

WSA

Water cooled heat pumps with twin-screw compressor
 With cooling capacity from 179 up to 715 kW
 With heating capacity from 191 up to 767 kW

R134a

High-efficiency versions



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



Characteristics

- Available in 11 sizes (4 mono-compressor and 7 bi-compressor)
- Made with R134a gas
- Cold only, with heat pump and evaporating unit (delivered with holding charge only)
- Some versions available with partial and total recuperator
- Standard version (°):
 - water temperature: up to 55o C, when heat pump is on
- 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

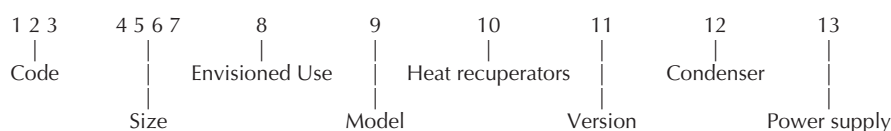
- **AER485P1:** RS-485 interface for supervision systems with MODBUS protocol.
- **PRV3:** remote control of the cooler.
- **RIF:** Phase advancer. Connected in parallel to the motor, it makes it possible to decrease the absorbed current (about 10%). It can only be installed during the manufacturing phase, and must therefore be requested during the purchase order.
- **AVX:** Spring anti-vibration supports.
- **AERWEB30:** the AERWEB device allows the remote control of a chiller from a common PC by means of a serial connection. By using additional modules the device allows control of the chiller by telephone network, using the **AERMODEM**; accessory or GSM network, using the **AERMODEMGSM**. The AERWEB can pilot up to 9 chillers, each of which must be equipped with the AER485 or AER485P2 accessory.
- **SAP:** There is a series of accumulation tanks and pumps available which are not dimensionally compatible. Please check the technical manuals.
- **MULTICHILLER:** Control system for control, switch-on and switch-off of the single chillers in a plant in which multiple units are installed in parallel, always ensuring constant flow to the evaporators.
- **AKW: ACUSTIC KIT:** Allows to reduce noise further by means of: unit soundproof cover optimised using high density ecologic material.

Mod	Vers.	Accessories compatibility										
		0701	0801	0901	1101	1402	1602	1802	2002	2202	2502	2802
AERWEB30		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MULTICHILLER		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AER485P1		✓	✓	✓	✓	✓(x2)	✓(x2)	✓(x2)	✓(x2)	✓(x2)	✓(x2)	✓(x2)
RIF		161	161	201	241	161(x2)	161(x2)	201(x2)	201-241	241(x2)	301(x2)	301(x2)
PRV3		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AVX	°/L	651	652	652	656	658	658	659	667	661	661	661
	E	668	668	668	669	670	670	670	671	672	672	672
	D	651	652	652	654	658	659	659	667	661	661	661
	DE	668	668	668	669	670	670	670	671	672	672	672
	T	652	655	655	657	662	662	662	663	664	664	664
AKW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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:

WSA

Size:

0701, 0801, 0901, 1101, 1402, 1602, 1802, 2002, 2202, 2502, 2802

Envisioned use:

- ° - Standard, with water over +4 °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 (delivered with holding charge only)

Power supply:

- ° - 400V 3~ 50Hz with fuses
- 8 - 400V 3~ 50Hz with magneto-thermals
- 2 - 230V 3~ 50Hz with fuses *
- 4 - 230V 3~ 50Hz with magneto-thermals *
- * (not available as for 2502 and 2802 size)
- 5 - 500V 3~ 50Hz with fuses
- 9 - 500V 3~ 50Hz with magneto-thermals

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

Example of commercial code: **WSA1602L8**

This is a WSA unit, size 1602 in the silenced version, with PED interchange and electrical board for compressors with 400V 3~ 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 WSA		0701	0801	0901	1101	1402	1602	1802	2002	2202	2502	2802
Cooling power	kW	179	213	234	294	357	423	470	529	588	663	715
Total absorbed power	kW	37	42	48	58	74	83	97	106	115	131	140
Water capacity at the evaporator	l/h	30790	36640	40250	50570	61400	72760	80840	90980	101140	114040	122980
Pressure drop at the evaporator	kPa	20	20	19	23	36	40	41	45	48	53	62
Water consumption at the condenser	l/h	37150	43860	48500	60540	74130	87030	97520	109280	120920	136570	147060
Pressure drop at the condenser	kPa	27	27	26	31	50	55	58	62	67	75	88
Heating power	kW	191	218	245	308	375	434	491	557	625	687	767
Total absorbed power	kW	43	48	56	70	86	97	111	126	140	151	172
Water capacity at the condenser	l/h	32850	37500	42140	52980	64500	74650	84450	95810	107500	118160	131920
Pressure drop at the condenser	kPa	41	20	19	24	36	39	42	46	50	55	74
Water consumption at the evaporator	l/h	25460	29240	32510	40940	49710	57960	65360	74160	83420	92190	102340
Pressure drop at the evaporator	kPa	12	12	12	14	22	24	25	27	29	32	44
E.E.R.	W/W	4,84	5,07	4,88	5,07	4,82	5,10	4,85	4,97	5,11	5,06	5,11
EEEC ⁽¹⁾	B	A	B	A	B	A	B	B	A	A	A	A
C.O.P.	W/W	4,44	4,54	4,38	4,40	4,36	4,47	4,42	4,43	4,46	4,55	4,46
EEEC ⁽¹⁾	B	A	B	B	B	A	B	B	A	A	A	A
Power supply		400V 3~ 50Hz										
Cold current absorption	A	66	74	82	101	132	148	164	184	203	233	233
Current absorbed in heat pump	A	73	82	91	117	146	164	183	209	235	257	258
Maximum current (FLA)	A	124	144	162	182	248	288	324	344	364	430	430
Breakaway starting current (LRA)	A	163	192	229	300	387	336	391	462	482	575	575
Compressor	Type	Double screw										
Quantity	n°	1	1	1	1	2	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	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	12,5-100
Evaporators	Type	Plate										
Quantity	n°	1	1	1	1	1	1	1	1	1	1	1
Evaporator hydraulic attachments	Ø	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Hydraulic attachments type	Type	Victaulic										
Condenser	Type	Plate										
Quantity	n°	1	1	1	1	1	1	1	1	1	1	1
Condenser hydraulic attachments	Ø	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Hydraulic attachments type	Type	Victaulic										
Sound pressure ⁽²⁾	db(A)	54	54	54	60	57	57	57	61	63	63	63

WSA - E		0701	0801	0901	1101	1402	1602	1802	2002	2202	2502	2802
Cooling power	kW	163	192	212	263	326	385	428	481	539	601	676
Total absorbed power	kW	41	47	54	66	82	93	108	120	132	146	159
Water capacity at the evaporator	l/h	28040	33020	36460	45240	56070	66220	73620	82790	92710	103370	116270
Pressure drop at the evaporator	kPa	18	18	17	21	33	37	38	40	45	49	59
E.E.R.	W/W	3,98	4,09	3,93	3,98	3,98	4,14	3,96	4,00	4,08	4,12	4,25
EEEC ⁽¹⁾	A	A	A	A	A	A	A	A	A	A	A	A
Power supply		400V 3~ 50Hz										
Cold current absorption	A	72	81	90	113	144	162	180	204	226	254	272
Maximum current (FLA)	A	124	144	162	182	248	288	324	344	364	430	430
Breakaway starting current (LRA)	A	225	264	310	391	287	336	391	462	482	575	575
Compressor	Type	Double screw										
Quantity	n°	1	1	1	1	2	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	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	12,5-100
Evaporators	Type	Plates										
Quantity	n°	1	1	1	1	1	1	1	1	1	1	1
Evaporator hydraulic attachments	Ø	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Hydraulic attachments type	Type	Victaulic										
Sound pressure ⁽²⁾	db(A)	54	54	54	60	57	57	57	61	63	63	63

(1) EEE 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
 $\Delta t = 5$ K

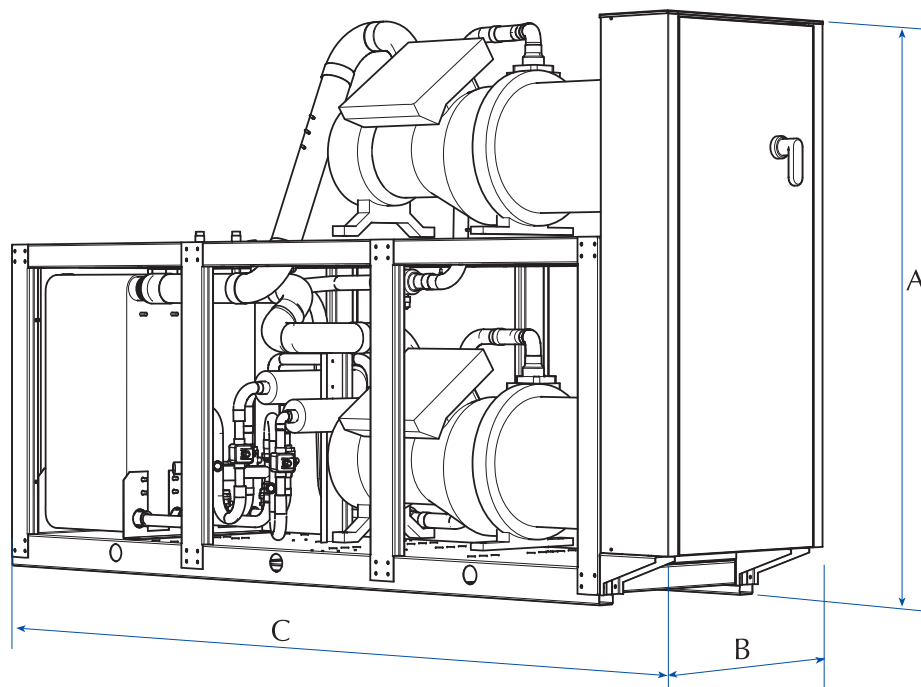
■ Heating:

Temperature of water produced 45 °C
 Temperature of water when entering evaporator 10 °C
 $\Delta t = 5$ K

■ Moto-evaporating unit:

Temperature of water produced 7 °C
 Condensing temperature 45 °C
 $\Delta t = 5$ K

Dimensions (mm)



Mod WSA (° - L)		0701	0801	0901	1101	1402	1602	1802	2002	2202	2502	2802
Height (A) °/E	mm	1775	1775	1775	1775	1975	1975	2005	1985	2065	2065	2065
Height (A) L/LE	mm	1775	1775	1775	1775	2120	2120	2120	2120	2120	2120	2120
Width (B)	mm	810	810	810	810	810	810	810	810	810	810	810
Depth (C)	mm	2960	2960	2960	3360	2960	2960	2960	3360	3360	3360	3360
Weight	kg (°)	1251	1301	1357	1788	2028	2097	2169	2598	3000	3095	3095
	kg (L)	1379	1429	1485	1934	2256	2325	2397	2855	3257	3352	3352
	kg (D/DE)	1479	1529	1585	2045	2256	2325	2397	2855	3257	3352	3352

Mod WSA (° - L)		0701 T	0801 T	0901 T	1101 T	1402 T	1602 T	1802 T	2002 T	2202 T	2502 T	2802 T
Height (A) °	mm	2000	2000	2000	2000	2050	2050	2050	2050	2065	2065	2065
Height (A) L	mm	2120	2120	2120	2120	2120	2120	2120	2120	2120	2120	2120
Width (B)	mm	810	810	810	810	1250	1250	1250	1250	1250	1250	1250
Depth (C)	mm	2960	2960	2960	3360	3060	3060	3060	3460	3460	3460	3460
Weight	kg	1479	1529	1585	2045	2294	2363	2435	2894	3296	3391	3391