

# Samurai M Chilled water and heat pump unit

Air condensation Scroll Inverter compressor



Discover  
Samurai M



## Ultra compact

With its very small footprint, the Samurai M is the perfect product for the replacement market. Only a 2.7m<sup>2</sup> footprint for 130 kW of heating.

## Very low noise level

The use of Inverter technology (compressor and fans), coupled with the use of anti-intrusion panels on standard models, brings you the quietest range on the market. A low sound level option is also available, with an average lower output of 6 dB(A).

## Excellent energy performance

with optional  
low noise level

SEER  
4.71

Our chilled water and heat pump units are designed to meet tomorrow's energy efficiency requirements in line with the latest European ecodesign regulations.

## Outstanding features as standard

Samurai M models are ultra-equipped. Standard components include: all-season kit, master/slave mode, MODBUS/BACNET interfaces, blade corrosion protection, etc. This range is very easy to select and install, with the ALL INCLUDED design and easy-to-use onboard touch controls.

## Large operating ranges

(Fig. 1)

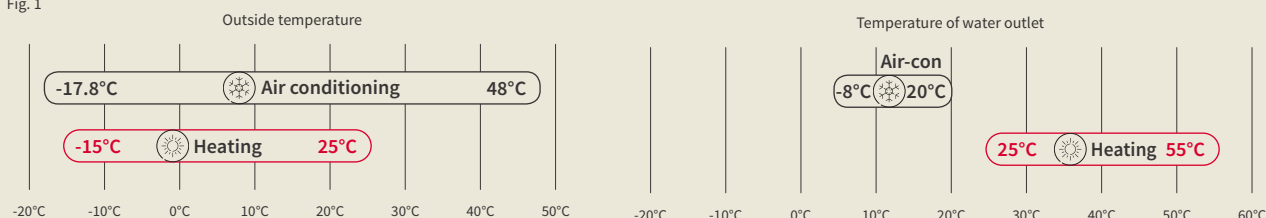
## Versatile

Configurable in cooling mode only by changing switch dips. Modular design: onboard controls to operate up to 16 units in a cascading system.

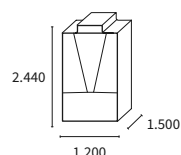
## Operational safety

Samurai M units have 2 cooling kW cooling circuits to ensure safe operation for the user. Auto-management of compressor operating hours helps prolong the service life of parts.

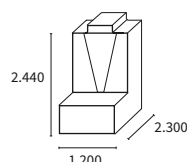
Fig. 1



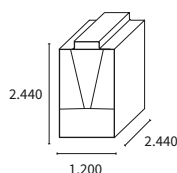
### Heat pump models



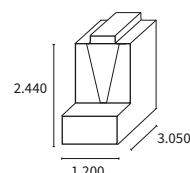
RCMA 18AN  
RCMA 24AN  
(Version with constant  
speed pump kit or  
without pump kit)



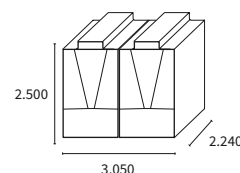
RCMA 18AN  
RCMA 24AN  
(Version with variable  
speed pump kit)



RCMA 30AN  
RCMA 40AN  
RCMA 50AN  
(Version with constant  
speed pump kit or  
without pump kit)



RCMA 30AN  
RCMA 40AN  
RCMA 50AN  
(Version with variable  
speed pump kit)



RCMA 60AN RCMA 75AN  
RCMA 90AN RCMA 100AN  
(Version with variable speed  
pump kit or without pump kit)

## Samurai M – heat pump

|                                                                  |           | Unit    | RHMA-18AN                                               | RHMA-24AN | RHMA-30AN      | RHMA-40AN  | RHMA-50AN  | RHMA-60AN    | RHMA-75AN   | RHMA-90AN   | RHMA-100AN  |
|------------------------------------------------------------------|-----------|---------|---------------------------------------------------------|-----------|----------------|------------|------------|--------------|-------------|-------------|-------------|
| Performance                                                      |           |         |                                                         |           |                |            |            |              |             |             |             |
| Rated power Cooling                                              |           | kW      | 44                                                      | 60        | 78             | 99         | 122        | 159          | 188         | 221         | 254         |
| Rated power input Cooling                                        |           | kW      | 15.49                                                   | 21.51     | 25.08          | 33.0       | 41.36      | 50.96        | 61.84       | 71.75       | 83.01       |
| EER                                                              |           | -       | 2.84                                                    | 2.79      | 3.11           | 3.0        | 2.95       | 3.12         | 3.04        | 3.08        | 3.06        |
| SEER                                                             |           | -       | 4.38                                                    | 4.50      | 4.43           | 4.24       | 4.42       | 4.24         | 4.28        | 4.17        | 4.34        |
| ηs, c                                                            |           | %       | 172.2                                                   | 177.0     | 174.2          | 166.6      | 173.8      | 166.6        | 168.2       | 163.8       | 170.6       |
| SEPR MT                                                          |           | -       | 3.76                                                    | 3.77      | 3.91           | 3.53       | 3.58       | 2.79         | 2.70        | 3.78        | 3.70        |
| SEPR HT                                                          |           | -       | 5.70                                                    | 5.96      | 5.58           | 5.69       | 5.84       | 5.97         | 5.81        | 5.99        | 6.02        |
| Rated power Heating                                              |           | kW      | 50                                                      | 61        | 87             | 99         | 132        | 161          | 191         | 231         | 254         |
| Rated power input Heating                                        |           | kW      | 16.39                                                   | 19.87     | 26.93          | 31.73      | 44.44      | 49.39        | 59.32       | 71.74       | 83.01       |
| Rated power Heating at -7°C (water outlet 45°C)                  |           | kW      | 29.35                                                   | 35.8      | 50.4           | 56.26      | 73.94      | 95.97        | 111.39      | 133.95      | 148.62      |
| Rated power Heating at -15°C (water outlet 40°C)                 |           | kW      | 25.53                                                   | 31.59     | 42.4           | 48.85      | 64.26      | 81.4         | 94.32       | 118.39      | 128.91      |
| COP                                                              |           | -       | 3.05                                                    | 3.07      | 3.23           | 3.12       | 2.97       | 3.26         | 3.22        | 3.22        | 3.06        |
| SCOP                                                             |           | -       | 3.45                                                    | 3.44      | 3.4            | 3.41       | 3.54       | 3.32         | 3.36        | 3.47        | 3.3         |
| ηs, c                                                            |           | %       | 135                                                     | 134.6     | 133            | 133.4      | 138.6      | 129.8        | 131.4       | 135.8       | 129         |
| Sound pressure level Cooling Standard / Low                      |           | dB(A)   | 80 / 75                                                 | 82 / 77   | 81 / 77        | 83 / 79    | 84 / 80    | 86 / 82      | 87 / 82     | 88 / 83     | 89 / 84     |
| Sound pressure level Heating Standard / Low                      |           | dB(A)   | 82 / 72                                                 | 84 / 76   | 84 / 76        | 85 / 80    | 89 / 81    | 87 / 82      | 88 / 82     | 89 / 83     | 90 / 84     |
| Sound pressure level 1m Cooling Standard/Low                     |           | dB(A)   | 66 / 61                                                 | 68 / 63   | 66 / 62        | 68 / 64    | 69 / 65    | 70 / 66      | 71 / 66     | 72 / 67     | 73 / 68     |
| Sound pressure level 1m Heating Standard/Low                     |           | dB(A)   | 68 / 63                                                 | 70 / 65   | 69 / 65        | 70 / 65    | 74 / 68    | 71 / 66      | 72 / 67     | 73 / 68     | 74 / 68     |
| Sound pressure level 10m Cooling Standard/Low                    |           | dB(A)   | 51 / 46                                                 | 53 / 48   | 52 / 48        | 54 / 50    | 55 / 51    | 57 / 53      | 58 / 53     | 59 / 54     | 60 / 55     |
| Sound pressure level 10m Heating Standard/Low                    |           | dB(A)   | 53 / 48                                                 | 55 / 50   | 55 / 51        | 56 / 51    | 60 / 55    | 58 / 53      | 59 / 54     | 60 / 54     | 61 / 55     |
| Operating ranges at outside Temp°. - Cooling mode                |           | °C      | -17.8~48                                                |           |                |            |            |              |             |             |             |
| Operating ranges at outside Temp°. - Heating mode                |           | °C      | -15~25                                                  |           |                |            |            |              |             |             |             |
| T° at water outlet – Cooling mode                                |           | °C      | -8~20                                                   |           |                |            |            |              |             |             |             |
| T° at water outlet – Heating mode                                |           | °C      | 25~55                                                   |           |                |            |            |              |             |             |             |
| Dimensions and weight                                            |           |         |                                                         |           |                |            |            |              |             |             |             |
| Height                                                           |           | mm      | 2440                                                    |           |                |            |            | 2500         |             |             |             |
| Width                                                            |           | mm      | 1200                                                    |           |                |            |            | 3050         |             |             |             |
| Length                                                           |           | mm      | 1500                                                    |           |                |            |            | 2240         |             |             |             |
| Length (constant pump)                                           |           | mm      | 1500                                                    |           | 2240           |            | -          |              | -           | -           | -           |
| Length (variable flow pump)                                      |           | mm      | 2300                                                    |           | 3050           |            |            |              | 2240        |             |             |
| Net weight (without pump / with pump)                            |           | kg      | 587 / 782                                               | 610 / 805 | 893 / 1105     | 920 / 1132 | 999 / 1211 | 1922 / 2115  | 2003 / 2196 | 2235 / 2428 | 2316 / 2509 |
| Compressor                                                       |           |         |                                                         |           |                |            |            |              |             |             |             |
| Type of compressor                                               |           | -       | Scroll DC Inverter + Scroll                             |           |                |            |            |              |             |             |             |
| Compressor number                                                |           | -       | 2                                                       |           | 3              |            | 4          | 5            | 6           | 7           | 8           |
| Adjustment range                                                 |           | %       | 33~100                                                  | 25~100    | 20~100         | 15~100     | 12~100     | 10~100       | 8~100       | 7~100       | 6~100       |
| R410A prefilled on delivery                                      | Circuit 1 | kg      | 9.5                                                     | 12.3      | 8.5            | 9.5        | 11.4       | 9.5          | 11          | 9.5         | 11.4        |
|                                                                  | Circuit 2 | kg      | -                                                       | -         | 9.1            | 11         | 11.4       | 10           | 10.5        | 11          | 11.4        |
|                                                                  | Circuit 3 | kg      | -                                                       | -         | -              | -          | -          | 10           | 10.5        | 11.4        |             |
|                                                                  | Circuit 4 | kg      | -                                                       | -         | -              | -          | -          | -            | -           | 11.4        |             |
| Fans / Air exchangers                                            |           |         |                                                         |           |                |            |            |              |             |             |             |
| Air heat exchanger                                               |           | -       | Cu/Al blade exchanger                                   |           |                |            |            |              |             |             |             |
| Number of fans (type EC)                                         |           | -       | 1                                                       |           | 2              |            | 3          |              | 4           |             |             |
| Airflow                                                          |           | m³/min  | 324.4                                                   | 349.4     | 541.1          | 604.9      | 702.5      | 1024.5       | 1132.4      | 1370.1      | 1510        |
| Total power of fans                                              |           | kW      | 0.87                                                    | 1.06      | 0.95           | 1.17       | 1.61       | 2.41         | 2.97        | 3.27        | 3.95        |
| Hydraulic data                                                   |           |         |                                                         |           |                |            |            |              |             |             |             |
| Air heat exchanger                                               |           | -       | Brazed plated exchanger                                 |           |                |            |            |              |             |             |             |
| Rated water flow                                                 |           | l/s     | 2.1                                                     | 2.9       | 3.7            | 4.7        | 5.8        | 7.6          | 9.0         | 10.6        | 12.1        |
| Min./max. flow                                                   |           | l/s     | 1.1 ~ 2.8                                               | 1.4 ~ 3.7 | 1.9 ~ 5.0      | 2.4 ~ 6.2  | 3.0 ~ 7.8  | 3.7 ~ 11.1   | 4.5 ~13.6   | 5.3 ~ 15.8  | 6.0 ~ 17.9  |
| Min. water capacity (without pump kit)                           |           | l       | 7                                                       | 10        | 14             | 16         | 16         | 27           | 29          | 32          | 34          |
| Min. water capacity of the installation – Comfort (Cooling mode) |           | l       | 148                                                     | 199       | 259            | 327        | 406        | 527          | 622         | 734         | 842         |
| Min. water capacity of the installation – Process (Cooling mode) |           | l       | 291                                                     | 392       | 509            | 644        | 799        | 1038         | 1224        | 1445        | 1658        |
| Load loss in the exchanger                                       |           | kPa     | 32                                                      | 25        | 23             | 30         | 36         | 25           | 32          | 40          | 38          |
| Pump type                                                        |           | -       | Constant or variable flow pump (depending on the model) |           |                |            |            |              |             |             |             |
| Diameter and type of hydraulic connection                        |           | inches  | 2" Victaulic                                            |           | 2 ½" Victaulic |            |            | 4" Victaulic |             |             |             |
| Electrical data                                                  |           |         |                                                         |           |                |            |            |              |             |             |             |
| Supply voltage                                                   |           | V/Ph/Hz | 400 / 3 / 50                                            |           |                |            |            |              |             |             |             |
| Max. current                                                     |           | A       | 35                                                      | 38        | 61             | 72         | 85         | 119          | 133         | 166         | 180         |

Note: The power and performance are specified without the pump. Rated cooling conditions: water cycle: 7/12°C – outside temperature: 35°C. Rated heating conditions: water cycle: 40/45°C – outside temperature: 6°C WB. Seasonal energy performance is specified according to European standard EN-14825.

### Order optional accessories separately



Separate wired remote control



Battery protection grid



Anti-vibration spring sleeve



Anti-vibration neoprene sleeve



Modular kit: Remote temperature sensor

### Optional configurations possible



Single constant pump kit configuration (factory-mounted)



Single variable pump kit configuration (factory-mounted)



Low noise level (-6dB (A)) (factory-mounted)