

# NSM HWT B

## Air-cooled chiller with free cooling (glycol-free)

Cooling capacity 306 ÷ 1991 kW



- High efficiency also at partial loads
- Microchannel coils
- Suitable for Data Center applications
- Water produced up to 30 °C
- Night mode



### DESCRIPTION

Air-cooled outdoor chiller designed to meet air conditioning needs in residential/commercial complexes or industrial applications. These are outdoor units with screw compressors, axial fans, micro-channel coils, and shell and tube heat exchangers. The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

These are flexible and reliable units which adapt to the most diverse load conditions thanks to the precise design and the use of steady speed compressors together with inverter-controlled variable speed compressors guaranteeing a high energy efficiency level both at full and partial load.

### VERSIONS

- A** High efficiency
- E** Silenced high efficiency
- N** Silenced very high efficiency
- U** Very high efficiency

### FEATURES

#### Operating field

Water produced from 5 °C ÷ 30 °C.

#### Unit with 2/3 cooling circuits

Unit with 2/3 refrigerant circuits designed to provide maximum efficiency at full load, ensuring high efficiency at partial loads also and ensuring continuity in case one of the circuits stops.

#### 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.

#### Aluminium microchannel coils

The whole range uses microchannel condenser coils allowing reduction of refrigerant charge but keeping the same high efficiency.

#### Free-cooling water coils

These units also have a water coil dedicated to free-cooling mode. Free-cooling offers significant energy saving in applications that require cooling all year round.

As soon as the outside air temperature allows, a valve makes the water flow towards the free-cooling battery which is cooled directly by the air. The compressors are completely shut down, if possible, leading to considerable electrical savings.

#### Free cooling with glycol water

Intermediate plate heat exchanger that creates two circuits:

1. Glycol hydraulic circuit (glycol is added to protect the coil from freezing).
2. Primary hydraulic circuit for glycol-free systems.

#### 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.

#### CONTROL

Microprocessor adjustment, with keyboard and LCD display, for easy access on the unit is a menu available in several languages.

- 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 x n° 2:** RS-485 interface for supervision systems with MODBUS protocol.

**AER485P1 x n° 3:** 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.

**FB1:** Air filter to protect the micro-channel coils. Formed of a frame and a composite baffle in micro-expanded aluminium mesh, with particularly low pressure drops.

**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

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

**GP\_:** Anti-intrusion grid kit

**KRS:** Electric heater for the heat exchanger

**AK:** Acoustic kit that lowers the noise level even further, thanks to the special coating on the panelling or on those components that produce the most noise in the unit. Available for the low noise version only.

## ACCESSORIES COMPATIBILITY

Model	Ver	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
AER485P1 x n° 2 (1)	A,E,N,U	.	.	.	.	.	.	.	.	.	.	.	.	.
AERNET	A,E,N,U	.	.	.	.	.	.	.	.	.	.	.	.	.
FB1	A,E,N,U	.	.	.	.	.	.	.	.	.	.	.	.	.
MULTICHILLER_EVO	A,E,N,U	.	.	.	.	.	.	.	.	.	.	.	.	.
PRV3	A,E,N,U	.	.	.	.	.	.	.	.	.	.	.	.	.

Model	Ver	3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
AER485P1 x n° 2 (1)	A,E,N,U	.	.	.	.	.	.	.	.	.	.	.	.
AER485P1 x n° 3 (1)	A,E,N,U	.	.	.	.	.	.	.	.	.	.	.	.
AERNET	A,E,N,U	.	.	.	.	.	.	.	.	.	.	.	.
FB1	A,E,N,U	.	.	.	.	.	.	.	.	.	.	.	.
MULTICHILLER_EVO	A,E,N,U	.	.	.	.	.	.	.	.	.	.	.	.
PRV3	A,E,N,U	.	.	.	.	.	.	.	.	.	.	.	.

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

### Antivibration

Ver	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
A,E,N,U	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)

(1) Contact us.

Ver	3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
A,E,N,U	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)

(1) Contact us.

### Power factor correction

Ver	1402	1602	1802	2002	2202	2352	2502	2652	2802
A	RIFNSM1402Q	RIFNSM1602Q	RIFNSM1802Q	RIFNSM2002Q	RIFNSM2202Q	RIFNSM2352Q	RIFNSM2502Q	RIFNSM2652Q	RIFNSM2802C
E	RIFNSM1402Q	RIFNSM1602Q	RIFNSM1802Q	RIFNSM2002Q	RIFNSM2202Q	RIFNSM2352C	RIFNSM2502C	RIFNSM2652Q	RIFNSM2802C
N	RIFNSM1402Q	RIFNSM1602Q	RIFNSM1802C	RIFNSM2002Q	RIFNSM2202C	RIFNSM2352C	RIFNSM2502C	RIFNSM2652Q	RIFNSM2802C
U	RIFNSM1402Q	RIFNSM1602Q	RIFNSM1802Q	RIFNSM2002C	RIFNSM2202Q	RIFNSM2352C	RIFNSM2502C	RIFNSM2652Q	RIFNSM2802C

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

Ver	3002	3202	3402	3602	3902	4202	4502	4802	5202
A,E,U	RIFNSM3002C	RIFNSM3202C	RIFNSM3402C	RIFNSM3602C	RIFNSM3902C	RIFNSM4202C	RIFNSM4502C	RIFNSM4802C	RIFNSM5202C
N	RIFNSM3002C	RIFNSM3202C	RIFNSM3402C	RIFNSM3602C	RIFNSM3902C	RIFNSM4202C	-	-	-

The accessory cannot be fitted on the configurations indicated with -

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

Ver	5602	6002	6402	6503	6703	6903	7203	8403	9603
A	RIFNSM5602C	RIFNSM6002C	RIFNSM6402C	-	-	-	-	-	-

The accessory cannot be fitted on the configurations indicated with -

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

### Anti-intrusion grid

Ver	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
A,E,N,U	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)

(1) Contact the factory

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

Ver	3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
A,E,N,U	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)	GP. (1)

(1) Contact the factory

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### Heater exchangers

Ver	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
A,E,N,U	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 the factory

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

Ver	3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
A,E,N,U	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 the factory

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

#### Acoustic kit

Ver	1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
A,E,N,U	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)

(1) Available only in low noise version

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

Ver	3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
A,E,N,U	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)	AK (1)

(1) Available only in low noise version

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

## CONFIGURATOR

Field	Description
<b>1,2,3</b>	<b>NSM</b>
	<b>Size</b>
<b>4,5,6,7</b>	1402, 1602, 1802, 2002, 2202, 2352, 2502, 2652, 2802, 3002, 3202, 3402, 3602, 3902, 4202, 4502, 4802, 5202, 5602, 6002, 6402, 6903, 7203, 8403, 9603
<b>8</b>	<b>Operating field (1)</b>
W	Electronic thermostatic expansion valve
<b>9</b>	<b>Model</b>
B	Free-cooling glycol free
G	Free-cooling glycol free plus (2)
<b>10</b>	<b>Heat recovery</b>
°	Without heat recovery
<b>11</b>	<b>Version</b>
A	High efficiency
E	Silenced high efficiency
N	Silenced very high efficiency
U	Very high efficiency
<b>12</b>	<b>Coils / free-cooling coils</b>
°	Alluminium microchannel / Copper - aluminium
O	Painted alluminium microchannel / Copper painted aluminium
R	Copper-copper/Copper-copper (2)
S	Copper-Tinned copper / Copper -Tinned copper (2)
V	Copper-painted aluminium / Copper-painted aluminium (2)
<b>13</b>	<b>Fans</b>
J	Inverter
<b>14</b>	<b>Power supply</b>
°	400V ~ 3 50Hz
<b>15,16</b>	<b>Integrated hydronic kit</b>
	<b>Without hydronic kit</b>
00	Without hydronic kit

(1) Water produced from 5 °C ÷ 30 °C

(2) The Free-Cooling Plus "P" models are only compatible with<sup>com</sup> ed "O"

## PERFORMANCE SPECIFICATIONS

### NSM HWT BA-GA

Size		1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
<b>Model: B</b>														
<b>Cooling performance chiller operation</b>														
Cooling capacity	kW	306,0	351,0	400,0	441,0	479,0	505,0	546,0	589,0	638,0	653,0	687,0	753,0	792,0
Input power	kW	82,0	95,0	109,0	118,0	125,0	135,0	147,0	155,0	167,0	172,0	179,0	192,0	205,0
Cooling total input current	A	146,0	166,0	187,0	200,0	208,0	224,0	242,0	258,0	277,0	290,0	306,0	327,0	348,0
EER	W/W	3,75	3,69	3,69	3,73	3,83	3,73	3,71	3,79	3,81	3,80	3,84	3,92	3,86
Water flow rate system side	l/h	52824	60556	69042	76187	82709	87074	94164	101663	110040	112699	118488	129925	136678
Pressure drop system side	kPa	91	120	119	91	107	118	139	135	152	133	130	99	110

<b>Cooling performances with free-cooling glycol-free</b>														
Cooling capacity	kW	303,0	276,0	281,0	292,0	360,0	363,0	367,0	437,0	441,0	454,0	456,0	541,0	542,0
Input power	kW	22,6	22,6	22,6	22,6	29,7	29,7	29,7	38,6	38,6	38,7	38,7	44,8	44,8
Free cooling total input current	A	36,1	36,1	36,1	36,1	47,0	47,0	47,0	61,5	61,5	61,7	61,7	71,2	71,2
EER	W/W	13,43	12,22	12,46	12,93	12,14	12,23	12,36	11,32	11,43	11,73	11,79	12,07	12,11

Size		1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
<b>Model: G</b>														
<b>Cooling performance chiller operation</b>														
Cooling capacity	kW	305,0	349,0	398,0	439,0	477,0	502,0	543,0	587,0	635,0	650,0	683,0	749,0	788,0
Input power	kW	82,0	96,0	109,0	120,0	126,0	136,0	148,0	157,0	169,0	174,0	181,0	194,0	207,0
Cooling total input current	A	147,0	167,0	188,0	201,0	210,0	226,0	244,0	260,0	279,0	292,0	308,0	330,0	351,0
EER	W/W	3,70	3,64	3,64	3,68	3,78	3,68	3,66	3,74	3,76	3,74	3,78	3,86	3,80
Water flow rate system side	l/h	52588	60291	68707	75829	82367	86693	93725	101283	109546	112184	117898	129336	136024
Pressure drop system side	kPa	90	119	118	90	106	117	137	134	151	132	129	98	108

<b>Cooling performances with free-cooling glycol-free</b>														
Cooling capacity	kW	314,0	287,0	293,0	305,0	377,0	380,0	384,0	459,0	463,0	478,0	481,0	570,0	572,0
Input power	kW	23,0	22,9	22,9	23,0	30,1	30,1	30,1	39,2	39,2	39,3	39,3	45,5	45,5
Free cooling total input current	A	36,6	36,6	36,6	36,6	47,7	47,7	47,7	62,3	62,3	62,5	62,5	72,1	72,1
EER	W/W	13,67	12,52	12,77	13,30	12,51	12,60	12,74	11,72	11,84	12,18	12,25	12,53	12,58

### NSM HWT BA-GA

Size		3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
<b>Model: B</b>													
<b>Cooling performance chiller operation</b>													
Cooling capacity	kW	853,0	882,0	959,0	1014,0	1082,0	1169,0	1262,0	1327,0	1476,0	1531,0	1758,0	2001,0
Input power	kW	216,0	228,0	244,0	260,0	281,0	295,0	319,0	343,0	373,0	388,0	442,0	512,0
Cooling total input current	A	362,0	377,0	416,0	453,0	478,0	494,0	531,0	567,0	646,0	683,0	740,0	854,0
EER	W/W	3,95	3,87	3,92	3,90	3,86	3,97	3,95	3,87	3,96	3,94	3,97	3,91
Water flow rate system side	l/h	147129	152124	165550	174920	186802	201811	217758	228975	254763	264131	303311	345300
Pressure drop system side	kPa	128	137	148	165	155	146	171	190	126	141	111	144

<b>Cooling performances with free-cooling glycol-free</b>													
Cooling capacity	kW	598,0	599,0	674,0	675,0	675,0	748,0	802,0	807,0	1038,0	1039,0	1134,0	1263,0
Input power	kW	49,8	49,8	55,0	55,0	55,0	60,0	64,9	64,9	84,7	84,7	93,7	103,6
Free cooling total input current	A	78,9	78,9	87,1	87,1	87,1	95,0	102,6	102,6	134,1	134,1	148,7	164,3
EER	W/W	12,03	12,04	12,26	12,28	12,28	12,46	12,36	12,43	12,26	12,27	12,10	12,18

Size		3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
<b>Model: G</b>													
<b>Cooling performance chiller operation</b>													
Cooling capacity	kW	849,0	878,0	955,0	1009,0	1077,0	1164,0	1256,0	1320,0	1470,0	1524,0	1749,0	1991,0
Input power	kW	218,0	230,0	247,0	262,0	284,0	298,0	322,0	346,0	377,0	392,0	447,0	517,0
Cooling total input current	A	365,0	381,0	420,0	456,0	482,0	498,0	536,0	571,0	652,0	688,0	747,0	861,0
EER	W/W	3,90	3,81	3,87	3,84	3,80	3,91	3,90	3,81	3,90	3,89	3,91	3,85
Water flow rate system side	l/h	146478	151430	164829	174121	185838	200784	216706	227798	253695	262987	301787	343582
Pressure drop system side	kPa	127	136	147	164	153	144	170	188	125	140	110	143

<b>Cooling performances with free-cooling glycol-free</b>													
Cooling capacity	kW	628,0	629,0	708,0	709,0	709,0	785,0	839,0	844,0	1089,0	1090,0	1192,0	1325,0
Input power	kW	50,5	50,5	55,8	55,8	55,8	61,0	66,0	66,0	86,0	86,0	95,1	105,2
Free cooling total input current	A	80,0	80,0	88,3	88,3	88,3	96,4	104,1	104,1	136,0	136,0	150,8	166,6
EER	W/W	12,43	12,45	12,68	12,70	12,70	12,86	12,72	12,80	12,67	12,68	12,54	12,59

Cooling performance chiller operation: System side water heat exchanger 25 °C/20 °C; External air 35 °C; Chiller operation 100%; Free-cooling 0%

Cooling performances with free-cooling glycol-free: System side water heat exchanger 25 °C; External air 12 °C

**NSM HWT BE-GE**

Size		1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
<b>Model: B</b>														
<b>Cooling performance chiller operation</b>														
Cooling capacity	kW	315,0	362,0	415,0	456,0	478,0	524,0	551,0	599,0	626,0	641,0	667,0	735,0	772,0
Input power	kW	75,0	91,0	101,0	112,0	120,0	127,0	138,0	145,0	156,0	161,0	169,0	178,0	192,0
Cooling total input current	A	134,0	158,0	175,0	189,0	199,0	210,0	227,0	240,0	258,0	272,0	288,0	303,0	325,0
EER	W/W	4,19	3,97	4,09	4,07	3,98	4,13	4,00	4,12	4,02	3,97	3,95	4,13	4,03
Water flow rate system side	l/h	54400	62421	71530	78692	82506	90469	95144	103288	108035	110595	115049	126808	133234
Pressure drop system side	kPa	81	100	101	95	104	105	116	127	139	121	125	96	106
<b>Cooling performances with free-cooling glycol-free</b>														
Cooling capacity	kW	260,0	228,0	276,0	285,0	287,0	343,0	345,0	389,0	391,0	402,0	403,0	469,0	471,0
Input power	kW	10,6	10,6	13,4	13,5	13,5	19,2	19,2	21,9	21,9	22,1	22,1	23,9	23,9
Free cooling total input current	A	16,7	16,6	21,0	21,2	21,2	30,5	30,5	34,5	34,5	34,9	34,9	37,6	37,6
EER	W/W	24,39	21,44	20,58	21,09	21,21	17,84	17,94	17,79	17,87	18,15	18,22	19,61	19,67

Size		1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
<b>Model: G</b>														
<b>Cooling performance chiller operation</b>														
Cooling capacity	kW	314,0	360,0	412,0	453,0	474,0	521,0	548,0	595,0	622,0	637,0	662,0	730,0	767,0
Input power	kW	76,0	92,0	102,0	113,0	122,0	128,0	139,0	147,0	157,0	163,0	170,0	180,0	194,0
Cooling total input current	A	134,0	159,0	176,0	190,0	201,0	211,0	229,0	242,0	260,0	274,0	291,0	306,0	328,0
EER	W/W	4,14	3,92	4,03	4,00	3,90	4,07	3,93	4,06	3,96	3,90	3,88	4,06	3,95
Water flow rate system side	l/h	54167	62091	71121	78115	81864	89932	94544	102700	107375	109898	114268	125980	132294
Pressure drop system side	kPa	81	99	99	94	103	103	114	126	138	119	123	94	104
<b>Cooling performances with free-cooling glycol-free</b>														
Cooling capacity	kW	270,0	237,0	288,0	298,0	300,0	358,0	360,0	406,0	408,0	419,0	421,0	491,0	492,0
Input power	kW	10,8	10,7	13,5	13,7	13,7	19,4	19,4	22,1	22,1	22,3	22,3	24,1	24,1
Free cooling total input current	A	16,8	16,8	21,2	21,4	21,4	30,8	30,8	34,8	34,8	35,2	35,2	37,9	37,9
EER	W/W	25,10	22,15	21,24	21,80	21,93	18,48	18,59	18,39	18,48	18,80	18,87	20,33	20,39

**NSM HWT BE-GE**

Size		3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
<b>Model: B</b>													
<b>Cooling performance chiller operation</b>													
Cooling capacity	kW	823,0	870,0	932,0	1011,0	1070,0	1152,0	1226,0	1300,0	1423,0	1502,0	-	-
Input power	kW	202,0	210,0	228,0	241,0	260,0	275,0	296,0	318,0	350,0	364,0	-	-
Cooling total input current	A	339,0	348,0	388,0	421,0	443,0	460,0	493,0	526,0	601,0	631,0	-	-
EER	W/W	4,07	4,15	4,09	4,19	4,12	4,19	4,14	4,09	4,07	4,13	-	-
Water flow rate system side	l/h	142081	150081	160772	174443	184665	198768	211564	224359	245581	259231	-	-
Pressure drop system side	kPa	121	135	142	152	170	81	128	110	119	123	-	-
<b>Cooling performances with free-cooling glycol-free</b>													
Cooling capacity	kW	515,0	578,0	588,0	633,0	634,0	693,0	742,0	788,0	880,0	924,0	-	-
Input power	kW	25,6	31,3	31,5	33,1	33,1	38,4	41,1	43,7	46,8	48,5	-	-
Free cooling total input current	A	40,1	48,8	49,1	51,6	51,6	61,1	65,0	69,0	73,4	75,9	-	-
EER	W/W	20,11	18,44	18,68	19,09	19,12	18,02	18,06	18,01	18,79	19,06	-	-

Size		3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
<b>Model: G</b>													
<b>Cooling performance chiller operation</b>													
Cooling capacity	kW	818,0	865,0	926,0	1005,0	1063,0	1144,0	1218,0	1292,0	1414,0	1493,0	-	-
Input power	kW	204,0	212,0	230,0	244,0	263,0	278,0	300,0	321,0	354,0	368,0	-	-
Cooling total input current	A	342,0	351,0	392,0	425,0	448,0	464,0	497,0	531,0	607,0	636,0	-	-
EER	W/W	4,00	4,08	4,02	4,12	4,04	4,12	4,07	4,02	3,99	4,06	-	-
Water flow rate system side	l/h	141148	149240	159755	173439	183394	197398	210159	222920	243982	257648	-	-
Pressure drop system side	kPa	120	134	140	150	168	80	127	109	118	122	-	-
<b>Cooling performances with free-cooling glycol-free</b>													
Cooling capacity	kW	538,0	604,0	615,0	661,0	662,0	724,0	775,0	822,0	920,0	966,0	-	-
Input power	kW	25,8	31,6	31,7	33,4	33,4	38,8	41,4	44,1	46,8	48,9	-	-
Free cooling total input current	A	40,5	49,2	49,4	52,0	52,0	61,5	65,5	69,5	73,9	76,5	-	-
EER	W/W	20,80	19,11	19,38	19,78	19,80	18,67	18,70	18,64	19,65	19,74	-	-

Cooling performance chiller operation: System side water heat exchanger 25 °C/20 °C; External air 35 °C; Chiller operation 100%; Free-cooling 0%

Cooling performances with free-cooling glycol-free: System side water heat exchanger 25 °C; External air 12 °C

**NSM HWT BU-GU**

Size		1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
<b>Model: B</b>														
<b>Cooling performance chiller operation</b>														
Cooling capacity	kW	328,0	381,0	435,0	482,0	506,0	550,0	580,0	627,0	657,0	674,0	703,0	772,0	814,0
Input power	kW	84,0	98,0	112,0	121,0	128,0	138,0	148,0	159,0	168,0	172,0	178,0	191,0	203,0
Cooling total input current	A	148,0	170,0	192,0	204,0	212,0	229,0	244,0	263,0	279,0	291,0	305,0	326,0	345,0
EER	W/W	3,93	3,90	3,89	3,99	3,97	3,99	3,92	3,94	3,91	3,91	3,95	4,05	4,02
Water flow rate system side	l/h	56622	65790	75056	83161	87363	94979	100110	108143	113452	116262	121282	133207	140417
Pressure drop system side	kPa	88	112	111	106	117	115	128	139	127	134	130	106	117
<b>Cooling performances with free-cooling glycol-free</b>														
Cooling capacity	kW	319,0	287,0	345,0	367,0	369,0	433,0	436,0	488,0	506,0	507,0	538,0	595,0	597,0
Input power	kW	23,6	23,5	29,6	31,5	31,5	38,6	38,6	44,5	44,7	44,7	44,8	49,8	49,8
Free cooling total input current	A	37,3	37,3	46,8	50,1	50,1	61,5	61,5	70,6	71,0	71,0	71,2	78,9	78,9
EER	W/W	13,52	12,20	11,67	11,64	11,72	11,22	11,30	10,96	11,31	11,35	12,01	11,96	12,00

Size		1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
<b>Model: G</b>														
<b>Cooling performance chiller operation</b>														
Cooling capacity	kW	327,0	380,0	433,0	480,0	504,0	548,0	578,0	624,0	655,0	671,0	700,0	769,0	810,0
Input power	kW	84,0	99,0	113,0	122,0	129,0	139,0	149,0	160,0	170,0	174,0	180,0	192,0	205,0
Cooling total input current	A	149,0	171,0	194,0	205,0	214,0	231,0	246,0	265,0	281,0	294,0	308,0	328,0	347,0
EER	W/W	3,88	3,84	3,84	3,93	3,91	3,94	3,87	3,89	3,86	3,86	3,89	4,00	3,96
Water flow rate system side	l/h	56434	65512	74759	82781	86955	94601	99699	107739	113006	115799	120780	132683	139835
Pressure drop system side	kPa	87	111	110	105	116	115	127	138	126	132	129	105	116
<b>Cooling performances with free-cooling glycol-free</b>														
Cooling capacity	kW	331,0	300,0	360,0	385,0	388,0	455,0	458,0	510,0	531,0	533,0	567,0	624,0	626,0
Input power	kW	23,9	23,9	30,0	32,0	32,0	39,2	39,2	45,1	45,4	45,4	45,5	50,5	50,5
Free cooling total input current	A	37,9	37,8	47,5	50,8	50,8	62,3	62,3	71,6	72,0	72,0	72,1	80,0	80,0
EER	W/W	13,81	12,56	11,98	12,04	12,13	11,61	11,69	11,30	11,70	11,73	12,47	12,36	12,40

**NSM HWT BU-GU**

Size		3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
<b>Model: B</b>													
<b>Cooling performance chiller operation</b>													
Cooling capacity	kW	864,0	909,0	978,0	1059,0	1127,0	1213,0	1289,0	1365,0	1495,0	1576,0	-	-
Input power	kW	216,0	228,0	243,0	260,0	276,0	293,0	317,0	341,0	372,0	388,0	-	-
Cooling total input current	A	363,0	378,0	414,0	454,0	472,0	493,0	529,0	566,0	639,0	677,0	-	-
EER	W/W	3,99	3,99	4,02	4,08	4,09	4,14	4,06	4,00	4,02	4,06	-	-
Water flow rate system side	l/h	149099	156852	168696	182745	194431	209298	222401	235505	257918	271953	-	-
Pressure drop system side	kPa	134	133	156	166	188	112	142	128	131	135	-	-
<b>Cooling performances with free-cooling glycol-free</b>													
Cooling capacity	kW	647,0	743,0	746,0	796,0	797,0	885,0	938,0	990,0	1126,0	1177,0	-	-
Input power	kW	54,7	63,8	63,8	68,7	68,7	79,0	84,0	89,0	98,2	103,1	-	-
Free cooling total input current	A	86,6	100,7	100,7	108,3	108,3	125,7	133,4	141,2	155,6	163,2	-	-
EER	W/W	11,83	11,65	11,69	11,60	11,61	11,20	11,17	11,13	11,46	11,41	-	-

Size		3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
<b>Model: G</b>													
<b>Cooling performance chiller operation</b>													
Cooling capacity	kW	861,0	906,0	974,0	1055,0	1122,0	1208,0	1284,0	1359,0	1489,0	1570,0	-	-
Input power	kW	218,0	230,0	245,0	262,0	278,0	296,0	320,0	344,0	375,0	392,0	-	-
Cooling total input current	A	366,0	381,0	418,0	457,0	475,0	497,0	533,0	570,0	644,0	682,0	-	-
EER	W/W	3,94	3,94	3,97	4,03	4,03	4,08	4,01	3,95	3,97	4,01	-	-
Water flow rate system side	l/h	148519	156292	168052	182059	193641	208436	221510	234585	256917	270905	-	-
Pressure drop system side	kPa	133	132	155	165	187	111	141	127	130	134	-	-
<b>Cooling performances with free-cooling glycol-free</b>													
Cooling capacity	kW	676,0	780,0	783,0	834,0	835,0	931,0	984,0	1036,0	1185,0	1236,0	-	-
Input power	kW	55,5	64,7	64,7	69,7	69,7	80,1	85,2	90,3	99,6	104,6	-	-
Free cooling total input current	A	87,8	102,0	102,0	109,8	109,8	127,3	135,2	143,1	157,6	165,4	-	-
EER	W/W	12,18	12,05	12,11	11,97	11,98	11,62	11,54	11,48	11,90	11,81	-	-

Cooling performance chiller operation: System side water heat exchanger 25 °C/20 °C; External air 35 °C; Chiller operation 100%; Free-cooling 0%

Cooling performances with free-cooling glycol-free: System side water heat exchanger 25 °C; External air 12 °C

**NSM HWT BN-GN**

Size		1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
<b>Model: B</b>														
<b>Cooling performance chiller operation</b>														
Cooling capacity	kW	324,0	376,0	428,0	473,0	497,0	538,0	567,0	614,0	643,0	659,0	687,0	751,0	803,0
Input power	kW	74,0	88,0	99,0	109,0	116,0	124,0	134,0	142,0	152,0	157,0	163,0	174,0	184,0
Cooling total input current	A	132,0	154,0	172,0	184,0	192,0	206,0	222,0	235,0	252,0	265,0	280,0	297,0	313,0
EER	W/W	4,41	4,27	4,31	4,35	4,29	4,33	4,21	4,32	4,24	4,21	4,22	4,32	4,38
Water flow rate system side	l/h	55983	64940	73810	81682	85818	92811	97769	105919	111036	113774	118607	129528	138643
Pressure drop system side	kPa	74	93	87	102	113	110	122	111	122	128	125	100	115
<b>Cooling performances with free-cooling glycol-free</b>														
Cooling capacity	kW	266,0	278,0	329,0	334,0	337,0	384,0	387,0	439,0	441,0	442,0	467,0	523,0	567,0
Input power	kW	12,0	14,0	19,0	19,0	20,0	22,0	22,0	24,0	24,0	24,0	24,0	29,0	31,0
Free cooling total input current	A	19,1	21,2	30,3	30,3	31,5	34,5	34,5	37,5	37,5	37,5	37,6	45,8	48,3
EER	W/W	21,73	20,57	17,29	17,53	16,94	17,58	17,68	18,41	18,50	18,55	19,52	17,83	18,28

Size		1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
<b>Model: G</b>														
<b>Cooling performance chiller operation</b>														
Cooling capacity	kW	323,0	374,0	426,0	471,0	494,0	535,0	564,0	611,0	640,0	656,0	683,0	746,0	799,0
Input power	kW	74,0	89,0	100,0	110,0	117,0	125,0	136,0	143,0	153,0	158,0	164,0	175,0	185,0
Cooling total input current	A	132,0	155,0	173,0	185,0	194,0	207,0	224,0	237,0	254,0	267,0	282,0	300,0	316,0
EER	W/W	4,36	4,22	4,26	4,29	4,23	4,27	4,15	4,26	4,18	4,15	4,16	4,26	4,32
Water flow rate system side	l/h	55770	64623	73447	81232	85330	92341	97251	105389	110441	113149	117928	128821	137959
Pressure drop system side	kPa	74	92	86	101	112	109	121	110	121	127	123	99	113
<b>Cooling performances with free-cooling glycol-free</b>														
Cooling capacity	kW	279,0	292,0	346,0	351,0	354,0	404,0	407,0	461,0	463,0	464,0	491,0	549,0	595,0
Input power	kW	12,4	13,7	19,2	19,2	20,0	22,1	22,1	24,1	24,1	24,1	24,1	29,5	31,3
Free cooling total input current	A	19,2	21,4	30,5	30,5	31,7	34,8	34,8	37,8	37,8	37,8	37,9	46,1	48,6
EER	W/W	22,53	21,40	18,03	18,27	17,67	18,32	18,43	19,17	19,27	19,31	20,33	18,59	19,04

**NSM HWT BN-GN**

Size		3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
<b>Model: B</b>													
<b>Cooling performance chiller operation</b>													
Cooling capacity	kW	852,0	881,0	969,0	1033,0	1115,0	1198,0	1263,0	1329,0	-	-	-	-
Input power	kW	195,0	207,0	218,0	232,0	249,0	265,0	288,0	311,0	-	-	-	-
Cooling total input current	A	328,0	343,0	374,0	408,0	427,0	447,0	481,0	516,0	-	-	-	-
EER	W/W	4,37	4,26	4,44	4,46	4,49	4,51	4,38	4,27	-	-	-	-
Water flow rate system side	l/h	147047	152087	167278	178230	192448	206685	217997	229339	-	-	-	-
Pressure drop system side	kPa	117	125	101	93	102	75	92	92	-	-	-	-
<b>Cooling performances with free-cooling glycol-free</b>													
Cooling capacity	kW	617,0	618,0	727,0	770,0	828,0	880,0	887,0	889,0	-	-	-	-
Input power	kW	32,8	32,8	41,1	43,7	45,7	47,7	47,7	47,7	-	-	-	-
Free cooling total input current	A	51,0	51,0	65,0	69,0	72,0	75,0	75,0	75,0	-	-	-	-
EER	W/W	18,81	18,85	17,68	17,59	18,12	18,46	18,60	18,64	-	-	-	-

Size		3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603
<b>Model: G</b>													
<b>Cooling performance chiller operation</b>													
Cooling capacity	kW	848,0	877,0	965,0	1028,0	1110,0	1192,0	1257,0	1322,0	-	-	-	-
Input power	kW	197,0	209,0	220,0	234,0	251,0	268,0	291,0	314,0	-	-	-	-
Cooling total input current	A	330,0	346,0	377,0	411,0	430,0	450,0	485,0	520,0	-	-	-	-
EER	W/W	4,31	4,20	4,38	4,40	4,43	4,45	4,32	4,21	-	-	-	-
Water flow rate system side	l/h	146331	151317	166517	177452	191576	205700	216918	228136	-	-	-	-
Pressure drop system side	kPa	116	124	100	92	101	74	91	91	-	-	-	-
<b>Cooling performances with free-cooling glycol-free</b>													
Cooling capacity	kW	647,0	649,0	764,0	809,0	870,0	925,0	932,0	934,0	-	-	-	-
Input power	kW	33,1	33,1	41,4	44,1	46,1	48,1	48,1	48,1	-	-	-	-
Free cooling total input current	A	51,4	51,4	65,5	69,5	72,5	75,5	75,5	75,5	-	-	-	-
EER	W/W	19,56	19,61	18,44	18,34	18,87	19,22	19,37	19,41	-	-	-	-

Cooling performance chiller operation: System side water heat exchanger 25 °C/20 °C; External air 35 °C; Chiller operation 100%; Free-cooling 0%

Cooling performances with free-cooling glycol-free: System side water heat exchanger 25 °C; External air 12 °C

## ELECTRIC DATA

Size			1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
<b>Electric data</b>															
Maximum current (FLA)	A	A	206,0	228,0	253,0	265,0	289,0	306,0	324,0	362,0	384,0	400,0	415,0	449,0	472,0
	E	A	207,0	229,0	265,0	277,0	289,0	322,0	339,0	372,0	394,0	410,0	426,0	457,0	480,0
	N	A	215,0	240,0	280,0	292,0	305,0	332,0	349,0	381,0	404,0	419,0	434,0	472,0	503,0
	U	A	207,0	229,0	265,0	280,0	292,0	322,0	339,0	372,0	395,0	410,0	426,0	457,0	480,0
Peak current (LRA)	A	A	279,0	269,0	308,0	346,0	362,0	395,0	406,0	457,0	472,0	490,0	500,0	536,0	551,0
	E	A	279,0	269,0	317,0	354,0	362,0	403,0	415,0	466,0	480,0	499,0	509,0	545,0	560,0
	N	A	288,0	280,0	332,0	369,0	378,0	414,0	425,0	475,0	490,0	508,0	518,0	559,0	583,0
	U	A	279,0	269,0	317,0	357,0	365,0	403,0	415,0	466,0	481,0	499,0	509,0	545,0	560,0
<b>Electric data</b>															
<b>Electric data</b>															
Maximum current (FLA)	A	A	504,0	527,0	569,0	602,0	619,0	645,0	698,0	737,0	877,0	910,0	976,0	1111,0	
	E	A	512,0	550,0	583,0	631,0	648,0	681,0	730,0	779,0	894,0	936,0	-	-	
	N	A	541,0	564,0	624,0	667,0	693,0	719,0	758,0	797,0	-	-	-	-	
	U	A	512,0	550,0	583,0	631,0	648,0	683,0	731,0	779,0	899,0	941,0	-	-	
Peak current (LRA)	A	A	590,0	611,0	643,0	665,0	857,0	883,0	963,0	990,0	866,0	888,0	1072,0	1204,0	
	E	A	598,0	628,0	651,0	687,0	879,0	906,0	980,0	1016,0	875,0	905,0	-	-	
	N	A	627,0	642,0	692,0	723,0	924,0	945,0	1009,0	1034,0	-	-	-	-	
	U	A	598,0	628,0	651,0	687,0	879,0	909,0	982,0	1016,0	880,0	910,0	-	-	

Data calculated without hydronic kit and accessories.

## GENERAL TECHNICAL DATA

Size			1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
<b>Compressor</b>															
Type	A,E,N,U	type	Screw												
Compressor regulation	A,E,N,U	Type	On-Off												
Number	A,E,N,U	no.	2	2	2	2	2	2	2	2	2	2	2	2	2
Circuits	A,E,N,U	no.	2	2	2	2	2	2	2	2	2	2	2	2	2
Refrigerant	A,E,N,U	type	R134a												
<b>System side heat exchanger</b>															
Type	A,E,N,U	type	Shell and tube												
Number	A,E,N,U	no.	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Inverter fan</b>															
Type	A,E,N,U	type	Axial												
Number	A	no.	8	8	8	8	10	10	10	12	12	12	12	14	14
	E,U	no.	8	8	10	10	10	12	12	14	14	14	14	16	16
	N	no.	10	10	12	12	12	14	14	16	16	16	16	18	20
<b>Sound data calculated in cooling mode (1)</b>															
Sound power level	A	dB(A)	97,1	97,1	97,4	97,3	98,1	98,0	97,8	98,4	98,4	98,7	99,3	100,4	100,8
	E	dB(A)	92,7	93,0	93,4	93,6	93,8	93,4	92,8	92,7	92,5	94,9	96,4	97,6	98,4
	N	dB(A)	92,8	93,1	93,9	93,8	93,9	93,7	93,2	93,0	92,8	94,3	96,0	97,9	98,7
	U	dB(A)	97,3	97,4	98,4	98,3	98,4	98,8	98,7	99,1	99,1	99,5	100,1	101,2	101,6

(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			3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603	
<b>Compressor</b>															
Type	A,E,N,U	type	Screw												
Compressor regulation	A,E,N,U	Type	On-Off												
Number	A	no.	2	2	2	2	2	2	2	2	2	3	3	3	3
	E,U	no.	2	2	2	2	2	2	2	2	2	3	3	-	-
	N	no.	2	2	2	2	2	2	2	2	2	-	-	-	-
Circuits	A	no.	2	2	2	2	2	2	2	2	3	3	3	3	
	E,U	no.	2	2	2	2	2	2	2	2	3	3	-	-	
	N	no.	2	2	2	2	2	2	2	2	-	-	-	-	
Refrigerant	A,E,N,U	type	R134a												
<b>System side heat exchanger</b>															
Type	A,E,N,U	type	Shell and tube												
Number	A	no.	1	1	1	1	1	1	1	1	1	1	1	1	1
	E,U	no.	1	1	1	1	1	2	2	2	2	2	-	-	
	N	no.	1	1	2	2	2	2	2	2	2	-	-	-	-
<b>Inverter fan</b>															
Type	A,E,N,U	type	Axial												
Number	A	no.	16	16	18	18	18	20	22	22	28	28	30	34	
	E,U	no.	18	20	20	22	22	24	26	28	30	32	-	-	
	N	no.	22	22	26	28	30	32	32	32	-	-	-	-	

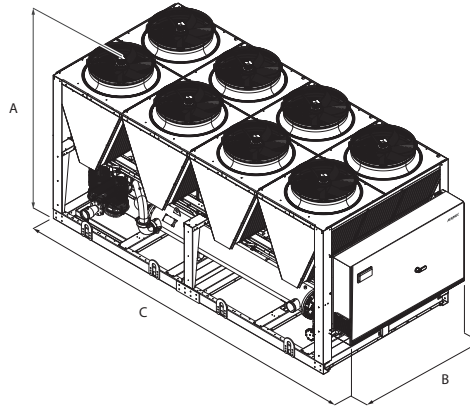
(1) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification. Sound pressure (cold functioning) measured in free field, 10m away from the unit external surface (in compliance with UNI EN ISO 3744).



Size		3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603	
<b>Sound data calculated in cooling mode (1)</b>														
Sound power level	A	dB(A)	100,8	100,4	100,8	100,9	101,4	102,3	102,3	101,9	103,7	103,8	105,0	104,8
	E	dB(A)	97,6	96,4	96,7	97,0	98,9	100,3	99,5	98,7	98,7	98,9	-	-
	N	dB(A)	97,9	96,8	97,0	97,3	98,7	100,1	99,5	98,7	-	-	-	-
	U	dB(A)	101,5	101,4	101,4	101,8	102,3	103,2	103,1	102,9	104,0	104,3	-	-

(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		1402	1602	1802	2002	2202	2352	2502	2652	2802	3002	3202	3402	3602
<b>Dimensions and weights</b>														
A	A,E,N,U	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
B	A,E,N,U	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
	A	mm	5160	5160	5160	5160	6350	6350	6350	7140	7140	7140	7140	8330
C	E,U	mm	5160	5160	6350	6350	6350	7140	7140	8330	8330	8330	8330	9520
	N	mm	6350	6350	7140	7140	7140	8330	8330	9520	9520	9520	10710	11900
Size		3902	4202	4502	4802	5202	5602	6002	6402	6903	7203	8403	9603	
<b>Dimensions and weights</b>														
A	A,E,N,U	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
B	A,E,N,U	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
	A	mm	9520	9520	10710	10710	10710	11900	13090	13090	16660	16660	17850	20230
C	E,U	mm	10710	11900	11900	13090	13090	14280	15470	16660	17850	19040	-	-
	N	mm	13090	13090	15470	16660	17850	19040	19040	19040	-	-	-	-

*For transport reasons, the units with the depth of more than 13090 mm are shipped separately.*

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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