WSH

Reversible water-cooled heat pump, gas side

Cooling capacity 165,8 ÷ 671,3 kW
Heating capacity 183,3 ÷ 784,8 kW

- Reversing valve
- Optional electronic expansion valve which allows: cooling down to -6 °C
- Modulating capacity control 25-100%

DESCRIPTION

Units for internal installation offering chilled/hot water, designed to mit air conditioning needs in residential/commercial complexes or industrial applications.
High-efficiency screw compressors, with silent functioning and with cooling capacity adjustment via continuous modulation from 40 to 100%. (25-100% with electronic valve OPTION which is to be requested when placing the order).
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

Full-load operation with the production of chilled water 4-16 °C, and the possibility to produce also negative temperature water down to -6 °C for the evaporator and hot water for the condenser up to 55 °C.
(for more information, refer to the technical documentation).

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.

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

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.
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.

FACTORY FITTED ACCESSORIES

RIF: Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current.

AKW: Acoustic kit that lowers the noise level even further, thanks to the special coating on the panelling or on those components that produce the most noise in the unit. Available for the low noise version only.

ACCESSORIES COMPATIBILITY

Model	Ver	0701	0801	0901	1101	1402	1602	1802	2002	2202	2502
AER485P1	°,L	•	•	•	•						
AER485P1 x no. 2	°,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	•	•	•	•	•	•	•	•	•	•

Antivibration

Ver	0701	0801	0901	1101	1402	1602	1802	2002	2202	2502
°, L	AVX665	AVX665	AVX665	AVX666	AVX662	AVX662	AVX662	AVX663	AVX664	AVX664

Power factor correction

Ver	0701	0801	0901	1101	1402
°, L	RIF161	RIF161	RIF201	RIF241	RIF161 x 2

A grey background indicates the accessory must be assembled in the factory

Ver	1602	1802	2002	2202	2502
°, L	RIF161 x 2	RIF201 x 2	RIF201+RIF241	RIF241 x 2	RIF301 x 2

A grey background indicates the accessory must be assembled in the factory

Acoustic kit

Ver	0701	0801	0901	1101	1402	1602	1802	2002	2202	2502
L	AKW (1)	AKW (1)	AKW (1)	AKW (1)	AKW (1)	AKW (1)	AKW (1)	AKW (1)	AKW (1)	AKW (1)

(1) Available only in low noise version
A grey background indicates the accessory must be assembled in the factory

CONFIGURATOR

Field		Description
1,2,3		**WSH**
4,5,6,7		**Size** 0701, 0801, 0901, 1101, 1402, 1602, 1802, 2002, 2202, 2502
8		**Operating field**
	X	Low temperature electronic thermostatic valve (1)
	°	Standard mechanic thermostatic valve (2)
9		**Model**
	°	Water cooled heat pump, reversible refrigerant side
10		**Heat recovery**
	D	With desuperheater (3)
	°	Without heat recovery
11		**Version**
	°	Standard
	L	Standard silenced
12		**Condenser**
	°	PED regulation
13		**Power supply**
	2	230V ~ 3 50Hz with fuses
	4	230V ~ 3 50Hz with magnet circuit breakers (4)
	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

(1) Water produced up to +4 °C. For different temperature please contact the factory.
(2) Water produced up to +4 °C
(3) In cooling mode, a water temperature no lower than 35°C must always be guaranteed on the heat exchanger inlet.
(4) Not available for size 2502

PERFORMANCE SPECIFICATIONS

WSH - °/L

Size			0701	0801	0901	1101	1402	1602	1802	2002	2202	2502
Cooling performance 12 °C / 7 °C (1)												
Cooling capacity	°	kW	165,8	195,7	216,7	269,7	359,6	427,5	465,5	525,4	593,4	671,3
	L	kW	165,8	195,7	216,7	269,7	359,6	427,5	465,5	525,4	593,4	671,3
Input power	°	kW	37,1	42,3	48,3	58,8	79,2	92,0	103,5	114,9	127,1	146,9
	L	kW	37,1	42,3	48,3	58,8	79,2	92,0	103,5	114,9	127,1	146,9
Cooling total input current	°	A	65,00	73,00	80,60	100,00	135,00	147,00	162,00	188,00	210,00	242,00
	L	A	65,00	73,00	81,00	100,00	135,00	147,00	162,00	188,00	210,00	242,00
EER	°,L	W/W	4,47	4,63	4,48	4,59	4,54	4,65	4,50	4,57	4,67	4,57
Water flow rate source side	°	l/h	34.669	40.687	45.310	56.134	74.845	88.595	96.985	109.020	122.605	139.074
	L	l/h	34.669	40.687	45.310	56.133	74.845	88.595	96.985	109.020	122.605	139.074
Pressure drop source side	°,L	kPa	30	31	30	36	57	62	65	79	88	101
Water flow rate system side	°,L	l/h	28.521	33.675	37.283	46.389	61.852	73.535	80.064	90.373	102.056	115.457
Pressure drop system side	°,L	kPa	23	24	22	27	43	47	48	59	65	74
Heating performance 40 °C / 45 °C (2)												
Heating capacity	°	kW	183,3	210,3	237,3	300,3	420,5	490,6	540,6	620,7	700,8	784,8
	L	kW	183,3	210,3	237,3	300,3	420,5	490,6	540,6	620,7	700,8	784,8
Input power	°	kW	45,4	51,6	58,7	74,4	102,9	122,0	131,6	152,1	171,9	188,2
	L	kW	45,4	51,6	58,7	74,4	102,9	122,0	131,6	152,1	171,9	188,2
Heating total input current	°	A	81,00	91,00	101,00	130,50	179,00	210,00	221,00	257,00	291,00	320,00
	L	A	81,00	91,00	101,00	131,00	179,00	210,00	221,00	257,00	291,00	320,00
COP	°,L	W/W	4,04	4,08	4,05	4,03	4,09	4,02	4,11	4,08	4,08	4,17
Water flow rate source side	°,L	l/h	40.419	46.517	52.342	66.297	93.577	108.720	120.586	138.319	156.325	176.563
Pressure drop source side	°,L	kPa	42	42	39	51	76	81	82	90	101	112
Water flow rate system side	°,L	l/h	31.805	36.498	41.190	52.140	72.996	85.162	93.852	107.756	121.659	136.259
Pressure drop system side	°,L	kPa	24	23	23	29	57	62	63	72	79	91

(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

ENERGY INDICES (REG. 2016/2281 EU)

Size			0701	0801	0901	1101	1402	1602	1802	2002	2202	2502
SEER - 12/7 (EN14825: 2018) (1)												
SEER	°,L	W/W	5,04	5,47	5,29	5,11	4,82	4,90	4,77	4,70	4,70	4,53
Seasonal efficiency	°,L	%	198,6%	215,8%	208.6%	201,3%	189,8%	193,0%	187,8%	185,0%	185,0%	178,2%
UE 813/2013 performance in average ambient conditions (average) - 55 °C - Pdesignh ≤ 400 kW (2)												
Pdesignh	°,L	kW	249	285	322	-	-	-	-	-	-	-
SCOP	°,L	W/W	4,20	4,25	4,23	-	-	-	-	-	-	-
ηsh	°,L	%	160.0%	162.0%	161.0%	-	-	-	-	-	-	-

(1) Calculation performed with VARIABLE water flow rate and VARIABLE outlet temperature.
(2) Efficiencies for average temperature applications (55 °C)

ELECTRIC DATA

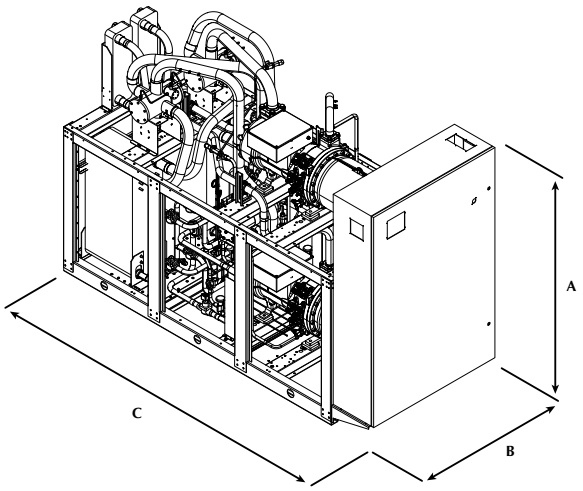
Size			0701	0801	0901	1101	1402	1602	1802	2002	2202	2502
Electric data												
Maximum current (FLA)	°,L	A	124,0	144,0	162,0	182,0	248,0	288,0	324,0	344,0	364,0	430,0
Peak current (LRA)	°,L	A	163,0	192,0	229,0	300,0	287,0	336,0	391,0	462,0	482,0	575,0

GENERAL TECHNICAL DATA

Size			0701	0801	0901	1101	1402	1602	1802	2002	2202	2502
Compressor												
Type	°,L	type	Screw									
Compressor regulation	°,L	Type	On-Off									
Number	°,L	no.	1	1	1	1	2	2	2	2	2	2
Circuits	°,L	no.	1	1	1	1	2	2	2	2	2	2
Refrigerant	°,L	type	R134a									
System side heat exchanger												
Type	°,L	type	Brazed plate									
Number	°,L	no.	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												
Type	°,L	type	Brazed plate									
Number	°,L	no.	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 calculated in cooling mode (1)												
Sound power level	°	dB(A)	86,0	86,0	86,0	92,0	89,0	89,0	89,0	93,0	95,0	95,0
	L	dB(A)	78,0	78,0	78,0	84,0	81,0	81,0	81,0	85,0	87,0	87,0
Sound pressure level (10 m)	°	dB(A)	54,1	54,1	54,1	60,1	57,1	57,1	57,1	61,0	63,0	63,0
	L	dB(A)	46,1	46,1	46,1	52,1	49,1	49,1	49,1	53,0	55,0	55,0

(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			0701	0801	0901	1101	1402	1602	1802	2002	2202	2502
Dimensions and weights												
A	°	mm	2.050	2.050	2.050	2.050	2.050	2.050	2.050	2.050	2.050	2.050
	L	mm	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120
B	°,L	mm	809	809	809	809	1.249	1.249	1.249	1.249	1.249	1.249
C	°,L	mm	2.960	2.960	2.960	3.360	3.060	3.060	3.060	3.460	3.460	3.460
Empty weight	°	kg	1.391	1.443	1.506	1.946	2.276	2.350	2.423	2.872	3.309	3.407
	L	kg	1.622	1.674	1.737	2.206	2.542	2.616	2.689	3.168	3.605	3.703

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