

R134a



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 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 up 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

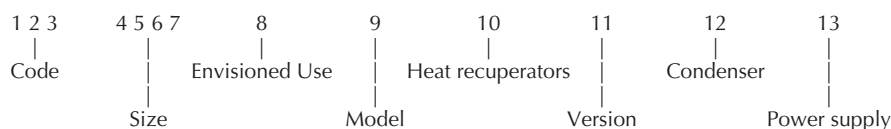
- **AER485P1:** RS-485 interface for supervision systems with MODBUS protocol.
- **PRV3:** remote control of the cooler.
- **RIF:** Phase advancer. Connected in parallel to the motor, it makes it possible to decrease the absorbed current (about 10%). It can only be installed during the manufacturing 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.

Accessories compatibility												
Mod	Vers.	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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	%/L	651	651	651	653	656	658	658	667	660	661	661
	E	668	668	668	669	670	670	670	671	672	672	672
AVX	D	651	651	652	653	658	658	659	667	660	661	661
	T	651	652	652	654	662	662	662	663	664	664	664
	DE	668	668	668	669	670	670	670	671	672	672	672
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:

WSB

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: **WSB1602L8**

This is a WSB 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 WSB		0701	0801	0901	1101	1402	1602	1802	2002	2202	2502	2802
Cooling power	kW	172	201	226	281	344	397	453	507	566	648	704
Total absorbed power	kW	37	42	49	58	74	84	97	107	117	132	140
Water capacity at the evaporator	l/h	29580	34570	38870	48330	59170	68280	77920	87150	97350	111460	121090
Pressure drop at the evaporator	kPa	40	35	30	34	52	57	54	56	58	57	67
Water consumption at the condenser	l/h	35950	41800	47300	58310	71900	82730	94600	105520	117480	134160	145170
Pressure drop at the condenser	kPa	56,0	47,8	42,2	47,3	73,0	79,0	77,0	79	82,0	81,0	95,0
Thermal power	kW	184	211	241	303	361	417	474	540	606	677	741
Total absorbed power	kW	44	49	56	71	87	98	112	127	141	153	173
Water capacity at the condenser	l/h	31650	36290	41450	52120	62090	71720	81530	92820	104230	116440	127450
Pressure drop at the condenser	kPa	41	35	31	36	54	57	56	63	62	59	80
Water consumption at the evaporator	l/h	24080	27860	31820	39900	47130	54870	62260	71030	79980	90130	97700
Pressure drop at the evaporator	kPa	24	21	19	21	31	34	33	34	36	35	47
E.E.R.	W/W	4,65	4,79	4,61	4,84	4,65	4,73	4,67	4,74	4,84	4,91	5,03
EEEC ⁽¹⁾	B	B	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	4,26	4,30	4,42	4,28
EEEC ⁽¹⁾	B	B	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	165	184	205	233	233
Current absorbed in heat pump	A	73	82	91	118	147	166	184	210	237	259	259
Maximum current (FLA)	A	124	144	162	182	248	288	324	344	364	430	430
Breakaway starting current (LRA)	A	163	192	229	300	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	Plastre										
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	db(A)	58	58	59	60	61	61	62	63	63	63	63

Mod WSB - E		0701	0801	0901	1101	1402	1602	1802	2002	2202	2502	2802
Cooling power	kW	155	185	207	258	311	365	410	465	521	594	665
Total absorbed power	kW	41	46	53	66	82	92	107	120	131	146	159
Water capacity at the evaporator	l/h	26660	31820	35600	44380	53490	62780	70520	79924	89610	102170	114380
Pressure drop at the evaporator	kPa	40	35	30	34	48	53	50	51	54	53	64
E.E.R.	W/W	3,78	4,02	3,91	3,91	3,79	3,97	3,83	3,88	3,98	4,07	4,18
EEEC ⁽¹⁾	A	A	A	A	A	A	A	A	A	A	A	A
Power supply		400V 3~ 50Hz										
Cold current absorption	A	71	81	89	113	72	80	89	113	203	127	136
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	Tipo	Double screw										
Quantity	n°	11	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	Tipo	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	Tipo	Victaulic										
Sound pressure ⁽²⁾	db(A)	58	58	59	60	61	61	62	63	63	63	63

(1) EEEEC 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

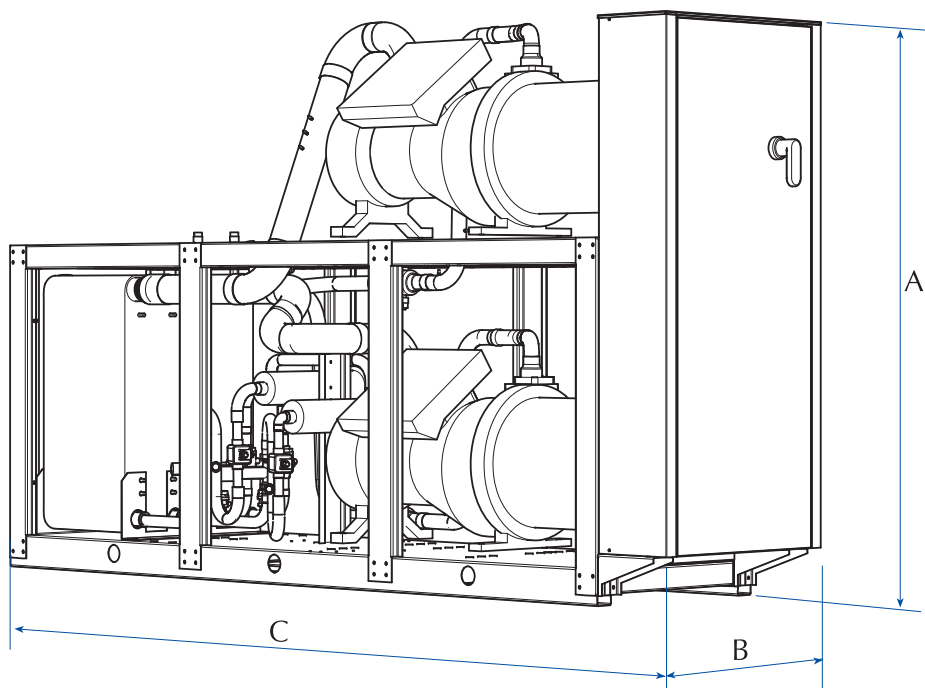
Heating:

- Temperature of water produced 45 °C
- Temperature of water when entering evaporator 10 °C
- Δt = 5 K

Moto-evaporating unit:

- Temperature of water produced 7 °C
- Condensing temperature 45 °C
- Δt = 5 K

Dimensions (mm)



Mod WSB (° - L)		0701	0801	0901	1101	1402	1602	1802	2002	2202	2502	2802
Height (A) °	mm	1775	1775	1775	1775	1975	1975	2005	1985	2065	2065	2065
Height (A) L	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 WSB (° - 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