

WFGN_H

Water/water heat pump for heating only

Heating capacity 443 ÷ 889 kW

- Unit optimised for high condenser temperatures.
- Domestic hot water production on the condenser side up to 85°C.
- Low GWP refrigerant R1234ze or R515B



DESCRIPTION

Non-reversible water-water heat pump for the production of high-temperature water, uses low environmental impact refrigerants R1234ze or R515B, ensuring high energy efficiency and compliance with the latest sustainability requirements.

The unit is specifically developed for the production of domestic hot water up to 85°C, making it particularly suitable for high-temperature heating systems, industrial processes, and upgrading existing buildings for energy efficiency, making it possible to enhance existing plant infrastructures.

Available in bi-circuit configuration for internal installation, it integrates independent management of cooling circuits, ensuring maximum operational flexibility, high reliability and continuity of service even under variable load conditions.

The refrigeration circuit is equipped with screw compressors and electronic expansion valves (EEV), which are also optimised for operation at high evaporation temperatures. The shell & tube heat exchangers on the utility side and on the source side guarantee long-term reliability.

The unit is available in a standard or low noise version, with complete cowl-ing and dedicated noise attenuation solutions, to meet even the most demanding acoustic comfort requirements.

VERSIONS

A High efficiency

FEATURES

Dual-circuit unit

Available in bi-circuit configuration for internal installation, it integrates independent management of cooling circuits, ensuring maximum operational flexibility, high reliability and continuity of service even under variable load conditions.

Electronic expansion valve

The use of the electronic expansion valve offers significant benefits, especially when the unit is operating with partial loads, increasing the energy efficiency of the unit. It is standard in all sizes.

Condenser insulation kit

Fully insulated condensers with anti-condensation material, to prevent the formation of surface moisture and ensure maximum operational reliability of the unit.

CONTROL PCO₅

Microprocessor control complete with a touchscreen keypad for simple and intuitive navigation between the various screens, making it possible to modify the operating parameters, view the real time trend of certain values in graphic format and permit the complete management of alarms and their logs.

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.

PGD1: Allows you to control the unit at a distance.

SGD: Electronic board designed to receive external signals from the electricity grid or energy suppliers, converting them into Modbus commands

for our units. This system allows you to vary the operation of our generators to optimise consumption based on electricity prices, grid load or the availability of renewable sources. The key principle of the standard is demand response: shifting consumption from peak demand times to times when energy is cheaper and more environmentally sustainable.

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.

ACCESSORIES COMPATIBILITY

Model	Ver	2502	2802	3202	3602	4202
AER485P1 x no. 2	A	*	*	*	*	*
AERBAC-ONE x no. 2	A	*	*	*	*	*
AERBACP x no. 2	A	*	*	*	*	*
AERNET	A	*	*	*	*	*
MULTICHILLER-EVO	A	*	*	*	*	*
PGD1	A	*	*	*	*	*
SGD	A	*	*	*	*	*

Antivibration

Ver	2502	2802	3202	3602	4202
Set-up: L					
A	AVX674	AVX674	AVX678	AVX678	AVX678
Set-up: °					
A	AVX673	AVX674	AVX679	AVX679	AVX678

Power factor correction

Ver	2502	2802	3202	3602	4202
Set-up: L, °					
A	RIFWFGNH2502	RIFWFGNH2802	RIFWFGNH,202	RIFWFGNH,602	RIFWFGNH4202

CONFIGURATOR

Field	Description
1,2,3,4	WFGN
5,6,7,8	Size 2502, 2802, 3202, 3602, 4202
9	Model
H	Water-water heat pumps only
10	Version
A	High efficiency
11	Operating field
W	Electronic valve for high evaporations (source side water from +15°C to 40°C)
X	Electronic valve (source side water from +0°C to 20°C)
12	Set-up
L	Silenced with hood
°	Standard
13	Field for future development
°	Field for future development
14	Condenser
2	2 passes on water side
4	4 water-side passes (low flow rate)
15	Power supply
°	400V/3/50Hz with fuses on compressors and magnet circuit breakers on auxiliary circuit
16	Refrigerant gas
G	R515B
°	R1234ze

PERFORMANCE SPECIFICATIONS

Size		2502	2802	3202	3602	4202
Refrigerant gas: G, °						
Heating performances (Water user side 47 °C / 55 °C; Water source side 10 °C / 7 °C) (1)						
Heating capacity	kW	443,7	584,9	676,8	766,8	889,2
Input power	kW	129,1	165,0	192,5	217,4	248,6
Input current	A	238,4	321,6	340,7	377,3	428,3
COP	W/W	3,44	3,55	3,52	3,53	3,58
Water flow rate system side	l/h	48.309	63.698	73.719	83.526	96.864
Pressure drop system side	kPa	21	24	21	25	20
Water flow rate source side	l/h	92.991	124.066	144.143	163.144	191.394
Pressure drop source side	kPa	98	104	187	162	247

(1) Date 14511:2022; Water user side 47 °C / 55 °C; Water source side 10 °C / 7 °C

ENERGY INDICES (REG. 2016/2281 EU)

Size		2502	2802	3202	3602	4202
Refrigerant gas: G, °						
Performance in average ambient conditions (average) - 55 °C (1)						
Pdesignh	kW	437,00	575,00	666,00	755,00	875,00
SCOP	W/W	4,56	4,75	4,57	4,61	4,71
ηsh	%	174,20	181,90	174,80	176,30	180,50
Water Regulation (2)	type	VWVO/VW	VWVO/VW	VWVO/VW	VWVO/VW	VWVO/VW

(1) Efficiencies for average temperature applications (55 °C)

(2) 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.

ELECTRIC DATA

Size		2502	2802	3202	3602	4202
Refrigerant gas: G, °						
400V ~ 3 50Hz						
Maximum current (FLA)	A	460,0	585,0	615,0	710,0	795,0
Peak current (LRA)	A	571,0	694,0	893,0	1.005,0	1.202,0
Electric data						
Heating total input current	A	202,00	273,00	290,00	323,00	366,00

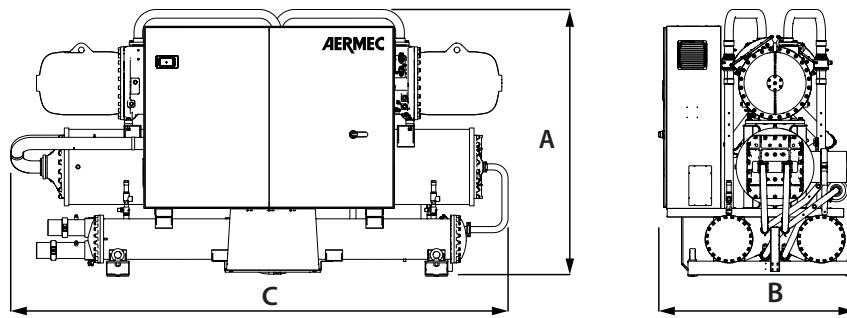
GENERAL TECHNICAL DATA

Size		2502	2802	3202	3602	4202
Refrigerant gas: °						
Compressor						
Type	type	Screw	Screw	Screw	Screw	Screw
Compressor regulation	type	On-Off	On-Off	On-Off	On-Off	On-Off
Number	no.	2	2	2	2	2
Circuits	no.	2	2	2	2	2
Refrigerant	type	R1234ze (E)	R1234ze (E)	R1234ze (E)	R1234ze (E)	R1234ze (E)
Source side heat exchanger						
Type	type	Shell and tube	Shell and tube	Shell and tube	Shell and tube	Shell and tube
Number	no.	1	1	1	1	1
Connections (in/out)	Type	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints
Sizes (in/out)	Ø	8"	8"	8"	8"	10"
System side heat exchanger						
Type	type	Shell and tube	Shell and tube	Shell and tube	Shell and tube	Shell and tube
Number	no.	2	2	2	2	2
Connections (in/out)	Type	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints
Sizes (in/out)	Ø	4"	4"	5"	5"	5"

SOUND DATA

	Set-up	Refrigerant gas		2502	2802	3202	3602	4202
Sound power level	°	°/G	dB(A)	95,5	96,0	96,0	96,5	97,0
	L	°	dB(A)	91,5	92,0	92,0	92,5	93,0
	L	G	dB(A)	88,6	88,6	89,5	90,2	91,1

DIMENSIONS



Size		2502	2802	3202	3602	4202
Set-up: L						
Dimensions and weights						
A	mm	2000	2075	2195	2195	2340
B	mm	1500	1500	1575	1575	1585
C	mm	4320	4345	4650	4650	4600
Empty weight	kg	4.120	4.410	6.050	6.120	6.670
Weight functioning	kg	4.541	5.052	6.744	6.864	7.866
Size		2502	2802	3202	3602	4202
Set-up: °						
Dimensions and weights						
A	mm	2000	2075	2195	2195	2340
B	mm	1500	1500	1575	1575	1585
C	mm	4320	4345	4380	4380	4395
Empty weight	kg	3.810	4.100	5.690	5.750	6.300
Weight functioning	kg	4.231	4.742	6.384	6.494	7.496

Aermec reserves the right to make any modifications deemed necessary.
All data is subject to change without notice. Aermec does not assume
responsibility or liability for errors or omissions.

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