HWFG 2512-6412

Water cooled heat pump reversible water side

Cooling capacity 470,1 ÷ 1143,2 kW
Heating capacity 523,3 ÷ 1254,1 kW

- **Use of the new ecological gas R1234ze**
- **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 steel treated with polyester paint RAL 9003.

VERSIONS

° Standard
A High efficiency

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.

Dual-circuit unit

Unit with 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.
They are equipped with screw compressors and system and source side shell and tube 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 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 inte-gral proportional logic, based on the water output temperature.

ACCESSORIES

AER485P1 x n° 2: RS-485 interface for supervision systems with MODBUS protocol.
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.
IS: Condenser isolating valves. Mandatory accessory for units operating in heat pump mode. Factory fitted only.

ACCESSORIES COMPATIBILITY

Model	Ver	2512	2812	3212	3612	4212	4812	5612	6412
AER485P1 x n° 2 (1)	°,A	•	•	•	•	•	•	•	•
AERNET	°,A	•	•	•	•	•	•	•	•
MULTICHILLER_EVO	°,A	•	•	•	•	•	•	•	•
PRV3	°,A	•	•	•	•	•	•	•	•

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

Antivibration

Ver	2512	2812	3212	3612	4212	4812	5612	6412
Set-up: °								
°	AVX673	AVX673	AVX673	AVX674	AVX674	AVX674	AVX675	AVX675
A	AVX673	AVX673	AVX674	AVX675	AVX675	AVX675	AVX676	AVX676
Set-up: L								
°	AVX673	AVX673	AVX674	AVX674	AVX674	AVX674	AVX675	AVX675
A	AVX674	AVX674	AVX675	AVX675	AVX675	AVX675	AVX676	AVX676

RIF: Power factor correction

Ver	2512	2812	3212	3612	4212	4812	5612	6412
°,A	RIFHWF2512	RIFHWF2812	RIFHWF3212	RIFHWF3612	RIFHWF4212	RIFHWF4812	RIFHWF5612	RIFHWF6412

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

IS: isolating kit

Ver	2512	2812	3212	3612	4212	4812	5612	6412
°	IS1 (1)	IS1 (1)	IS1 (1)	IS1 (1)	IS1 (1)	IS1 (1)	IS3 (1)	IS3 (1)
A	IS1 (1)	IS1 (1)	IS2 (1)	IS2 (1)	IS2 (1)	IS2 (1)	IS3 (1)	IS3 (1)

(1) Mandatory accessory for heating mode operation
A grey background indicates the accessory must be assembled in the factory

CONFIGURATOR

Field	Description
1,2,3,4	**HWFG**
5,6,7,8	**Size** 2512, 2812, 3212, 3612, 4212, 4812, 5612, 6412
9	**Model**
°	Optimised for high condenser temperatures
10	**Version**
°	Standard
A	High efficiency
11	**Set-up**
°	Standard
L	Silenced
12	**Heat recovery**
°	Without heat recovery
D	With desuperheater (1)
T	With total recovery (2)
13	**Evaporator**
°	Standard
E	Evaporating unit
14	**Power supply**
°	400V ~ 3 50Hz with fuses
5	500V ~ 3 50Hz with fuses (3)
8	400V ~ 3 50Hz with magnet circuit breakers
9	500V ~ 3 50Hz with magnet circuit breakers (4)

(1) Contact the factory
(2) Not available for the condenserless (E)
(3) 500V ~ 3 50Hz with fuses only for size 2512 - 2812
(4) 500V ~ 3 50Hz with magnet circuit breakers only for size 2512 - 2812

PERFORMANCE SPECIFICATIONS

HWFG - °

Size		2512	2812	3212	3612	4212	4812	5612	6412
Cooling performance 12 °C / 7 °C (1)									
Cooling capacity	kW	470,1	547,8	631,1	722,8	823,8	945,0	1036,5	1117,6
Input power	kW	97,4	112,0	129,6	146,7	167,0	192,7	210,2	229,6
Cooling total input current	A	187,0	210,0	230,0	250,0	305,0	341,0	381,0	428,0
EER	W/W	4,83	4,89	4,87	4,93	4,93	4,90	4,93	4,87
Water flow rate system side	l/h	80832	94200	108510	124255	141621	162463	178190	192135
Pressure drop system side	kPa	23	33	30	26	23	34	35	39
Water flow rate source side	l/h	97249	113014	130308	148994	169802	194839	213586	230710
Pressure drop source side	kPa	9	10	10	9	10	14	9	10
Heating performance 40 °C / 45 °C (2)									
Heating capacity	kW	523,3	607,6	700,7	800,8	912,6	1047,2	1147,7	1240,4
Input power	kW	117,3	135,5	156,5	176,9	201,1	232,9	254,4	278,1
Heating total input current	A	223,0	250,0	274,0	298,0	364,0	407,0	454,0	510,0
COP	W/W	4,46	4,49	4,48	4,53	4,54	4,50	4,51	4,46
Water flow rate system side	l/h	90894	105545	121728	139127	158553	181944	199419	215515
Pressure drop system side	kPa	8	8	9	8	9	12	8	9
Water flow rate source side	l/h	118616	138231	159231	182335	207819	238402	261482	281944
Pressure drop source side	kPa	49	71	64	55	50	73	75	84

(1) Date 14511:2018; Water user side 12 °C / 7 °C; Water source side 30 °C / 35 °C
(2) Date 14511:2018; Water user side 40 °C / 45 °C; Water source side 10 °C / 7 °C

HWFG - A

Size		2512	2812	3212	3612	4212	4812	5612	6412
Cooling performance 12 °C / 7 °C (1)									
Cooling capacity	kW	495,4	559,7	655,9	742,6	863,0	973,5	1046,5	1143,2
Input power	kW	96,5	110,0	127,9	144,9	165,1	185,5	204,6	223,8
Cooling total input current	A	184,0	206,0	225,0	245,0	299,0	330,0	371,0	419,0
EER	W/W	5,13	5,09	5,13	5,12	5,23	5,25	5,12	5,11
Water flow rate system side	l/h	85177	96236	112780	127669	148376	167337	179883	196515
Pressure drop system side	kPa	26	34	36	26	37	23	22	29
Water flow rate source side	l/h	101250	114515	133988	151819	175795	198328	214081	233808
Pressure drop source side	kPa	38	38	43	41	42	42	40	44
Heating performance 40 °C / 45 °C (2)									
Heating capacity	kW	543,1	614,4	718,5	814,3	941,9	1062,7	1148,4	1254,1
Input power	kW	116,0	132,8	154,3	174,1	199,3	222,6	245,4	269,0
Heating total input current	A	219,0	246,0	268,0	292,0	356,0	393,0	442,0	500,0
COP	W/W	4,68	4,63	4,66	4,68	4,73	4,77	4,68	4,66
Water flow rate system side	l/h	94312	106700	124787	141431	163596	184583	199479	217843
Pressure drop system side	kPa	33	33	37	36	36	36	35	38
Water flow rate source side	l/h	124990	141220	165496	187345	217731	245555	263965	288371
Pressure drop source side	kPa	56	74	78	56	81	50	48	61

(1) Date 14511:2018; Water user side 12 °C / 7 °C; Water source side 30 °C / 35 °C
(2) Date 14511:2018; Water user side 40 °C / 45 °C; Water source side 10 °C / 7 °C

ENERGY DATA

Size			2512	2812	3212	3612	4212	4812	5612	6412
Cooling capacity with low leaving water temp (UE n° 2016/2281)										
SEER	°	W/W	5,97	5,96	5,97	6,00	6,07	6,12	6,14	6,08
	A	W/W	6,31	6,26	6,28	6,33	6,45	6,53	6,49	6,45
ηsc	°	%	230,90	230,20	230,90	232,00	234,80	236,80	237,80	235,30
	A	%	244,40	242,60	243,40	245,10	250,10	253,40	251,80	249,90

ELECTRIC DATA

Size			2512	2812	3212	3612	4212	4812	5612	6412
Electric data										
Maximum current (FLA)	°,A	A	323,8	366,6	396,0	444,0	524,0	590,0	652,0	716,0
Peak current (LRA)	°,A	A	545,0	613,0	670,0	723,0	892,0	995,0	1193,0	1340,0

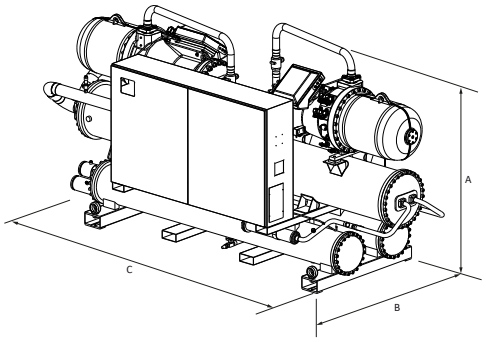
GENERAL TECHNICAL DATA

Size			2512	2812	3212	3612	4212	4812	5612	6412
Compressor										
Type	°,A	type				screw				
Compressor regulation	°,A	Type				On-Off				
Number	°,A	no.	2	2	2	2	2	2	2	2
Circuits	°,A	no.	2	2	2	2	2	2	2	2
Refrigerant	°,A	type				R1234ze				
Refrigerant charge	°	kg	120,0	120,0	120,0	120,0	120,0	120,0	170,0	170,0
	A	kg	136,0	136,0	170,0	170,0	170,0	170,0	220,0	220,0
System side heat exchanger										
Type	°,A	type				Shell and tube				
Number	°,A	no.	1	1	1	1	1	1	1	1
Source side heat exchanger										
Type	°,A	type				Shell and tube				
Number	°,A	no.	2	2	2	2	2	2	2	2
System side hydraulic connections										
Connections (in/out)	°,A	Type				Grooved joints				
Sizes (in/out)	°	Ø	6″	6″	6″	8″	8″	8″	8″	8″
	A	Ø	8″	8″	8″	10″	10″	10″	10″	10″
Source side hydraulic connections										
Connections (in/out)	°,A	Type				Grooved joints				
Sizes (in/out)	°	Ø	5″	5″	5″	5″	5″	5″	6″	6″
	A	Ø	4″	4″	5″	5″	5″	5″	6″	6″

Size			2512	2812	3212	3612	4212	4812	5612	6412
Standard										
Sound data calculated in cooling mode (1)										
Sound power	°,A	dB(A)	93,6	94,0	93,5	93,7	94,6	95,5	97,3	97,9
Sound pressure level in cooling mode	°	dB(A)	61,6	62,0	61,4	61,6	62,5	63,4	65,1	65,7
(10 m)	A	dB(A)	61,5	61,9	61,3	61,5	62,4	63,3	65,0	65,6
Silenced										
Sound data calculated in cooling mode (1)										
Sound power	°,A	dB(A)	85,5	86,2	87,0	87,9	90,2	89,8	91,0	90,8
Sound pressure level in cooling mode	°	dB(A)	53,5	54,2	54,9	55,8	58,1	57,7	58,8	58,6
(10 m)	A	dB(A)	53,4	54,1	54,8	55,7	58,0	57,6	58,7	58,5

(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			2512	2812	3212	3612	4212	4812	5612	6412
Dimensions and weights										
A	°	mm	2100	2100	2050	2120	2140	2140	2210	2210
	A	mm	2180	2180	2190	2340	2340	2340	2380	2380
B	°	mm	1470	1470	1470	1520	1550	1550	1600	1600
	A	mm	1470	1470	1537	1695	1695	1695	1700	1700
C	°	mm	3690	3690	4030	4030	4370	4370	4610	4760
	A	mm	4330	4330	4330	4370	4550	4550	4800	4800
Weight empty	°	kg	3570	3650	4470	4750	5050	5180	6030	6260
	A	kg	4080	4140	5470	5950	6240	6440	7230	7360

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