HWSG

Water cooled heat pump reversible water side

Cooling capacity 110 ÷ 396 kW
Heating capacity 122 ÷ 595 kW

- **Unit optimised for high condenser temperatures.**
- **Production of hot water from condenser up to 65° C.**

DESCRIPTION

Units for internal installation offering chilled/hot water, designed to mit air conditioning needs in residential/commercial complexes or industrial applications.
Compact and flexible, perfect alignment to the requested load thanks to an accurate control algorithm.
The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

VERSIONS

° Standard
L Standard silenced

FEATURES

Operating field

Production of chilled water up to 4°C of water produced on the evaporator side, but also suitable for use in heat pump mode with condenser water temperature up to 65°C.

Units mono or dual-circuit

Depending on the size, the units are one-circuit or two-circuit models to ensure maximum efficiency with full loads as well as partial loads and guarantee operation continuity if one of the circuits stop.
They are equipped with screw compressors and system and source side plate heat exchangers dedicated to use of the new HFO R1234ze gas.

HFO R1234ze refrigerant gas

HFO R1234ze is a mixture featuring:
ODP = 0 e GWP (Global Warming Potential) = 7, R134a GWP = 1430, with thermodynamic properties that guarantee and sometimes improve efficiencies achieved with HFC refrigerants.

Electronic expansion valve

The possibility to use electronic expansion valve, offers significant benefits, especially when the chiller is working with partial loads, increasing the energy efficiency of the unit. Standard for all sizes.

CONTROL

pCO^5 control type
Microprocessor control, with keyboard and LCD display, for easy access on the unit with a menu available in several languages.
Adjustment includes complete management of the alarms and their log.
Possibility to control two units in a Master-Slave configuration
The presence of a programmable timer allows functioning time periods and a possible second set-point to be set.
The temperature control takes place with the integral proportional logic, based on the water output temperature.

ACCESSORIES

AER485P1: RS-485 interface for supervising systems with MODBUS protocol. 1 accessory is provided for each unit control board.
AER485P1 x n° 2: RS-485 interface for supervising systems with MODBUS protocol. 1 accessory is provided for each unit control board.
AERBAC-ONE: Ethernet communication interface for Bacnet/IP and Modbus TCP/IP protocols, HTTPS protocol for web interface, encrypted communication protocols and access credential management in accordance with the latest standards. One accessory is provided for each unit control board.
AERBACP: Ethernet communication interface for Bacnet/IP and Modbus TCP/IP protocols. 1 accessory is provided for each unit control board.
AERNET: The device remotely controls, manages and remotely monitors a chiller/heat pump using a PC, smartphone or table via a Cloud connection. AERNET acts as Master while each connected unit is configured as Slave up to a maximum of 6 control cards. The connection is made via cable and/or USB key. Wi-Fi connectivity is not available. It is also possible to save a log file with all the data from the connected units to your terminal with a simple click for possible post-analysis. With the purchase of the Router, the Customer benefits from a 24-month free period during which he can use the Aernet Service at no additional cost. At the end of this initial period, the Service may be renewed by subscribing to a 1, 2 or 3 year subscription. For further details on costs and renewal methods, please contact our office or consult the technical documentation available on our website. www.aermec.com.
MULTICHILLER-EVO: Control, switch-on and switch-off system of the single chillers where multiple units are installed in parallel (max. no. 9), always ensuring constant flow rate to the evaporators.
PRV3: Allows you to control the chiller at a distance.

SGD: Electronic expansion that enables connecting to the photovoltaic system and heat pumps to accumulate heat in the DHW tank or in the heating system during the photovoltaic production phase and release it at times when heating demand is highest.
AVX: Spring anti-vibration supports.

ACCESSORIES COMPATIBILITY

Model	Ver	0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
AER485P1	°,L	•	•	•	•	•								
AER485P1 x n° 2 (1)	°,L						•	•	•	•	•	•	•	•
AERBAC-ONE	°,L	•	•	•	•	•								
AERBAC-ONE x no. 2	°,L						•	•	•	•	•	•	•	•
AERBACP	°,L	•	•	•	•	•								
AERBACP x no. 2	°,L						•	•	•	•	•	•	•	•
AERNET	°,L	•	•	•	•	•	•	•	•	•	•	•	•	•
MULTICHILLER-EVO	°,L	•	•	•	•	•	•	•	•	•	•	•	•	•
PRV3	°,L	•	•	•	•	•	•	•	•	•	•	•	•	•
SGD	°,L	•	•	•	•	•	•	•	•	•	•	•	•	•

(1) x Indicates the quantity of accessories to match.

Antivibration

Ver	0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
°, L	AVX651	AVX651	AVX652	AVX652	AVX656	AVX658	AVX658	AVX658	AVX659	AVX667	AVX661	AVX661	AVX661

CONFIGURATOR

Field	Description
1,2,3,4	**HWSG**
5,6,7,8	**Size** 0601, 0701, 0801, 0901, 1101, 1202, 1402, 1602, 1802, 2002, 2202, 2502, 2802
9	**Operating field**
X	Electronic thermostatic expansion valve (1)
Z	Low temperature electronic thermostatic valve (2)
10	**Model**
°	Optimised for high condenser temperatures
11	**Heat recovery**
D	With desuperheater (3)
T	With total recovery (3)
°	Without heat recovery
12	**Version**
°	Standard
L	Standard silenced
13	**Evaporator**
°	Standard
14	**Power supply**
2	230V ~ 3 50Hz with fuses
4	230V ~ 3 50Hz with magnet circuit breakers
5	500V ~ 3 50Hz with fuses
8	400V ~ 3 50Hz with magnet circuit breakers
9	500V ~ 3 50Hz with magnet circuit breakers
°	400V ~ 3 50Hz with fuses

(1) Water produced from 4 °C ÷ 16 °C
(2) Water produced from -5 °C ÷ 4 °C
(3) Order management

PERFORMANCE SPECIFICATIONS

HWSG - °/L

Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002
Cooling performance 12 °C / 7 °C (1)												
Cooling capacity	°,L	kW	110,5	135,1	156,5	176,0	215,8	221,7	271,4	315,9	354,9	396,8
Input power	°,L	kW	23,2	27,7	31,3	35,6	43,2	46,2	57,0	63,9	73,6	80,7
Cooling total input current	°	A	48,50	55,10	60,80	65,50	82,00	96,50	110,60	122,50	132,10	148,60
	L	A	48,00	55,00	61,00	66,00	82,00	96,00	111,00	122,00	132,00	149,00
EER	°,L	W/W	4,77	4,87	5,00	4,94	4,99	4,80	4,76	4,94	4,82	4,92
Water flow rate system side	°,L	l/h	19.007	23.236	26.907	30.255	37.102	38.143	46.690	54.329	61.030	68.240
Pressure drop system side	°,L	kPa	16	11	10	11	12	24	32	21	23	25
Water flow rate source side	°,L	l/h	22.875	27.903	32.183	36.261	44.378	45.808	56.089	64.986	73.289	81.668
Pressure drop source side	°,L	kPa	23	16	15	15	17	34	47	31	34	36
Heating performance 40 °C / 45 °C (2)												
Heating capacity	°,L	kW	122,8	149,7	172,4	194,4	237,8	245,8	301,0	348,2	393,1	437,6
Input power	°,L	kW	27,7	33,1	37,3	42,5	51,6	55,2	68,3	76,4	88,0	96,5
Heating total input current	°	A	57,50	65,30	72,20	77,80	97,30	114,50	131,30	145,40	156,70	176,30
	L	A	58,00	65,00	72,00	78,00	97,00	114,00	131,00	145,00	157,00	176,00
COP	°,L	W/W	4,43	4,52	4,62	4,57	4,61	4,45	4,41	4,56	4,47	4,53
Water flow rate system side	°,L	l/h	21.319	25.989	29.942	33.756	41.288	42.668	52.248	60.463	68.263	75.995
Pressure drop system side	°,L	kPa	20	14	13	13	15	29	41	27	30	31
Water flow rate source side	°,L	l/h	27.820	34.012	39.384	44.285	54.307	55.832	68.342	79.522	89.331	99.885
Pressure drop source side	°,L	kPa	35	24	22	23	26	50	69	46	50	54

(1) Date 14511:2022; Water user side 12 °C / 7 °C; Water source side 30 °C / 35 °C
(2) Date 14511:2022; Water user side 40 °C / 45 °C; Water source side 10 °C / 7 °C

Size			2202	2502	2802
Heating performance 40 °C / 45 °C (1)					
Heating capacity	°,L	kW	488,6	540,8	595,5
Input power	°,L	kW	106,1	119,3	131,9
Heating total input current	°,L	A	196,00	225,00	240,10
COP	°,L	W/W	4,60	4,53	4,52
Water flow rate system side	°,L	l/h	84.852	93.902	103.410
Pressure drop system side	°,L	kPa	34	37	45
Water flow rate source side	°,L	l/h	112	124	136

(1) Date 14511:2022; Water user side 40 °C / 45 °C; Water source side 10 °C / 7 °C

ENERGY INDICES (REG. 2016/2281 EU)

Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002
SEER - 12/7 (EN14825: 2018)												
SEER	°,L	W/W	5,22	5,44	5,64	5,62	5,62	5,35	5,36	5,78	5,65	5,74
Seasonal efficiency	°,L	%	205,90	214,40	222,60	221,70	221,90	210,80	211,50	228,30	223,00	226,40
Water Regulation (1)	°,L	type	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW
Performance in average ambient conditions (average) - 55 °C (2)												
Pdesignh	°,L	kW	155,00	188,00	217,00	245,00	299,00	309,00	379,00	-	-	-
SCOP	°,L	W/W	4,53	4,63	4,73	4,68	4,68	4,63	4,60	-	-	-
ηsh	°,L	%	173,00	177,00	181,00	179,00	179,00	177,00	176,00	-	-	-
Water Regulation (1)	°,L	type	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	-	-	-

(1) VW/VO - variable water flow rate/variable outlet temperature; FW/VO - fixed water flow rate/variable outlet temperature; VW/FO - variable water flow rate/fixed outlet temperature; FW/FO - fixed water flow rate/fixed outlet temperature.
(2) Efficiencies for average temperature applications (55 °C)

ELECTRIC DATA

Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
Electric data															
Maximum current (FLA)	°,L	A	75,6	95,6	104,4	115,9	143,2	151,2	191,2	208,8	231,8	259,1	286,4	323,8	352,0
Peak current (LRA)	°,L	A	180,0	163,0	192,0	229,0	267,0	255,6	258,6	296,4	344,9	372,2	410,2	475,9	490,0

GENERAL TECHNICAL DATA

Refrigerant circuit

Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
Compressor															
Type	°,L	type	Screw												
Compressor regulation	°,L	Type	On/Off												
Number	°,L	no.	1	1	1	1	1	2	2	2	2	2	2	2	2
Circuits	°,L	no.	1	1	1	1	1	2	2	2	2	2	2	2	2
Refrigerant	°,L	type	R1234ze(E)												
Total refrigerant charge (1)	°,L	kg	18,00	20,00	22,00	25,00	38,00	36,00	41,00	43,00	50,00	55,00	66,00	70,00	78,00
Potential global heating (GWP)	°,L		7												
Equivalent CO_2	°,L	tCO_2eq	0,13	0,14	0,15	0,18	0,27	0,25	0,29	0,30	0,35	0,39	0,46	0,49	0,55

(1) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.

System side heat exchanger

Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
System side heat exchanger															
Type	°,L	type	Brazed plate												
Number	°,L	no.	1	1	1	1	1	1	1	1	1	1	1	1	1
Connections (in/out)	°,L	Type	Grooved joints												
Sizes (in/out)	°,L	Ø	3″												

Source side heat exchanger

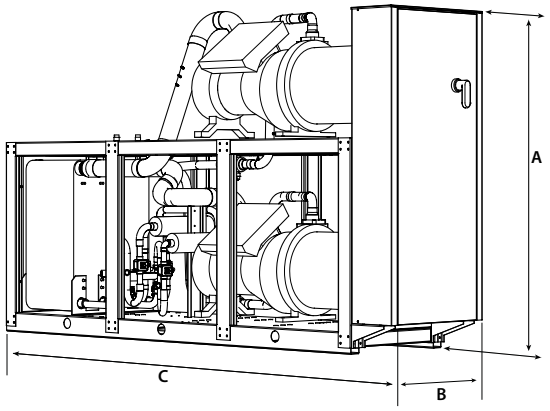
Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
Source side heat exchanger															
Type	°,L	type	Brazed plate												
Number	°,L	no.	1	1	1	1	1	1	1	1	1	1	1	1	1
Connections (in/out)	°,L	Type	Grooved joints												
Sizes (in/out)	°,L	Ø	3″												

Sound data

Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
Sound data calculated in cooling mode (1)															
Sound power level	°	dB(A)	87,0	86,0	86,0	86,0	92,0	89,0	90,0	89,0	89,0	93,0	95,0	95,0	95,0
	L	dB(A)	78,9	78,0	78,0	78,0	84,0	81,0	81,9	81,0	81,0	85,0	87,0	87,0	87,0
Sound pressure level (10 m)	°	dB(A)	55,2	54,2	54,2	54,2	60,2	57,2	58,1	57,2	57,2	61,1	63,1	63,1	63,1
	L	dB(A)	47,1	46,2	46,2	46,2	52,2	49,1	50,0	49,1	49,1	53,1	55,1	55,1	55,1

(1) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification. Sound pressure (cold functioning) measured in free field, 10m away from the unit external surface (in compliance with UNI EN ISO 3744).

DIMENSIONS



Size			0601	0701	0801	0901	1101	1202	1402	1602	1802	2002	2202	2502	2802
Dimensions and weights															
A	°	mm	1.775	1.775	1.775	1.775	1.775	1.975	1.975	1.975	2.005	1.985	2.065	2.065	2.065
	L	mm	1.775	1.775	1.775	1.775	1.775	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120
B	°,L	mm	810	810	810	810	810	810	810	810	810	810	810	810	810
C	°,L	mm	2.960	2.960	2.960	2.960	3.360	2.960	2.960	2.960	2.960	3.360	3.360	3.360	3.360
Empty weight	°	kg	1.101	1.251	1.301	1.357	1.788	1.738	2.028	2.097	2.169	2.598	3.000	3.095	3.095
	L	kg	1.229	1.379	1.429	1.485	1.934	1.966	2.256	2.325	2.397	2.855	3.257	3.352	3.352

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