

NXW 0503 - 1654

Water cooled heat pump reversible water side

Cooling capacity 111 ÷ 511 kW
Heating capacity 127 ÷ 582 kW

- 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 meet air conditioning needs in residential/commercial complexes or industrial applications. Indoor 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.

VERSIONS

- ° Standard
- L Standard silenced

FEATURES

Operating field

Full-load operation with the production of chilled water 4-18 °C, and the possibility to produce also negative temperature water down to -10°C for the evaporator and hot water for the condenser up to 55 °C. (for more information, refer to the technical documentation).

Dual-circuit unit

The units are dual-circuit, to ensure maximum efficiency both at full load and at partial load.

Option integrated hydronic kit, source and user side

The built-in hydronic module includes the main water circuit components; it is available in various configurations with one or two pumps with high or low head both on the system side and the source side, to obtain a solution that allows you to save money and to facilitate installation.

CONTROL PCO

Microprocessor adjustment, with display LCD which allows to navigate intuitively among the various screens, allowing to modify the operating parameters and the adjustment includes complete management of the alarms and their log.

You also have the possibility to:

- Check two units in parallel Master-Slave
- 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.

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 tablet 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 flow rate to the evaporators.

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

SGD: Electronic expansion that enables connecting to the photovoltaic system and heat pumps to accumulate heat in the DHW tank or in the heating system during the photovoltaic production phase and release it at times when heating demand is highest.

AVX: Spring anti-vibration supports.

DRE: Electronic device for peak current reduction.

RIF: Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current.

T6: Double safety valve with exchange cock, both on the high and low pressure branches.

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 the RS485 communication interface when the serial port is occupied by another device.*

Factory fitted accessories

T6: Double safety valve with exchange cock, both on the high and low pressure branches.

ACCESSORIES COMPATIBILITY

Model	Ver	0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
AER485P1	°L	•	•	•	•	•	•	•	•	•	•	•	•	•
AERBAC-ONE	°L	•	•	•	•	•	•	•	•	•	•	•	•	•
AERBACP	°L	•	•	•	•	•	•	•	•	•	•	•	•	•
AERNET	°L	•	•	•	•	•	•	•	•	•	•	•	•	•
MULTICHILLER-EVO	°L	•	•	•	•	•	•	•	•	•	•	•	•	•
PGD1	°L	•	•	•	•	•	•	•	•	•	•	•	•	•
SGD	°L	•	•	•	•	•	•	•	•	•	•	•	•	•

Antivibration

Version	System side - pumps	Integrated hydronic kit, source side	0503	0553	0604	0654	0704	0754	0804
°	°	°	AVX319	AVX319	AVX301	AVX301	AVX301	AVX303	AVX310
°	°	J, K, U, W	AVX320	AVX320	AVX320	AVX320	AVX320	AVX312	AVX651
°	M, O	°	AVX320	AVX320	AVX320	AVX320	AVX320	AVX312	AVX651
°	°	V, Z	AVX320	AVX320	AVX309	AVX309	AVX309	AVX312	AVX651
°	M	J, K, U, V, W, Z	AVX320	AVX320	AVX309	AVX309	AVX309	AVX312	AVX651
°	N	°, J, K, U, W	AVX320	AVX320	AVX309	AVX309	AVX309	AVX312	AVX651
°	O	J, K, U, V, W, Z	AVX320	AVX320	AVX309	AVX309	AVX309	AVX312	AVX651
°	P	°, J, K, U, W	AVX320	AVX320	AVX309	AVX309	AVX309	AVX312	AVX651
°	N, P	V, Z	AVX309	AVX309	AVX310	AVX310	AVX310	AVX312	AVX651
L	°	°	AVX309	AVX309	AVX310	AVX303	AVX303	AVX310	AVX314
L	°	J, K, U, W	AVX321	AVX321	AVX311	AVX311	AVX651	AVX651	AVX652
L	M, O	°	AVX321	AVX321	AVX311	AVX311	AVX651	AVX651	AVX652
L	°	V, Z	AVX311	AVX311	AVX311	AVX311	AVX651	AVX651	AVX652
L	M	J, K, U, W	AVX311	AVX311	AVX311	AVX311	AVX651	AVX651	AVX652
L	N	°	AVX311	AVX311	AVX311	AVX311	AVX651	AVX651	AVX652
L	O	J, K, U, W	AVX311	AVX311	AVX311	AVX311	AVX651	AVX651	AVX652
L	P	°	AVX311	AVX311	AVX311	AVX311	AVX651	AVX651	AVX652
L	M	V, Z	AVX311	AVX311	AVX312	AVX312	AVX651	AVX651	AVX652
L	N	J, K, U, W	AVX311	AVX311	AVX312	AVX312	AVX651	AVX651	AVX652
L	O	V, Z	AVX311	AVX311	AVX312	AVX312	AVX651	AVX651	AVX652
L	P	J, K, U, W	AVX311	AVX311	AVX312	AVX312	AVX651	AVX651	AVX652
L	N, P	V, Z	AVX312	AVX312	AVX312	AVX310	AVX651	AVX651	AVX652

Version	System side - pumps	Integrated hydronic kit, source side	0904	1004	1254	1404	1504	1654
°	°	°	AVX314	AVX316	AVX316	AVX315	AVX330	AVX330
°	°	J, K, U, W	AVX655	AVX653	AVX654	AVX654	AVX334	AVX337
°	M, N, O	°	AVX655	AVX653	AVX654	AVX654	AVX334	AVX337
°	°	V, Z	AVX655	AVX653	AVX654	AVX654	AVX337	-
°	M, O	J, K, U, W	AVX665	AVX653	AVX654	AVX654	AVX337	AVX335
°	M, O	V, Z	AVX655	AVX653	AVX654	AVX654	AVX340	-
°	N	J, K, U, W	AVX665	AVX653	AVX654	AVX654	AVX340	AVX335
°	N	V, Z	AVX665	AVX653	AVX654	AVX654	AVX335	-
°	P	°	AVX655	AVX653	AVX654	AVX654	-	-
°	P	J, K, U, V, W, Z	AVX665	AVX653	AVX654	AVX654	-	-
L	°	°	AVX314	AVX315	AVX315	AVX317	AVX331	AVX331
L	°	J, K, U, W	AVX653	AVX654	AVX659	AVX659	AVX335	AVX338
L	M, O	°	AVX653	AVX654	AVX659	AVX659	AVX335	AVX338
L	°	V, Z	AVX653	AVX654	AVX659	AVX659	AVX338	-
L	M	J, K, U, W	AVX653	AVX654	AVX659	AVX659	AVX338	AVX339
L	N	°	AVX653	AVX654	AVX659	AVX659	AVX338	AVX339
L	O	J, K, U, W	AVX653	AVX654	AVX659	AVX659	AVX338	AVX339
L	M, N, O	V, Z	AVX653	AVX654	AVX659	AVX659	AVX339	-
L	N	J, K, U, W	AVX653	AVX654	AVX659	AVX659	AVX339	AVX341
L	P	°, J, K, U, V, W, Z	AVX653	AVX654	AVX659	AVX659	-	-

- not available

PR4

Model	Ver	0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
PR4	°L	•	•	•	•	•	•	•	•	•	•	•	•	•

Power factor correction

Ver	0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
° L	RIF98	RIF98	RIF95	RIF95	RIF95	RIF95	RIF95	RIF96	RIF97	RIF97	RIF97	RIF97	RIF97

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

Device for peak current reduction

Ver	0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
° L	DRES01 (1)	DRES51 (1)	DRE601 (1)	DRE651 (1)	DRE701 (1)	DRE751 (1)	DRE801 (1)	DRE901 (1)	DRE1001 (1)	DRE1251 (1)	DRE1401 (1)	DRE1500 (1)	DRE1650 (1)

(1) Only for supplies of 400V 3N ~ 50Hz and 400V 3 ~ 50Hz. x 2 or x 3 (if present) indicates the quantity to be ordered.

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

Double safety valves

Ver	0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
Evaporator: E													
° L	T6NXW5 (1)	T6NXW5 (1)	T6NXW6 (1)	T6NXW6 (1)	T6NXW6 (1)	T6NXW7 (1)	T6NXW8 (1)	T6NXW9 (1)	T6NXW9 (1)	T6NXW10 (1)	T6NXW10 (1)	T6NXW10 (1)	T6NXW10 (1)
Evaporator: °													
° L	T6NXW1 (1)	T6NXW1 (1)	T6NXW2 (1)	T6NXW2 (1)	T6NXW2 (1)	T6NXW2 (1)	T6NXW2 (1)	T6NXW3 (1)	T6NXW3 (1)	T6NXW4 (1)	T6NXW4 (1)	T6NXW4 (1)	T6NXW4 (1)

(1) They cannot be installed in systems with total heat recovery.

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

CONFIGURATOR

Field	Description
1,2,3	NXW
4,5,6,7	Size 0503, 0553, 0604, 0654, 0704, 0754, 0804, 0904, 1004, 1254, 1404, 1504, 1654
8	Operating field
X	Electronic thermostatic expansion valve
Y	Low temperature mechanic thermostatic valve (1)
°	Standard mechanic thermostatic valve (2)
9	Model
K	Heat pump reversible on the water side with low pressure drops (3)
°	Heat pump reversible on the water side
10	Version
°	Standard
L	Standard silenced
11	Evaporator
E	Evaporating unit (4)
°	Standard
12	Heat recovery
D	With desuperheater (5)
T	With total recovery (6)
°	Without heat recovery
13	Power supply
5	500V ~ 3 50Hz with magnet circuit breakers (7)
°	400V ~ 3 50Hz with magnet circuit breakers
14	System side - pumps
M	Single pump low head
N	Pump low head + stand-by pump
O	Single pump high head
P	Pump high head + stand-by pump (8)
°	Without hydronic kit
15	Integrated hydronic kit, source side
J	Single low-head inverter pump (8)
K	Single high-head inverter pump (8)
U	Single pump low head
V	Pump low head + stand-by pump (9)
W	Pump high head
Z	Pump high head + stand-by pump (9)
°	Without hydronic kit

(1) Water produced from 4 °C ÷ -10 °C; for the availability with the heat recovery we advise you to contact us

(2) Water produced from 4 °C ÷ 18 °C

(3) Only for sizes from 0704 ÷ 0904

(4) Shipped with holding charge only.

(5) The desuperheater must be isolated in heating mode. In cooling mode, a water temperature no lower than 35°C must always be guaranteed on the heat exchanger inlet.

(6) Options not available for condensing unit, and for models with pump/s

(7) Only for 0804 ÷ 1004 sizes

(8) Not available for size 1504 ÷ 1654

(9) Not available for size 1654

PERFORMANCE SPECIFICATIONS

Size			0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
Cooling performance 12 °C / 7 °C (1)															
Cooling capacity	°L	kW	111,8	120,7	148,7	166,7	188,7	222,7	257,6	291,6	325,7	354,6	384,6	453,9	511,4
Input power	°L	kW	23,0	24,8	30,6	34,4	38,9	45,6	53,0	60,3	66,5	72,6	78,7	92,3	104,0
Cooling total input current	°L	A	48,00	51,00	58,00	63,00	86,00	94,00	102,00	120,00	138,00	140,00	143,00	160,00	178,00
EER	°L	W/W	4,87	4,86	4,86	4,85	4,85	4,88	4,86	4,84	4,90	4,88	4,89	4,92	4,92
Water flow rate source side	°L	l/h	23.047	24.886	30.656	34.332	38.866	45.790	52.970	60.075	67.065	73.041	79.190	93.374	105.103
Pressure drop source side	°L	kPa	25	29	29	37	37	45	60	38	29	34	36	36	47
Water flow rate system side	°L	l/h	19.243	20.789	25.600	28.692	32.472	38.314	44.327	50.169	56.011	60.993	66.147	78.063	87.938
Pressure drop system side	°L	kPa	30	35	32	40	43	47	49	55	35	36	36	36	40
Heating performance 40 °C / 45 °C (2)															
Heating capacity	°L	kW	127,6	137,8	170,0	190,3	215,4	253,7	293,5	332,9	371,5	404,7	438,7	517,1	582,0
Input power	°L	kW	27,6	29,9	36,3	40,9	46,4	54,5	63,3	72,3	79,0	86,2	93,3	109,5	123,4
Heating total input current	°L	A	57,00	60,00	68,00	73,00	100,00	109,00	119,00	140,00	161,00	163,00	166,00	186,00	207,00
COP	°L	W/W	4,62	4,61	4,69	4,66	4,64	4,66	4,64	4,60	4,70	4,69	4,70	4,72	4,71
Water flow rate source side	°L	l/h	29.340	31.697	39.235	43.975	49.768	58.721	67.938	76.891	85.844	93.480	101.380	119.642	134.776
Pressure drop source side	°L	kPa	70	81	75	94	101	110	115	129	82	85	85	85	94
Water flow rate system side	°L	l/h	22.142	23.905	29.490	33.021	37.384	44.030	50.933	57.790	64.513	70.265	76.175	89.802	101.065
Pressure drop system side	°L	kPa	23	27	27	34	34	42	55	35	27	31	33	33	43

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

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

ENERGY INDICES (REG. 2016/2281 EU)

Size			0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
SEER - 12/7 (EN14825: 2018)															
SEER	°L	W/W	5,50	5,85	5,79	5,77	5,84	5,81	5,52	6,30	6,42	6,37	6,38	6,49	6,48
Seasonal efficiency	°L	%	217,00	231,00	228,60	227,80	230,60	229,40	217,80	248,80	253,80	251,60	252,00	256,40	256,20
Water Regulation (1)	°L	type	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW
Performance in average ambient conditions (average) - 55 °C (2)															
Pdesignh	°L	kW	164,00	177,00	218,00	244,00	277,00	326,00	377,00	-	-	-	-	-	-
SCOP	°L	W/W	5,10	5,05	5,18	5,10	5,10	5,10	5,08	-	-	-	-	-	-
ηsh	°L	%	196,00	194,00	199,00	196,00	196,00	196,00	195,00	-	-	-	-	-	-
Water Regulation (1)	°L	type	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	-	-	-	-	-	-
SEPR - (EN 14825: 2018)															
SEPR	°L	W/W	-	-	-	-	-	-	-	7,90	7,90	7,80	7,80	8,00	8,00
Water Regulation (1)	°L	type	-	-	-	-	-	-	-	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW	FW/VO-FW

(1) 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.

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

ELECTRIC DATA

Size			0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
Electric data															
Maximum current (FLA)	°L	A	75,0	80,0	96,0	107,0	122,0	146,0	169,0	193,0	217,0	231,0	248,0	267,0	296,0
Peak current (LRA)	°L	A	240,0	245,0	227,0	238,0	289,0	319,0	341,0	398,0	422,0	490,0	504,0	601,0	630,0

GENERAL TECHNICAL DATA

Refrigerant circuit

Size			0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
Compressor															
Type	°L	type	Scroll												
Compressor regulation	°L	Type	On-Off												
Number	°L	no.	3	3	4	4	4	4	4	4	4	4	4	4	4
Circuits	°L	no.	2	2	2	2	2	2	2	2	2	2	2	2	2
Refrigerant	°L	type	R410A												
Total refrigerant charge (1)	°L	kg	13,20	12,50	15,60	15,60	18,00	22,00	26,00	33,00	38,00	44,00	44,00	46,00	53,00
Potential global heating (GWP)	°L		2088												
Equivalent CO ₂	°L	tCO ₂ eq	27,56	26,10	32,57	32,57	37,58	45,94	54,29	68,90	79,34	91,87	91,87	96,05	110,66

(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.

System side heat exchanger

Size			0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
System side heat exchanger															
Type	°L	type	Braze plate												
Number	°L	no.	1	1	1	1	1	1	1	1	1	1	1	1	1
Size (in)	°L	Ø	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	3"	3"	3"	3"	3"
Size (out)	°L	Ø	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	3"	3"	3"	3"	3"

Source side heat exchanger

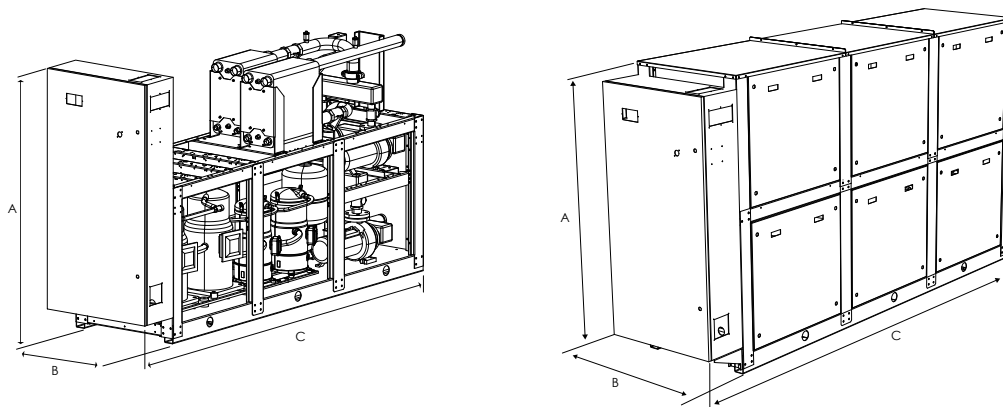
Size			0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
Source side heat exchanger															
Type	°L	type	Brazen plate												
Number	°L	no.	1	1	1	1	1	1	1	1	1	1	1	1	1
Connections (in/out)	°L	Type	Grooved joints												
Size (in)	°L	Ø	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	3"	3"	3"	3"	3"	3"
Size (out)	°L	Ø	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	3"	3"	3"	3"	3"	3"

Sound data

Size			0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
Sound data calculated in cooling mode (1)															
Sound power level	°	dB(A)	78,0	79,0	79,0	80,0	82,0	86,0	88,0	88,0	88,0	90,0	90,0	93,0	95,0
	L	dB(A)	72,0	73,0	73,0	74,0	76,0	80,0	82,0	82,0	82,0	84,0	84,0	86,0	87,0

(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			0503	0553	0604	0654	0704	0754	0804	0904	1004	1254	1404	1504	1654
Dimensions and weights															
A	°	mm	1.835	1.835	1.835	1.835	1.835	1.775	1.775	1.820	1.820	1.820	1.820	1.820	1.820
	L	mm	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885
B	°L	mm	800	800	800	800	800	800	800	800	800	800	800	800	800
	°	mm	1.795	1.795	1.795	1.795	1.795	2.420	2.420	2.420	2.420	2.420	2.420	2.420	2.420
C	L	mm	2.090	2.090	2.090	2.090	2.090	2.420	2.420	2.420	2.420	2.420	2.420	2.420	2.420
Dimensions and weights with pump/s															
A	°	mm	1.775	1.775	1.775	1.775	1.775	1.775	1.775	1.820	1.820	1.820	1.820	1.820	1.820
	L	mm	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885	1.885
B	°L	mm	800	800	800	800	800	800	800	800	800	800	800	800	800
	°L	mm	3.020	3.020	3.020	3.020	3.020	3.480	3.480	3.480	3.480	3.480	3.480	3.480	3.480
Dimensions and weights															
Empty weight	°	kg	578	582	682	690	727	882	989	1.180	1.417	1.461	1.539	1.613	1.721
	L	kg	750	755	854	863	900	1.054	1.187	1.378	1.615	1.659	1.737	1.811	1.919

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

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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