

# NSMJ 1251-6102 F

## Air-water chiller with free-cooling

Cooling capacity 278,6 ÷ 1377,6 kW

- **Microchannel coil**
- **High efficiency also at partial loads**
- **Operation up to 50 °C outdoor air**
- **High efficiency in Free-cooling operation**



### DESCRIPTION

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

These are outdoor units with inverter screw compressors, axial fans, micro-channel coils, and shell and tube heat exchangers

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 size and version. For further details refer to the selection software/technical documentation.

#### Units mono or dual-circuit

Unit with 1–2 refrigerant circuits.

The units, depending on the size, are single-circuit or double-circuit and are equipped with inverter compressors to ensure maximum efficiency both at full load and partial loads.

#### 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.

#### 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.

- *A "P" free-cooling plus model with the oversized water battery can be chosen for applications in which a higher free-cooling performance is required.*

#### 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.

#### R513A (XP10) refrigerant gas

Thanks to the R513A (XP10) refrigerant, the environmental impact of the units is significantly reduced.

Combining a reduced refrigerant load with a low global warming potential (GWP), these units boast low equivalent CO<sub>2</sub> values.

#### 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 feature a special compressor jacket which ensures a further noise reduction of approximately 4 dB.**

#### CONTROL PCO<sup>5</sup>

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.

Further features:

- 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.

## 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 table 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](http://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 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

**XLA:** This kit allows to extend the working range of the unit from -10 °C to -20 °C ambient temperature, thanks to an additional electric heater and a special insulating material for the heat exchanger.

## ACCESSORIES COMPATIBILITY

| Model              | Ver | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 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 | •    | •    | •    | •    | •    | •    | •    | •    | •    | •    | •    | •    | •    |

x \_ indicates the quantity to buy

### Antivibration

| Ver                                                                                                                             | 1251     | 1601     | 1801     | 2352     | 2802     | 3202     | 3802     | 4102     | 4402     | 4802     | 5202     | 5702     | 6102     |
|---------------------------------------------------------------------------------------------------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Integrated hydronic kit: 00, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, TF, TG, TH, TI, TJ |          |          |          |          |          |          |          |          |          |          |          |          |          |
| A, E                                                                                                                            | 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  | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 3802 | 4102 | 4402  | 4802  | 5202  | 5702  | 6102  |
|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| A, E | GP4V | GP4V | GP5V | GP5V | GP6V | GP7V | GP8V | GP9V | GP10V | GP11V | GP11V | GP11V | GP11V |

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

### Heater exchangers

| Ver  | 1251  | 1601  | 1801  | 2352  | 2802  | 3202  | 3802  | 4102  | 4402  | 4802  | 5202  | 5702  | 6102  |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A, E | KRS22 | KRS23 | KRS23 | KRS23 | KRS23 | KRS24 | KRS24 | KRS24 | KRS24 | KRS24 | KRS24 | KRS24 | KRS24 |

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

### Kit for low temperature

| Ver     | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 3802 | 4102 | 4402 | 4802 | 5202 | 5702 | 6102 |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Fans: K |      |      |      |      |      |      |      |      |      |      |      |      |      |
| A, E    | XLA  | XLA  | XLA  | XLA  | XLA  | XLA  | XLA  | XLA  | XLA  | XLA  | XLA  | XLA  | XLA  |

## CONFIGURATOR

| Field   | Description                                                                          |
|---------|--------------------------------------------------------------------------------------|
| 1,2,3,4 | NSMJ                                                                                 |
| 5,6,7,8 | Size<br>1251, 1601, 1801, 2352, 2802, 3202, 3802, 4102, 4402, 4802, 5202, 5702, 6102 |
| 9       | Model                                                                                |
| F       | Free-cooling                                                                         |
| P       | Free-cooling plus (1)                                                                |
| 10      | Heat recovery                                                                        |
| D       | With desuperheater (2)                                                               |
| °       | Without heat recovery                                                                |
| 11      | Version                                                                              |
| A       | High efficiency                                                                      |
| E       | Silenced high efficiency                                                             |
| 12      | Coils / free-cooling coils                                                           |
| O       | Painted aluminium microchannel / Copper painted aluminium                            |
| R       | Copper-copper/Copper-copper                                                          |
| V       | Copper-painted aluminium / Copper-painted aluminium                                  |
| °       | Aluminium microchannel / Copper - aluminium                                          |
| 13      | Fans                                                                                 |
| K       | Inverter plus                                                                        |
| °       | Standard with DCPX                                                                   |
| 14      | Power supply                                                                         |
| °       | 400V ~ 3 50Hz with fuses                                                             |

| Field        | Description                    |
|--------------|--------------------------------|
| <b>15,16</b> | <b>Integrated hydronic kit</b> |
| 00           | Without hydronic kit           |
| 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 (3)                     |
| 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 (3)     |
| TF           | Double pump F                  |
| TG           | Double pump G                  |
| TH           | Double pump H                  |
| TI           | Double pump I                  |
| TJ           | Double pump J (3)              |

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

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

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

## PERFORMANCE SPECIFICATIONS

### NSMJ - F model

| Size | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 3802 | 4102 | 4402 | 4802 | 5202 | 5702 | 6102 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

#### Fans: K

##### Cooling performance chiller operation (1)

|                             |     |     |        |        |        |         |         |         |         |         |         |         |         |         |         |
|-----------------------------|-----|-----|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Cooling capacity            | A,E | W   | 286716 | 372025 | 446486 | 593745  | 690311  | 774581  | 854570  | 927105  | 1013696 | 1133509 | 1223287 | 1299819 | 1377571 |
| Input power                 | A,E | W   | 95693  | 126325 | 156478 | 194771  | 227073  | 251143  | 281585  | 309681  | 324232  | 371231  | 426134  | 450977  | 515456  |
| Cooling total input current | A,E | A   | 155,70 | 204,20 | 250,00 | 324,20  | 370,60  | 407,40  | 454,00  | 496,90  | 528,40  | 604,00  | 679,40  | 733,90  | 822,90  |
| EER                         | A,E | W/W | 3,00   | 2,94   | 2,85   | 3,05    | 3,04    | 3,08    | 3,03    | 2,99    | 3,13    | 3,05    | 2,87    | 2,88    | 2,67    |
| Water flow rate system side | A,E | l/h | 49.261 | 63.918 | 76.711 | 102.012 | 118.603 | 133.082 | 146.825 | 159.287 | 174.164 | 194.750 | 210.175 | 223.324 | 236.682 |
| Pressure drop system side   | A,E | kPa | 52     | 73     | 72     | 68      | 77      | 88      | 56      | 68      | 83      | 85      | 99      | 108     | 124     |

##### Cooling performances with free-cooling (2)

|                                  |     |     |        |        |        |         |         |         |         |         |         |         |         |         |         |
|----------------------------------|-----|-----|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Cooling capacity                 | A,E | W   | 252994 | 275575 | 340568 | 404193  | 481683  | 556847  | 630772  | 702727  | 777287  | 858968  | 876106  | 888290  | 898793  |
| Input power                      | A,E | W   | 9991   | 9991   | 12489  | 16695   | 20034   | 23373   | 26713   | 30052   | 33391   | 36730   | 36730   | 36730   | 36730   |
| Free cooling total input current | A,E | A   | 16,3   | 16,1   | 20,0   | 27,8    | 32,7    | 37,9    | 43,1    | 48,2    | 54,4    | 59,8    | 58,6    | 59,8    | 58,6    |
| EER                              | A,E | W/W | 25,32  | 27,58  | 27,27  | 24,21   | 24,04   | 23,82   | 23,61   | 23,38   | 23,28   | 23,39   | 23,85   | 24,18   | 24,47   |
| Water flow rate system side      | A,E | l/h | 49.261 | 63.918 | 76.711 | 102.012 | 118.603 | 133.082 | 146.825 | 159.287 | 174.164 | 194.750 | 210.175 | 223.324 | 236.682 |
| Pressure drop system side        | A,E | kPa | 80     | 113    | 122    | 126     | 122     | 144     | 104     | 108     | 131     | 135     | 157     | 182     | 195     |

(1) System side water heat exchanger 12 °C/7 °C; External air 35 °C; Chiller operation 100%; Free-cooling 0%

(2) Acqua scambiatore lato utenza 12 °C / °C ; Aria esterna 2 °C

| Size | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 3802 | 4102 | 4402 | 4802 | 5202 | 5702 | 6102 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

#### Fans: °

##### Cooling performance chiller operation (1)

|                             |     |     |        |        |        |        |         |         |         |         |         |         |         |         |         |
|-----------------------------|-----|-----|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Cooling capacity            | A,E | W   | 281305 | 362267 | 434723 | 546323 | 635706  | 714717  | 789199  | 856890  | 945347  | 1053404 | 1134106 | 1195553 | 1259145 |
| Input power                 | A,E | W   | 98828  | 130349 | 161935 | 211003 | 243003  | 267017  | 301115  | 330980  | 350103  | 400690  | 460390  | 488717  | 557102  |
| Cooling total input current | A,E | A   | 167,90 | 217,80 | 267,80 | 355,10 | 401,90  | 439,90  | 493,20  | 540,00  | 580,50  | 663,00  | 745,10  | 806,40  | 900,50  |
| EER                         | A,E | W/W | 2,85   | 2,78   | 2,68   | 2,59   | 2,62    | 2,68    | 2,62    | 2,59    | 2,70    | 2,63    | 2,46    | 2,45    | 2,26    |
| Water flow rate system side | A,E | l/h | 48.331 | 62.242 | 74.690 | 93.864 | 109.222 | 122.796 | 135.593 | 147.223 | 162.421 | 180.987 | 194.852 | 205.410 | 216.335 |
| Pressure drop system side   | A,E | kPa | 50     | 69     | 68     | 58     | 65      | 75      | 48      | 58      | 72      | 73      | 85      | 92      | 103     |

##### Cooling performances with free-cooling (2)

|                                  |     |     |        |        |        |        |         |         |         |         |         |         |         |         |         |
|----------------------------------|-----|-----|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Cooling capacity                 | A,E | W   | 238930 | 258363 | 319515 | 337792 | 403196  | 467119  | 530080  | 591641  | 656289  | 724083  | 735441  | 742483  | 748539  |
| Input power                      | A,E | W   | 10761  | 10761  | 13451  | 13401  | 16081   | 18761   | 21441   | 24121   | 26801   | 29482   | 29482   | 29482   | 29482   |
| Free cooling total input current | A,E | A   | 18,3   | 18,0   | 22,2   | 22,6   | 26,6    | 30,9    | 35,1    | 39,4    | 44,4    | 48,8    | 47,7    | 48,6    | 47,7    |
| EER                              | A,E | W/W | 22,20  | 24,01  | 23,75  | 25,21  | 25,07   | 24,90   | 24,72   | 24,53   | 24,49   | 24,56   | 24,95   | 25,18   | 25,39   |
| Water flow rate system side      | A,E | l/h | 48.331 | 62.242 | 74.690 | 93.864 | 109.222 | 122.796 | 135.593 | 147.223 | 162.421 | 180.987 | 194.852 | 205.410 | 216.335 |
| Pressure drop system side        | A,E | kPa | 77     | 107    | 116    | 106    | 104     | 123     | 89      | 92      | 114     | 117     | 135     | 154     | 163     |

(1) System side water heat exchanger 12 °C/7 °C; External air 35 °C; Chiller operation 100%; Free-cooling 0%

(2) Acqua scambiatore lato utenza 12 °C / °C ; Aria esterna 2 °C

**NSMJ - P model**

| Size | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 3802 | 4102 | 4402 | 4802 | 5202 | 5702 | 6102 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

**Fans: K****Cooling performance chiller operation (1)**

|                             |     |     |        |        |        |         |         |         |         |         |         |         |         |         |         |
|-----------------------------|-----|-----|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Cooling capacity            | A,E | kW  | 283,8  | 366,8  | 440,1  | 587,1   | 682,3   | 766,0   | 845,3   | 916,9   | 1004,3  | 1122,3  | 1210,8  | 1285,4  | 1361,3  |
| Input power                 | A,E | kW  | 97,1   | 128,2  | 159,0  | 197,8   | 230,2   | 254,4   | 285,4   | 313,8   | 329,3   | 376,8   | 432,4   | 457,5   | 522,4   |
| Cooling total input current | A,E | A   | 158,00 | 207,20 | 254,20 | 328,40  | 374,90  | 411,80  | 459,10  | 502,50  | 535,40  | 611,80  | 688,10  | 743,20  | 832,60  |
| EER                         | A,E | W/W | 2,92   | 2,86   | 2,77   | 2,97    | 2,96    | 3,01    | 2,96    | 2,92    | 3,05    | 2,98    | 2,80    | 2,81    | 2,61    |
| Water flow rate system side | A,E | l/h | 48.760 | 63.017 | 75.619 | 100.872 | 117.229 | 131.607 | 145.230 | 157.541 | 172.553 | 192.829 | 208.027 | 220.850 | 233.895 |
| Pressure drop system side   | A,E | kPa | 51     | 71     | 70     | 67      | 75      | 86      | 55      | 66      | 82      | 83      | 97      | 106     | 121     |

**Cooling performances with free-cooling (2)**

|                                  |     |     |        |        |        |         |         |         |         |         |         |         |         |         |         |
|----------------------------------|-----|-----|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Cooling capacity                 | A,E | kW  | 266,1  | 291,6  | 360,1  | 434,0   | 517,1   | 597,7   | 676,9   | 753,7   | 833,9   | 921,6   | 940,6   | 953,8   | 964,9   |
| Input power                      | A,E | kW  | 10,1   | 10,1   | 12,7   | 17,0    | 20,3    | 23,7    | 27,1    | 30,5    | 33,9    | 37,3    | 37,3    | 37,3    | 37,3    |
| Free cooling total input current | A,E | A   | 16,5   | 16,4   | 20,3   | 28,2    | 33,1    | 38,4    | 43,6    | 48,9    | 55,1    | 60,6    | 59,4    | 60,6    | 59,4    |
| EER                              | A,E | W/W | 26,22  | 28,73  | 28,38  | 25,60   | 25,42   | 25,18   | 24,95   | 24,70   | 24,60   | 24,71   | 25,22   | 25,57   | 25,87   |
| Water flow rate system side      | A,E | l/h | 48.760 | 63.017 | 75.619 | 100.872 | 117.229 | 131.607 | 145.230 | 157.541 | 172.553 | 192.829 | 208.027 | 220.850 | 233.895 |
| Pressure drop system side        | A,E | kPa | 79     | 109    | 119    | 123     | 120     | 141     | 102     | 105     | 128     | 133     | 154     | 178     | 191     |

(1) System side water heat exchanger 12 °C/7 °C; External air 35 °C; Chiller operation 100%; Free-cooling 0%

(2) Acqua scambiatore lato utenza 12 °C / °C ; Aria esterna 2 °C

| Size | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 3802 | 4102 | 4402 | 4802 | 5202 | 5702 | 6102 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

**Fans: °****Cooling performance chiller operation (1)**

|                             |     |     |        |        |        |        |         |         |         |         |         |         |         |         |         |
|-----------------------------|-----|-----|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Cooling capacity            | A,E | kW  | 278,6  | 357,9  | 429,5  | 537,9  | 626,3   | 704,5   | 778,0   | 845,0   | 933,1   | 1039,1  | 1118,1  | 1176,3  | 1236,9  |
| Input power                 | A,E | kW  | 100,0  | 132,0  | 164,3  | 214,7  | 246,8   | 271,0   | 306,0   | 336,5   | 356,3   | 407,9   | 468,6   | 497,9   | 567,6   |
| Cooling total input current | A,E | A   | 169,70 | 220,40 | 271,30 | 360,70 | 407,60  | 445,80  | 500,50  | 548,30  | 590,00  | 674,10  | 757,50  | 820,70  | 916,50  |
| EER                         | A,E | W/W | 2,79   | 2,71   | 2,61   | 2,51   | 2,54    | 2,60    | 2,54    | 2,51    | 2,62    | 2,55    | 2,39    | 2,36    | 2,18    |
| Water flow rate system side | A,E | l/h | 47.862 | 61.492 | 73.796 | 92.423 | 107.603 | 121.034 | 133.667 | 145.177 | 160.321 | 178.527 | 192.102 | 202.104 | 212.506 |
| Pressure drop system side   | A,E | kPa | 49     | 67     | 66     | 56     | 63      | 73      | 47      | 56      | 71      | 71      | 83      | 89      | 100     |

**Cooling performances with free-cooling (2)**

|                                  |     |     |        |        |        |        |         |         |         |         |         |         |         |         |         |
|----------------------------------|-----|-----|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Cooling capacity                 | A,E | kW  | 253,8  | 276,6  | 341,7  | 361,6  | 431,6   | 500,0   | 567,2   | 632,8   | 702,1   | 774,6   | 787,2   | 794,6   | 800,8   |
| Input power                      | A,E | kW  | 10,9   | 10,9   | 13,7   | 13,6   | 16,3    | 19,1    | 21,8    | 24,5    | 27,2    | 30,0    | 30,0    | 30,0    | 30,0    |
| Free cooling total input current | A,E | A   | 18,5   | 18,2   | 22,5   | 22,9   | 27,0    | 31,4    | 35,6    | 39,9    | 45,1    | 49,5    | 48,4    | 49,4    | 48,4    |
| EER                              | A,E | W/W | 23,24  | 25,32  | 25,03  | 26,56  | 26,42   | 26,23   | 26,04   | 25,82   | 25,78   | 25,86   | 26,28   | 26,53   | 26,73   |
| Water flow rate system side      | A,E | l/h | 47.862 | 61.492 | 73.796 | 92.423 | 107.603 | 121.034 | 133.667 | 145.177 | 160.321 | 178.527 | 192.102 | 202.104 | 212.506 |
| Pressure drop system side        | A,E | kPa | 76     | 104    | 113    | 103    | 101     | 119     | 86      | 89      | 111     | 114     | 131     | 149     | 157     |

(1) System side water heat exchanger 12 °C/7 °C; External air 35 °C; Chiller operation 100%; Free-cooling 0%

(2) Acqua scambiatore lato utenza 12 °C / °C ; Aria esterna 2 °C

**ENERGY INDICES (REG. 2016/2281 EU)****NSMJ - F model**

| Size | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 3802 | 4102 | 4402 | 4802 | 5202 | 5702 | 6102 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

**Fans: K****SEPR - (EN 14825: 2018)**

|                      |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| SEPR                 | A,E | W/W  | 8,73  | 7,73  | 7,70  | 8,90  | 8,54  | 8,68  | 8,73  | 8,77  | 8,86  | 8,82  | 8,41  | 8,48  | 8,03  |
| 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 |

(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 | 2802 | 3202 | 3802 | 4102 | 4402 | 4802 | 5202 | 5702 | 6102 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

**Fans: °****SEPR - (EN 14825: 2018)**

|                      |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| SEPR                 | A,E | W/W  | 8,17  | 7,52  | 7,48  | 7,17  | 7,24  | 7,44  | 7,41  | 7,45  | 7,48  | 7,47  | 7,27  | 7,14  | 6,82  |
| 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 |

(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.

**NSMJ - P model**

| Size | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 3802 | 4102 | 4402 | 4802 | 5202 | 5702 | 6102 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

**Fans: K****SEPR - (EN 14825: 2018)**

|                      |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| SEPR                 | A,E | W/W  | 8,61  | 7,61  | 7,56  | 8,81  | 8,43  | 8,59  | 8,63  | 8,67  | 8,76  | 8,73  | 8,37  | 8,38  | 8,06  |
| 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 |

(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 | 2802 | 3202 | 3802 | 4102 | 4402 | 4802 | 5202 | 5702 | 6102 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

**Fans: °****SEPR - (EN 14825: 2018)**

|                      |     |      |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------------|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| SEPR                 | A,E | W/W  | 8,09  | 7,43  | 7,38  | 7,11  | 7,11  | 7,32  | 7,27  | 7,31  | 7,35  | 7,33  | 7,23  | 6,99  | 6,79  |
| 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 |

(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  | 2802  | 3202  | 3802  | 4102  | 4402  | 4802  | 5202  | 5702    | 6102    |
|-----------------------|-----|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|---------|
| <b>Fans: K</b>        |     |   |       |       |       |       |       |       |       |       |       |       |       |         |         |
| <b>Electric data</b>  |     |   |       |       |       |       |       |       |       |       |       |       |       |         |         |
| Maximum current (FLA) | A,E | A | 261,6 | 301,6 | 392,0 | 492,0 | 582,4 | 592,8 | 763,2 | 773,6 | 944,0 | 954,4 | 954,4 | 1.094,4 | 1.094,4 |
| Peak current (LRA)    | A,E | A | 61,6  | 61,6  | 72,0  | 292,0 | 342,4 | 352,8 | 443,2 | 453,6 | 544,0 | 554,4 | 554,4 | 624,4   | 624,4   |
| Size                  |     |   | 1251  | 1601  | 1801  | 2352  | 2802  | 3202  | 3802  | 4102  | 4402  | 4802  | 5202  | 5702    | 6102    |
| <b>Fans: °</b>        |     |   |       |       |       |       |       |       |       |       |       |       |       |         |         |
| <b>Electric data</b>  |     |   |       |       |       |       |       |       |       |       |       |       |       |         |         |
| Maximum current (FLA) | A,E | A | 251,2 | 291,2 | 379,0 | 479,0 | 566,8 | 574,6 | 742,4 | 750,2 | 918,0 | 925,8 | 925,8 | 1.065,8 | 1.065,8 |
| Peak current (LRA)    | A,E | A | 51,2  | 51,2  | 59,0  | 279,0 | 326,8 | 334,6 | 422,4 | 430,2 | 518,0 | 525,8 | 525,8 | 595,8   | 595,8   |

## GENERAL TECHNICAL DATA

### Refrigerant circuit

| Size                           |     |                     | 1251  | 1601  | 1801  | 2352  | 2802   | 3202   | 3802   | 4102   | 4402   | 4802   | 5202   | 5702   | 6102   |
|--------------------------------|-----|---------------------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Compressor</b>              |     |                     |       |       |       |       |        |        |        |        |        |        |        |        |        |
| Type                           | A,E | type                |       |       |       |       |        |        |        |        |        |        |        |        |        |
| Compressor regulation          | A,E | type                |       |       |       |       |        |        |        |        |        |        |        |        |        |
| 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                |       |       |       |       |        |        |        |        |        |        |        |        |        |
| Total refrigerant charge (1)   | A,E | kg                  | 28,00 | 28,00 | 30,00 | 78,00 | 106,00 | 104,00 | 122,00 | 136,00 | 136,00 | 178,00 | 178,00 | 188,00 | 188,00 |
| Potential global heating (GWP) | A,E |                     |       |       |       |       |        |        |        |        |        |        |        |        |        |
| Equivalent CO <sub>2</sub>     | A,E | tCO <sub>2</sub> eq | 17,70 | 17,70 | 18,90 | 49,20 | 66,90  | 65,60  | 77,00  | 85,80  | 85,80  | 112,30 | 112,30 | 118,60 | 118,60 |

(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                              |     |      | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 3802 | 4102 | 4402 | 4802 | 5202 | 5702 | 6102 |
|-----------------------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>System side heat exchanger</b> |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Type                              | A,E | type |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Number                            | A,E | no.  | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    | 1    |
| Connections (in/out)              | A,E | Type |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Sizes (in/out)                    | A,E | Ø    | 5"   | 6"   | 6"   | 6"   | 6"   | 8"   | 8"   | 8"   | 8"   | 10"  | 10"  | 10"  | 10"  |

### Fans data

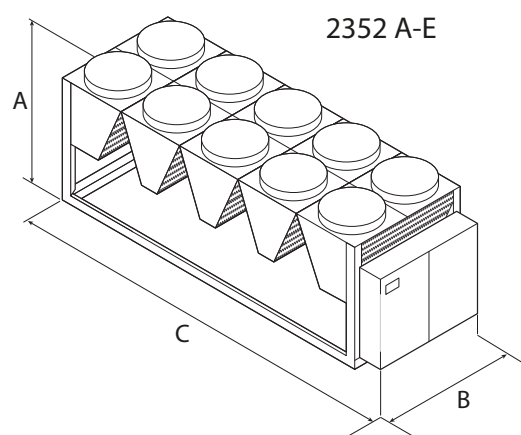
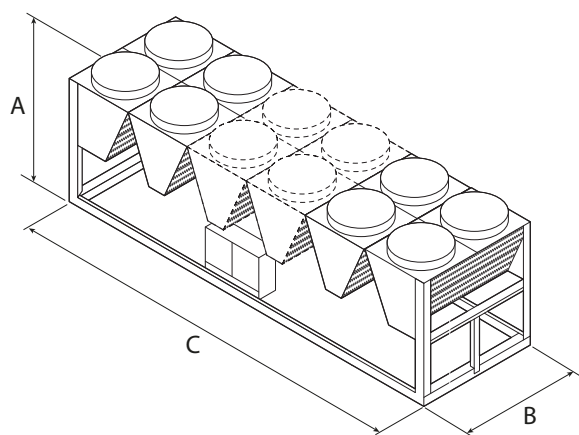
| Size           |     |                   | 1251   | 1601   | 1801   | 2352   | 2802   | 3202   | 3802   | 4102   | 4402   | 4802   | 5202   | 5702   | 6102   |
|----------------|-----|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Fans: K</b> |     |                   |        |        |        |        |        |        |        |        |        |        |        |        |        |
| <b>Fan</b>     |     |                   |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Type           | A,E | type              |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Fan motor      | A,E | type              |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Number         | A,E | no.               | 8      | 8      | 10     | 10     | 12     | 14     | 16     | 18     | 20     | 22     | 22     | 22     | 22     |
| Air flow rate  | A,E | m <sup>3</sup> /h | 138854 | 138854 | 173568 | 204264 | 245117 | 285970 | 326823 | 367676 | 408529 | 449382 | 449382 | 449382 | 449382 |
| Size           |     |                   | 1251   | 1601   | 1801   | 2352   | 2802   | 3202   | 3802   | 4102   | 4402   | 4802   | 5202   | 5702   | 6102   |
| <b>Fans: °</b> |     |                   |        |        |        |        |        |        |        |        |        |        |        |        |        |
| <b>Fan</b>     |     |                   |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Type           | A,E | type              |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Fan motor      | A,E | type              |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Number         | A,E | no.               | 8      | 8      | 10     | 10     | 12     | 14     | 16     | 18     | 20     | 22     | 22     | 22     | 22     |
| Air flow rate  | A,E | m <sup>3</sup> /h | 101641 | 101641 | 127051 | 128325 | 153990 | 179655 | 205320 | 230985 | 256650 | 282315 | 282315 | 282315 | 282315 |

### Sound data

| Size                                             |   |       | 1251 | 1601 | 1801 | 2352 | 2802  | 3202  | 3802  | 4102  | 4402  | 4802  | 5202  | 5702  | 6102  |
|--------------------------------------------------|---|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Fans: K</b>                                   |   |       |      |      |      |      |       |       |       |       |       |       |       |       |       |
| <b>Sound data calculated in cooling mode (1)</b> |   |       |      |      |      |      |       |       |       |       |       |       |       |       |       |
| Sound power level                                | A | dB(A) | 96,7 | 97,9 | 98,1 | 99,4 | 100,0 | 100,9 | 100,9 | 101,0 | 102,1 | 103,0 | 103,8 | 103,8 | 103,8 |
|                                                  | E | dB(A) | 92,3 | 96,0 | 96,1 | 94,7 | 97,2  | 98,1  | 98,2  | 98,6  | 99,7  | 100,0 | 101,0 | 101,0 | 101,0 |
| Sound pressure level (10 m)                      | A | dB(A) | 64,3 | 65,5 | 65,6 | 66,8 | 67,4  | 68,1  | 68,0  | 68,0  | 69,0  | 69,7  | 70,5  | 70,5  | 70,5  |
|                                                  | E | dB(A) | 59,9 | 63,6 | 63,6 | 62,1 | 64,6  | 65,3  | 65,3  | 65,6  | 66,6  | 66,7  | 67,7  | 67,7  | 67,7  |
| Size                                             |   |       | 1251 | 1601 | 1801 | 2352 | 2802  | 3202  | 3802  | 4102  | 4402  | 4802  | 5202  | 5702  | 6102  |
| <b>Fans: °</b>                                   |   |       |      |      |      |      |       |       |       |       |       |       |       |       |       |
| <b>Sound data calculated in cooling mode (1)</b> |   |       |      |      |      |      |       |       |       |       |       |       |       |       |       |
| Sound power level                                | A | dB(A) | 97,1 | 98,2 | 98,5 | 99,7 | 100,2 | 101,2 | 101,2 | 101,3 | 102,3 | 103,2 | 104,0 | 104,0 | 104,0 |
|                                                  | E | dB(A) | 92,4 | 95,7 | 95,9 | 94,6 | 96,8  | 97,8  | 97,9  | 98,4  | 99,3  | 99,6  | 100,6 | 100,6 | 100,6 |
| Sound pressure level (10 m)                      | A | dB(A) | 64,8 | 65,9 | 66,0 | 67,1 | 67,6  | 68,4  | 68,3  | 68,3  | 69,2  | 70,0  | 70,8  | 70,8  | 70,8  |
|                                                  | E | dB(A) | 60,0 | 63,4 | 63,4 | 62,0 | 64,2  | 65,0  | 65,0  | 65,3  | 66,2  | 66,4  | 67,4  | 67,4  | 67,4  |

(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



2352 A-E

| Size                          |     |    | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 3802 | 4102  | 4402  | 4802  | 5202  | 5702  | 6102  |
|-------------------------------|-----|----|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| <b>Fans: K</b>                |     |    |      |      |      |      |      |      |      |       |       |       |       |       |       |
| <b>Dimensions and weights</b> |     |    |      |      |      |      |      |      |      |       |       |       |       |       |       |
| A                             | A,E | mm | 2520 | 2520 | 2520 | 2520 | 2520 | 2520 | 2520 | 2520  | 2520  | 2520  | 2520  | 2520  | 2520  |
| B                             | A,E | mm | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200  | 2200  | 2200  | 2200  | 2200  | 2200  |
| C                             | A,E | mm | 4760 | 4760 | 5950 | 6500 | 7140 | 8330 | 9520 | 10710 | 11900 | 13090 | 13090 | 13090 | 13090 |
| Size                          |     |    | 1251 | 1601 | 1801 | 2352 | 2802 | 3202 | 3802 | 4102  | 4402  | 4802  | 5202  | 5702  | 6102  |
| <b>Fans: °</b>                |     |    |      |      |      |      |      |      |      |       |       |       |       |       |       |
| <b>Dimensions and weights</b> |     |    |      |      |      |      |      |      |      |       |       |       |       |       |       |
| A                             | A,E | mm | 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  |
| C                             | A,E | mm | 4760 | 4760 | 5950 | 6500 | 7140 | 8330 | 9520 | 10710 | 11900 | 13090 | 13090 | 13090 | 13090 |

### NSMJ - F model

| Size                               |   |    | 1251  | 1601  | 1801  | 2352  | 2802  | 3202  | 3802   | 4102   | 4402   | 4802   | 5202   | 5702   | 6102   |
|------------------------------------|---|----|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| <b>Integrated hydronic kit: 00</b> |   |    |       |       |       |       |       |       |        |        |        |        |        |        |        |
| <b>Weights</b>                     |   |    |       |       |       |       |       |       |        |        |        |        |        |        |        |
| Empty weight                       | A | kg | 4.299 | 4.748 | 5.285 | 6.833 | 7.979 | 8.302 | 9.737  | 10.676 | 10.878 | 12.463 | 12.658 | 12.656 | 12.786 |
|                                    | E | kg | 4.601 | 5.050 | 5.586 | 7.436 | 8.583 | 8.906 | 10.340 | 11.279 | 11.481 | 13.301 | 13.497 | 13.495 | 13.624 |
| Weight functioning                 | A | kg | 4.652 | 5.293 | 5.917 | 7.532 | 8.908 | 9.209 | 10.994 | 11.999 | 12.280 | 14.357 | 14.553 | 14.537 | 14.666 |
|                                    | E | kg | 4.954 | 5.595 | 6.218 | 8.136 | 9.512 | 9.812 | 11.598 | 12.603 | 12.884 | 15.196 | 15.392 | 15.376 | 15.505 |

### NSMJ - P model

| Size                               |   |    | 1251  | 1601  | 1801  | 2352  | 2802  | 3202  | 3802   | 4102   | 4402   | 4802   | 5202   | 5702   | 6102   |
|------------------------------------|---|----|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| <b>Integrated hydronic kit: 00</b> |   |    |       |       |       |       |       |       |        |        |        |        |        |        |        |
| <b>Weights</b>                     |   |    |       |       |       |       |       |       |        |        |        |        |        |        |        |
| Empty weight                       | A | kg | 4.459 | 4.908 | 5.445 | 6.993 | 8.139 | 8.462 | 9.897  | 10.836 | 11.038 | 12.623 | 12.818 | 12.816 | 12.946 |
|                                    | E | kg | 4.761 | 5.210 | 5.746 | 7.596 | 8.743 | 9.066 | 10.500 | 11.439 | 11.641 | 13.461 | 13.657 | 13.655 | 13.784 |
| Weight functioning                 | A | kg | 4.812 | 5.453 | 6.077 | 7.692 | 9.068 | 9.369 | 11.154 | 12.159 | 12.440 | 14.517 | 14.713 | 14.697 | 14.826 |
|                                    | E | kg | 5.114 | 5.755 | 6.378 | 8.296 | 9.672 | 9.972 | 11.758 | 12.763 | 13.044 | 15.356 | 15.552 | 15.536 | 15.665 |

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