

NRL 080/180

Air cooled chillers
Cooling only / Heat pump
Outdoor unit
Scroll compressor
Axial fans
Cooling capacity 53,68/123,05 tons
Heating capacity 666703/1701940 BTU/h

R410A



Intertek



- HIGH EFFICIENCY VERSION
- LOW NOISE HIGH EFFICIENCY VERSION
- 2/4 REFRIGERANT CIRCUITS
- VERSION WITH BUILT-IN HYDRONIC KIT

VERSION AND FEATURES

MODELS

- NRL_° Cooling only
- NRL_H Heat pump
- NRL_C Without evaporator

VERSIONS

Without hydronic kit system side.

- NRL_A High efficiency chillers
- NRL_E High efficiency Low noise chillers

RECOVERY

- NRL"A-E"_D with desuperheater
- NRL"A-E"_T with total heat recovery

OPERATING LIMIT

Cooling mode

Max. external air temperature 114,8°F

Min. temperature of water produced 17,6°F

Heating mode

Max. external air temperature 107,6°F

Max. temperature of water produced 131°F

FEATURES

- High-efficiency scroll compressor with crank case heater
- High efficiency heat exchangers with trace heating as standard
- Axial flow fans for quiet operation
- Microprocessor control system:
 - Control from the entering water temperature, with the possibility of selecting control of the leaving water temperature.
 - Condensing control in summer with a 0-10 V modulating signal based on pressure and compen-

ated for external air temperature (with DCPX accessory)

- Automatic rotation of compressors and pumps based on operating hours
- Load limiting safety control
- Low and high pressure transducers (standard for all units)
- Automatic reset of alarms before tripping
- Display in 4 languages
- Alarm history
- Metal enclosure with anti-corrosion polyester paint.

ACCESSORIES

MECHANICAL ACCESSORIES

- **AVX:** Sprung anti-vibration supports. Select the AVX model from the compatibility table.
- **VT:** Group of anti-vibration, to be installed under the base.
- **GP:** Protection grille, protects the external coil from accidental knocks.

ELECTRICAL ACCESSORIES

- **AER485:** 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.
Accessories can only be fitted in the factory.
- **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.

- **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.
- **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 with the VMF system.

For further system information please refer to the specific documentation.

For more information please contact us.

ACCESSORY COMPATIBILITY

| Hydronic Kit | NRL-A 080 | NRL-A 090 | NRL-A 100 | NRL-A 125 | NRL-A 140 | NRL-A 150 | NRL-A 165 | NRL-A 180 |
|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 00 | AVX 704 | AVX 710 | AVX 716 | AVX 7012 | AVX 7009 | AVX 7009 | AVX 734 | AVX 737 |
| P2 / P4 | AVX 706 | AVX 712 | AVX 712 | AVX 7014 | AVX 7009 | AVX 7009 | AVX 736 | AVX 736 |
| P1 / P3 | AVX 706 | AVX 712 | AVX 712 | AVX 7014 | AVX 7009 | AVX 7009 | AVX 736 | AVX 736 |
| 02 / 04 | AVX 705 | AVX 711 | AVX 711 | AVX 7013 | AVX 7010 | AVX 7010 | AVX 735 | AVX 738 |
| 01 / 03 | AVX 705 | AVX 711 | AVX 711 | AVX 7013 | AVX 7010 | AVX 7010 | AVX 735 | AVX 738 |

| 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

| | |
|--|--|
| <p>Field DESCRIPTION</p> <p>1,2,3 NRL</p> <p>4, 5, 6 SIZE 080 - 090 - 100 - 125 - 140 - 150 - 165 - 180</p> <p>7 COMPRESSOR 0 R410A standard compressor</p> <p>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</p> <p>9 MODELS ° Cooling only H Heat Pump C Without Evaporator (data on demand)</p> <p>10 Heat recovery ° without recovery D with desuperheater T with total heat recovery</p> <p>11 VERSION A High efficiency E High efficiency low noise (data on demand)</p> <p>12 COILS ° Alluminium R Copper S Copper tin plated V Epoxy coated</p> | <p>13 FANS ° Standard I Fan speed modulating for condensation control</p> <p>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</p> <p>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</p> <p>Configurations not allowed: YD / YT / YH HT / HC CT / CD T01 / T02 / T03 / T04 "I" ventilation mandatory for Desuperheater "D" option</p> |
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TECHNICAL DATA

| Mod. NRL | Vers. | | 080 | 090 | 100 | 125 | 140 | 150 | 165 | 180 |
|-----------------------|---------|------|-------|-------|-------|--------|--------|--------|--------|--------|
| Cooling capacity | A | Tons | 53.68 | 62.68 | 72.39 | 94.10 | 102.42 | 110.48 | 120.71 | 130.93 |
| Total power input | A | (kW) | 65.70 | 76.00 | 87.00 | 112.10 | 121.40 | 130.90 | 151.99 | 173.32 |
| Water flow rate | A | gpm | 128 | 150 | 173 | 225 | 245 | 264 | 289 | 313 |
| Pressure drop | A | psi | 8 | 7 | 5 | 6 | 6 | 7 | 8 | 9 |
| ENERGY INDICES | | | | | | | | | | |
| EER | BTU/Wat | Alls | 9,81 | 10,13 | 9,74 | 9,79 | 9,97 | 10,11 | 9,51 | 9,05 |
| IPLV | BTU/Wat | Alls | 13,80 | 14,14 | 13,85 | 13,91 | 14,05 | 14,09 | 13,42 | 12,84 |

| 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 | Watt/Watt | 9,91 | 9,77 | 9,77 | 9,83 | 9,75 | 9,71 | 8,94 | 8,51 |
| IPLV | All | BTU/Watt | 13,93 | 13,66 | 13,90 | 13,93 | 13,73 | 13,52 | 13,25 | 12,84 |
| Heating capacity | HA | BTU/h | 666703 | 786738 | 886417 | 1119532 | 1214852 | 1311794 | 1528820 | 1701940 |
| 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 | Watt/Watt | 2.95 | 2.95 | 2.89 | 2.81 | 2.80 | 2.86 | 2.84 | 2.87 |
| IPLV | All | BTU/Watt | 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 | A | lbs C1 | 61,63 | 64,60 | 76,72 | 121,25 | 121,92 | 160,06 | 160,06 | 160,06 |
| | A | lbs C2 | 61,63 | 71,21 | 76,72 | 121,25 | 160,06 | 160,06 | 160,06 | 160,06 |
| | 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 | ∅ | 3" | 3" | 4" | 4" | 4" | 4" | 4" | 4" |
| STANDARD FANS ° | | | | | | | | | | |
| Numbers | A | n° | 4 | 4 | 4 | 8 | 8 | 8 | 8 | 8 |
| | HA | n° | 6 | 6 | 6 | 8 | 8 | 8 | 8 | 8 |
| Air flow rate | A | cfm | 48616 | 47908 | 47672 | 96288 | 94636 | 92984 | 92984 | 92984 |
| | HA | cfm | 73632 | 73632 | 73632 | 99592 | 99592 | 99592 | 99120 | 97704 |
| SOUND DATA | | | | | | | | | | |
| Sound pressure | A | dB(A) | 56 | 57 | 57 | 62 | 63 | 64 | 64 | 64 |
| | HA | dB(A) | 57 | 60 | 61 | 62 | 63 | 64 | 64 | 64 |
| Sound power | A | dB(A) | 88 | 89 | 89 | 94 | 95 | 96 | 96 | 96 |
| | 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 b.s / 6°C b.u.

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 POWER

Aermec determines sound power values on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification.

SOUND PRESSURE

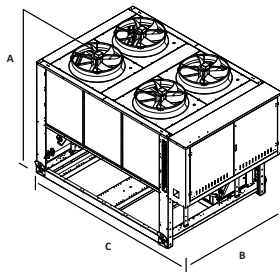
Sound pressure in free field, at 10 m distance from the external surface of the unit (in accordance with UNI EN ISO 3744).

Note: For more information, refer to the selection program Magellan or the technical documentation available on the website www.aermec.com

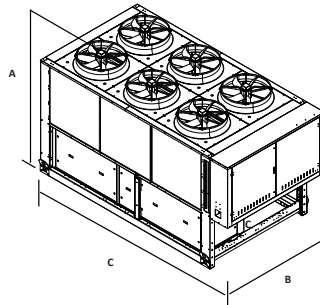
Dimensions

| 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 | A | in | 134 | 134 | 134 | 226 | 226 | 226 | 226 | 226 |
| | | HA | in | 167 | 167 | 167 | 226 | 226 | 226 | 226 | 226 |
| Weight (kg) | | A | lbs | 4134 | 4475 | 4850 | 7275 | 7496 | 7760 | 8113 | 8422 |
| | | HA | lbs | 5732 | 5952 | 6129 | 8113 | 8179 | 8223 | 8554 | 8818 |

• NRL 800 - 900 - 1000 A



• NRL 800 - 900 - 1000 HA



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

