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 adjustment, with keyboard and LCD display,for easy access on the unit is 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 supervision systems with MODBUS protocol.
AER485P1 x n° 2: RS-485 interface for supervision systems with MODBUS protocol.
AERBACP: Ethernet communication Interface for protocols Bacnet/IP, Modbus TCP/IP, SNMP
AERNET: The device allows the control, the management and the remote monitoring of a Chiller with a PC, smartphone or tablet using Cloud connection. AERNET works as Master while every unit connected is configured as Slave (max. 6 unit); also, with a simple click is possible to save a log file with all the connected unit datas in the personal terminal for post analysis.
MULTICHILLER_EVO: Control, switch-on and switch-off system of the single chillers where multiple units are installed in parallel, always ensuring constant flow rate to the evaporators.
PRV3: Allows you to control the chiller at a distance.
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 n° 2 (1)	°,L					•	•	•	•	•	•
AERBACP	°,L	•	•	•	•	•	•	•	•	•	•
AERNET	°,L	•	•	•	•	•	•	•	•	•	•
MULTICHILLER_EVO	°,L	•	•	•	•	•	•	•	•	•	•
PRV3	°,L	•	•	•	•	•	•	•	•	•	•

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

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 x2

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

Ver	1602	1802	2002	2202	2502
°,L	RIF161 x2	RIF201 x 2	RIF201+RIF241	RIF241 x2	RIF301 x2

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**
	°	Standard mechanic thermostatic valve (1)
	X	Low temperature electronic thermostatic valve (2)
9		**Model**
	°	Reversible heat pump, gas side
10		**Heat recovery**
	°	Without heat recovery
	D	With desuperheater (3)
11		**Version**
	°	Standard
	L	Standard silenced
12		**Condenser**
	°	PED regulation
13		**Power supply**
	°	400V ~ 3 50Hz
	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

(1) Water produced up to +4 °C
(2) Water produced up to +4 °C. For different temperature please contact the factory.
(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	°,L	kW	165,8	195,7	216,7	269,7	359,6	427,5	465,5	525,4	593,4	671,3
Input power	°,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	°,L	A	65,0	73,0	81,0	100,0	135,0	147,0	162,0	188,0	210,0	242,0
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	l/h	34669	40687	45310	56133	74845	88595	96985	109020	122605	139074
Pressure drop source side	°,L	kPa	30	31	30	36	57	62	65	79	88	101
Water flow rate system side	°,L	l/h	28521	33675	37283	46389	61852	73535	80064	90373	102056	115457
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	°,L	kW	183,3	210,3	237,3	300,3	420,5	490,6	540,6	620,7	700,8	784,8
Input power	°,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	°,L	A	81,0	91,0	101,0	131,0	179,0	210,0	221,0	257,0	291,0	320,0
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	40419	46517	52342	66297	93577	108720	120586	138319	156325	176563
Pressure drop source side	°,L	kPa	42	42	39	51	76	81	82	90	101	112
Water flow rate system side	°,L	l/h	31805	36498	41190	52140	72996	85162	93852	107756	121659	136259
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

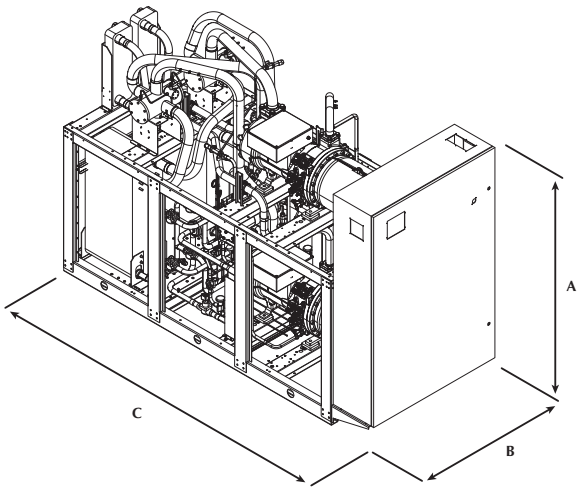
Size			0701	0801	0901	1101	1402	1602	1802	2002	2202	2502
Electric data												
Maximum current (FLA)	°,L	A	124,0	144,0	162,0	182,0	248,0	288,0	324,0	344,0	364,0	430,0
Peak current (LRA)	°,L	A	163,0	192,0	229,0	300,0	287,0	336,0	391,0	462,0	482,0	575,0

GENERAL TECHNICAL DATA

Size			0701	0801	0901	1101	1402	1602	1802	2002	2202	2502
Compressor												
Type	°,L	type	Bi-vite									
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	2050	2050	2050	2050	2050	2050	2050	2050	2050	2050
	L	mm	2120	2120	2120	2120	2120	2120	2120	2120	2120	2120
B	°,L	mm	809	809	809	809	1249	1249	1249	1249	1249	1249
C	°,L	mm	2960	2960	2960	3360	3060	3060	3060	3460	3460	3460
Empty weight	°	kg	1391	1443	1506	1946	2276	2350	2423	2872	3309	3407
	L	kg	1622	1674	1737	2206	2542	2616	2689	3168	3605	3703

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