WFGI 1251-6402

Water cooled heat pump reversible water side

Cooling capacity 71.8 ÷ 341.7 ton
Heating capacity 962,480 ÷ 4,582,100 BTU/h

- **Production of hot water from condenser up to 158°F.**
- **Production of chilled water down to 17.6°F.**

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

H Optimised for high condensation
A High efficiency

FEATURES

Operating field

Production of chilled water up to 68 °F of water produced on the evaporator side, but also suitable for use in heat pump mode with condenser water temperature up to 158 °F depending on the model.

With option Z (double electronic expansion valve) the unit is capable to produce chilled water temperature from 17.6 °F to 50 °F.

Units mono or dual-circuit

Unit with 1-2 refrigerant circuits designed to provide maximum efficiency at full load, ensuring high efficiency at partial loads also and ensuring continuity in case one of the circuits stops.
All the units are equipped with an inverter compressor.
For further details refer to the technical documentation or to the Magellano selection program.

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

Units include 1 control board for each compressor.
Microprocessor adjustment, with 4.3", touch screen keyboard, which allows to navigate intuitively among the various screens, allowing to modify the operating parameters and graphically view the progress of some variables in real time and the ad adjustment includes complete management of the alarms and their log.
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.
AERBACP: Ethernet communication interface for Bacnet/IP, Modbus TCP/IP, SNMP 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.

FACTORY FITTED ACCESSORIES

ISG: Insulation kit for condensers. Mandatory accessory for machine functioning in heat pump; standard in units with desuperheater or with heat recovery.

ACCESSORIES COMPATIBILITY

Model	Ver	1251	1601	2101	2502	3202	4202	4802	6402
AER485P1	A	•	•	•					
AER485P1 x no. 2	A				•	•	•	•	•
AERBACP	A	•	•	•	•	•	•	•	•
AERNET	A	•	•	•	•	•	•	•	•
MULTICHILLER-EVO	A	•	•	•	•	•	•	•	•
PGD1	A	•	•	•	•	•	•	•	•

Antivibration

Set-up	Heat recovery	1251	1601	2101	2502	3202	4202	4802	6402
°	°	AVX680	AVX687	AVX682	AVX673	AVX679	AVX679	AVX678	AVX678
L	°	AVX681	AVX682	AVX682	AVX674	AVX679	AVX679	AVX678	AVX678
°	D	-	-	-	AVX674	AVX679	AVX679	AVX678	AVX678
°	T	-	-	-	AVX674	AVX679	AVX678	AVX678	AVX678
L	D,T	-	-	-	AVX674	AVX679	AVX678	AVX678	AVX678

- not available

Isolating kit

Ver	1251	1601	2101	2502	3202	4202	4802	6402
A	ISG11	ISG13	ISG14	ISG1	ISG2	ISG2	ISG3	ISG3

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

CONFIGURATOR

Field	Description
1,2,3,4	**WFGI**
5,6,7,8	**Size** 1251, 1601, 2101, 2502, 3202, 4202, 4802, 6402
9	**Model**
H	Optimised for high condensation
10	**Version**
A	High efficiency
11	**Operating field**
X	Electronic thermostatic expansion valve (1)
Z	Double electronic thermostatic for low temperature (2)
12	**Set-up**
K	Super low noise with hood
L	Silenced with hood
°	Standard without hood

Field	Description
13	**Heat recovery**
D	With desuperheater (3)
T	With total recovery (3)
°	Without heat recovery
14	**Evaporator**
E	Evaporating unit
°	Standard
15	**Power supply**
7	460V ~ 3 60Hz
16	**Refrigerant gas**
G	R515B

(1) Water produced from 68 up to 32 °F
(2) Water produced from 50°F ÷ 17.6°F
(3) Not available for the condenserless "E"

PERFORMANCE SPECIFICATIONS

Size		1251	1601	2101	2502	3202	4202	4802	6402
Operating field: X									
Cooling performances 54.0 °F / 44.0 °F (1)									
Cooling capacity	ton	71.80	91.53	111.96	143.17	184.24	228.29	303.85	341.78
Input power	kW	47.51	62.36	80.55	95.12	124.79	161.96	212.47	243.68
EER	BTU/(Wh)	18.14	17.61	16.68	18.06	17.72	16.91	17.16	16.83
IPLV	BTU/(Wh)	30.30	29.20	28.00	29.80	28.90	28.50	29.80	29.60
Water flow rate system side	gpm	191.0	243.5	297.9	380.9	490.2	607.3	808.3	909.3
Pressure drop system side	ftH_2O	6.02	3.68	3.01	11.71	8.03	6.69	12.38	10.04
Water flow rate source side	gpm	226.94	290.59	358.57	452.80	584.42	729.46	968.64	1,092.97
Pressure drop source side	ftH_2O	9.70	7.69	6.02	18.40	14.39	13.38	10.71	15.39
Heating performance 104.0 °F / 113.0 °F (2)									
Heating capacity	BTU/h	962,480	1,231,868	1,520,334	1,923,400	2,469,933	3,099,940	4,105,744	4,582,100
Input power	kW	57.72	75.01	97.71	116.04	148.49	197.00	250.98	276.76
COP	kW/kW	4,89	4,81	4,56	4,86	4,87	4,61	4,79	4,85
Water flow rate system side	gpm	215.8	276.3	341.0	431.3	553.9	695.2	920.8	1,027.6
Pressure drop system side	ftH_2O	8.70	7.03	5.69	16.73	12.71	12.38	9.70	13.38
Water flow rate source side	gpm	286.41	365.20	444.58	571.51	734.53	909.16	1,216.04	1,361.13
Pressure drop source side	ftH_2O	13.38	8.03	7.03	26.10	17.73	15.05	28.10	22.08

(1) Water user side 54.0 °F / 44.0 °F; Water source side 85.0 °F / 94.3 °F
(2) Water user side 104.0 °F /113.0 °F; Water source side 50.0 °F / 44.6 °F

Size		1251	1601	2101	2502	3202	4202	4802	6402
Operating field: Z									
Cooling performances 54.0 °F / 44.0 °F (1)									
Cooling capacity	ton	71.80	91.53	111.96	143.17	184.24	228.29	303.85	341.78
Input power	kW	47.51	62.36	80.55	95.12	124.79	161.96	212.47	243.68
EER	BTU/(Wh)	18.14	17.61	16.68	18.06	17.72	16.91	17.16	16.83
IPLV	BTU/(Wh)	30.33	29.20	28.00	29.80	28.90	28.50	29.80	29.60
Water flow rate system side	gpm	191.0	243.5	297.9	380.9	490.2	607.3	808.3	909.3
Pressure drop system side	ftH_2O	8.70	8.03	7.36	25.43	22.08	12.38	21.75	25.76
Water flow rate source side	gpm	226.94	290.59	358.57	452.80	584.42	729.46	968.64	1,092.97
Pressure drop source side	ftH_2O	9.70	7.69	6.02	18.40	14.39	13.38	10.71	15.39
Heating performance 104.0 °F / 113.0 °F (2)									
Heating capacity	BTU/h	962,480	1,231,868	1,520,334	1,923,400	2,469,933	3,099,940	4,105,744	4,582,100
Input power	kW	57.72	75.01	97.71	116.04	148.49	197.00	250.98	276.76
COP	kW/kW	4,89	4,81	4,56	4,86	4,87	4,61	4,79	4,85
Water flow rate system side	gpm	215.8	276.3	341.0	431.3	553.9	695.2	920.8	1,027.6
Pressure drop system side	ftH_2O	8.70	7.03	5.69	16.73	12.71	12.38	9.70	13.38
Water flow rate source side	gpm	286.41	365.20	444.58	571.51	734.53	909.16	1,216.04	1,361.13
Pressure drop source side	ftH_2O	19.40	17.73	16.39	57.21	49.51	28.10	49.18	57.88

(1) Water user side 54.0 °F / 44.0 °F; Water source side 85.0 °F / 94.3 °F
(2) Water user side 104.0 °F /113.0 °F; Water source side 50.0 °F / 44.6 °F

GENERAL TECHNICAL DATA

Size		1251	1601	2101	2502	3202	4202	4802	6402
Compressor									
Type	type	Screw							
Compressor regulation	Type	Inverter							
Number	no.	1	1	1	2	2	2	2	2
Circuits	no.	1	1	1	2	2	2	2	2
Refrigerant	type	R515B							
Refrigerant load circuit 1 (1)	lbs	125.7	145.5	187.4	110.2	178.6	154.3	271.2	266.8
Refrigerant load circuit 2 (1)	lbs	-	-	-	110.2	178.6	154.3	271.2	266.8
System side heat exchanger									
Type	type								
Number	no.	-	-	-	-	-	-	-	-
Connections (in/out)	Type	Grooved joints							
Source side heat exchanger									
Type	type								
Number	no.	-	-	-	-	-	-	-	-
Connections (in/out)	Type	Grooved joints							

(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.

Electric data

Size		1251	1601	2101	2502	3202	4202	4802	6402
Electric data									
Peak current (LRA)	A	23.0	23.0	23.0	213.0	248.0	313.0	393.0	453.0
Minimum circuit amperage (MCA)	A	250.00	300.00	400.00	450.00	600.00	700.00	1,000.00	1,000.00
Maximum overcurrent permitted by the protection device (MOP)	A	400.00	500.00	600.00	600.00	700.00	800.00	1,200.00	1,200.00
Nominal Short-Circuit Current (SCCR)	kA	65	65	10	65	65	65	10	10

SOUND DATA

Size		1251	1601	2101	2502	3202	4202	4802	6402
Set-up: K									
Sound data calculated in cooling mode (1)									
Sound power level	dB(A)	85,0	86,2	86,4	88,0	89,2	89,7	89,4	89,7

(1) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2. Sound pressure (cold functioning) measured in free field, 10 m / 33 ft away from the unit external surface (in compliance with UNI EN ISO 3744).

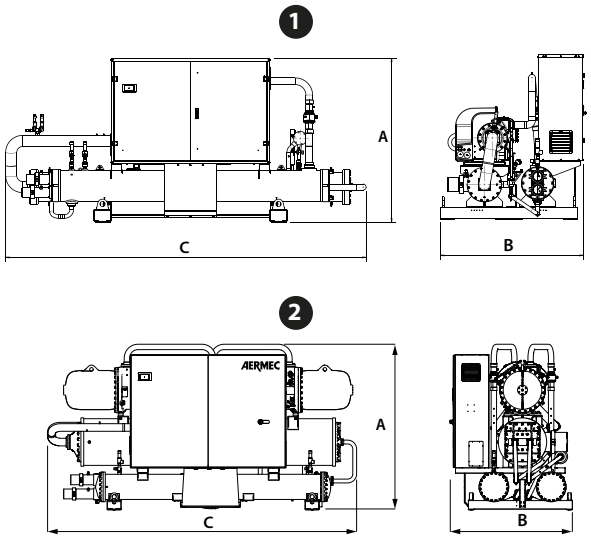
Size		1251	1601	2101	2502	3202	4202	4802	6402
Set-up: L									
Sound data calculated in cooling mode (1)									
Sound power level	dB(A)	88,0	89,1	89,3	91,0	92,2	92,7	92,3	92,7

(1) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2. Sound pressure (cold functioning) measured in free field, 10 m / 33 ft away from the unit external surface (in compliance with UNI EN ISO 3744).

Size		1251	1601	2101	2502	3202	4202	4802	6402
Set-up: °									
Sound data calculated in cooling mode (1)									
Sound power level	dB(A)	95,8	97,0	97,2	99,0	100,0	100,0	100,0	101,0

(1) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2. Sound pressure (cold functioning) measured in free field, 10 m / 33 ft away from the unit external surface (in compliance with UNI EN ISO 3744).

DIMENSIONS



1 1251-1601-2101
2 2502-3202-4202-4802-6402

Size		1251	1601	2101	2502	3202	4202	4802	6402
Set-up: K									
Dimensions and weights									
A	in	70.5	73.4	74.3	83.9	86.4	92.1	96.7	95.7
B	in	66.5	65.4	63.6	64.8	65.9	68.3	75.8	78.7
C	in	136.3	161.4	163.0	170.1	182.3	181.1	197.4	199.2
Empty weight	lbs	5,247	6,085	6,658	9,436	11,861	12,941	15,454	16,182
Weight functioning	lbs	5,809	6,872	7,632	10,364	13,391	15,578	18,153	18,889

Size		1251	1601	2101	2502	3202	4202	4802	6402
Set-up: L									
Dimensions and weights									
A	in	70.5	73.4	74.3	83.9	86.4	92.1	96.7	95.7
B	in	66.5	65.4	63.6	64.8	65.9	68.3	75.8	78.7
C	in	136.3	161.4	163.0	170.1	182.3	181.1	197.4	199.2
Empty weight	lbs	4,828	5,666	6,239	8,598	10,957	12,037	14,506	15,146
Weight functioning	lbs	5,390	6,453	7,214	9,526	12,487	14,674	17,205	17,853

Size		1251	1601	2101	2502	3202	4202	4802	6402
Set-up: °									
Dimensions and weights									
A	in	70.5	73.4	74.3	83.9	86.4	92.1	96.7	95.7
B	in	66.5	65.4	63.4	64.8	65.9	68.3	75.8	78.7
C	in	136.3	161.4	163.0	170.1	172.4	173.0	177.2	180.3
Empty weight	lbs	4,475	5,313	5,886	7,915	10,207	11,288	13,691	14,264
Weight functioning	lbs	5,038	6,100	6,861	8,843	11,737	13,924	16,389	16,971

■ *For the sizes of D-T versions please contact the factory.*

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