NGW 0500H-2600H

Reversible water-cooled heat pump, gas side

Cooling capacity 107 ÷ 746,4 kW
Heating capacity 126,3 ÷ 879,3 kW

- **Production of hot water up to 60 °C**
- **Installation versatility also for geothermal applications.**
- **Options of 1 or 2 pumps on both source and user side.**
- **Reversible in heat pump on refrigerant circuit.**

DESCRIPTION

Water-water offering chilled/hot water, designed to mit air conditioning needs in residential/commercial complexes or industrial applications.
Units with hermetic scroll compressors and plate heat exchangers.
The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

FEATURES

Operating field

Full load functioning with production of chilled water from -2 to 20 °C, with the possibility of also producing water at negative temperatures down to -10 °C at the evaporator and hot water at the condenser up to 60 °C.
(for more information, refer to the technical documentation).

Compressors

The compressors, optimised for low compression ratios in tandem and trio two-circuit configuration, ensure high efficiency especially at part loads, enabling them to exceed the minimum seasonal energy efficiency requirements for the design of low energy systems in both winter and summer.

Dual-circuit unit

The units are two-circuit to ensure continuity of operation in case one of the circuits fails.

Option integrated hydronic kit, source and user side

The hydronic kit is available in different configurations with one or two pumps, both on the evaporator and condenser side, in order to have a cost-saving solution that also facilitates final installation.

Refrigerant HFC R32

Thanks to the R32 refrigerant (A2L slightly flammable), the environmental impact of the units is significantly reduced.
Combining a reduced refrigerant load with a low global warming potential (GWP), these units boast low equivalent CO_2 values.
The unit is fitted with:

— Refrigerant gas detector and safety valves with exchange valve as standard
— Electrical control board completely separate from compressor compartment
— Only the version with hood is available

The machine can be installed in class 3 areas according to EN 378-3.

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 seasonal efficiency of the unit.

CONTROL

Microprocessor control, complete with a 6-button multifunction keypad for simple and intuitive navigation between the various screens, making it possible to edit the operating parameters and fully manage alarms and their history.

— 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

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 control boards). 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 (max. no. 9), always ensuring constant flow rate to the evaporators.
SI485: RS-485 interface for supervising systems with MODBUS protocol. 1 accessory is provided for each unit control board.
AVX: Spring anti-vibration supports.
SAENGW: External air probe for climate control curve.
KITFILTRO_2"1/2: The kit, supplied in a wooden crate, contains all the necessary elements for quick and efficient installation: water filter, 2"1/2 flexible coupling and insulation shell.
KITFILTRO_4": The kit, supplied in a wooden crate, contains all the necessary elements for quick and efficient installation: Y-water filter, 4" pipe, flexible coupling and insulation shell.

PR4: Remote panel with LCD display and touch keyboard that allows carrying out the basic controls, the programming of time ranges and the signalling of the alarms of a single unit.

The accessory PR4 should only be combined with SI485 communication interface when the serial port is occupied by another device.

ACCESSORIES COMPATIBILITY

Accessories

Model	0500	0550	0600	0650	0700	0750	0800	0900	1000	1200	1400	1500	1600	1800	2000	2200	2450	2600
AERNET	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
MULTICHILLER-EVO	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SI485	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Remote panel

Model	0500	0550	0600	0650	0700	0750	0800	0900	1000	1200	1400	1500	1600	1800	2000	2200	2450	2600
PR4	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

The accessory PR4 should only be combined with SI485 communication interface when the serial port is occupied by another device.

Antivibration

Hydronic kit integrated on chilled water utility side	Integrated hydronic kit, source side	0500	0550	0600	0650	0700	0750	0800	0900	1000
00	00	AVX380	AVX380	AVX380	AVX380	AVX380	AVX380	AVX380	AVX380	AVX380
00	IA, IB, IC, ID, IE, IF, IG, JA, JB, JC, JD, JE, JF, JG, UA, UB, UC, UD, UE, UF, UG, VA, VB, VC, VD, VE, VF, VG	AVX380	AVX380	AVX380	AVX380	AVX380	AVX381	AVX381	AVX381	AVX381
DA, DB, DC, DD, DE, DF, DG	00, IA, IB, IC, ID, IE, IF, IG, UA, UB, UC, UD, UE, UF, UG	AVX380	AVX380	AVX380	AVX380	AVX380	AVX381	AVX381	AVX381	AVX381
PA, PB, PC, PD, PE, PF, PG	00, IA, IB, IC, ID, IE, IF, IG, JA, JB, JC, JD, JE, JF, JG, UA, UB, UC, UD, UE, UF, UG, VA, VB, VC, VD, VE, VF, VG	AVX380	AVX380	AVX380	AVX380	AVX380	AVX381	AVX381	AVX381	AVX381
DA, DB, DC, DD, DE, DF, DG	JA, JB, JC, JD, JE, JF, JG, VA, VB, VC, VD, VE, VF, VG	AVX380	AVX380	AVX380	AVX380	AVX380	AVX391	AVX382	AVX382	AVX382

Hydronic kit integrated on chilled water utility side	Integrated hydronic kit, source side	1200	1400	1500	1600	1800	2000	2200	2450	2600
00	00	AVX389	AVX389	AVX389	AVX389	AVX389	AVX393	AVX390	AVX390	AVX390
00	IA, IB, IC, ID, IE, IF, IG, UA, UB, UC, UD, UE, UF, UG	AVX381	AVX381	AVX383	AVX383	AVX383	AVX384	AVX384	AVX386	AVX386
PA, PB, PC, PD, PE, PF, PG	00	AVX381	AVX381	AVX383	AVX383	AVX383	AVX384	AVX384	AVX386	AVX386
00	JA, JB, JC, JD, JE, JF, JG, VA, VB, VC, VD, VE, VF, VG	AVX381	AVX381	AVX382	AVX383	AVX383	AVX384	AVX384	AVX385	AVX385
DA, DB, DC, DD, DE, DF, DG	00	AVX381	AVX381	AVX382	AVX383	AVX383	AVX384	AVX384	AVX385	AVX385
PA, PB, PC, PD, PE, PF, PG	IA, IB, IC, ID, IE, IF, IG, UA, UB, UC, UD, UE, UF, UG	AVX381	AVX381	AVX382	AVX383	AVX383	AVX384	AVX384	AVX385	AVX385
DA, DB, DC, DD, DE, DF, DG	IA, IB, IC, ID, IE, IF, IG, UA, UB, UC, UD, UE, UF, UG	AVX381	AVX382	AVX382	AVX383	AVX383	AVX384	AVX385	AVX385	AVX385
PA, PB, PC, PD, PE, PF, PG	JA, JB, JC, JD, JE, JF, JG, VA, VB, VC, VD, VE, VF, VG	AVX381	AVX382	AVX382	AVX383	AVX383	AVX384	AVX385	AVX385	AVX385
DA, DB, DC, DD, DE, DF, DG	JA, JB, JC, JD, JE, JF, JG, VA, VB, VC, VD, VE, VF, VG	AVX382	AVX382	AVX382	AVX392	AVX392	AVX385	AVX385	AVX385	AVX387

External air sensor

Model	0500	0550	0600	0650	0700	0750	0800	0900	1000	1200	1400	1500	1600	1800	2000	2200	2450	2600
SAENGW	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

FACTORY FITTED ACCESSORIES

DRE: Electronic device for peak current reduction.

Device for peak current reduction

0500	0550	0600	0650	0700	0750	0800	0900	1000
DRENGW0500	DRENGW0550	DRENGW0600	DRENGW0650	DRENGW0700	DRENGW0750	DRENGW0800	DRENGW0900	DRENGW1000

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

1200	1400	1500	1600	1800	2000	2200	2450	2600
DRENGW1200	DRENGW1400	DRENGW1500	DRENGW1600	DRENGW1800	DRENGW2000	DRENGW2200	DRENGW2450	DRENGW2600

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

Water filter kit

Model	0500	0550	0600	0650	0700	0750	0800	0900	1000	1200	1400	1500	1600	1800	2000	2200	2450	2600
KITFILTRO_2"1/2	•	•	•	•	•	•												

Model	0500	0550	0600	0650	0700	0750	0800	0900	1000	1200	1400	1500	1600	1800	2000	2200	2450	2600
KITFILTRO_4"							•	•	•	•	•	•	•	•	•	•	•	•

CONFIGURATOR

Configuration options

Field	Description
1,2,3	**NGW**
4,5,6,7	**Size** 0500, 0550, 0600, 0650, 0700, 0750, 0800, 0900, 1000, 1200, 1400, 1500, 1600, 1800, 2000, 2200, 2450, 2600
8	**Operating field**
X	Electronic thermostatic expansion valve (1)
Z	Low temperature electronic thermostatic valve (2)
9	**Model (3)**
H	Reversible heat pump, gas side
10	**Evaporator**
°	Standard
11	**Heat recovery**
D	With desuperheater
°	Without heat recovery
12	**Power supply**
°	400V ~ 3 50Hz with magnet circuit breakers
13,14	**Hydronic kit integrated on chilled water utility side**
00	Without hydronic kit
	Pump n° 1 pump + stand-by pump
DA	Pump A + stand-by pump (4)
DB	Pump B + stand-by pump (4)
DC	Pump C + stand-by pump (4)
DD	Pump D + stand-by pump (5)
DE	Pump E + stand-by pump (5)
DF	Pump F + stand-by pump (5)
DG	Pump G + stand-by pump (5)
	Kit with n° 1 pump
PA	Pump A (4)
PB	Pump B (4)
PC	Pump C (4)
PD	Pump D (5)
PE	Pump E (5)
PF	Pump F (5)
PG	Pump G (5)
15,16	**Integrated hydronic kit, source side**
00	Without hydronic kit
	Kit with n° 1 inverter pump to fixed speed
IA	Pump A equipped with inverter device to work at fixed speed (4)
IB	Pump B equipped with inverter device to work at fixed speed (4)
IC	Pump C equipped with inverter device to work at fixed speedr (4)
ID	Pump D equipped with inverter device to work at fixed speed (5)
IE	Pump E equipped with inverter device to work at fixed speed (5)
IF	Pump F equipped with inverter device to work at fixed speed (5)
IG	Pump G equipped with inverter device to work at fixed speed (5)
	Kit with n° 1 inverter pump + stand-by pump to fixed speed
JA	Pump A+stand-by pump, both equipped with inverter to work at fixed speed (4)
JB	Pump B+stand-by pump, both equipped with inverter to work at fixed speed (4)
JC	Pump C+stand-by pump, both equipped with inverter to work at fixed speed (4)
JD	Pump D+stand-by pump, both equipped with inverter to work at fixed speed (5)
JE	Pump E+stand-by pump, both equipped with inverter to work at fixed speed (5)
JF	Pump F+stand-by pump, both equipped with inverter to work at fixed speed (5)
JG	Pump G+stand-by pump, both equipped with inverter to work at fixed speed (5)
	Kit with n° 1 pump
UA	Pump A (4)
UB	Pump B (4)

Field	Description
UC	Pump C (4)
UD	Pump D (5)
UE	Pump E (5)
UF	Pump F (5)
UG	Pump G (5)
	Pump n° 1 pump + stand-by pump
VA	Pump A + stand-by pump (4)
VB	Pump B + stand-by pump (4)
VC	Pump C + stand-by pump (4)
VD	Pump D + stand-by pump (5)
VE	Pump E + stand-by pump (5)
VF	Pump F + stand-by pump (5)
VG	Pump G + stand-by pump (5)

(1) Water produced from -2 °C ÷ 20 °C
(2) Water produced from -10 °C ÷ 10 °C
(3) Not available for the condenserless "E"
(4) Only for 0500 - 0750 sizes
(5) Only for 0800 - 2600 sizes

PERFORMANCE SPECIFICATIONS

Size		0500	0550	0600	0650	0700	0750	0800	0900	1000	1200	1400	1500	1600	1800	2000	2200	2450	2600
Cooling performance 12 °C / 7 °C (1)																			
Cooling capacity	kW	107,0	116,5	131,0	145,6	161,0	192,0	224,1	252,8	285,3	312,6	361,4	405,2	458,1	501,6	578,8	661,4	703,9	746,4
Input power	kW	24,4	27,0	29,9	33,5	37,1	44,1	50,3	57,2	63,9	70,9	81,5	92,5	103,0	114,1	132,0	150,0	161,2	172,6
Cooling total input current	A	46,0	50,0	56,0	63,0	69,0	82,0	92,0	102,0	112,0	122,0	139,0	158,0	174,0	193,0	223,0	252,0	271,0	290,0
EER	W/W	4,38	4,31	4,38	4,35	4,34	4,35	4,45	4,42	4,47	4,41	4,43	4,38	4,45	4,40	4,39	4,41	4,37	4,33
Water flow rate source side	l/h	22477	24529	27493	30595	33839	40348	46960	53028	59761	65602	75759	85059	95925	105189	121421	138586	147677	156768
Pressure drop source side	kPa	25	29	31	32	33	33	20	25	22	26	28	36	33	40	42	46	52	59
Water flow rate system side	l/h	18406	20041	22537	25048	27701	33030	38529	43476	49070	53766	62145	69667	78757	86242	99517	113722	121034	128345
Pressure drop system side	kPa	16	19	20	21	22	22	13	17	14	17	19	23	22	26	28	30	34	39

(1) Date 14511:2022; Water user side 12 °C / 7 °C; Water source side 30 °C / 35 °C

Size		0500	0550	0600	0650	0700	0750	0800	0900	1000	1200	1400	1500	1600	1800	2000	2200	2450	2600
Heating performance 40 °C / 45 °C (1)																			
Heating capacity	kW	126,3	137,9	153,5	171,3	189,8	226,8	263,2	296,7	333,6	365,9	423,3	476,1	537,1	589,7	680,3	775,8	827,5	879,3
Input power	kW	30,7	34,0	37,6	42,0	46,5	55,3	62,6	70,9	78,9	87,4	100,4	114,0	126,9	140,5	162,7	185,1	199,0	213,0
COP	W/W	4,11	4,06	4,08	4,08	4,08	4,10	4,20	4,18	4,23	4,19	4,21	4,18	4,23	4,20	4,18	4,19	4,16	4,13
Water flow rate source side	l/h	28011	30483	34010	37920	42038	50310	58607	66067	74467	81529	94494	106176	120167	131791	151939	173447	184814	196191
Pressure drop source side	kPa	35	42	44	45	47	48	28	36	31	38	41	51	49	58	62	67	76	86
Water flow rate system side	l/h	21919	23928	26641	29720	32926	39358	45687	51511	57935	63543	73504	82679	93270	102408	118150	134728	143707	152693
Pressure drop system side	kPa	22	26	27	27	29	29	17	22	19	23	24	31	29	35	37	40	46	52

(1) Date 14511:2022; Water user side 40 °C / 45 °C; Water source side 10 °C / 7 °C

ENERGY INDICES (REG. 2016/2281 EU)

Energy index

Size		0500	0550	0600	0650	0700	0750	0800	0900	1000	1200	1400	1500	1600	1800	2000	2200	2450	2600
SEER - 12/7 (EN14825: 2018) (1)																			
SEER	W/W	6,48	6,44	6,55	6,59	6,61	6,36	6,68	6,56	6,73	6,60	6,76	6,75	6,86	6,74	6,78	6,83	6,89	6,84
Seasonal efficiency	%	256,10	254,70	259,10	260,60	261,30	251,50	264,10	259,30	266,30	261,00	267,50	267,00	271,30	266,40	268,20	270,00	272,40	270,50
SEER - 23/18 (EN 14825: 2018)																			
SEER	W/W	9,24	9,35	9,44	9,48	9,49	8,75	9,30	9,06	9,49	9,22	9,56	9,56	9,86	9,67	9,73	9,68	9,70	9,90
Seasonal efficiency	%	366,40	370,90	374,50	376,30	376,60	346,80	368,90	359,30	376,40	365,60	379,20	379,50	391,30	383,90	386,30	384,10	385,10	393,00
SEPR - (EN 14825: 2018) High temperature (2)																			
SEPR	W/W	6,83	6,75	6,84	6,93	6,79	6,70	6,89	6,80	6,95	6,67	6,93	6,95	7,15	6,92	6,95	7,04	7,14	6,94
UE 813/2013 performance in average ambient conditions (average) - 35 °C - Pdesignh ≤ 400 kW (3)																			
SCOP	W/W	5,41	5,55	5,45	5,58	5,54	5,41	5,62	5,63	5,77	5,78	5,81	5,75	5,85	5,82	5,80	5,74	5,75	5,69
ηsh	%	208,40	214,00	210,00	215,00	213,60	208,20	216,90	217,10	222,60	223,00	224,50	221,90	225,90	224,60	224,10	221,70	221,90	219,50
Pdesignh	kW	126	138	154	171	190	226	263	296	333	365	423	475	536	589	679	774	826	877
UE 813/2013 performance in average ambient conditions (average) - 55 °C - Pdesignh ≤ 400 kW (4)																			
SCOP	W/W	4,70	4,72	4,75	4,87	4,83	4,72	4,86	4,82	4,87	4,84	4,87	4,85	4,87	4,80	4,85	5,00	4,95	4,94
ηsh	%	180,10	180,70	181,90	186,90	185,30	180,80	186,30	184,90	186,70	185,40	186,60	185,80	186,90	183,80	186,00	192,00	189,90	189,50
Pdesignh	kW	121	133	148	164	183	218	252	286	321	352	406	456	514	565	652	742	797	848

(1) Calculation performed with FIXED water flow rate and VARIABLE outlet temperature.
(2) Calculation performed with FIXED water flow rate.
(3) Efficiencies for low temperature applications (35 °C)
(4) Efficiencies for average temperature applications (55 °C)

ELECTRIC DATA

Electric data

Size		0500	0550	0600	0650	0700	0750	0800	0900	1000	1200	1400	1500	1600	1800	2000	2200	2450	2600
Electric data																			
Maximum current (FLA)	A	80,0	85,0	95,0	105,0	115,0	135,0	155,0	170,0	190,0	205,0	235,0	265,0	295,0	325,0	375,0	425,0	455,0	485,0
Peak current (LRA)	A	245,0	207,0	215,0	270,0	280,0	300,0	368,0	383,0	403,0	418,0	544,0	574,0	604,0	634,0	684,0	734,0	764,0	794,0

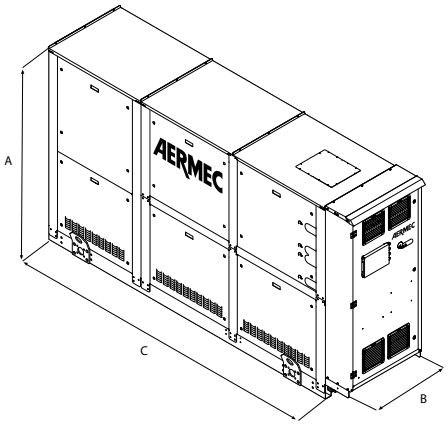
GENERAL TECHNICAL DATA

General data

Size		0500	0550	0600	0650	0700	0750	0800	0900	1000	1200	1400	1500	1600	1800	2000	2200	2450	2600
Compressor																			
Type	type	Scroll																	
Compressor regulation	Type	On-Off																	
Number	no.	3	4	4	4	4	4	4	4	4	4	4	4	4	4	5	6	6	6
Circuits	no.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Refrigerant	type	R32																	
Refrigerant load circuit 1 (1)	kg	6,0	6,0	7,0	8,0	9,0	11,0	11,0	11,0	14,0	14,0	15,0	15,0	19,0	19,0	23,0	28,0	28,0	28,0
Refrigerant load circuit 2 (1)	kg	6,0	6,0	7,0	8,0	9,0	11,0	11,0	11,0	14,0	14,0	15,0	15,0	19,0	19,0	23,0	28,0	28,0	28,0
Source side heat exchanger																			
Type	type	Brazed plate																	
Number	no.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Connections (in/out)	Type	Grooved joints																	
Size (in)	Ø	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"
Size (out)	Ø	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"
System side heat exchanger																			
Type	type	Brazed plate																	
Number	no.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Connections (in/out)	Type	Grooved joints																	
Size (in)	Ø	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"
Size (out)	Ø	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	2"1/2	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"
Sound data calculated in cooling mode (2)																			
Sound power level	dB(A)	79,0	80,0	80,0	80,0	81,0	82,0	82,0	83,0	84,0	85,0	87,0	88,0	90,0	91,0	91,0	91,0	92,0	92,0
Sound pressure level (10 m)	dB(A)	47,3	48,3	48,3	48,3	49,3	50,2	50,2	51,2	52,2	53,2	55,2	56,2	58,2	59,2	59,1	59,1	60,1	60,1

(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.
(2) 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



Dimensions and weights

Size		0500	0550	0600	0650	0700	0750	0800	0900	1000	1200	1400	1500	1600	1800	2000	2200	2450	2600
Dimensions and weights																			
A	mm	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
B	mm	800	800	800	800	800	850	850	850	850	850	850	850	850	850	900	900	900	900
C	mm	2090	2090	2090	2090	2090	2500	2500	2500	2500	2500	2500	2500	2500	2500	3600	3600	3600	3600
Empty weight	kg	920	980	995	1015	1040	1095	1225	1285	1405	1470	1585	1655	1860	1970	2330	2550	2610	2670
Dimensions and weights with pump/s																			
A	mm	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
B	mm	800	800	800	800	800	850	850	850	850	850	850	850	900	900	900	900	900	900
C	mm	2950	2950	2950	2950	2950	3600	3600	3600	3600	3600	3600	3600	3600	3600	4700	4700	4700	4700

The weight of the unit does not include the hydronic kit and accessories.

■ *For the version with hydronic kit please contact headquarters.*

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