

WSB

Air coolers, water-condensed heat pumps with twin-screw compressor
With cooling capacity from 172 to 704 kW
With heating capacity from 184 to 741 kW

R134a



Aermec is part of the EUROVENT Certification Programme. These products can be found in the EUROVENT Guide of certified products.



Preliminary Information

Characteristics

- Available in 10 sizes (4 mono-compressor and 6 bi-compressor)
- Made with R134a gas
- Cold only, with heat pump and evaporating unit
- Some versions available with partial and total recuperator
- Standard version (°):
 - water temperature: up to 55o C, when heat pump is on
- Y version:
 - to produce water up to -6o C, available with no extra charge
- L versions:
 - Low noise, due to:
 - suitably thick zinc sheet panels, for increased noise absorbing power
- Silent and highly efficient screw compressors, cooling power adjustable in continuous modulation from 40 to 100% through a standard thermostatic valve (25-100% with accessory electronic valve)
- Closing valve on compressors outlet and in the liquid line
- Amperometric transformer for each compressor
- Bi-circuit plate interchange, optimized for R134a gas
- Microprocessor modular regulation
- Independent control for single circuits
- Electrical boards with numbered wires
- "Stepless" capacity regulation, with dynamic visualization of cooling power
- "Always working" function. In case of critical conditions, the machine does not stop, but can regulate itself
- Automatic compensation of set points with analogical input (from 4 to 20 mA or 0 – 10V or external air probe)
- Self-adapting differential to ensure correct timing for compressors operation
- PDC (Pull Down Control) system, to prevent the activation of power steps when water temperature quickly approaches the set point
- DL (Demand Limit), a system which makes it possible to limit electrical absorbance in case of insufficient power supply (loading peaks or generator activation)
- Compact dimensions
- Parameters visualized in different languages
- Metal structure, made with zinc sheets coated with anti-rust polyester paint

Accessories

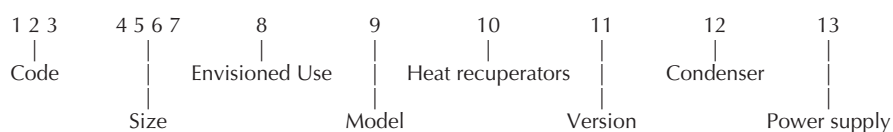
- **AER485P2:** RS-485 interface for supervision systems with MODBUS protocol.
- **PRV:** remote control of the cooler.
- **RIF-B:** Phase advancer. Connected in parallel to the motor, it makes it possible to decrease the absorbed current. It can only be installed during the manufacturing phase, and must therefore be requested during the purchase order.
- **AVX:** Spring anti-vibration supports.
- **ROME0:** The ROME0 device (Remote Overwatching Modem Enabling Operation) enables the cooler to be remotely controlled by a common WAP cell phone. It can send an alarm or a pre-alarm text message to up to 3 GSM cell phones, even if not equipped with WAP browser. The kit includes the AER485, to which an AER485P2 must be added for each compressor.
- **SAP:** There is a series of accumulation tanks and pumps available which are not dimensionally compatible. Please check the technical manuals.

Mod	Accessories compatibility									
	0701	0801	0901	1101	1402	1602	1802	2202	2502	2802
ROMEO	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AER485P2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RIF	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PRV	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AVX	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Choosing the Unit

By combining the many different options available, it is possible to configure each model in order to satisfy even the most complex needs.

Field Configuration:



Code:

WSB

Size:

0701, 0801, 0901, 1101, 1402, 1602, 1802, 2202, 2502, 2802

Envisioned use:

- ° - Standard, with water over +4 °C
- Y - Low temperature, water up to -6 °C
- X - With electronic valve

Model:

- ° - Standard

Heat recuperators:

- ° - No recuperator
- D - With desuperheater
- T - With total recuperators

Version:

- ° - Standard
- L - Silenced

Condenser:

- ° - PED norms
- E - Moto-evaporating unit

Power supply:

- ° - 3~ 400V 50Hz with fuses
- 8 - 3~ 400V 50Hz with magneto-thermals
- 2 - 3~ 230V 50Hz with fuses
- 4 - 3~ 230V 50Hz with magneto-thermals
- 5 - 3~ 500V 50Hz with fuses
- 9 - 3~ 500V 50Hz with magneto-thermals

Attention: The standard options are represented by this symbol: °;

Example of commercial code: **WSB1602L8**

This is a WSB unit, size 1602 in the silenced version, with PED interchange and electrical board for compressors with 3~ 400V 50Hz motors protected by magneto-thermals. Since each option is represented in a completely different way from the others, it is not necessary to indicate standard versions by using the ° symbol in the commercial code.

Technical information

Mod		0701	0801	0901	1101	1402	1602	1802	2202	2502	2802
Cooling power	kW	172	201	226	281	344	397	453	566	648	704
Total absorbed power	kW	37	42	49	58	74	84	97	117	132	140
Water capacity at the evaporator	l/h	29580	34570	38870	48330	59170	68280	77920	97350	111460	121090
Pressure drop at the evaporator	kPa	40	35	30	34	52	57	54	58	57	67
Water consumption at the condenser	l/h	35950	41800	47300	58310	71900	82730	94600	117480	134160	145170
Pressure drop at the condenser	kPa	56,0	47,8	42,2	47,3	73,0	79,0	77,0	82,0	81,0	95,0
Thermal power	kW	184	211	241	303	361	417	474	606	677	741
Total absorbed power	kW	44	49	56	71	87	98	112	141	153	173
Water capacity at the condenser	l/h	31650	36290	41450	52120	62090	71720	81530	104230	116440	127450
Pressure drop at the condenser	kPa	41	35	31	36	54	57	56	62	59	80
Water consumption at the evaporator	l/h	24080	27860	31820	39900	47130	54870	62260	79980	90130	97700
Pressure drop at the evaporator	kPa	24	21	19	21	31	34	33	36	35	47
E.E.R.	W/W	4,65	4,79	4,61	4,84	4,65	4,73	4,67	4,84	4,91	5,03
EEEC ⁽¹⁾		B	B	B	B	B	B	B	B	B	B
C.O.P.	W/W	4,18	4,31	4,30	4,27	4,15	4,26	4,23	4,30	4,42	4,28
EEEC ⁽¹⁾		B	B	B	B	B	B	B	B	B	B
Power supply		400V-3-50Hz									
Cold current absorption	A	66	74	82	102	132	149	465	205	233	233
Current absorbed in heat pump	A	73	82	91	118	147	166	184	237	259	259
Maximum current (FLA)	A	124	144	162	182	248	288	324	364	430	430
Breakaway starting current (LRA)	A	225	264	310	391	287	336	391	482	575	575
Compressor	Type	Double screw									
Quantity	n°	1	1	1	1	2	2	2	2	2	2
Partialization (standard VT)	%	40-100	40-100	40-100	40-100	20-100	20-100	20-100	20-100	20-100	20-100
Partialization (electronic VT)	%	25-100	25-100	25-100	25-100	12,5-100	12,5-100	12,5-100	12,5-100	12,5-100	12,5-100
Evaporators	Type	Plates									
Quantity	n°	1	1	1	1	1	1	1	1	1	1
Evaporator hydraulic attachments	Ø	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Hydraulic attachments type	Type	Victaulic									
Condenser	Type	Plates									
Quantity	n°	1	1	1	1	1	1	1	1	1	1
Condenser hydraulic attachments	Ø	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Hydraulic attachments type	Type	Victaulic									
Sound pressure	db(A)	58	58	59	60	61	61	62	63	63	63

(1) EEEC class EUROVENT

(2) Sound pressure measured in free field with directional factor 2 to 10 m, according to ISO 3744.

Performance refers to the following conditions:

■ Cooling:

Temperature of water produced 7 °C

Temperature of water when entering condenser 30 °C

Δt = 5 K

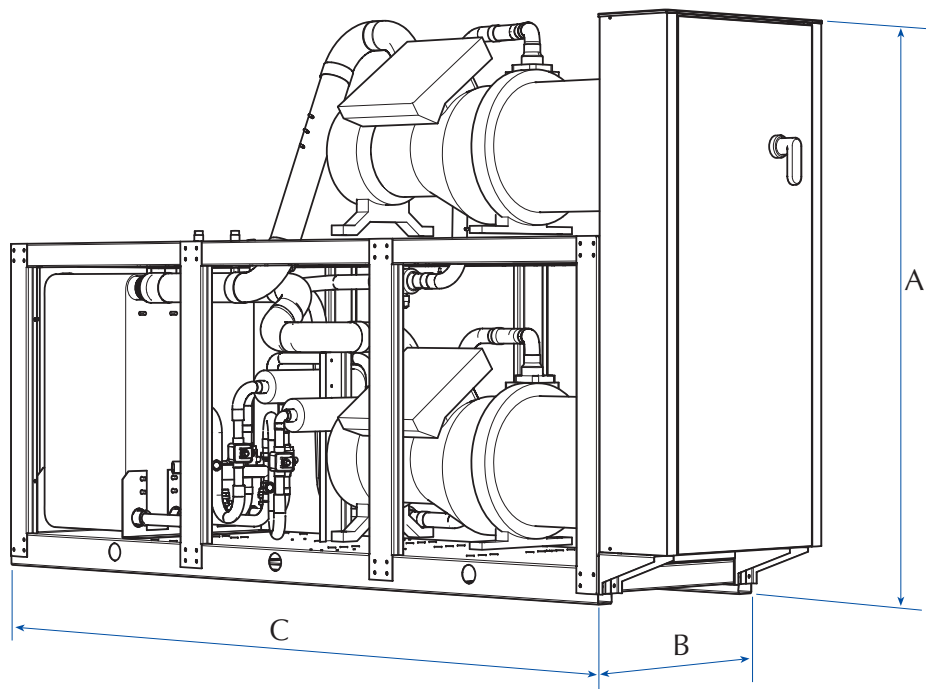
■ Heating:

Temperature of water produced 45 °C

Temperature of water when entering evaporator 10 °C

Δt = 5 K

Dimensions (mm)



Mod		0701	0801	0901	1101	1402	1602	1802	2202	2502	2802
Height (A)	mm	1500	1500	1500	1500	2095	2095	2095	2095	2095	2095
Width (B)	mm	800	800	800	800	800	800	800	800	800	800
Depth (C)	mm	2960	2960	2960	3360	2960	2960	2960	3360	3360	3360
Weight	kg	1133	1182	1233	1604	1750	1803	1866	2608	2738	2766