NGW 0500-2600

Water cooled heat pump reversible water side

Cooling capacity 116,3 ÷ 790,2 kW
Heating capacity 131,3 ÷ 904,6 kW

- **Production of hot water up to 60 °C**
- **Options of 1 or 2 pumps on both source and user side.**
- **Reversible on hydraulic side in heat pump**

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.
FL: Flow switch.
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.

FACTORY FITTED ACCESSORIES

DRE: Electronic device for peak current reduction.

ACCESSORIES COMPATIBILITY

Accessories

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

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**
°	Heat pump reversible on the water side
10	**Evaporator**
E	Evaporating unit
°	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 (3)
DB	Pump B + stand-by pump (3)
DC	Pump C + stand-by pump (3)
DD	Pump D + stand-by pump (4)
DE	Pump E + stand-by pump (4)
DF	Pump F + stand-by pump (4)
DG	Pump G + stand-by pump (4)
	Kit with n° 1 pump
PA	Pump A (3)
PB	Pump B (3)
PC	Pump C (3)
PD	Pump D (4)
PE	Pump E (4)
PF	Pump F (4)
PG	Pump G (4)
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 (3)
IB	Pump B equipped with inverter device to work at fixed speed (3)
IC	Pump C equipped with inverter device to work at fixed speedr (3)
ID	Pump D equipped with inverter device to work at fixed speed (4)
IE	Pump E equipped with inverter device to work at fixed speed (4)
IF	Pump F equipped with inverter device to work at fixed speed (4)
IG	Pump G equipped with inverter device to work at fixed speed (4)
	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 (3)
JB	Pump B+stand-by pump, both equipped with inverter to work at fixed speed (3)
JC	Pump C+stand-by pump, both equipped with inverter to work at fixed speed (3)
JD	Pump D+stand-by pump, both equipped with inverter to work at fixed speed (4)
JE	Pump E+stand-by pump, both equipped with inverter to work at fixed speed (4)
JF	Pump F+stand-by pump, both equipped with inverter to work at fixed speed (4)
JG	Pump G+stand-by pump, both equipped with inverter to work at fixed speed (4)
	Kit with n° 1 pump
UA	Pump A (3)

Field	Description
UB	Pump B (3)
UC	Pump C (3)
UD	Pump D (4)
UE	Pump E (4)
UF	Pump F (4)
UG	Pump G (4)
	Pump n° 1 pump + stand-by pump
VA	Pump A + stand-by pump (3)
VB	Pump B + stand-by pump (3)
VC	Pump C + stand-by pump (3)
VD	Pump D + stand-by pump (4)
VE	Pump E + stand-by pump (4)
VF	Pump F + stand-by pump (4)
VG	Pump G + stand-by pump (4)

(1) Water produced from -2 °C ÷ 20 °C
(2) Water produced from -10 °C ÷ 10 °C
(3) Only for 0500 - 0750 sizes
(4) 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	116,3	126,3	142,0	157,8	174,4	208,3	242,3	272,8	310,2	333,6	385,4	430,0	488,0	532,0	614,8	703,9	747,1	790,2
Input power	kW	23,1	25,8	28,6	32,0	35,4	41,8	48,3	55,2	61,1	68,2	78,4	89,9	99,2	110,8	128,0	144,9	156,9	169,0
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	5,02	4,91	4,97	4,93	4,93	4,98	5,02	4,94	5,08	4,89	4,92	4,78	4,92	4,80	4,80	4,86	4,76	4,67
Water flow rate source side	l/h	23858	26011	29172	32446	35868	42774	49770	56140	63592	68752	79371	88890	100428	109848	126942	145015	154345	163659
Pressure drop source side	kPa	26	30	33	33	35	35	23	27	23	28	30	38	36	42	45	49	56	63
Water flow rate system side	l/h	20000	21737	24440	27149	30009	35846	41678	46918	53358	57360	66276	73940	83902	91467	105717	121028	128461	135873
Pressure drop system side	kPa	18	21	23	23	25	25	15	19	16	20	21	27	25	30	32	35	39	43

(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	131,3	144,6	160,4	178,4	197,7	236,2	275,0	308,6	348,8	377,8	437,4	490,5	553,8	606,7	700,9	800,5	852,7	904,6
Input power	kW	29,5	33,4	36,2	40,5	44,9	53,0	61,0	68,9	76,7	85,8	99,0	113,7	125,5	140,1	161,4	182,2	197,5	212,2
COP	W/W	4,46	4,33	4,43	4,41	4,40	4,45	4,50	4,48	4,55	4,40	4,42	4,31	4,41	4,33	4,34	4,39	4,32	4,26
Water flow rate system side	l/h	22789	25088	27829	30948	34307	40989	47727	53585	60562	65594	75963	85177	96178	105356	121721	139011	148077	157091
Pressure drop system side	kPa	24	28	30	30	32	32	21	24	21	26	28	35	33	39	42	45	51	58
Water flow rate source side	l/h	29818	32608	36390	40424	44800	53701	62474	70101	79473	85435	99053	110507	125500	136976	158407	181617	192771	204032
Pressure drop source side	kPa	41	48	51	52	55	57	33	42	37	44	48	59	56	68	71	78	87	98

(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	7,45	7,37	7,46	7,57	7,62	7,15	7,68	7,47	7,83	7,76	7,90	7,73	7,98	7,71	7,93	7,93	7,80	7,63
Seasonal efficiency	%	295,1	291,8	295,4	299,9	301,9	282,9	304,2	295,7	310,2	307,3	313	306,3	316,3	305,4	314	314,1	309,1	302,1
SEER - 23/18 (EN 14825: 2018)																			
SEER	W/W	10,71	10,82	10,79	11,02	11,06	9,83	10,66	10,29	11,04	10,96	11,37	11,04	11,80	11,35	11,68	12,21	11,84	11,43
Seasonal efficiency	%	425,30	429,80	428,50	437,90	439,20	390,20	423,30	408,50	438,50	435,50	451,70	438,80	469,00	451,10	464,00	485,20	470,50	454,10
SEPR - (EN 14825: 2018) High temperature (2)																			
SEPR	W/W	7,71	7,60	7,81	7,80	7,54	7,38	7,76	7,52	7,93	7,66	7,89	7,41	7,84	7,50	7,86	7,74	7,62	7,42
UE 813/2013 performance in average ambient conditions (average) - 35 °C - Pdesignh ≤ 400 kW (3)																			
SCOP	W/W	6,71	6,61	6,51	6,62	6,84	6,60	7,03	6,85	7,06	6,86	6,96	6,71	6,83	6,67	6,63	7,01	6,79	6,73
ηsh	%	260,20	256,30	252,50	256,60	265,40	255,80	273,00	265,80	274,20	266,50	270,30	260,50	265,30	258,90	257,20	272,40	263,70	261,30
Pdesignh	kW	138	151	169	187	207	247	287	324	367	397	458	513	579	634	732	836	890	943
UE 813/2013 performance in average ambient conditions (average) - 55 °C - Pdesignh ≤ 400 kW (4)																			
SCOP	W/W	4,91	4,78	4,82	4,93	4,93	4,80	5,04	4,96	5,00	4,85	4,93	4,80	4,86	4,74	4,83	5,40	5,31	5,27
ηsh	%	188,50	183,30	184,90	189,30	189,00	184,10	193,70	190,20	191,80	186,00	189,30	184,10	186,20	181,50	185,20	207,90	204,20	202,60
Pdesignh	kW	128	141	156	174	192	229	267	300	340	369	425	478	539	591	684	777	829	880

(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

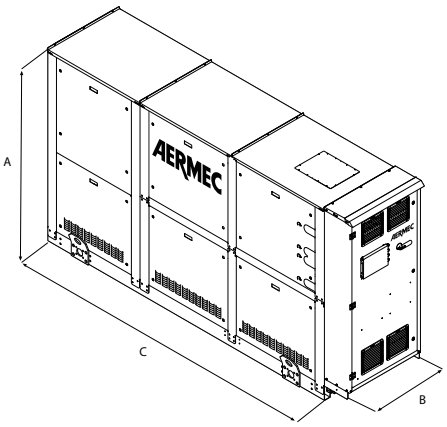
GENERAL TECHNICAL DATA

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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