

NRC

Air-cooled water chillers, heat pumps and condensing units
With radial fans and capacities from 46 to 264 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 13 different sizes
- Cooling only, heat pump and air cooled condensing versions
- All versions are supplied for use with R407C
- Cooling only version equipped with partial or total heat recovery is available
- 4 versions available:
 - With supplied water filter and flow switch
 - With water pump only
 - With low head pumping unit, 500 litre storage tank (700 l from 800 to 1000) with 300 W antifreeze heater (2x300 W from 750 to 1000), water filter already mounted, flow switch and expansion tank
 - With high head pumping unit, 500 litre storage tank (700 l from 800 to 1000) with 300W antifreeze heater (2x300 W from 750 to 1000), water filter already mounted, flow switch and expansion tank
- 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
- All the versions can be ordered with an uprated fan assembly that enables higher useful heads to be reached at the nominal flow rate. This request must be specified when the order is placed. Please refer to the technical manuals for technical data
- The versions with pump and/or storage unit also have automatic air valve, filling unit, expansion tank and plumbing circuit safety valve
- 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
- Low pressure transducer (standard on heat pump models)
- High pressure transducer (standard on heat pump models and from 500 to 1000 cooling-only sizes)
- Air delivery: upward from 0275 to 0550 and frontal from 0600 to 1000 (Element may be mounted upside up only where requested)
- Variable speed radial fans
- Compact size
- Metallic protective cabinet with rustproof polyester paint

Accessories

- **AER485:** RS-485 interface for supervision systems with MODBUS protocol.
- **AVX:** Spring anti-vibration mounts. Select the AVX model by using the compatibility table.
- **DR:** Low temperature device, consisting of a damper for placing on the fan outlet; it modulates air flow to the condenser according to the pressure transducer value. The DR 202 - 402 accessories also include the TP2 high pressure transducers. **Accessory obligatory in D versions.**
- **DRE:** Electronic peak current reducer. **It must be factory-mounted.**
- **PGS:** Daily/weekly programmer with facility to program two daily on/off cycles and set different parameters for each day of the week.
- **RIF:** Current rephaser. Parallel connection with the motor makes the reduction of input current possible. **This can only be installed when the machine is being made and must therefore be specified when the order is placed.**
- **ROME0:** (Remote Overwatching Modem Enabling Operation) is a device that enables a remote control of a chiller from an ordinary WAP mobile phone. Furthermore it allows to send alarm or pre-alarm SMS messages up to 3 GSM mobile phones which may not be equipped with WAP. **This device includes AER485 accessory.**
- **TP 1:** Low pressure transducer: to provide working pressure readout on the microprocessor card display (one required for each circuit). Standard on heat pump models.
- **TP 2:** High pressure transducer: to provide working pressure readout on the microprocessor card display (one required for each circuit). Standard on heat pump models and from 500 to 1000 cooling-only sizes.
- **VT:** Anti-vibration mounts: set of four mounts for installation in locations on the underneath of the baseplate.

Compatibility of accessories													
Mod.	275	300	325	350	500	550	600	650	700	750	800	900	1000
AER485	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AVX							401/402*	401/402*	402/403*	402/403*	404/406*	404/406*	405/407*
DR 200	✓**	✓**	✓**										
DR 400				✓**	✓**	✓**							
DR 202	✓	✓	✓										
DR 402				✓	✓	✓							
DR 600							✓	✓	✓	✓			
DR 800											✓	✓	✓
DRE 275	✓												
DRE 300		✓											
DRE 325			✓	✓									
DRE 10					✓ (x2)	✓	✓ (x2)						
DRE 15					✓	✓ (x2)	✓ (x2)	✓ (x4)	✓ (x4)	✓ (x2)			
DRE 25										✓ (x2)	✓ (x4)	✓ (x2)	
DRE 30												✓ (x2)	✓ (x4)
PGS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RIF	62	62	62	82	63	63	64	64	64	64	64	74	84
ROMEO	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TP 1	✓ (x2)***	✓ (x2)***	✓ (x2)***	✓ (x2)***	✓ (x2)***	✓ (x2)***	✓ (x2)***	✓ (x2)***	✓ (x2)***	✓ (x2)***	✓ (x2)***	✓ (x2)***	✓ (x2)***
TP 2	✓ (x2)***	✓ (x2)***	✓ (x2)***	✓ (x2)***									
VT 14*				✓	✓	✓							
VT 16*	✓	✓	✓										
VT 17					✓	✓							
VT 2	✓	✓	✓	✓									

DR = Accessory obligatory in D versions.

* = To be used in versions with storage unit.

** = To be used in heat pump models.

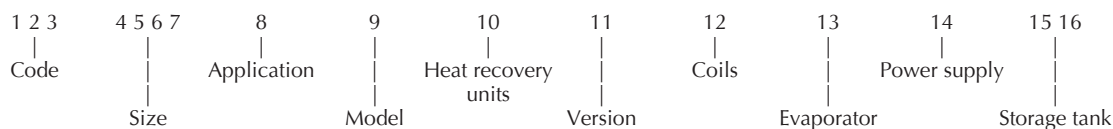
*** = Standard on heat pump models.

N.B. = between brackets, the quantity necessary.

Selection

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

Configuration rules:



Code:

NRC

Size:

0275, 0300, 0325, 0350, 0500, 0550
0600, 0650, 0700, 0750, 0800, 0900, 1000

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
D - With desuperheaters
T - With total recovery units

Version:

° - Standard
L - Silenced

Coils:

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

Evaporator:

° - To PED standards
G - According to TÜV-D standards (Germany)
C - Without evaporator

Warning:

– standard options are shown by symbol °;
– following options are not available for heat pump version: Y, T, L and C.

* (3N~ 400V 50Hz 0275, 0300, 0325, 0350, 0500, 0550, 0600, 0650, 0700, 0750 / 3~ 400V 50Hz 0800, 0900, 1000)

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 accumulator
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

Cooling only models		Vers.	275	300	325	350	500	550	600	650	700	750	800	900	1000
Cooling capacity (kW)	°		51	59	67	76	89	97	120	136	156	184	214	238	264
	L		46	54	62	70	81	89	110	126	142	168	194	216	238
Total input power (kW)	°		22.0	26.1	29.4	32.3	37.6	40.4	52.0	58.0	65.5	77.0	90.0	100.0	112.5
	L		22.7	26.3	29.7	33.1	40.0	43.0	47.5	54.0	62.0	72.5	83.0	94.0	104.5
Input current (A)	°		40.3	46.5	51.3	57.5	68.1	72.1	93.4	101.5	117.0	134.5	153.7	171.7	193.2
	L		40.5	45.8	50.7	57.7	68.7	73.3	82.8	91.9	107.4	122.8	138.1	155.8	173.4
Water flow rate (l/h)	°		8770	10150	11520	13070	15310	16680	20640	23390	26830	31650	36810	40940	45410
	L		7910	9290	10660	12040	13930	15310	18920	21670	24420	28900	33370	37150	40940
Pressure drop (kPa)	°		37.0	32.2	31.6	43.0	27.6	22.4	32.0	28.3	36.5	27.8	35.6	30.3	30.6
	L		30.3	27.0	27.1	36.5	22.6	19.0	27.2	24.2	30.5	23.2	29.6	25.0	25.0
Total air flow rate (m³/h)	°		16000	22000	22000	26000	27000	27000	45000	45000	50000	50000	60000	68000	68000
	L		11000	15500	15500	18000	19000	19000	31500	31500	35000	35000	42000	47600	47600
♪ Sound pressure dB (A)	°		53.0	53.0	54.0	56.0	56.0	56.0	58.0	58.0	59.0	59.0	60.0	60.0	60.0
	L		49.0	49.0	50.0	52.0	52.0	52.0	54.0	54.0	55.0	55.0	56.0	56.5	56.5
Compressors / circuits (n.)	All		2 / 2	2 / 2	2 / 2	2 / 2	3 / 2	3 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
Partialisation steps (n.)	All		2	2	2	2	3	3	4	4	4	4	4	4	4
Fans (n.)	All		2	2	2	2	2	2	3	3	3	3	4	4	4
Fan speed (rpm)	°		630	570	570	590	600	600	600	600	580	580	650	600	700
	L		540	500	520	500	510	510	520	520	500	500	580	530	600
Max. current (A)	All		54	63	71	80	93	99	131	143	164	190	225	245	277
Peak current (A)	°		153	161	165	208	219	223	207	215	267	318	337	404	424
	L		152	158	163	206	217	221	205	212	266	315	334	401	419
Carter electric heater (W)	All		2x75	2x75	2x75	2x75	3x75	3x75	4x75	4x75	4x75	2x75 2x130	4x130	4x130	4x130
Antifreeze heater (W)	All		300	300	300	300	300	300	300	300	300	2x300	2x300	3x300	2x300
Water connections (Ø) *	00-P1/P4	M/2"	M/2"	M/2"	M/2"	M/2"	M/2"	M/2"	M/2"	M/2"	M/2"	M/2"	V3"	V3"	V3"
	01/08	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	V3"	V3"	V3"
Storage tank capacity (l)	All		500	500	500	500	500	500	500	500	500	500	700	700	700
Effective pressure (kPa) - gr1**	°		127	127	122	104	131	126	75	90	103	37	97	95	82
	L		142	138	131	119	149	143	95	110	132	75	113	116	102
Effective pressure (kPa) - gr2**	°		178	173	168	154	195	193	177	163	146	105	215	212	195
	L		186	180	176	164	203	203	183	168	154	130	235	232	215

Heat pump models		275 H	300 H	325 H	350 H	500 H	550 H	600 H	650 H	700 H	750 H	800 H	900 H	1000 H
Cooling capacity	kW	49	57	65	74	86	94	118	134	152	178	204	230	254
Total input power	kW	21.6	25.6	28.8	31.7	36.9	39.6	51.0	56.5	64.0	76.0	89.5	100.0	112.0
Input current	A	39.7	45.8	50.5	56.7	67.1	71.0	92.0	99.8	115.3	133.5	153.7	172.7	192.9
Water flow rate	l/h	8430	9800	11180	12730	14790	16170	20300	23050	26140	30620	35090	39560	43690
Pressure drop	kPa	34.2	30.3	32.5	42.2	25.4	20.7	30.5	27.0	34.8	26.0	32.8	28.0	28.3
Heating capacity	kW	58	67	77	87	101	111	136	155	175	207	239	267	295
Total input power	kW	25.0	29.5	33.0	36.2	42.5	45.7	57.5	63.5	71.5	83.5	96.5	108.0	119.5
Input current	A	44.0	50.7	56.1	62.7	74.4	78.9	101.9	110.9	127.4	145.8	166.2	186.5	206.9
Water flow rate	l/h	9980	11520	13248	14960	17370	19090	23390	26660	30100	35600	41110	45920	50740
Pressure drop	kPa	42.0	36.8	40.9	51.7	32.2	26.5	39.9	40.0	41.0	31.0	45.2	42.2	44.9
Total air flow rate	m³/h	16000	22000	22000	26000	27000	27000	45000	45000	50000	50000	60000	68000	68000
♪ Sound pressure	dB (A)	53.0	53.0	54.0	56.0	56.0	56.0	58.0	58.0	59.0	59.0	60.0	60.0	60.0
Compressors / circuits	n.	2 / 2	2 / 2	2 / 2	2 / 2	3 / 2	3 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2	4 / 2
Partialisation steps	n.	2	2	2	2	3	3	4	4	4	4	4	4	4
Fans	n.	2	2	2	2	2	2	3	3	3	3	4	4	4
Fan speed	rpm	630	570	570	590	600	600	600	600	580	580	650	600	700
Max. current	A	54	63	71	80	93	99	131	143	164	190	225	245	277
Peak current	A	155	162	168	210	222	227	213	223	275	326	346	414	435
Carter electric heater	W	2x75	2x75	2x75	2x75	3x75	3x75	4x75	4x75	4x75	2x75 2x130	4x130	4x130	4x130
Antifreeze heater	W	300	300	300	300	300	300	300	300	300	2x300	2x300	2x300	2x300
Water connections (Ø) *	00-P1/P4	M/2"	M/2"	M/2"	M/2"	M/2"	M/2"	M/2"	M/2"	M/2"	M/2"	V3"	V3"	V3"
	01/08	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	F/2"½	V3"	V3"	V3"
Storage tank capacity	l	500	500	500	500	500	500	500	500	500	500	700	700	700
Effective pressure - gr1**	kPa	137	134	126	108	146	132	80	95	115	55	105	102	88
Effective pressure - gr2**	kPa	180	176	170	157	196	196	180	168	152	115	225	222	204

* = M: male; F: female; V: Victaulic.

** = gr1 (Low head pumping unit); gr2 (High head pumping unit)

Performance values refer to the following conditions:

♪ Sound pressure measured in free field conditions at distance of 10 m and direction factor = 2.

In accordance with ISO 3744 regulations

- Power supply: 400 V

■ Cooling:

- water outlet temperature 7 °C;

- ambient air temperature 35 °C;

- Δt = 5 °C.

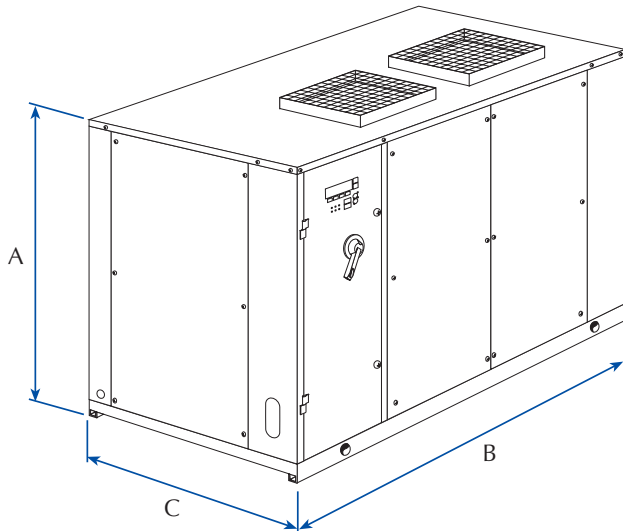
■ Heating:

- water outlet temperature 50 °C;

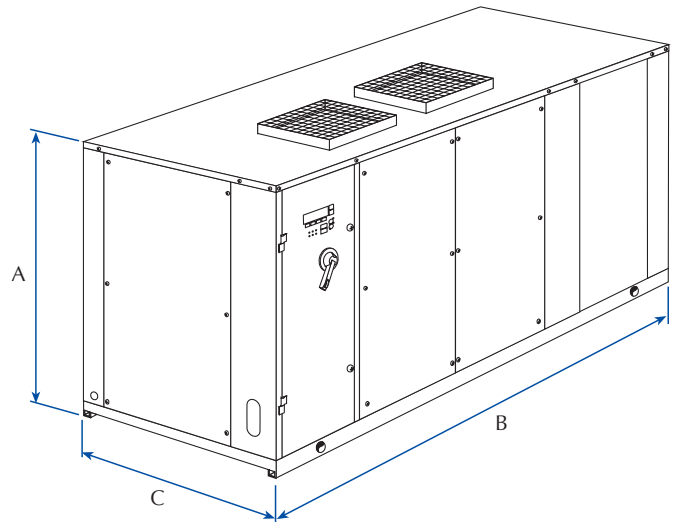
- ambient air temperature 7 °C D.B. 6 °C W.B.;

- Δt = 5 °C.

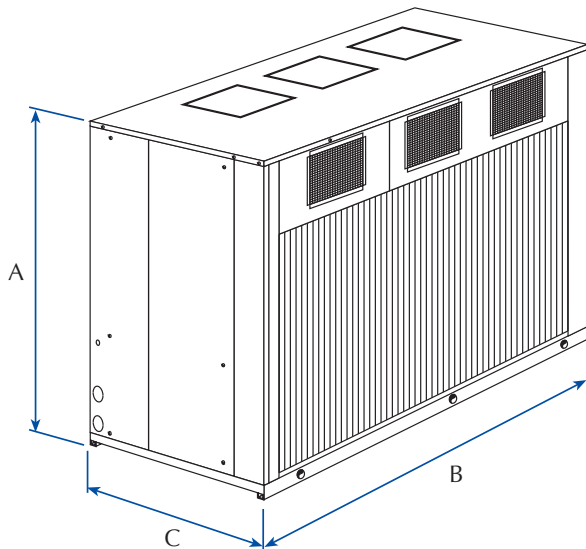
Dimensions (mm)



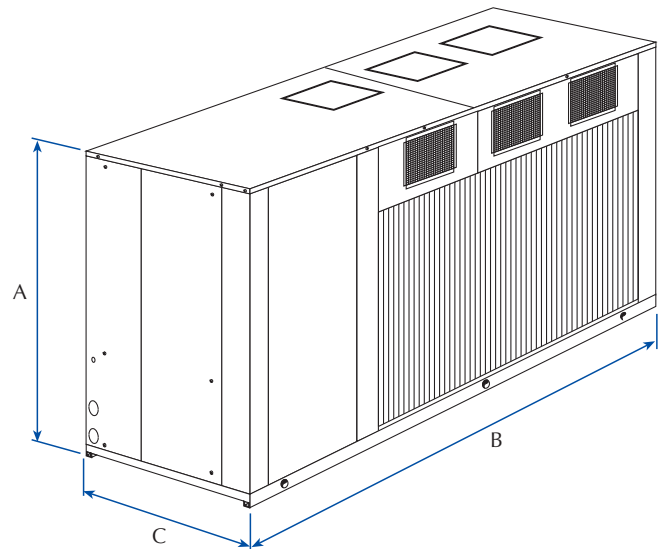
NRC 275 - 550 without storage unit



NRC 275 - 550 with storage unit



NRC 600 - 1000 without storage unit



NRC 600 - 1000 with storage unit

Mod. NRC 00 (without storage unit)

		275	300	325	350	500	550	600	650	700	750	800	900	1000
A	mm	1763	1793	1793	1763	1963	1963	2288	2288	2288	2288	2295	2295	2295
B	mm	2100	2100	2100	2450	2450	2450	3750	3750	4550	4550	4950	4950	4950
C	mm	950	950	950	950	950	950	1100	1100	1100	1100	1300	1300	1300
Weight (kg)	NRC	629	665	699	777	904	919	1481	1498	1737	1918	2670	2700	2960
	NRC H	689	737	748	841	983	999	1593	1610	1831	2001	2797	2827	3095

Mod. NRC P1/P4 (with pumping unit)

		275	300	325	350	500	550	600	650	700	750	800	900	1000
A	mm	1763	1793	1793	1763	1963	1963	2288	2288	2288	2288	2295	2295	2295
B	mm	2100	2100	2100	2450	2450	2450	3750	3750	4550	4550	4950	4950	4950
C	mm	950	950	950	950	950	950	1100	1100	1100	1100	1300	1300	1300
Weight (kg)	NRC	663	699	733	811	938	953	1659	1676	1914	2096	2870	2900	3160
	NRC H	723	771	782	875	1017	1033	1771	1788	2009	2179	2997	3027	3295

Mod. NRC 01/08 (with storage unit and pump)

		275	300	325	350	500	550	600	650	700	750	800	900	1000
A	mm	1763	1793	1793	1763	1963	1963	2288	2288	2288	2288	2295	2295	2295
B	mm	2950	2950	2950	3300	3300	3300	4550	4550	5350	5350	5750	5750	5750
C	mm	950	950	950	950	950	950	1100	1100	1100	1100	1300	1300	1300
Weight (kg)	NRC	827	891	901	996	1121	1138	1743	1760	1998	2180	3070	3100	3350
	NRC H	865	920	930	1030	1194	1210	1855	1872	2093	2263	3190	3220	3482

Note: the weights given for the versions with accumulator refer to the weight with empty storage tank.

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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