

NRA

Air-cooled water chillers, heat pumps and condensing units
With axial fans and capacities from 434 to 953 kW

R407C



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



• STANDARD VERSION • VERSION EQUIPPED WITH WATER PUMP

• VERSION EQUIPPED WITH WATER PUMP AND STORAGE TANK

Features

- Available in 7 different sizes
- Cooling only, heat pump and air cooled condensing versions
- All versions are supplied for use with R407C
- All versions except the motocondensing one can be ordered for low temperature operation for production of chilled water from 4 °C down to -6 °C. This option must be specified at the time of ordering
- High efficiency scroll compressors with low power consumption
- Modular microprocessor control system
- Functional parameters can be displayed in any of four languages
- Simplified remote control panel. All main functions of the unit, alarms included, are

- possible
- High efficiency plate type heat exchangers
- Evaporator electric heating element
- Electric heater for the compressor carter
- High pressure transducer
- Low pressure transducer (NRA H only)
- Axial flow fan units for extremely quiet operation
- Compact size
- Metallic protective cabinet with rustproof polyester paint
- The unit is supplied in the various versions of:

Standard:

- evaporators, Assembled filter, fFlow switch (1 per circuit)

With storage tank:

- evaporators, Assembled filter, fFlow switch (1 per circuit), 2 Expansion tanks, storage tank, pompa/e Pumps (1 or 1+1 reserve pump, high or low pressure; the switch-over is electronic) Charging unit with pressure gauge, Discharge valve

With pumps:

- evaporators, Assembled filter, fFlow switch (1 per circuit), 2 Expansion tanks, storage tank, pompa/e Pumps (1 or 1+1 reserve pump, high or low pressure; the switch-over is electronic), Charging unit with pressure gauge, Discharge valve
- hydraulic parallel already supplied

Accessories

- **AER485P1:** RS-485 interface for supervision systems with MODBUS protocol.
- **AVX:** Sprung shock absorber supports. Select the AVX model from the compatibility table.
- **DCPX:** Low temperature device for correct cooling mode operation with ambient tempe-

ratures from less than 20 °C. **Standard on models with Desuperheaters (D) and Silenced (L).**

- **GP:** Safety grille: protects external coils from accidental impact.
- **PGS:** Daily/weekly programmer with facility

to program two daily on/off cycles and set different parameters for each day of the week.

- **TP 1:** Low pressure transducer: to provide working pressure readout on the microprocessor card display (one required for each circuit).

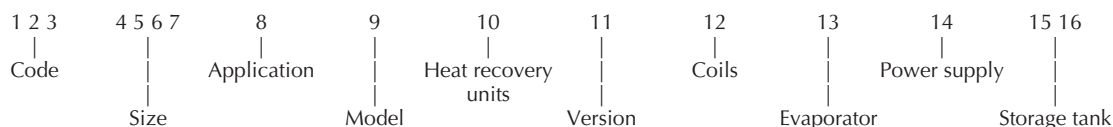
Mod. NRA	Accessory compatibility						
	2000	2250	2500	2800	3000	3300	3600
AER485P1	✓	✓	✓	✓	✓	✓	✓
DCPX 29	✓ (x2)	✓ } ✓ }					
DCPX 30			✓ (x2)	✓ (x2)	✓ (x2)	✓ (x2)	✓ (x2)
PGS	✓	✓	✓	✓	✓	✓	✓
TP 1 (di serie su NRA H)	✓ (x2)	✓ (x2)	✓ (x2)	✓ (x2)	✓ (x2)	✓ (x2)	✓ (x2)

N.B: AVX Sprung shock absorber supports. Select the AVX model from the compatibility table, in the technical booklet

Selection

By combining the various options, each model can be configured exactly to match even the most specific system requirements.

Configuration rules:



Sigla:

NRA

Grandezza:

2000, 2250, 2500, 2800, 3000, 3300, 3600

Application:

- ° - Standard with produced water above +4 °C
- Y - Low temperature with produced water down to -6 °C

Model:

- ° - Cooling only
- H - Heat pump

Heat recovery units:

- ° - Without heat recovery units

Version:

- ° - Standard
- A - High temperature
- L - Silenced

Coils:

- ° - Aluminium
- R - Copper
- S - Tinned copper
- V - Painted copper / aluminium version

Evaporator:

- ° - To PED standards
- C - Without evaporator

Power supply:

- ° - 3~ 400V 50Hz with thermal-magnetic cut-outs
- 4 - 3~ 230V 50Hz with thermal-magnetic cut-outs
- 9 - 3~ 500V 50Hz with thermal-magnetic cut-outs

Storage tank:

- 00 - without storage tank
- 01 - low head storage tank and single pump
- 02 - low head storage tank and standby pump
- 03 - high head storage tank and single pump
- 04 - high head storage tank and standby pump
- 05 - storage tank with holes for supplementary heater, low head and single pump
- 06 - storage tank with holes for supplementary heater, low head and standby pump
- 07 - storage tank with holes for supplementary heater, high head and single pump
- 08 - storage tank with holes for supplementary heater, high head and standby pump
- P1 - without storage unit with low head pump
- P2 - without storage unit with low head and standby pumps
- P3 - without storage unit with high head pump
- P4 - without storage unit with high head and standby pumps

Warning:

- standard options are shown by symbol °;
- for cooling only versions, it is possible only the combination between options Y and A (please, contact the Headquarter for particular needs);
- following options are not available for heat pump version: Y, A and C.

Commercial code example: **NRA2000R402**

This code identifies an NRA unit, size 2000, with copper condensing coils, evaporator to PED standard, with electrical panel for compressors with 3~ 230V 50Hz motors and low head storage tank and standby pump.

Note that as each option is precisely identified, it is not necessary to specify standard options (shown with °) in the commercial code.

Technical data

Mod. NRA	Vers.	2000H	2250H	2500H	2800H	3000H	3300H	3600H
Cooling capacity (kW)	°	502	564,0	624,0	690,0	754	842	938
	A	-	-	-	-	-	-	-
	L	450	512,0	572,0	624,0	674	768	860
	°	194	220	246	268	292	332	364
Total input power (kW)	A	-	-	-	-	-	-	-
	L	214	237,0	260,0	290,0	321	354	388
Water flow rate (l/h)	°	86340	97010	107330	118680	129690	144820	161340
	A	-	-	-	-	-	-	-
	L	77400	88060	98380	107330	115930	132100	147920
	°	107	123	147	169	199	127	150
Pressure drops (kPa)	A	-	-	-	-	-	-	-
	L	92	107	130	145	166	112	133
	°	343	383	424	469	514	576	628
	A	-	-	-	-	-	-	-
Working current (A)	L	360	392	424	482	541	595	646
	H - HL	580	648,0	712,0	792,0	870	960	1068
Total input power (kW)	H - HL	214	246,0 / -	276,0 / -	300,0 / -	322	374 / -	413 / -
Water flow rate (l/h)	H - HL	99760	111460	122460	136220	149640	165120	183700
Pressure drops (kPa)	H - HL	134	155	185	216	260	156	187
Peak current (A)	H - HL	360	413	466	503	541	633	690
Total air flow rate (m³/h)	°	160000	209000	258000	241000	230000	324000	320000
	A	-	-	-	-	-	-	-
	L	112000	124000	136000	152000	168000	200000	224000
	Tutte	8	8	8	10	12	12	12
Compressors (n.)	°	477	524	570	656	716	790	846
	A	-	-	-	-	-	-	-
Max. current (A)	L	477	524	570	643	716	790	846
	°	620	699	739	776	828	931	980
Peak current (A)	A	-	-	-	-	-	-	-
	L	645	727	768	795	861	968	1019
Carter electric heater (W)	Tutte	8x130	8x130	8x130	10x130	12x130	12x130	12x130
Water connections (Ø)*	°	4"	4"	4"	4"	4"	5"	5"
Storage tank capacity (l)	Tutte	1000	1300	1300	1300	1300	1300	1300
	°	132	107	153	116	142	117	77
Effective pressure (kPa) - gr1**	A	-	-	-	-	-	-	-
	L	154	131	182	156	196	144	107
	°	219	260	225	190	240	302	255
	A	-	-	-	-	-	-	-
Effective pressure (kPa) - gr2**	L	242	285	252	228	288	331	291

** = gr1 (Low head pumping unit); gr2 (High head pumping unit)
The pressure drops and the pressures are calculated in cold mode conditions

Performance values refer to the following conditions:

- Power supply: 400 V
- Cooling:
 - water outlet temperature 7 °C;
 - ambient air temperature 35 °C;
 - Δt = 5 °C.

- Heating:
 - water outlet temperature 50 °C;
 - ambient air temperature 7 °C D.B. 6 °C W.B.;
 - Δt = 5 °C.

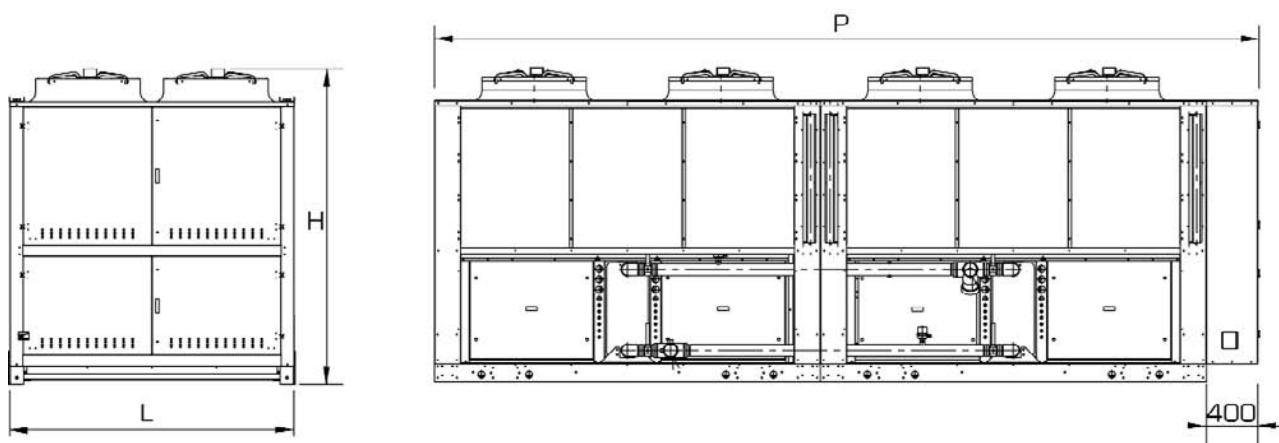
* = Victaulic connection (water connection refer to standard version, as for different versions see the technical manual)

Technical data

Mod. NRA	Vers.	2000	2250	2500	2800	3000	3300	3600
Cooling capacity (kW)	°	540	590	640	726	810	868	960
	A	556	608,0	660,0	748,0	835	900	990
	L	488	536,0	584,0	658,0	732	808	892
Total input power (kW)	°	203	230,0	258,0	282,0	305	344	378
	A	192	220,0	248,0	268,0	288	332	368
	L	215	244,0	273,0	296,0	320	360	398
Water flow rate (l/h)	°	92880	101480	110080	124870	139320	149300	165120
	A	95630	104580	113520	128660	143620	154800	170280
	L	83940	92190	100450	113180	125900	138980	153420
Pressure drops (kPa)	°	118	132	152	182	225	132	155
	A	123	138	160	190	235	139	163
	L	102	115	133	156	190	119	139
Working current (A)	°	348	396	444	483	522	592	645
	A	337	381	425	465	505	575	630
	L	360	409	458	499	541	601	659
Total air flow rate (m³/h)	°	160000	206000	252000	230000	230000	340000	336000
	A	152000	191000	230000	223000	222000	324000	320000
	L	112000	124000	136000	152000	168000	200000	224000
Compressors (n.)	Tutte	8	8	8	10	12	12	12
	°	477	524	570	656	716	790	846
Max. current (A)	A	477	524	570	656	716	790	846
	L	451	495	539	620	676	747	799
Peak current (A)	°	587	661	689	723	761	853	882
	A	572	645	671	705	742	832	860
	L	586	660	687	721	759	851	880
Carter electric heater (W)	Tutte	8x130	8x130	8x130	10x130	12x130	12x130	12x130
Water connections (Ø)*	°	4"	4"	4"	4"	4"	5"	5"
Storage tank capacity (l)	Tutte	1000	1300	1300	1300	1300	1300	1300
	°	116	93	146	94	101	107	68
Effective pressure (kPa) - gr1**	A	108	83	129	76	85	86	55
	L	139	119	177	137	158	131	96
	°	200	247	217	167	204	290	245
Effective pressure (kPa) - gr2**	A	192	236	202	150	189	264	230
	L	226	273	247	210	255	317	273

** = gr1 (Low head pumping unit); gr2 (High head pumping unit)
The pressure drops and the pressures are calculated in cold mode conditions

Dimensions (mm)



Mod. NRA		2000	2250	2500	2800	3000	3300	3600
Height	H	2450	2450	2450	2450	2450	2450	2450
Width	L	2200	2200	2200	2200	2200	2200	2200
Depth	P	6400	7250	8100	8100	8100	11100	11100
	°	5280	5900	6550	6730	6890	7540	7710
Weight (kg)	A	5490	6130	6810	7010	7190	7900	8090
	L	5490	6130	7050	7130	7190	7900	8090
	H	5530	6290	6850	7050	7230	7940	8130
	HL	5530	6290	6850	7050	7230	7940	8130

Warning: weights refer to versions without accumulation and pump.

The technical data in this document are not binding.
Aermec S.p.A. reserves the right to make whatever modifications
it deems necessary to improve the product at any time.

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