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, 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 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 vesion. 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

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 PCO^5

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 ad 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.
AERBACP: Ethernet communication Interface for protocols Bacnet/IP, Modbus TCP/IP, SNMP
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.

AVX: Spring anti-vibration supports.

FACTORY FITTED ACCESSORIES

GP_: Anti-intrusion grid kit
KRS: Electric heater for the heat exchanger

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 n° 2 (1)	A,E				•	•	•	•	•	•	•	•	•	•	•	•
AERBACP	A,E	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AERNET	A,E	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
MULTICHILLER_EVO	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	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**
5,6,7,8		**Size** 1251, 1601, 1801, 2352, 2652, 2802, 3202, 3402, 3802, 4102, 4402, 4802, 5202, 5702, 6102
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**
	°	Aluminium microchannel
	I	Copper-aluminium
	O	Coated aluminium microchannel
	R	Copper pipes-copper fins
	S	Copper pipes-Tinned copper fins
	V	Copper pieps-Coated aluminium fins
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
	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
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	1253,0	1342,6
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	415,9	454,6
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	728,0	761,0
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	3,01	2,95
Water flow rate system side	l/h	49130	65700	79773	89247	104092	113376	124682	137945	144852	162983	173442	190903	207040	215409	230815
Pressure drop system side	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
SEER - 12/7 (EN14825:2018) with standard fans (1)																	
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	%	186,8%	189,7%	188,0%	193,1%	193,9%	193,0%	193,3%	194,2%	194,3%	192,8%	192,2%	192,9%	191,0%	185,1%	184,7%
SEER - (EN14825:2018) 12/7 with inverter fans (1)																	
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	%	194,9%	198,4%	196,8%	197,3%	198,1%	197,2%	197,6%	198,5%	198,5%	197,1%	196,4%	197,1%	195,3%	189,2%	188,8%
SEPR - (EN14825: 2018) High temperature with standard fans (2)																	
SEPR	A,E	W/W	5,70	5,62	5,59	6,56	6,43	6,42	6,77	6,94	7,21	6,96	7,47	6,88	7,21	6,69	7,01
SEPR - (EN14825: 2018) High temperature with inverter fans (2)																	
SEPR	A,E	W/W	5,70	5,62	5,59	6,56	6,43	6,42	6,77	6,94	7,21	6,96	7,47	6,88	7,21	6,69	7,01

(1) Calculation performed with FIXED water flow rate and VARIABLE outlet temperature.
(2) Calculation performed with FIXED water flow rate.

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	1002,2	1036,2
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	1059,4	1180,2	1335,2	1420,2	1532,2

GENERAL TECHNICAL DATA

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Compressor																	
Type	A,E	type	Screw														
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	R134a														
Refrigerant charge (1)	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	195,0	195,0
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	1	1
Hydraulic connections																	
Connections (in/out)	A,E	Type	Grooved joints														
Sizes (in/out)	A,E	Ø	5"	6"	6"	6"	6"	6"	6"	8"	8"	8"	8"	10"	10"	10"	10"

(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.

Fans

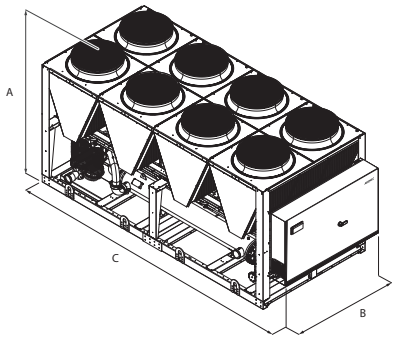
Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Fans: °																	
Fan																	
Type	A,E	type	Axial														
Fan motor	A,E	type	Asynchronous with phase cut														
Number	A,E	no.	8	8	10	10	12	14	14	14	16	18	20	22	22	22	22
Air flow rate	A,E	m^3/h	128000	128000	160000	160000	192000	224000	224000	224000	256000	288000	320000	396000	396000	396000	396000

Sound data

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Sound data calculated in cooling mode (1)																	
Sound power level	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	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
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	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	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



Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Dimensions and weights																	
A	A,E	mm	2450	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	2200
C	A,E	mm	4760	4760	5950	6400	7140	8330	8330	8330	9520	10710	11900	13090	13090	13090	13090

Size			1251	1601	1801	2352	2652	2802	3202	3402	3802	4102	4402	4802	5202	5702	6102
Integrated hydronic kit: 00																	
Dimensions and weights																	
Empty weight	A	kg	3752	4162	4578	6039	6447	6896	6987	7635	8103	8872	9324	10798	10888	10918	10991
	E	kg	4054	4464	4880	6642	7050	7499	7590	8239	8706	9475	9928	11637	11727	11757	11830
Weight functioning	A	kg	3832	4416	4832	6360	6768	7206	7275	8165	8632	9389	9841	11730	11819	11835	11908
	E	kg	4134	4718	5134	6964	7371	7809	7878	8768	9236	9993	10445	12568	12658	12674	12747

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