

NSMI 1251-6102

Air-water chiller

Cooling capacity 285,6 ÷ 1342,6 kW

- Microchannel coil
- Night mode
- Operation up to 50 °C outdoor air
- Low electrical consumption



DESCRIPTION

Air-cooled outdoor chiller designed to meet air conditioning needs in residential/commercial complexes or industrial applications.

Outdoor units with high-efficiency screw compressors axial fans, micro-channel external coils and plant side shell and tube heat exchanger.

In the unit with desuperheater, it is also possible to produce free-hot water. The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

VERSIONS

- A High efficiency
- E Silenced high efficiency

FEATURES

Operating field

Operation at full load up to 50 °C external air temperature depending on the size and version. For more information refer to the dedicated documents or the selection program Magellano.

Unit with 1 / 2 cooling circuits

Unit with 1–2 refrigerant circuits. The single circuit units have the inverter compressor, while the dual-circuit have an asynchronous compressor on/off switch and an inverter, the combination provides both high efficiency at part load and full load.

Aluminium microchannel coils

The microchannel condensing aluminum coils ensure high levels of efficiency, reduced quantities of refrigerant and lower unit weight. The treatment "O" available as configurator it ensures high resistance to corrosion even in the most aggressive environments.

Condensation control temperature

Fitted as standard with a device for electronic condensation control so that the unit can work even with low temperatures, adapting the air flow rate to the actual system request in order to reduce consumption.

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.

Integrated hydronic kit

Integrated hydronic kit containing the main hydraulic components; available with various configurations with one or two pumps, high or low head, to obtain a solution that allows you to save money and to facilitate installation.

Low noise version

Silenced versions "E" feature a special compressor jacket which ensures a further noise reduction of approximately 4dB.

CONTROL PCO⁵

Microprocessor adjustment, with 7", 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 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.
- **Night mode:** only in the **non-silenced** versions it is possible to set a silenced operating mode, which is useful for example at night for greater acoustic comfort but always guarantees performance even at peak load times.

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.

ACCESSORIES COMPATIBILITY

Accessories

Model	Ver	1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
AER485P1	A,E	*	*	*												
AER485P1 x no. 2	A,E				*	*	*	*	*	*	*	*	*	*	*	*
AERBAC-ONE	A,E	*	*	*												
AERBAC-ONE x no. 2	A,E				*	*	*	*	*	*	*	*	*	*	*	*
AERBACP	A,E	*	*	*												
AERBACP x no. 2	A,E				*	*	*	*	*	*	*	*	*	*	*	*
AERNET	A,E	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
MULTICHILLER-EVO	A,E	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Antivibration

Ver	1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
A	AVX991	AVX992	AVX993	AVX996	AVX970	AVX995	AVX995	AVX995	AVX996	AVX988	AVX997	AVX998	AVX998	AVX998	AVX998
E	AVX991	AVX992	AVX994	AVX996	AVX970	AVX995	AVX995	AVX995	AVX996	AVX988	AVX997	AVX998	AVX998	AVX998	AVX998

Heater exchangers

Ver	1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
A, E	KRS23	KRS23	KRS23	KRS23	KRS23	KRS23	KRS23	KRS24	KRS24	KRS24	KRS24	KRS24	KRS24	KRS24	KRS24

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

Anti-intrusion grid kit

Ver	1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
A, E	GP4V	GP4V	GP5V	GP5V	GP6V	GP7V	GP7V	GP7V	GP8V	GP9V	GP10V	GP11V	GP11V	GP11V	GP11V

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

CONFIGURATOR

Field	Description
1,2,3,4	NSMI
	Size
5,6,7,8	1251, 1601, 1801, 2352, 2652, 2802, 3202, 3402, 3802, 4102, 4402, 4802, 5202, 5702, 6102
9	Model
°	Cooling only
10	Heat recovery
D	With desuperheater (1)
T	With total recovery
°	Without heat recovery
11	Version
A	High efficiency
E	Silenced high efficiency
12	Coils
I	Copper-aluminium
O	Coated aluminium microchannel
R	Copper pipes-copper fins
None	None
V	Copper pieps-Coated aluminium fins
°	Aluminium microchannel
13	Fans
J	Inverter
°	Standard
14	Power supply
°	400V~3 50Hz with fuses
15,16	Integrated hydronic kit
	Without hydronic kit
00	Without hydronic kit
	Kit with n° 1 pump

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.

AVX: Spring anti-vibration supports.

FACTORY FITTED ACCESSORIES

GP : Anti-intrusion grid kit

KRS: Electric heater for the heat exchanger

Field	Description
PA	Pump A
PB	Pump B
PC	Pump C
PD	Pump D
PE	Pump E
PF	Pump F
PG	Pump G
PH	Pump H
PI	Pump I
PJ	Pump J (2)
	Pump n° 1 pump + stand-by pump
DA	Pump A + stand-by pump
DB	Pump B + stand-by pump
DC	Pump C + stand-by pump
DD	Pump D + stand-by pump
DE	Pump E + stand-by pump
DF	Pump F + stand-by pump
DG	Pump G + stand-by pump
DH	Pump H + stand-by pump
DI	Pump I + stand-by pump
DJ	Pump J + stand-by pump (2)
	Kit with 2 pumps
TF	Double pump F
TG	Double pump G
TH	Double pump H
TI	Double pump I
TJ	Double pump J (2)

(1) Minimum water temperature of 35 °C must always be ensured at heat exchanger inlet if working with low temperatures of water produced in the primary circuit.

(2) For all configurations including pump J please contact the factory.

PERFORMANCE SPECIFICATIONS

NSMI - A/E

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Fans: J, °																	
Cooling performance 12 °C / 7 °C (1)																	
Cooling capacity	A,E	kW	285,6	381,6	463,7	518,7	605,6	659,5	725,5	802,5	842,5	948,4	1008,3	1110,3	1204,3	1253,2	1342,2
Input power	A,E	kW	91,1	120,6	149,9	166,9	194,3	212,5	232,9	257,7	270,0	304,8	324,2	356,1	397,7	416,2	455,0
Cooling total input current	A,E	A	155,10	199,90	245,40	292,70	336,80	359,50	392,70	431,30	443,40	517,00	546,80	619,40	664,70	727,80	761,10
EER	A,E	W/W	3,13	3,16	3,09	3,11	3,12	3,10	3,12	3,11	3,12	3,11	3,11	3,12	3,03	3,01	2,95
Water flow rate system side	A,E	l/h	49.138	65.632	79.720	89.170	104.118	113.395	124.735	137.965	144.837	163.049	173.358	190.882	207.033	215.451	230.743
Pressure drop system side	A,E	kPa	45	15	21	18	25	28	33	27	30	39	45	38	44	49	55

(1) Data EN 14511:2022; Heat exchanger water (services side) 12°C / 7°C; outside air 35°C

ENERGY INDICES (REG. 2016/2281 EU)

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Fans: J																	
SEER - 12/7 (EN14825: 2018)																	
SEER	A,E	W/W	4,95	5,04	5,00	5,01	5,03	5,01	5,02	5,04	5,04	5,00	4,99	5,00	4,96	4,81	4,80
Seasonal efficiency	A,E	%	194,90	198,40	196,80	197,30	198,10	197,20	197,60	198,50	198,50	197,10	196,40	197,10	195,30	189,20	188,80
Water Regulation (1)	A,E	type	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO
SEPR - (EN 14825: 2018)																	
SEPR	A,E	W/W	5,70	5,60	5,60	6,60	6,40	6,40	6,80	6,90	7,20	7,00	6,80	6,90	7,20	6,70	7,00
Water Regulation (1)	A,E	type	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO

(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.

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Fans: °																	
SEER - 12/7 (EN14825: 2018)																	
SEER	A,E	W/W	4,75	4,82	4,78	4,90	4,92	4,90	4,91	4,93	4,93	4,90	4,88	4,90	4,85	4,70	4,69
Seasonal efficiency	A,E	%	186,80	189,70	188,00	193,10	193,90	193,00	193,30	194,20	194,30	192,80	192,20	192,90	191,00	185,10	184,70
Water Regulation (1)	A,E	type	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO	FW/VO
SEPR - (EN 14825: 2018)																	
SEPR	A	W/W	5,70	5,60	5,60	6,60	6,40	6,40	6,80	6,90	7,20	7,00	6,83	6,90	7,20	6,70	7,00
	E	W/W	5,70	5,60	5,60	6,60	6,40	6,40	6,80	6,90	7,20	7,00	6,80	6,90	7,20	6,70	7,00
Water Regulation (1)	A,E	type	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO	FW/FO

(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.

ELECTRIC DATA

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Electric data																	
Maximum current (FLA)	A,E	A	251,3	291,3	377,7	442,0	473,0	519,4	519,4	567,4	653,8	708,1	753,5	874,8	917,2	1.002,2	1.036,2
Peak current (LRA)	A,E	A	51,3	51,3	57,7	571,7	605,0	651,4	651,4	775,4	861,8	989,1	1.059,4	1.180,2	1.335,2	1.420,2	1.532,2

GENERAL TECHNICAL DATA

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Fans: J, °																	
Compressor																	
Type	A,E	type															
Compressor regulation	A,E	Type	I	I	I	1+I	1+I	1+I	1+I	1+I	1+I	1+I	1+I	1+I	1+I	1+I	1+I
Number	A,E	no.	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
Circuits	A,E	no.	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
Refrigerant	A,E	type															
Total refrigerant charge (1)	A,E	kg	28,00	28,00	30,00	81,00	92,00	110,00	114,00	107,00	131,00	146,00	163,00	183,00	183,00	195,00	195,00
Potential global heating (GWP)	A,E																
Equivalent CO ₂	A,E	tCO ₂ eq	40,04	40,04	42,90	115,83	131,56	157,30	163,02	153,01	187,33	208,78	233,09	261,69	261,69	278,85	278,85

(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.

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
System side heat exchanger																	
Type	A,E	type															
Number	A,E	no.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hydraulic connections																	
Connections (in/out)	A,E	Type															
Sizes (in/out)	A,E	Ø	5"	6"	6"	6"	6"	6"	6"	8"	8"	8"	8"	10"	10"	10"	10"

FANS DATA

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Fans: °																	
Fan																	
Type	A,E	type	Axial														
Fan motor	A,E	type	Asynchronous with phase cut														
Number	A,E	no.	8	8	10	10	12	14	14	14	16	18	20	22	22	22	22
Air flow rate	A,E	m³/h	128.000	128.000	160.000	160.000	192.000	224.000	224.000	224.000	256.000	288.000	320.000	396.000	396.000	396.000	396.000

SOUND DATA

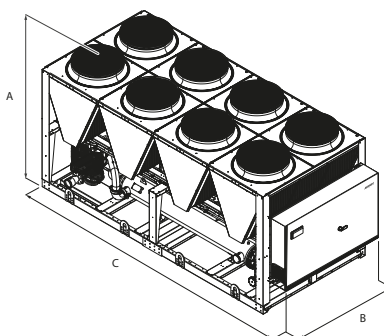
Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Fans: J																	
Sound data calculated in cooling mode (1)																	
Sound power level	A	dB(A)	97,2	98,6	98,6	98,6	98,9	99,9	99,9	100,3	100,3	100,4	101,0	102,9	103,2	102,9	103,2
	E	dB(A)	92,9	95,8	95,9	94,7	95,1	96,1	96,1	97,3	97,4	97,7	98,0	99,9	99,9	99,9	99,9

(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).

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Fans: °																	
Sound data calculated in cooling mode (1)																	
Sound power level	A	dB(A)	97,2	98,6	98,6	98,6	98,9	99,9	99,9	100,3	100,3	100,4	101,0	102,9	103,2	102,9	103,2
	E	dB(A)	92,9	95,8	95,9	94,7	95,1	96,1	96,1	97,3	97,4	97,7	98,0	99,9	99,9	99,9	99,9

(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			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Dimensions and weights																	
A	A,E	mm	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450	2.450
B	A,E	mm	2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200	2.200
C	A,E	mm	4.760	4.760	5.950	6.400	7.140	8.330	8.330	8.330	9.520	10.710	11.900	13.090	13.090	13.090	13.090
Integrated hydronic kit: 00																	
Dimensions and weights																	
Empty weight	A	kg	3.752	4.162	4.578	6.039	6.447	6.896	6.987	7.635	8.103	8.872	9.324	10.798	10.888	10.918	10.991
	E	kg	4.054	4.464	4.880	6.642	7.050	7.499	7.590	8.239	8.706	9.475	9.928	11.637	11.727	11.757	11.830
Weight functioning	A	kg	3.832	4.416	4.832	6.360	6.768	7.206	7.275	8.165	8.632	9.389	9.841	11.730	11.819	11.835	11.908
	E	kg	4.134	4.718	5.134	6.964	7.371	7.809	7.878	8.768	9.236	9.993	10.445	12.568	12.658	12.674	12.747

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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