	8113	8179	8223	8554	8818

• **NRL 800 - 900 - 1000 HA**



• **NRL 1250 - 1400 - 1500 - 1650 - 1800 HA**



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