

NSMI

Air-water chiller

Cooling capacity 285 ÷ 1204 kW

- Microchannel coils
- 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, microchannel 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 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 documentations 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

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:** it is possible to set a silenced operation profile. Perfect for night operation since it guarantees greater acoustic comfort in the evenings, and a high efficiency in the time of greater load.

ACCESSORIES

AER485P1: RS-485 interface for supervision systems with MODBUS protocol.

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

GP: Anti-intrusion grid kit

KRS: Electric heater for the plate heat exchanger

ACCESSORIES COMPATIBILITY

Accessories

Model	Ver	1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202
AER485P1	A,E	*	*	*										
AER485P1 x n° 2 (1)	A,E				*	*	*	*	*	*	*	*	*	*
AERNET	A,E	*	*	*	*	*	*	*	*	*	*	*	*	*
MULTICHILLER_EVO	A,E	*	*	*	*	*	*	*	*	*	*	*	*	*
PRV3	A,E	*	*	*	*	*	*	*	*	*	*	*	*	*

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

Antivibration

Ver	1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202
Integrated hydronic kit: 00													
A	AVX991	AVX992	AVX993	AVX966	AVX970	AVX995	AVX995	AVX995	AVX996	AVX998	AVX997	AVX998	AVX998
E	AVX991	AVX992	AVX994	AVX966	AVX970	AVX995	AVX995	AVX995	AVX996	AVX998	AVX997	AVX998	AVX998

Heater exchangers

Ver	1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202
A,E	KRS (1)	KRS (1)	KRS (1)	KRS (1)	KRS (1)	KRS (1)	KRS (1)	KRS (1)	KRS (1)	KRS (1)	KRS (1)	KRS (1)	KRS (1)

(1) Contact us

A grey background indicates the accessories assembled in the factory

Anti-intrusion grid kit

Ver	1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202
A,E	GPV (1)	GPV (1)	GPV (1)	GPV (1)	GPV (1)	GPV (1)	GPV (1)	GPV (1)	GPV (1)	GPV (1)	GPV (1)	GPV (1)	GPV (1)

(1) Contact us

A grey background indicates the accessories assembled in the factory

CONFIGURATOR

Field	Description
1,2,3,4	NSMI
5,6,7,8	Size 1251, 1601, 1801, 2352, 2652, 2802, 3202, 3402, 3802, 4102, 4402, 4802, 5202
9	Model
	° Cooling only
10	Heat recovery
	° Without heat recovery
	D With desuperheater (1)
11	Version
	A High efficiency
	E Silenced high efficiency
12	Coils
	° Alluminium microchannel
	O Painted alluminium microchannel
	R Copper-copper
	S Copper-Tinned copper
	V Copper-painted aluminium
13	Fans
	° Standard
	J Inverter
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
	PA Pump A

(1) The temperature of the water in the heat exchanger inlet must never drop below 35°C.

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

Field	Description
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
	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
	Kit with 2 pumps (2)
TF	Double pump F
TG	Double pump G
TH	Double pump H
TI	Double pump I
TJ	Double pump J

PERFORMANCE SPECIFICATIONS

NSMI - A/E

Size		1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202
Cooling performance 12 °C/7 °C(1)														
Cooling capacity	kW	285,6	382,0	464,0	519,1	605,4	659,4	725,2	802,4	842,6	948,0	1008,8	1110,4	1204,3
Input power	kW	91,3	120,2	149,5	167,1	194,3	212,3	232,7	257,5	269,9	304,8	324,7	356,2	397,4
Cooling total input current	A	155,0	200,0	245,0	293,0	337,0	360,0	393,0	431,0	443,0	517,0	547,0	619,0	665,0
EER	W/W	3,13	3,18	3,10	3,11	3,12	3,11	3,12	3,12	3,12	3,11	3,11	3,12	3,03
Water flow rate system side	l/h	49130	65700	79773	89247	104092	113376	124682	137945	144852	162983	173442	190903	207040
Pressure drop system side	kPa	45	15	21	18	25	28	33	27	30	39	45	38	44

(1) Data 14511:2018; System side water heat exchanger 12 °C/7 °C; External air 35 °C

ENERGY DATA

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202
Cooling capacity with low leaving water temp (UE n° 2016/2281)															
SEER	A,E	W/W	4,51	4,59	4,56	4,73	4,75	4,74	4,75	4,78	4,78	4,75	4,73	4,75	4,67
ηsc	A,E	%	177,50	180,70	179,30	186,00	187,10	186,40	186,90	188,00	188,10	186,90	186,30	186,90	183,60

ELECTRIC DATA

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202
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
Peak current (LRA)	A,E	A	51,3	51,3	57,7	57,7	605,0	651,4	651,4	775,4	861,8	989,1	1059,4	1180,2	1335,2

GENERAL TECHNICAL DATA

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202
Compressor															
Type	A,E	type													screw
Number	A,E	no.	1	1	1	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
Refrigerant	A,E	type													R134a
Refrigerant charge	A,E	kg	28,0	28,0	30,0	81,0	92,0	110,0	114,0	107,0	131,0	146,0	163,0	183,0	183,0
System side heat exchanger															
Type	A,E	type													Shell and tube
Number	A,E	no.	1	1	1	1	1	1	1	1	1	1	1	1	1
Hydraulic connections															
Connections (in/out)	A,E	Type													Grooved joints
Diameter (in/out)	A,E	∅	5"	6"	6"	6"	6"	6"	6"	8"	8"	8"	8"	10"	10"

Fans

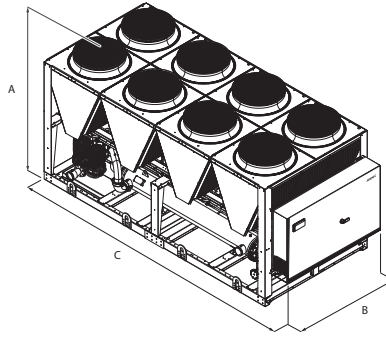
Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202
Standard															
Fan															
Type	A,E	type	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial
Fan motor	A,E	type	On-Off	On-Off	On-Off	On-Off	On-Off	On-Off	On-Off	On-Off	On-Off	On-Off	On-Off	On-Off	On-Off
Number	A,E	no.	8	8	10	10	12	14	14	14	16	18	20	22	22
Air flow rate	A,E	m³/h	128000	128000	160000	160000	192000	224000	224000	224000	256000	288000	320000	396000	396000

Sound data

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202
Sound data calculated in cooling mode (1)															
Sound power	A	dB(A)	97,2	98,6	98,6	98,6	98,8	99,9	99,9	100,3	100,3	100,4	101,0	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
Sound pressure level (10 m)	A	dB(A)	64,8	66,2	66,1	66,1	66,2	67,1	67,1	67,5	67,5	67,4	67,9	69,7	69,9
	E	dB(A)	60,6	63,4	63,4	62,1	62,5	63,3	63,3	64,6	64,5	64,7	64,8	66,7	66,7

(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



Dimensions and weights °

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	
Dimensions and weights																
A	A,E	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
B	A,E	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
C	A,E	mm	4760	4760	5950	6400	7140	8330	8330	8330	9520	10710	11900	13090	13090	13090
Weight empty	A	kg	3752	4162	4578	6039	6447	6896	6987	7635	8103	8872	9324	10798	10888	10888
	E	kg	4054	4054	4464	4880	6642	7050	7499	7590	8239	8706	9475	9928	11637	11637

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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