

MARKCLIMATE.COM

Specialist in climate control  
since 1945

# PRODUCT CATALOGUE 2024

**TOTAL SOLUTION SUPPLIER IN CLIMATE TECHNOLOGY**

AIR HEATING

RADIANT HEATING

VENTILATION & RECIRCULATION

AIR TREATMENT

DRY COOLERS

HEAT PUMPS

AIR CURTAINS

BOILERS



**mark**<sup>®</sup>  
CLIMATE TECHNOLOGY  
FOR A HEALTHY CLIMATE

Meet Europe's leading specialist in the field of air heating, radiant heating, air treatment and ventilation.



Energy-efficient products, sustainably produced



Expert advice



Own production



More than 75 years experience



International operating organisation



Unparalleled quality



Innovative



Complete range for your climate control systems



Own service department



Own distributor network



Fast delivery

**THAT'S WHY YOU CHOOSE  
MARK CLIMATE TECHNOLOGY !**



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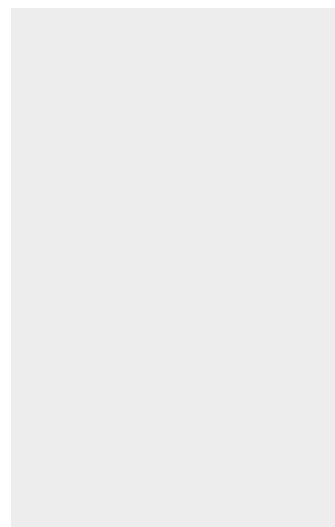
For more than 75 years, we have been focusing on the climate control of large buildings.

# WELCOME



Mark has been specialising in climate management for large buildings since 1945. Under the name 'Ingenieursbureau Gebroeders Van der Mark NV', production and sales of bending machines and coal-fired air heaters were started. From the mid-1950s, the 'van der Mark' brothers increasingly focused on heating large buildings. For this purpose they built hanging gas-fired air heaters themselves. This is how the GS series came about, a unique system that is still a leader in the European heating market to this day.

This innovative strength still characterizes Mark. Mark Climate Technology now supplies a leading range in the field of heating, cooling and ventilation. This means that our customers can go to one supplier for their complete climate management system.



# MARK'S SUSTAINABLE MISSION

## Mark & BREEAM

Mark continues to develop, including in the field of sustainability and circularity. A good example is our Eurovent-certified Mark Airstream heat recovery unit. This appliance with a **heat recovery efficiency of 90%** now ensures optimal air quality in many buildings. With the aid of a heat pump, the appliance can also heat and cool without using natural gas.

In addition to our Airstream heat recovery unit, Mark Climate Technology has 7 other products in the product range that contribute in a sustainable way to a pleasant indoor climate. For certification method BREEAM-NC, the products of Mark Climate Technology can score up to **15 credits** for your sustainability assessment.

## What is BREEAM?

BREEAM-NC (BREEAM International New Construction) is a method to assess and certify the sustainability of a building. BREEAM-NC is divided into 9 main categories (see chart below). Each category is divided into a number of subcategories with their own parameters. If these criteria are met, a certain number of credits can be obtained. In addition, each category has a specific weighting factor. Based on the credits achieved and the weighting factor, a building receives a score from pass (one star) to outstanding (five stars).

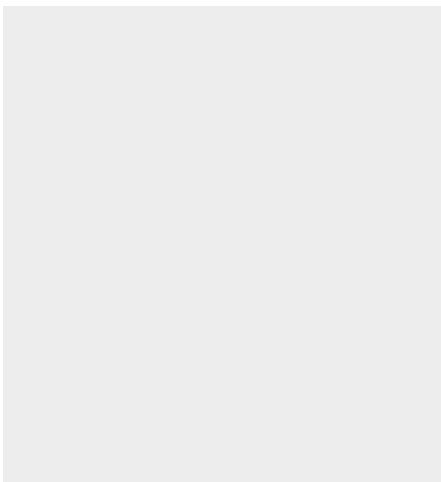
The requirements are higher than required by law, making BREEAM-rated buildings more sustainable environments that improve the well-being of the people who live and work there, help protect natural resources and make real estate investments more attractive.





For detailed information, please refer to our BREEAM brochure.

# WHY BREEAM?



## More than just a certification

A BREEAM certification gives an extra dimension to a building. But how come?

### Low running costs

Because water and energy consumption (among other things) have been carefully considered before and during construction, you are assured of an energy-efficient building that will benefit you for years to come.

### Increased well-being and productivity

Thanks to correctly selected climate control systems, you have invested in an optimal indoor climate. This translates directly to the performance and health of the people who work in the building.

### Investment in the future

A BREEAM certificate is also a great marketing tool. By investing in a sustainable building, you are also investing in your corporate image and thus your future. A business that profiles itself as sustainable strengthens its position in the market.

| BREEAM-NC qualifications | Stars     | % score |
|--------------------------|-----------|---------|
| Pass                     | ★         | ≥ 30%   |
| Good                     | ★ ★       | ≥ 45%   |
| Very good                | ★ ★ ★     | ≥ 55%   |
| Excellent                | ★ ★ ★ ★   | ≥ 70%   |
| Outstanding              | ★ ★ ★ ★ ★ | ≥ 85%   |



# MARK & BREEAM

The Mark products not only create a pleasant indoor climate, they can also contribute up to **15 credits** in your BREEAM assessment. The products mentioned in this brochure, corresponding BREEAM credits and substantiation have been assessed and drawn up by the independent engineering firm Encon.

| Category                  | Parameters                                 | max. credits | MARK Products |           |           |           |           |           |           |           |
|---------------------------|--------------------------------------------|--------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                           |                                            |              | A             | B         | C         | D         | E         | F         | G         | H         |
| Management (MAN)          | MAN04 - Commissioning and handover         | 4            | 2             | 2         | 2         | 2         | 2         | 2         | 2         | 2         |
| Health & Well-being (HEA) | HEA02 - Indoor Air Quality                 | 5            | 2             | 2         | -         | -         | -         | 2         | 2         | 2         |
|                           | HEA04 - Thermal comfort                    | 3            | 2             | 2         | 2         | 2         | 2         | -         | -         | 1         |
|                           | HEA05 - Acoustic Performance               | 2            | 1             | 1         | 1         | 1         | 1         | 1         | 1         | -         |
| Energy (ENE)              | ENE01 - Reduction of energy use and carbon | 15           | 2             | 2         | 2         | 2         | 3         | 2         | 2         | -         |
|                           | ENE02 - Energy monitoring                  | 2            | -             | -         | -         | -         | -         | -         | -         | 2         |
|                           | ENE04 - Low carbon design                  | 3            | 1             | 1         | 1         | 1         | 1         | 1         | 1         | 1         |
| Materials (MAT)           | MAT01 - Life Cycle Impacts                 | 6            | 1             | 1         | 1         | 1         | 1         | 1         | 1         | 1         |
| Waste (WST)               | WST06 - Functional adaptability            | 1            | 1             | 1         | 1         | 1         | 1         | 1         | 1         | 1         |
| Pollution (POL)           | POL02 - NO <sub>x</sub> Emissions          | 2            | 2             | 2         | 2         | 2         | 2         | -         | -         | -         |
|                           | POL05 - Reduction of noise pollution       | 1            | 1             | 1         | 1         | 1         | 1         | 1         | 1         | -         |
| <b>TOTAL</b>              |                                            |              | <b>15</b>     | <b>15</b> | <b>13</b> | <b>13</b> | <b>14</b> | <b>11</b> | <b>11</b> | <b>10</b> |

A = Airstream CFX/HWX  
B = GS+  
C = Tanner MDA/MBA

D = Infra (HE)  
E = Infra Aqua Design  
F = Ecofan W

G = MDV Blue  
H = Demand-driven control





The products and associated points presented here have been weighed and assessed by independent engineering firm Encon, on the basis of the BREEAM-NL guidelines.



PRODUCT CATALOGUE  
2024

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Our consultants are happy to help  
you use energy as efficiently as  
possible.

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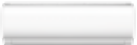
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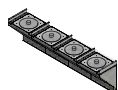


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# Air Heating



GS+

GSX

GC+

L-TYPE



TANNER MDE



TANNER MDA

TANNER MDA+

TANNER MD

TANNER MBA

TANNER MDC

TANNER CLA

LDA SWIRL

FAN COIL

COMFORT-LINE



# GS+

## Gas-fired high performance air heater with axial fan

High efficiency air heater with modulating premix burner for unrestricted outlet into the room. Output from 13,6 to 142,2 kW.



For more information, downloads and videos, visit the GS+ page on our website





#### Product features

- Efficiency >106%
- Energy-saving
- Environmentally-friendly
- Modulating premix burner
- Outlet temperature sensor
- Low temperature rise of the exit air
- Low thermal stratification of the heated air
- Stainless steel heat exchanger
- Corrosion-resistant aluzinc housing

#### Environmentally friendly heating with the GS+

Mark manufactures a gas-fired, high-performance air heater with an axial fan. This condensing equipment provides efficiency greater than 106% (lower value). Heat is generated via a modulating premix-burner which results in very low gas consumption.

The GS+ is suitable in many situations due to its extensive capacity range from 13,6 to 142,2 kW. The GS+ is designed to heat garages, warehouses, distribution centres and showrooms.

#### Standard equipment:

- Stainless steel combustion chamber & heat exchanger
- Closed combustion circuit
- Advanced modulating burner technology
- Electronic ignition
- Low NOx
- Powerful axial fan(s)
- Downflow hood with horizontal louvres
- CE-approval
- PIN 0063BP3341
- Carbon trust (UK)

Optional: speed controlled low noise EC-motor. Advantages:

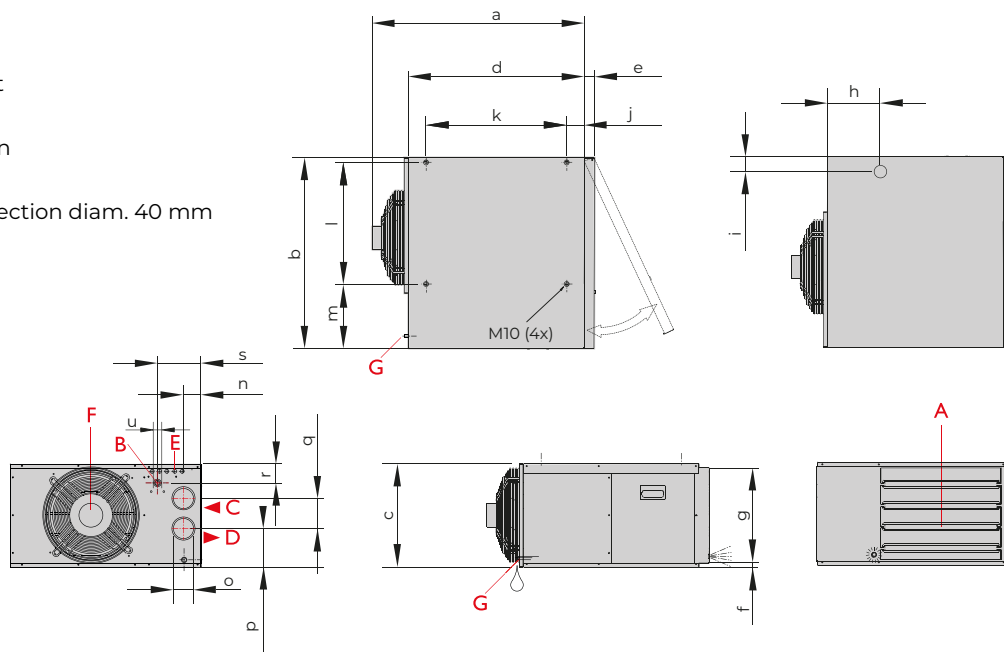
- The highest efficiency in case of speed control
- Up to 50% energy saving in case of partial load
- Almost completely linearly adjustable
- Long lifetime
- Low noise level
- Integrated electronic thermal protection



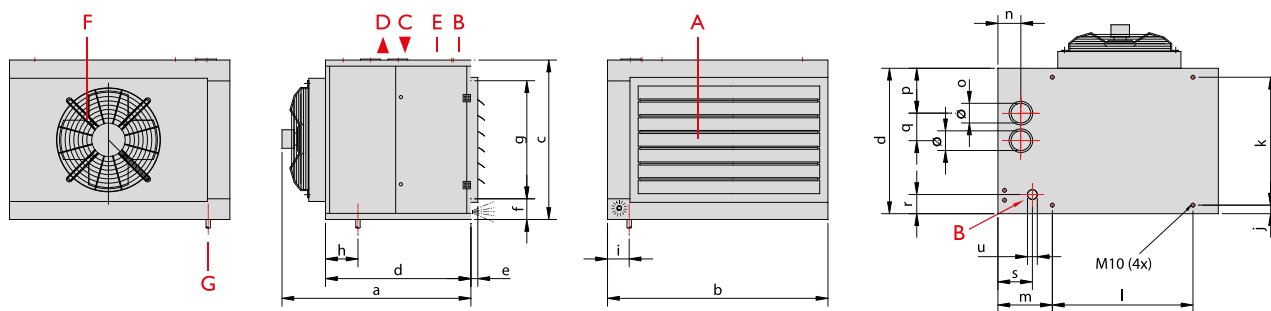
The GS+ is operated using an Optitherm+ clock thermostat or an Interface+ module that allows a connection with the BMS (building management system) via Modbus or a 0-10V contact.

## Dimensions

- A = Horizontal louvres  
 B = Gas connection  
 C = Combustion air inlet  
 D = Flue gas exhaust  
 E = Electrical connection  
 F = Axial fan  
 G = Condensation connection diam. 40 mm



| Type  | a   | b   | c   | d   | e  | f  | g   | h   | i  | j  | k   | l   | m   | n  | o  | p   | q   | r  | s   | u        |
|-------|-----|-----|-----|-----|----|----|-----|-----|----|----|-----|-----|-----|----|----|-----|-----|----|-----|----------|
| 15/25 | 790 | 760 | 410 | 700 | 40 | 15 | 380 | 210 | 60 | 70 | 560 | 485 | 255 | 70 | 80 | 150 | 120 | 80 | 175 | 1/2" (M) |



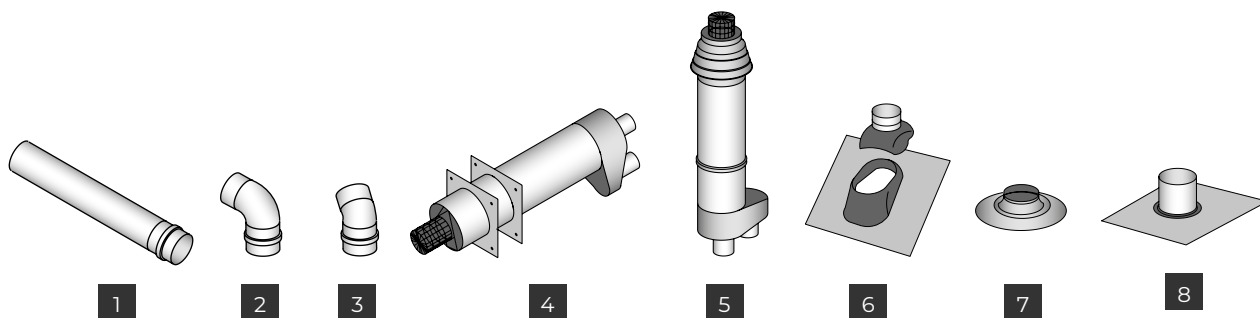
| Type    | a    | b    | c    | d    | e  | f   | g   | h   | i   | j  | k   | l    | m   | n   | o   | p   | q   | r   | s   | u        |
|---------|------|------|------|------|----|-----|-----|-----|-----|----|-----|------|-----|-----|-----|-----|-----|-----|-----|----------|
| 35      | 969  | 875  | 810  | 739  | 35 | 105 | 600 | 165 | 110 | 90 | 560 | 470  | 275 | 120 | 80  | 240 | 120 | 97  | 135 | 3/4" (M) |
| 40      | 969  | 875  | 810  | 739  | 35 | 105 | 600 | 165 | 110 | 90 | 560 | 470  | 275 | 120 | 80  | 240 | 120 | 97  | 135 | 3/4" (M) |
| 60      | 969  | 1120 | 810  | 739  | 35 | 105 | 600 | 165 | 110 | 90 | 560 | 715  | 275 | 120 | 100 | 230 | 140 | 97  | 135 | 3/4" (M) |
| 80      | 969  | 1305 | 810  | 739  | 35 | 105 | 600 | 165 | 110 | 90 | 560 | 890  | 275 | 120 | 100 | 230 | 140 | 97  | 135 | 1" (M)   |
| 100     | 979  | 1595 | 810  | 739  | 35 | 105 | 600 | 165 | 110 | 90 | 560 | 1180 | 275 | 120 | 100 | 230 | 140 | 97  | 135 | 1" (M)   |
| 135/150 | 1180 | 1890 | 1000 | 1000 | 35 | 105 | 790 | 190 | 175 | 75 | 850 | 1455 | 295 | 165 | 130 | 235 | 225 | 140 | 170 | 1" (F)   |

## Technical information

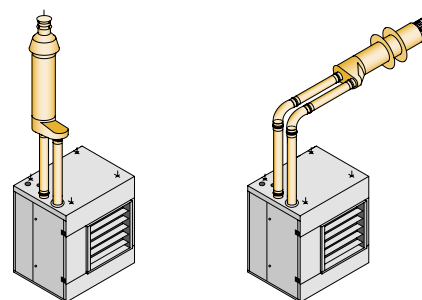
| Type                                                                |       | 15          | 25          | 35          | 40          | 60          | 80          | 100          | 135          | 150          |
|---------------------------------------------------------------------|-------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| Nominal load (upper value)                                          | kW    | 16,1        | 27,2        | 38,8        | 44,4        | 66,7        | 88,9        | 110,6        | 149,9        | 166,7        |
| Maximal power                                                       | kW    | 13,6        | 23,0        | 33,4        | 38,4        | 56,2        | 75,6        | 93,3         | 128,9        | 141,0        |
| Minimal load (upper value)                                          | kW    | 4,6         | 6,8         | 9,6         | 9,6         | 13,9        | 24,5        | 10,8         | 21,1         | 36,6         |
| Minimal power                                                       | kW    | 4,3         | 6,6         | 9,2         | 9,2         | 13,5        | 23,8        | 10,6         | 20,6         | 35,3         |
| Flue efficiency at maximum load (lower value) <i>on/off fan</i>     | %     | 94,1        | 93,9        | 95,1        | 95,1        | 93,6        | 94,0        | 93,8         | 95,5         | 94,0         |
| Flue efficiency at maximum load (lower value) <i>modulating fan</i> | %     | 93,2        | 94,0        | 94,8        | 94,8        | 94,0        | 94,4        | 93,9         | 95,7         | 94,8         |
| Flue efficiency at minimum load (lower value) <i>on/off fan</i>     | %     | 106,7       | 107,0       | 106,9       | 106,9       | 107,3       | 107,1       | 107,4        | 107,5        | 107,3        |
| Flue efficiency at minimum load (lower value) <i>modulating fan</i> | %     | 106,1       | 106,7       | 106,4       | 106,4       | 106,6       | 106,9       | 106,9        | 107,4        | 107,1        |
| Burner turndown ratio                                               | +/-   | 3:1         | 4:1         | 4:1         | 5:1         | 5:1         | 7:1         | 6:1          | 7:1          | 4:1          |
| Gas consumption G20 (15 °C)                                         | m³/h  | 1,50 - 0,41 | 2,54 - 0,57 | 3,62 - 0,89 | 4,15 - 0,90 | 6,22 - 1,07 | 8,29 - 1,27 | 10,30 - 1,68 | 13,99 - 1,76 | 15,57 - 3,68 |
| Gas consumption G25 (15 °C)                                         | m³/h  | 1,75 - 0,49 | 2,95 - 0,65 | 4,1 - 1,02  | 4,73 - 1,02 | 7,03 - 1,20 | 9,3 - 1,44  | 11,57 - 1,91 | 15,98 - 2,00 | 17,65 - 4,18 |
| Gas consumption G31 (15 °C)                                         | kg/h  | 1,13 - 0,32 | 1,91 - 0,48 | 2,68 - 0,64 | 3,17 - 0,64 | 4,72 - 1,04 | 6,22 - 0,89 | 7,76 - 1,34  | 10,51 - 2,23 | 11,69 - 2,57 |
| Gas consumption G30 (15 °C)                                         | kg/h  | 1,19 - 0,33 | 2,02 - 0,51 | 2,92 - 0,72 | 3,46 - 0,72 | 5,05 - 1,11 | 6,70 - 0,96 | 8,19 - 1,48  | 11,1 - 1,85  | 12,35 - 2,72 |
| Air displacement (20 °C) <i>on/off fan</i>                          | m³/h  | 1410        | 2190        | 5000        | 5000        | 5300        | 9000        | 9800         | 16300        | 16300        |
| Air displacement (20 °C) <i>modulating fan</i>                      | m³/h  | 850 - 1730  | 1090 - 2470 | 1350 - 3900 | 1350 - 3900 | 2700 - 5500 | 4500 - 8800 | 5400 - 9400  | 7350 - 14500 | 7350 - 16300 |
| Delta T (ΔT) <i>on/off fan</i>                                      | K     | 29,0 - 9,2  | 31,5 - 9,0  | 20,0 - 5,5  | 23,1 - 5,5  | 31,8 - 7,7  | 25,2 - 7,9  | 29,6 - 9,2   | 23,7 - 3,8   | 25,9 - 6,5   |
| Delta T (ΔT) <i>modulating fan</i>                                  | K     | 23,4 - 14,8 | 28,0 - 17,8 | 25,7 - 20,4 | 29,3 - 19,9 | 30,8 - 14,5 | 25,9 - 15,6 | 30,9 - 16,5  | 26,7 - 8,3   | 26,2 - 14,2  |
| Throw                                                               | m     | 10 - 16     | 14 - 20     | 28 - 36     | 26 - 36     | 26 - 36     | 32 - 46     | 36 - 50      | 48 - 68      | 48 - 68      |
| Weight of GS+                                                       | kg    | 50          | 56          | 95          | 95          | 111         | 136         | 155          | 228          | 230          |
| Noise level (5 m, side) <i>on/off fan</i>                           | dB(A) | 44          | 48          | 48          | 48          | 51          | 52          | 52           | 58           | 58           |
| Noise level (5 m, side) <i>modulating fan</i>                       | dB(A) | 44-31       | 48-31       | 47-31       | 47-31       | 51-33       | 49-33       | 52-34        | 55-34        | 55-34        |
| Electrical power at 230V                                            | W     | 100         | 175         | 300         | 300         | 320         | 490         | 670          | 1280         | 1500         |
| Consumed current                                                    | A     | 0,5         | 0,8         | 1,4         | 1,4         | 2,0         | 2,9         | 3,2          | 6,5          | 7,6          |



## Accessories – flue gas exhaust

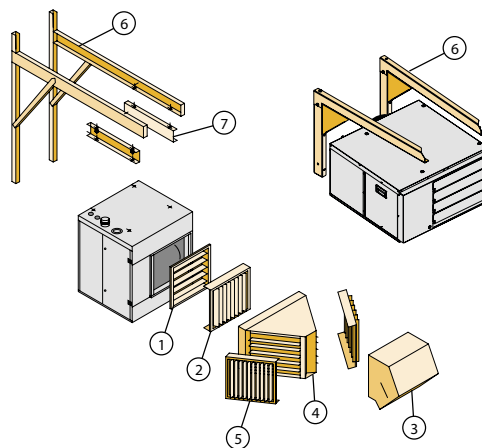


- |                              |                                           |
|------------------------------|-------------------------------------------|
| 1 Extension set              | 5 Single flue set vertical                |
| 2 90° elbow                  | 6 Roof flashing for pitched roof          |
| 3 45° elbow                  | 7 Adhesive plate                          |
| 4 Single flue set horizontal | 8 Flexible roof flashing for cladded roof |

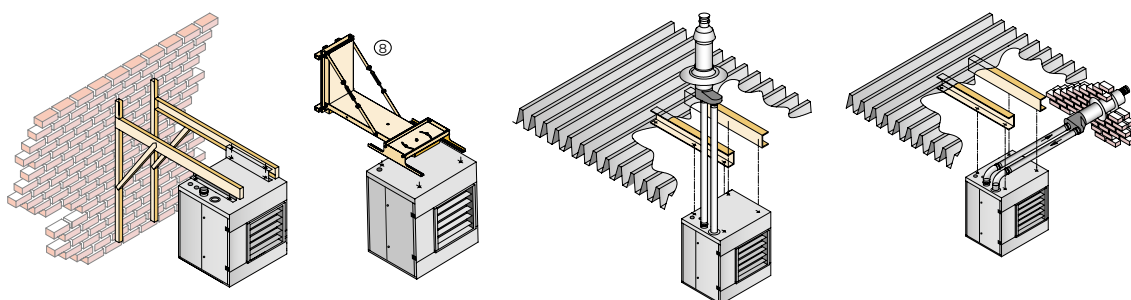


## Accessories – additional sections

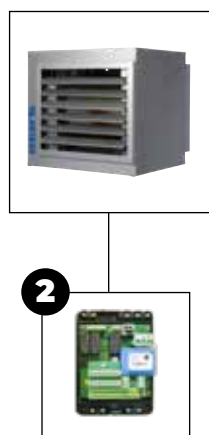
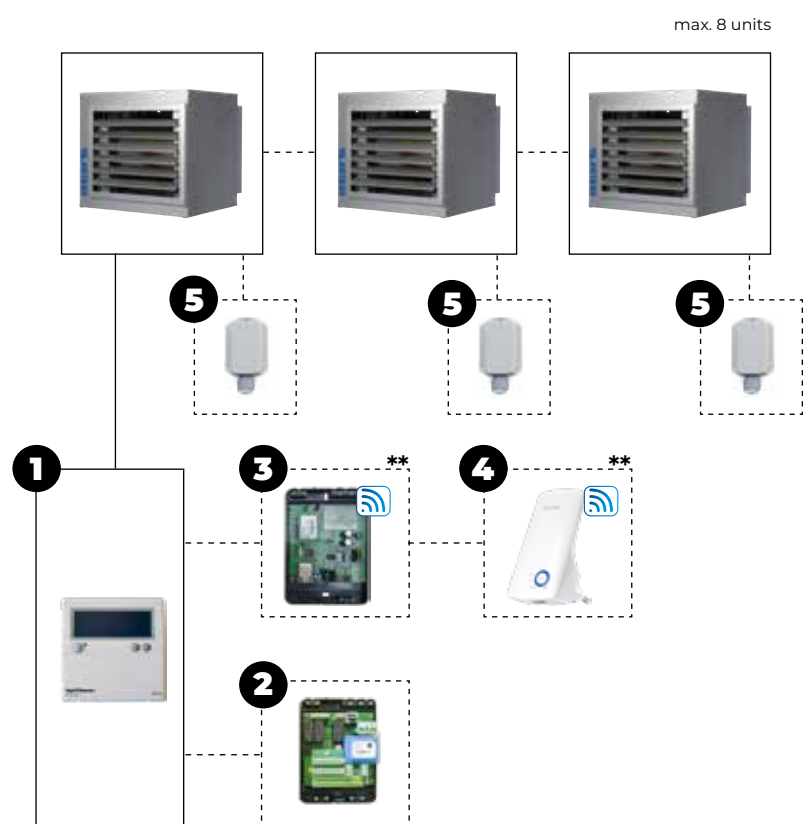
- 1 = Horizontal louvers (standard)
- 2 = Vertical louvres
- 3 = Downflow hood 45°
- 4 = Diffuser (2 x 45°) and horizontal louvres
- 5 = Vertical louvres for diffuser
- 6 = Set of wall mounting brackets
- 7 = Shock absorbers set
- 8 = Reversible wall bracket (types 15 - 60)



## Assembly/location suggestions



## Controls



### Control combination options

#### Room temperature control

GS+ + **1**

GS+ + **1** + **5**

#### Room temperature control in combination with remote control

A remote connection with the mobile phone app is only possible when using a Web module. A WiFi bridge can be added to create a wireless connection.

GS+ + **1** + **3**

GS+ + **1** + **3** + **4**

GS+ + **1** + **5** + **3**

GS+ + **1** + **5** + **3** + **4**

#### Room temperature control in combination with Modbus

Allows you to read the status and change the settings of the Optitherm+.

GS+ + **1** + **2** + **5**

GS+ + **1** + **2**

#### Capacity control with external 0-10V signal or Modbus

Heating / Continuous ventilation / reset contacts / Modbus communication

GS+ + **2**

\*\* Temporarily unavailable

**See price list for description and code numbers of the relevant items**

## Prices GS+



### PRODUCT - GAS-FIRED CONDENSATING AIR HEATER GS+ - G25 / G20 / G30 / G31

| Code nr. | Description                                                      | Price   |
|----------|------------------------------------------------------------------|---------|
|          | GS+ 15 (13,6 kW)                                                 | € 3487  |
|          | GS+ 25 (23,0 kW)                                                 | € 3686  |
|          | GS+ 35 (33,4 kW)                                                 | € 5196  |
|          | GS+ 40 (38,4 kW)                                                 | € 5196  |
|          | GS+ 60 (56,2 kW)                                                 | € 6459  |
|          | GS+ 80 (75,6 kW)                                                 | € 7783  |
|          | GS+ 100 (93,3 kW)                                                | € 8873  |
|          | GS+ 135 (128,9 kW)                                               | € 10640 |
|          | GS+ 150 (141,0 kW)                                               | € 12542 |
|          | Additional cost for non-standard operating side type GS+ 35-100  | € 436   |
|          | Additional cost for non-standard operating side type GS+ 135/150 | € 651   |



### PRODUCT - GAS-FIRED CONDENSATING AIR HEATER GS+ WITH MODULATING EC FAN - G25 / G20 / G30 / G31

| Code nr. | Description        | Price   |
|----------|--------------------|---------|
|          | GS+ 15 (13,6 kW)   | € 3808  |
|          | GS+ 25 (23,0 kW)   | € 4023  |
|          | GS+ 35 (33,4 kW)   | € 5393  |
|          | GS+ 40 (38,4 kW)   | € 5393  |
|          | GS+ 60 (56,2 kW)   | € 6853  |
|          | GS+ 80 (75,6 kW)   | € 8527  |
|          | GS+ 100 (93,3 kW)  | € 9882  |
|          | GS+ 135 (128,9 kW) | € 12920 |
|          | GS+ 150 (141,0 kW) | € 15315 |

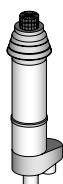
### ACCESSORIES - CONTROLS

|   | Code nr. | Description                                            | Price |
|---|----------|--------------------------------------------------------|-------|
| ❶ | 0629185  | Optitherm+ digital clock thermostat                    | € 332 |
| ❺ | 0629194  | External room temperature sensor                       | € 96  |
| ❷ | 3002866  | Interface+                                             | € 546 |
| ❸ | 0629187  | Web module <b>(Temporarily unavailable)</b>            | €     |
| ❹ | 0629186  | WiFi bridge <b>(Temporarily unavailable)</b>           | €     |
|   | 3000600  | Data cable JY(st)Y Dca 1x2x0.8+0.8mm GY (12,5 m)       | € 38  |
|   | 3000601  | Data cable JY(st)Y Dca 1x2x0.8+0.8mm GY (25 m)         | € 69  |
|   | 3000602  | Data cable JY(st)Y Dca 1x2x0.8+0.8mm GY (100 m)        | € 242 |
|   | 0631162  | Isolator switch, separate delivery, 230 Volt (2 poles) | € 63  |
|   | 5017097  | Isolator switch, pre-wired, 230 Volt (2 poles)         | € 101 |

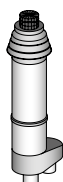
For explanation see chapter controls


**ACCESSORIES - EXHAUST OUTLET - FOR GS+ 15 / 25 / 35 / 40**

| Code nr. | Description                                                                | Price |
|----------|----------------------------------------------------------------------------|-------|
| 5990557  | Single flue set vertical, stainless steel ø 80 mm, external diameter 125mm | € 214 |
| 5990581  | Single pipe horizontal, stainless steel ø 80 mm, external diameter 125mm   | € 191 |
| 5990201  | Set 2 pipes stainless steel, ø 80 mm, length 500 mm                        | € 82  |
| 5990202  | Set 2 pipes stainless steel, ø 80 mm, length 1000 mm                       | € 132 |
| 5990203  | Set smooth elbows stainless steel, ø 80 mm, 90°                            | € 118 |
| 5990204  | Set smooth elbows stainless steel, ø 80 mm, 45°                            | € 106 |
| 5990230  | Reducer kit ø 80-100 mm                                                    | € 252 |
| 0540927  | Roof flashing ø 80 mm **                                                   | € 37  |
| 3040927  | Adhesive coated roof flashing for plastic roofing **                       | € 68  |
| 0540807  | Dektite 4-7" **                                                            | € 255 |
| 0540804  | Roof flashing 20 to 35° **                                                 | € 72  |


**ACCESSORIES - EXHAUST OUTLET - FOR GS+ 60 / 80 / 100\***

| Code nr. | Description                                                                 | Price |
|----------|-----------------------------------------------------------------------------|-------|
| 5990561  | Single flue set vertical, stainless steel ø 100 mm, external diameter 160mm | € 418 |
| 5990585  | Single pipe horizontal, stainless steel ø 100 mm, external diameter 160mm   | € 282 |
| 5990211  | Set 2 pipes stainless steel, ø 100 mm, length 500 mm                        | € 141 |
| 5990212  | Set 2 pipes stainless steel, ø 100 mm, length 1000 mm                       | € 211 |
| 5990213  | Set smooth elbows stainless steel, ø 100 mm, 90°                            | € 137 |
| 5990214  | Set smooth elbows stainless steel, ø 100 mm, 45°                            | € 127 |
| 5990240  | Reducer kit GS+ 100*, ø 100-130 mm                                          | € 326 |
| 0540929  | Roof flashing ø 100 mm ***                                                  | € 39  |
| 3040929  | Adhesive coated roof flashing for plastic roofing ***                       | € 93  |
| 0540807  | Dektite 4-7" ***                                                            | € 255 |
| 0540806  | Roof flashing 20 to 35° ***                                                 | € 100 |


**ACCESSORIES - EXHAUST OUTLET - FOR GS+ 100\* / 135 / 150**

| Code nr. | Description                                                                         | Price |
|----------|-------------------------------------------------------------------------------------|-------|
| 5990564  | Single flue set vertical, stainless steel ø 130 mm, external diameter 200mm         | € 833 |
| 5990589  | Single pipe horizontal, stainless steel ø 130 mm, external diameter 200mm           | € 434 |
| 5990221  | Set 2 pipes stainless steel, ø 130 mm, length 500 mm                                | € 181 |
| 5990222  | Set 2 pipes stainless steel, ø 130 mm, length 1000 mm                               | € 252 |
| 5990223  | Set smooth elbows stainless steel, ø 130 mm, 90°                                    | € 332 |
| 5990224  | Set smooth elbows stainless steel, ø 130 mm, 45°                                    | € 252 |
| 0540626  | Roof flashing ø 130 mm, only in combination with 5990564                            | € 58  |
| 3040626  | Adhesive coated roof flashing for plastic roofing, only in combination with 5990564 | € 130 |
| 0540809  | Dektite 4-7", only in combination with 5990564                                      | € 347 |

**REMARKS**

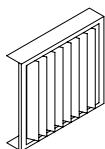
CE-approval only applies when the unit is supplied with the corresponding flue gas system.

\* For GS+ 100 with long flue gaspipes, use ø 100-130 mm transition piece. See Technical manual.

\*\* Only in combination with 5990557 / 5990620

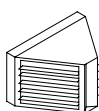
\*\*\* Only in combination with 5990561 / 5990625





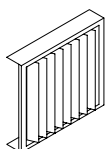
## ACCESSORIES - ADDITIONAL SECTIONS - VERTICAL LOUVRE

| Code nr. | Description     | Price |     |
|----------|-----------------|-------|-----|
| 5008533  | for GS+ 15/25   | €     | 131 |
| 5008534  | for GS+ 35/40   | €     | 204 |
| 5008536  | for GS+ 60      | €     | 204 |
| 5008538  | for GS+ 80      | €     | 214 |
| 5008540  | for GS+ 100     | €     | 338 |
| 5008542  | for GS+ 135/150 | €     | 285 |



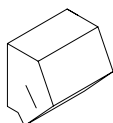
## ACCESSORIES - ADDITIONAL SECTIONS - DIFFUSER WITH HORIZONTAL LOUVRE

| Code nr. | Description     | Price |      |
|----------|-----------------|-------|------|
| 5008554  | for GS+ 35/40   | €     | 446  |
| 5008556  | for GS+ 60      | €     | 507  |
| 5008558  | for GS+ 80      | €     | 704  |
| 5008560  | for GS+ 100     | €     | 927  |
| 5008562  | for GS+ 135/150 | €     | 1040 |



## ACCESSORIES - ADDITIONAL SECTIONS - VERTICAL LOUVRE FOR DIFFUSER

| Code nr. | Description     | Price |     |
|----------|-----------------|-------|-----|
| 5008574  | for GS+ 35/40   | €     | 243 |
| 5008576  | for GS+ 60      | €     | 256 |
| 5008578  | for GS+ 80      | €     | 288 |
| 5008580  | for GS+ 100     | €     | 348 |
| 5008582  | for GS+ 135/150 | €     | 338 |



## ACCESSORIES - ADDITIONAL SECTIONS - DOWNFLOW HOOD 45°

| Code nr. | Description     | Price |      |
|----------|-----------------|-------|------|
| 5008544  | for GS+ 35/40   | €     | 595  |
| 5008546  | for GS+ 60      | €     | 743  |
| 5008548  | for GS+ 80      | €     | 873  |
| 5008550  | for GS+ 100     | €     | 1130 |
| 5008552  | for GS+ 135/150 | €     | 1229 |

**ACCESSORIES - CONDENSATE**

| Code nr. | Description                                                                                         | Price  |
|----------|-----------------------------------------------------------------------------------------------------|--------|
| 3100562  | Condensate pump kit for GS+ 15/25 (separate delivery)                                               | € 420  |
| 3100565  | Condensate pump kit for GS+ 35/40/60/80/100 (separate delivery)                                     | € 432  |
| 3100564  | Condensate pump kit for GS+ 135/150 (separate delivery)                                             | € 445  |
| 3100586  | Condensate neutralizing kit (separate delivery)                                                     | € 118  |
| 3100589  | Tube extension kit DN10 25 meter                                                                    | € 111  |
| 5990620  | Single flue set vertical, stainless steel ø80mm, external diameter 130mm, with condensation drain   | € 339  |
| 5990625  | Single flue set vertical, stainless steel ø100mm, external diameter 160mm, with condensation drain  | € 540  |
| 5990630  | Single flue set vertical, stainless steel ø130 mm, external diameter 200mm, with condensation drain | € 945  |
| 3100552  | Condensate pump kit for GS+ 15/25 (only in combination with 5990620)                                | € 443  |
| 3100558  | Condensate pump kit XL for GS+ 15/25 (only in combination with 5990620)                             | € 1385 |
| 3100553  | Condensate pump kit for GS+ 35-100 (only in combination with 5990620/5990625)                       | € 506  |
| 3100557  | Condensate pump kit XL for GS+ 35-100 (only in combination with 5990620/5990625)                    | € 1385 |
| 3100555  | Condensate pump kit for GS+ 135/150 (only in combination with 5990630)                              | € 517  |
| 3100559  | Condensate pump kit XL for GS+ 135/150 (only in combination with 5990630)                           | € 1385 |

**ACCESSORIES - ASSEMBLY**

| Code nr. | Description                                                         | Price |
|----------|---------------------------------------------------------------------|-------|
| 3187220  | Set wall mounting brackets (2 pieces), GS+ 15/25                    | € 231 |
| 5017620  | Set wall mounting brackets (2 pieces), GS+ 35/40/60/80/100          | € 405 |
| 5017627  | Set wall mounting brackets (2 pieces), GS+ 135/150                  | € 692 |
| 5017621  | Set shock absorbers for wall mounting brackets, GS+ 35/40/60/80/100 | € 118 |
| 5017628  | Set shock absorbers for wall mounting brackets, GS+ 135/150         | € 175 |
| 5017590  | Reversible wall brackets GS+ 15/25                                  | € 410 |
| 5017573  | Reversible wall brackets GS+ 35/40                                  | € 420 |
| 5017576  | Reversible wall brackets GS+ 60                                     | € 431 |

**ACCESSORIES - COLOURS \*\***

| Code nr. | Description                                                         | Price |
|----------|---------------------------------------------------------------------|-------|
| GS+      | provided with colour                                                | € 295 |
|          | Accessories provided with colour 1 to 3 pieces (by piece)           | € 145 |
|          | Accessories provided with colour 4 to 10 pieces (by piece)          | € 127 |
|          | Accessories provided with colour for more than 10 pieces (by piece) | € 87  |

\*\* These prices are only for the Mark standard RAL-colours: 3002 red, 1028 yellow, 6010 green, 7016 gray, 8014 brown, 9001 beige white, 5009 blue, 2009 orange, 1019 beige



# GSX

## Gas-fired air heater with axial fan

Air heater with premix burner for unrestricted outlet into the room.  
Output from 13,7 to 84,6 kW.



For more information, downloads  
and videos, visit the GSX page on  
our website



#### Product features

- Long lifespan
- Low operating costs
- Robust
- Reliable
- Uniform temperature distribution through high air displacement
- Small  $\Delta T$
- Small difference between supply air and room temperature
- Control up to 8 units possible via a 2-wire bus system
- Zone heating possible via 1 control (up to 8 zones)

#### Economical heating with the GSX

With the Mark GSX heat is generated via a premix-burner and blown out by means of an axial fan. The robust air heater is particularly suitable for industrial use and is very economical thanks to its low gas consumption, low maintenance and long lifespan.

The Mark GSX series fully complies to the new Ecodesign 2021 and has a capacity range of 13,7 to 84,6 kW. The GSX is suitable to heat garages, warehouses, workshops, distribution centers, showrooms and more.

#### Standard equipment:

- Stainless steel heat exchanger
- Closed combustion circuit
- Premix burner
- Electronic ignition
- Aluzinc coating
- Powerful axial fan(s)
- Downflow hood with horizontal louvres
- CE-approval
- No condensation pipe required

The GSX is standard equipped with a speed-regulated, low-noise EC fan. Advantages:

- The highest efficiency in case of speed control
- Up to 50% energy saving in case of partial load
- Almost completely linearly adjustable
- Long lifetime
- Low noise level
- Integrated electronic thermal protection

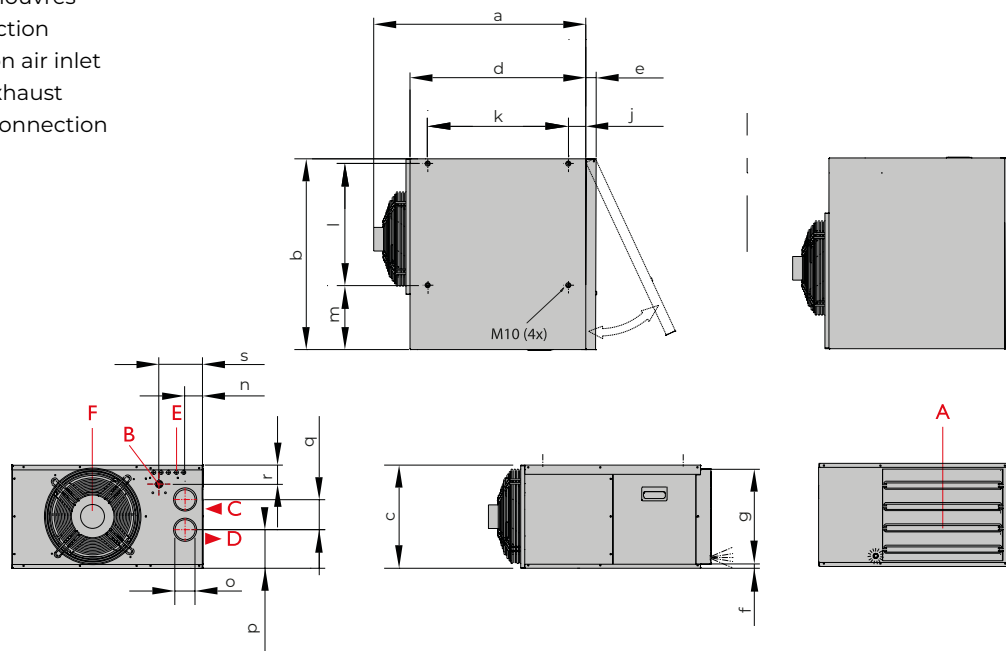


The GSX is operated using an Optitherm+ clock thermostat or an Interface+ module that allows a connection with the BMS (building management system) via Modbus.

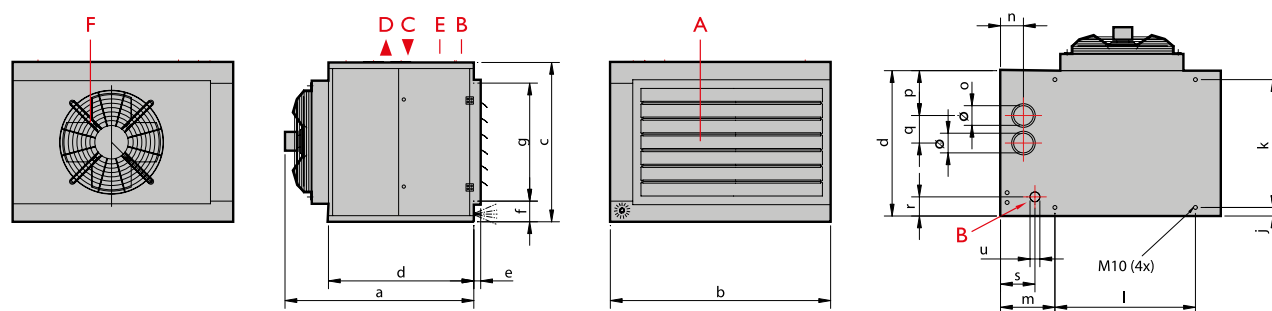


## Dimensions

- A = Horizontal louvres  
 B = Gas connection  
 C = Combustion air inlet  
 D = Flue gas exhaust  
 E = Electrical connection  
 F = Axial fan



| TYPE | a   | b   | c   | d   | e  | f  | g   | h   | i  | j  | k   | l   | m   | n  | o  | p   | q   | r  | s   | u        |
|------|-----|-----|-----|-----|----|----|-----|-----|----|----|-----|-----|-----|----|----|-----|-----|----|-----|----------|
| 20   | 790 | 760 | 410 | 700 | 40 | 15 | 380 | 210 | 60 | 70 | 560 | 485 | 255 | 70 | 80 | 150 | 120 | 80 | 175 | 1/2" (M) |

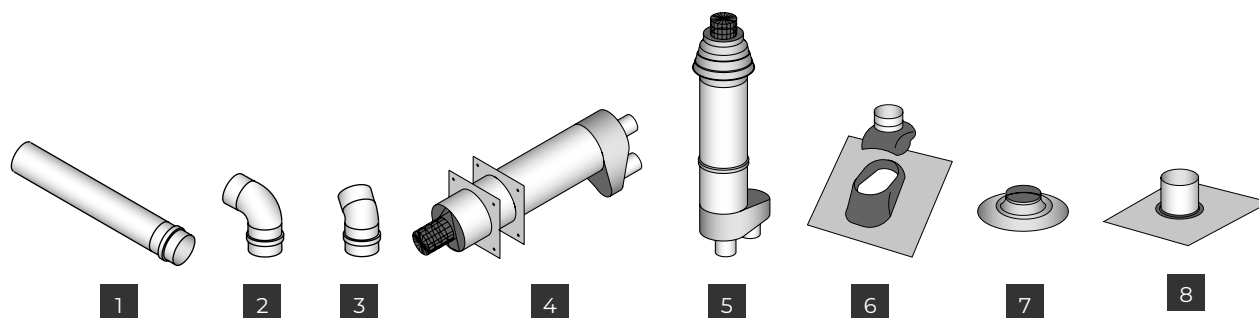


| TYPE | a   | b    | c   | d   | e  | f   | g   | h   | i   | j  | k   | l    | m   | n   | o   | p   | q   | r  | s   | u        |
|------|-----|------|-----|-----|----|-----|-----|-----|-----|----|-----|------|-----|-----|-----|-----|-----|----|-----|----------|
| 35   | 969 | 875  | 810 | 739 | 35 | 105 | 600 | 165 | 110 | 90 | 560 | 470  | 275 | 120 | 80  | 240 | 120 | 97 | 135 | 3/4" (M) |
| 55   | 969 | 1120 | 810 | 739 | 35 | 105 | 600 | 165 | 110 | 90 | 560 | 715  | 275 | 120 | 100 | 230 | 140 | 97 | 135 | 3/4" (M) |
| 75   | 969 | 1305 | 810 | 739 | 35 | 105 | 600 | 165 | 110 | 90 | 560 | 890  | 275 | 120 | 100 | 230 | 140 | 97 | 135 | 1" (M)   |
| 90   | 979 | 1595 | 810 | 739 | 35 | 105 | 600 | 165 | 110 | 90 | 560 | 1180 | 275 | 120 | 100 | 230 | 140 | 97 | 135 | 1" (M)   |

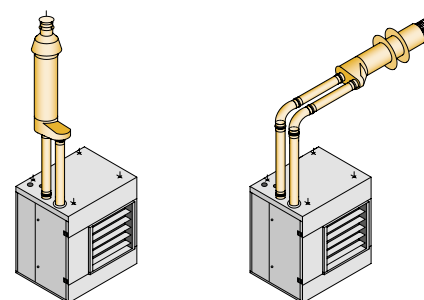
## Technical information

| Type                              |       | 20          | 35          | 55          | 75          | 90          |
|-----------------------------------|-------|-------------|-------------|-------------|-------------|-------------|
| Nominal load (lower value)        | kW    | 14,5 - 10,2 | 34,9 - 24,2 | 51,3 - 35,9 | 72,0 - 50,4 | 90 - 63     |
| Nominal load (upper value)        | kW    | 16,1 - 11,3 | 38,8 - 26,9 | 57,0 - 39,9 | 80,0 - 56,0 | 100 - 70    |
| Nominal power                     | kW    | 13,7 - 9,8  | 32,6 - 23,1 | 48,0 - 34,3 | 68,2 - 48,4 | 84,4 - 60,1 |
| Flue efficiency max (lower value) | %     | 94,5        | 93,4        | 93,6        | 94,7        | 93,8        |
| Flue efficiency min (lower value) | %     | 96,1        | 95,5        | 95,5        | 96,0        | 95,4        |
| Gas consumption G25 (15 °C)       | m³/h  | 1,8 - 1,2   | 4,2 - 2,9   | 6,19 - 4,33 | 8,69 - 6,1  | 10,86 - 7,6 |
| Gas consumption G20 (15 °C)       | m³/h  | 1,5 - 1,1   | 3,7 - 2,6   | 5,43 - 3,8  | 7,62 - 5,3  | 9,52 - 6,7  |
| Gas consumption G31 (15 °C)       | kg/h  | 1,13 - 0,79 | 2,72 - 1,89 | 3,99 - 2,79 | 5,59 - 3,91 | 6,99 - 4,89 |
| Gas consumption G30 (15 °C)       | kg/h  | 1,14 - 0,79 | 2,75 - 1,93 | 4,05 - 2,84 | 5,67 - 3,97 | 7,10 - 4,97 |
| Air displacement (20 °C)          | m³/h  | 2400-1800   | 5900-4800   | 9300-6300   | 14000-9200  | 16500-11800 |
| Delta T (ΔT)                      | K     | 17,1-16,3   | 16,6-14,3   | 15,6-16,4   | 14,6-15,8   | 15,4-15,3   |
| Throw                             | m     | 14          | 28          | 26          | 32          | 36          |
| Weight                            | kg    | 50          | 89          | 101         | 123         | 139         |
| Noise level (5 m, side)           | dB(A) | 52-48       | 59-53       | 60-48       | 66-53       | 62-53       |
| Electrical power at 230V          | W     | 200         | 410         | 650         | 1490        | 1050        |
| Consumed current                  | A     | 0,9         | 1,9         | 2,9         | 6,8         | 4,8         |

## Accessories – flue gas exhaust

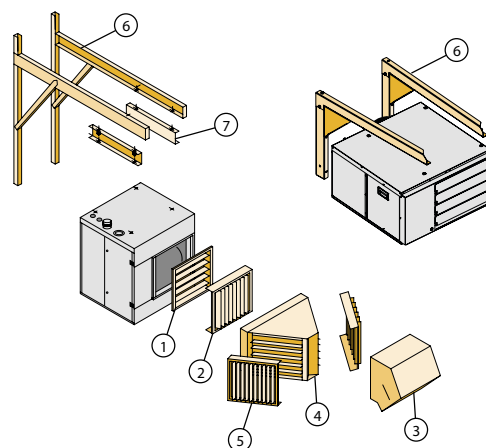


- |                              |                                           |
|------------------------------|-------------------------------------------|
| 1 Extension set              | 5 Single flue set vertical                |
| 2 90° elbow                  | 6 Roof flashing for pitched roof          |
| 3 45° elbow                  | 7 Adhesive plate                          |
| 4 Single flue set horizontal | 8 Flexible roof flashing for cladded roof |

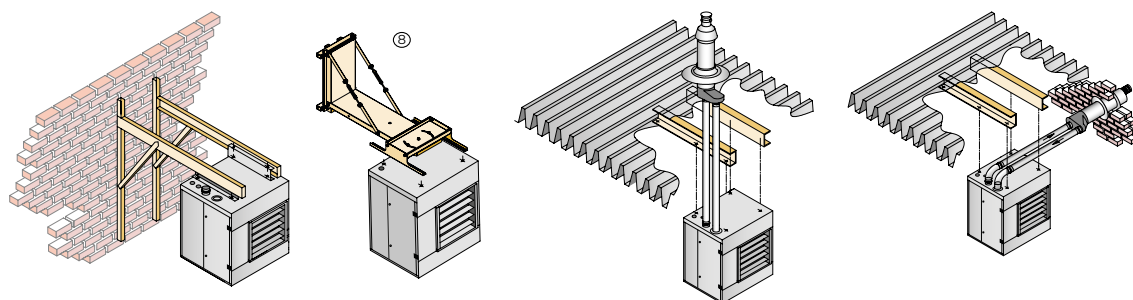


## Accessories – additional sections

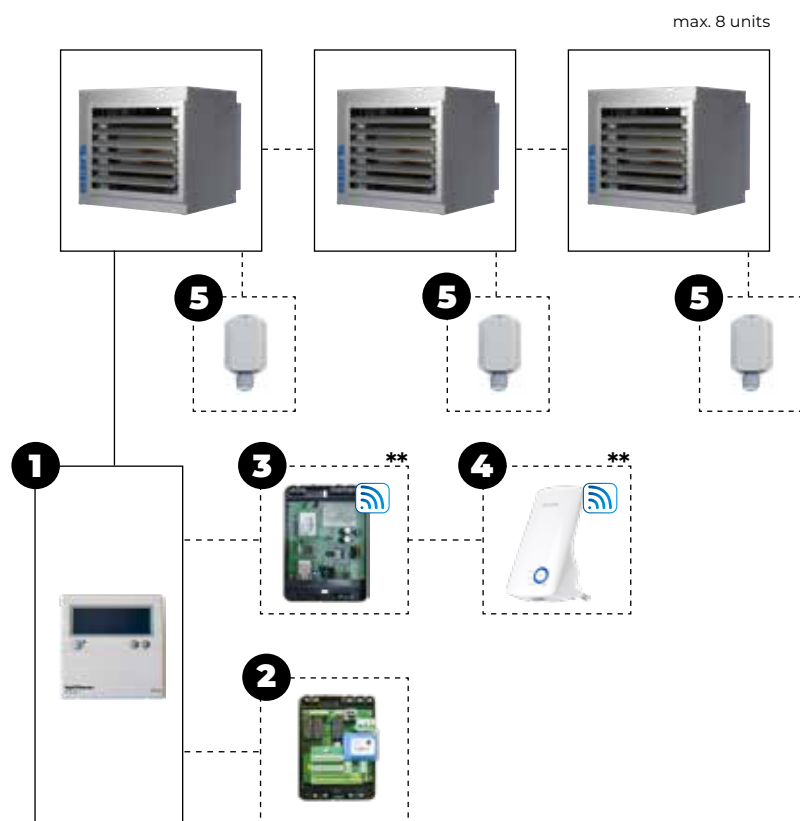
- 1 = Horizontal louvers (standard)
- 2 = Vertical louvers
- 3 = Downflow hood 45°
- 4 = Diffuser (2 x 45°) and horizontal louvres
- 5 = Vertical louvres for diffuser
- 6 = Set of wall mounting brackets
- 7 = Shock absorbers set
- 8 = Reversible wall bracket (types 20 - 55)



## Assembly/location suggestions



## Controls



### Control combination options

#### Room temperature control

GSX + 1

GSX + 1 + 5

#### Room temperature control in combination with remote control

A remote connection with the mobile phone app is only possible when using a Web module. A WiFi bridge can be added to create a wireless connection.

GSX + 1 + 3

GSX + 1 + 3 + 4

GSX + 1 + 5 + 3

GSX + 1 + 5 + 3 + 4

#### Room temperature control in combination with Modbus

Allows you to read the status and change the settings of the Optitherm+.

GSX + 1 + 2 + 5

GSX + 1 + 2

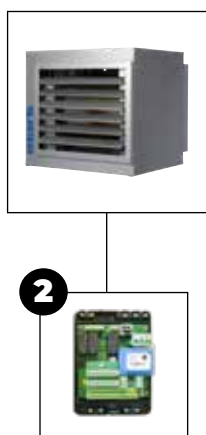
#### Capacity control with external 0-10V signal or Modbus

Heating / Continuous ventilation / reset contacts / Modbus communication

GSX + 2

\*\* Temporarily unavailable

**See price list GS+ for description and code numbers of the relevant items**



## Prices GSX



### PRODUCT - GAS-FIRED AIR HEATER GSX - G25 / G20 / G30 / G31

| Code nr. | Description      | Price  |
|----------|------------------|--------|
|          | GSX 20 (13,7 kW) | € 2927 |
|          | GSX 35 (32,5 kW) | € 4286 |
|          | GSX 55 (48,3 kW) | € 5434 |
|          | GSX 75 (68,2 kW) | € 6739 |
|          | GSX 90 (84,6 kW) | € 7436 |

### ACCESSORIES - CONTROL

|   | Code nr. | Description                                            | Price |
|---|----------|--------------------------------------------------------|-------|
| ❶ | 0629185  | Optitherm+ digital clock thermostat                    | € 332 |
| ❺ | 0629194  | External room temperature sensor                       | € 96  |
| ❷ | 3002866  | Interface+                                             | € 546 |
| ❸ | 0629187  | Web module <b>(Temporarily unavailable)</b>            | €     |
| ❹ | 0629186  | WiFi bridge <b>(Temporarily unavailable)</b>           | €     |
|   | 3000600  | Data cable JY(st)Y Dca 1x2x0.8+0.8mm GY (12,5 m)       | € 38  |
|   | 3000601  | Data cable JY(st)Y Dca 1x2x0.8+0.8mm GY (25 m)         | € 69  |
|   | 3000602  | Data cable JY(st)Y Dca 1x2x0.8+0.8mm GY (100 m)        | € 242 |
|   | 0631162  | Isolator switch, separate delivery, 230 Volt (2 poles) | € 63  |
|   | 5017097  | Isolator switch, pre-wired, 230 Volt (2 poles)         | € 101 |

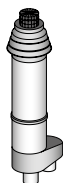
For function explanation see chapter on control

### ACCESSORIES - EXHAUST OUTLET - GSX 20 / 35

| Code nr. | Description                                                                         | Price |
|----------|-------------------------------------------------------------------------------------|-------|
| 5990556  | Single flue set vertical aluminium, ø 80mm, external diameter 125mm                 | € 193 |
| 5990579  | Single pipe horizontal aluminium, ø 80mm, external diameter 125mm                   | € 144 |
| 5990727  | Set 2 aluminium pipes, ø 80mm, length 500 mm                                        | € 67  |
| 5990732  | Set 2 aluminium pipes, ø 80mm, length 1000 mm                                       | € 82  |
| 5990733  | Set smooth aluminium elbows, ø 80mm, 90°                                            | € 53  |
| 5990734  | Set smooth aluminium elbows, ø 80mm, 45°                                            | € 74  |
| 0540927  | Roof flashing ø 80 mm, only in combination with 5990556                             | € 37  |
| 3040927  | Adhesive coated roof flashing for plastic roofing, only in combination with 5990556 | € 68  |
| 0540807  | Dektite 4-7", only in combination with 5990556                                      | € 255 |
| 0540804  | Roof flashing 20 to 35°, only in combination with 5990556                           | € 72  |





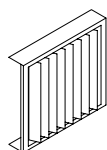


## ACCESSORIES - EXHAUST OUTLET - GSX 55 / 75 / 90

| Code nr. | Description                                                                         | Price |     |
|----------|-------------------------------------------------------------------------------------|-------|-----|
| 5990560  | Single flue set vertical aluminium, ø 100mm, external diameter 160mm                | €     | 333 |
| 5990583  | Single pipe horizontal aluminium, ø 100mm, external diameter 160mm                  | €     | 234 |
| 5990728  | Set 2 aluminium pipes, ø 100mm, length 500 mm                                       | €     | 81  |
| 5990736  | Set 2 aluminium pipes, ø 100mm, length 1000 mm                                      | €     | 118 |
| 5990737  | Set smooth aluminium elbows, ø 100mm, 90°                                           | €     | 74  |
| 5990738  | Set smooth aluminium elbows, ø 100mm, 45°                                           | €     | 80  |
| 0540929  | Roof flashing ø 100 mm, only in combination with 5990560                            | €     | 39  |
| 3040929  | Adhesive coated roof flashing for plastic roofing, only in combination with 5990560 | €     | 93  |
| 0540807  | Dektite 4-7", only in combination with 5990560                                      | €     | 255 |
| 0540806  | Roof flashing 20 to 35°, only in combination with 5990560                           | €     | 100 |

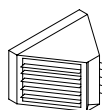
## REMARKS

CE-approval only applies when the unit is supplied with the corresponding flue gas system.



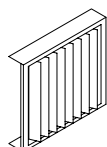
## ACCESSORIES - VERTICAL LOUVRE

| Code nr. | Description | Price |     |
|----------|-------------|-------|-----|
| 5008533  | GSX 20      | €     | 131 |
| 5008534  | GSX 35      | €     | 204 |
| 5008536  | GSX 55      | €     | 204 |
| 5008538  | GSX 75      | €     | 214 |
| 5008540  | GSX 90      | €     | 338 |



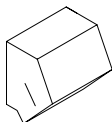
## ACCESSORIES - DIFFUSER WITH HORIZONTAL LOUVRE

| Code nr. | Description | Price |     |
|----------|-------------|-------|-----|
| 5008554  | GSX 35      | €     | 446 |
| 5008556  | GSX 55      | €     | 507 |
| 5008558  | GSX 75      | €     | 704 |
| 5008560  | GSX 90      | €     | 927 |



## ACCESSORIES - VERTICAL LOUVRE FOR DIFFUSER

| Code nr. | Description | Price |     |
|----------|-------------|-------|-----|
| 5008574  | GSX 35      | €     | 243 |
| 5008576  | GSX 55      | €     | 256 |
| 5008578  | GSX 75      | €     | 288 |
| 5008580  | GSX 90      | €     | 348 |

**ACCESSORIES - DOWNFLOW HOOD 45°**

| Code nr. | Description | Price |      |
|----------|-------------|-------|------|
| 5008544  | GSX 35      | €     | 595  |
| 5008546  | GSX 55      | €     | 743  |
| 5008548  | GSX 75      | €     | 873  |
| 5008550  | GSX 90      | €     | 1130 |

**ACCESSORIES - MONTAGE**

| Code nr. | Description                                                     | Price |     |
|----------|-----------------------------------------------------------------|-------|-----|
| 3187220  | Set wall mounting brackets (2 pieces), GSX 20                   | €     | 231 |
| 5017620  | Set wall mounting brackets (2 pieces), GSX 35/55/75/90          | €     | 405 |
| 5017621  | Set shock absorbers for wall mounting brackets, GSX 35/55/75/90 | €     | 118 |
| 5017590  | Reversible wall brackets GSX 20                                 | €     | 410 |
| 5017573  | Reversible wall brackets GSX 35                                 | €     | 420 |
| 5017576  | Reversible wall brackets GSX 55                                 | €     | 431 |

**ACCESSORIES - COLOURS \***

| Code nr. | Description                                                         | Price |     |
|----------|---------------------------------------------------------------------|-------|-----|
|          | GSX provided with colour                                            | €     | 295 |
|          | Accessories provided with colour 1 to 3 pieces (by piece)           | €     | 145 |
|          | Accessories provided with colour 4 to 10 pieces (by piece)          | €     | 127 |
|          | Accessories provided with colour for more than 10 pieces (by piece) | €     | 87  |

\* These prices are only for the Mark standard RAL-colours: 3002 red, 1028 yellow, 6010 green, 7016 gray, 8014 brown, 9001 beige white, 5009 blue, 2009 orange, 1019 beige



# GC+

## Condensing high efficiency air heater with centrifugal fan

High efficiency air heater with modulating premix burner included for duct connection. Output from 15 to 150 kW.



For more information, downloads and videos, visit the GC+ page on our website



### Custom-made environment friendly heating with standard Mark-equipment

In addition to the High Efficiency air heater, the Mark-range also includes a gas-fired, high performance air heater with a centrifugal fan. The GC+ is particularly suited for connection to duct systems, or systems where high pressure is required. This condensing equipment provides efficiency greater than 106% (lower value). Heat is generated via a modulating (5:1) premix burner which results in very low gas consumption.

An extensive range of additional sections has been developed for the GC+. This ensures the standard GC+ can be simply and affordably adapted to any project specification. The comprehensive capacity range (15-150 kW) also means the area of application for this type of equipment is virtually limitless. The GC+ can additionally be incorporated into an air handling unit.

The GC+ is designed to heat garages, warehouses, workshops, schools and sports halls among other applications, with or without a duct system.

#### Product features

- Centrifugal fan with forward curved blades
- 3-phase electric motor 1400 min-1
- V-belt transmission
- Shock absorbers
- Low noise level
- Variable air volume
- Variable delta T
- System air pressure up to 300 Pa
- Low maintenance
- Modulation range 5:1

#### Options:

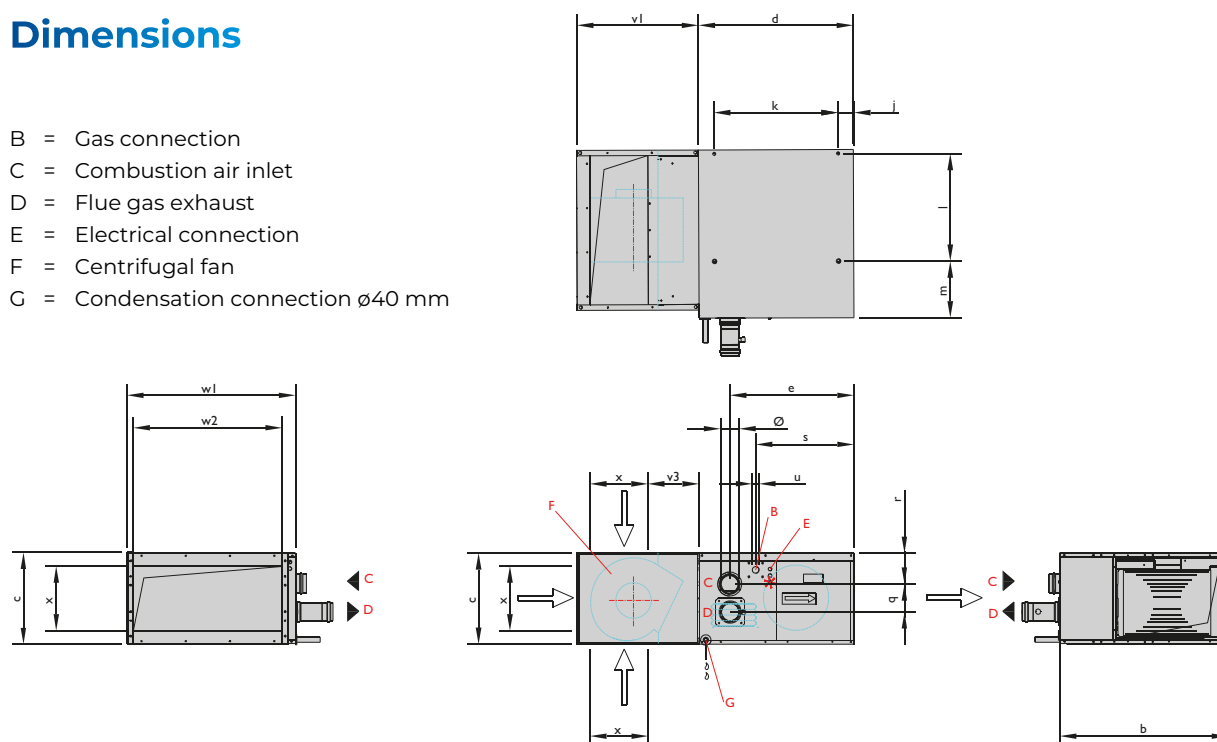
- Centrifugal fan with backward curved blades
- Insulated fan casing
- Outdoor version available



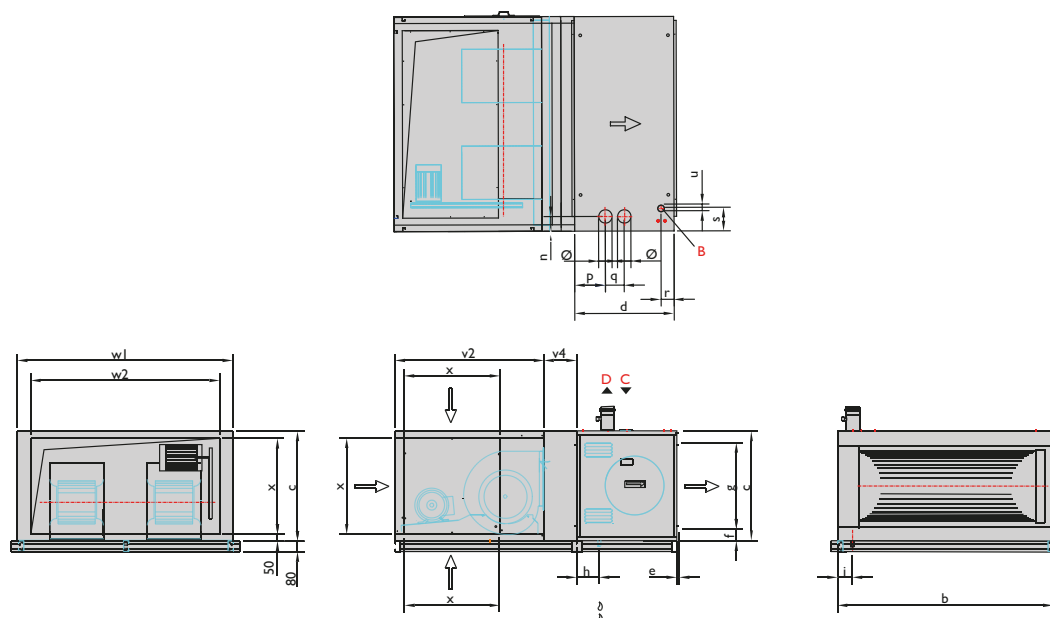
The GC+ is operated using an Optitherm+ clock thermostat or an Interface+ module that allows a connection with the BMS (building management system) via Modbus or a 0-10V contact. Other operating options are also available.

## Dimensions

- B = Gas connection  
 C = Combustion air inlet  
 D = Flue gas exhaust  
 E = Electrical connection  
 F = Centrifugal fan  
 G = Condensation connection  $\varnothing 40$  mm



| T     | B   | C   | D   | E   | G   | H   | J  | K   | L   | M   | Ø  | Q   | R   | S   | U       | V1  | V3  | W1  | W2  | X   |
|-------|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|----|-----|-----|-----|---------|-----|-----|-----|-----|-----|
| 15/25 | 760 | 410 | 700 | 560 | 375 | 669 | 70 | 560 | 485 | 255 | 80 | 120 | 139 | 444 | 1/2"(M) | 550 | 182 | 723 | 670 | 360 |



| T       | B    | C    | D    | E  | F   | G   | H   | I   | Ø   | P   | Q   | R   | S   | U        | V2   | V3  | V4  | W1   | W2   | X   |
|---------|------|------|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------|------|-----|-----|------|------|-----|
| 35      | 875  | 810  | 739  | 35 | 105 | 600 | 165 | 110 | 80  | 240 | 120 | 97  | 175 | 3/4" (M) | 1100 | 100 | 244 | 875  | 675  | 710 |
| 40      | 875  | 810  | 739  | 35 | 105 | 600 | 165 | 110 | 80  | 240 | 120 | 97  | 175 | 3/4" (M) | 1100 | 100 | 244 | 875  | 675  | 710 |
| 60      | 1120 | 810  | 739  | 35 | 105 | 600 | 165 | 110 | 100 | 230 | 140 | 97  | 175 | 3/4" (M) | 1100 | 100 | 244 | 1120 | 920  | 710 |
| 80      | 1305 | 810  | 739  | 35 | 105 | 600 | 165 | 110 | 100 | 230 | 140 | 97  | 175 | 1" (M)   | 1100 | 100 | 244 | 1305 | 1105 | 710 |
| 100     | 1595 | 810  | 739  | 35 | 105 | 600 | 165 | 110 | 100 | 230 | 140 | 97  | 175 | 1" (M)   | 1100 | 100 | 244 | 1595 | 1395 | 710 |
| 135/150 | 1890 | 1000 | 1000 | 35 | 105 | 790 | 190 | 175 | 130 | 235 | 225 | 140 | 170 | 1" (F)   | 1100 | -   | 304 | 1890 | 1750 | 800 |



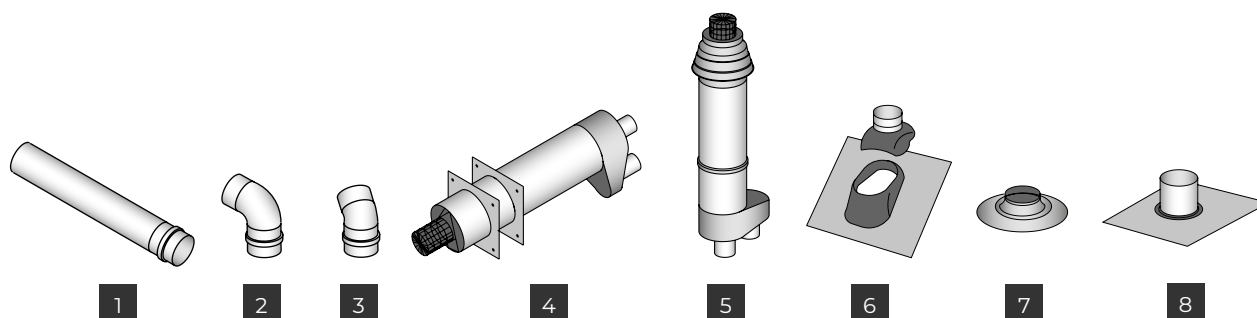
## Technical information

| TYPE                                          |                   | 15        | 25        | 35        | 40        | 60        | 80         | 100        | 135        | 150        |
|-----------------------------------------------|-------------------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|
| Nominal load (upper value)                    | kW                | 16,1      | 27,2      | 38,8      | 44,4      | 66,7      | 88,9       | 110,6      | 149,9      | 166,7      |
| Maximal power                                 | kW                | 13,6      | 23,0      | 33,4      | 38,4      | 56,2      | 75,6       | 93,3       | 128,9      | 141,0      |
| Minimal load (upper value)                    | kW                | 4,6       | 6,8       | 9,6       | 9,6       | 13,9      | 24,5       | 10,8       | 21,1       | 36,6       |
| Minimal power                                 | kW                | 4,3       | 6,6       | 9,2       | 9,2       | 13,5      | 23,8       | 10,6       | 20,6       | 35,3       |
| Flue efficiency at maximum load (lower value) | %                 | 94,1      | 93,9      | 95,1      | 95,1      | 93,6      | 94,0       | 93,8       | 95,5       | 94,0       |
| Flue efficiency at minimum load (lower value) | %                 | 106,7     | 107,0     | 106,9     | 106,9     | 107,3     | 107,1      | 107,4      | 107,5      | 107,3      |
| Burner turndown ratio                         | +/-               | 3:1       | 4:1       | 4:1       | 5:1       | 5:1       | 7:1        | 6:1        | 7:1        | 4:1        |
| Gas consumption G20 (15°C)                    | m <sup>3</sup> /h | 1,56-0,45 | 2,61-0,66 | 3,65-0,88 | 4,18-0,88 | 6,22-1,34 | 8,16-2,25  | 10,30-1,78 | 14,05-1,98 | 15,30-3,37 |
| Gas consumption G25 (15°C)                    | m <sup>3</sup> /h | 1,75-0,49 | 2,95-0,74 | 4,10-1,02 | 4,73-1,02 | 7,03-1,47 | 9,30-1,40  | 11,57-1,85 | 15,98-2,25 | 17,05-3,75 |
| Gas consumption G31 (15°C)                    | kg/h              | 1,13-0,32 | 1,91-0,48 | 2,68-0,64 | 3,17-0,64 | 4,72-1,04 | 6,22-0,89  | 7,76-1,34  | 10,51-2,23 | 11,69-2,57 |
| Gas consumption G30 (15°C)                    | kg/h              | 1,19-0,33 | 2,02-0,51 | 2,92-0,72 | 3,46-0,72 | 5,05-1,11 | 6,70-0,96  | 8,19-1,48  | 11,1-1,85  | 12,35-2,72 |
| Minimum air displacement (20 °C)              | m <sup>3</sup> /h | 1250      | 2000      | 3760      | 3760      | 5640      | 7520       | 9400       | 12500      | 14000      |
| Delta T (ΔT)                                  | K                 | 32,7      | 34,5      | 26,6      | 30,3      | 30,3      | 30,3       | 31,3       | 30,8       | 30,5       |
| Nominal air displacement (20 °C)              | m <sup>3</sup> /h | 1400      | 2300      | 5000      | 5000      | 6500      | 10000      | 12500      | 18500      | 18500      |
| Delta T (ΔT)                                  | K                 | 29,2      | 30,0      | 20,0      | 22,8      | 26,3      | 22,8       | 23,5       | 20,8       | 23,1       |
| Maximum air displacement (20 °C)              | m <sup>3</sup> /h | 4100      | 4100      | 7200      | 7200      | 8640      | 13680      | 16200      | 20880      | 20880      |
| Delta T (ΔT)                                  | K                 | 10,0      | 16,8      | 13,9      | 15,8      | 19,8      | 16,7       | 18,1       | 18,4       | 20,5       |
| Fan                                           |                   | 9-7       | 9-7       | 12-12     | 12-12     | 12-12     | twin 12-19 | twin 12-12 | twin 15-15 | twin 15-15 |
| Dimensions fan                                | max.              | -         | -         | 112       | 112       | 112       | 112        | 112        | 132        | 132        |

External pressure = 0-300 Pa, more on request

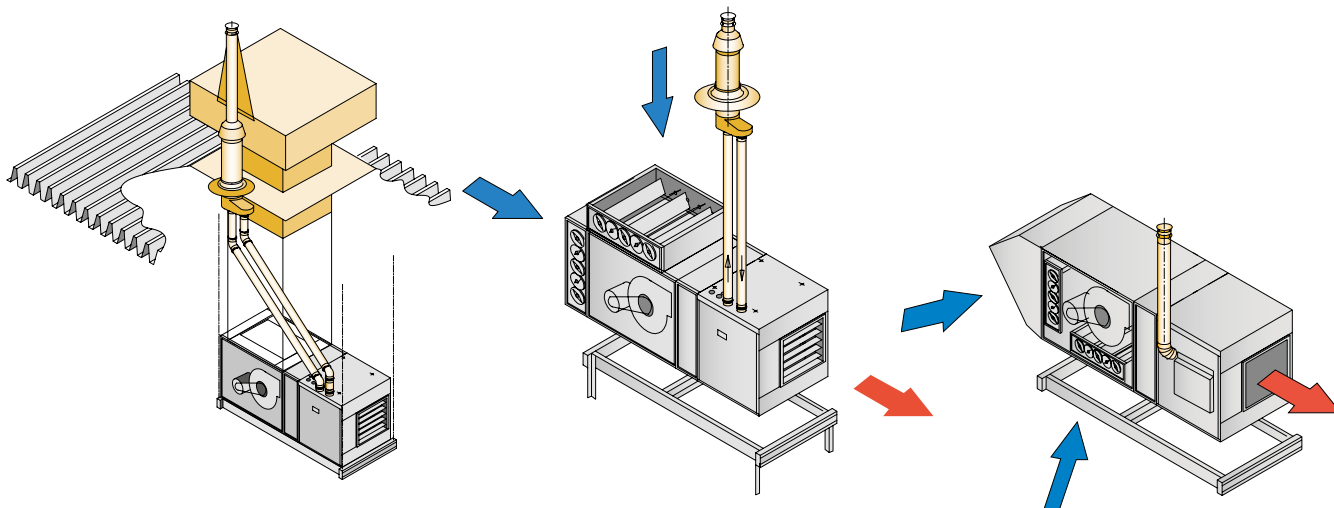
G25 = Natural gas, G20 = Natural gas, G31 = Propane, G30 = Butane

## Accessories – flue gas exhaust

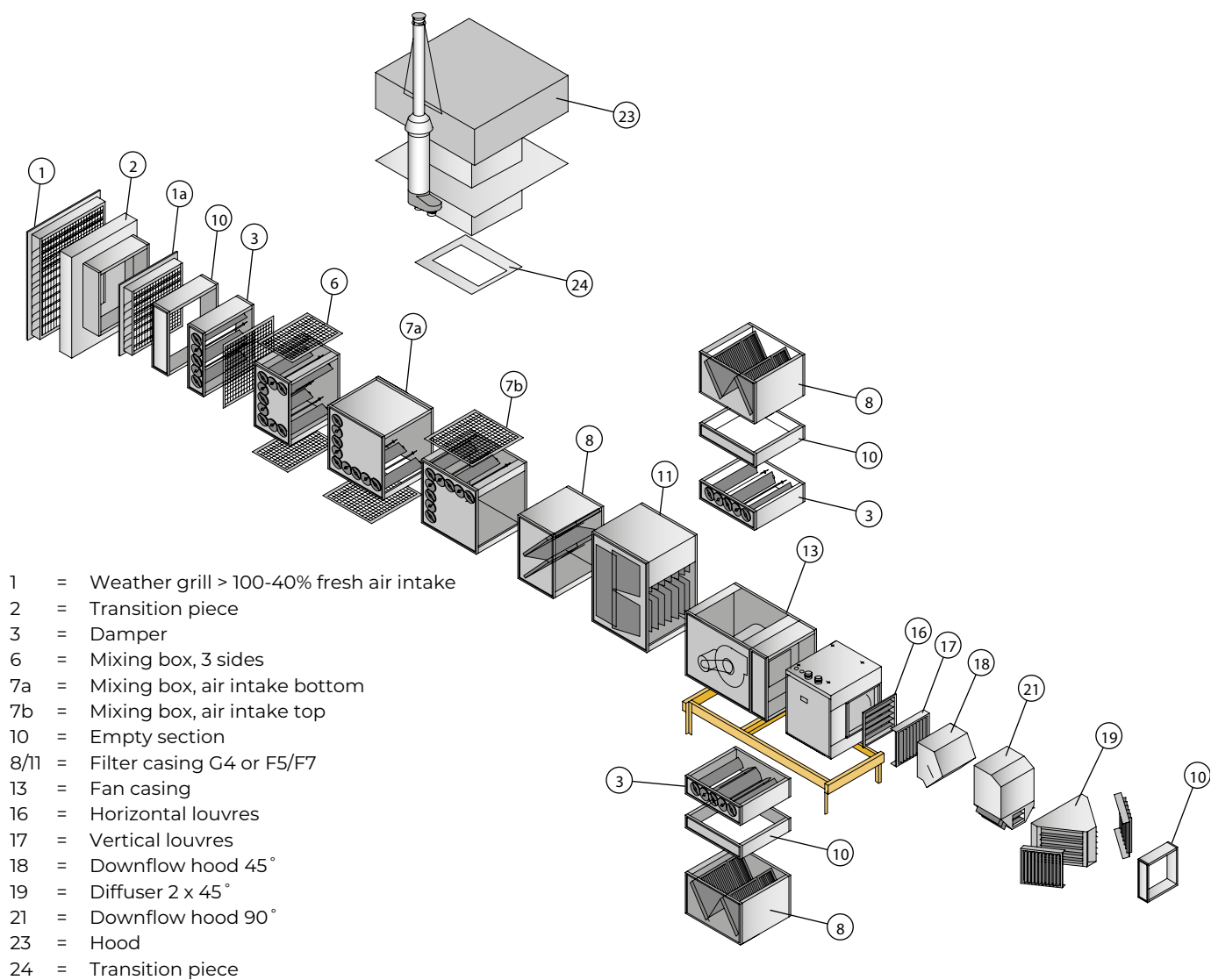


- |                              |                                           |
|------------------------------|-------------------------------------------|
| 1 Extension set              | 5 Single flue set vertical                |
| 2 90° elbow                  | 6 Roof flashing for pitched roof          |
| 3 45° elbow                  | 7 Adhesive plate                          |
| 4 Single flue set horizontal | 8 Flexible roof flashing for cladded roof |

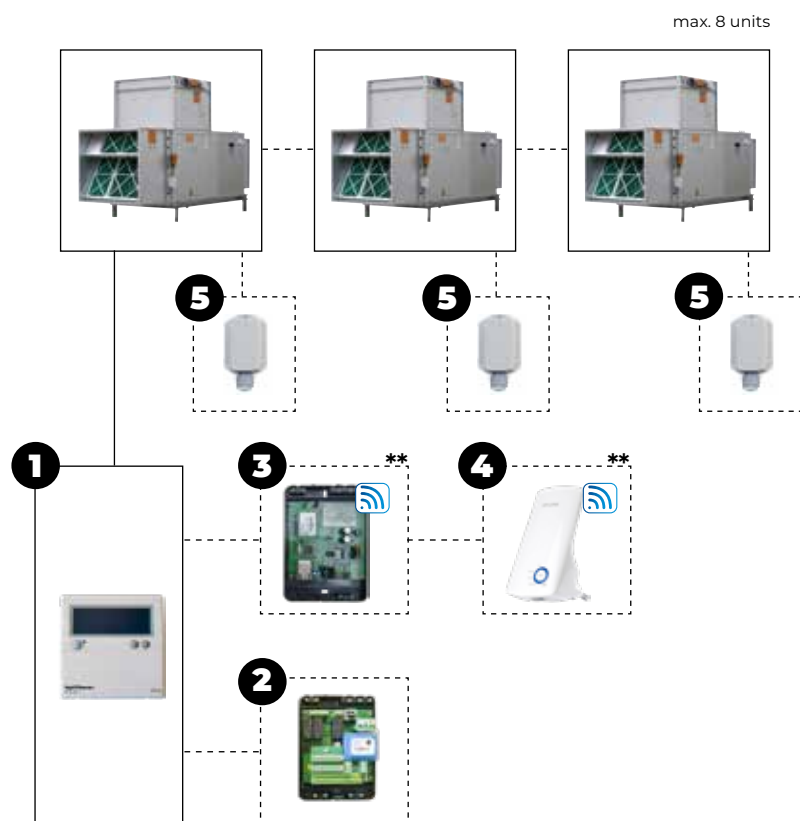
## Assembly/location suggestions



## Accessoires - aanbouwelementen



## Controls



### Control combination options

#### Room temperature control

GC+ + **1**

GC+ + **1** + **5**

#### Room temperature control in combination with remote control

A remote connection with the mobile phone app is only possible when using a Web module. A WiFi bridge can be added to create a wireless connection.

GC+ + **1** + **3**

GC+ + **1** + **3** + **4**

GC+ + **1** + **5** + **3**

GC+ + **1** + **5** + **3** + **4**

#### Room temperature control in combination with Modbus

Allows you to read the status and change the settings of the Optitherm+.

GC+ + **1** + **2** + **5**

GC+ + **1** + **2**

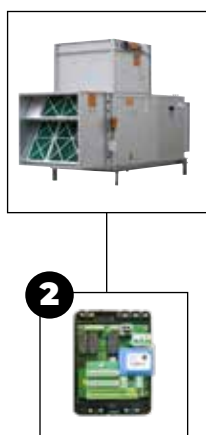
#### Capacity control with external 0-10V signal or Modbus

Heating / Continuous ventilation / reset contacts / Modbus communication

GC+ + **2**

\*\* Temporarily unavailable

**See price list GS+ for description and code numbers of the relevant items**





# L-TYPE

## Gas-fired vertical air heater

Vertical or horizontal air heater with burner.  
Output from 30 to 600 kW.



For more information, downloads  
and videos, visit the L-TYPE page  
on our website

**Fan:**

- A dual blast centrifugal ventilator with bent blades
- V-belt drive

**Housing:**

- Pre-painted steel plating
- Frame: aluminium profiles

**Standard equipment:**

- AISI 430 (1.4016) blast chamber
- AISI 409 (1.4512) heat exchanger
- Electrical switch box
- Three-way thermostat
- Motor cut-out
- Condensate connection

**A wide variety of uses**

The Mark L-TYPE is a vertical or horizontal gas-fired air heater with a capacity of 30 to 600 kW. In combination with a 2-stage Low-Nox gas burner (< 70 mg/kWh), ERP 2021 Step 2 is fulfilled.

The device can be blown into the room with an optional exhaust hood or can be connected to a duct system (increased external pressure optional).

The Mark L-TYPE can be used in the following rooms: sports halls, churches, warehouses, offices and shops.

**Accessories/options:**

- 2-stage duct thermostat
- Room thermostat PinTherm Connect
- Outside installation
- Air filter with filter monitoring
- Servo or manually-operated slatted valves
- Flexible connection
- Downflow hood
- Increased external pressure 300 Pa
- Siphon for condensate connection

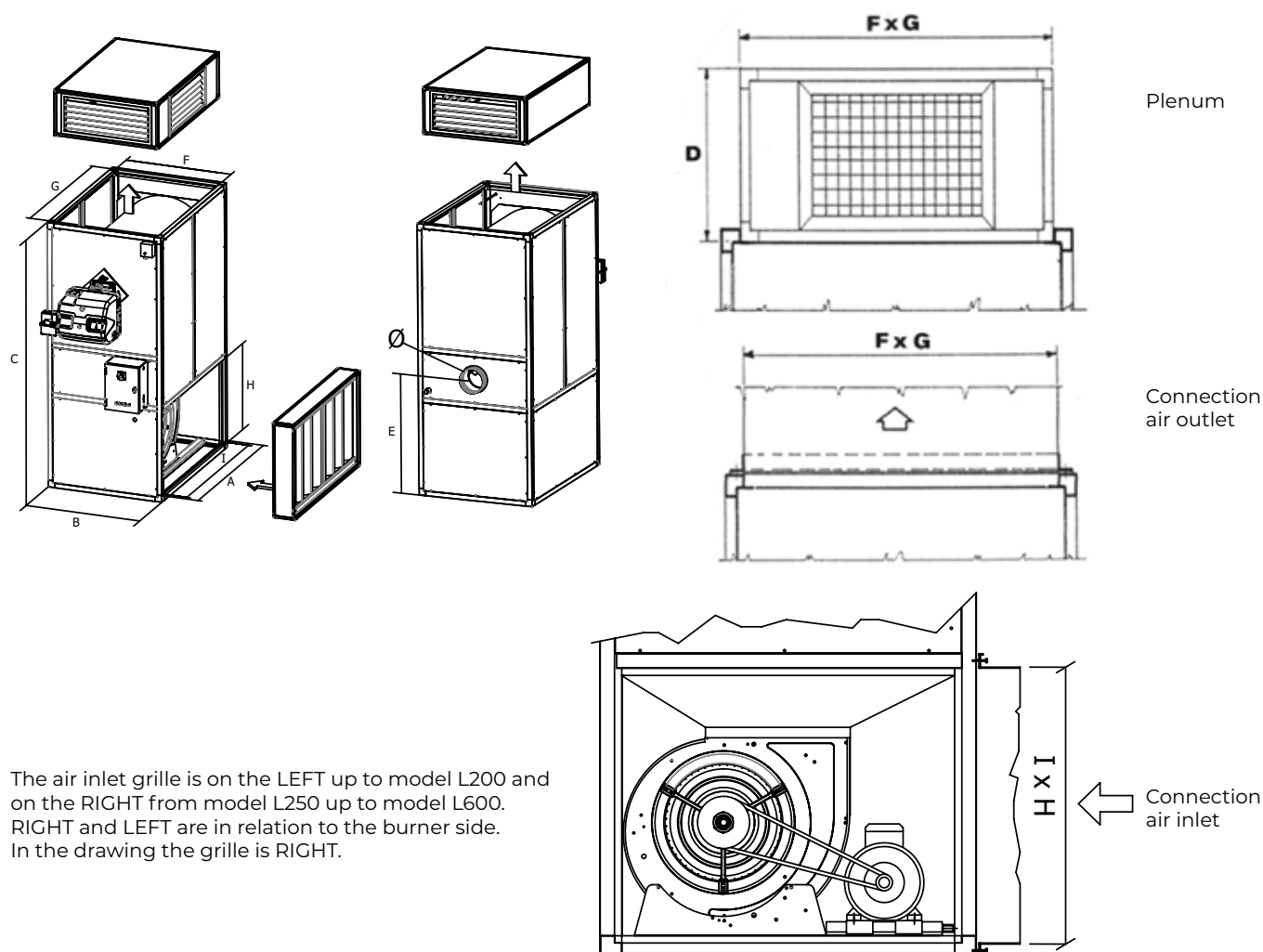


Remote connection possible with the PinTherm Connect!

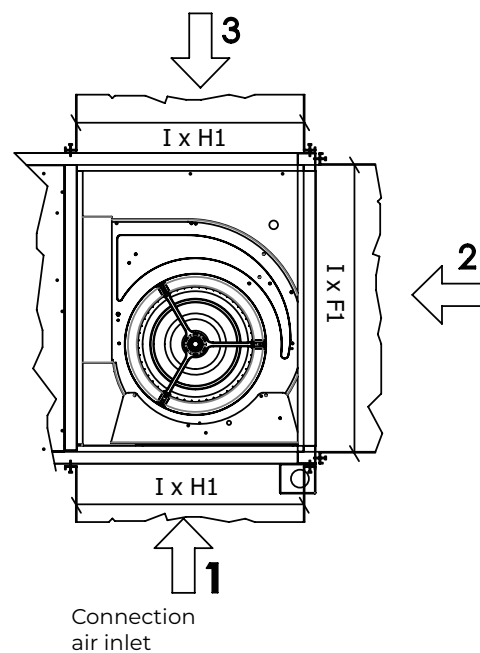
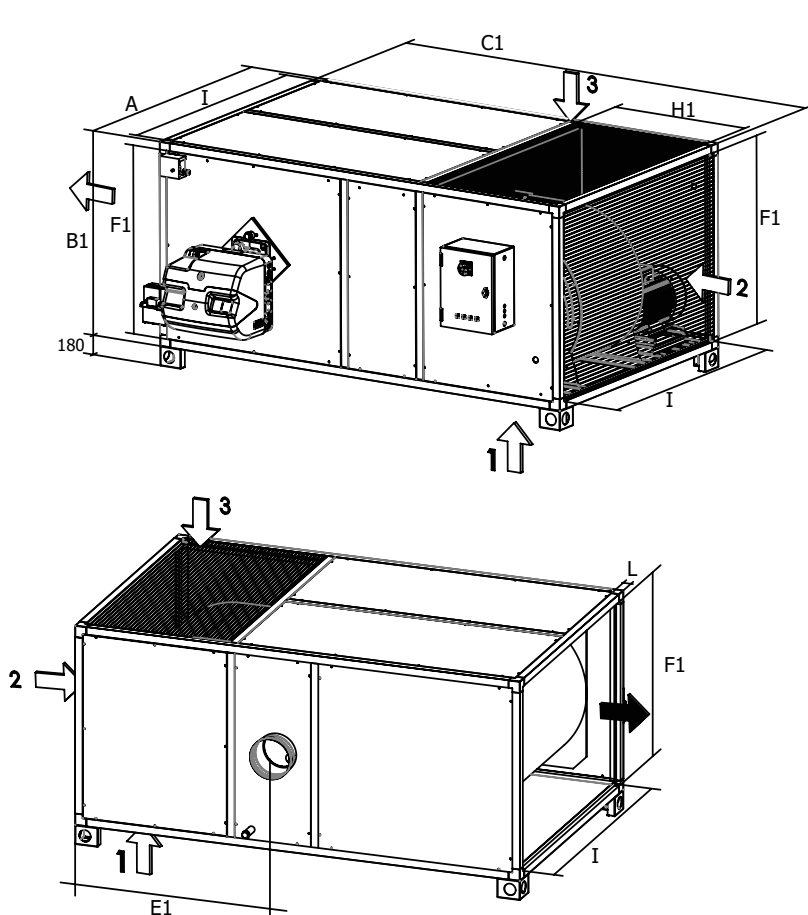


## Dimensions

| Type | L-TYPE |       |        | Head height | Flue height | Air Outlet connection |      | Air Inlet connection |      | Frame profile | Flue system | Weight |        | Net head weight |
|------|--------|-------|--------|-------------|-------------|-----------------------|------|----------------------|------|---------------|-------------|--------|--------|-----------------|
|      | Length | Width | Height |             |             |                       |      |                      |      |               |             | Net    | Packed |                 |
|      | A      | B     | C      | D           | E           | F                     | G    | H                    | I    | L             | Ø           | kg     | kg     | kg              |
| L30  | 660    | 530   | 1430   | 305         | 705         | 490                   | 620  | 480                  | 620  | 20            | 150         | 110    | 115    | 10              |
| L60  | 870    | 636   | 1750   | 305         | 860         | 596                   | 830  | 630                  | 830  | 20            | 150         | 176    | 183    | 12              |
| L80  | 1020   | 750   | 1950   | 405         | 935         | 670                   | 940  | 690                  | 940  | 40            | 130         | 236    | 245    | 37              |
| L100 | 1020   | 750   | 1950   | 405         | 935         | 670                   | 940  | 690                  | 940  | 40            | 130         | 250    | 260    | 37              |
| L150 | 1440   | 1020  | 2340   | 405         | 1070        | 940                   | 1360 | 760                  | 1360 | 40            | 150         | 390    | 400    | 40              |
| L175 | 1440   | 1020  | 2340   | 405         | 1070        | 940                   | 1360 | 760                  | 1360 | 40            | 150         | 400    | 410    | 40              |
| L200 | 1440   | 1020  | 2340   | 405         | 1070        | 940                   | 1360 | 760                  | 1360 | 40            | 150         | 415    | 425    | 40              |
| L250 | 1790   | 1020  | 2340   | 405         | 1130        | 940                   | 1710 | 760                  | 1710 | 40            | 200         | 520    | 535    | 46              |
| L300 | 1790   | 1020  | 2340   | 405         | 1130        | 940                   | 1710 | 760                  | 1710 | 40            | 200         | 550    | 565    | 46              |
| L425 | 2300   | 1340  | 2660   | 405         | 1220        | 1260                  | 2220 | 930                  | 2220 | 40            | 250         | 790    | 810    | 67              |
| L500 | 2300   | 1340  | 2660   | 405         | 1220        | 1260                  | 2220 | 930                  | 2220 | 40            | 250         | 815    | 830    | 67              |
| L600 | 2300   | 1500  | 2840   | 445         | 1400        | 1420                  | 2220 | 1070                 | 2220 | 40            | 250         | 965    | 985    | 70              |



| Type  | L-TYPE |       |        | Head height | Flue height | Air Outlet and Inlet connection |      | Air Inlet connection |      | Frame profile | Flue system | Weight | Net head weight |
|-------|--------|-------|--------|-------------|-------------|---------------------------------|------|----------------------|------|---------------|-------------|--------|-----------------|
|       | Length | Width | Height |             |             |                                 |      |                      |      |               |             |        |                 |
|       | A      | B1    | C1     | D           | E1          | F1                              | I    | H1                   | I    | L             | Ø           | Kg     | Kg              |
| LO30  | 660    | 530   | 1430   | 305         | 705         | 490                             | 620  | 480                  | 620  | 20            | 150         | 114    | 10              |
| LO60  | 870    | 636   | 1750   | 305         | 860         | 596                             | 830  | 630                  | 830  | 20            | 150         | 180    | 12              |
| LO80  | 1020   | 850   | 2200   | 405         | 1185        | 770                             | 940  | 880                  | 940  | 40            | 130         | 300    | 37              |
| LO100 | 1020   | 850   | 2200   | 405         | 1185        | 770                             | 940  | 880                  | 940  | 40            | 130         | 314    | 37              |
| LO150 | 1440   | 1020  | 2340   | 405         | 1070        | 940                             | 1360 | 760                  | 1360 | 40            | 150         | 395    | 40              |
| LO175 | 1440   | 1020  | 2340   | 405         | 1070        | 940                             | 1360 | 760                  | 1360 | 40            | 150         | 405    | 40              |
| LO200 | 1440   | 1020  | 2340   | 405         | 1070        | 940                             | 1360 | 760                  | 1360 | 40            | 150         | 420    | 40              |
| LO250 | 1790   | 1020  | 2660   | 405         | 1450        | 940                             | 1710 | 1100                 | 1710 | 40            | 200         | 615    | 46              |
| LO300 | 1790   | 1020  | 2660   | 405         | 1450        | 940                             | 1710 | 1100                 | 1710 | 40            | 200         | 645    | 46              |
| LO425 | 2300   | 1340  | 2960   | 405         | 1750        | 1260                            | 2220 | 1190                 | 2220 | 40            | 250         | 910    | 67              |
| LO500 | 2300   | 1340  | 2960   | 405         | 1750        | 1260                            | 2220 | 1190                 | 2220 | 40            | 250         | 935    | 67              |
| LO600 | 2300   | 1500  | 3290   | 445         | 2080        | 1420                            | 2220 | 1520                 | 2220 | 40            | 250         | 1100   | 70              |

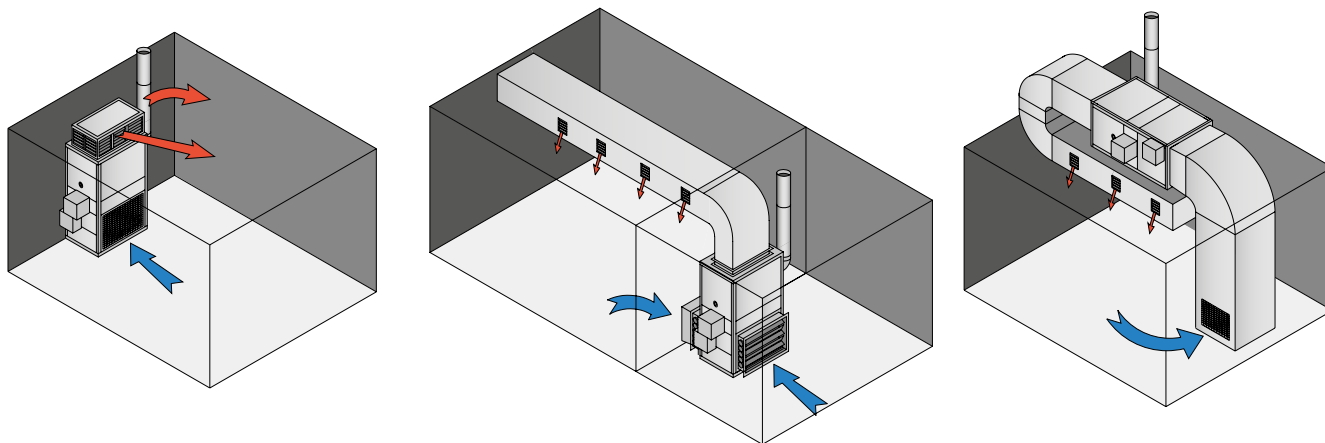


The air inlet grille is on the LEFT up to model LO200 and on the RIGHT from model LO250 up to model LO600. RIGHT and LEFT are in relation to the burner side. In the drawing the grille is RIGHT.

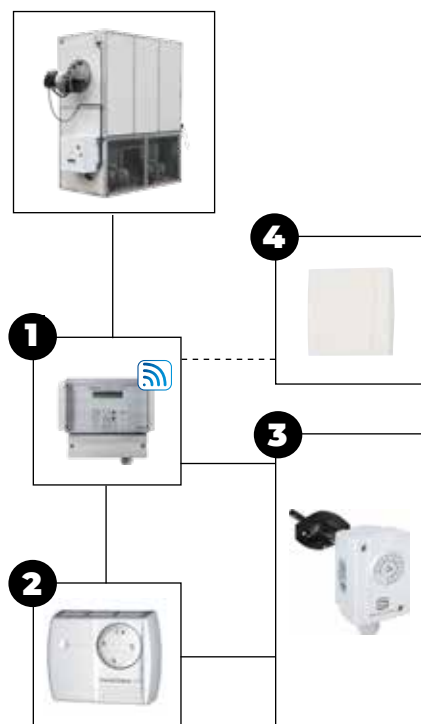
## Technical information

| Type                                              |         | 30        | 60          | 80          | 100   | 150    | 175    | 200    | 250     | 300      | 425      | 500      | 600      |
|---------------------------------------------------|---------|-----------|-------------|-------------|-------|--------|--------|--------|---------|----------|----------|----------|----------|
| Rated heat input (Hi)                             | kW      | 32,6      | 58          | 98,5        | 115,8 | 179    | 203    | 238    | 270     | 313      | 425      | 500      | 600      |
| Rated heat input                                  | kW      | 30,6      | 56          | 94,7        | 110,2 | 172,4  | 198,3  | 229,2  | 260,8   | 300,8    | 420,7    | 487,5    | 585      |
| Thermal efficiency at rated heat input            | %       | 94        | 96,5        | 96,1        | 95,2  | 96,3   | 97,7   | 96,3   | 96,6    | 96,1     | 98,6     | 97,5     | 97,5     |
| Thermal efficiency at 50% of the rated heat input | %       | 99,8      | 103,8       | 99,3        | 97,9  | 100,4  | 101,8  | 100,3  | 101,6   | 100,5    | 101,4    | 102,1    | 102,1    |
| Back pressure in the combustion chamber with G20  | mbar    | 0,5       | 0,2         | 2,3         | 3,5   | 2,5    | 3,4    | 4      | 2,6     | 3,3      | 3        | 3,6      | 5,2      |
| G20: NOx (ERP 20 step ≤ 70Mg/kWh)                 | mg/kWh  | 63        | 69,1        | 62          | 57,6  | 67,4   | 67,8   | 67,1   | 59,5    | 67,4     | 63       | 59,5     | 58,4     |
| Air flow rate at 18 °C                            | m³/h    | 2.750     | 5.100       | 7.560       | 9.200 | 13.000 | 15.800 | 18.000 | 20.800  | 24.000   | 32.500   | 38.300   | 41.000   |
| Useful static pressure                            | Pa      | 50        | 90          | 150         | 150   | 200    | 200    | 200    | 200     | 200      | 200      | 200      | 160      |
| Delta T air at max. power                         | °C      | 30        | 30,5        | 37,2        | 37,2  | 40,4   | 37,6   | 38,3   | 37,1    | 37       | 37,2     | 36,7     | 41       |
| Methane G20 (20 mbar)                             | m³/h    | 3,45      | 5,82        | 10,42       | 12,91 | 18,94  | 21,48  | 25,19  | 28,57   | 33,12    | 44,97    | 52,9     | 63,5     |
| Natural gas G25 (25 mbar)                         | m³/h    | 4         | 6,76        | 12,1        | 15    | 22     | 25     | 29,3   | 33,24   | 38,53    | 52,3     | 61,5     | 73,8     |
| Propane G31 (37 mbar)                             | kg/h    | 2,48      | 4,27        | 7,65        | 9,48  | 13,91  | 15,77  | 18,49  | 20,98   | 24,32    | 32,8     | 38,6     | 46,3     |
| Butane G30 (28 mbar)                              | kg/h    | 2,52      | 4,34        | 7,77        | 9,62  | 14,12  | 16,01  | 18,77  | 21,29   | 24,68    | 33,5     | 39,4     | 47,3     |
| Sound pressure (at 5 m)                           | dB(A)   | 62        | 72          | 72          | 73    | 71     | 73     | 74     | 74      | 75       | 74       | 75       | 75       |
| Supply voltage                                    | V-Ph-Hz | 230V-1-50 | 230V-1-50   | 400V-3+N-50 |       |        |        |        |         |          |          |          |          |
| Fan motor absorption                              | A       | 3,1       | 6,7         | 3,5         | 4,9   | 6,3    | 8,3    | 11,3   | 2 x 6,3 | 2 x 8,3  | 2 x 8,3  | 2 x 11,3 | 2 x 11,3 |
| Fan motor capacity                                | kW      | 0,2       | 0,75        | 1,5         | 2,2   | 3      | 4      | 5,5    | 2 x 3   | 2x4      | 2 x 4    | 2 x 5,5  | 2 x 5,5  |
| ELECTRICAL DATA, WITH EXTERNAL PRESSURE = 300 PA  |         |           |             |             |       |        |        |        |         |          |          |          |          |
| Supply voltage                                    | V-Ph-Hz | 230V-1-50 | 400V-3+N-50 |             |       |        |        |        |         |          |          |          |          |
| Fan motor absorption                              | A       | 4,6       | 3,5         | 4,9         | 6,3   | 8,3    | 11,3   | 15     | 2 x 6,3 | 2 x 11,3 | 2 x 11,3 | 2 x 15   | 2 x 15   |
| Fan motor capacity                                | kW      | 0,5       | 1,5         | 2,2         | 3     | 4      | 5,5    | 7,5    | 2 x 3   | 2 x 5,5  | 2 x 5,5  | 2 x 7,5  | 2 x 7,5  |

## Assembly/location suggestions



## Controls



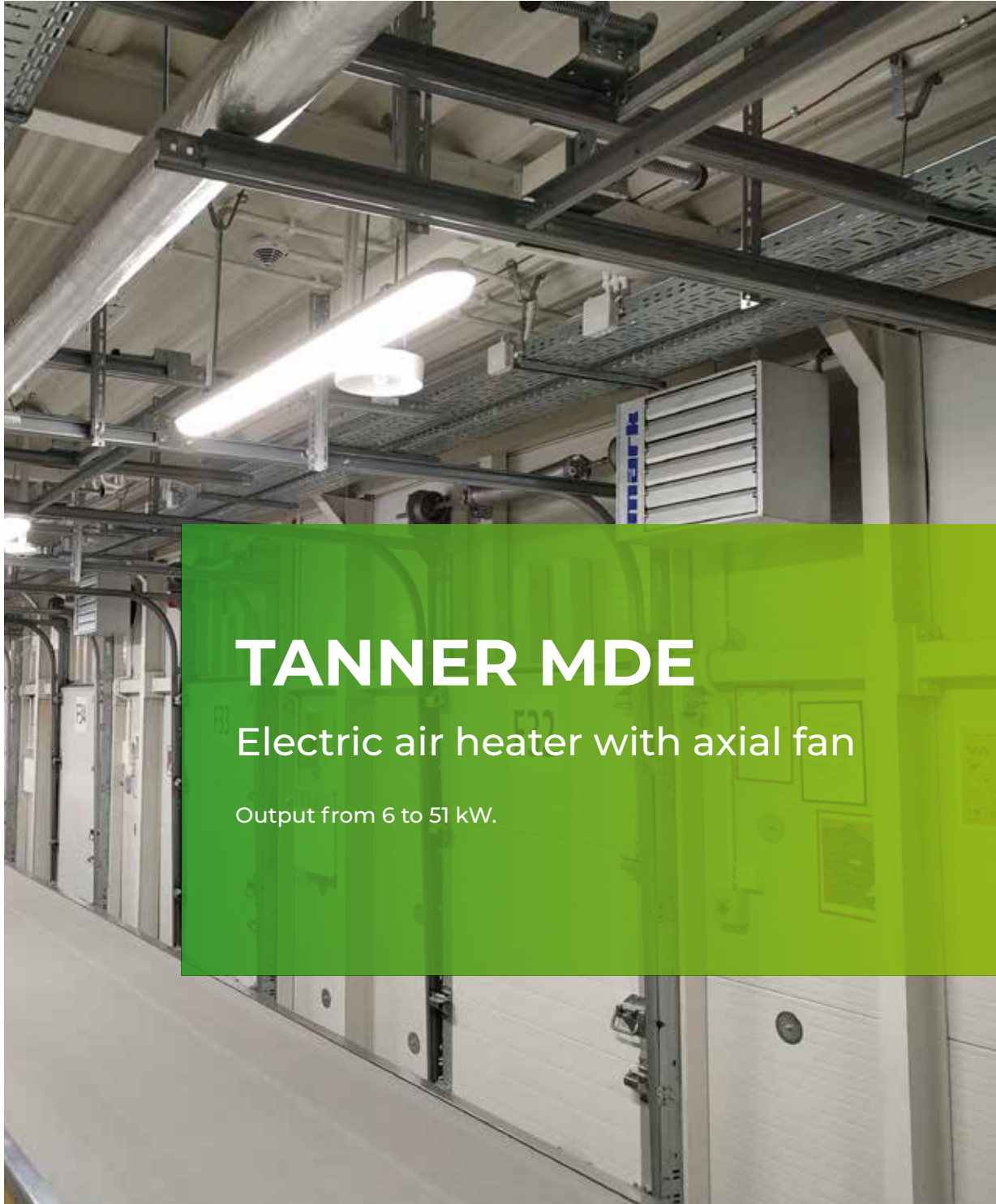
### Control combination options

L-TYPE + **1** + **3**

L-TYPE + **2** + **3**

L-TYPE + **1** + **3** + **4**

1 = Pintherm Connect (0629108)  
 2 = Room thermostat (0629013)  
 3 = Outlet temperature control KTR-090 U for automatic burner step control (0701050)  
 4 = Room sensor (0629086)



# TANNER MDE

## Electric air heater with axial fan

Output from 6 to 51 kW.



For more information, downloads  
and videos, visit the Tanner MDE  
page on our website

### Electric air heater for effective heating



The TANNER MDE is a suspended electric air heater for permanent use. The unit is equipped with horizontally adjustable discharge blades and can be mounted with the optional wall bracket. The unit has a powerful axial fan, which means that the unit has many applications.

The TANNER MDE is designed for use in showrooms, changing rooms, industrial halls, ships and garages.

The TANNER MDE can be operated with an external selector switch. The switch has the following positions:

- Ventilation
- Heating high
- Heating low

The unit is equipped with a thermostat connection.

#### Product features

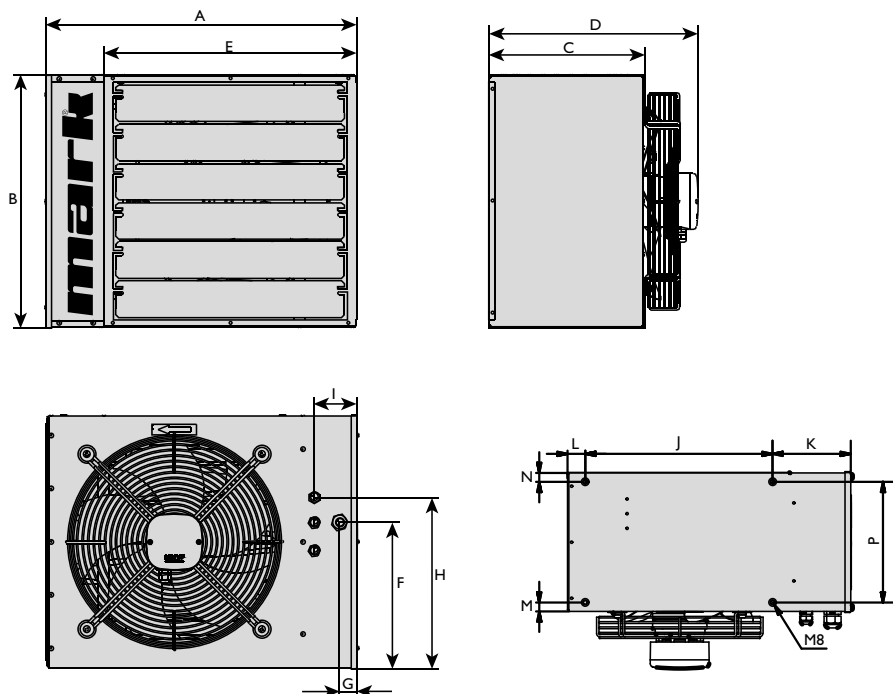
- Aluzinc housing
- 400V version
- IP 00B
- Long lifetime
- Low noise level
- Integrated electronic thermal protection
- Post-running thermostat for efficient cooling.



Remote connection possible with the PinTherm Infra Connect!



## Dimensions

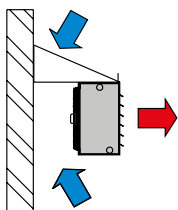


| Type | A   | B   | C   | D   | E   | F   | G  | H   | I  | J   | K   | L  | M  | N  | O   | P   |
|------|-----|-----|-----|-----|-----|-----|----|-----|----|-----|-----|----|----|----|-----|-----|
| 6    | 480 | 380 | 240 | 330 | 380 | 190 | 30 | 235 | 75 | 318 | 133 | 30 | 15 | 15 | 318 | 205 |
| 9    | 480 | 380 | 240 | 330 | 380 | 190 | 30 | 235 | 75 | 318 | 133 | 30 | 15 | 15 | 318 | 205 |
| 12   | 550 | 450 | 280 | 370 | 450 | 260 | 30 | 305 | 75 | 390 | 133 | 30 | 35 | 35 | 390 | 205 |
| 15   | 550 | 450 | 280 | 370 | 450 | 260 | 30 | 305 | 75 | 390 | 133 | 30 | 35 | 35 | 390 | 205 |
| 24   | 660 | 570 | 300 | 440 | 550 | 290 | 30 | 330 | 75 | 390 | 195 | 78 | 45 | 45 | 390 | 205 |
| 30   | 660 | 570 | 300 | 440 | 550 | 290 | 30 | 330 | 75 | 390 | 195 | 78 | 45 | 45 | 390 | 205 |
| 42   | 660 | 570 | 300 | 440 | 550 | 290 | 40 | 330 | 85 | 390 | 195 | 78 | 45 | 45 | 390 | 205 |
| 51   | 830 | 730 | 350 | 490 | 715 | 450 | 40 | 530 | 85 | 665 | 136 | 29 | 32 | 37 | 665 | 281 |

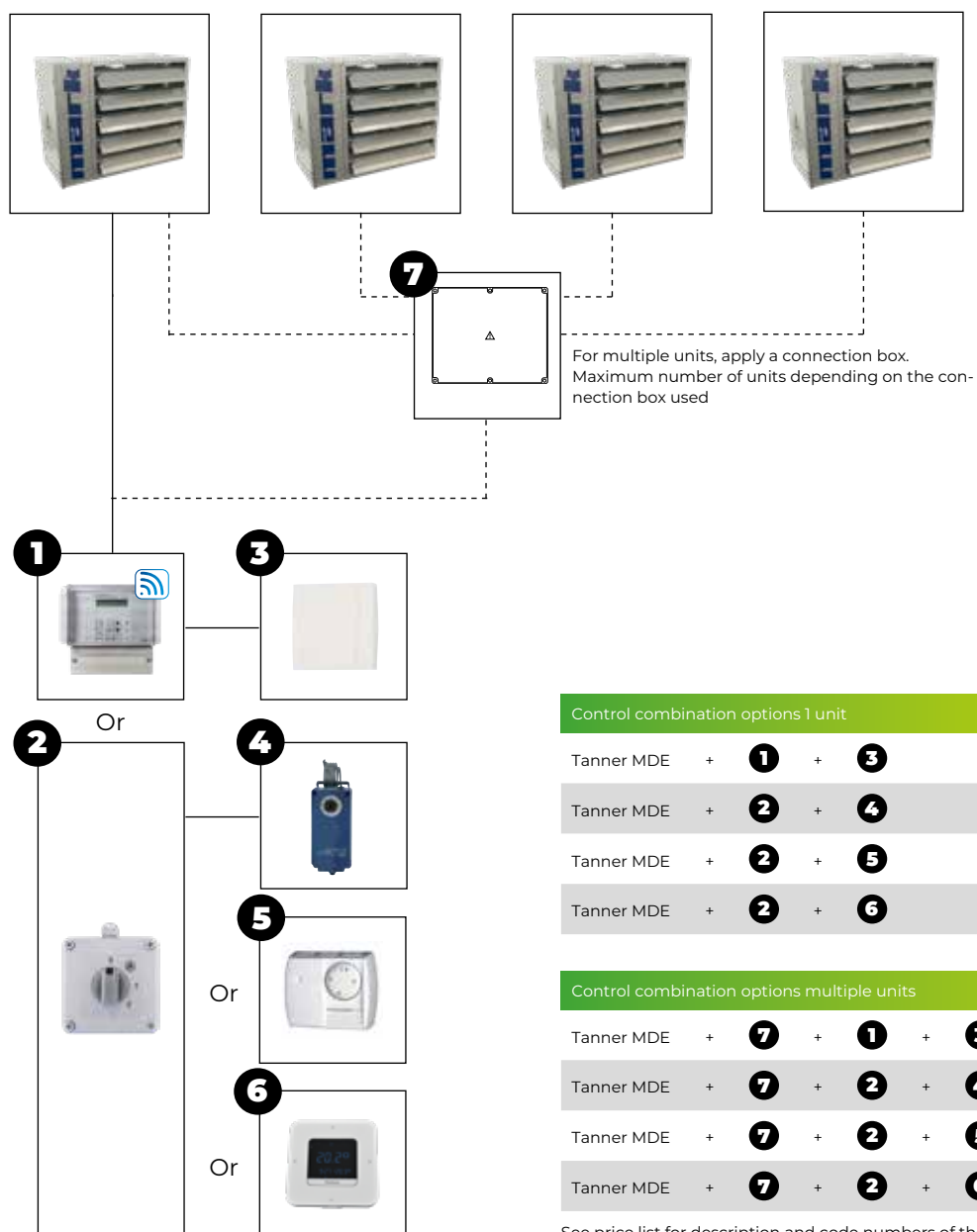
## Technical information

| Type                        |       | 6           | 9       | 12      | 15   | 24      | 30    | 42      | 51      |
|-----------------------------|-------|-------------|---------|---------|------|---------|-------|---------|---------|
| Nominal power               | kW    | 6           | 9       | 12      | 15   | 24      | 30    | 42      | 51      |
| Power steps                 | kW    | 3+3         | 4,5+4,5 | 6+6     | 9+6  | 12+12   | 15+15 | 24+18   | 24+27   |
| Supply voltage (50Hz)       | V     | 3x400V+N+PE |         |         |      |         |       |         |         |
| Consumed current            | A     | 8,7         | 13,0    | 17,3    | 21,7 | 34,7    | 43,4  | 60,7    | 73,7    |
| Air displacement            | m³/h  | 800         | 800     | 1600    | 1600 | 2800    | 2800  | 4450    | 6495    |
| Speed                       | rpm   | 1400        | 1400    | 1000    | 1000 | 1000    | 1000  | 1400    | 1000    |
| Delta T (ΔT)                | K     | 22,5        | 33,8    | 22,6    | 28,2 | 25,7    | 32,1  | 28,3    | 23,6    |
| Weight                      | kg    | 13          | 14      | 19      | 20   | 30      | 32    | 36      | 53      |
| Noise at 5 m                | dB(A) | 38          | 38      | 48      | 48   | 50      | 50    | 50      | 52      |
| Throw                       | m     | 8           | 8       | 12      | 12   | 17      | 17    | 20      | 25      |
| Protection class            | IP    | 00B         | 00B     | 00B     | 00B  | 00B     | 00B   | 00B     | 00B     |
| Recommended circuit breaker | A     | B16         | B20     | B25     | B32  | B50     | B63   | B80     | B100    |
| Recommended isolator switch |       | 0631147     |         | 0631148 |      | 0631149 |       | 0631144 | 0631145 |

## Assembly/location suggestions



## Controls



See price list for description and code numbers of the relevant items

## Prices Tanner MDE



### PRODUCT - ELECTRICAL AIR HEATER TANNER MDE, 3-PHASE 400V / 50HZ

| Code nr. | Description   | Price  |
|----------|---------------|--------|
| 5017002  | Tanner MDE 6  | € 1088 |
| 5017003  | Tanner MDE 9  | € 1198 |
| 5017004  | Tanner MDE 12 | € 1442 |
| 5017005  | Tanner MDE 15 | € 1610 |
| 5017008  | Tanner MDE 24 | € 1919 |
| 5017010  | Tanner MDE 30 | € 2048 |
| 5017014  | Tanner MDE 42 | € 2232 |
| 5017017  | Tanner MDE 51 | € 2722 |

### ACCESSORIES - ASSEMBLY

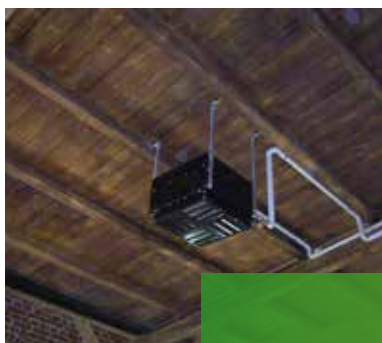
| Code nr. | Description                               | Price |
|----------|-------------------------------------------|-------|
| 5064047  | Set wall brackets for horizontal air flow | € 80  |

### ACCESSORIES - CONTROLS

| Code nr.         | Description                                                                                                 | Price  |
|------------------|-------------------------------------------------------------------------------------------------------------|--------|
| <b>7</b> 3004475 | Connection box for max. 4x Tanner MDE and selector switch and room thermostat*                              | € 899  |
| <b>7</b> 3004476 | Connection box for max. 4x Tanner MDE and PinTherm Infra Connect*                                           | € 852  |
| <b>7</b> 3004477 | Connection box for max. 8x Tanner MDE and selector switch and room thermostat*                              | € 1252 |
| <b>7</b> 3004478 | Connection box for max. 8x Tanner MDE and PinTherm Infra Connect*                                           | € 1168 |
| <b>4</b> 0629004 | Water resistant room thermostat, 230V, IP65                                                                 | € 284  |
| <b>5</b> 0629013 | Room thermostat 230V, (4A)                                                                                  | € 58   |
| <b>6</b> 0629039 | Clock thermostat (1A)                                                                                       | € 394  |
| <b>1</b> 0629109 | PinTherm Infra Connect – programmable thermostat with Ethernet and Modbus, 230V (4A)                        | € 726  |
| <b>3</b> 0629086 | Room sensor only in combination with 0629109                                                                | € 93   |
| <b>2</b> 0631107 | Selector switch 0-  -1-2 | € 75   |
| 0631147          | Isolator switch 16A black                                                                                   | € 55   |
| 0631148          | Isolator switch 32A black                                                                                   | € 89   |
| 0631149          | Isolator switch 63A black                                                                                   | € 110  |
| 0631144          | Isolator switch 80A black                                                                                   | € 572  |

\* Pintherm Infra Connect or selector switch and room thermostat order separately.

For explanation see chapter controls.



# TANNER MDA

Water-supplied air heater with axial fan

Water-supplied air heater with copper/aluminium heat exchanger.  
Output from 14,5 to 117 kW.



For more information, downloads and videos, visit the Tanner MDA page on our website



### The most versatile hot water air heater on the market

The TANNER MDA is a water-supplied suspended air heater which can expel air horizontally or vertically. The unit has a powerful axial fan which means it is suitable for many applications.

Mark offers a highly extensive range of accessories for the TANNER MDA allowing it to be aligned to all applications. For example, the unit can be made suitable for external air connection in combination with filtering and a mixing box for the destratification of fresh external air.

The unit is also available as an ATEX / EEX-model. (400V) - IP 44 (Ex II 2 G c Ex e IIB T3).

The TANNER MDA is designed for use in showrooms, changing rooms, industrial halls and garages.

Optional: speed controlled low noise EC-motor (230V/0-10V).  
Advantages:

- The highest efficiency in case of speed control
- Up to 50% energy saving in case of partial load
- Almost completely linearly adjustable
- Long lifetime
- Low noise level
- Integrated electronic thermal protection

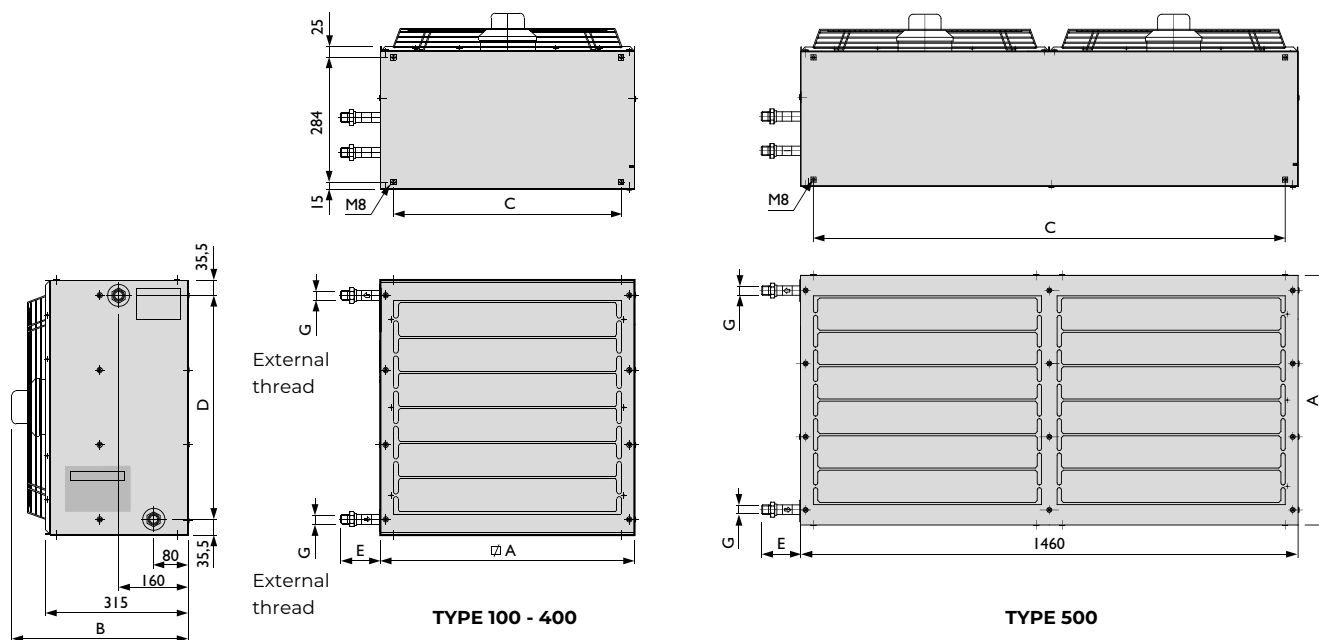
#### Product features

- Manufactured with a corrosion-resistant aluzinc housing as standard
- Copper/aluminium heat exchanger
- Highly versatile due to extensive configuration options
- Available as 230V or 400V
- IP class 54



Remote connection possible with the PinTherm Connect!

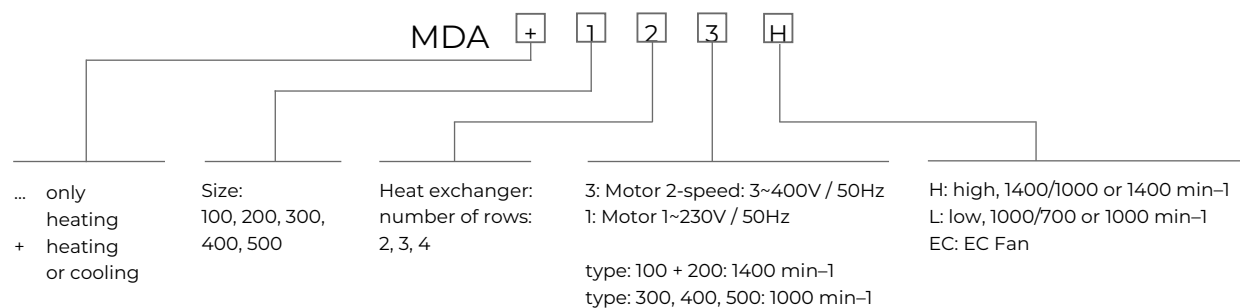
## Dimensions



| Type | A   | B   | C    | D   | E   | 2R     | G      | 3R     | 4R     |
|------|-----|-----|------|-----|-----|--------|--------|--------|--------|
| 100  | 450 | 380 | 387  | 379 | 110 | 1"     | 1"     | 1"     | 1"     |
| 200  | 580 | 385 | 517  | 509 | 113 | 1"     | 1"     | 1"     | 1"     |
| 300  | 730 | 385 | 667  | 659 | 110 | 1"     | 1 1/4" | 1 1/2" | 1 1/2" |
| 400  | 860 | 405 | 797  | 789 | 115 | 1 1/4" | 1 1/2" | 1 1/2" | 1 1/2" |
| 500  | 730 | 385 | 1392 | 659 | 80  | -      | 2"     | 2"     | 2"     |

## Technical information

### TYPE DESIGNATION





## MDA low-speed - 1 phase 230V

| Type                                     |                   | 121L  | 131L  | 141L  | 221L  | 231L  | 241L  | 321L* | 331L* | 341L* | 421L* | 431L* | 441L* | 531L* | 541L* |
|------------------------------------------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 90/70 T 15                               | kW                | 14,5  | 17,0  | 19,0  | 25,1  | 30,8  | 33,3  | 52,7  | 65,9  | 72,1  | 80,0  | 101,0 | 110,0 | 142   | 168   |
| Water resistance T15                     | kPa               | 4     | 8     | 12    | 7     | 4     | 8     | 8     | 4     | 12    | 8     | 6     | 18    | 25    | 50    |
| Outlet temperature at the heat exchanger | °C                | 41,7  | 49,4  | 59,2  | 42,7  | 53,0  | 58,8  | 38,8  | 48,0  | 54,0  | 38,6  | 48,6  | 54,1  | 52,3  | 61,9  |
| 80/60 T 15                               | kW                | 11,9  | 14,1  | 15,9  | 20,6  | 25,4  | 27,8  | 43,3  | 54,1  | 60,2  | 65,7  | 83,1  | 91,6  | 118   | 141   |
| Outlet temperature at the heat exchanger | °C                | 36,8  | 43,6  | 52,0  | 37,8  | 46,3  | 51,6  | 34,6  | 42,1  | 47,6  | 34,4  | 42,7  | 47,7  | 46    | 54,4  |
| 40/30 T 15                               | kW                | 3,77  | 4,42  | 4,94  | 6,53  | 8,0   | 8,66  | 13,7  | 17,1  | 18,8  | 20,8  | 26,3  | 28,6  | 36,9  | 43,7  |
| Speed                                    | rpm               | 900   | 900   | 900   | 830   | 830   | 830   | 845   | 845   | 845   | 925   | 925   | 925   | 845   | 845   |
| Air displacement                         | m <sup>3</sup> /h | 1595  | 1446  | 1265  | 2656  | 2381  | 2233  | 6495  | 5857  | 5423  | 9933  | 8816  | 8217  | 11300 | 10600 |
| Noise at 5 m                             | dB(A)             | 49    | 49    | 49    | 49    | 48    | 48    | 52    | 53    | 53    | 61    | 59    | 58    | 56    | 56    |
| Weight without accessories               | kg                | 22    | 23    | 24    | 32    | 34    | 36    | 43    | 46    | 49    | 55    | 59    | 63    | 95    | 98,5  |
| Horizontal throw                         | m                 | 12    | 10    | 8     | 17    | 15    | 12    | 25    | 22    | 19    | 35    | 31    | 27    | 25    | 22    |
| Vertical throw                           | m                 | 4     | 4     | 3,5   | 4,8   | 4,5   | 4     | 8,1   | 6,8   | 5,9   | 7,4   | 6,2   | 5,5   | 6,8   | 5,9   |
| Consumed current (AC fan)                | A                 | 0,35  | 0,35  | 0,35  | 0,49  | 0,49  | 0,49  | 1,5   | 1,5   | 1,5   | 1,8   | 1,8   | 1,8   | 3,0   | 3,0   |
| Consumed current (EC fan)                | A                 | -     | -     | -     | -     | -     | -     | 1,65  | 1,65  | 1,65  | 2,7   | 2,7   | 2,7   | 3,3   | 3,3   |
| Nominal electric power (AC fan)          | kW                | 0,077 | 0,077 | 0,077 | 0,113 | 0,113 | 0,113 | 0,33  | 0,33  | 0,33  | 0,4   | 0,4   | 0,4   | 0,66  | 0,66  |
| Nominal electric power (EC fan)          | kW                | -     | -     | -     | -     | -     | -     | 0,24  | 0,24  | 0,24  | 0,62  | 0,62  | 0,62  | 0,48  | 0,48  |

## MDA high-speed - 1 phase 230V

| Type                                     |                   | 121H* | 131H* | 141H* | 221H* | 231H* | 241H* |
|------------------------------------------|-------------------|-------|-------|-------|-------|-------|-------|
| 90/70 T 15                               | kW                | 18,0  | 22,1  | 25,1  | 32,4  | 42,0  | 46,6  |
| Water resistance T15                     | kPa               | 7     | 13    | 20    | 9     | 5     | 13    |
| Outlet temperature at the heat exchanger | °C                | 37,4  | 43,9  | 53,4  | 37,6  | 46,4  | 51,6  |
| 80/60 T 15                               | kW                | 14,7  | 18,3  | 20,9  | 26,6  | 34,5  | 38,7  |
| Outlet temperature at the heat exchanger | °C                | 33,3  | 38,9  | 47,1  | 33,6  | 40,8  | 45,5  |
| 40/30 T 15                               | kW                | 4,68  | 5,75  | 6,53  | 8,42  | 10,9  | 12,1  |
| Speed                                    | rpm               | 1400  | 1400  | 1400  | 1400  | 1400  | 1400  |
| Air displacement                         | m <sup>3</sup> /h | 2365  | 2244  | 1914  | 4202  | 3932  | 3734  |
| Noise at 5 m                             | dB(A)             | 54    | 55    | 55    | 57    | 53    | 53    |
| Weight without accessories               | kg                | 22    | 23    | 24    | 32    | 34    | 34    |
| Horizontal throw                         | m                 | 15    | 13    | 11    | 20    | 19    | 17    |
| Vertical throw                           | m                 | 6,9   | 6,8   | 6,3   | 7,7   | 7,6   | 7,2   |
| Consumed current (AC fan)                | A                 | 0,6   | 0,6   | 0,6   | 1,15  | 1,15  | 1,15  |
| Consumed current (EC fan)                | A                 | 0,98  | 0,98  | 0,98  | 2,2   | 2,2   | 2,2   |
| Nominal electric power (AC fan)          | kW                | 0,13  | 0,13  | 0,13  | 0,23  | 0,23  | 0,23  |
| Nominal electric power (EC fan)          | kW                | 0,125 | 0,125 | 0,125 | 0,32  | 0,32  | 0,32  |

\* Available with speed controlled EC-motor.

## MDA low-speed - 3 phase 400V

| Type                                     |       | 223L | 233L | 243L | 323L | 333L | 343L | 423L  | 433L  | 443L  | 533L     | 543L     |
|------------------------------------------|-------|------|------|------|------|------|------|-------|-------|-------|----------|----------|
| 90/70 T 15                               | kW    | 26,2 | 32,4 | 35,1 | 52,7 | 65,9 | 72,1 | 84,0  | 107,0 | 117,0 | 142      | 168      |
| Water resistance T15                     | kPa   | 6    | 4    | 9    | 8    | 4    | 12   | 9     | 7     | 21    | 25       | 50       |
| Outlet temperature at the heat exchanger | °C    | 41,9 | 52,0 | 57,7 | 38,8 | 48,0 | 54,0 | 37,7  | 47,3  | 52,7  | 52,3     | 61,9     |
| 80/60 T 15                               | kW    | 21,6 | 26,7 | 29,3 | 43,3 | 54,1 | 60,2 | 68,9  | 88,1  | 97,4  | 118      | 141      |
| Outlet temperature at the heat exchanger | °C    | 37,1 | 45,4 | 50,6 | 34,6 | 42,1 | 47,6 | 33,6  | 41,6  | 46,5  | 46       | 54,4     |
| 40/30 T 15                               | kW    | 6,81 | 8,42 | 9,13 | 13,7 | 17,1 | 18,8 | 21,8  | 27,8  | 30,4  | 36,9     | 43,7     |
| Speed                                    | rpm   | 1000 | 1000 | 1000 | 910  | 910  | 910  | 870   | 870   | 870   | 910      | 910      |
| Air displacement                         | m³/h  | 2865 | 2574 | 2414 | 6495 | 5857 | 5423 | 10868 | 9735  | 9064  | 11300    | 10600    |
| Noise at 5 m                             | dB(A) | 49   | 48   | 48   | 52   | 53   | 53   | 61    | 59    | 59    | 56       | 56       |
| Weight without accessories               | kg    | 32   | 34   | 36   | 43   | 46   | 46   | 52    | 61    | 64    | 95       | 98,5     |
| Horizontal throw                         | m     | 17   | 15   | 13   | 25   | 22   | 19   | 35    | 31    | 28    | 25       | 22       |
| Vertical throw                           | m     | 5,9  | 4,5  | 4    | 8,1  | 6,8  | 5,9  | 8,5   | 6,9   | 5,8   | 6,8      | 5,9      |
| Consumed current                         | A     | 0,3  | 0,3  | 0,3  | 0,85 | 0,85 | 0,85 | 1,25  | 1,25  | 1,25  | 1,7/0,88 | 1,7/0,88 |
| Nominal electric power                   | kW    | 0,12 | 0,12 | 0,12 | 0,38 | 0,38 | 0,38 | 0,6   | 0,6   | 0,6   | 1,2      | 1,2      |

## MDA high-speed - 3 phase 400V

| Type                                     |       | 123H | 133H | 143H | 223H  | 233H  | 243H  |
|------------------------------------------|-------|------|------|------|-------|-------|-------|
| 90/70 T 15                               | kW    | 18,0 | 22,1 | 25,1 | 32,4  | 42,0  | 46,6  |
| Water resistance T15                     | kPa   | 7    | 13   | 20   | 9     | 5     | 13    |
| Outlet temperature at the heat exchanger | °C    | 37,4 | 43,9 | 53,4 | 37,6  | 46,4  | 51,6  |
| 80/60 T 15                               | kW    | 14,7 | 18,3 | 20,9 | 26,6  | 34,5  | 38,7  |
| Outlet temperature at the heat exchanger | °C    | 33,3 | 38,9 | 47,1 | 33,6  | 40,8  | 45,5  |
| 40/30 T 15                               | kW    | 4,68 | 5,75 | 6,53 | 8,42  | 10,9  | 12,1  |
| Speed                                    | rpm   | 1330 | 1330 | 1330 | 1350  | 1350  | 1350  |
| Air displacement                         | m³/h  | 2365 | 2244 | 1914 | 4202  | 3932  | 3734  |
| Noise at 5 m                             | dB(A) | 54   | 55   | 55   | 57    | 53    | 53    |
| Weight without accessories               | kg    | 22   | 23   | 24   | 32    | 34    | 36    |
| Horizontal throw                         | m     | 15   | 13   | 11   | 20    | 19    | 17    |
| Vertical throw                           | m     | 6,9  | 6,8  | 6,3  | 7,7   | 7,6   | 7,2   |
| Consumed current                         | A     | 0,36 | 0,36 | 0,36 | 0,51  | 0,51  | 0,51  |
| Nominal electric power                   | kW    | 0,16 | 0,16 | 0,16 | 0,216 | 0,216 | 0,216 |

## Capacity calculation for other water temperatures

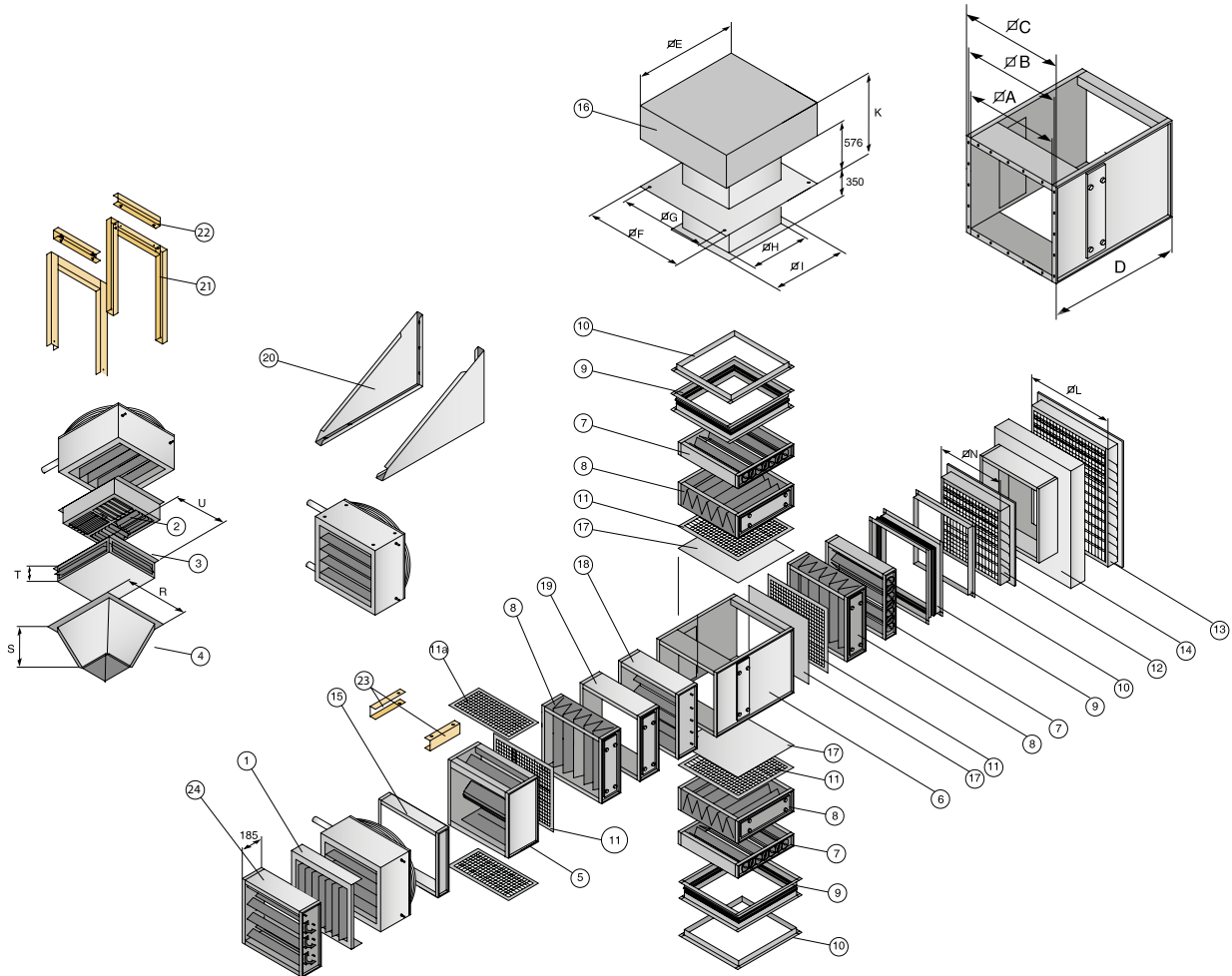
| $\Delta T_1$ | $\Delta T_2$ |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|              | 20           | 25   | 30   | 35   | 40   | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   | 85   | 90   | 95   |
| 10           | 0.26         | 0.35 | 0.44 | 0.53 | 0.62 | 0.71 | 0.80 | 0.89 | 1.04 | 1.14 | 1.23 | 1.34 | 1.44 | 1.54 | 1.64 | 1.74 |
| 15           | 0.22         | 0.31 | 0.39 | 0.49 | 0.58 | 0.67 | 0.77 | 0.85 | 0.96 | 1.06 | 1.17 | 1.26 | 1.36 | 1.46 | 1.56 | 1.66 |
| 20           | 0.18         | 0.27 | 0.36 | 0.46 | 0.55 | 0.64 | 0.74 | 0.82 | 0.92 | 1.00 | 1.10 | 1.20 | 1.29 | 1.40 | 1.50 | 1.61 |
| 30           | 0.11         | 0.21 | 0.30 | 0.39 | 0.48 | 0.57 | 0.66 | 0.77 | 0.86 | 0.95 | 1.05 | 1.15 | 1.25 | 1.36 | 1.48 | X    |
| 40           | X            | 0.11 | 0.21 | 0.32 | 0.43 | 0.52 | 0.62 | 0.71 | 0.80 | 0.90 | 1.00 | 1.10 | 1.20 | 1.30 | X    | X    |
| 50           | X            | X    | 0.12 | 0.22 | 0.32 | 0.45 | 0.55 | 0.64 | 0.74 | 0.83 | 0.93 | 1.03 | 1.14 | X    | X    | X    |
| 60           | X            | X    | X    | 0.15 | 0.26 | 0.36 | 0.46 | 0.56 | 0.66 | 0.76 | 0.86 | 0.96 | X    | X    | X    | X    |

$\Delta T_1$  = Temperature difference hot water inlet minus outlet     $\Delta T_2$  = Average water temperature minus air inlet temperature

Calculation example: Water temperature = 40/30    T inlet = 15 °C  
 $\Delta T_1 = 40 - 30 = 10K$      $\Delta T_2 = 35 - 15 °C = 20K$

Tanner MDA 541L has a capacity of 168 kW at a water temperature of 90/70 T 15 °C  
 168 kW x factor 0,26 = 43,68 kW

## Accessories – additional sections



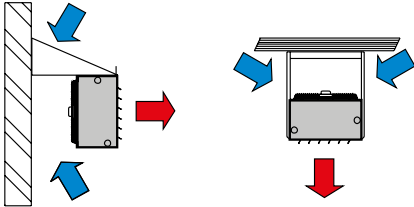
### Position Description

|     |                                  |    |                                           |
|-----|----------------------------------|----|-------------------------------------------|
| 1   | Vertical louvres                 | 12 | Weather grill ≤ 50% fresh air intake      |
| 2   | Downflow hood 4-sided vertical   | 13 | Weather grill > 50%-100% fresh air intake |
| 3   | Downflow hood 4-sided horizontal | 14 | Transition piece for 13                   |
| 4   | Destratification hood            | 15 | Empty section 120 mm                      |
| 5   | Mixing box (short) incl. dampers | 16 | Rain cap incl. adhesive plate (aluminium) |
| 6   | Mixing box for dampers           | 17 | Blanking plate                            |
| 7   | Damper                           | 18 | Motor protection damper                   |
| 8   | Filter box with filter (EU 3)    | 19 | Empty section 240 mm                      |
| 9   | Flexible connection              | 20 | Wall bracket                              |
| 10  | Corner profile                   | 21 | Ceiling bracket, vertical                 |
| 11  | Mesh                             | 22 | Shock absorber set for 21                 |
| 11a | Mesh                             | 23 | Ceiling bracket, horizontal               |
|     |                                  | 24 | Induction damper                          |

| Type | A   | B   | C   | D   | E    | F    | G    | H   |
|------|-----|-----|-----|-----|------|------|------|-----|
| 100  | 390 | 415 | 443 | 463 | 690  | 740  | 690  | 380 |
| 200  | 520 | 545 | 573 | 593 | 920  | 920  | 820  | 510 |
| 300  | 670 | 695 | 723 | 743 | 1180 | 1240 | 975  | 665 |
| 400  | 800 | 835 | 853 | 873 | 1420 | 1240 | 1110 | 800 |

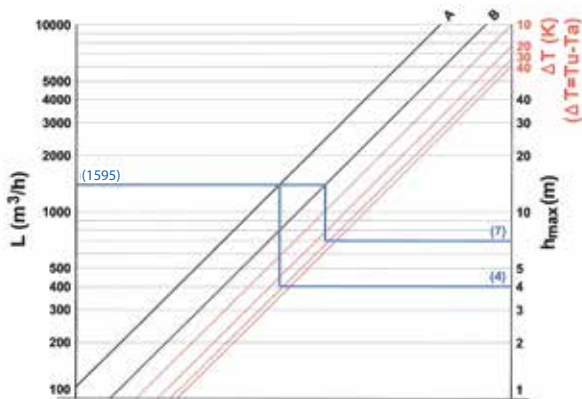
| Type | I   | K    | L    | N   | R   | S   | T   | U   |
|------|-----|------|------|-----|-----|-----|-----|-----|
| 100  | 440 | 800  | 516  | 386 | 439 | 212 | 120 | 406 |
| 200  | 570 | 895  | 666  | 516 | 573 | 253 | 151 | 530 |
| 300  | 720 | 940  | 796  | 666 | 724 | 300 | 175 | 680 |
| 400  | 860 | 1075 | 1005 | 796 | 853 | 329 | 220 | 815 |

## Assembly/location suggestions

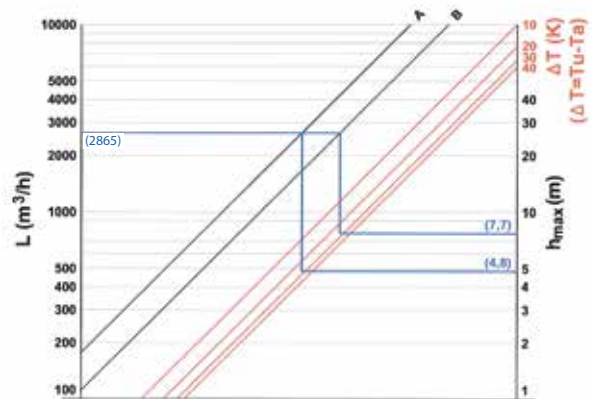


### Tanner MDA maximum assembly height for

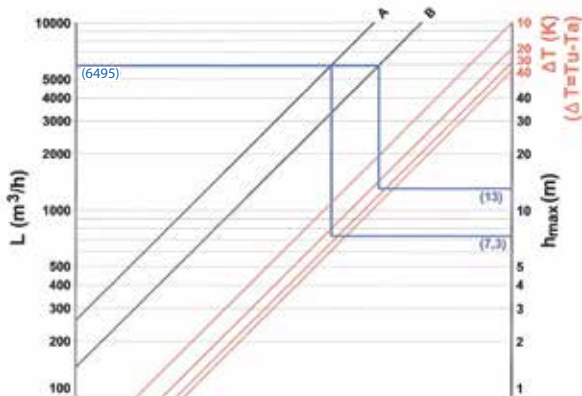
TYPE 100



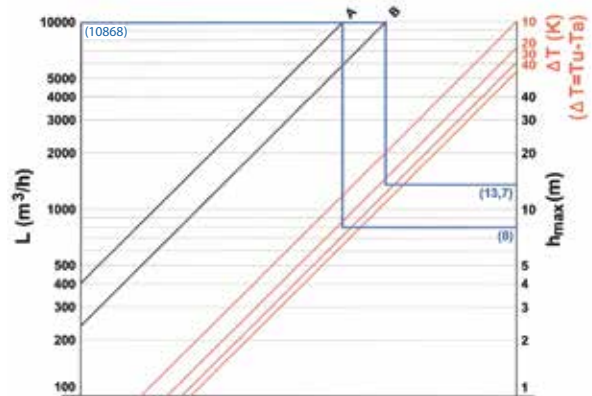
TYPE 200



TYPE 300



TYPE 400



### Calculation example:

Tanner MDA 123L (Type 100)

- The table indicates that the air displacement with this unit is:  $L = 1595 \text{ m}^3/h$
- If the intake temperature ( $T_a$ ) is  $15^\circ\text{C}$ , the table shows that the outlet temperature ( $T_u$ ) will be  $41.7^\circ\text{C}$ .

The temperature difference is:

$$Dt = T_u - T_a$$

$$Dt = 42.8 - 15$$

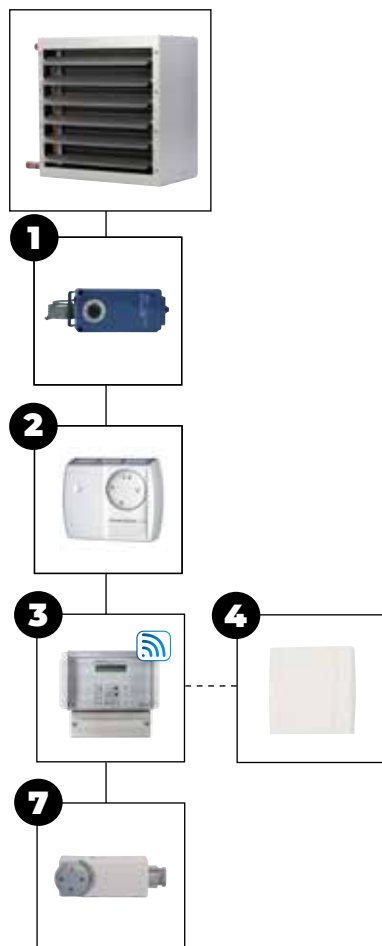
$$Dt = 26.7\text{K}$$

- The table (TYPE 100) indicates that:  
A or the basic model, without accessories, the max. suspension height is:  $= 4\text{m}$   
B or the combination with a destratification hood, the max. suspension height is:  $= 7\text{m}$

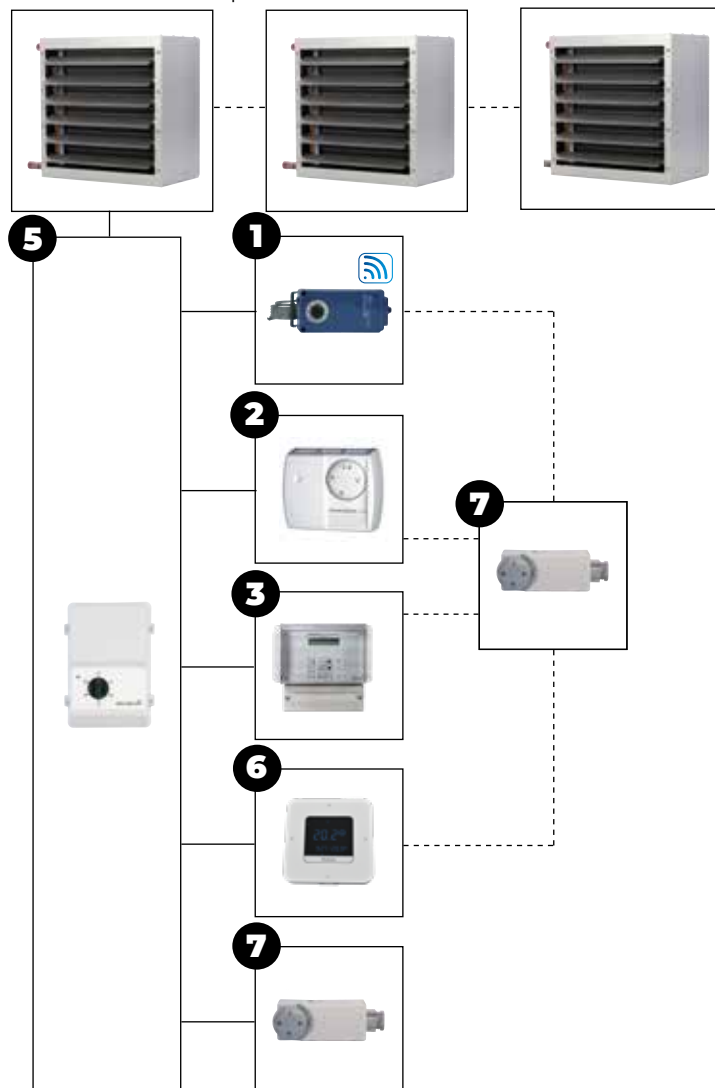
## Controls (Not EEX)

### AC-motor

230V - 1 unit



230V or 400V - multiple units



Maximum amount of units  
is depending on the  
selected 5-step regulator.

#### Control combination options AC Motor - 1 unit

Tanner MDA + **1**Tanner MDA + **2**Tanner MDA + **3**Tanner MDA + **3** + **4**Tanner MDA + **7**

See price list for description and code numbers of the  
relevant items

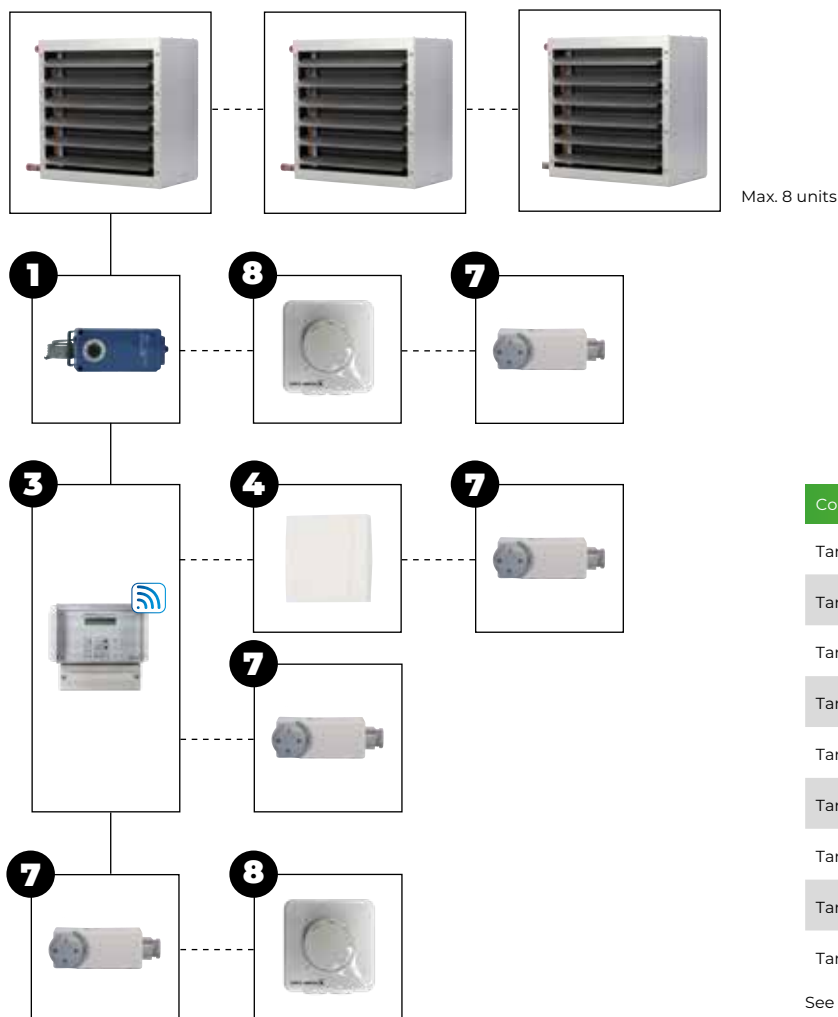
#### Control combination options AC Motor - multiple units

Tanner MDA + **5**Tanner MDA + **5** + **1**Tanner MDA + **5** + **2**Tanner MDA + **5** + **3**Tanner MDA + **5** + **6**Tanner MDA + **5** + **7**Tanner MDA + **5** + **1** + **7**Tanner MDA + **5** + **2** + **7**Tanner MDA + **5** + **3** + **7**Tanner MDA + **5** + **6** + **7**

5 = - 5-step regulator for 230V (6A-14A) or 400V (2A-7A)  
- High / Low / Off Control for 400V (7A). See pricelist



## EC-motor



## Control combination options EC Motor - multiple units

Tanner MDA + 1

Tanner MDA + 1 + 8

Tanner MDA + 1 + 8 + 7

Tanner MDA + 3

Tanner MDA + 3 + 4

Tanner MDA + 3 + 4 + 7

Tanner MDA + 3 + 7

Tanner MDA + 7

Tanner MDA + 7 + 8

See price list for description and code numbers of the relevant items

## Prices Tanner MDA

### PRODUCT - HOT WATER AIR HEATER TANNER MDA, 230V, 90/70 - 15 °C

| Code nr. | Description                      | Price |      |
|----------|----------------------------------|-------|------|
| 5060056  | MDA 121H, nominal power 18,0 kW  | €     | 970  |
| 5060057  | MDA 131H, nominal power 22,1 kW  | €     | 1059 |
| 5060058  | MDA 141H, nominal power 25,1 kW  | €     | 1109 |
| 5060256  | MDA 221H, nominal power 32,4 kW  | €     | 1221 |
| 5060257  | MDA 231H, nominal power 42,0 kW  | €     | 1334 |
| 5060258  | MDA 241H, nominal power 46,6 kW  | €     | 1420 |
| 5060051  | MDA 121L, nominal power 14,5 kW  | €     | 1034 |
| 5060052  | MDA 131L, nominal power 17,0 kW  | €     | 1059 |
| 5060053  | MDA 141L, nominal power 19,0 kW  | €     | 1080 |
| 5060251  | MDA 221L, nominal power 25,1 kW  | €     | 1199 |
| 5060252  | MDA 231L, nominal power 30,8 kW  | €     | 1381 |
| 5060253  | MDA 241L, nominal power 33,3 kW  | €     | 1458 |
| 5060451  | MDA 321L, nominal power 52,7 kW  | €     | 1932 |
| 5060452  | MDA 331L, nominal power 65,9 kW  | €     | 2001 |
| 5060453  | MDA 341L, nominal power 72,1 kW  | €     | 2139 |
| 5060651  | MDA 421L, nominal power 80,0 kW  | €     | 2206 |
| 5060652  | MDA 431L, nominal power 101,0 kW | €     | 2453 |
| 5060653  | MDA 441L, nominal power 110,0 kW | €     | 2647 |
| 5060472  | MDA 531L, nominal power 142,0 kW | €     | 3310 |
| 5060473  | MDA 541L, nominal power 168,0 kW | €     | 3762 |

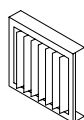
### PRODUCT - HOT WATER AIR HEATER TANNER MDA, 400V, 90/70 - 15 °C

| Code nr. | Description                      | Price |      |
|----------|----------------------------------|-------|------|
| 5060066  | MDA 123H, nominal power 18,0 kW  | €     | 968  |
| 5060067  | MDA 133H, nominal power 22,1 kW  | €     | 972  |
| 5060068  | MDA 143H, nominal power 25,1 kW  | €     | 1009 |
| 5060266  | MDA 223H, nominal power 32,4 kW  | €     | 1343 |
| 5060267  | MDA 233H, nominal power 42,0 kW  | €     | 1408 |
| 5060268  | MDA 243H, nominal power 46,6 kW  | €     | 1495 |
| 5060261  | MDA 223L, nominal power 26,2 kW  | €     | 1348 |
| 5060262  | MDA 233L, nominal power 32,4 kW  | €     | 1446 |
| 5060263  | MDA 243L, nominal power 35,1 kW  | €     | 1572 |
| 5060461  | MDA 323L, nominal power 52,7 kW  | €     | 2073 |
| 5060462  | MDA 333L, nominal power 65,9 kW  | €     | 2157 |
| 5060463  | MDA 343L, nominal power 72,1 kW  | €     | 2290 |
| 5060661  | MDA 423L, nominal power 84,0 kW  | €     | 2243 |
| 5060662  | MDA 433L, nominal power 107,0 kW | €     | 2479 |
| 5060663  | MDA 443L, nominal power 117,0 kW | €     | 2683 |
| 5060482  | MDA 533L, nominal power 142,0 kW | €     | 3589 |
| 5060483  | MDA 543L, nominal power 168,0 kW | €     | 4038 |

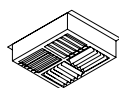



**PRODUCT - HOT WATER AIR HEATER TANNER MDA WITH EC-MOTOR, 230V, 90/70 - 15 °C**

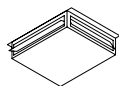
| Code nr. | Description                       | Price |      |
|----------|-----------------------------------|-------|------|
| 5063056  | MDA 121EC, nominal power 18,0 kW  | €     | 1213 |
| 5063057  | MDA 131EC, nominal power 22,1 kW  | €     | 1158 |
| 5063058  | MDA 141EC, nominal power 25,1 kW  | €     | 1182 |
| 5063256  | MDA 221EC, nominal power 32,4 kW  | €     | 1639 |
| 5063257  | MDA 231EC, nominal power 42,0 kW  | €     | 1607 |
| 5063258  | MDA 241EC, nominal power 46,6 kW  | €     | 1854 |
| 5063451  | MDA 321EC, nominal power 52,7 kW  | €     | 2561 |
| 5063452  | MDA 331EC, nominal power 65,9 kW  | €     | 2688 |
| 5063453  | MDA 341EC, nominal power 72,1 kW  | €     | 3274 |
| 5063651  | MDA 421EC, nominal power 80,0 kW  | €     | 2909 |
| 5063652  | MDA 431EC, nominal power 101,0 kW | €     | 3124 |
| 5063653  | MDA 441EC, nominal power 110,0 kW | €     | 3555 |
| 5063472  | MDA 531EC, nominal power 142,0 kW | €     | 5557 |
| 5063473  | MDA 541EC, nominal power 168,0 kW | €     | 5982 |


**ACCESSORIES - ADDITIONAL SECTIONS - VERTICAL LOUVRES**

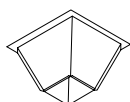
| Code nr. | Description      | Price |     |
|----------|------------------|-------|-----|
| 5064011  | for MDA type 100 | €     | 238 |
| 5064012  | for MDA type 200 | €     | 215 |
| 5064013  | for MDA type 300 | €     | 190 |
| 5064014  | for MDA type 400 | €     | 190 |


**ACCESSORIES - ADDITIONAL SECTIONS - DOWNFLOW HOOD 4-SIDE VERTICAL**

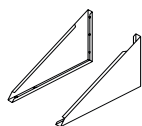
| Code nr. | Description      | Price |     |
|----------|------------------|-------|-----|
| 5064021  | for MDA type 100 | €     | 125 |
| 5064022  | for MDA type 200 | €     | 170 |
| 5064023  | for MDA type 300 | €     | 181 |
| 5064024  | for MDA type 400 | €     | 257 |


**ACCESSORIES - ADDITIONAL SECTIONS - DOWNFLOW HOOD 4-SIDE HORIZONTAL**

| Code nr. | Description      | Price |     |
|----------|------------------|-------|-----|
| 5064001  | for MDA type 100 | €     | 150 |
| 5064002  | for MDA type 200 | €     | 175 |
| 5064003  | for MDA type 300 | €     | 204 |
| 5064004  | for MDA type 400 | €     | 245 |

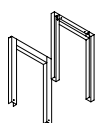

**ACCESSORIES - ADDITIONAL SECTIONS - DESTRIFICATION HOOD**

| Code nr. | Description      | Price |     |
|----------|------------------|-------|-----|
| 5064016  | for MDA type 100 | €     | 125 |
| 5064017  | for MDA type 200 | €     | 170 |
| 5064018  | for MDA type 300 | €     | 181 |
| 5064019  | for MDA type 400 | €     | 257 |



## ACCESSORIES - ASSEMBLY - GENERAL

| Code nr. | Description                                     | Price |
|----------|-------------------------------------------------|-------|
| 5064047  | Wall brackets horizontal, MDA type 100 - 500    | € 80  |
| 5064055  | Ceiling brackets horizontal, MDA type 100 - 500 | € 59  |
| 5064116  | Mounting bracket                                | € 79  |



## ACCESSOIRES - ASSEMBLY - CEILING BRACKETS VERTICAL

| Code nr. | Description      | Price |
|----------|------------------|-------|
| 5064051  | for MDA type 100 | € 196 |
| 5064052  | for MDA type 200 | € 204 |
| 5064053  | for MDA type 300 | € 209 |
| 5064054  | for MDA type 400 | € 209 |



## ACCESSORIES - ASSEMBLY - SHOCK ABSORBER SET FOR ABOVE MENTIONED BRACKETS

| Code nr. | Description                                       | Price |
|----------|---------------------------------------------------|-------|
| 5064056  | for MDA type 100 only in combination with 5064051 | € 93  |
| 5064057  | for MDA type 200 only in combination with 5064052 | € 95  |
| 5064058  | for MDA type 300 only in combination with 5064053 | € 106 |
| 5064059  | for MDA type 400 only in combination with 5064054 | € 111 |

## ACCESSORIES - CONTROLS

|   | Code nr. | Description                                                                         | Price  |
|---|----------|-------------------------------------------------------------------------------------|--------|
| 5 | 0616186  | Control box 5-steps, 230V, 6,0A*                                                    | € 401  |
| 5 | 0616188  | Control box 5-steps, 230V, 12,0A*                                                   | € 629  |
| 5 | 0616189  | Control box 5-steps, 230V, 14,0A*                                                   | € 848  |
| 5 | 0616162  | Control box 5-steps, 400V, 2A*                                                      | € 752  |
| 5 | 0616164  | Control box 5-steps, 400V, 4A*                                                      | € 1050 |
| 5 | 0616166  | Control box 5-steps, 400V, 7A*                                                      | € 1245 |
| 5 | 0616170  | High / low / off control, 400V, 10A*                                                | € 446  |
| 8 | 0631390  | Potentiometer 10K with on/off contact IP54**                                        | € 196  |
|   | 0631163  | Isolator switch, separate delivery, 230V (4 poles)                                  | € 71   |
|   | 0631167  | Isolator switch, separate delivery, 400V (8 poles)                                  | € 91   |
| 2 | 0629013  | Room thermostat 230V, (4A)                                                          | € 58   |
| 1 | 0629004  | Water resistant room thermostat, 230V, IP65                                         | € 284  |
| 7 | 0629180  | Surface contact thermostat (4A)                                                     | € 82   |
| 6 | 0629039  | Clock thermostat (1A)                                                               | € 394  |
| 3 | 0629108  | PinTherm Connect - programmable room thermostat with Ethernet and Modbus, 230V (4A) | € 726  |
| 4 | 0629086  | Room sensor only in combination with 0629108                                        | € 93   |

\* Not applicable for Tanner MDA with EC motor.

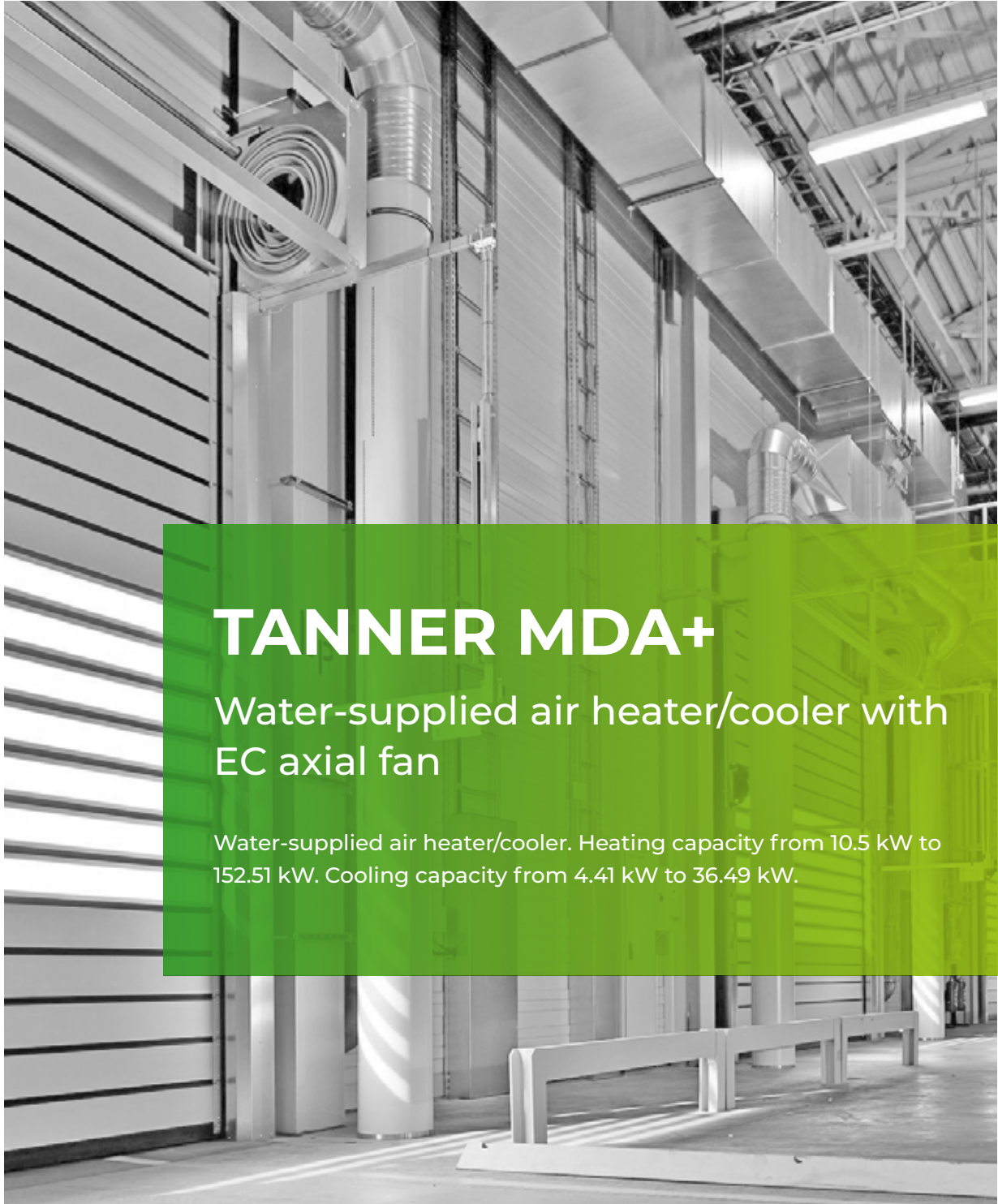
\*\* Only applicable for Tanner MDA with EC motor.

For function explanation see chapter on control

**ACCESSORIES - COLOURS \*\*\***

| <b>Description</b>                                                               | <b>Price</b> |
|----------------------------------------------------------------------------------|--------------|
| MDA Type 100 Accessories provided with colour 1 to 3 pieces (by piece)           | € 127        |
| MDA Type 100 Accessories provided with colour 4 to 10 pieces (by piece)          | € 110        |
| MDA Type 100 Accessories provided with colour for more than 10 pieces (by piece) | € 87         |
| TANNER MDA 100 provided with colour                                              | € 76         |
| MDA Type 200 Accessories provided with colour 1 to 3 pieces (by piece)           | € 139        |
| MDA Type 200 Accessories provided with colour 4 to 10 pieces (by piece)          | € 122        |
| MDA Type 200 Accessories provided with colour for more than 10 pieces (by piece) | € 87         |
| TANNER MDA 200 provided with colour                                              | € 87         |
| MDA Type 300 Accessories provided with colour 1 to 3 pieces (by piece)           | € 156        |
| MDA Type 300 Accessories provided with colour 4 to 10 pieces (by piece)          | € 133        |
| MDA Type 300 Accessories provided with colour for more than 10 pieces (by piece) | € 92         |
| TANNER MDA 300 provided with colour                                              | € 92         |
| MDA Type 400 Accessories provided with colour 1 to 3 pieces (by piece)           | € 162        |
| MDA Type 400 Accessories provided with colour 4 to 10 pieces (by piece)          | € 139        |
| MDA Type 400 Accessories provided with colour for more than 10 pieces (by piece) | € 99         |
| TANNER MDA 400 provided with colour                                              | € 110        |
| MDA Type 500 Accessories provided with colour 1 to 3 pieces (by piece)           | € 324        |
| MDA Type 500 Accessories provided with colour 1 to 3 pieces (by piece)           | € 278        |
| MDA Type 500 Accessories provided with colour 1 to 3 pieces (by piece)           | € 198        |
| TANNER MDA 500 provided with colour                                              | € 220        |

\*\*\* These prices are only for the Mark standard RAL-colours: 3002 red, 1028 yellow, 6010 green, 7016 gray, 8014 brown, 9001 beige white, 5009 blue, 2009 orange, 1019 beige



# TANNER MDA+

## Water-supplied air heater/cooler with EC axial fan

Water-supplied air heater/cooler. Heating capacity from 10.5 kW to 152.51 kW. Cooling capacity from 4.41 kW to 36.49 kW.



For more information, downloads and videos, visit the Tanner MDA+ page on our website





#### Product features

- Integrated drip tray
- Optional: condensate pump
- Supplied as standard in a corrosion-resistant Aluzinc casing
- Copper/aluminium heat exchanger
- IP 54
- Units with AC motor on request
- Modern design

#### Cooling and heating with the TANNER MDA+

In addition to the standard TANNER MDA, Mark Climate Technology also has the MDA+ in its range. The TANNER MDA+ is suitable for both heating and cooling thanks to the integrated drip tray and optional condensate pump.

The TANNER MDA+ is a water-supplied hanging air heater/cooler suitable for horizontal air discharge. The unit has a powerful EC axial fan, which means that the MDA+ has many applications, such as in industrial halls, production areas and garages.

The air heater can also heat and cool with low water temperatures and small temperature differences. **This means that the TANNER MDA+ can also be combined with a heat pump.**

The air heaters/coolers are equipped with an EC motor as standard. Advantages:

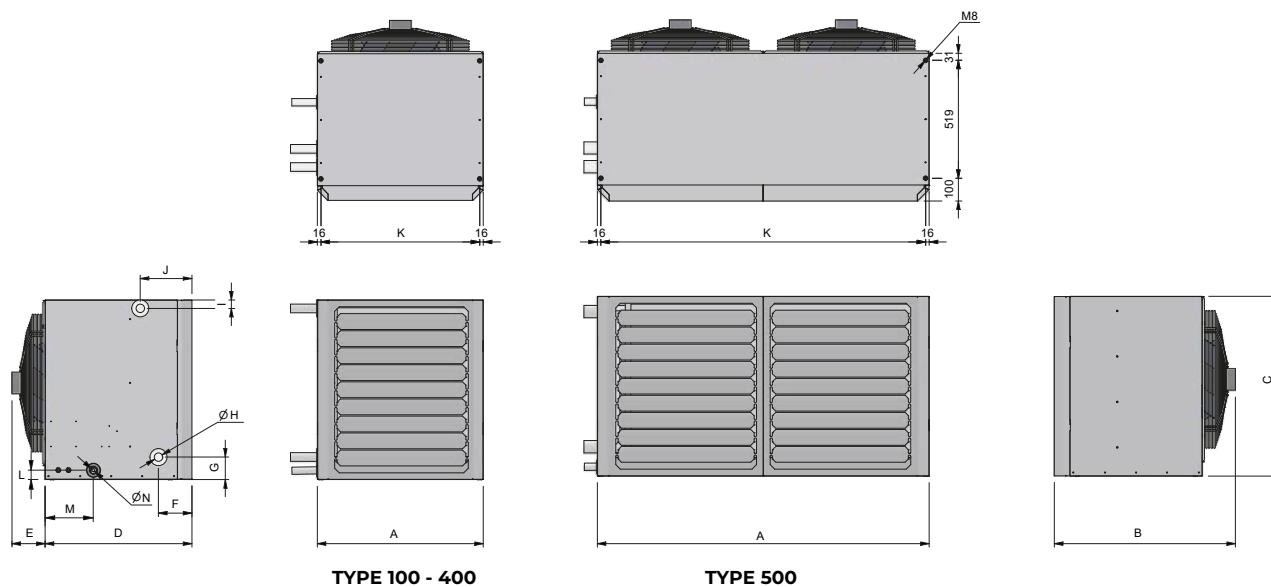
- The highest efficiency in case of speed control
- Up to 50% energy saving in case of partial load
- Almost completely linearly adjustable 30-100%
- Long lifetime
- Low noise level
- Integrated electronic thermal protection

The TANNER MDA+ also features a completely new design.



Remote connection possible with the PinTherm Mistral!

## Dimensions

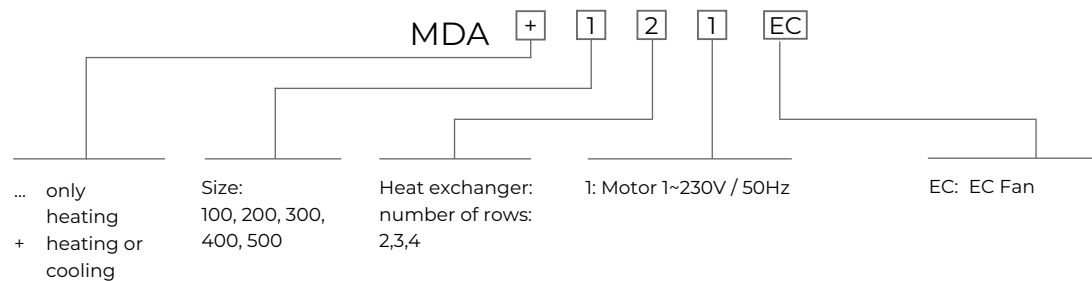


| Type | A    | B   | C   | D   | E   | F   | G   | H      | I  | J   | K    | L  | M   | N* |
|------|------|-----|-----|-----|-----|-----|-----|--------|----|-----|------|----|-----|----|
| 200  | 580  | 774 | 640 | 650 | 128 | 137 | 97  | 1"     | 33 | 217 | 548  | 41 | 213 | 32 |
| 300  | 730  | 794 | 790 | 650 | 144 | 147 | 99  | 1 1/2" | 37 | 227 | 698  | 41 | 213 | 32 |
| 400  | 860  | 805 | 920 | 650 | 155 | 152 | 101 | 1 1/2" | 39 | 232 | 828  | 41 | 213 | 32 |
| 500  | 1460 | 794 | 790 | 650 | 144 | 151 | 129 | 2"     | 67 | 233 | 1428 | 41 | 213 | 32 |

\* An MDA+ with natural slope has a drain with a diameter of 32mm. An MDA+ with optional condensate pump has a 4.5 meter long PVC pipe DN 10.

## Technical information

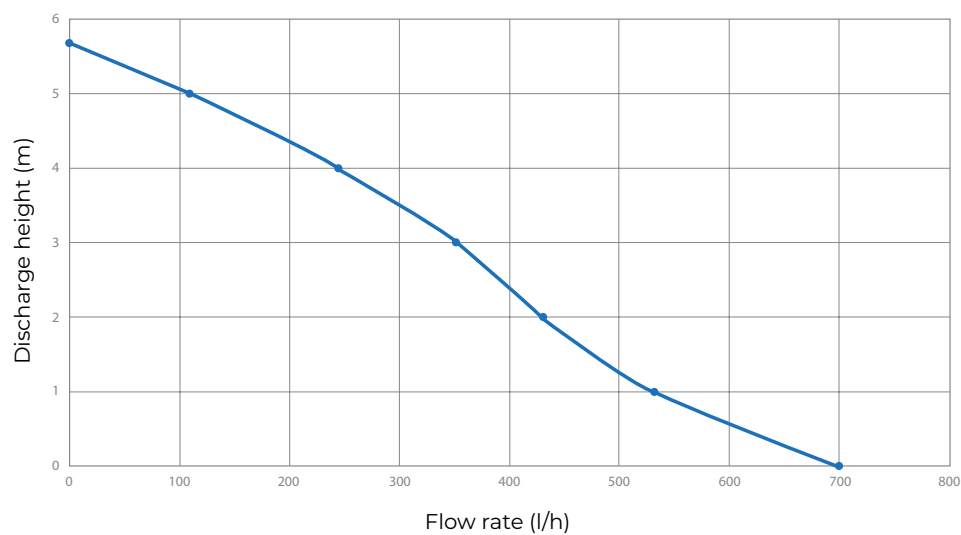
### TYPE DESIGNATION



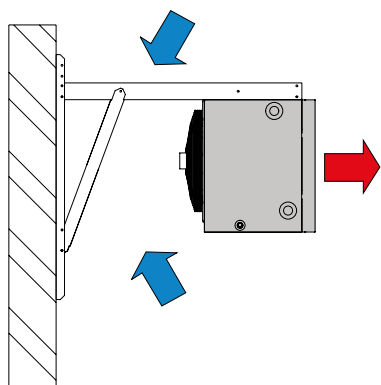
| 241EC      |                            | Control signal EC fan (VDC) |       |       |       |       |       |       |       |       |
|------------|----------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
|            |                            | 10                          | 9     | 8     | 7     | 6     | 5     | 4     | 3     |       |
| heating    | 90/70 T 15                 | kW                          | 43,13 | 41,3  | 37,79 | 34,57 | 30,64 | 26,27 | 20,92 | 16,21 |
|            | Water resistance           | kPa                         | 2,54  | 2,34  | 1,98  | 1,68  | 1,4   | 1     | 0,66  | 0,41  |
|            | 80/60 T 15                 | kW                          | 34,93 | 33,44 | 30,6  | 27,98 | 24,79 | 21,22 | 16,82 | 12,87 |
|            | Water resistance           | kPa                         | 1,73  | 1,6   | 1,35  | 1,15  | 0,91  | 0,68  | 0,44  | 0,27  |
|            | 60/40 T 15                 | kW                          | 13,56 | 12,86 | 12,2  | 11,56 | 10,73 | 9,73  | 8,36  | 7,01  |
|            | Water resistance           | kPa                         | 0,31  | 0,28  | 0,25  | 0,23  | 0,2   | 0,17  | 0,13  | 0,09  |
|            | 45/40 T 15                 | kW                          | 18,57 | 17,77 | 16,23 | 14,82 | 13,1  | 11,2  | 8,88  | 6,85  |
|            | Water resistance           | kPa                         | 7,46  | 6,87  | 5,79  | 4,89  | 3,88  | 2,9   | 1,88  | 1,16  |
|            | 35/30 T 15                 | kW                          | 10,5  | 10,04 | 9,14  | 8,32  | 7,3   | 6,14  | 4,52  | 3,7   |
|            | Water resistance           | kPa                         | 2,63  | 2,42  | 2,03  | 1,7   | 1,34  | 0,97  | 0,55  | 0,38  |
| Air amount | m3/h                       | 3734                        | 3495  | 3060  | 2686  | 2261  | 1826  | 1348  | 975   |       |
| cooling    | 7/12 T 28 °C [rv50%]       | kW                          | x     | x     | x     | 7,83  | 6,37  | 5,66  | 5,02  | 4,41  |
|            | Water resistance           | kPa                         | x     | x     | x     | 2,15  | 1,48  | 1,19  | 0,96  | 0,75  |
|            | Air amount                 | m3/h                        | x     | x     | x     | 2686  | 2261  | 1826  | 1348  | 975   |
|            | Connection                 |                             | x     | x     | x     | 1,0"  | 1,0"  | 1,0"  | 1,0"  | 1,0"  |
|            | Noise level at 5m          | dB(A)                       | 55    | 54    | 51    | 48    | 44    | 40    | 34    | 30    |
|            | Speed                      | rpm                         | 1400  |       |       |       |       |       |       |       |
|            | Weight without accessoires | kg                          | 42    |       |       |       |       |       |       |       |
|            | Horizontal Throw           | m                           | 12    |       |       |       |       |       |       |       |
|            | Consumed current           | A                           | 2,2   |       |       |       |       |       |       |       |
|            | Nominal electric power     | kW                          | 0,32  |       |       |       |       |       |       |       |
| 341EC      |                            | Control signal EC fan (VDC) |       |       |       |       |       |       |       |       |
|            |                            | 10                          | 9     | 8     | 7     | 6     | 5     | 4     | 3     |       |
| heating    | 90/70 T 15                 | kW                          | 68,66 | 63,62 | 59,83 | 54,77 | 49,62 | 45,29 | 38,13 | 27,27 |
|            | Water resistance           | kPa                         | 2,76  | 2,4   | 2,14  | 1,82  | 1,52  | 1,28  | 0,93  | 0,5   |
|            | 80/60 T 15                 | kW                          | 56,39 | 52,26 | 49,17 | 45,02 | 40,8  | 37,24 | 31,34 | 22,36 |
|            | Water resistance           | kPa                         | 1,95  | 1,7   | 1,52  | 1,29  | 1,08  | 0,91  | 0,66  | 0,36  |
|            | 60/40 T 15                 | kW                          | 29,7  | 27,33 | 25,52 | 23,02 | 20,32 | 16,43 | 14,57 | 11,52 |
|            | Water resistance           | kPa                         | 0,63  | 0,54  | 0,48  | 0,39  | 0,31  | 0,21  | 0,17  | 0,11  |
|            | 45/40 T 15                 | kW                          | 29,34 | 27,15 | 25,5  | 23,31 | 21,08 | 19,21 | 16,12 | 11,46 |
|            | Water resistance           | kPa                         | 8     | 6,93  | 6,18  | 5,23  | 4,35  | 3,67  | 2,65  | 1,42  |
|            | 35/30 T 15                 | kW                          | 17,28 | 15,99 | 15,02 | 13,72 | 12,39 | 11,27 | 9,4   | 6,33  |
|            | Water resistance           | kPa                         | 3,1   | 2,69  | 2,4   | 2,03  | 1,68  | 1,41  | 1,02  | 0,49  |
| Air amount | m3/h                       | 5423                        | 4847  | 4435  | 3910  | 3406  | 3005  | 2387  | 1554  |       |
| cooling    | 7/12 T 28 °C [rv50%]       | kW                          | x     | x     | x     | 11,99 | 9,81  | 9,17  | 8,07  | 6,64  |
|            | Water resistance           | kPa                         | x     | x     | x     | 1,72  | 1,2   | 1,06  | 0,84  | 0,59  |
|            | Air amount                 | m3/h                        | x     | x     | x     | 3910  | 3406  | 3005  | 2387  | 1554  |
|            | Connection                 |                             | x     | x     | x     | 1,25" | 1,25" | 1,25" | 1,25" | 1,25" |
|            | Noise level at 5m          | dB(A)                       | 53    | 51    | 48    | 46    | 41    | 37    | 33    | 29    |
|            | Speed                      | rpm                         | 950   |       |       |       |       |       |       |       |
|            | Weight without accessoires | kg                          | 62    |       |       |       |       |       |       |       |
|            | Horizontal Throw           | m                           | 19    |       |       |       |       |       |       |       |
|            | Consumed current           | A                           | 1,7   |       |       |       |       |       |       |       |
|            | Nominal electric power     | kW                          | 0,24  |       |       |       |       |       |       |       |

| 441EC      |                            | Control signal EC fan (VDC) |        |        |        |        |        |        |       |       |
|------------|----------------------------|-----------------------------|--------|--------|--------|--------|--------|--------|-------|-------|
|            |                            | 10                          | 9      | 8      | 7      | 6      | 5      | 4      | 3     |       |
| heating    | 90/70 T 15                 | kW                          | 105,2  | 102,94 | 88,99  | 7910   | 72,65  | 62,4   | 53,82 | 51,06 |
|            | Water resistance           | kPa                         | 4,05   | 3,89   | 2,98   | 2,4    | 2,05   | 1,55   | 1,19  | 1,08  |
|            | 80/60 T 15                 | kW                          | 86,93  | 85,07  | 73,62  | 65,48  | 60,16  | 51,7   | 44,61 | 42,32 |
|            | Water resistance           | kPa                         | 2,91   | 2,8    | 2,14   | 1,73   | 1,48   | 1,12   | 0,86  | 0,78  |
|            | 60/40 T 15                 | kW                          | 48,37  | 47,32  | 40,79  | 36,09  | 31,97  | 27,86  | 21,54 | 19,96 |
|            | Water resistance           | kPa                         | 1,04   | 1      | 0,76   | 0,61   | 0,52   | 0,38   | 0,24  | 0,21  |
|            | 45/40 T 15                 | kW                          | 44,84  | 43,86  | 37,82  | 33,55  | 30,76  | 26,35  | 22,66 | 21,48 |
|            | Water resistance           | kPa                         | 11,68  | 11,22  | 8,56   | 6,87   | 5,86   | 4,41   | 3,35  | 3,04  |
|            | 35/30 T 15                 | kW                          | 26,88  | 26,3   | 22,7   | 20,14  | 18,48  | 15,82  | 13,58 | 12,86 |
|            | Water resistance           | kPa                         | 4,71   | 4,53   | 3,46   | 2,78   | 2,38   | 1,79   | 1,36  | 1,23  |
| Air amount | m3/h                       | 8217                        | 7956   | 6438   | 5450   | 4844   | 3941   | 3242   | 3028  |       |
| cooling    | 7/12 T 28 °C [rv50%]       | kW                          | x      | x      | x      | 21,17  | 19,46  | 16,34  | 11,36 | 10,93 |
|            | Water resistance           | kPa                         | x      | x      | x      | 3,32   | 2,86   | 2,08   | 1,07  | 1     |
|            | Air amount                 | m3/h                        | x      | x      | x      | 5450   | 4844   | 3941   | 3242  | 3028  |
|            | Connection                 |                             | x      | x      | x      | 1,5"   | 1,5"   | 1,5"   | 1,5"  | 1,5"  |
|            | Noise level at 5m          | dB(A)                       | 59     | 58     | 55     | 52     | 48     | 43     | 37    | 31    |
|            | Speed                      | rpm                         | 1000   |        |        |        |        |        |       |       |
|            | Weight without accessoires | kg                          | 82     |        |        |        |        |        |       |       |
|            | Horizontal Throw           | m                           | 27     |        |        |        |        |        |       |       |
|            | Consumed current           | A                           | 2,7    |        |        |        |        |        |       |       |
|            | Nominal electric power     | kW                          | 0,62   |        |        |        |        |        |       |       |
| 541EC      |                            | Control signal EC fan (VDC) |        |        |        |        |        |        |       |       |
|            |                            | 10                          | 9      | 8      | 7      | 6      | 5      | 4      | 3     |       |
| heating    | 90/70 T 15                 | kW                          | 152,51 | 141,25 | 132,8  | 121,47 | 109,93 | 100,19 | 84,12 | 59,77 |
|            | Water resistance           | kPa                         | 5,98   | 5,2    | 4,65   | 3,96   | 3,3    | 2,79   | 2,04  | 1,1   |
|            | 80/60 T 15                 | kW                          | 127,03 | 117,74 | 110,76 | 101,39 | 91,84  | 83,77  | 70,45 | 50,19 |
|            | Water resistance           | kPa                         | 4,39   | 3,82   | 3,42   | 2,92   | 2,44   | 2,07   | 1,51  | 0,82  |
|            | 60/40 T 15                 | kW                          | 74,41  | 69,1   | 65,09  | 59,7   | 54,18  | 49,5   | 41,7  | 29,67 |
|            | Water resistance           | kPa                         | 1,76   | 1,54   | 1,38   | 1,18   | 0,99   | 0,84   | 0,62  | 0,34  |
|            | 45/40 T 15                 | kW                          | 64,67  | 59,8   | 56,16  | 51,27  | 46,31  | 42,13  | 35,25 | 24,88 |
|            | Water resistance           | kPa                         | 17,1   | 14,84  | 13,24  | 11,23  | 9,34   | 7,87   | 5,71  | 3,04  |
|            | 35/30 T 15                 | kW                          | 39,59  | 36,67  | 34,47  | 31,53  | 28,52  | 25,99  | 21,81 | 15,46 |
|            | Water resistance           | kPa                         | 7,28   | 6,34   | 5,67   | 4,82   | 4,03   | 3,4    | 2,48  | 1,33  |
| Air amount | m3/h                       | 10600                       | 9474   | 8669   | 7643   | 6658   | 5873   | 4666   | 3037  |       |
| cooling    | 7/12 T 28 °C [rv50%]       | kW                          | x      | x      | x      | 36,49  | 33,66  | 31,18  | 26,87 | 19,78 |
|            | Water resistance           | kPa                         | x      | x      | x      | 6,55   | 5,68   | 4,95   | 3,79  | 2,19  |
|            | Air amount                 | m3/h                        | x      | x      | x      | 7643   | 6658   | 5873   | 4666  | 3037  |
|            | Connection                 |                             | x      | x      | x      | 2,0"   | 2,0"   | 2,0"   | 2,0"  | 2,0"  |
|            | Noise level at 5m          | dB(A)                       | 56     | 54     | 51     | 49     | 44     | 40     | 36    | 32    |
|            | Speed                      | rpm                         | 950    |        |        |        |        |        |       |       |
|            | Weight without accessoires | kg                          | 119    |        |        |        |        |        |       |       |
|            | Horizontal Throw           | m                           | 22     |        |        |        |        |        |       |       |
|            | Consumed current           | A                           | 3,4    |        |        |        |        |        |       |       |
|            | Nominal electric power     | kW                          | 0,76   |        |        |        |        |        |       |       |

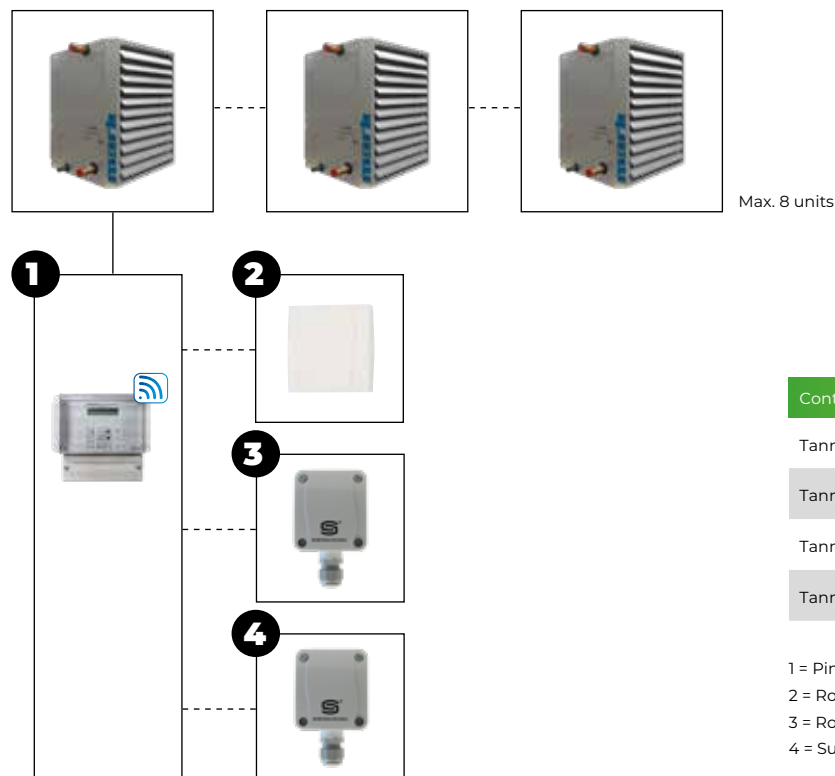
## DISCHARGE HEIGHT CONDENSATE PUMP



## Assembly/location suggestions



## Controls MDA+ EC



### Control combination options

Tanner MDA+ + **1**

Tanner MDA+ + **1** + **2**

Tanner MDA+ + **1** + **3**

Tanner MDA+ + **1** + **4**

1 = PinTherm Mistral (0629110)

2 = Room sensor IP20 for 0629110 (0629086)

3 = Room sensor IP65 for 0629110 (0629093)

4 = Surface contact temperature sensor IP65 (0629094)

## Prices Tanner MDA+

### PRODUCT - TANNER MDA+ FOR HEATING AND COOLING, EXCL. CONDENSATE PUMP, 230V, 90/70 -15 °C, 7/12 - 28 °C - WITH EC FAN

| Code nr. | Description                                   | Price  |
|----------|-----------------------------------------------|--------|
| 5060878  | MDA+ 241EC, nominal cooling capacity 7,83 kW  | € 2568 |
| 5060883  | MDA+ 341EC, nominal cooling capacity 11,99 kW | € 3460 |
| 5060888  | MDA+ 441EC, nominal cooling capacity 21,17 kW | € 4765 |
| 5060898  | MDA+ 541EC, nominal cooling capacity 36,49 kW | € 6003 |

### PRODUCT - TANNER MDA+ FOR HEATING AND COOLING, CONDENSATE PUMP, 230V, 90/70 -15 °C, 7/12 - 28 °C - WITH EC FAN

| Code nr. | Description                                                        | Price  |
|----------|--------------------------------------------------------------------|--------|
| 5060978  | MDA+ 241EC with condensate pump, nominal cooling capacity 7.83 kW  | € 2984 |
| 5060983  | MDA+ 341EC with condensate pump, nominal cooling capacity 11,99 kW | € 3858 |
| 5060988  | MDA+ 441EC with condensate pump, nominal cooling capacity 21,17 kW | € 5163 |
| 5060998  | MDA+ 541EC with condensate pump, nominal cooling capacity 36,49 kW | € 6628 |





## ACCESSORIES - ADDITIONAL SECTIONS - VERTICAL LOUVRES

| Code nr. | Description       | Price |     |
|----------|-------------------|-------|-----|
| 5064242  | for MDA+ type 200 | €     | 171 |
| 5064243  | for MDA+ type 300 | €     | 205 |
| 5064244  | for MDA+ type 400 | €     | 251 |
| 5064245  | for MDA+ type 500 | €     | 404 |

## ACCESSORIES - ASSEMBLY - GENERAL

| Code nr. | Description                                      | Price |     |
|----------|--------------------------------------------------|-------|-----|
| 5017620  | Wall brackets horizontal, MDA+ type 200 - 500    | €     | 405 |
| 5017520  | Ceiling brackets horizontal, MDA+ type 200 - 500 | €     | 119 |

## ACCESSORIES - CONTROLS

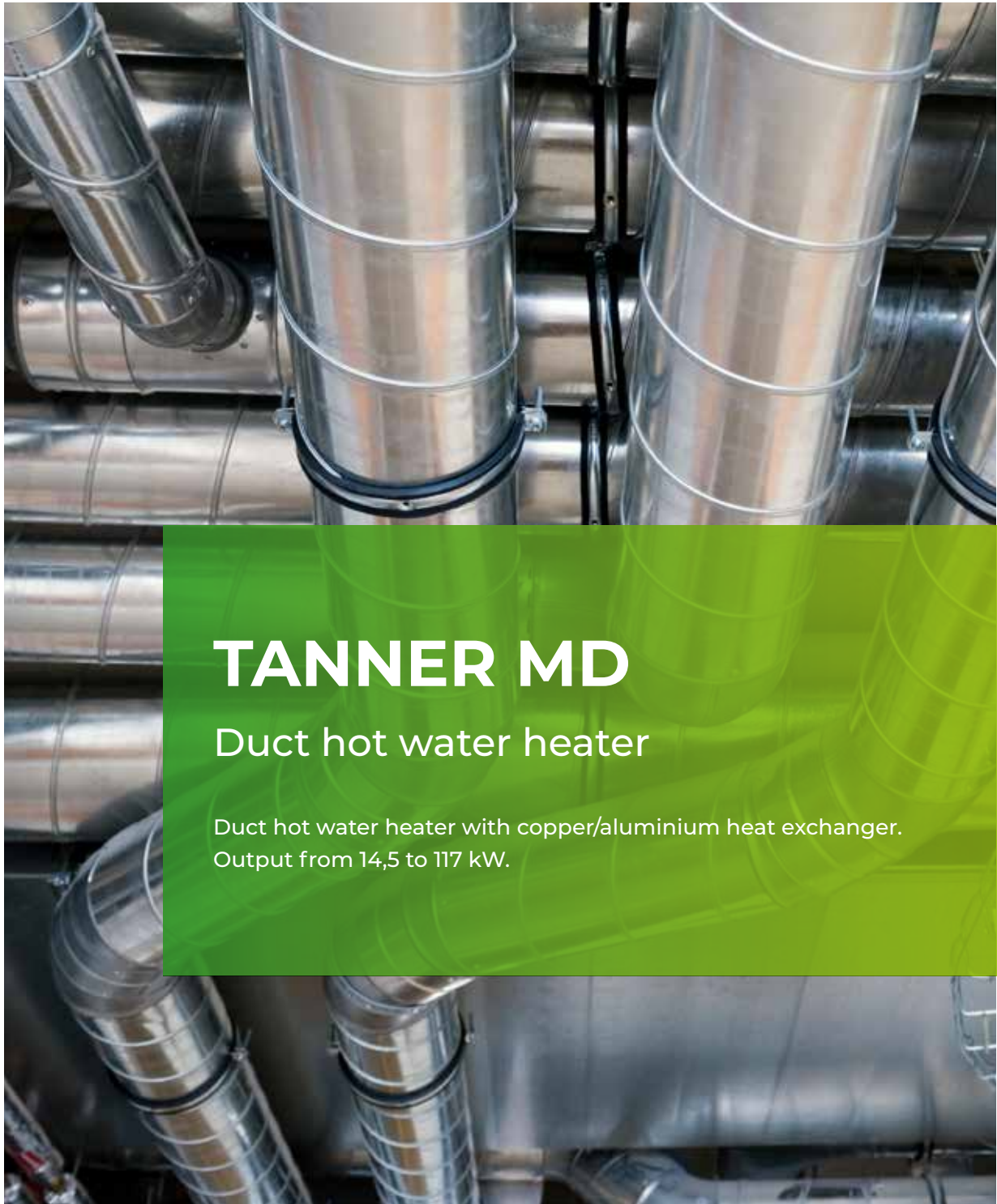
|   | Code nr. | Description                                        | Price |     |
|---|----------|----------------------------------------------------|-------|-----|
| ❶ | 0629110  | Pintherm Mistral                                   | €     | 726 |
| ❷ | 0629086  | Room sensor IP20                                   | €     | 93  |
| ❸ | 0629093  | Room sensor IP65                                   | €     | 65  |
| ❹ | 0629094  | Surface contact temperature sensor IP65            | €     | 110 |
|   | 0631163  | Isolator switch, separate delivery, 230V (4 poles) | €     | 71  |

For function explanation see chapter on control

## ACCESSOIRES - COLOURS \*\*\*

| Description                                                                      | Price |     |
|----------------------------------------------------------------------------------|-------|-----|
| MDA Type 200 Accessories provided with colour 1 to 3 pieces (by piece)           | €     | 139 |
| MDA Type 200 Accessories provided with colour 4 to 10 pieces (by piece)          | €     | 122 |
| MDA Type 200 Accessories provided with colour for more than 10 pieces (by piece) | €     | 87  |
| MDA Type 300 Accessories provided with colour 1 to 3 pieces (by piece)           | €     | 156 |
| MDA Type 300 Accessories provided with colour 4 to 10 pieces (by piece)          | €     | 133 |
| MDA Type 300 Accessories provided with colour for more than 10 pieces (by piece) | €     | 92  |
| MDA Type 400 Accessories provided with colour 1 to 3 pieces (by piece)           | €     | 162 |
| MDA Type 400 Accessories provided with colour 4 to 10 pieces (by piece)          | €     | 139 |
| MDA Type 400 Accessories provided with colour for more than 10 pieces (by piece) | €     | 99  |
| MDA Type 500 Accessories provided with colour 1 to 3 pieces (by piece)           | €     | 324 |
| MDA Type 500 Accessories provided with colour 4 to 10 pieces (by piece)          | €     | 278 |
| MDA Type 500 Accessories provided with colour for more than 10 pieces (by piece) | €     | 198 |

\*\*\* These prices are only for the Mark standard RAL-colours: 3002 red, 1028 yellow, 6010 green, 7016 gray, 8014 brown, 9001 beige white, 5009 blue, 2009 orange, 1019 beige



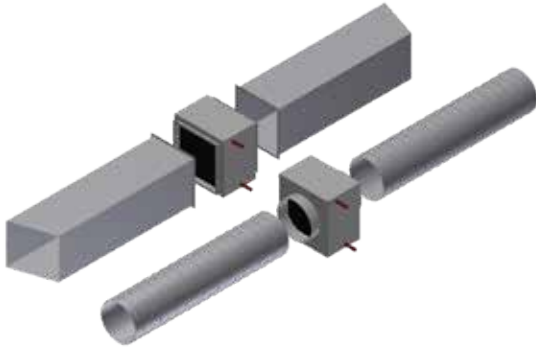
# TANNER MD

## Duct hot water heater

Duct hot water heater with copper/aluminium heat exchanger.  
Output from 14,5 to 117 kW.



For more information, downloads  
and videos, visit the Tanner MD  
page on our website



### Duct hot water heater

The TANNER MD water-supplied air heater should be located directly in a duct to (post) heat intake air. The MD is available in a wide range of capacities ranging from 14,5 to 117 kW.

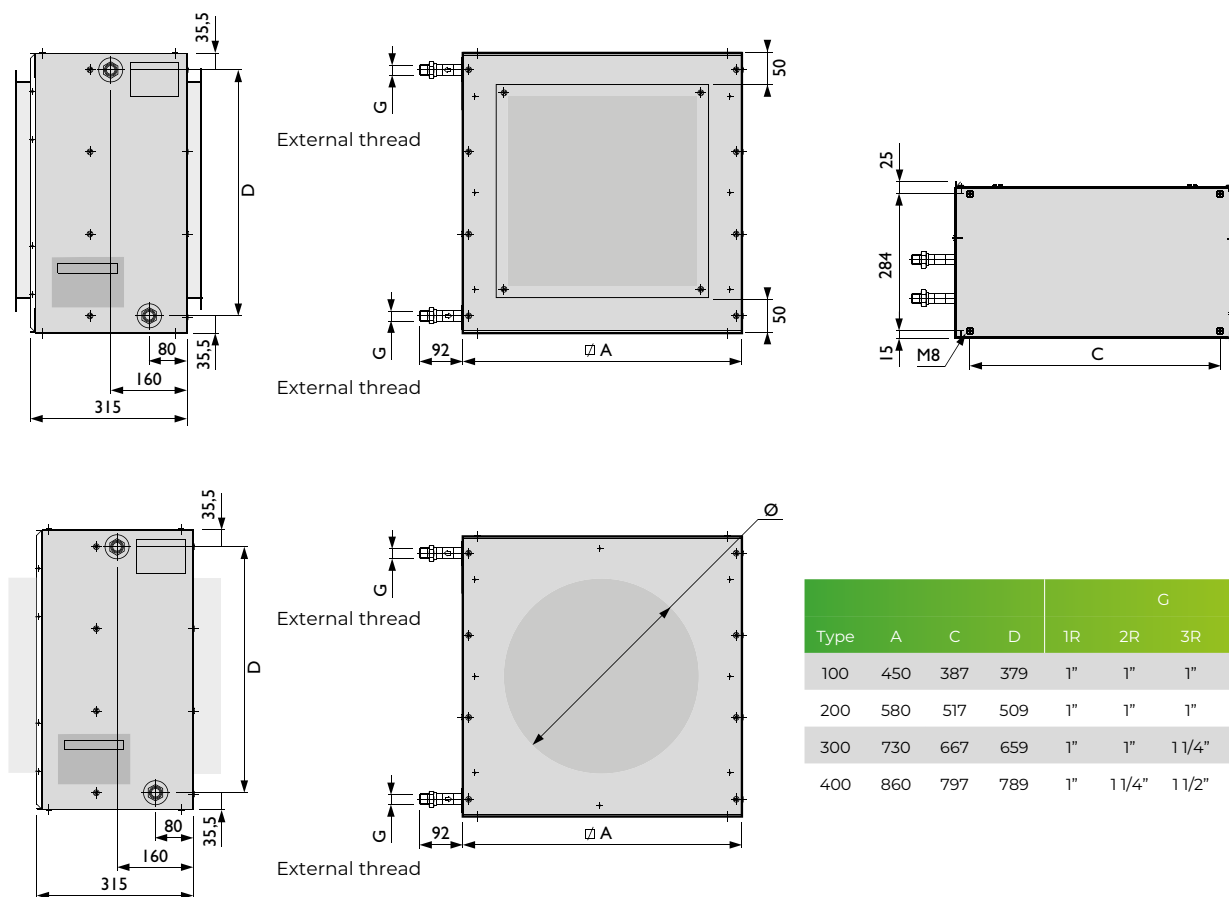
The round version is optionally available with rubber sealing.

See Tanner MDA for technical specifications.

#### Product features

- Manufactured with a corrosion-resistant aluzinc housing as standard
- Copper/aluminium heat exchanger

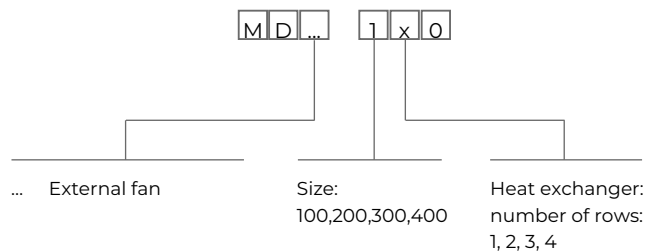
## Dimensions



| Type | A   | C   | D   | G  |        |        |        | Ø       |
|------|-----|-----|-----|----|--------|--------|--------|---------|
|      |     |     |     | 1R | 2R     | 3R     | 4R     |         |
| 100  | 450 | 387 | 379 | 1" | 1"     | 1"     | 1"     | 315/400 |
| 200  | 580 | 517 | 509 | 1" | 1"     | 1"     | 1"     | 450/500 |
| 300  | 730 | 667 | 659 | 1" | 1"     | 1 1/4" | 1 1/4" | 600/630 |
| 400  | 860 | 797 | 789 | 1" | 1 1/4" | 1 1/2" | 1 1/2" | 710     |

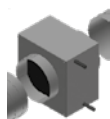
## Technical information

### TYPE DESIGNATION



See Tanner MDA tables on pages 53/54 for heat delivery.

## Prices Tanner MD



### PRODUCT - TANNER MD DUCT HEATER WITH ROUND CONNECTION

| Code nr. | Description             | Price |      |
|----------|-------------------------|-------|------|
| 3189051  | Tanner MD 120 - Ø 355mm | €     | 593  |
| 3189052  | Tanner MD 130 - Ø 355mm | €     | 647  |
| 3189053  | Tanner MD 140 - Ø 355mm | €     | 676  |
| 3189056  | Tanner MD 220 - Ø 500mm | €     | 734  |
| 3189057  | Tanner MD 230 - Ø 500mm | €     | 811  |
| 3189058  | Tanner MD 240 - Ø 500mm | €     | 869  |
| 3189061  | Tanner MD 320 - Ø 630mm | €     | 956  |
| 3189062  | Tanner MD 330 - Ø 630mm | €     | 1169 |
| 3189063  | Tanner MD 340 - Ø 630mm | €     | 1516 |
| 3189066  | Tanner MD 420 - Ø 710mm | €     | 1265 |
| 3189067  | Tanner MD 430 - Ø 710mm | €     | 1521 |
| 3189068  | Tanner MD 440 - Ø 710mm | €     | 1719 |



### PRODUCT - TANNER MD DUCT HEATER WITH SQUARE CONNECTION

| Code nr. | Description           | Price |      |
|----------|-----------------------|-------|------|
| 3189071  | Tanner MD 120 - 300mm | €     | 618  |
| 3189072  | Tanner MD 130 - 300mm | €     | 671  |
| 3189073  | Tanner MD 140 - 300mm | €     | 695  |
| 3189076  | Tanner MD 220 - 450mm | €     | 768  |
| 3189077  | Tanner MD 230 - 450mm | €     | 801  |
| 3189078  | Tanner MD 240 - 450mm | €     | 860  |
| 3189081  | Tanner MD 320 - 550mm | €     | 898  |
| 3189082  | Tanner MD 330 - 550mm | €     | 1033 |
| 3189083  | Tanner MD 340 - 550mm | €     | 1629 |
| 3189086  | Tanner MD 420 - 700mm | €     | 1082 |
| 3189087  | Tanner MD 430 - 700mm | €     | 1300 |
| 3189088  | Tanner MD 440 - 700mm | €     | 1739 |



# TANNER MBA

## Water-supplied air heater with EC axial fan

Water-supplied air heater for ceiling installation with RAL9016 coating. Output from 34,9 to 67,0 kW.



For more information, downloads and videos, visit the Tanner MBA page on our website



### The luxury hot water air heater

The Mark Tanner MBA is an aesthetically attractive water-supplied suspended hot water air heater with a stepless modulating EC axial fan. The units are available with capacities up to 68,6 kW, making them more suitable for heating with low water temperatures.

With its low height, the MBA is suited to heat low-ceilinged rooms, such as showrooms, offices, dressing rooms and shops. By using this unit, a room can be heated up in a short period of time.

#### Product features

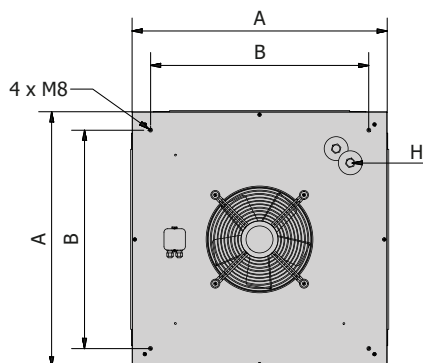
- Attractive appearance
- Simple installation
- Low maintenance
- Low noise level
- Powerful EC-fan
- RAL 9016 powder coating



Remote connection possible with the PinTherm Connect!



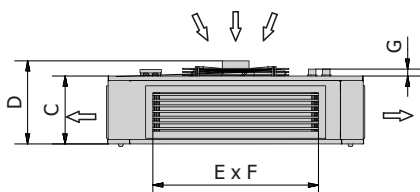
## Dimensions



| Type    | A   | B   | C   | D   | E   | F   | G  | H      |
|---------|-----|-----|-----|-----|-----|-----|----|--------|
| MBA 750 | 750 | 650 | 239 | 293 | 585 | 135 | 24 | 3/4" M |
| MBA 900 | 900 | 770 | 239 | 356 | 585 | 135 | 24 | 1" M   |

### General data:

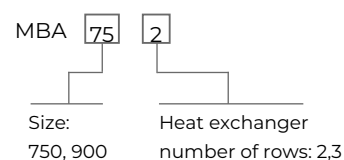
- Strip spacing: 2.1mm
- Maximum water inlet temperature: 120°C
- Maximum working pressure: 10 bar
- Maximum room temperature:  $\pm 40$  °C



## Technical information

| Type                                    |                   | 752      | 753      | 902      | 903      |
|-----------------------------------------|-------------------|----------|----------|----------|----------|
| 90/70 T 15                              | kW                | 34,9     | 44,7     | 53,0     | 68,6     |
| Air outlet temperature at the exchanger | °C                | 46,8     | 57,9     | 44,7     | 54,5     |
| 80/60 T 15                              | kW                | 28,9     | 37,5     | 44,1     | 57,6     |
| Air outlet temperature at the exchanger | °C                | 41,4     | 50,9     | 39,7     | 48,1     |
| 60/40 T 15                              | kW                | 16,5     | 22,5     | 25,9     | 34,0     |
| Air outlet temperature at the exchanger | °C                | 30,4     | 36,6     | 29,5     | 35,0     |
| 45/40-15                                | kW                | 14,9     | 18,9     | 22,7     | 29,0     |
| Air outlet temperature at the exchanger | °C                | 28,6     | 33,1     | 27,7     | 32,1     |
| 35/30-15                                | kW                | 9,0      | 11,7     | 13,8     | 18,1     |
| Air outlet temperature at the exchanger | °C                | 23,2     | 26,2     | 22,7     | 25,7     |
| Water resistance at 90/70 T15           | kPa               | 4,7      | 14,3     | 12,5     | 25,2     |
| Speed                                   | rpm               | variable | variable | variable | variable |
| Air displacement maximum                | m <sup>3</sup> /h | 3250     | 3090     | 5300     | 5035     |
| Noise level (3m) (high level)           | dB(A)             | 55       | 55       | 59       | 59       |
| Weight                                  | kg                | 32,5     | 33,5     | 36       | 37       |
| Consumed current 230V                   | A                 | 0,95     | 0,95     | 2,2      | 2,2      |

### TYPE DESIGNATION

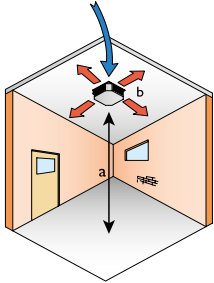


All motors EC 230V

### SOUND SPECTRUM AT MAXIMUM SPEED

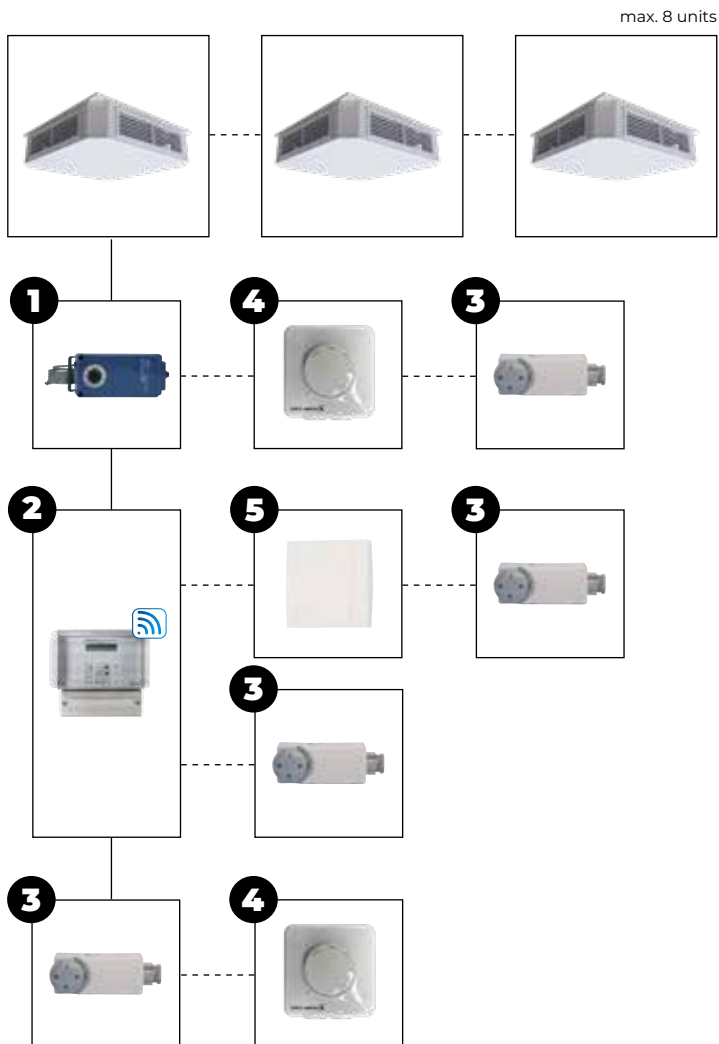
|         |    | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz |
|---------|----|------|-------|-------|-------|------|------|------|------|
| MBA 752 | dB | 45   | 52    | 54    | 53    | 49   | 47   | 40   | 31   |
| MBA 902 | dB | 56   | 59    | 62    | 57    | 53   | 50   | 46   | 41   |

## Assembly/location suggestions



| Type    | a (m) | b |
|---------|-------|---|
| MBA 750 | 2,5   | 4 |
| MBA 900 | 3,4   | 5 |

## Controls



### Control combination options

|            |   |   |   |   |   |   |
|------------|---|---|---|---|---|---|
| Tanner MBA | + | 1 |   |   |   |   |
| Tanner MBA | + | 1 | + | 4 |   |   |
| Tanner MBA | + | 1 | + | 4 | + | 3 |
| Tanner MBA | + | 2 |   |   |   |   |
| Tanner MBA | + | 2 | + | 5 |   |   |
| Tanner MBA | + | 2 | + | 5 | + | 3 |
| Tanner MBA | + | 2 | + | 3 |   |   |
| Tanner MBA | + | 3 |   |   |   |   |
| Tanner MBA | + | 3 | + | 4 |   |   |

See price list for description and code numbers of the relevant items

## Prices Tanner MBA



### PRODUCT - WARM WATER AIR HEATER TANNER MBA, 230V, 90/70 - 15° C

| Code nr. | Description                    | Price |      |
|----------|--------------------------------|-------|------|
| 5997110  | MBA 752, nominal power 34,9 kW | €     | 2072 |
| 5997111  | MBA 753, nominal power 44,7 kW | €     | 2239 |
| 5997112  | MBA 902, nominal power 53,0 kW | €     | 2314 |
| 5997113  | MBA 903, nominal power 68,6 kW | €     | 2497 |

### ACCESSORIES - CONTROLS

|   | Code nr. | Description                                                                         | Price |     |
|---|----------|-------------------------------------------------------------------------------------|-------|-----|
| 2 | 0629108  | PinTherm Connect - programmable room thermostat with Ethernet and Modbus, 230V (4A) | €     | 726 |
| 5 | 0629086  | Room sensor only in combination with 0629108                                        | €     | 93  |
| 3 | 0629180  | Surface contact thermostat (4A)                                                     | €     | 82  |
| 1 | 0629004  | Water resistant room thermostat, 230V, IP65                                         | €     | 284 |
| 4 | 0631390  | Potentiometer 10K with on/off contact IP54                                          | €     | 196 |
|   | 0631163  | Isolator switch, separate delivery, 230V (4 poles)                                  | €     | 71  |

*For explanation see chapter controls*

### ACCESSORIES - ASSEMBLY

| Code nr. | Description                                 | Price |    |
|----------|---------------------------------------------|-------|----|
| 5997097  | Mounting brackets, set of 4 pieces, H=150mm | €     | 55 |



# TANNER MDC

## Water-supplied air heater with centrifugal fan

Water-supplied air heater with copper/aluminium heat exchanger.  
Output from 14,5 to 117 kW.



For more information, downloads  
and videos, visit the Tanner MDC  
page on our website



#### Product features

- Manufactured with a corrosion-resistant aluzinc housing as standard
- Copper/aluminium heat exchanger
- Highly versatile due to extensive configuration options
- Available as 230V or 400V

### Versatile hot water air heater with centrifugal fan

The TANNER MDC is a water-supplied suspended air heater which can expel air horizontally or vertically.

The unit has a powerful centrifugal fan which means it is suitable for many applications. Mark offers a highly extensive range of accessories for the TANNER MDC allowing it to be aligned to specific client requirements.

For example, the unit can be made suitable for external air connection in combination with filtering and a mixing box for the destratification of fresh external air. The MDC is highly suitable for connection to a duct system.

The MDC is designed for use in showrooms, changing rooms, industrial halls and garages.

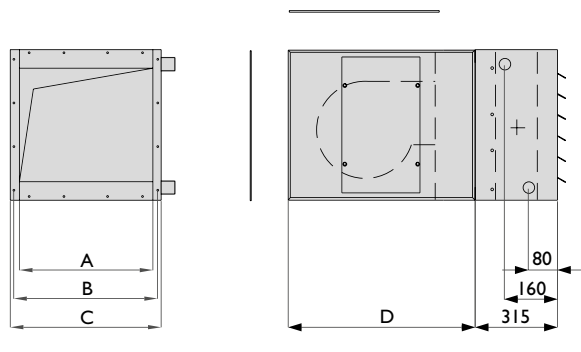
Optional: EC-motor (230V / 0-10V), advantages of which are:

- The highest efficiency in case of speed control
- Up to 50% energy saving in case of partial load
- Almost completely linearly adjustable
- Long lifetime
- Low noise level
- Integrated electronic thermal protection



Remote connection possible with the PinTherm Connect!

## Dimensions



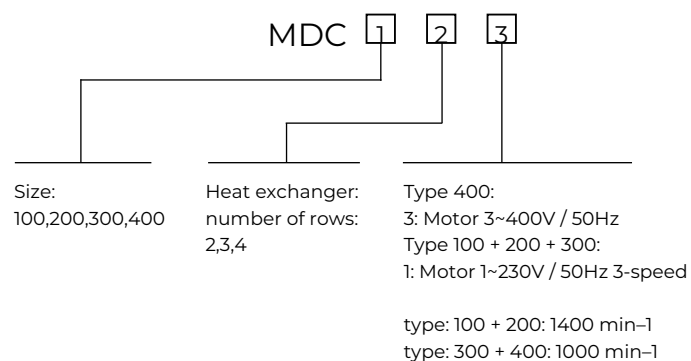
| T          | A   | B   | C   | D   |
|------------|-----|-----|-----|-----|
|            | mm  | mm  | mm  | mm  |
| 100        | 390 | 415 | 443 | 583 |
| 200        | 520 | 545 | 573 | 713 |
| 300        | 670 | 595 | 723 | 863 |
| 400 1.1 kW | 800 | 835 | 853 | 993 |
| 400 1.5 kW | 800 | 835 | 853 | 993 |
| 400 2.2 kW | 800 | 835 | 853 | 993 |
| 400 3.0 kW | 800 | 835 | 853 | 993 |

## Technical information

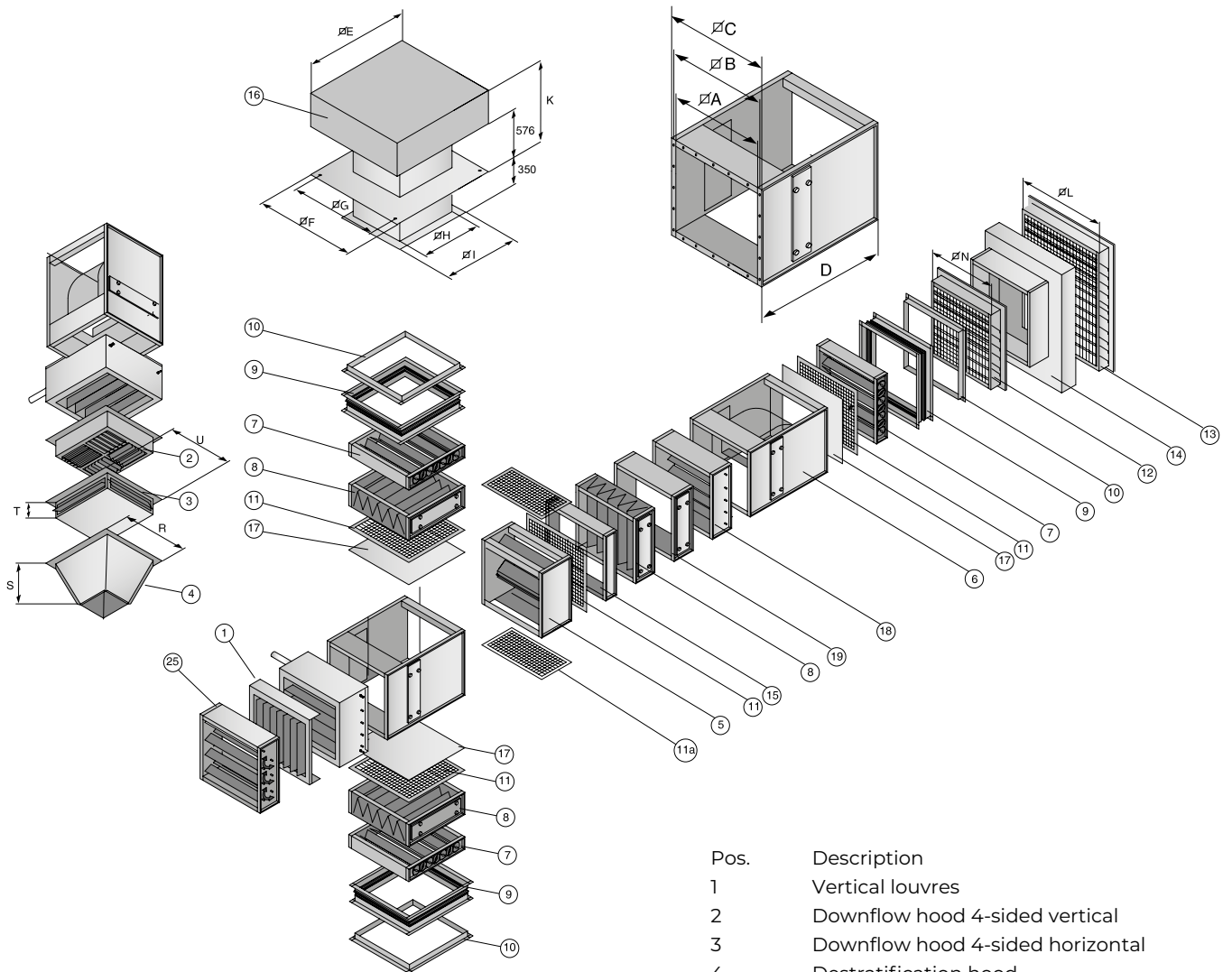
| Type                      |       | 100    | 200    | 300    | 400      | 400      | 400      | 400      |
|---------------------------|-------|--------|--------|--------|----------|----------|----------|----------|
| Air displacement minimum  | m³/h  | 1.000  | 2.000  | 2.500  | 4.000    | 4.000    | 4.000    | 4.000    |
| Air displacement maximum  | m³/h  | 2.500  | 3.600  | 5.400  | 7.000    | <7.800   | <8.800   | <9.300   |
| External pressure maximum | Pa    | 300    | 380    | 250    | 400      | 400      | 420      | 420      |
| Noise level (5m)          | dB(A) | 53     | 53     | 53     | 58       | 58       | 64       | 70       |
| Supply voltage (50Hz)     | V     | 1~230V | 1~230V | 1~230V | 3~400V+N | 3~400V+N | 3~400V+N | 3~400V+N |
| Motor                     | kW    | 0,42   | 0,55   | 0,75   | 1,1      | 1,5      | 2,2      | 3        |
| Consumed current          | A     | 3,1    | 6,7    | 7,0    | 2,8      | 3,7      | 5        | 6,9      |

See MDA tables on pages 53/54 for heat delivery.  
 Technical information of the Tanner MDC with EC motor is available on request.

## TYPE DESIGNATION



## Accessories - additional sections



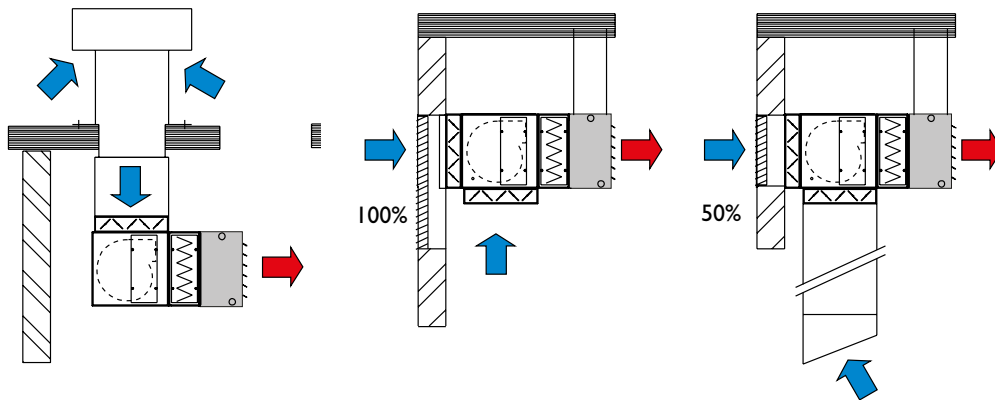
| Type | A   | B   | C   | D   | E    | F    | G    | H   |
|------|-----|-----|-----|-----|------|------|------|-----|
| 100  | 390 | 415 | 443 | 463 | 690  | 740  | 690  | 380 |
| 200  | 520 | 545 | 573 | 593 | 920  | 920  | 820  | 510 |
| 300  | 670 | 695 | 723 | 743 | 1180 | 1240 | 975  | 665 |
| 400  | 800 | 835 | 853 | 873 | 1420 | 1240 | 1110 | 800 |

| Type | I   | K    | L    | N   | R   | S   | T   | U   |
|------|-----|------|------|-----|-----|-----|-----|-----|
| 100  | 440 | 800  | 516  | 386 | 439 | 212 | 120 | 406 |
| 200  | 570 | 895  | 666  | 516 | 573 | 253 | 151 | 530 |
| 300  | 720 | 940  | 796  | 666 | 724 | 300 | 175 | 680 |
| 400  | 850 | 1075 | 1005 | 796 | 853 | 329 | 220 | 815 |

| Pos. | Description                               |
|------|-------------------------------------------|
| 1    | Vertical louvres                          |
| 2    | Downflow hood 4-sided vertical            |
| 3    | Downflow hood 4-sided horizontal          |
| 4    | Destratification hood                     |
| 5    | Mixing box incl. dampers                  |
| 6    | Mixing box for dampers                    |
| 7    | Damper                                    |
| 8    | Filter box with filter (EU 3)             |
| 9    | Flexible connection                       |
| 10   | Corner profile                            |
| 11   | Mesh                                      |
| 11a  | Mesh                                      |
| 12   | Weather grill ≤ 50% fresh air intake      |
| 13   | Weather grill > 50%-100% fresh air intake |
| 14   | Transition piece for 13                   |
| 15   | Empty section 120 mm                      |
| 16   | Rain cap incl. adhesive plate (aluminium) |
| 17   | Blanking plate                            |
| 18   | Motor protection strip                    |
| 19   | Empty section 240 mm                      |
| 25   | Induction damper                          |



## Assembly/location suggestions



## Controls

### Control combination options

Tanner MDC + 1 + 2 + 4

Tanner MDC + 1 + 2 + 5

Tanner MDC + 1 + 2 + 6

Tanner MDC + 1 + 2 + 7

Tanner MDC + 1 + 2 + 4 + 8

Tanner MDC + 1 + 2 + 5 + 8

Tanner MDC + 1 + 2 + 6 + 8

Tanner MDC + 1 + 2 + 7 + 8

Tanner MDC + 1 + 3 + 4

Tanner MDC + 1 + 3 + 5

Tanner MDC + 1 + 3 + 6

Tanner MDC + 1 + 3 + 7

Tanner MDC + 1 + 3 + 4 + 8

Tanner MDC + 1 + 3 + 5 + 8

Tanner MDC + 1 + 3 + 6 + 8

Tanner MDC + 1 + 3 + 7 + 8

### 1 = Motor control:

A 3003500

B 3003502-3003505

C 3003510

D 3003511

Motor control Tanner MDC Type 100/200/300 230V

Motor control Tanner MDC Type 400 3~400V

Motor control Tanner MDC (EC version) Frequency inverter OJ-DV

Motor control Tanner MDC (EC version) with DDMP fan

2 = 3-step switch (0631175)

3 = Potentiometer (0631390)

4 = Room thermostat (0629013)

5 = Clock thermostat (0629039)

6 = Pintherm Connect (0629108)

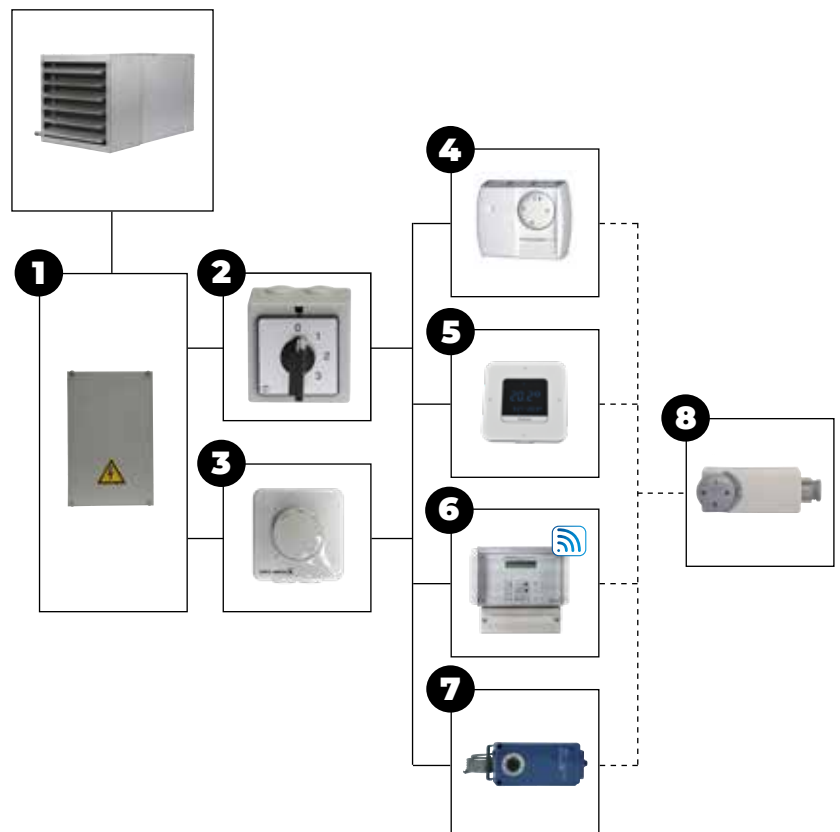
7 = Waterproof room thermostat (0629004)

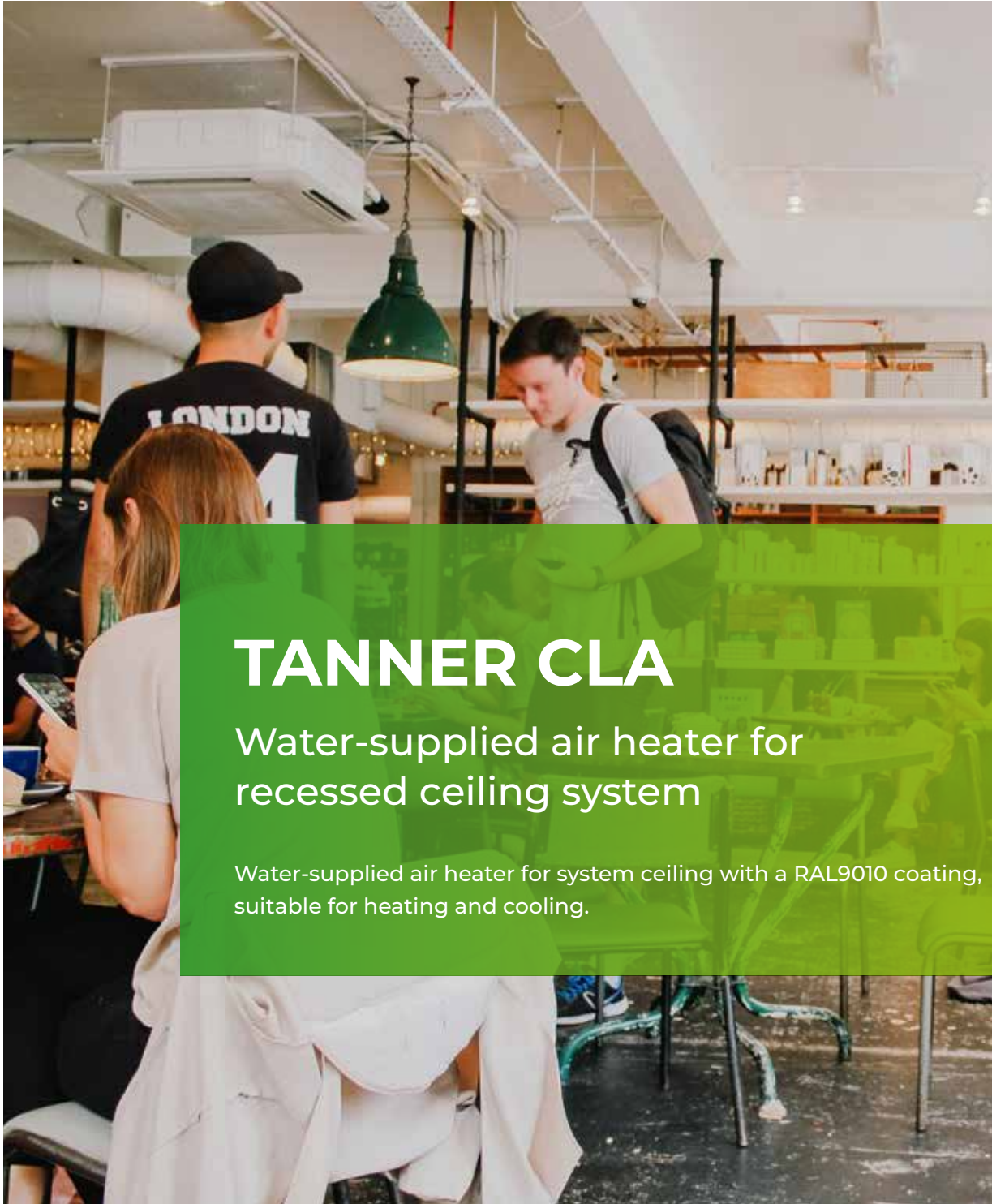
8 = Surface contact thermostat (0629180)

### Remark:

Switch (2) only in combination with A or B

Potentiometer (3) only in combination with C or D





# TANNER CLA

## Water-supplied air heater for recessed ceiling system

Water-supplied air heater for system ceiling with a RAL9010 coating, suitable for heating and cooling.



For more information, downloads and videos, visit the Tanner CLA page on our website



### Ceiling cassette unit for heating and cooling

The Mark TANNER CLA is a water-supplied air heater intended for installation in a suspended ceiling. The cassette unit is equipped with an EC motor.

The CLA has the same appearance as the internal part of a split air conditioning unit. The unit can also be fitted with a design plate in color that is suitable for placement in rooms where high-quality requirements are imposed on interior architecture.

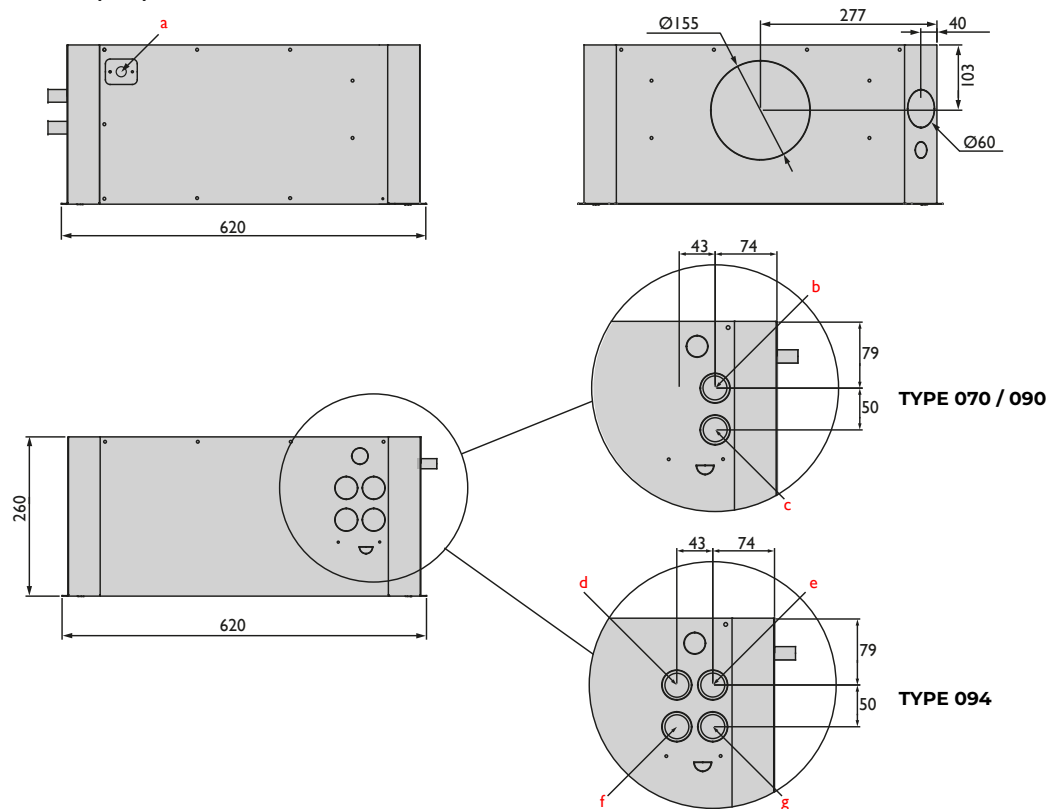
The CLA is applicable in, for example, showrooms, offices, changing rooms and shops.

#### Product features

- Modern design
- Low maintenance
- Powerful energy-efficient EC motor
- Quiet
- Built-in protected condensate pump
- Available with one or two water circuits

## Dimensions

### TYPE 070/090/094



a = Condensate drain Ø16

### TYPE 070 / 090 / 150 (2-pipe)

b = Return

c = Supply

### TYPE 150 / 094 (4-pipe)

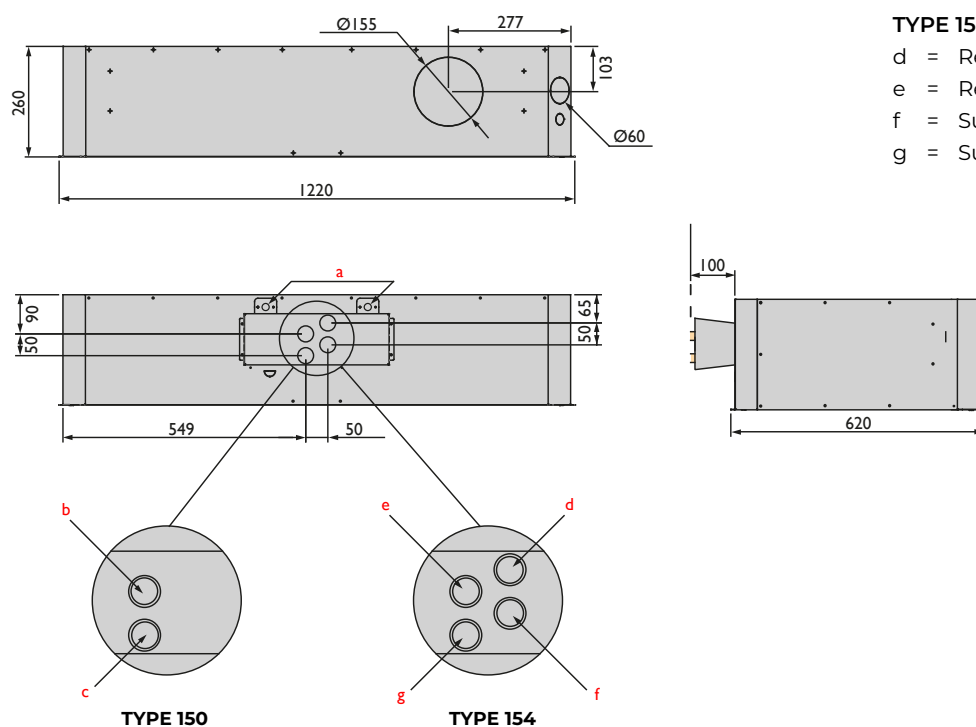
d = Return heating

e = Return cooling

f = Supply heating

g = Supply cooling

### TYPE 150/154



## Technical information

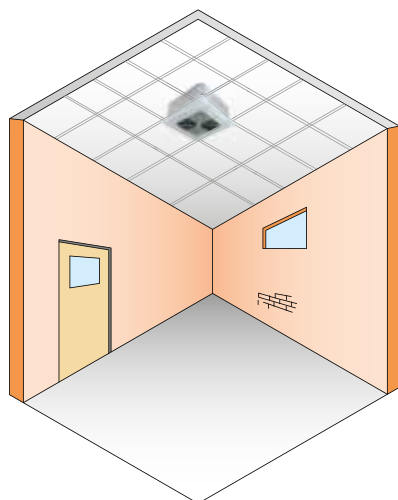
| Type                                             |                | 070*            | 090*      | 094**     | 150*      | 154**     |
|--------------------------------------------------|----------------|-----------------|-----------|-----------|-----------|-----------|
| Total cooling capacity<br>7/12°C, T=27, rv=50    | H - kW (10V)   | 4,32            | 7,29      | 6,39      | 13,49     | 11,20     |
|                                                  | M - kW (6V)    | 2,88            | 4,74      | 4,26      | 11,60     | 9,75      |
|                                                  | L - kW (2V)    | 1,27            | 2,17      | 2,05      | 7,44      | 6,43      |
| Sensible cooling capacity<br>7/12°C, T=27, rv=50 | H - kW (10V)   | 2,99            | 4,86      | 4,11      | 8,56      | 7,15      |
|                                                  | M - kW (6V)    | 2,06            | 3,14      | 2,76      | 7,38      | 6,23      |
|                                                  | L - kW (2V)    | 1,04            | 1,40      | 1,35      | 4,73      | 4,14      |
| Water flow                                       | l/h (10V)      | 742             | 1251      | 1096      | 2314      | 1923      |
| Pressure drop                                    | kPa            | 3,5             | 5,0       | 34,3      | 36,6      | 31,8      |
| Heating capacity<br>60/40°C, T=20                | H - kW (10V)   | 5,89            | 11,48     | 4,51      | 19,75     | 7,43      |
|                                                  | M - kW (6V)    | 3,93            | 6,92      | 3,23      | 15,25     | 6,48      |
|                                                  | L - kW (2V)    | 1,95            | 3,17      | 1,77      | 9,79      | 4,66      |
| Water flow                                       | l/h (10V)      | 259             | 501       | 210       | 763       | 295       |
| Pressure drop                                    | kPa            | 3,1             | 4,5       | 2,8       | 34,4      | 5,0       |
| Heating capacity<br>50/43°C, T=20                | H - kW (10V)   | 5,85            | 8,60      | 7,19      | 14,8      | 21,54     |
|                                                  | M - kW (6V)    | 3,96            | 5,46      | 5,08      | 12,63     | 11,12     |
|                                                  | L - kW (2V)    | 1,94            | 2,43      | 2,73      | 7,88      | 7,80      |
| Water flow                                       | l/h (10V)      | 742             | 1251      | 632       | 2314      | 1101      |
| Pressure drop                                    | kPa            | 3,1             | 4,6       | 22,1      | 34,6      | 43,4      |
| Air amount                                       | H - m³/h (10V) | 980             | 980       | 980       | 1620      | 1620      |
|                                                  | M - m³/h (6V)  | 590             | 590       | 590       | 1360      | 1360      |
|                                                  | L - m³/hs (2V) | 250             | 250       | 250       | 820       | 820       |
| Sound level                                      | dB(A) (10V)    | 48              | 48        | 48        | 51        | 51        |
| Supply voltage                                   | V/Ph/Hz        | 210-230/1/50-60 |           |           |           |           |
| Power consumption                                | W (10V)        | 41              | 45        | 45        | 85        | 85        |
| Current consumption                              | A (10V)        | 0,36            | 0,42      | 0,42      | 0,55      | 0,55      |
| Water connections                                | Nr. x "        | 2 x 3/4"F       | 2 x 3/4"F | 4 x 3/4"F | 2 x 3/4"F | 4 x 3/4"F |
| Weight                                           | kg             | 18              | 19        | 19,5      | 38        | 39        |

H = high speed, M = medium speed, L = low speed

\* For heating or cooling (one coil)

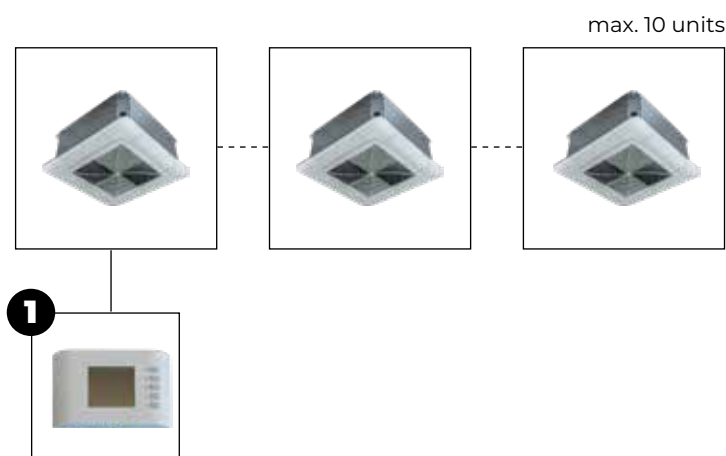
\*\* For heating and cooling (two coils)

## Assembly/location suggestions



Throw = 3,5M

## Controls



### Control combination options

Tanner CLA + 1

See price list for description and code numbers of the relevant items

## Prices Tanner CLA



### PRODUCT - TANNER CLA CEILING CASSETTE UNIT WITH EC-MOTOR

| Code nr. | Description              | Price  |
|----------|--------------------------|--------|
| 5997301  | CLA 070 EC - 600x600 mm  | € 2097 |
| 5997303  | CLA 090 EC - 600x600 mm  | € 2308 |
| 5997305  | CLA 094 EC - 600x600 mm  | € 2476 |
| 5997307  | CLA 150 EC - 1200x600 mm | € 4425 |
| 5997309  | CLA 154 EC - 1200x600 mm | € 4752 |

### ACCESSORIES - CONTROLS

| Code nr.  | Description                                                 | Price |
|-----------|-------------------------------------------------------------|-------|
| 1 5997350 | Room thermostat with speed control                          | € 345 |
| 5997353   | On-Off servomotor (230V) for control valve                  | € 148 |
| 5997354   | On-Off servomotor (24V) for control valve                   | € 148 |
| 5997355   | On-Off servomotor with end contact (230V) for control valve | € 162 |
| 5997356   | On-Off servomotor with end contact (24V) for control valve  | € 142 |
| 5997357   | Modulating servomotor 0-10V for control valve               | € 470 |
| 0631163   | Isolator switch 4-poles 230V, separate delivery             | € 71  |

For explanation see chapter controls

### ACCESSOIRES - WATER-SIDED CONTROLS

| Code nr. | Description                                 | Price |
|----------|---------------------------------------------|-------|
| 5997360  | 2-way valve 3/4" without servomotor mounted | € 183 |
| 5997361  | 3-way valve 3/4" without servomotor mounted | € 235 |
| 5997365  | Ball valve 3/4" set of 2 pieces             | € 137 |

### ACCESSORIES - OTHER

| Code nr. | Description                       | Price |
|----------|-----------------------------------|-------|
| 5997370  | Design metal front color RAL 9003 | € 312 |



# LDA SWIRL

## Water-supplied air heater with EC-fan

Water-supplied air heater with copper/aluminium heat exchanger.  
Air amounts from 500 to 2000 m<sup>3</sup>/h.



For more information, downloads  
and videos, visit the LDA Swirl  
page on our website





### Design air heater for grid type ceilings

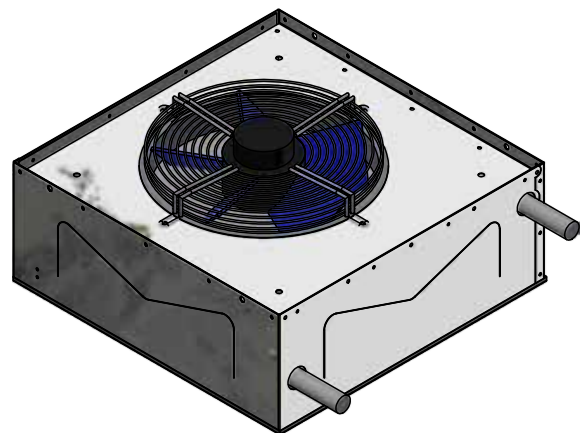
The Mark LDA SWIRL design water-supplied air heater has been developed to fit into 600x600 grid type ceilings. The unit is easy to install due to its compact dimensions and is also perfectly suitable for rooms with low ceilings. Of course it is also easy to install as a free hanging unit.

Due to the modulating EC fan, the Mark LDA SWIRL is available for a wide range of air volumes and heating capacities. The EC fan also ensures a quiet and energy efficient unit.

The LDA is designed for use in stores, offices and hospitals.

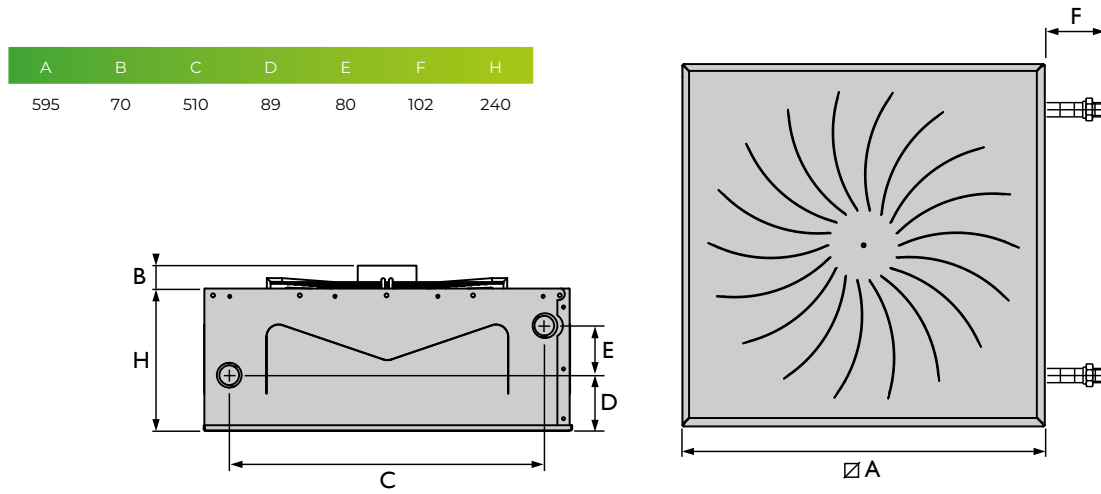
#### Product features

- RAL 9010 powder coating (other colours on request)
- Low maintenance
- Silent
- Pleasant air diffusion
- Attractive appearance
- Low energy consumption
- 0-10V control



Remote connection possible with the PinTherm Connect!

## Dimensions

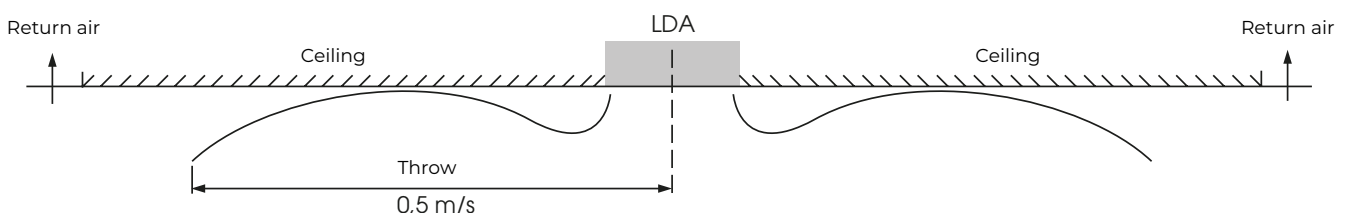


## Technical information

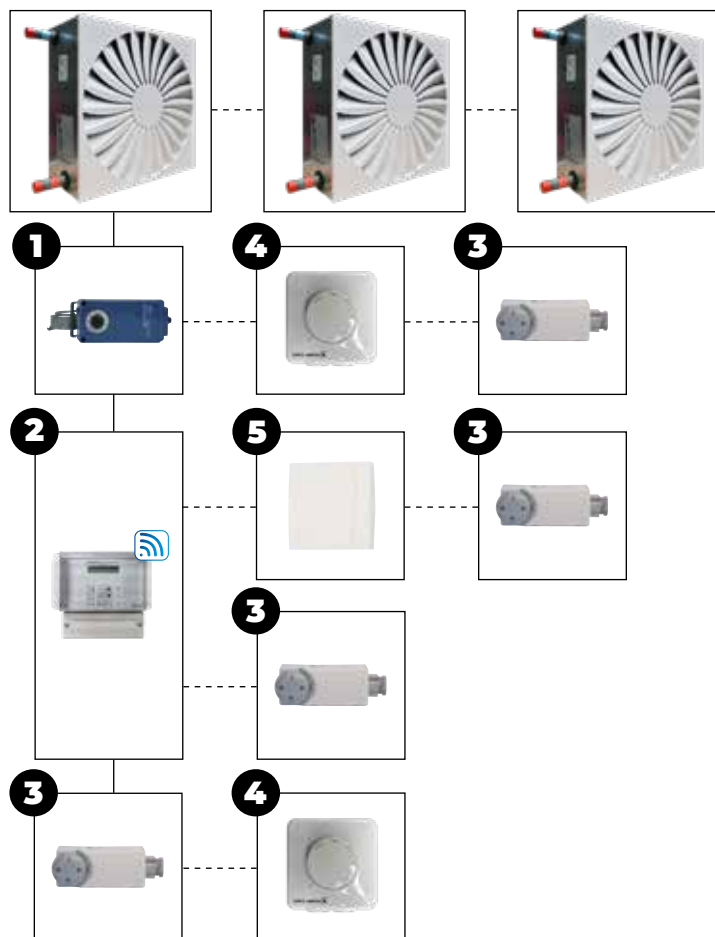
| Air displacement<br>LDA 221 | Heat delivery<br>90/70 T15 | Heat delivery<br>80/60 T15 | Heat delivery<br>60/40 T15 | Heat delivery<br>45/38 T15 | Throw | Noise level |
|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-------|-------------|
| $m^3/h$                     | $W$                        | $W$                        | $W$                        | $W$                        | $m$   | $dB(A)$     |
| 500                         | 6750                       | 5560                       | 3400                       | 2720                       | 3     | 26          |
| 750                         | 8640                       | 7290                       | 4300                       | 3560                       | 4,5   | 31          |
| 1000                        | 10430                      | 8580                       | 5040                       | 4100                       | 6     | 33          |
| 1250                        | 11950                      | 9910                       | 5690                       | 4872                       | 8     | 33          |
| 1500                        | 13520                      | 11110                      | 6480                       | 5270                       | 9,5   | 35          |
| 1750                        | 14700                      | 12180                      | 6950                       | 5850                       | 11    | 36          |
| 2000                        | 15910                      | 13120                      | 7540                       | 6260                       | 13    | 42          |

- Water connection: 1" male thread  
 - Water resistance T15: 5 kPa  
 - Weight: 23 kg  
 - 1 Phase 230 V

## Assembly/location suggestions



## Controls



### Control combination options

|           |   |          |   |          |   |          |
|-----------|---|----------|---|----------|---|----------|
| LDA Swirl | + | <b>1</b> |   |          |   |          |
| LDA Swirl | + | <b>1</b> | + | <b>4</b> |   |          |
| LDA Swirl | + | <b>1</b> | + | <b>4</b> | + | <b>3</b> |
| LDA Swirl | + | <b>2</b> |   |          |   |          |
| LDA Swirl | + | <b>2</b> | + | <b>5</b> |   |          |
| LDA Swirl | + | <b>2</b> | + | <b>5</b> | + | <b>3</b> |
| LDA Swirl | + | <b>2</b> | + | <b>3</b> |   |          |
| LDA Swirl | + | <b>3</b> |   |          |   |          |
| LDA Swirl | + | <b>3</b> | + | <b>4</b> |   |          |

See price list for description and code numbers of the relevant items

## Prices LDA SWIRL



### PRODUCT - LDA SWIRL

| Code nr. | Description                                         | Price  |
|----------|-----------------------------------------------------|--------|
| 3182041  | LDA Swirl 221 water-supplied air heater with EC-fan | € 1264 |

### ACCESSORIES - CONTROLS

|          | Code nr. | Description                                                                         | Price |
|----------|----------|-------------------------------------------------------------------------------------|-------|
| <b>2</b> | 0629108  | PinTherm Connect - programmable room thermostat with Ethernet and Modbus, 230V (4A) | € 726 |
| <b>5</b> | 0629086  | Room sensor, only combined with 0629108                                             | € 93  |
| <b>3</b> | 0629180  | Surface contact thermostat (4A)                                                     | € 82  |
| <b>1</b> | 0629004  | Waterproof room thermostat, 230V, IP65                                              | € 284 |
| <b>4</b> | 0631390  | Potentiometer 10K with on/off contact IP54                                          | € 196 |
|          | 0631163  | Isolator switch 4-poles 230V, separate delivery                                     | € 71  |

For explanation see chapter controls



# FAN COIL

## Water-supplied decentral unit with EC-fan

Water-supplied decentral unit with EC-fan for heating and cooling.  
Air amounts from 170 to 910 m<sup>3</sup>/h.



For more information, downloads  
and videos, visit the Fan Coil page  
on our website



### High comfort with small dimensions in a modern design

The FAN COIL is a decentralized unit for low temperature heating systems and cooling. The unit is equipped with a low-noise EC fan and can easily be combined with a heat pump system.

The FAN COIL unit has a very low water content and can therefore react quickly. This ensures maximum controllability, which is the ideal basis for contemporary heating and cooling.

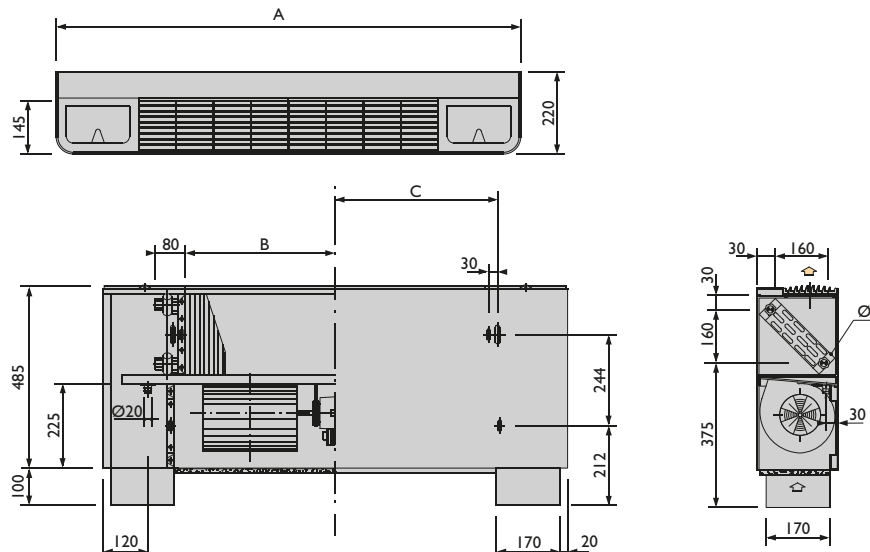
The FAN COIL is designed for use in smaller spaces such as offices, shops, living rooms and garages.

#### Product features

- 8 sizes and 2 versions
- Casing made of galvanized steel with a RAL 9010 coating
- Copper / aluminum heat exchanger
- Cleanable synthetic air filter type G2
- Reliable low-noise EC fan

## Dimensions

| T   | A    | B    | C    | Ø    |
|-----|------|------|------|------|
| 030 | 840  | 400  | 480  | 1/2" |
| 050 | 1040 | 600  | 680  | 1/2" |
| 070 | 1240 | 800  | 880  | 1/2" |
| 100 | 1640 | 1200 | 1280 | 3/4" |

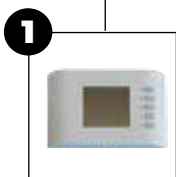


## Technical information

| Type                                             |                | 030             | 050  | 070  | 100  | 034  | 054  | 074  | 104  |
|--------------------------------------------------|----------------|-----------------|------|------|------|------|------|------|------|
| Total cooling capacity<br>7/12°C, T=27, rv=50    | H - kW (10V)   | 2,18            | 3,11 | 4,57 | 5,36 | 2,18 | 3,11 | 4,57 | 5,36 |
|                                                  | M - kW (6V)    | 1,44            | 2,35 | 3,53 | 4,05 | 1,44 | 2,35 | 3,53 | 4,05 |
|                                                  | L - kW (2V)    | 0,98            | 1,24 | 1,59 | 1,77 | 0,98 | 1,24 | 1,59 | 1,77 |
| Sensible cooling capacity<br>7/12°C, T=27, rv=50 | H - kW (10V)   | 1,75            | 2,15 | 3,02 | 3,58 | 1,75 | 2,15 | 3,02 | 3,58 |
|                                                  | M - kW (6V)    | 1,35            | 1,67 | 2,35 | 2,84 | 1,35 | 1,67 | 2,35 | 2,84 |
|                                                  | L - kW (2V)    | 0,75            | 0,89 | 1,09 | 1,22 | 0,75 | 0,89 | 1,09 | 1,22 |
| Water flow                                       | l/h (10V)      | 374             | 533  | 783  | 920  | 374  | 533  | 783  | 920  |
| Pressure drop                                    | kPa            | 3,7             | 7,8  | 12,7 | 6,9  | 3,7  | 7,8  | 12,7 | 6,9  |
| Heating capacity<br>60/40°C, T=20                | H - kW (10V)   | 3,12            | 4,24 | 6,14 | 7,24 | 1,07 | 1,75 | 2,63 | 2,72 |
|                                                  | M - kW (6V)    | 2,34            | 3,24 | 4,71 | 5,44 | 0,87 | 1,41 | 2,13 | 2,16 |
|                                                  | L - kW (2V)    | 1,30            | 1,74 | 2,11 | 2,41 | 0,53 | 0,86 | 1,13 | 1,14 |
| Water flow*                                      | l/h (10V)      | 137             | 186  | 270  | 318  | 47   | 77   | 115  | 120  |
| Heating capacity<br>50/43°C, T=20                | H - kW (10V)   | 3,26            | 4,03 | 5,64 | 6,68 | 2,50 | 3,24 | 4,54 | 5,32 |
|                                                  | M - kW (6V)    | 2,44            | 3,08 | 4,33 | 5,02 | 2,03 | 2,61 | 3,67 | 4,22 |
|                                                  | L - kW (2V)    | 1,36            | 1,65 | 1,94 | 2,22 | 1,24 | 1,60 | 1,95 | 2,23 |
| Water flow**                                     | l/h (10V)      | 374             | 533  | 783  | 920  | 220  | 285  | 399  | 467  |
| Pressure drop                                    | kPa            | 3,2             | 7,0  | 11,2 | 6,3  | 7,3  | 13,5 | 21,2 | 8,8  |
| Air amount                                       | H - m³/h (10V) | 495             | 540  | 745  | 910  | 495  | 540  | 745  | 910  |
|                                                  | M - m³/h (6V)  | 360             | 390  | 540  | 620  | 360  | 390  | 540  | 620  |
|                                                  | L - m³/h (2V)  | 170             | 190  | 215  | 245  | 170  | 190  | 215  | 245  |
| Sound level                                      | dB(A) (10V)    | 47              | 48   | 45   | 48   | 47   | 48   | 45   | 48   |
| Supply voltage                                   | V/Ph/Hz        | 210-230/1/50-60 |      |      |      |      |      |      |      |
| Power consumption                                | W (10V)        | 43              | 44   | 49   | 55   | 43   | 44   | 49   | 55   |
| Current consumption                              | A (10V)        | 0,28            | 0,30 | 0,34 | 0,37 | 0,28 | 0,30 | 0,34 | 0,37 |
| Water connections                                | Nr. x "        | 2 x 1/2"F       |      |      |      |      |      |      |      |
| Weight                                           | kg             | 24              | 27   | 39   | 55   | 25,5 | 28,5 | 41   | 57   |

H = high speed, M = medium speed, L = low speed

## Controls



### Control combination options

Fan Coil + **1**

See price list for description and code numbers of the relevant items

## Prices Fan Coil



### PRODUCT - FAN COIL

| Code nr. | Description         | Price  |
|----------|---------------------|--------|
| 5991030  | Fan Coil FLE 030 EC | € 1248 |
| 5991031  | Fan Coil FLE 050 EC | € 1327 |
| 5991032  | Fan Coil FLE 070 EC | € 1589 |
| 5991033  | Fan Coil FLE 100 EC | € 1843 |
| 5991034  | Fan Coil FLE 034 EC | € 1380 |
| 5991035  | Fan Coil FLE 054 EC | € 1473 |
| 5991036  | Fan Coil FLE 074 EC | € 1767 |
| 5991037  | Fan Coil FLE 104 EC | € 2049 |

### ACCESSORIES - CONTROLS

| Code nr.         | Description                        | Price |
|------------------|------------------------------------|-------|
| <b>1</b> 5997350 | Room thermostat with speed control | € 345 |

*For explanation see chapter controls*





# COMFORT LINE

## Water-supplied air heater

Water-supplied air heater with various applications, including homes.  
Output from 6,7 to 51,9 kW.



For more information, downloads  
and videos, visit the Comfort Line  
page on our website



#### Product features

- Energy saving
- Comfort increasing
- Long lifespan
- High quality
- Compact
- Quiet
- Equipped with controller

### A comfortable temperature for every home

The Mark COMFORT LINE water-supplied air heaters are specially designed for optimal and energy efficient heating of homes. The unit can be used in combination with a combi boiler and/or heat pump. The air heater is also dimensioned in such a way that it is very suitable for renovation.

The COMFORT LINE ensures recirculation, filtering and heated supply of the air in a building or home. This allows all rooms to be heated quickly and comfortably.

In addition to homes, the COMFORT LINE can also be used in shopping centers, offices, churches and school buildings.

The COMFORT LINE air heaters are fitted with EC motors as standard. Benefits:

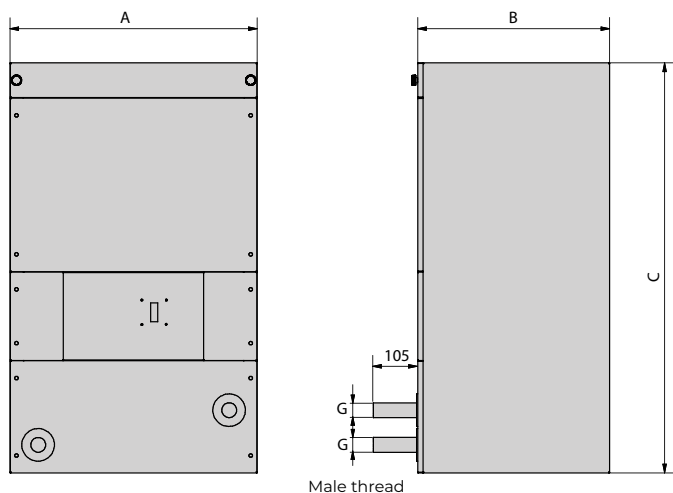
- Highest efficiency with speed control
- Up to 50% energy savings at partial load
- Almost linearly adjustable from 0-100%
- Long lifespan
- Quiet
- Integrated electronic protection against overheating

#### Controller

Every COMFORT LINE is supplied with a controller as standard. This user-friendly and easy-to-operate control ensures perfect and worry-free operation.

Each controller is equipped with a pipe surface temperature sensor. The COMFORT LINE fan speeds up or down depending on the water temperature.

## Dimensions



| Type  | A   | B   | C   | G  |
|-------|-----|-----|-----|----|
| 8-12  | 570 | 442 | 945 | 1" |
| 18-24 | 670 | 612 | 945 | 1" |
| 28    | 670 | 612 | 945 | 1" |
| 32    | 670 | 612 | 945 | 1" |

## Technical information

| Type                  |        | 8-12     | 18-24 | 28   | 32   |
|-----------------------|--------|----------|-------|------|------|
| 90/70 T10 °C (ECL)    | kW     | 12,1     | 31,1  | 38,1 | 51,9 |
| 55/45 T10 °C (LTV)    | kW     | 6,7      | 17,6  | 21,5 | 29,4 |
| Air volume            | m³/h   | 900      | 1800  | 2380 | 3740 |
| Current consumption   | A      | 0,8      | 1,5   | 2,2  | 4,2  |
| Weight                | kg     | 48       | 60    | 60   | 62   |
| Electrical connection | V/F/Hz | 230/1/50 |       |      |      |

## Prices Comfort Line



### PRODUCT - COMFORT LINE DOMESTIC AIR HEATER - DOWNFLOW

| Code nr. | Description                      | Price  |
|----------|----------------------------------|--------|
| 5997120  | Comfort Line 8-12 EC (Downflow)  | € 3666 |
| 5997121  | Comfort Line 18-24 EC (Downflow) | € 4068 |
| 5997122  | Comfort Line 28 EC (Downflow)    | € 4068 |
| 5997123  | Comfort Line 32 EC (Downflow)    | € 4158 |



### PRODUCT - COMFORT LINE DOMESTIC AIR HEATER - UPFLOW

| Code nr. | Description                    | Price  |
|----------|--------------------------------|--------|
| 5997130  | Comfort Line 8-12 EC (Upflow)  | € 3699 |
| 5997131  | Comfort Line 18-24 EC (Upflow) | € 4068 |
| 5997132  | Comfort Line 28 EC (Upflow)    | € 4068 |
| 5997133  | Comfort Line 32 EC (Upflow)    | € 4158 |

### ACCESSORIES - PEDESTAL

| Code nr. | Description                              | Price |
|----------|------------------------------------------|-------|
| 5997140  | Pedestal for Comfort Line 8-12 (H=250mm) | € 201 |
| 5997141  | Pedestal for Comfort Line 8-12 (H=250mm) | € 194 |

# Radiant Heating



INFRA

INFRA HE

INFRA HT

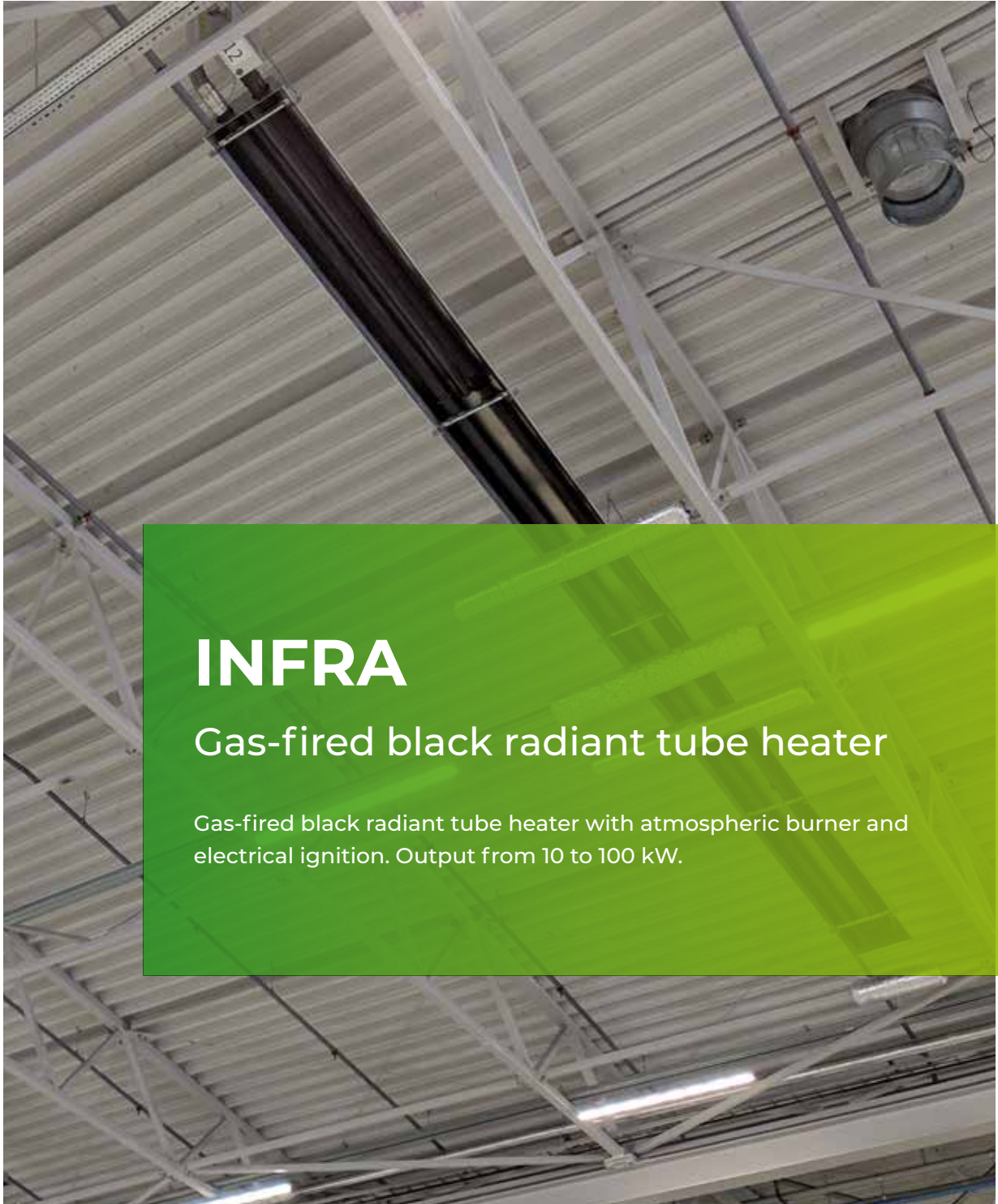


INFRA AQUA DESIGN

INFRA AQUA ECO

CEILFIT





# INFRA

## Gas-fired black radiant tube heater

Gas-fired black radiant tube heater with atmospheric burner and electrical ignition. Output from 10 to 100 kW.



For more information, downloads and videos, visit the Infra page on our website



### High efficiency black tube radiant heater

Mark INFRA / INFRA MONO black tube radiant heaters heat with long-wave infrared radiation. Radiant heating is based on the principle of heat transfer from a warm object to an object of lower temperature by means of electromagnetic wave energy. This electromagnetic wave, not hindered by air, radiates walls, floor and the people present in the room.

As soon as the infrared radiation gets in contact with the human body, it is converted into heat. This does not cause any change in the air temperature. This method of heat generation is considered very pleasant.

The more intense the radiant heat is, the less the actual air temperature has to be increased for a comfortable indoor climate. Therefore, heating with the Mark INFRA system is much more economical compared to conventional systems.

Possible applications include: sports halls, production facilities, aircraft hangars, showrooms and garages.

#### Product features

- Available in 6 different types from 9 to 44,2 kW
- Various sizes, from 3 to 18 m length
- Highly reflective reflector hood, optional double air insulated (type +)
- The radiator with a double air-insulated reflector can be optimized energetically by using a flue gas cooler (type ++)
- The highly reflective radiation hood features integrated V-shaped reflectors and end caps
- Available in natural gas and propane
- Easy installation and maintenance
- Optional: waterproof stainless steel version for damp rooms

#### The benefits of radiant heating include:

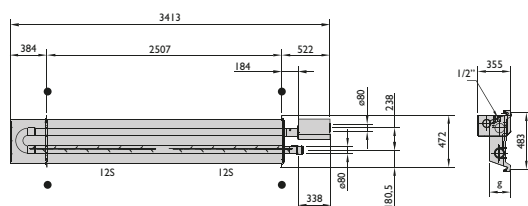
- A radiation efficiency of up to 75% according to EN 416-2
- A flue efficiency higher than 90%
- No spreading of dust and low noise level during operation
- Can be used in a focused way to enable a high energy efficiency
- A uniform heat distribution across the entire length of the radiator is achieved by the use of an overpressure burner with a long stable flame, in combination with built-in turbulators in the radiant tube
- By using a 1-stage or 2-stage control the output of the radiant heater is adapted to the required heat



Remote connection possible with the PinTherm Infra Connect!

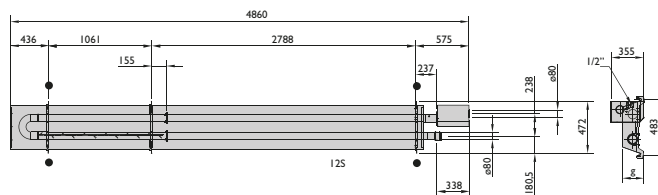
## Dimensions

INFRA 10-3

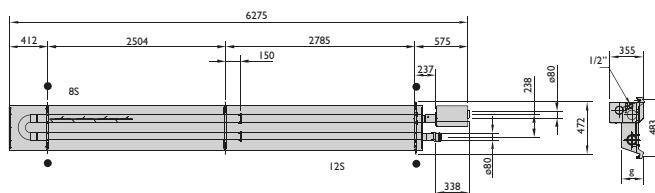


● suspension point

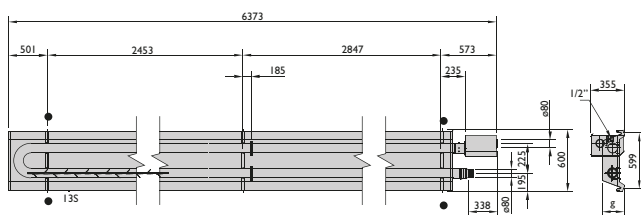
INFRA 15-5



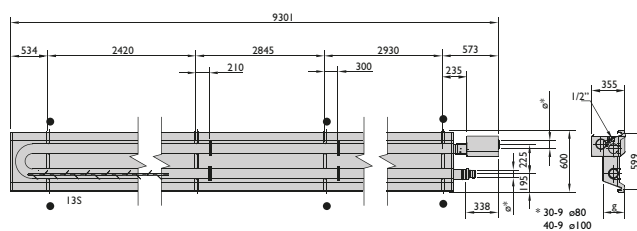
INFRA 20-6



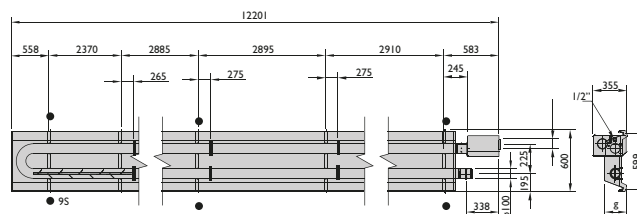
INFRA 30-6



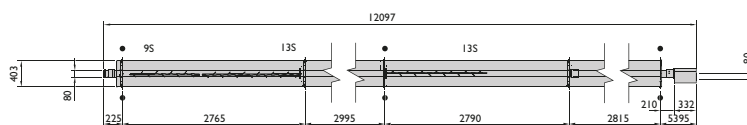
INFRA 30-9 / 40-9 / 50-9



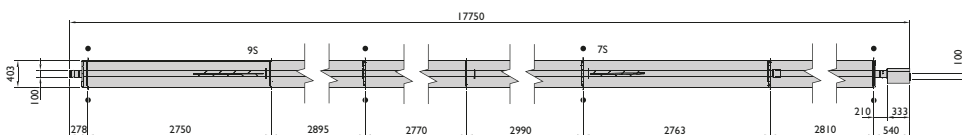
INFRA 50-12



INFRA MONO 30-12



INFRA MONO 50-18



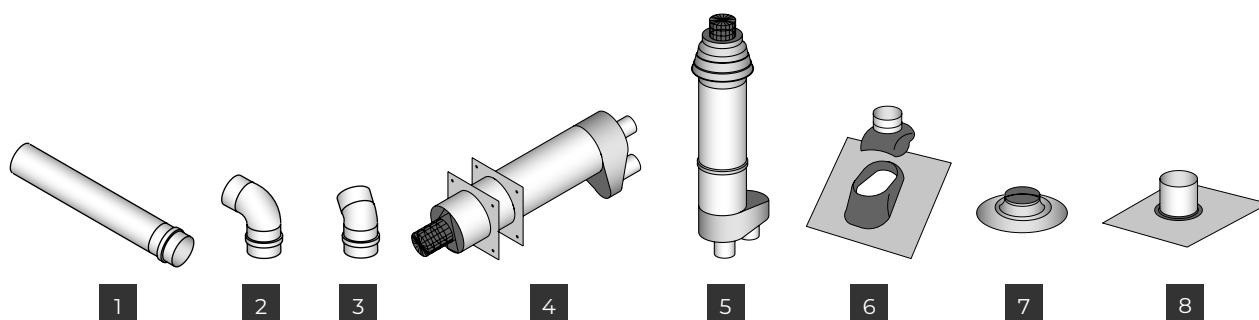


## Technical information

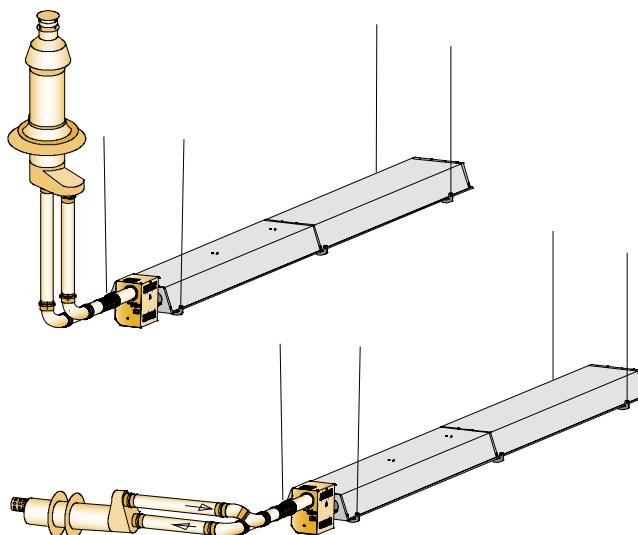
| Type                                      |                   | 10-3     | 15-5     | 20-6      | 30-6      | 30-9       | 40-9       | 50-9 | 50-12      | 30-12<br>MONO | 50-18<br>MONO |
|-------------------------------------------|-------------------|----------|----------|-----------|-----------|------------|------------|------|------------|---------------|---------------|
| Nominal load (NCV)                        | kW                | 10,0     | 14,0     | 18,0      | 28,0      | 30,0       | 38,0       | 46,0 | 49,9       | 30,0          | 49,9          |
| Flue efficiency (NCV)                     | %                 | 91       | 90,7     | 90,6      | 90,0      | 91,7       | 90,5       | 90,0 | 90,3       | 91,7          | 90,3          |
| Gas consumption G20 (15 °C)               | m <sup>3</sup> /h | 1,10     | 1,50     | 1,90      | 2,90      | 3,20       | 3,90       | 4,9  | 5,30       | 3,20          | 5,30          |
| Gas consumption G25 (15 °C)               | m <sup>3</sup> /h | 1,20     | 1,70     | 2,20      | 3,30      | 3,60       | 4,60       | 5,4  | 5,90       | 3,60          | 5,90          |
| Gas consumption G31 (15 °C)               | kg/h              | 0,79     | 1,11     | 1,42      | 2,12      | 2,21       | 2,99       | 3,72 | 3,92       | 2,36          | 3,92          |
| Gas consumption G30 (15 °C)               | kg/h              | 0,81     | 1,14     | 1,46      | 2,19      | 2,27       | 3,08       | 3,64 | 4,04       | 2,43          | 4,04          |
| Weight                                    | kg                | 48 / 65* | 66 / 91* | 81 / 112* | 97 / 136* | 132 / 190* | 132 / 190* | 132  | 168 / 244* | 101           | 143           |
| Electrical power                          | W                 | 55       | 57       | 60        | 60        | 60         | 63         | 63   | 63         | 60            | 63            |
| Recommended suspension height, horizontal | m                 | 4        | 4        | 4         | 5         | 5          | 5          | 7    | 7          | 5             | 7             |
| Recommended suspension height, 30° angle  | m                 | 4        | 4        | 4         | 4         | 4          | 5          | 6    | 6          | 5             | 6             |
| Burner pressure G25                       | mbar              | 16,0     | 16,0     | 16,0      | 16,0      | 16,0       | 16,0       | 16,0 | 16,0       | 16,0          | 16,0          |
| Burner pressure G20                       | mbar              | 11,0     | 11,0     | 11,0      | 11,5      | 11,5       | 11,5       | 11,5 | 11,5       | 12,0          | 12,0          |
| Burner pressure G31                       | mbar              | 35,1     | 35,1     | 35,1      | 35,1      | 35,1       | 35,1       | 35,1 | 35,1       | 35,1          | 35,1          |
| Burner pressure G30                       | mbar              | 27,2     | 27,2     | 27,2      | 27,2      | 27,2       | 27,2       | 27,2 | 27,2       | 27,2          | 27,2          |
| Sound level at 5 metres                   | dB(A)             | 41       | 41       | 42        | 42        | 42         | 43         | 43   | 43         | 42            | 43            |

\* Single-/ Double-walled reflector

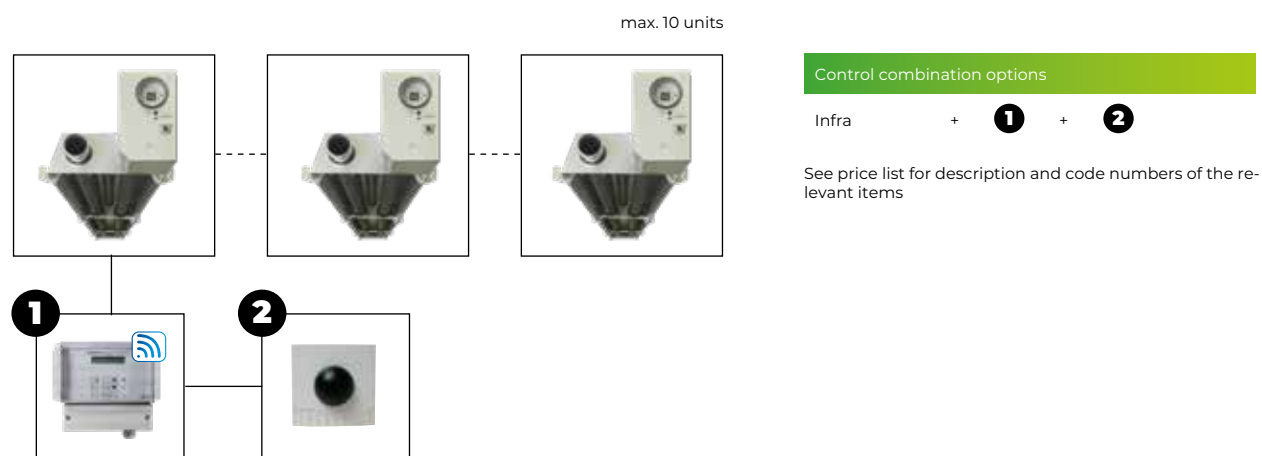
## Accessories – flue gas exhaust



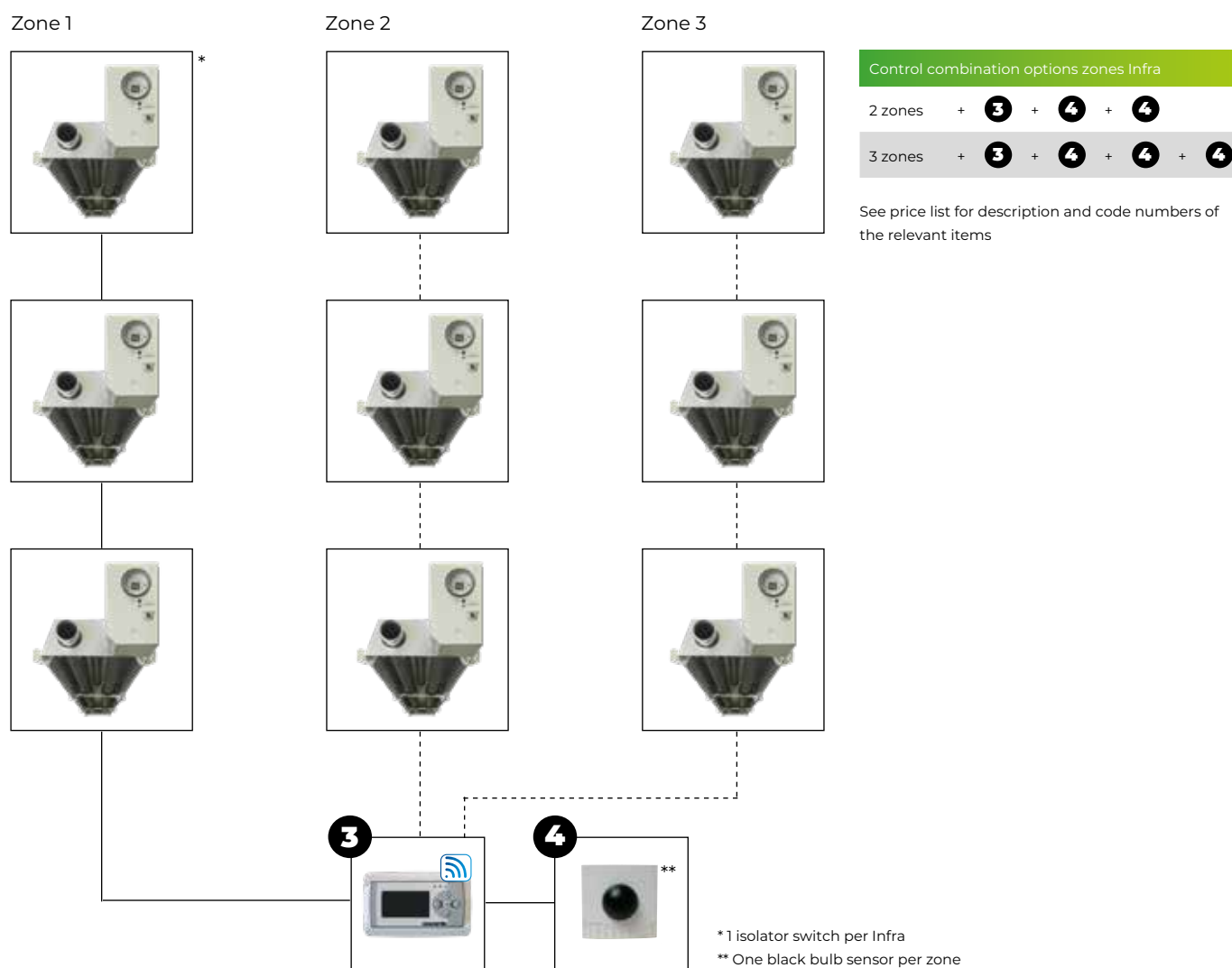
- 1 Extension set
- 2 90° elbow
- 3 45° elbow
- 4 Single flue set horizontal
- 5 Single flue set vertical
- 6 Roof flashing for pitched roof
- 7 Adhesive plate
- 8 Flexible roof flashing for cladded roof



## Controls



## Zone control



## Prices Infra / Infra Mono

### PRODUCT - INFRA, ON/OFF BURNER, SINGLE-WALLED, NATURAL GAS G20

| Code nr.        | Description                             | Price  |
|-----------------|-----------------------------------------|--------|
| 5033010+5025100 | INFRA 10-3, nominal power 10,0 kW       | € 2732 |
| 5033016+5025106 | INFRA 15-5, nominal power 14,0 kW       | € 3062 |
| 5033011+5025101 | INFRA 20-6, nominal power 18,0 kW       | € 3207 |
| 5033013+5025103 | INFRA 30-6, nominal power 27,0 kW       | € 3613 |
| 5033012+5025102 | INFRA 30-9, nominal power 30,0 kW       | € 4191 |
| 5033014+5025104 | INFRA 40-9, nominal power 38,0 kW       | € 4210 |
| 5033017+5025104 | INFRA 50-9, nominal power 46,0 kW       | € 4210 |
| 5033015+5025105 | INFRA 50-12, nominal power 49,9 kW      | € 4804 |
| 5033070+5025141 | INFRA MONO 30-12, nominal power 30,0 kW | € 3893 |
| 5033073+5025143 | INFRA MONO 50-18, nominal power 49,9 kW | € 4657 |

Other gas types available on request. Always mention both order codes when placing an order.

### PRODUCT - INFRA, HIGH/LOW BURNER, SINGLE-WALLED, NATURAL GAS G20

| Code nr.        | Description                             | Price  |
|-----------------|-----------------------------------------|--------|
| 5033040+5025100 | INFRA 10-3, nominal power 10,0 kW       | € 2758 |
| 5033046+5025106 | INFRA 15-5, nominal power 14,0 kW       | € 3087 |
| 5033041+5025101 | INFRA 20-6, nominal power 18,0 kW       | € 3233 |
| 5033043+5025103 | INFRA 30-6, nominal power 27,0 kW       | € 3638 |
| 5033042+5025102 | INFRA 30-9, nominal power 30,0 kW       | € 4216 |
| 5033044+5025104 | INFRA 40-9, nominal power 38,0 kW       | € 4243 |
| 5033047+5025104 | INFRA 50-9, nominal power 46,0 kW       | € 4243 |
| 5033045+5025105 | INFRA 50-12, nominal power 49,9 kW      | € 4829 |
| 5033075+5025141 | INFRA MONO 30-12, nominal power 30,0 kW | € 3919 |
| 5033078+5025143 | INFRA MONO 50-18, nominal power 49,9 kW | € 4683 |

Other gas types available on request. Always mention both order codes when placing an order.

### PRODUCT - INFRA, ON/OFF BURNER, DOUBLE-WALLED, NATURAL GAS G20

| Code nr.        | Description                        | Price  |
|-----------------|------------------------------------|--------|
| 5033010+5025110 | INFRA 10-3, nominal power 10,0 kW  | € 3024 |
| 5033016+5025116 | INFRA 15-5, nominal power 14,0 kW  | € 3598 |
| 5033011+5025111 | INFRA 20-6, nominal power 18,0 kW  | € 3768 |
| 5033013+5025113 | INFRA 30-6, nominal power 27,0 kW  | € 4143 |
| 5033012+5025112 | INFRA 30-9, nominal power 30,0 kW  | € 4971 |
| 5033014+5025114 | INFRA 40-9, nominal power 38,0 kW  | € 4990 |
| 5033017+5025114 | INFRA 50-9, nominal power 46,0 kW  | € 4990 |
| 5033015+5025115 | INFRA 50-12, nominal power 49,9 kW | € 5850 |

Other gas types available on request. Always mention both order codes when placing an order.


**PRODUCT - INFRA, HIGH/LOW BURNER, DOUBLE-WALLED, NATURAL GAS G20**

| Code nr.        | Description                        | Price  |
|-----------------|------------------------------------|--------|
| 5033040+5025110 | INFRA 10-3, nominal power 10,0 kW  | € 3050 |
| 5033046+5025116 | INFRA 15-5, nominal power 14,0 kW  | € 3623 |
| 5033041+5025111 | INFRA 20-6, nominal power 18,0 kW  | € 3794 |
| 5033043+5025113 | INFRA 30-6, nominal power 27,0 kW  | € 4168 |
| 5033042+5025112 | INFRA 30-9, nominal power 30,0 kW  | € 4996 |
| 5033044+5025114 | INFRA 40-9, nominal power 38,0 kW  | € 5023 |
| 5033047+5025114 | INFRA 50-9, nominal power 46,0 kW  | € 5023 |
| 5033045+5025115 | INFRA 50-12, nominal power 49,9 kW | € 5875 |

Other gas types available on request. Always mention both order codes when placing an order.

**PRODUCT - STAINLESS STEEL INFRA, ON/OFF BURNER, SINGLE-WALLED, NATURAL GAS G20, WATERPROOF STAINLESS STEEL VERSION FOR HUMID ROOMS**

| Code nr.        | Description                                        | Price   |
|-----------------|----------------------------------------------------|---------|
| 5033110+5025200 | Stainless steel INFRA10-3, nominal power 10,0 kW   | € 8657  |
| 5033116+5025206 | Stainless steel INFRA 15-5, nominal power 14,0 kW  | € 9395  |
| 5033111+5025201 | Stainless steel INFRA 20-6, nominal power 18,0 kW  | € 10055 |
| 5033113+5025203 | Stainless steel INFRA 30-6, nominal power 27,0 kW  | € 10102 |
| 5033112+5025202 | Stainless steel INFRA 30-9, nominal power 30,0 kW  | € 11802 |
| 5033114+5025204 | Stainless steel INFRA 40-9, nominal power 38,0 kW  | € 11844 |
| 5033117+5025204 | Stainless steel INFRA 50-9, nominal power 46,0 kW  | € 12016 |
| 5033115+5025205 | Stainless steel INFRA 50-12, nominal power 49,9 kW | € 12972 |

Other gas types available on request. Always mention both order codes when placing an order.

**PRODUCT - STAINLESS STEEL INFRA, HIGH/LOW BURNER, SINGLE-WALLED, NATURAL GAS G20, WATERPROOF STAINLESS STEEL VERSION FOR HUMID ROOMS**

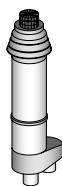
| Code nr.        | Description                                        | Price   |
|-----------------|----------------------------------------------------|---------|
| 5033140+5025200 | Stainless steel INFRA 10-3, nominal power 10,0 kW  | € 8778  |
| 5033146+5025206 | Stainless steel INFRA 15-5, nominal power 14,0 kW  | € 7860  |
| 5033141+5025201 | Stainless steel INFRA 20-6, nominal power 18,0 kW  | € 10166 |
| 5033143+5025203 | Stainless steel INFRA 30-6, nominal power 27,0 kW  | € 10212 |
| 5033142+5025202 | Stainless steel INFRA 30-9, nominal power 30,0 kW  | € 11913 |
| 5033144+5025204 | Stainless steel INFRA 40-9, nominal power 38,0 kW  | € 11955 |
| 5033147+5025204 | Stainless steel INFRA 50-9, nominal power 46,0 kW  | € 12110 |
| 5033145+5025205 | Stainless steel INFRA 50-12, nominal power 49,9 kW | € 11772 |

Other gas types available on request. Always mention both order codes when placing an order.



## ACCESSORIES - FLUE FAN - FOR INFRA 10-3 / 15-5 / 20-6 / 30-6 / 30-9 / MONO 30-12

| Code nr. | Description                                                                         | Price |
|----------|-------------------------------------------------------------------------------------|-------|
| 5990556  | Single flue set vertical, ø 80mm. External diameter 125mm                           | € 193 |
| 5990579  | Single pipe horizontal, ø 80mm. External diameter 125mm                             | € 144 |
| 5990727  | Set ALU pipes ø 80mm, length 500 mm                                                 | € 67  |
| 5990732  | Set ALU pipes ø 80mm, length 1000 mm                                                | € 82  |
| 5990733  | Set ALU elbows 90°, ø 80mm (2 pieces)                                               | € 53  |
| 5990734  | Set ALU elbows 45°, ø 80mm (2 pieces)                                               | € 74  |
| 5017656  | Reducer kit 2 x from ø 80 to ø 100 / 2x from ø 100 to ø 80                          | € 324 |
| 0540927  | Roof flashing, only in combination with 5990556                                     | € 37  |
| 3040927  | Adhesive coated roof flashing for plastic roofing, only in combination with 5990556 | € 68  |
| 0540804  | Roof flashing 20 to 35°, only in combination with 5990556                           | € 72  |
| 0540807  | Dektite 4"-7"                                                                       | € 255 |
| 0540820  | Dektite 5"-9"                                                                       | € 159 |
| 5990520  | Flue gas cooler ø 80                                                                | € 252 |
| 5018047  | Flexible connection ø 80 intake side                                                | € 114 |



## ACCESSORIES - FLUE FAN - FOR INFRA 40-9 / 50-9 / 50-12 / MONO 50-18

| Code nr. | Description                                                                         | Price |
|----------|-------------------------------------------------------------------------------------|-------|
| 5990560  | Single flue set vertical, ø 100mm. External diameter 160mm                          | € 333 |
| 5990583  | Single pipe horizontal, ø 100mm. External diameter 160mm***                         | € 234 |
| 5990728  | Set ALU pipes ø 100mm, length 500 mm                                                | € 81  |
| 5990736  | Set ALU pipes ø 100mm, length 1000 mm                                               | € 118 |
| 5990737  | Set ALU elbows 90°, ø 100mm (2 pieces)                                              | € 74  |
| 5990738  | Set ALU elbows 45°, ø 100mm (2 pieces)                                              | € 80  |
| 5017657  | Reducer kit 2 x from ø 100 to ø 130 / 2x from ø 130 to ø 100                        | € 156 |
| 0540929  | Roof flashing, only in combination with 5990560                                     | € 39  |
| 3040929  | Adhesive coated roof flashing for plastic roofing, only in combination with 5990560 | € 93  |
| 0540806  | Roof flashing 20 to 35°, only in combination with 5990560                           | € 100 |
| 0540807  | Dektite 4"-7"                                                                       | € 255 |
| 0540820  | Dektite 5"-9"                                                                       | € 159 |
| 5990521  | Flue gas cooler ø 100                                                               | € 315 |
| 5018057  | Flexible connection ø 100 intake side                                               | € 129 |

## ACCESSORIES - FLUE FAN - GENERAL

| Code nr. | Description                            | Price |
|----------|----------------------------------------|-------|
| 5990744  | Set ALU pipes ø 130mm, length 1000 mm  | € 181 |
| 5990741  | Set ALU elbows 90°, ø 130mm (2 pieces) | € 263 |
| 5990742  | Set ALU elbows 45°, ø 130mm (2 pieces) | € 196 |
| 3199749  | Box draught diverter ø 130mm           | € 97  |

#### ACCESSORIES - CONTROLS

|   | Code nr. | Description                                                                            | Price  |
|---|----------|----------------------------------------------------------------------------------------|--------|
| 1 | 0629109  | PinTherm Infra Connect – programmable thermostat with Ethernet and Modbus, 230V (4A) * | € 726  |
| 3 | 3003795  | Zone control Infra****                                                                 | € 2377 |
| 2 | 0629087  | External black bulb sensor for 0629109                                                 | € 140  |
| 4 | 0629082  | External black bulb sensor RSTF PT1000 for 3003795                                     | € 141  |
|   | 0631162  | Isolator switch, separate delivery, 230V (2 poles)                                     | € 63   |
|   | 0631163  | Isolator switch, separate delivery, 230V (4 poles)**                                   | € 71   |

For explanation see chapter controls. Control boxes on request.

#### ACCESSORIES - ASSEMBLY

|  | Code nr. | Description                                                                                    | Price |
|--|----------|------------------------------------------------------------------------------------------------|-------|
|  | 3187210  | Set wall mounting brackets INFRA 10-3 / 15-5 / 20-6 / 30-6                                     | € 237 |
|  | 3187212  | Set wall mounting brackets INFRA 30-9 / 40-9 / 50-9 / 50-12 / INFRA MONO 30-12                 | € 290 |
|  | 3187214  | Set wall mounting brackets INFRA MONO 50-18                                                    | € 359 |
|  | 1999053  | Wire rope suspension set suitable for mounting to a roof beam. Cable length up to 3m.          | € 29  |
|  | 1999055  | Wire rope suspension set suitable for mounting on concrete/wooden roof. Cable length up to 3m. | € 29  |
|  | 1999057  | Wire rope suspension set suitable for mounting on sheet piling roof. Cable length up to 3m.    | € 29  |

Ball guard on demand

#### ACCESSORIES - OTHER

|  | Code nr. | Description                                                | Price |
|--|----------|------------------------------------------------------------|-------|
|  | 5018020  | Flexible hose 3/4" - 1/2"                                  | € 147 |
|  | 0607001  | Gas pressure regulator for up to 100 mbar, connection 1/2" | € 270 |

#### REMARKS

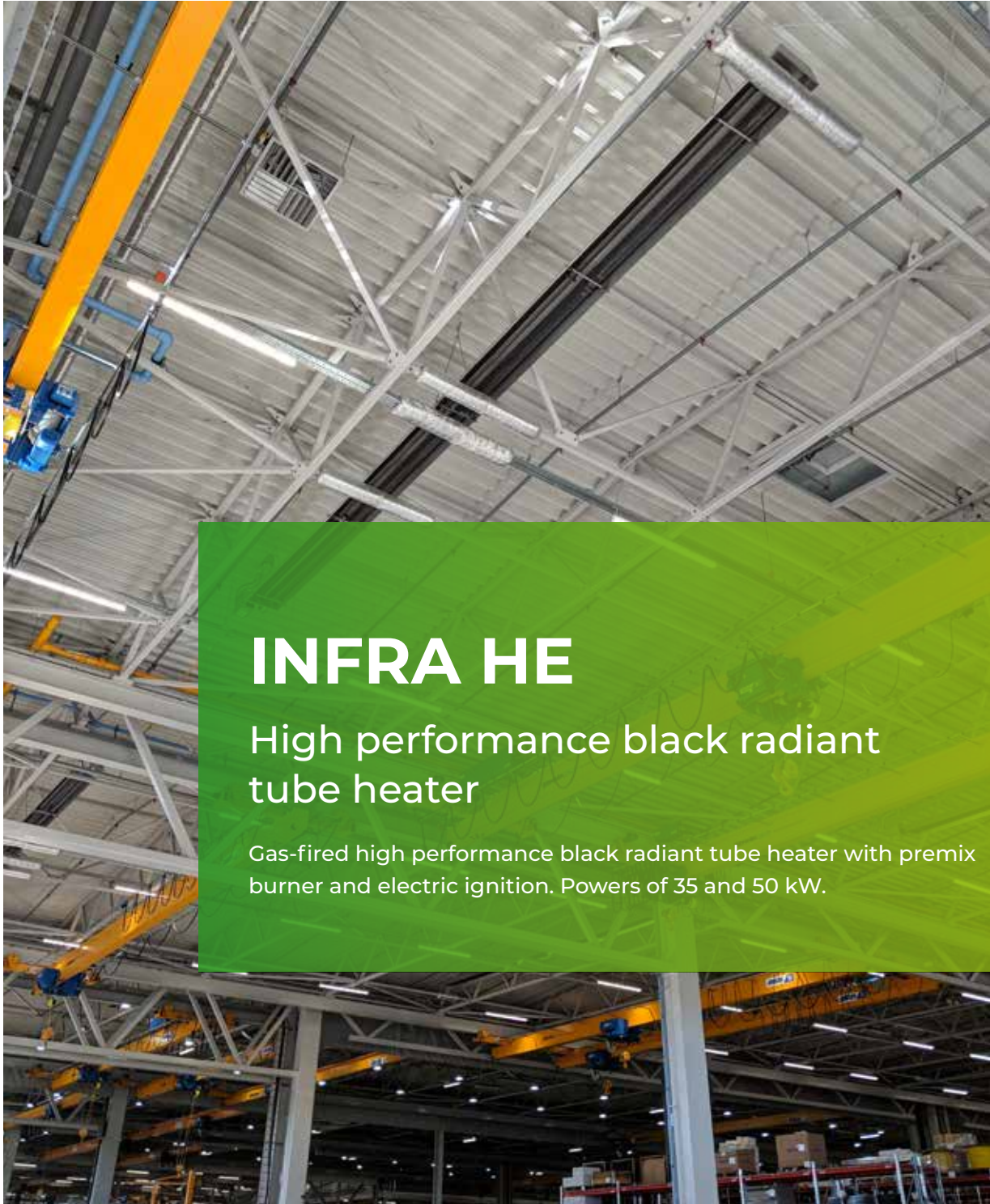
\* Also order 0629087

\*\* Only select when unit is high/low

\*\*\* Not applicable for INFRA MONO

\*\*\*\* Also order 0629082 (one for each zone)





# INFRA HE

## High performance black radiant tube heater

Gas-fired high performance black radiant tube heater with premix burner and electric ignition. Powers of 35 and 50 kW.



For more information, downloads and videos, visit the Infra HE page on our website





### Black tube radiant heater with a low emission

The Mark INFRA HE gas-fired radiant heaters have been developed for the highest possible efficiency in combination with low NOx emissions (< 35 mg/kWh). This makes the units very suitable for BREEAM projects!

Mark INFRA HE black tube radiant heaters heat with long-wave infrared radiation. Radiant heating is based on the principle of heat transfer from a warm object to an object of lower temperature by means of electromagnetic wave energy. This electromagnetic wave, not hindered by air, radiates walls, floor and the people present in the room.

As soon as the infrared radiation gets in contact with the human body, it is converted into heat. This does not cause any change in the air temperature. This method of heat generation is considered very pleasant.

The more intense the radiant heat is, the less the actual air temperature has to be increased for a comfortable indoor climate. Therefore, heating with the Mark INFRA system is much more economical compared to conventional systems.

Possible applications include: sports halls, production facilities, aircraft hangars, showrooms and garages.

#### Product features

- Modulating control that optimally adapts the input capacity to the heat requirement
- Available in 2 different capacities of 35 and 50 kW
- Sizes of 9 and 12 meter in length
- A NOx emission of < 35 mg/kWh
- Highly reflective reflector hood, double air insulated
- Can be optimized energetically by using a flue gas cooler
- The highly reflective radiation hood features integrated V-shaped reflectors and end caps
- Easy installation and maintenance
- Suitable for natural gas with 20% hydrogen gas (H2) admixture

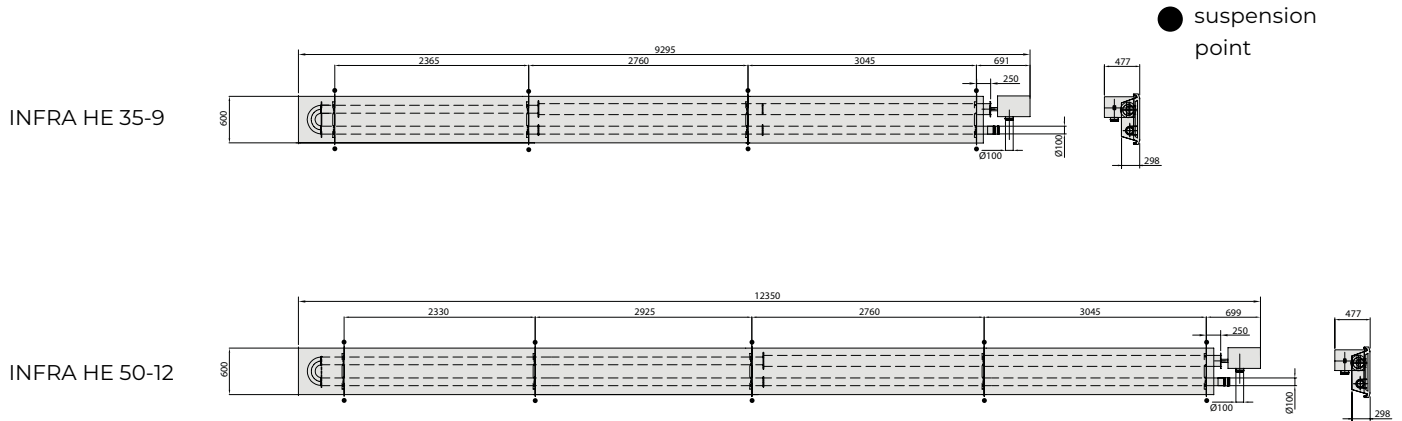
#### Benefits of the Infra HE black tube radiant heater are:

- No spreading of dust and low noise level during operation
- Can be used in a focused way to enable a high energy efficiency
- A flue efficiency higher than 90%
- A uniform heat distribution across the entire length of the radiator is achieved by the use of an overpressure burner with a long stable flame, in combination with built-in turbulators in the radiant tube
- Premix burner technology for optimal combustion and very low NOx emissions.



Remote connection possible with the PinTherm Infra HE Connect!

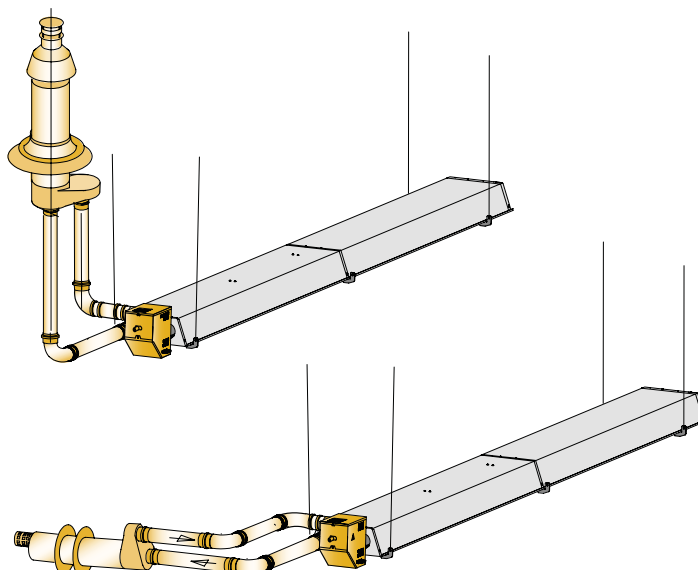
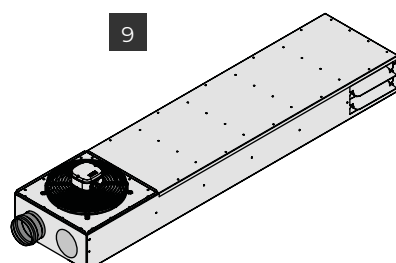
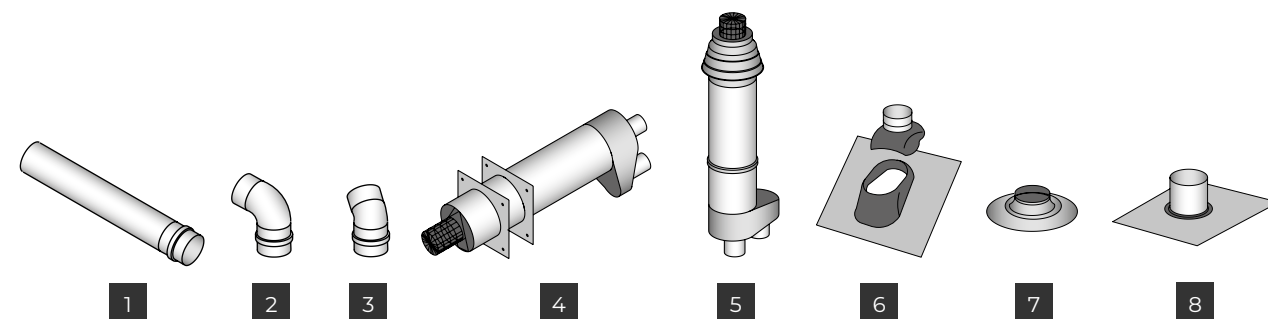
## Dimensions



## Technical information

| Type                                                                              |        | 35-9           | 50-12          |
|-----------------------------------------------------------------------------------|--------|----------------|----------------|
| Nominal load (NCV)                                                                | kW     | 35,0           | 50,0           |
| Flue efficiency (NCV)*                                                            | %      | 90,4 - 94,1    | 90,0 - 93,5    |
| Flue efficiency (NCV)**                                                           | %      | 96,3 - 94,8    | 94,3 - 95,7    |
| Gas consumption G25 (15 °C)                                                       | m³/h   | 4,14 - 2,07    | 5,98 - 2,98    |
| Gas consumption G20 (15 °C)                                                       | m³/h   | 3,66 - 1,83    | 5,23 - 2,63    |
| Gas consumption G31 (15 °C)                                                       | kg/h   | 2,72 - 1,36    | 3,88 - 1,94    |
| Gas consumption G30 (15 °C)                                                       | kg/h   | 2,76 - 1,38    | 3,94 - 1,97    |
| NOx-emission (GCV)                                                                | mg/kWh | 34,8* / 32,9** | 24,5* / 23,3** |
| Weight                                                                            | kg     | 245            | 322            |
| Electrical power                                                                  | W      | 81-30          | 113-36         |
| Recommended suspension height, horizontal                                         | m      | 5,5            | 6,8            |
| Recommended suspension height, 30° angle                                          | m      | 5,0            | 6,3            |
| Sound level at 5 metres                                                           | dB(A)  | 41             | 42             |
| * without flue gas cooler / ** with flue gas cooler (condensation drain required) |        |                |                |

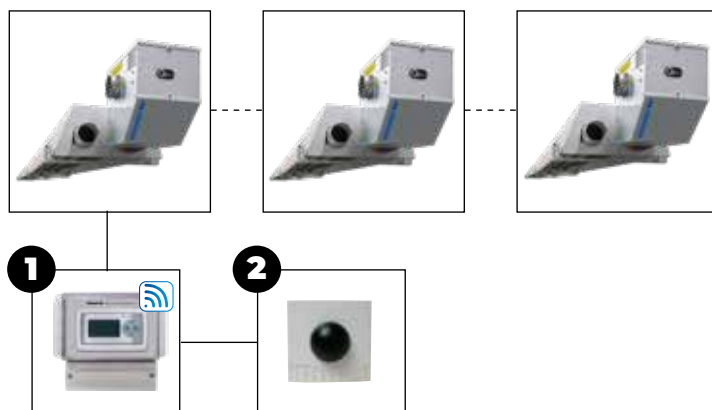
## Accessories - flue gas exhaust



- 1 Extension set
- 2 90° elbow
- 3 45° elbow
- 4 Single flue set horizontal
- 5 Single flue set vertical
- 6 Roof flashing for pitched roof
- 7 Adhesive plate
- 8 Flexible roof flashing for cladded roof
- 9 Flue gas cooler

## Controls

max. 8 units



### Control combination options

Infra HE + **1** + **2**

See price list for description and code numbers of the relevant items

## Prices Infra HE



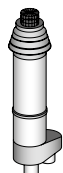
### PRODUCT - NATURAL GAS G20

| Code nr.        | Description                           | Price  |
|-----------------|---------------------------------------|--------|
| 5033214+5025163 | INFRA HE 35-9, nominal power 35,0 kW  | € 6757 |
| 5033215+5025165 | INFRA HE 50-12, nominal power 50,0 kW | € 8751 |

Other gas types available on request. Always enter both order codes when placing an order.

### ACCESSORIES - FLUE GAS EXHAUST

| Code nr. | Description                                                                         | Price  |
|----------|-------------------------------------------------------------------------------------|--------|
| 5990560  | Single flue set vertical, ø 100mm. External diameter 160mm                          | € 333  |
| 5990583  | Single flue set horizontal, ø 100mm. External diameter 160mm                        | € 234  |
| 5990728  | Set ALU pipes ø 100mm, length 500 mm                                                | € 81   |
| 5990736  | Set ALU pipes ø 100mm, length 1000 mm                                               | € 118  |
| 5990737  | Set ALU elbows 90°, ø 100mm (2 pieces)                                              | € 74   |
| 5990738  | Set ALU elbows 45°, ø 100mm (2 pieces)                                              | € 80   |
| 0540929  | Roof flashing, only in combination with 5990560                                     | € 39   |
| 3040929  | Adhesive coated roof flashing for plastic roofing, only in combination with 5990560 | € 93   |
| 0540806  | Roof flashing 20 to 35°, only in combination with 5990560                           | € 100  |
| 0540807  | Dektite 4"-7"                                                                       | € 255  |
| 5018057  | Flexible connection ø 100 intake side                                               | € 129  |
| 5025150  | Flue gas cooler**                                                                   | € 1461 |



### ACCESSORIES - CONTROLS

| Code nr.         | Description                                                                                   | Price  |
|------------------|-----------------------------------------------------------------------------------------------|--------|
| <b>1</b> 3003796 | PinTherm Infra HE Connect – programmable room thermostat 230V (10A)*                          | € 1166 |
| <b>2</b> 0629002 | External black bulb sensor RSTF NTC 10K<br>required for the PinTherm Infra HE Connect 3003796 | € 194  |
| 0631162          | Isolator switch, separate delivery, 230V (2 pole)                                             | € 63   |

For explanation see chapter controls

### ACCESSORIES - ASSEMBLY

| Code nr. | Description                                                                                       | Price |
|----------|---------------------------------------------------------------------------------------------------|-------|
| 1999053  | Wire rope suspension set suitable for mounting to a roof beam.<br>Cable length up to 3m.          | € 29  |
| 1999055  | Wire rope suspension set suitable for mounting on concrete/wooden roof.<br>Cable length up to 3m. | € 29  |
| 1999057  | Wire rope suspension set suitable for mounting on sheet piling roof.<br>Cable length up to 3m.    | € 29  |

### ACCESSORIES - OTHER

| Code nr. | Description               | Price |
|----------|---------------------------|-------|
| 5018020  | Flexible hose 3/4" - 1/2" | € 147 |

### REMARKS

\* Also order sensor 0629002

\*\* Condensate drain required



# INFRA HT

## Gas-fired high temperature radiant heater

Gas-fired high temperature radiant heater with ceramic burner and electrical ignition. Output from 6.5 to 68.8 kW.



For more information, downloads and videos, visit the Infra HT page on our website



#### Product features

- Ceramic Burner
- High heat output
- 9 different capacities with the length of the unit increasing as the capacity increases.

#### Ideal for heating tall or poorly insulated buildings

The INFRA HT offers the option of heating without displacing air. In addition, heat reaches only the location where it is required. The short warming-up period and the lower room temperature can yield good energy savings. Savings can be as high as 40%.

The INFRA HT uses an open ceramic burner for heating. This emits a high level of heat over a relatively small surface area. This high concentration of heat enables these units to be located in tall buildings.

As this unit uses open combustion, ventilation within the room must be considered. The room may be ventilated with the Mark MDV BLUE.

Possible applications include: construction halls, production facilities, aircraft hangars and stadium grandstands or other open spaces.

The Infra HT and the HT Eco have the same output. The HT has a very high radiant efficiency and a competitive price. The HT Eco has a good performance and a very competitive price.

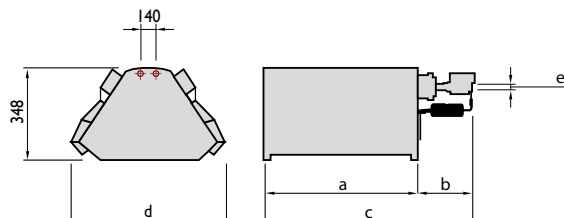
#### The benefits of radiant heating include:

- Short warm-up time
- High floor temperature
- Silent
- No air movement
- Low energy consumption
- "Zone" heating
- Heat only where needed



Remote connection possible with the PinTherm Infra Connect!

## Dimensions



| Type             | a<br>(mm) | b<br>(mm) | c<br>(mm) | d<br>(mm) | e<br>(inch/zoll) |
|------------------|-----------|-----------|-----------|-----------|------------------|
| Infra HT 4.2     | 421       | 162       | 583       | 592       | 1/2"             |
| Infra HT 6.2     | 604       | 162       | 766       | 592       | 1/2"             |
| Infra HT 8.2     | 791       | 162       | 953       | 592       | 1/2"             |
| Infra HT 10.2    | 991       | 162       | 1137      | 592       | 1/2"             |
| Infra HT 12.2    | 1158      | 218       | 1376      | 592       | 1/2"             |
| Infra HT 16.2    | 1529      | 218       | 1747      | 592       | 1/2"             |
| Infra HT 10+10.2 | 975       | 241       | 1216      | 822       | 3/4"             |
| Infra HT 12+12.2 | 1158      | 297       | 1455      | 822       | 3/4"             |
| Infra HT 16+16.2 | 1529      | 297       | 1826      | 822       | 3/4"             |

| Type                 | a<br>(mm) | b<br>(mm) | c<br>(mm) | d<br>(mm) | e<br>(inch/zoll) |
|----------------------|-----------|-----------|-----------|-----------|------------------|
| INFRA HT 4.2 ECO     | 420       | 250       | 670       | 370       | 1/2"             |
| INFRA HT 6.2 ECO     | 605       | 250       | 855       | 370       | 1/2"             |
| INFRA HT 8.2 ECO     | 790       | 250       | 1040      | 370       | 1/2"             |
| INFRA HT 10.2 ECO    | 975       | 250       | 1225      | 370       | 1/2"             |
| INFRA HT 12.2 ECO    | 1160      | 250       | 1410      | 370       | 1/2"             |
| INFRA HT 16.2 ECO    | 1530      | 250       | 1780      | 370       | 1/2"             |
| INFRA HT 10+10.2 ECO | 975       | 300       | 1275      | 600       | 1/2"             |
| INFRA HT 12+12.2 ECO | 1160      | 300       | 1460      | 600       | 1/2"             |
| Infra HT 16+16.2 eco | 1530      | 300       | 1830      | 600       | 1/2"             |

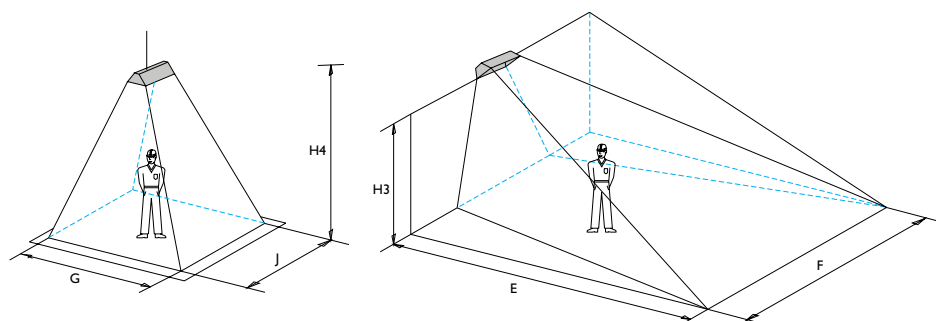
## Technical information

| Infra HT                          |               | 4.2   | 6.2   | 8.2   | 10.2  | 12.2   | 16.2   | 10+10.2 | 12+12.2 | 16+16.2 |
|-----------------------------------|---------------|-------|-------|-------|-------|--------|--------|---------|---------|---------|
| Surface area exposed to radiation | m²            | 30-40 | 35-50 | 40-65 | 55-90 | 60-100 | 80-110 | 85-115  | 95-155  | 110-180 |
| Nominal load G20 (upper value)    | kW            | 7,2   | 9,6   | 16,1  | 18,3  | 22,2   | 34,4   | 36,6    | 44,4    | 68,8    |
| Nominal load G20 (lower value)    | kW            | 6,5   | 8,6   | 14,5  | 16,5  | 20,0   | 31,0   | 33,0    | 40,0    | 62,0    |
| Nominal load G25 (upper value)    | kW            | 7,2   | 9,6   | 16,1  | 18,3  | 22,2   | 34,4   | 36,6    | 44,4    | 68,8    |
| Nominal load G25 (lower value)    | kW            | 6,5   | 8,6   | 14,5  | 16,5  | 20,0   | 31,0   | 33,0    | 40,0    | 62,0    |
| Nominal load G31 (upper value)    | kW            | 7,0   | 9,3   | 13,5  | 17,9  | 21,7   | 33,6   | 35,8    | 43,4    | 67,2    |
| Nominal load G31 (lower value)    | kW            | 6,5   | 8,6   | 12,5  | 16,5  | 20,0   | 31,0   | 33,0    | 40,0    | 62,0    |
| Nominal load G30 (upper value)    | kW            | 7,0   | 9,3   | 13,5  | 17,9  | 21,7   | 33,6   | 35,8    | 43,4    | 67,2    |
| Nominal load G30 (lower value)    | kW            | 6,5   | 8,6   | 12,5  | 16,5  | 20,0   | 31,0   | 33,0    | 40,0    | 62,0    |
| Gas-regulating unit               | n°            | 1     | 1     | 1     | 1     | 1      | 1      | 2       | 2       | 2       |
| Gas consumption G20 (15°C)        | m³/h          | 0,69  | 0,91  | 1,53  | 1,75  | 2,12   | 3,43   | 3,50    | 4,24    | 6,70    |
| Gas consumption G25 (15°C)        | m³/h          | 0,80  | 1,06  | 1,78  | 2,03  | 2,46   | 3,75   | 4,06    | 4,92    | 7,50    |
| Gas consumption G31 (15°C)        | kg/h          | 0,50  | 0,67  | 0,97  | 1,28  | 1,55   | 2,40   | 2,56    | 3,10    | 4,80    |
| Gas consumption G30 (15°C)        | kg/h          | 0,51  | 0,68  | 0,99  | 1,30  | 1,58   | 2,42   | 2,60    | 3,16    | 4,84    |
| Electrical power                  | W             | 25    | 25    | 25    | 25    | 25     | 25     | 50      | 50      | 50      |
| Ignition                          | electronic    |       |       |       |       |        |        |         |         |         |
| Electrical connection             | 230 Volt-50Hz |       |       |       |       |        |        |         |         |         |
| Weight of HT                      | kg            | 14    | 17    | 21    | 24    | 28     | 35     | 40      | 47      | 57      |
| Weight of HT eco                  | kg            | 8     | 10    | 12    | 14    | 17     | 21     | 29      | 34      | 40      |

The minimum ventilation air volume of the area is 10 m³/h per installed kW.



## Assembly/location suggestions



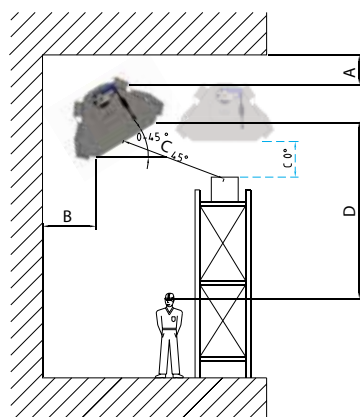
(Ceiling 0°)

| Infra HT   |   | 4.2     | 6.2     | 8.2     | 10.2    | 12.2    | 16.2     | 10+10.2  | 12+12    | 16+16.2 |
|------------|---|---------|---------|---------|---------|---------|----------|----------|----------|---------|
| H4 min-max | m | 2,5-4,5 | 3,5-6,0 | 4,0-6,0 | 5,0-7,0 | 6,0-8,0 | 6,0-10,0 | 8,0-11,0 | 9,0-14,0 | 10-18   |
| G          | m | 4,0     | 5,0     | 7,5     | 8       | 8,5     | 9,0      | 10,0     | 11,0     | 12,0    |
| J          | m | 5,5     | 7,0     | 8,0     | 8,5     | 9,0     | 10,0     | 11,0     | 12,0     | 13,0    |

Recommended suspension height for installing high temperature radiators.

(Floor 45°)

| Infra HT     |   | 4.2     | 6.2     | 8.2     | 10.2    | 12.2    | 16.2     | 10+10.2  | 12+12    | 16+16.2  |
|--------------|---|---------|---------|---------|---------|---------|----------|----------|----------|----------|
| H3 min - max | m | 2,5-4,0 | 2,9-5,5 | 3,9-6,5 | 4,5-7,0 | 4,7-8,5 | 5,1-10,0 | 5,1-11,0 | 5,6-14,0 | 6,0-15,0 |
| E            | m | 4,0     | 5,0     | 7,5     | 7,8     | 8,0     | 8,5      | 9,0      | 10,0     | 12,0     |
| F            | m | 4,5     | 6,0     | 8,0     | 8,5     | 9,0     | 10,0     | 11,0     | 12,0     | 14,0     |



Minimum distances (ceiling 0°)

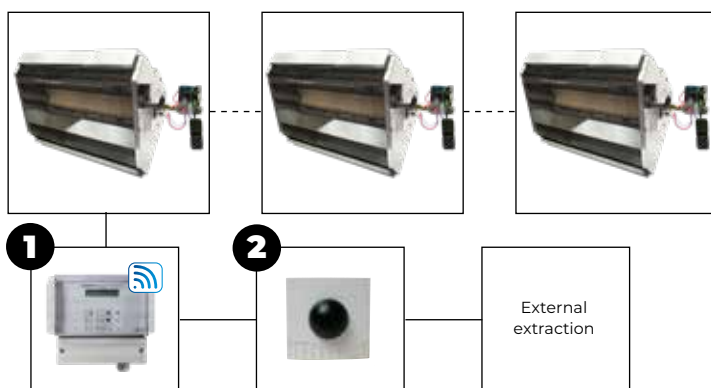
| Type       | A   | B   | D   |
|------------|-----|-----|-----|
| HT 4.2     | 1,0 | 1,0 | 2,0 |
| HT 6.2     | 1,0 | 1,0 | 2,5 |
| HT 8.2     | 1,5 | 1,5 | 3,0 |
| HT 10.2    | 1,5 | 1,5 | 3,5 |
| HT 12.2    | 1,5 | 2,0 | 4,0 |
| HT 16.2    | 1,5 | 2,0 | 4,5 |
| HT 10+10.2 | 2,0 | 2,5 | 5,0 |
| HT 12+12.2 | 1,5 | 2,5 | 5,5 |
| HT 16+16.2 | 2,0 | 2,5 | 6,0 |

Minimum distances (floor 45°)

| Type       | A (m) | B (m) | C (m) | D 45° - 0° (m) |
|------------|-------|-------|-------|----------------|
| HT 4.2     | 1,0   | 0,5   | 2,0   | 2,4 - 3,0      |
| HT 6.2     | 1,0   | 0,5   | 2,0   | 2,9 - 3,5      |
| HT 8.2     | 1,5   | 0,5   | 2,5   | 3,9 - 4,5      |
| HT 10.2    | 1,5   | 0,5   | 2,5   | 4,2 - 4,8      |
| HT 12.2    | 1,5   | 0,5   | 2,5   | 4,7 - 5,5      |
| HT 16.2    | 1,5   | 0,75  | 3,0   | 5,1 - 6,0      |
| HT 10+10.2 | 2,0   | 0,75  | 3,0   | 5,0 - 6,2      |
| HT 12+12.2 | 1,5   | 0,75  | 3,0   | 5,6 - 6,5      |
| HT 16+16.2 | 2,0   | 1,0   | 3,5   | 6,0 - 7,1      |

## Controls

max. 10 units

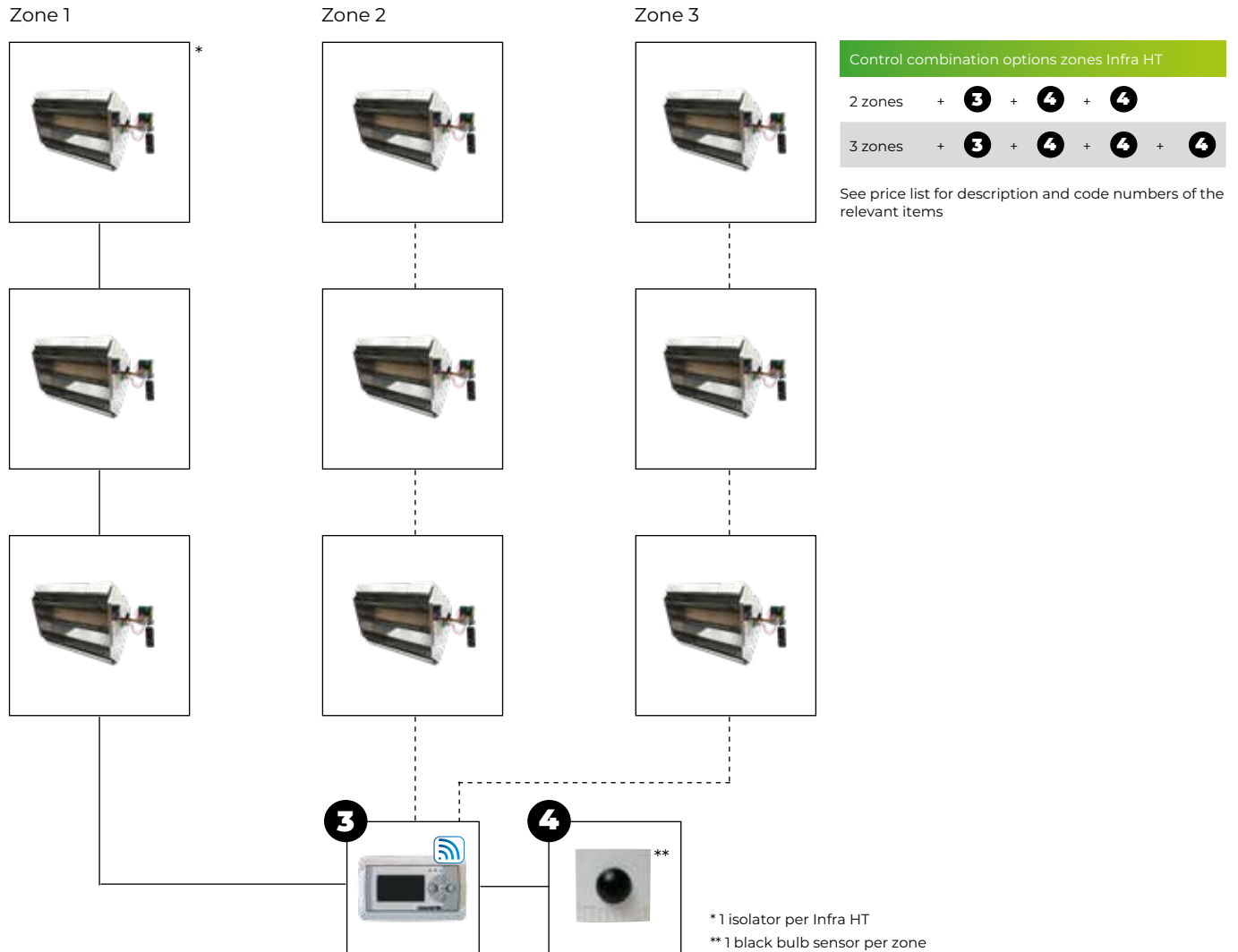


Control combination options

Infra HT + **1** + **2** + External extraction

See price list for description and code numbers of the relevant items

## Zone control



## Prices Infra HT



| PRODUCT - INFRA HT |                                              |        |
|--------------------|----------------------------------------------|--------|
| Code nr.           | Description                                  | Price  |
|                    | INFRA HT 4.2, nominal power 6,5 kW, H/L      | € 1433 |
|                    | INFRA HT 6.2, nominal power 8,6 kW, H/L      | € 1552 |
|                    | INFRA HT 8.2, nominal power 14,5 kW, H/L     | € 1741 |
|                    | INFRA HT 10.2, nominal power 16,5 kW, H/L    | € 1787 |
|                    | INFRA HT 12.2, nominal power 20,0 kW, H/L    | € 2105 |
|                    | INFRA HT 16.2, nominal power 31,0 kW, H/L    | € 2160 |
|                    | INFRA HT 10+10.2, nominal power 33,0 kW, H/L | € 2965 |
|                    | INFRA HT 12+12.2, nominal power 40,0 kW, H/L | € 3193 |
|                    | INFRA HT 16+16.2, nominal power 62,0 kW, H/L | € 3953 |

**PRODUCT - INFRA HT**

| Code nr. | Description                                          | Price |      |
|----------|------------------------------------------------------|-------|------|
|          | INFRA HT 4.2 eco, nominal power 6,5 kW, On/Off       | €     | 1177 |
|          | INFRA HT 6.2 eco, nominal power 8,6 kW, On/Off       | €     | 1314 |
|          | INFRA HT 8.2 eco, nominal power 14,5 kW, On/Off      | €     | 1420 |
|          | INFRA HT 10.2 eco, nominal power 6,5 kW, On/Off      | €     | 1529 |
|          | INFRA HT 12.2 eco, nominal power 20,0 kW, On/Off     | €     | 1589 |
|          | INFRA HT 16.2 eco, nominal power 31,0 kW, On/Off     | €     | 1874 |
|          | INFRA HT 10+ 10.2 eco, nominal power 33,0 kW, On/Off | €     | 2518 |
|          | INFRA HT 12+ 12.2 eco, nominal power 40,0 kW, On/Off | €     | 3046 |
|          | INFRA HT 16+ 16.2 eco, nominal power 62,0 kW, On/Off | €     | 3317 |

**ACCESSORIES - CONTROLS**

|   | Code nr. | Description                                                                              | Price |      |
|---|----------|------------------------------------------------------------------------------------------|-------|------|
| 1 | 0629109  | PinTherm Infra Connect – programmable thermostat with Ethernet and Modbus, 230V (4A)**** | €     | 726  |
| 3 | 3003795  | Zone control Infra*****                                                                  | €     | 2377 |
| 2 | 0629087  | External Black bulb sensor for 0629109                                                   | €     | 140  |
| 4 | 0629082  | External Black bulb sensor RSTF PT1000 for 3003795                                       | €     | 141  |
|   | 0631162  | Sectionneur, livré séparé 230 V (2 polig)                                                | €     | 63   |
|   | 0631163  | Isolator switch, separate delivery, 400V (4 poles)                                       | €     | 71   |

*For explanation see chapter controls*

**ACCESSORIES - ASSEMBLY**

| Code nr. | Description                                                 | Price |    |
|----------|-------------------------------------------------------------|-------|----|
| 5998000  | Wall bracket for INFRA HT 4.2 - 16.2*                       | €     | 78 |
| 5998002  | Suspended bracket for INFRA HT 4.2 - 16.2                   | €     | 54 |
| 5998003  | Suspended bracket for INFRA HT 10+10.2, 12+12.2 and 16+16.2 | €     | 79 |

**ACCESSORIES - OTHER**

| Code nr. | Description                                 | Price |     |
|----------|---------------------------------------------|-------|-----|
| 5018025  | Flexible gas hose 3/4" - 1/2"               | €     | 143 |
|          | Conversion kit natural gas to propane gas** | €     | 86  |

**PRODUCT -**

| <b>Code nr.</b> | <b>Description</b>                 | <b>Price</b> |     |
|-----------------|------------------------------------|--------------|-----|
| 5998060         | Ball protection mesh Infra HT 4.2  | €            | 159 |
| 5998061         | Ball protection mesh Infra HT 6.2  | €            | 172 |
| 5998062         | Ball protection mesh Infra HT 8.2  | €            | 172 |
| 5998063         | Ball protection mesh Infra HT 12.2 | €            | 214 |
| 5998064         | Ball protection mesh Infra HT 16.2 | €            | 242 |
| 5998066         | Ball protection mesh Infra HT 10.2 | €            | 214 |

**REMARKS**

\* No wall bracket for INFRA HT 10+10.2, 12+12.2 en 16+16.2 available

\*\* A conversion kit must be ordered for the exact type of unit and consist of.

1 nozzle

1 technical plate

1 technical manual for instructions

\*\*\* Only select when the unit is high/low

\*\*\*\* Also order 0629087

\*\*\*\*\* Also order 0629082 (one for each zone)



# INFRA AQUA DESIGN

## Water-supplied aluminium radiation panel

Aluminium radiation panel with a RAL 9010 coating.



For more information, downloads  
and videos, visit the Infra Aqua  
Design page on our website

## Silent, pleasant heat from a designer radiation panel



The INFRA AQUA DESIGN is a water-supplied aluminium radiation panel, fitted with a glass wool insulation blanket as standard. This insulation blanket prevents heat from being radiated upwards.

This appliance offers the option of heating without displacing air. In addition, heat reaches only the location where it is required. The short warming-up period and the lower room temperature can yield good energy savings.

The INFRA AQUA DESIGN has a very wide area of application in both utility and industrial buildings. The panel may even be integrated into a system ceiling.

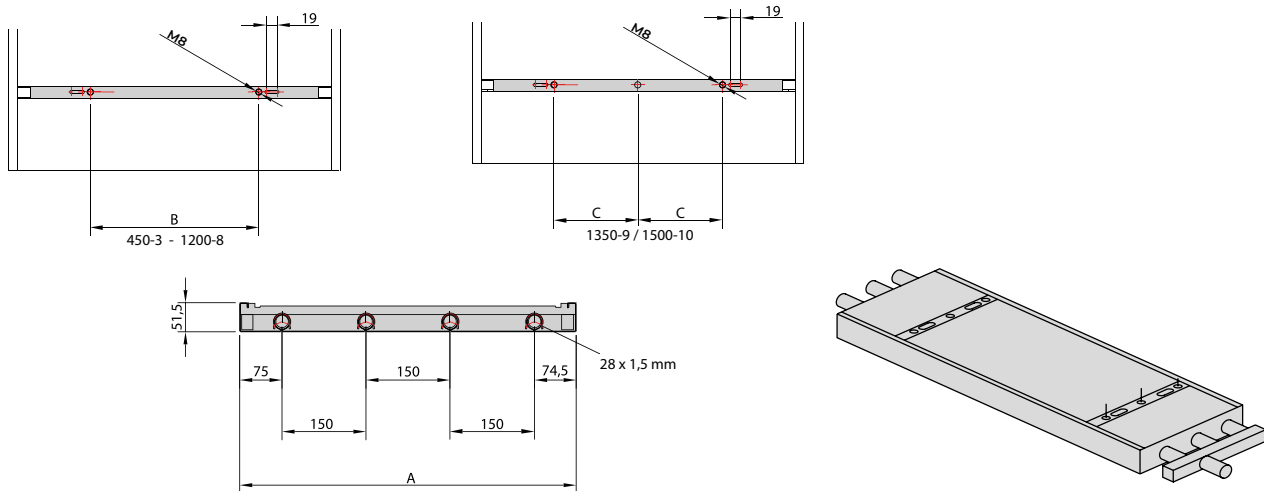
Heating with the INFRA AQUA DESIGN means heating without any draughts or displacement of air or dust.

The panel can be supplied in various widths and lengths, and in RAL 9010 white colour as standard. Other RAL-colours are available on request.

### Product features

- Aluminium panel, low weight per metre.
- Aesthetically pleasing and completely flat panel.
- High heat delivery compared to steel panels
- Galvanized distributors and registers possible when used in wet spaces.
- Approved in accordance with EN 14037 1-3
- Ball-resistant in accordance with DIN 18032 d13
- Glass wool insulation
- Acoustic panels (on demand)

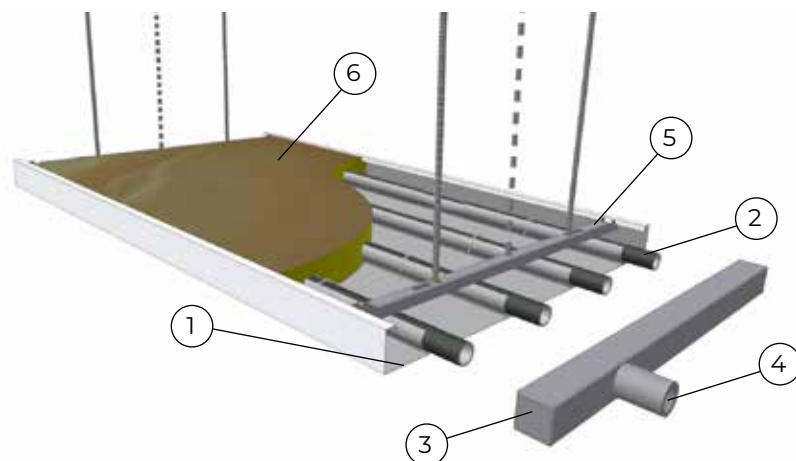
## Dimensions



| Type                   | 450-3 | 600-4 | 750-5 | 900-6 | 1050-7 | 1200-8 | 1350-9 | 1500-10 |
|------------------------|-------|-------|-------|-------|--------|--------|--------|---------|
| Width = A              | 440   | 590   | 740   | 890   | 1040   | 1190   | 1340   | 1490    |
| B/C in mm              | 200   | 300   | 450   | 600   | 750    | 600    | 375    | 450     |
| Suspension points (6m) | 3x2   | 3x2   | 3x2   | 3x2   | 3x2    | 3x2    | 3x3    | 3x3     |
| Number of pipes        | 3     | 4     | 5     | 6     | 7      | 8      | 9      | 10      |

## Technical information

- 1 = Aluminium radiant reflector
- 2 = Water-carrying tube
- 3 = Distributor
- 4 = Connection, water-side
- 5 = Suspension profile with M8 blind rivnut
- 6 = Insulating material





| Type                                           |      | 450-3 | 600-4 | 750-5 | 900-6 | 1050-7 | 1200-8 | 1350-9 | 1500-10 |
|------------------------------------------------|------|-------|-------|-------|-------|--------|--------|--------|---------|
| Heat delivery 15°C (90/70 °C) room temperature | W/m  | 300   | 377   | 453   | 529   | 608    | 686    | 764    | 842     |
| Water content                                  | kg/m | 1,47  | 1,96  | 2,45  | 2,94  | 3,43   | 3,92   | 4,41   | 4,90    |
| Weight of panel (filled)                       | kg/m | 6,24  | 8,49  | 10,55 | 12,82 | 14,67  | 16,73  | 18,79  | 20,85   |
| Weight of distributor (filled)                 | kg/m | 1,55  | 2,13  | 2,70  | 3,28  | 3,86   | 4,44   | 5,01   | 5,58    |

## RADIANT PANEL, TYPE 450-3 to 1500-10

Heat delivery table in W/m<sup>2</sup> in accordance with EN 14037 1-3

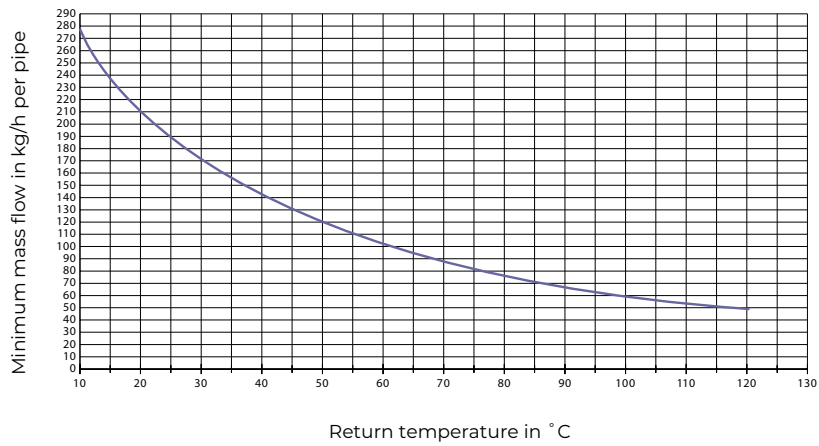
| K   | 450-3 | 600-4 | 750-5 | 900-6 | 1050-7 | 1200-8 | 1350-9 | 1500-10 |
|-----|-------|-------|-------|-------|--------|--------|--------|---------|
| 115 | 578   | 723   | 868   | 1011  | 1162   | 1313   | 1465   | 1618    |
| 110 | 549   | 687   | 825   | 961   | 1104   | 1248   | 1392   | 1537    |
| 105 | 521   | 652   | 782   | 911   | 1047   | 1183   | 1320   | 1457    |
| 100 | 492   | 616   | 739   | 862   | 990    | 1119   | 1248   | 1378    |
| 95  | 464   | 581   | 697   | 813   | 934    | 1056   | 1177   | 1299    |
| 90  | 436   | 546   | 656   | 765   | 878    | 992    | 1106   | 1221    |
| 85  | 408   | 512   | 614   | 717   | 823    | 930    | 1036   | 1144    |
| 80  | 381   | 477   | 573   | 669   | 768    | 868    | 967    | 1067    |
| 75  | 354   | 443   | 533   | 622   | 714    | 807    | 899    | 991     |
| 70  | 327   | 410   | 493   | 576   | 661    | 746    | 831    | 916     |
| 69  | 322   | 403   | 485   | 566   | 650    | 734    | 817    | 901     |
| 68  | 316   | 397   | 477   | 557   | 639    | 722    | 804    | 887     |
| 67  | 311   | 390   | 469   | 548   | 629    | 710    | 791    | 872     |
| 66  | 306   | 383   | 461   | 539   | 618    | 698    | 777    | 857     |
| 65  | 300   | 377   | 453   | 529   | 608    | 686    | 764    | 842     |
| 64  | 295   | 370   | 445   | 520   | 597    | 674    | 751    | 828     |
| 63  | 290   | 364   | 438   | 511   | 587    | 662    | 737    | 813     |
| 62  | 285   | 357   | 430   | 502   | 576    | 650    | 724    | 798     |
| 61  | 279   | 351   | 422   | 493   | 566    | 638    | 711    | 784     |
| 60  | 274   | 344   | 414   | 484   | 555    | 627    | 698    | 769     |
| 59  | 269   | 338   | 406   | 475   | 545    | 615    | 685    | 755     |
| 58  | 264   | 331   | 399   | 466   | 534    | 603    | 671    | 740     |
| 57  | 259   | 325   | 391   | 457   | 524    | 591    | 658    | 726     |
| 56  | 254   | 318   | 383   | 448   | 514    | 580    | 645    | 711     |
| 55  | 248   | 312   | 375   | 439   | 503    | 568    | 632    | 697     |
| 54  | 243   | 306   | 368   | 430   | 493    | 556    | 619    | 683     |
| 53  | 238   | 299   | 360   | 421   | 483    | 545    | 607    | 668     |
| 52  | 233   | 293   | 353   | 412   | 473    | 533    | 594    | 654     |
| 51  | 228   | 287   | 345   | 403   | 463    | 522    | 581    | 640     |
| 50  | 223   | 280   | 337   | 395   | 453    | 510    | 568    | 626     |
| 49  | 218   | 274   | 330   | 386   | 442    | 499    | 555    | 612     |
| 48  | 213   | 268   | 322   | 377   | 432    | 488    | 543    | 598     |
| 47  | 208   | 261   | 315   | 368   | 422    | 476    | 530    | 584     |
| 46  | 203   | 255   | 307   | 360   | 412    | 465    | 517    | 570     |
| 45  | 198   | 249   | 300   | 351   | 402    | 454    | 505    | 556     |
| 44  | 193   | 243   | 293   | 342   | 392    | 442    | 492    | 542     |
| 43  | 188   | 237   | 285   | 334   | 383    | 431    | 480    | 528     |
| 42  | 183   | 231   | 278   | 325   | 373    | 420    | 467    | 515     |
| 41  | 178   | 224   | 270   | 317   | 363    | 409    | 455    | 501     |
| 40  | 174   | 218   | 263   | 308   | 353    | 398    | 443    | 487     |
| 39  | 169   | 212   | 256   | 300   | 343    | 387    | 430    | 474     |
| 38  | 164   | 206   | 249   | 291   | 334    | 376    | 418    | 460     |
| 37  | 159   | 200   | 241   | 283   | 324    | 365    | 406    | 447     |
| 36  | 154   | 194   | 234   | 274   | 314    | 354    | 394    | 433     |
| 35  | 150   | 188   | 227   | 266   | 305    | 343    | 382    | 420     |
| 30  | 126   | 159   | 192   | 225   | 257    | 290    | 322    | 354     |
| 25  | 103   | 130   | 157   | 185   | 211    | 238    | 264    | 290     |
| 20  | 81    | 102   | 124   | 146   | 166    | 187    | 208    | 229     |
| 15  | 60    | 76    | 92    | 108   | 123    | 139    | 154    | 169     |

K = Average water temperature - room temperature. Values for a mass flow of 0.04 litres per second/pipe.

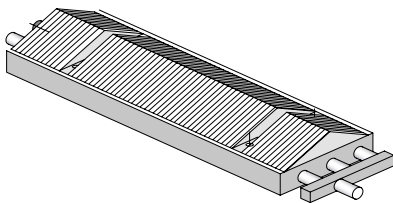
## DISTRIBUTOR, TYPE 450-3 to 1500-10

Warmteafgiftetabel in W/m<sup>2</sup> volgens EN 14037 1-3 per 2 verzamelaars

| K   | 450-3 | 600-4 | 750-5 | 900-6 | 1050-7 | 1200-8 | 1350-9 | 1500-10 |
|-----|-------|-------|-------|-------|--------|--------|--------|---------|
| 115 | 88    | 113   | 138   | 164   | 184    | 203    | 223    | 243     |
| 110 | 84    | 107   | 131   | 155   | 174    | 193    | 212    | 230     |
| 105 | 79    | 101   | 124   | 147   | 164    | 182    | 200    | 218     |
| 100 | 75    | 96    | 117   | 138   | 155    | 172    | 189    | 205     |
| 95  | 70    | 90    | 110   | 130   | 146    | 161    | 177    | 193     |
| 90  | 66    | 84    | 103   | 122   | 136    | 151    | 166    | 181     |
| 85  | 62    | 79    | 96    | 114   | 127    | 141    | 155    | 169     |
| 80  | 58    | 73    | 89    | 106   | 118    | 131    | 144    | 157     |
| 75  | 53    | 68    | 83    | 98    | 110    | 121    | 133    | 145     |
| 70  | 49    | 63    | 76    | 90    | 101    | 112    | 123    | 134     |
| 69  | 49    | 62    | 75    | 88    | 99     | 110    | 121    | 131     |
| 68  | 48    | 61    | 74    | 87    | 97     | 108    | 118    | 129     |
| 67  | 47    | 60    | 72    | 85    | 96     | 106    | 116    | 127     |
| 66  | 46    | 59    | 71    | 84    | 94     | 104    | 114    | 124     |
| 65  | 45    | 58    | 70    | 82    | 92     | 102    | 112    | 122     |
| 64  | 44    | 57    | 69    | 81    | 91     | 100    | 110    | 120     |
| 63  | 44    | 55    | 67    | 79    | 89     | 98     | 108    | 118     |
| 62  | 43    | 54    | 66    | 78    | 87     | 97     | 106    | 115     |
| 61  | 42    | 53    | 65    | 76    | 85     | 95     | 104    | 113     |
| 60  | 41    | 52    | 64    | 75    | 84     | 93     | 102    | 111     |
| 59  | 40    | 51    | 62    | 73    | 82     | 91     | 100    | 109     |
| 58  | 40    | 50    | 61    | 72    | 81     | 89     | 98     | 107     |
| 57  | 39    | 49    | 60    | 70    | 79     | 87     | 96     | 104     |
| 56  | 38    | 48    | 59    | 69    | 77     | 86     | 94     | 102     |
| 55  | 37    | 47    | 57    | 67    | 76     | 84     | 92     | 100     |
| 54  | 37    | 46    | 56    | 66    | 74     | 82     | 90     | 98      |
| 53  | 36    | 45    | 55    | 64    | 72     | 80     | 88     | 96      |
| 52  | 35    | 44    | 54    | 63    | 71     | 78     | 86     | 94      |
| 51  | 34    | 43    | 52    | 62    | 69     | 77     | 84     | 91      |
| 50  | 33    | 42    | 51    | 60    | 67     | 75     | 82     | 89      |
| 49  | 33    | 41    | 50    | 59    | 66     | 73     | 80     | 87      |
| 48  | 32    | 40    | 49    | 57    | 64     | 71     | 78     | 85      |
| 47  | 31    | 39    | 48    | 56    | 63     | 69     | 76     | 83      |
| 46  | 30    | 38    | 47    | 55    | 61     | 68     | 74     | 81      |
| 45  | 30    | 38    | 45    | 53    | 60     | 66     | 72     | 79      |
| 44  | 29    | 37    | 44    | 52    | 58     | 64     | 71     | 77      |
| 43  | 28    | 36    | 43    | 50    | 56     | 63     | 69     | 75      |
| 42  | 27    | 35    | 42    | 49    | 55     | 61     | 67     | 73      |
| 41  | 27    | 34    | 41    | 48    | 53     | 59     | 65     | 71      |
| 40  | 26    | 33    | 40    | 46    | 52     | 57     | 63     | 69      |
| 39  | 25    | 32    | 38    | 45    | 50     | 56     | 61     | 67      |
| 38  | 24    | 31    | 37    | 44    | 49     | 54     | 59     | 65      |
| 37  | 24    | 30    | 36    | 42    | 47     | 52     | 58     | 63      |
| 36  | 23    | 29    | 35    | 41    | 46     | 51     | 56     | 61      |
| 35  | 22    | 28    | 34    | 40    | 44     | 49     | 54     | 59      |
| 30  | 19    | 24    | 28    | 33    | 37     | 41     | 45     | 49      |
| 25  | 15    | 19    | 23    | 27    | 30     | 33     | 37     | 40      |
| 20  | 12    | 15    | 18    | 21    | 23     | 26     | 28     | 31      |
| 15  | 9     | 11    | 13    | 15    | 17     | 19     | 21     | 22      |

**Relation between minimum mass flow and return temperature**

## Accessories



Ball removal plates (optional)



# INFRA AQUA ECO

## Water-supplied steel radiation panel

Steel radiation panel, available in 4 or 6 metres as standard.



For more information, downloads  
and videos, visit the Infra Aqua  
Eco page on our website



### Economic heating and cooling using a lightweight panel

The INFRA AQUA ECO is a water-supplied radiation panel, fitted with a glass wool insulation blanket as standard. This insulation blanket prevents heat from being radiated upwards. This appliance offers the option of heating without displacing air. In addition, heat reaches only the location where it is required. The short warming-up period and the lower room temperature can yield good energy savings.

The INFRA AQUA ECO has a very wide area of application in both utility and industrial buildings.

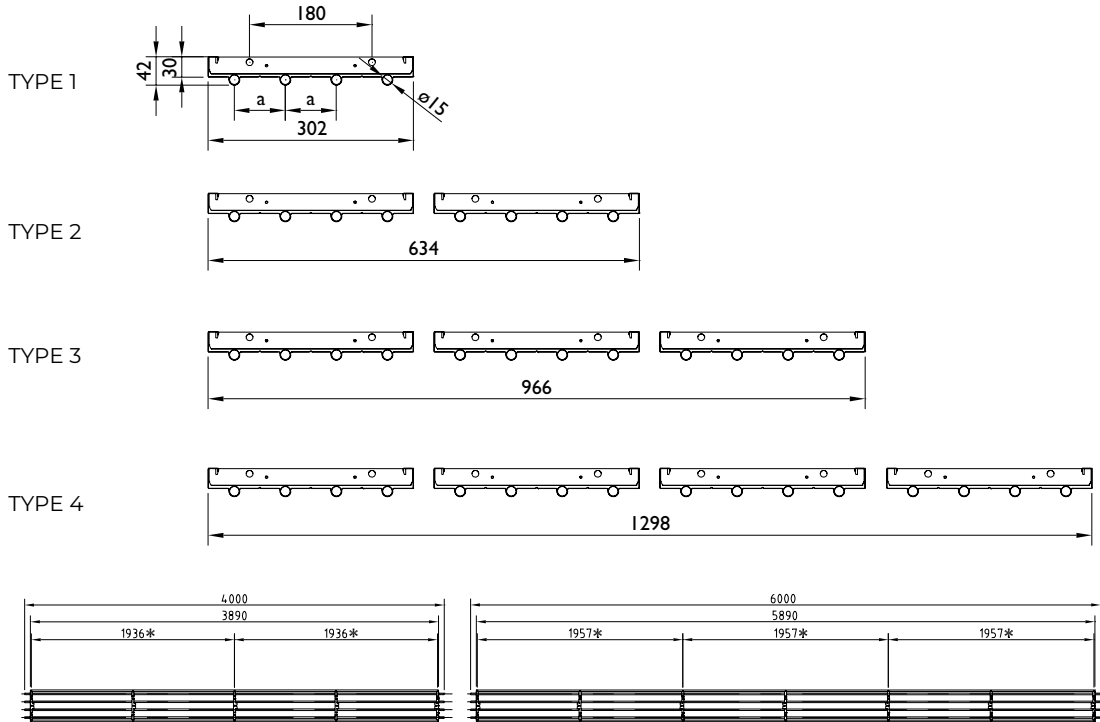
The panels are delivered in standard lengths of 4 or 6 metres. The panels may also be suspended in parallel with standard widths varying between 305 - 1.300 mm.

The panel is supplied in white RAL 9010 as standard. Other RAL colours are available on request.

#### Product features

- Simple installation / suspension
- Low weight per metre
- High heat emission
- Galvanized finish for collectors and registers (optional)
- Linking of panels by means of press couplings
- Measured and approved in accordance with EN 14037 1-3
- Ball-resistant

## Dimensions

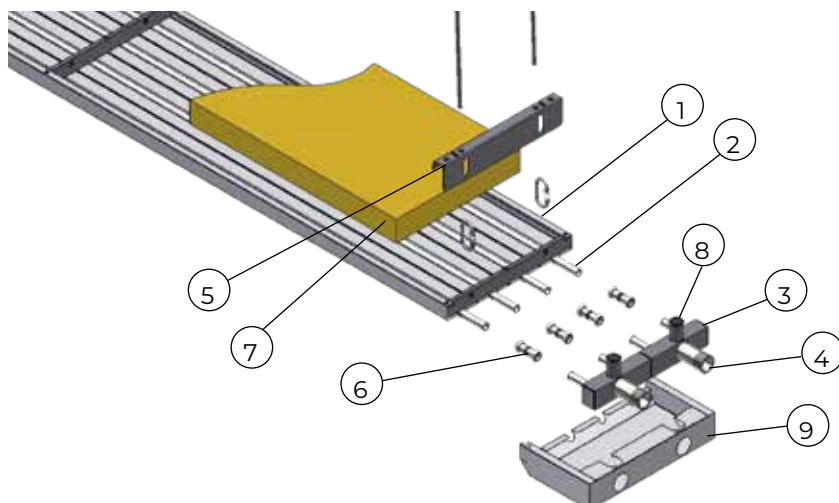


| INFRA AQUA ECO                                           |    | Type 1 | Type 2 | Type 3 | Type 4 |
|----------------------------------------------------------|----|--------|--------|--------|--------|
| Tube distance (a)                                        | mm | 75     | 75     | 75     | 75     |
| Outside diameter of tube                                 | mm | 15     | 15     | 15     | 15     |
| Number of suspension points per axis                     |    | 2      | 2      | 2      | 2      |
| Operating weight with water content and insulation (4 m) | kg | 14,3   | 28,6   | 43,0   | 57,7   |
| Operating weight with water content and insulation (6 m) | kg | 21,4   | 42,8   | 64,2   | 85,6   |

Max. operating temperature: 120 °C. Max. operating pressure: 10 bar

\* Suspension points from centre point to centre point.

## Technical information



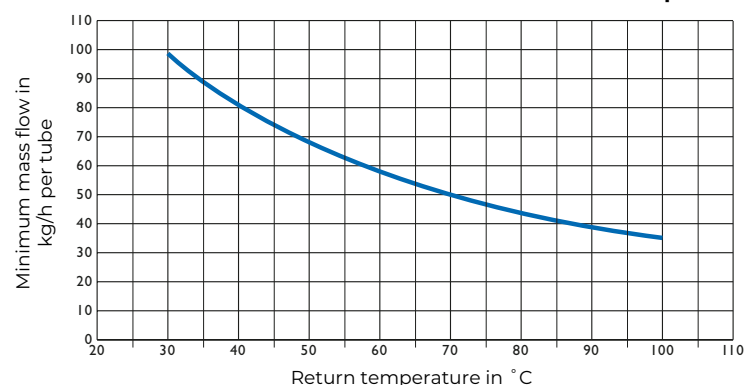
- 1 = Reflector
- 2 = Water tube
- 3 = Collector
- 4 = Water connection 1"
- 5 = Suspension set (profile and carabiners)
- 6 = Press-fittings (optional)
- 7 = Insulating material (supplied separately)
- 8 = De-aerator connection 1/2" (air point not supplied by Mark)
- 9 = Cover plate (supplied separately)

| Medium over temp K | Type 1 | Type 2 | Type 3 | Type 4 | Medium over temp K | Type 1 | Type 2 | Type 3 | Type 4 |
|--------------------|--------|--------|--------|--------|--------------------|--------|--------|--------|--------|
| 115                | 476    | 952    | 1428   | 1904   | 115                | 165    | 330    | 494    | 659    |
| 110                | 451    | 903    | 1354   | 1806   | 110                | 156    | 312    | 468    | 624    |
| 105                | 427    | 855    | 1282   | 1709   | 105                | 147    | 295    | 442    | 590    |
| 100                | 403    | 807    | 1210   | 1613   | 100                | 139    | 278    | 417    | 556    |
| 95                 | 380    | 759    | 1139   | 1518   | 95                 | 131    | 261    | 392    | 522    |
| 90                 | 356    | 712    | 1068   | 1424   | 90                 | 122    | 244    | 367    | 489    |
| 85                 | 333    | 666    | 998    | 1331   | 85                 | 114    | 228    | 342    | 456    |
| 80                 | 310    | 619    | 929    | 1239   | 80                 | 106    | 212    | 318    | 423    |
| 75                 | 287    | 574    | 861    | 1148   | 75                 | 98     | 196    | 293    | 391    |
| 70                 | 264    | 529    | 793    | 1058   | 70                 | 90     | 180    | 270    | 360    |
| 69                 | 260    | 520    | 780    | 1040   | 69                 | 88     | 177    | 265    | 353    |
| 68                 | 256    | 511    | 767    | 1022   | 68                 | 87     | 174    | 260    | 347    |
| 67                 | 251    | 502    | 753    | 1004   | 67                 | 85     | 170    | 256    | 341    |
| 66                 | 247    | 493    | 740    | 987    | 66                 | 84     | 167    | 251    | 335    |
| 65                 | 242    | 485    | 727    | 969    | 65                 | 82     | 164    | 246    | 329    |
| 64                 | 238    | 476    | 714    | 951    | 64                 | 81     | 161    | 242    | 322    |
| 63                 | 233    | 467    | 700    | 934    | 63                 | 79     | 158    | 237    | 316    |
| 62                 | 229    | 458    | 687    | 916    | 62                 | 78     | 155    | 233    | 310    |
| 61                 | 225    | 449    | 674    | 899    | 61                 | 76     | 152    | 228    | 304    |
| 60                 | 220    | 441    | 661    | 881    | 60                 | 74     | 149    | 223    | 298    |
| 59                 | 216    | 432    | 648    | 864    | 59                 | 73     | 146    | 219    | 292    |
| 58                 | 212    | 423    | 635    | 847    | 58                 | 71     | 143    | 214    | 286    |
| 57                 | 207    | 415    | 622    | 830    | 57                 | 70     | 140    | 210    | 280    |
| 56                 | 203    | 406    | 609    | 812    | 56                 | 68     | 137    | 205    | 274    |
| 55                 | 199    | 398    | 596    | 795    | 55                 | 67     | 134    | 201    | 268    |
| 54                 | 195    | 389    | 584    | 778    | 54                 | 66     | 131    | 197    | 262    |
| 53                 | 190    | 381    | 571    | 761    | 53                 | 64     | 128    | 192    | 256    |
| 52                 | 186    | 372    | 558    | 744    | 52                 | 63     | 125    | 188    | 250    |
| 51                 | 182    | 364    | 545    | 727    | 51                 | 61     | 122    | 183    | 244    |
| 50                 | 178    | 355    | 533    | 710    | 50                 | 60     | 119    | 179    | 239    |
| 49                 | 173    | 347    | 520    | 694    | 49                 | 58     | 116    | 175    | 233    |
| 48                 | 169    | 338    | 508    | 677    | 48                 | 57     | 113    | 170    | 227    |
| 47                 | 165    | 330    | 495    | 660    | 47                 | 55     | 111    | 166    | 221    |
| 46                 | 161    | 322    | 483    | 644    | 46                 | 54     | 108    | 162    | 215    |
| 45                 | 157    | 314    | 470    | 627    | 45                 | 52     | 105    | 157    | 210    |
| 44                 | 153    | 305    | 458    | 611    | 44                 | 51     | 102    | 153    | 204    |
| 43                 | 149    | 297    | 446    | 594    | 43                 | 50     | 99     | 149    | 198    |
| 42                 | 144    | 289    | 433    | 578    | 42                 | 48     | 96     | 145    | 193    |
| 41                 | 140    | 281    | 421    | 562    | 41                 | 47     | 94     | 140    | 187    |
| 40                 | 136    | 273    | 409    | 546    | 40                 | 45     | 91     | 136    | 182    |
| 39                 | 132    | 265    | 397    | 529    | 39                 | 44     | 88     | 132    | 176    |
| 38                 | 128    | 257    | 385    | 513    | 38                 | 43     | 85     | 128    | 171    |
| 37                 | 124    | 249    | 373    | 497    | 37                 | 41     | 83     | 124    | 165    |
| 36                 | 120    | 241    | 361    | 482    | 36                 | 40     | 80     | 120    | 160    |
| 35                 | 116    | 233    | 349    | 466    | 35                 | 39     | 77     | 116    | 154    |
| 30                 | 97     | 194    | 291    | 388    | 30                 | 32     | 64     | 96     | 128    |
| 25                 | 78     | 156    | 235    | 313    | 25                 | 26     | 51     | 77     | 102    |
| 20                 | 60     | 120    | 180    | 240    | 20                 | 19     | 39     | 58     | 78     |
| 15                 | 43     | 85     | 128    | 171    | 15                 | 14     | 27     | 41     | 55     |

Heat delivery table for panels in W/m  
in accordance with EN 14037 1-3

Heat delivery table per 2 distributors in W/unit in  
accordance with EN 14037 1-3

#### Relation between minimum mass flow and return temperature







# CEILFIT

Water-supplied radiation panel for  
grid type ceiling

Steel radiation panel, available in standard grid ceiling dimensions.



For more information, downloads  
and videos, visit the Ceilfit page  
on our website



## Radiant panel for grid type ceiling

The Mark CEILFIT gives a comfortable work and living environment through heating and cooling by convection and radiation. It is easy to regulate zones or rooms individually to ensure a pleasant surrounding. Due to the exclusion of radiators, extra wall and floor space is made available.

Our panels are compatible with grid type ceilings and can replace the standard tile without any additional work to the grid. The standard panels are available in common standard grid dimension, or as custom dimensions on request.

The Mark CEILFIT is constructed of RAL 9010 powder coated 0,7 mm steel sheet fused to copper tube. The copper tubing allows a quick and efficient heat or cooling transfer. The copper tubing is a 10x0,4mm high quality precision tubing that can withstand pressure up to 6 bar.

Panels can be optionally insulated with mineral wool with an aluminium foil layer. Dummy panels can be fitted to accommodate lightning, sensors, ventilation or other additions to the ceiling.

The panels are also available with perforation for a better sound absorption.

To support the weight of a fluid filled panel we strongly advise to add suspension wires from the panels to a structural part of the building or ceiling. The panels are accommodated with several holes to fix the suspension brackets or cables.

Intermediate panels are available for easy connection of a range of CEILFIT panels.

The Mark CEILFIT can be used in offices, schools, hospitals, public buildings and clinics.

All CEILFIT products are in accordance with the NEN-EN 13964 regulation.

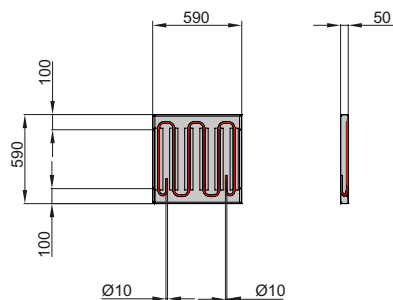


### Product features

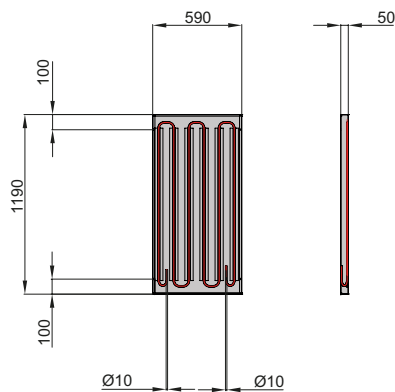
- Easy to clean
- Frees up floor and wall space
- Rapid warm up times, due to low water content
- Low air movement
- Low pressure drop (operating pressures)
- Low whole life costs - lack of moving parts
- Easily installed in standard T-Grid ceiling
- Cost efficient heating and cooling

## Dimensions

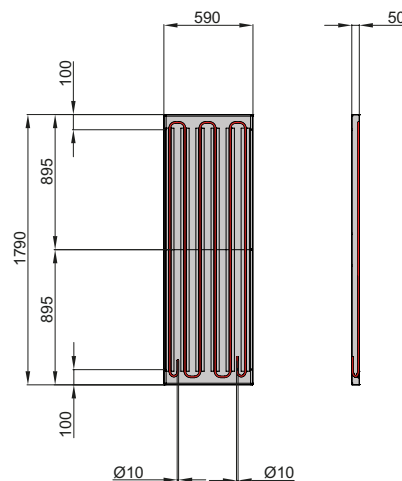
CEILFIT 600



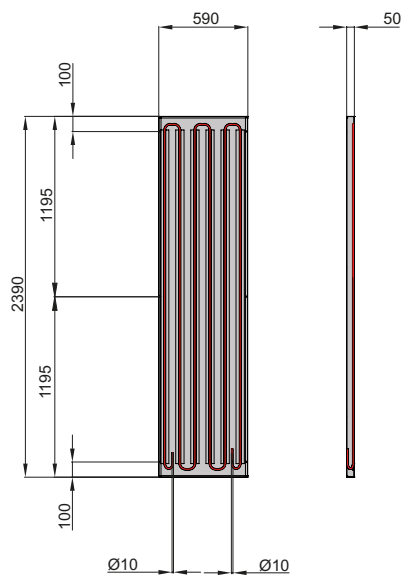
CEILFIT 1200



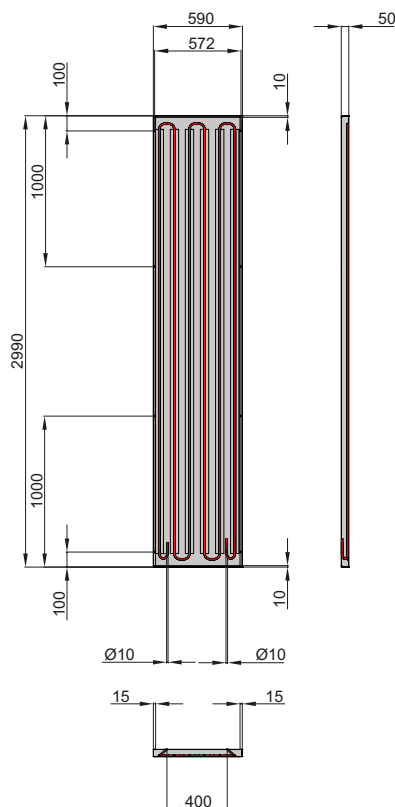
CEILFIT 1800



CEILFIT 2400



CEILFIT 3000



| Type | Width | Length |
|------|-------|--------|
|      | mm    | mm     |
| 600  | 590   | 590    |
| 1200 | 590   | 1190   |
| 1800 | 590   | 1790   |
| 2400 | 590   | 2390   |
| 3000 | 590   | 2990   |

## Technical information

| Type                               |    | 600 | 1200 | 1800 | 2400 | 3000 |
|------------------------------------|----|-----|------|------|------|------|
| Panel weight without water content | kg | 3,8 | 7,4  | 11,2 | 14,9 | 18,6 |
| Panel weight with water content    | kg | 4,0 | 7,9  | 11,9 | 15,8 | 19,8 |

## HEAT DELIVERY PER PANEL IN WATT

| with insulation |     |      |      |      |      |
|-----------------|-----|------|------|------|------|
| K               | 600 | 1200 | 1800 | 2400 | 3000 |
| 90              | 293 | 653  | 1012 | 1371 | 1729 |
| 89              | 289 | 644  | 998  | 1352 | 1706 |
| 88              | 285 | 635  | 984  | 1333 | 1682 |
| 87              | 281 | 628  | 972  | 1317 | 1662 |
| 86              | 277 | 619  | 959  | 1299 | 1638 |
| 85              | 274 | 611  | 947  | 1282 | 1618 |
| 84              | 270 | 602  | 933  | 1264 | 1594 |
| 83              | 266 | 594  | 921  | 1247 | 1574 |
| 82              | 262 | 586  | 907  | 1229 | 1550 |
| 81              | 259 | 578  | 895  | 1213 | 1530 |
| 80              | 255 | 570  | 883  | 1196 | 1509 |
| 79              | 251 | 561  | 870  | 1178 | 1486 |
| 78              | 248 | 554  | 858  | 1161 | 1466 |
| 77              | 244 | 545  | 844  | 1143 | 1442 |
| 76              | 241 | 537  | 832  | 1127 | 1422 |
| 75              | 237 | 529  | 820  | 1110 | 1401 |
| 74              | 233 | 520  | 806  | 1092 | 1378 |
| 73              | 230 | 513  | 794  | 1076 | 1357 |
| 72              | 226 | 505  | 782  | 1059 | 1337 |
| 71              | 222 | 496  | 768  | 1041 | 1313 |
| 70              | 219 | 488  | 756  | 1024 | 1293 |
| 69              | 215 | 480  | 744  | 1008 | 1272 |
| 68              | 212 | 473  | 732  | 992  | 1252 |
| 67              | 208 | 464  | 719  | 973  | 1228 |
| 66              | 204 | 456  | 707  | 957  | 1208 |
| 65              | 201 | 448  | 695  | 941  | 1187 |
| 64              | 197 | 441  | 683  | 925  | 1167 |
| 63              | 194 | 433  | 671  | 908  | 1146 |
| 62              | 190 | 424  | 657  | 890  | 1123 |
| 61              | 186 | 416  | 645  | 873  | 1102 |
| 60              | 183 | 408  | 633  | 857  | 1082 |
| 59              | 180 | 401  | 621  | 841  | 1061 |
| 58              | 176 | 393  | 609  | 825  | 1041 |
| 57              | 173 | 385  | 597  | 808  | 1020 |
| 56              | 169 | 377  | 585  | 792  | 999  |
| 55              | 166 | 370  | 573  | 776  | 979  |
| 54              | 162 | 362  | 561  | 760  | 958  |
| 53              | 159 | 354  | 549  | 743  | 938  |
| 52              | 155 | 346  | 537  | 727  | 917  |
| 51              | 152 | 339  | 525  | 711  | 897  |
| 50              | 148 | 331  | 513  | 695  | 876  |
| 49              | 145 | 323  | 501  | 678  | 856  |
| 48              | 141 | 315  | 489  | 662  | 835  |
| 47              | 138 | 309  | 478  | 648  | 818  |
| 46              | 135 | 301  | 466  | 632  | 797  |
| 45              | 131 | 293  | 454  | 616  | 777  |
| 44              | 128 | 286  | 442  | 599  | 756  |
| 43              | 124 | 278  | 430  | 583  | 736  |
| 42              | 122 | 271  | 420  | 569  | 718  |
| 41              | 118 | 263  | 408  | 553  | 698  |
| 40              | 115 | 256  | 396  | 537  | 677  |
| 39              | 112 | 249  | 386  | 523  | 659  |
| 38              | 108 | 241  | 374  | 506  | 639  |
| 37              | 105 | 234  | 362  | 490  | 618  |
| 36              | 102 | 227  | 352  | 476  | 601  |
| 35              | 98  | 219  | 340  | 460  | 580  |
| 34              | 95  | 213  | 329  | 446  | 563  |
| 33              | 92  | 205  | 317  | 430  | 542  |
| 32              | 89  | 198  | 307  | 416  | 525  |
| 31              | 85  | 190  | 295  | 400  | 504  |
| 30              | 82  | 184  | 285  | 386  | 487  |
| 29              | 79  | 177  | 274  | 372  | 469  |
| 28              | 76  | 169  | 262  | 355  | 448  |
| 27              | 73  | 163  | 252  | 341  | 431  |
| 26              | 70  | 156  | 242  | 328  | 413  |
| 25              | 66  | 148  | 230  | 311  | 393  |
| 24              | 63  | 142  | 220  | 297  | 375  |
| 23              | 61  | 135  | 209  | 283  | 358  |
| 22              | 58  | 128  | 199  | 269  | 340  |
| 21              | 55  | 122  | 189  | 256  | 322  |
| 20              | 52  | 115  | 178  | 242  | 305  |

| without insulation |     |      |      |      |      |
|--------------------|-----|------|------|------|------|
| K                  | 600 | 1200 | 1800 | 2400 | 3000 |
| 90                 | 353 | 789  | 1222 | 1656 | 2089 |
| 89                 | 349 | 778  | 1206 | 1633 | 2061 |
| 88                 | 344 | 768  | 1189 | 1611 | 2032 |
| 87                 | 340 | 758  | 1175 | 1591 | 2008 |
| 86                 | 335 | 748  | 1158 | 1569 | 1979 |
| 85                 | 331 | 738  | 1144 | 1549 | 1954 |
| 84                 | 326 | 727  | 1127 | 1527 | 1926 |
| 83                 | 322 | 718  | 1112 | 1507 | 1901 |
| 82                 | 317 | 707  | 1096 | 1484 | 1873 |
| 81                 | 313 | 698  | 1081 | 1465 | 1848 |
| 80                 | 309 | 689  | 1067 | 1445 | 1823 |
| 79                 | 304 | 678  | 1050 | 1423 | 1795 |
| 78                 | 300 | 669  | 1036 | 1403 | 1770 |
| 77                 | 295 | 658  | 1019 | 1381 | 1742 |
| 76                 | 291 | 649  | 1005 | 1361 | 1717 |
| 75                 | 286 | 639  | 990  | 1341 | 1692 |
| 74                 | 282 | 629  | 974  | 1319 | 1664 |
| 73                 | 277 | 619  | 959  | 1299 | 1639 |
| 72                 | 273 | 610  | 945  | 1280 | 1615 |
| 71                 | 268 | 599  | 928  | 1257 | 1586 |
| 70                 | 264 | 590  | 914  | 1238 | 1561 |
| 69                 | 260 | 580  | 899  | 1218 | 1537 |
| 68                 | 256 | 571  | 885  | 1198 | 1512 |
| 67                 | 251 | 560  | 868  | 1176 | 1484 |
| 66                 | 247 | 551  | 854  | 1156 | 1459 |
| 65                 | 243 | 542  | 839  | 1137 | 1434 |
| 64                 | 238 | 532  | 825  | 1117 | 1409 |
| 63                 | 234 | 523  | 810  | 1097 | 1384 |
| 62                 | 229 | 512  | 793  | 1075 | 1356 |
| 61                 | 225 | 503  | 779  | 1055 | 1331 |
| 60                 | 221 | 493  | 764  | 1035 | 1306 |
| 59                 | 217 | 484  | 750  | 1016 | 1282 |
| 58                 | 213 | 475  | 735  | 996  | 1257 |
| 57                 | 208 | 465  | 721  | 977  | 1232 |
| 56                 | 204 | 456  | 706  | 957  | 1207 |
| 55                 | 200 | 447  | 692  | 937  | 1183 |
| 54                 | 196 | 437  | 677  | 918  | 1158 |
| 53                 | 192 | 428  | 663  | 898  | 1133 |
| 52                 | 188 | 419  | 648  | 878  | 1108 |
| 51                 | 183 | 409  | 634  | 859  | 1083 |
| 50                 | 179 | 400  | 619  | 839  | 1059 |
| 49                 | 175 | 390  | 605  | 819  | 1034 |
| 48                 | 171 | 381  | 590  | 800  | 1009 |
| 47                 | 167 | 373  | 578  | 783  | 988  |
| 46                 | 163 | 364  | 563  | 763  | 963  |
| 45                 | 159 | 354  | 549  | 744  | 938  |
| 44                 | 155 | 345  | 534  | 724  | 913  |
| 43                 | 150 | 336  | 520  | 704  | 889  |
| 42                 | 147 | 328  | 508  | 688  | 867  |
| 41                 | 143 | 318  | 493  | 668  | 843  |
| 40                 | 138 | 309  | 479  | 648  | 818  |
| 39                 | 135 | 301  | 466  | 631  | 797  |
| 38                 | 131 | 292  | 452  | 612  | 772  |
| 37                 | 126 | 282  | 437  | 592  | 747  |
| 36                 | 123 | 274  | 425  | 575  | 726  |
| 35                 | 119 | 265  | 410  | 556  | 701  |
| 34                 | 115 | 257  | 398  | 539  | 680  |
| 33                 | 111 | 247  | 383  | 519  | 655  |
| 32                 | 107 | 239  | 371  | 502  | 634  |
| 31                 | 103 | 230  | 356  | 483  | 609  |
| 30                 | 99  | 222  | 344  | 466  | 588  |
| 29                 | 96  | 214  | 331  | 449  | 567  |
| 28                 | 92  | 205  | 317  | 429  | 542  |
| 27                 | 88  | 197  | 305  | 413  | 520  |
| 26                 | 84  | 189  | 292  | 396  | 499  |
| 25                 | 80  | 179  | 278  | 376  | 474  |
| 24                 | 77  | 171  | 265  | 359  | 453  |
| 23                 | 73  | 163  | 253  | 342  | 432  |
| 22                 | 69  | 155  | 240  | 326  | 411  |
| 21                 | 66  | 147  | 228  | 309  | 389  |
| 20                 | 62  | 139  | 215  | 292  | 368  |

K = Average water temperature - room temperature. Values for a mass flow of 0.02 litres per second/pipe.  
 Maximum waterpressure: 6 Bar - Maximum water temperature: 80 °C - Heat delivery inline with EN 14037-5

When panels are installed below a height of 3 meter, the mean temperature of the panel should not be more than +45 °C in order to avoid radiation assymetry.

## COOLING CAPACITY PER PANEL IN WATT

| with insulation |     |      |      |      |      | without insulation |     |      |      |      |      |
|-----------------|-----|------|------|------|------|--------------------|-----|------|------|------|------|
| K               | 600 | 1200 | 1800 | 2400 | 3000 | K                  | 600 | 1200 | 1800 | 2400 | 3000 |
| 15              | 52  | 117  | 181  | 246  | 310  | 15                 | 61  | 136  | 204  | 285  | 360  |
| 14              | 49  | 108  | 168  | 228  | 288  | 14                 | 57  | 126  | 189  | 265  | 334  |
| 13              | 45  | 100  | 155  | 210  | 265  | 13                 | 52  | 116  | 174  | 244  | 308  |
| 12              | 41  | 92   | 142  | 193  | 243  | 12                 | 48  | 106  | 160  | 223  | 282  |
| 11              | 37  | 83   | 129  | 175  | 221  | 11                 | 43  | 97   | 145  | 203  | 257  |
| 10              | 34  | 75   | 116  | 157  | 199  | 10                 | 39  | 87   | 131  | 183  | 231  |
| 9               | 30  | 67   | 104  | 141  | 178  | 9                  | 35  | 78   | 117  | 163  | 206  |
| 8               | 26  | 59   | 91   | 124  | 156  | 8                  | 31  | 68   | 102  | 143  | 181  |
| 7               | 23  | 51   | 79   | 107  | 135  | 7                  | 26  | 59   | 88   | 124  | 156  |
| 6               | 19  | 43   | 67   | 91   | 114  | 6                  | 22  | 50   | 75   | 105  | 132  |
| 5               | 16  | 35   | 55   | 74   | 93   | 5                  | 18  | 41   | 61   | 86   | 109  |
| 4               | 12  | 28   | 43   | 58   | 73   | 4                  | 14  | 32   | 48   | 67   | 85   |
| 3               | 9   | 20   | 31   | 42   | 54   | 3                  | 11  | 23   | 35   | 49   | 62   |
| 2               | 6   | 13   | 20   | 27   | 34   | 2                  | 7   | 15   | 23   | 32   | 40   |
| 1               | 3   | 6    | 10   | 13   | 16   | 1                  | 3   | 7    | 10   | 14   | 18   |

K = Room temperature - average water temperature - . Values for a mass flow of 0.02 litres per second/pipe.

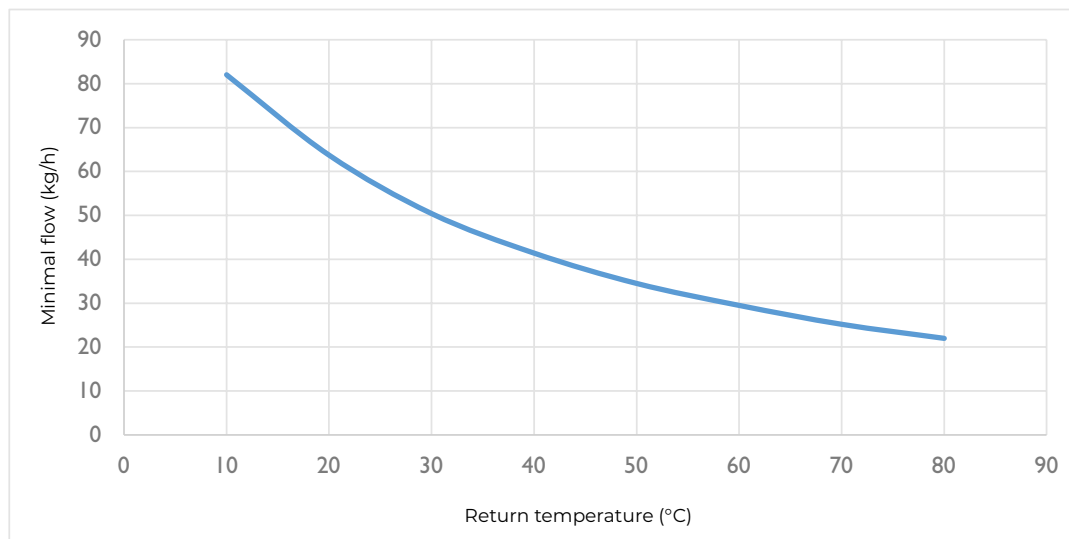
Maximum waterpressure: 6 Bar

Cooling capacity inline with EN 14240

When panels are used for cooling, it is recommended to use non-insulated panels.

Panel cooling is dry cooling. This type of cooling requires a dew point control system.

## Relationship between the minimum mass flow and return temperature



## Prices Ceilfit



### PRODUCT - CEILFIT RADIANT PANEL (NON-INSULATED)

| Code nr. | Description                |
|----------|----------------------------|
| 5995910  | Ceilfit 600 - 590x590 mm   |
| 5995911  | Ceilfit 1200 - 590x1190 mm |
| 5995912  | Ceilfit 1800 - 590x1790 mm |
| 5995913  | Ceilfit 2400 - 590x2390 mm |
| 5995914  | Ceilfit 3000 - 590x2990 mm |



### PRODUCT - CEILFIT RADIANT PANEL (INSULATED)

| Code nr. | Description                |
|----------|----------------------------|
| 5995920  | Ceilfit 600 - 590x590 mm   |
| 5995921  | Ceilfit 1200 - 590x1190 mm |
| 5995922  | Ceilfit 1800 - 590x1790 mm |
| 5995923  | Ceilfit 2400 - 590x2390 mm |
| 5995924  | Ceilfit 3000 - 590x2990 mm |

### PRODUCT - CEILFIT RADIANT PANEL PERFORATED (NON-INSULATED)

| Code nr. | Description                |
|----------|----------------------------|
| 5995930  | Ceilfit 600 - 590x590 mm   |
| 5995931  | Ceilfit 1200 - 590x1190 mm |
| 5995932  | Ceilfit 1800 - 590x1790 mm |
| 5995933  | Ceilfit 2400 - 590x2390 mm |
| 5995934  | Ceilfit 3000 - 590x2990 mm |

### PRODUCT - CEILFIT RADIANT PANEL PERFORATED (INSULATED)

| Code nr. | Description                |
|----------|----------------------------|
| 5995940  | Ceilfit 600 - 590x590 mm   |
| 5995941  | Ceilfit 1200 - 590x1190 mm |
| 5995942  | Ceilfit 1800 - 590x1790 mm |
| 5995943  | Ceilfit 2400 - 590x2390 mm |
| 5995944  | Ceilfit 3000 - 590x2990 mm |

### PRODUCT - CEILFIT INTERMEDIATE PANEL (NON-INSULATED)

| Code nr. | Description                |
|----------|----------------------------|
| 5995952  | Ceilfit 1800 - 590x1790 mm |
| 5995953  | Ceilfit 2400 - 590x2390 mm |
| 5995954  | Ceilfit 3000 - 590x2990 mm |

### PRODUCT - CEILFIT INTERMEDIATE PANEL (INSULATED)

| Code nr. | Description                |
|----------|----------------------------|
| 5995962  | Ceilfit 1800 - 590x1790 mm |
| 5995963  | Ceilfit 2400 - 590x2390 mm |
| 5995964  | Ceilfit 3000 - 590x2990 mm |

**PRODUCT - CEILFIT INTERMEDIATE PANEL PERFORATED (NON-INSULATED)****Code nr.      Description**

|         |                            |
|---------|----------------------------|
| 5995972 | Ceilfit 1800 - 590x1790 mm |
|---------|----------------------------|

|         |                            |
|---------|----------------------------|
| 5995973 | Ceilfit 2400 - 590x2390 mm |
|---------|----------------------------|

|         |                            |
|---------|----------------------------|
| 5995974 | Ceilfit 3000 - 590x2990 mm |
|---------|----------------------------|

**PRODUCT - CEILFIT INTERMEDIATE PANEL PERFORATED (INSULATED)****Code nr.      Description**

|         |                            |
|---------|----------------------------|
| 5995982 | Ceilfit 1800 - 590x1790 mm |
|---------|----------------------------|

|         |                            |
|---------|----------------------------|
| 5995983 | Ceilfit 2400 - 590x2390 mm |
|---------|----------------------------|

|         |                            |
|---------|----------------------------|
| 5995984 | Ceilfit 3000 - 590x2990 mm |
|---------|----------------------------|

# Ventilation and Recirculation Equipment

## RECIRCULATION

ECOFAN W

ECOFAN P

## VENTILATION

MDV BLUE

COLDSTREAM





# ECOFAN W

## Recirculation fan

Recirculation fan with thermostatic control and isolator switch.  
Air displacement 4,000 to 14,000m<sup>3</sup>/h.



For more information, downloads  
and videos, visit the Ecofan W  
page on our website

## Easy to use, with savings up to 30% on your energy consumption



Mark recommends an ECOFAN with every air heater. A combination of these products provides optimum comfort and good heat distribution within the room. It is known that hot air rises which means that an air heater requires more time to heat up a room. A thermostatically-controlled ECOFAN transports the warm blanket under the roof to the occupied area. As a result, the room heats up more quickly, and gas consumption can in some cases be reduced by up to 30%.

The ECOFAN recirculating fan is available with various air displacements from 4.000 to 14.000 m<sup>3</sup>/h. The unit comes as standard with isolator switch and a reverse operating room thermostat that switches on the fan when the area under the ceiling becomes hot. The unit is also available as an ATEX / EEX-model, with the following classification: Ex II 2 G c Ex e IIB T3.

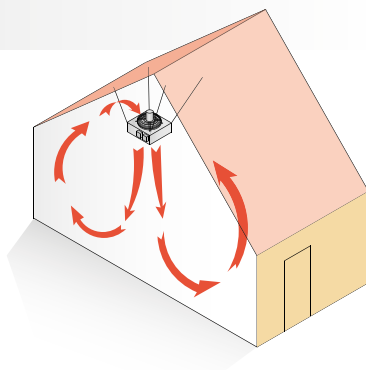
The ECOFAN can be used in construction halls, workshops, garages and logistics areas.

The ECOFAN is also available with speed controlled low noise EC-motor. Advantages:

- The highest efficiency in case of speed control
- Up to 50% energy saving in case of partial load
- Almost completely linearly adjustable
- Long lifetime
- Low noise level
- Integrated electronic thermal protection

### Product features

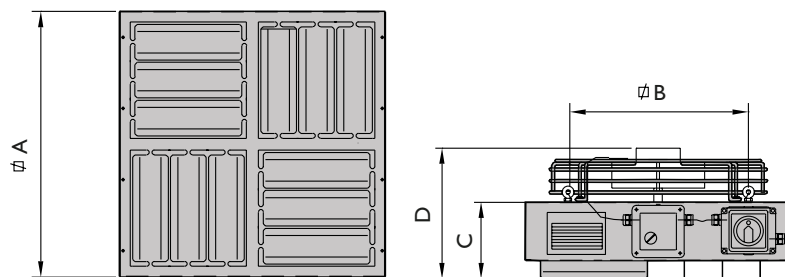
- Aluzinc housing
- Integrated thermostat
- 4-sided downflow hood
- Low maintenance



Remote connection possible with the PinTherm Connect!

## Dimensions

| Type | W42 | W82 | W142 |
|------|-----|-----|------|
| A    | 560 | 720 | 860  |
| B    | 500 | 600 | 797  |
| C    | 185 | 170 | 220  |
| D    | 280 | 265 | 325  |

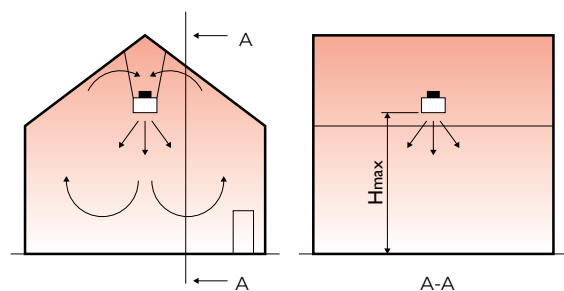


## Technical information

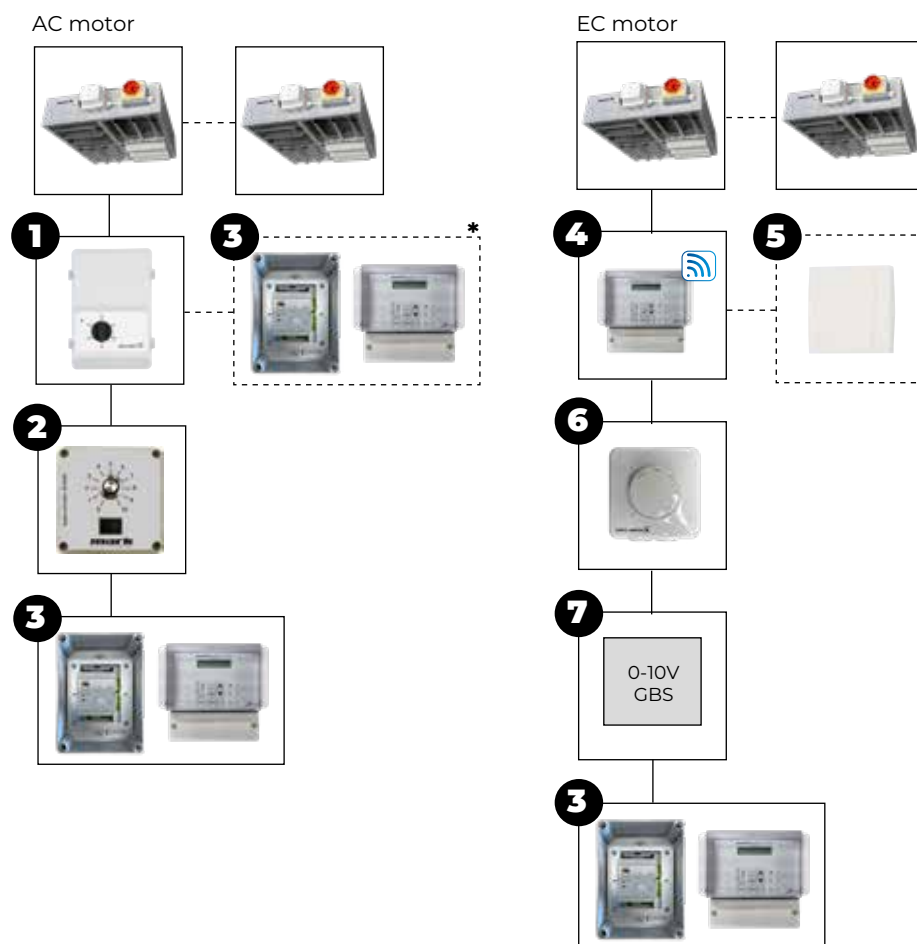
| Type                      |                   | W42   | W82    | W142            |
|---------------------------|-------------------|-------|--------|-----------------|
| Air displacement          | m <sup>3</sup> /h | 4000  | 8000   | 14000           |
| Motor rating AC-motor     | W                 | 150   | 360    | 535             |
| Motor rating EC-motor     | W                 | 125   | 320    | 620             |
| Consumed current AC-motor | A                 | 0,65  | 1,7    | 2,5             |
| Consumed current EC-motor | A                 | 1,0   | 2,2    | 2,7             |
| Motor speed AC-motor      | min <sup>-1</sup> | 1050  | 1150   | 880             |
| Motor speed EC-motor      | min <sup>-1</sup> | 1400  | 1490   | 1000            |
| Protection class of motor | IP                | 20    | 20     | 20              |
| Supply voltage (50Hz)     | V                 | 1~230 | 1~230  | 1~230           |
| Noise level               | dB(A)             | 45    | 50     | 59              |
| Weight                    | kg                | 18    | 24     | 34              |
| Mounting height           | m                 | 4 - 8 | 7 - 13 | 10 - 18 (- 30*) |
| Covered m2 per fan        | m <sup>2</sup>    | 400   | 625    | 900             |

\* with cone

## Assembly/location suggestions



## Controls



### Control combination options

|               |   |   |       |
|---------------|---|---|-------|
| Ecofan W (AC) | + | 1 |       |
| Ecofan W (AC) | + | 1 | + 3 * |
| Ecofan W (AC) | + | 3 |       |
| Ecofan W (AC) | + | 2 |       |
| Ecofan W (EC) | + | 2 |       |
| Ecofan W (EC) | + | 4 | + 5   |
| Ecofan W (EC) | + | 6 |       |
| Ecofan W (EC) | + | 7 |       |

See price list for description and code numbers of the relevant items

\* This allows the Ecofan to be manually regulated in speed (no automatic speed control)..

## Prices Ecofan W



### PRODUCT - ECOFAN W-SERIE RECIRCULATION MODEL - INCL. THERMOSTAT AND ISOLATOR SWITCH

| Code nr. | Description                               | Price  |
|----------|-------------------------------------------|--------|
| 5065005  | ECOFAN W42, air displacement 4.000 m3/h   | € 825  |
| 5065010  | ECOFAN W82, air displacement 8.000 m3/h   | € 982  |
| 5065012  | ECOFAN W142, air displacement 14.000 m3/h | € 1222 |



### PRODUCT - ECOFAN W-SERIE RECIRCULATION MODEL WITH EC-MOTOR - INCL. THERMOSTAT AND ISOLATOR SWITCH

| Code nr. | Description                               | Price  |
|----------|-------------------------------------------|--------|
| 5065003  | ECOFAN W42, air displacement 4.000 m3/h   | € 1064 |
| 5065008  | ECOFAN W82, air displacement 8.000 m3/h   | € 1399 |
| 5065014  | ECOFAN W142, air displacement 14.000 m3/h | € 2018 |

## ACCESSORIES

| Code nr. | Description                         | Price |
|----------|-------------------------------------|-------|
| 5064019  | Destratification hood for type W142 | € 257 |

## ACCESSORIES - CONTROLS

|   | Code nr. | Description                                                                         | Price |
|---|----------|-------------------------------------------------------------------------------------|-------|
| 1 | 0616186  | Control panel, 5-step, 230V - 6,0A, for Ecofan W42-W82*                             | € 401 |
| 1 | 0616188  | Control panel, 5-step, 230V - 12A, for Ecofan W42-W82*                              | € 629 |
| 1 | 0616189  | Control panel, 5-step, 230V - 14A, for Ecofan W42-W82*                              | € 848 |
| 1 | 3003096  | Control panel, 5-step, 230V - 6,0A, for Ecofan W142*                                | € 433 |
| 1 | 3003097  | Control panel, 5-step, 230V - 12A, for Ecofan W142*                                 | € 739 |
| 1 | 3003098  | Control panel, 5-step, 230V - 14A, for Ecofan W142*                                 | € 958 |
| 3 | 3002660  | Destratification control RJ402 incl. PinTherm Connect                               | € 983 |
| 4 | 0629108  | PinTherm Connect - programmable room thermostat with Ethernet and Modbus, 230V (4A) | € 726 |
| 6 | 0631390  | Potentiometer 10K with on/off contact IP54                                          | € 196 |
| 5 | 0629086  | Room sensor only in combination with 0629108                                        | € 93  |
| 2 | 0616040  | Controller P140 **                                                                  | € 169 |

For explanation see chapter controls

## ACCESSORIES - ASSEMBLY

| Code nr. | Description                                                                                    | Price |
|----------|------------------------------------------------------------------------------------------------|-------|
| 1999042  | Suspension-set for W42, W82 en W142. 4 pieces of chain at 550 mm and 8 x carbine hook (5x50mm) | € 68  |
| 0562043  | Carabine Hooks                                                                                 | € 1   |

## ACCESSORIES - COLOURS \*\*\*

| Code nr. | Description                      | Price |
|----------|----------------------------------|-------|
|          | ECOFAN W42 provided with colour  | € 139 |
|          | ECOFAN W82 provided with colour  | € 156 |
|          | ECOFAN W142 provided with colour | € 162 |

## REMARKS

\* W42 0,65A/230V, W82 1,7A/230V, W142 2,5A/230V

\*\* Maximum 2 pieces W42, maximum 1 piece W82, not applicable to W142

\*\*\* These prices are only for the Mark standard RAL-colours: 3002 red, 1028 yellow, 6010 green, 7016 gray, 8014 brown, 9001 beige white, 5009 blue, 2009 orange, 1019 beige



# ECOFAN P

## Recirculation ceiling fan

Air displacement 22,000 m<sup>3</sup>/h.



For more information, downloads  
and videos, visit the Ecofan P  
page on our website



### Silent and low maintenance air distributor

The ECOFAN P140 is particularly suited to better distributing hot air in a room. Achieving better distribution of air can reduce heating bills.

The ceiling fan is supplied without a position control. A reverse operating thermostat can also be supplied as an option so that the unit is switched on automatically if the temperature below the ceiling rises.

The ECOFAN P140 can, if desired, also be placed in low spaces thanks to a supplied rod of 150 mm.

Possible applications include: factories, schools, churches, shops and offices.

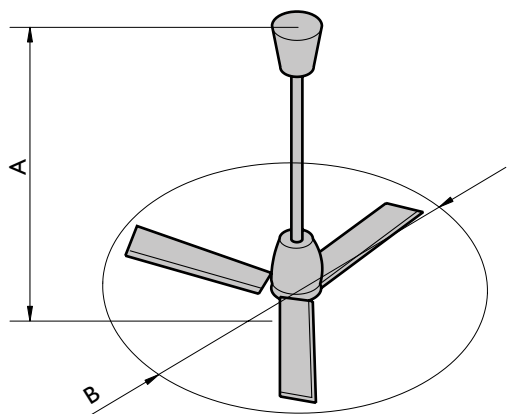


#### Product features

- Large air displacement
- Supplied in RAL 9010 colour as standard
- Low noise
- Efficient
- Equipped with safety cord



## Dimensions



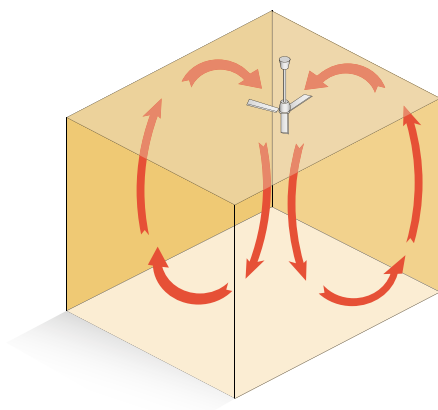
| P140 |    |      |
|------|----|------|
| A    | mm | 610  |
| B    | mm | 1400 |

## Technical information

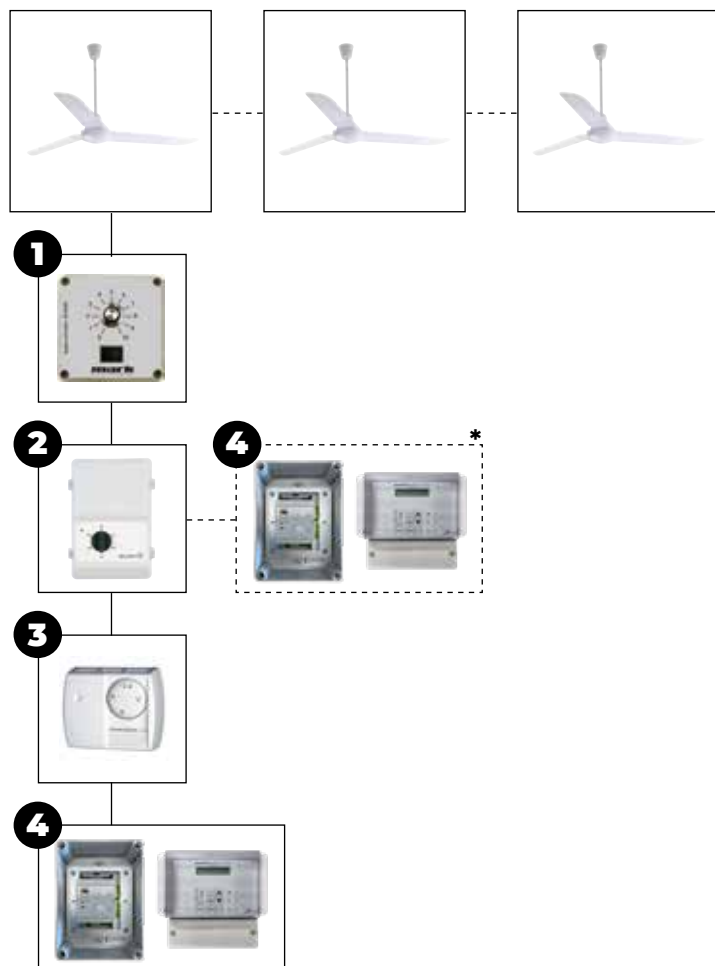
| Type                  | P140              |        |
|-----------------------|-------------------|--------|
| Air displacement      | m <sup>3</sup> /h | 22.000 |
| Motor rating          | W                 | 67     |
| Consumed current      | A                 | 0.30   |
| Motor speed           | min <sup>-1</sup> | 290    |
| ø Fan                 | mm                | 1400   |
| Supply voltage (50Hz) | V                 | 1~230  |
| Weight                | kg                | 5,0    |
| Suspension height     | m                 | 4-9    |

Number of fans

- Number of fans per 1000 m<sup>2</sup>: 12
- Covered m<sup>2</sup> per fan: 83



## Controls



### Control combination options

|          |   |          |   |            |
|----------|---|----------|---|------------|
| Ecofan P | + | <b>1</b> |   |            |
| Ecofan P | + | <b>2</b> |   |            |
| Ecofan P | + | <b>2</b> | + | <b>4</b> * |
| Ecofan P | + | <b>3</b> |   |            |
| Ecofan P | + | <b>2</b> | + | <b>3</b>   |
| Ecofan P | + | <b>4</b> |   |            |

See price list for description and code numbers of the relevant items.

\* This allows the Ecofan to be manually regulated in speed (no automatic speed control).

## Prices Ecofan P



### PRODUCT - ECOFAN P CEILING FAN

| Code nr. | Description                         | Price |
|----------|-------------------------------------|-------|
| 5990814  | ECOFAN P140, air amount 22.000 m3/h | € 271 |

### ACCESSORIES - CONTROLS

| Code nr.         | Description                                            | Price |
|------------------|--------------------------------------------------------|-------|
| <b>3</b> 0629013 | Room thermostat (4A)                                   | € 58  |
| 0631162          | Isolator switch, separate delivery, 230 Volt (2 poles) | € 63  |
| <b>2</b> 3003095 | 5-step regulator, 230V-6,0A*                           | € 433 |
| <b>1</b> 0616040 | Controller P140 for 9 fans                             | € 169 |
| <b>4</b> 3002660 | Destratification control RJ402 incl. PinTherm Connect  | € 983 |

For explanation see chapter controls

### REMARKS

\* More than one fans connected on the regulator



# MDV BLUE

## Roof fan

Roof fan with centrifugal fan.  
Air displacement 300 to 15,000 m<sup>3</sup>/h.



For more information, downloads  
and videos, visit the MDV Blue  
page on our website



### Sustainable and efficient air extraction

The Mark MDV BLUE roof fan is suitable for extracting air from buildings and features the latest developments in the field of fans, including the efficient EC technology. This guarantees a very low power consumption combined with excellent performance.

The MDV BLUE roof fan is available in various sizes and air displacements varying from 300 m<sup>3</sup>/h to 15.000 m<sup>3</sup>/h. The unit is supplied with a radial fan. The casing is made of sendzimir plate.

The MDV BLUE can be used in factories, welding areas, offices and supermarkets.

#### Optional

- Aluminum casing seawater resistant AlMg3
- Controls: i.a. constant pressure, 0-10V, presence control, CO<sub>2</sub> control, humidity control and temperature control.

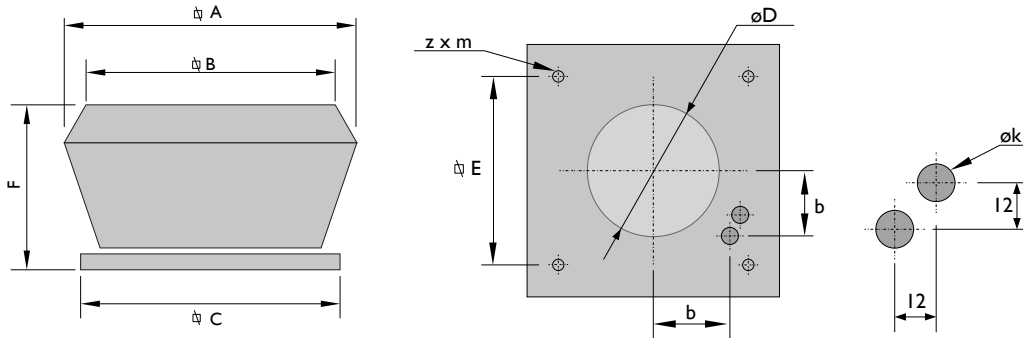
#### Product features

- Sharp pricing
- EC technology
- Reliable
- High efficiency
- Meets EU 1253/2018
- 300 m<sup>3</sup>/h to 15.000 m<sup>3</sup>/h
- Low maintenance
- Good chemical resistance
- Complete BMS integration possible



Remote connection possible with the PinTherm Connect!

## Dimensions

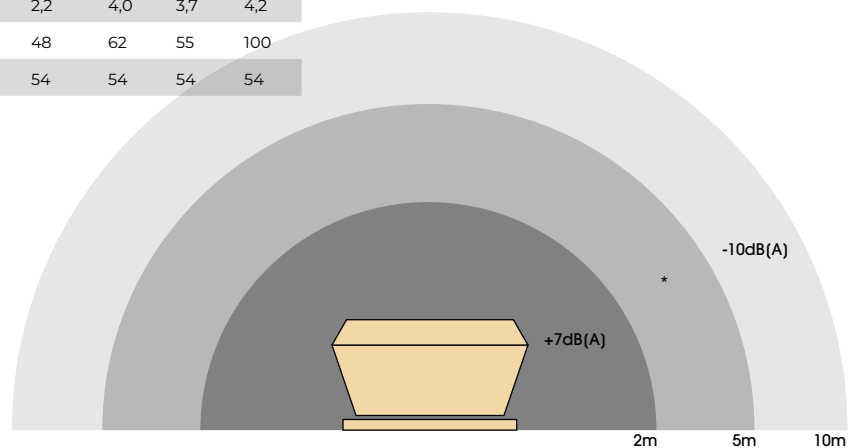


| Type         | A    | B   | C   | D   | E   | F   | b   | z x m         | $\phi k$ |
|--------------|------|-----|-----|-----|-----|-----|-----|---------------|----------|
| MDV Blue 225 | 514  | 430 | 435 | 200 | 330 | 277 | 115 | 4 x $\phi 9$  | 20       |
| MDV Blue 355 | 715  | 590 | 595 | 290 | 450 | 365 | 160 | 4 x $\phi 12$ | 20       |
| MDV Blue 400 | 715  | 590 | 595 | 365 | 450 | 365 | 160 | 4 x $\phi 12$ | 20       |
| MDV Blue 450 | 880  | 660 | 665 | 410 | 535 | 480 | 220 | 4 x $\phi 12$ | 20       |
| MDV Blue 500 | 870  | 720 | 723 | 450 | 590 | 480 | 245 | 4 x $\phi 12$ | 20       |
| MDV Blue 560 | 1135 | 935 | 939 | 510 | 750 | 570 | 250 | 4 x $\phi 12$ | 20       |
| MDV Blue 630 | 1135 | 935 | 939 | 550 | 750 | 570 | 260 | 4 x $\phi 12$ | 20       |

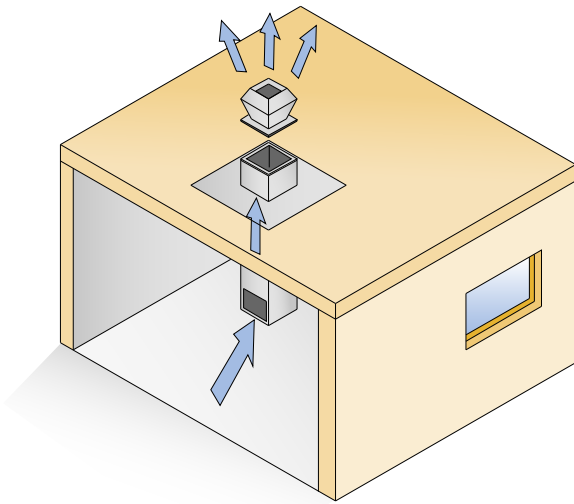
## Technical information

| MDV Blue                  |                     | 225  | 355   | 400   | 450EC | 500   | 560   | 630   |
|---------------------------|---------------------|------|-------|-------|-------|-------|-------|-------|
| Supply voltage (50Hz)     | V                   | 230  | 230   | 230   | 230   | 400   | 400   | 400   |
| Nominal air flow          | m <sup>3</sup> /s   | 0,25 | 0,56  | 1,16  | 1,39  | 2,50  | 3,05  | 3,89  |
| Nominal power consumption | kW                  | 0,07 | 0,15  | 0,26  | 0,32  | 0,82  | 1,508 | 1,40  |
| SFP nominal               | W/m <sup>3</sup> /s | 277  | 275   | 228   | 199   | 330   | 494   | 362   |
| Nominal air velocity      | m/s                 | 6,69 | 13,37 | 16,73 | 18,73 | 23,77 | 23,38 | 24,03 |
| Nominal pressure          | Pa                  | 72   | 105   | 120   | 120   | 142   | 284   | 178   |
| Stat. efficiency fan      | %                   | 26,0 | 38,2  | 52,7  | 60,4  | 43,1  | 57,4  | 49,2  |
| Noise level (5m)*         | dB(A)               | 63   | 65    | 63    | 67    | 72    | 70    | 72    |
| Maximum air flow          | m <sup>3</sup> /h   | 1200 | 3150  | 4300  | 5300  | 10750 | 11500 | 15000 |
| Consumed current          | A                   | 1,4  | 2,2   | 3,0   | 2,2   | 4,0   | 3,7   | 4,2   |
| Weight                    | kg                  | 16   | 32    | 35    | 48    | 62    | 55    | 100   |
| Protection class          | IP                  | 54   | 54    | 54    | 54    | 54    | 54    | 54    |

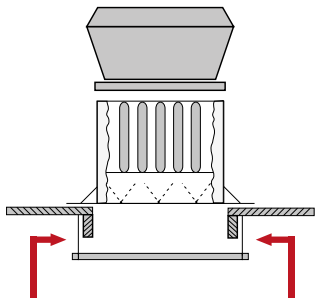
Thermal efficiency: Not applicable  
 HRS: None  
 Category: NRVU  
 Operating temperature: -20 / +60 °C



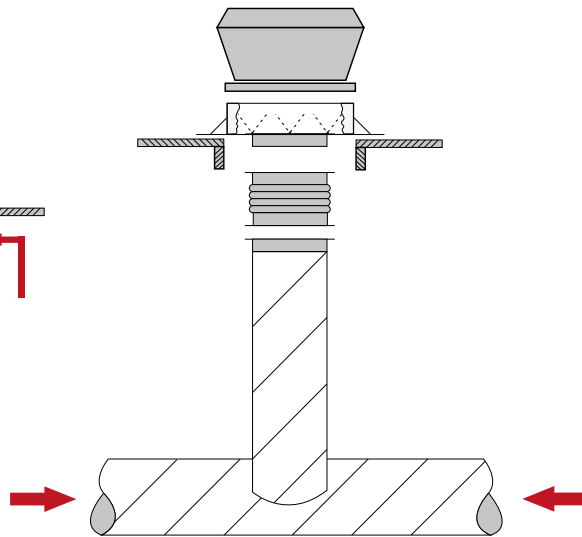
## Assembly/location suggestions



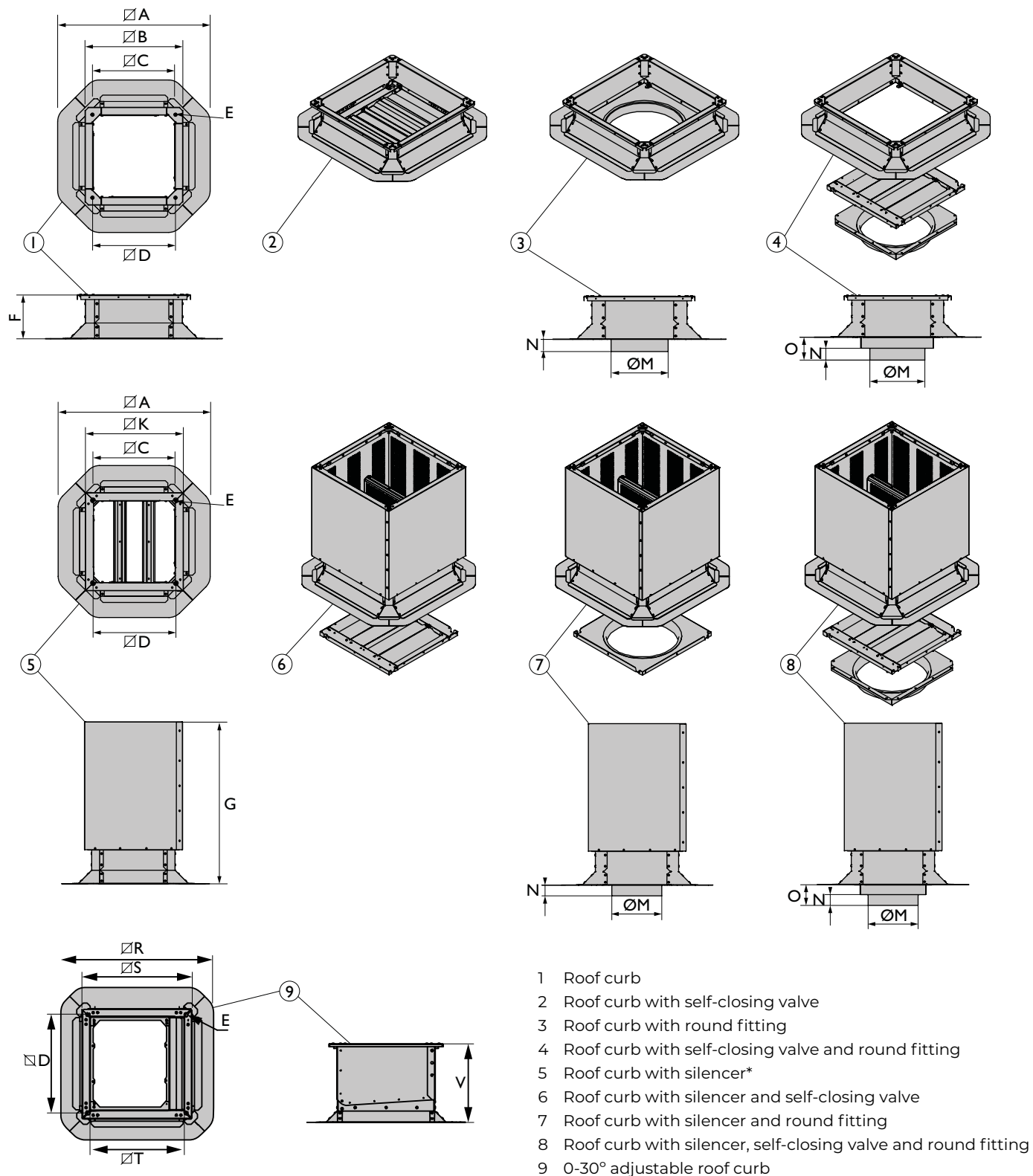
MDV with sound absorbing plate



MDV with duct connection



## Accessoires - additional sections



\* silencer is also available separately, price on request.  
attenuation value 9 dB(A)



Dimensions (mm) belonging to previous page

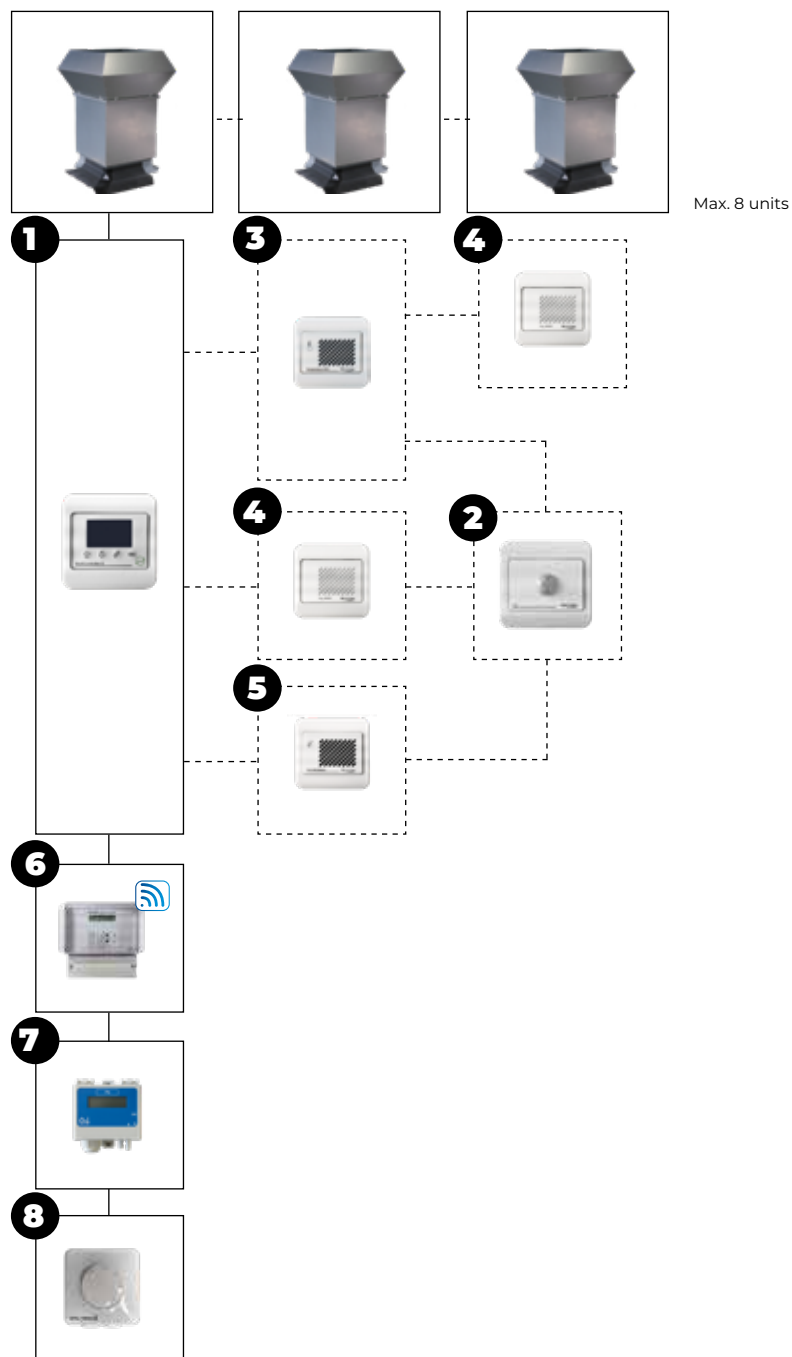
| Type    | A    | B   | C   | D   | E   | F   | G   | K   | M   | N  | O   | R   | S   | T   | V   |
|---------|------|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|
| 225     | 610  | 390 | 328 | 320 | M8  | 150 | 648 | 392 | 200 | 43 | 83  | 515 | 372 | 312 | 255 |
| 355/400 | 728  | 510 | 448 | 450 | M10 | 150 | 733 | 514 | 355 | 53 | 93  | 635 | 490 | 431 | 316 |
| 450     | 815  | 600 | 533 | 530 | M10 | 150 | 733 | 598 | 400 | 53 | 93  | 720 | 575 | 516 | 372 |
| 500     | 870  | 650 | 588 | 585 | M10 | 150 | 698 | 656 | 450 | 53 | 93  | 775 | 630 | 571 | 372 |
| 560/630 | 1030 | 810 | 748 | 745 | M10 | 150 | 698 | 816 | 600 | 63 | 103 | 934 | 790 | 731 | 341 |

Weights (kg)

| Type                                                          | 225  | 355/400 | 450  | 500  | 560/630 |
|---------------------------------------------------------------|------|---------|------|------|---------|
| Roof curb                                                     | 6,3  | 8,4     | 9,9  | 10,9 | 13,7    |
| Roof curb with self-closing valve                             | 7,6  | 10,4    | 12,5 | 13,8 | 18,2    |
| Roof curb with round fitting                                  | 7,8  | 10,4    | 12,7 | 14,0 | 18,1    |
| Roof curb with self-closing valve and round fitting           | 8,4  | 11,0    | 14,2 | 15,8 | 21,1    |
| Roof curb with silencer                                       | 19,6 | 29,2    | 33,1 | 37,4 | 46,6    |
| Roof curb with silencer and self-closing valve                | 20,8 | 31,1    | 35,7 | 40,3 | 51,2    |
| Roof curb with silencer and round fitting                     | 21,1 | 31,2    | 35,8 | 40,6 | 51      |
| Roof curb with silencer, self-closing valve and round fitting | 21,7 | 32,3    | 37,4 | 42,3 | 54,1    |
| 0-30° adjustable roof curb                                    | 6,6  | 10      | 13,5 | 15   | 18      |

## Controls

### MDV Blue EC



#### Control combination options EC

MDV Blue + **1**

MDV Blue + **1** + **3**

MDV Blue + **1** + **4**

MDV Blue + **1** + **5**

MDV Blue + **1** + **3** + **4**

MDV Blue + **1** + **3** + **2**

MDV Blue + **1** + **4** + **2**

MDV Blue + **1** + **5** + **2**

MDV Blue + **6**

MDV Blue + **7**

MDV Blue + **8**

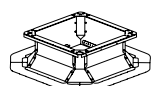
See price list for description and code numbers of the relevant items

## Prices MDV Blue



### PRODUCT - MDV BLUE EC ROOF FAN

| Code nr. | Description           | Price  |
|----------|-----------------------|--------|
| 3182007  | MDV Blue EC 225, 230V | € 990  |
| 3182001  | MDV Blue EC 355, 230V | € 1490 |
| 3182002  | MDV Blue EC 400, 230V | € 1981 |
| 3182003  | MDV Blue EC 450, 230V | € 2876 |
| 3182004  | MDV Blue EC 500, 400V | € 2699 |
| 3182005  | MDV Blue EC 560, 400V | € 2865 |
| 3182006  | MDV Blue EC 630, 400V | € 3360 |



### ACCESSORIES - ADDITIONAL SECTIONS - ROOF CURB

| Code nr. | Description          | Price |
|----------|----------------------|-------|
| 3074470  | for MDV Blue 225     | € 251 |
| 3074471  | for MDV Blue 355/400 | € 250 |
| 3074473  | for MDV Blue 450     | € 287 |
| 3074475  | for MDV Blue 500     | € 314 |
| 3074476  | for MDV Blue 630     | € 310 |



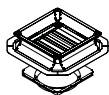
### ACCESSORIES - ADDITIONAL SECTIONS - ROOF CURB WITH SELF-CLOSING VALVE

| Code nr. | Description          | Price |
|----------|----------------------|-------|
| 3182060  | for MDV Blue 225     | € 392 |
| 3182061  | for MDV Blue 355/400 | € 396 |
| 3182063  | for MDV Blue 450     | € 505 |
| 3182065  | for MDV Blue 500     | € 534 |
| 3182066  | for MDV Blue 630     | € 573 |

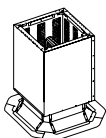


### ACCESSORIES - ADDITIONAL SECTIONS - ROOF CURB WITH ROUND FITTING

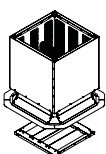
| Code nr. | Description          | Price |
|----------|----------------------|-------|
| 3182050  | for MDV Blue 225     | € 365 |
| 3182051  | for MDV Blue 355/400 | € 382 |
| 3182053  | for MDV Blue 450     | € 436 |
| 3182055  | for MDV Blue 500     | € 474 |
| 3182056  | for MDV Blue 630     | € 488 |


**ACCESSORIES - ADDITIONAL SECTIONS - ROOF CURB WITH SELF-CLOSING VALVE AND ROUND FITTING**

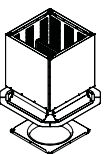
| Code nr. | Description          | Price |
|----------|----------------------|-------|
| 3182070  | for MDV Blue 225     | € 500 |
| 3182071  | for MDV Blue 355/400 | € 521 |
| 3182073  | for MDV Blue 450     | € 644 |
| 3182075  | for MDV Blue 500     | € 683 |
| 3182076  | for MDV Blue 630     | € 735 |


**ACCESSORIES - ADDITIONAL SECTIONS - ROOF CURB WITH SILENCER**

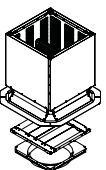
| Code nr. | Description          | Price  |
|----------|----------------------|--------|
| 3182024  | for MDV Blue 225     | € 643  |
| 3182025  | for MDV Blue 355/400 | € 797  |
| 3182027  | for MDV Blue 450     | € 915  |
| 3182029  | for MDV Blue 500     | € 985  |
| 3182030  | for MDV Blue 630     | € 1062 |


**ACCESSORIES - ADDITIONAL SECTIONS - ROOF CURB WITH SILENCER AND SELF-CLOSING VALVE**

| Code nr. | Description          | Price  |
|----------|----------------------|--------|
| 3182110  | for MDV Blue 225     | € 782  |
| 3182111  | for MDV Blue 355/400 | € 944  |
| 3182113  | for MDV Blue 450     | € 1133 |
| 3182115  | for MDV Blue 500     | € 1205 |
| 3182116  | for MDV Blue 630     | € 1326 |


**ACCESSORIES - ADDITIONAL SECTIONS - ROOF CURB WITH SILENCER AND ROUND FITTING**

| Code nr. | Description          | Price  |
|----------|----------------------|--------|
| 3182100  | for MDV Blue 225     | € 757  |
| 3182101  | for MDV Blue 355/400 | € 930  |
| 3182103  | for MDV Blue 450     | € 1063 |
| 3182105  | for MDV Blue 500     | € 1145 |
| 3182106  | for MDV Blue 630     | € 1241 |


**ACCESSORIES - ADDITIONAL SECTIONS - ROOF CURB WITH SILENCER, SELF-CLOSING VALVE AND ROUND FITTING**

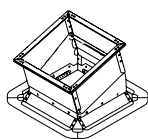
| Code nr. | Description          | Price  |
|----------|----------------------|--------|
| 3182120  | for MDV Blue 225     | € 875  |
| 3182121  | for MDV Blue 355/400 | € 1051 |
| 3182123  | for MDV Blue 450     | € 1254 |
| 3182125  | for MDV Blue 500     | € 1337 |
| 3182126  | for MDV Blue 630     | € 1471 |

## ACCESSORIES - ADDITIONAL SECTIONS - NOISE REDUCTION PLATE

| Code nr. | Description          | Price |
|----------|----------------------|-------|
| 5064230  | for MDV Blue 225     | € 143 |
| 5064231  | for MDV Blue 355/400 | € 163 |
| 5064232  | for MDV Blue 450/500 | € 170 |
| 5064233  | for MDV Blue 630     | € 214 |

## ACCESSORIES - ADDITIONAL SECTIONS- ADJUSTABLE (0-30°) ROOF CURB

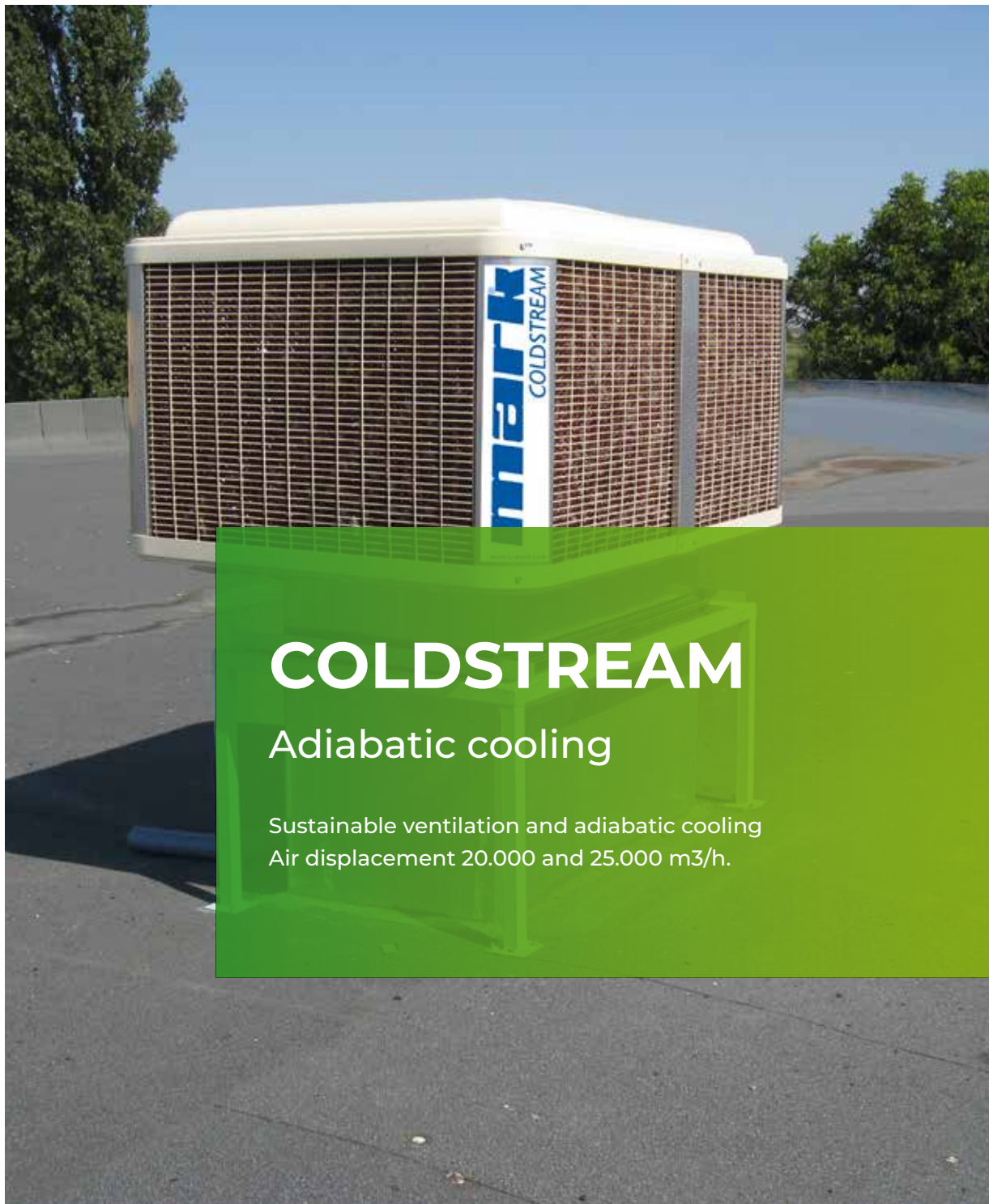
| Code nr. | Description              | Price |
|----------|--------------------------|-------|
| 3074478  | for MDV Blue 225         | € 505 |
| 3074479  | for MDV Blue 355/400     | € 590 |
| 3074481  | for MDV Blue 450         | € 618 |
| 3074482  | for MDV Blue 500         | € 651 |
| 3074483  | for MDV Blue 630 (0-20°) | € 777 |



## ACCESSORIES - CONTROLS

|          | Code nr. | Description                                                                         | Price |
|----------|----------|-------------------------------------------------------------------------------------|-------|
| <b>6</b> | 0629108  | PinTherm Connect - programmable room thermostat with Ethernet and Modbus, 230V (4A) | € 726 |
| <b>1</b> | 0629400  | Multi Controller E regulate 230V                                                    | € 756 |
| <b>3</b> | 0629410  | Room temperature sensor IP20                                                        | € 198 |
| <b>3</b> | 0629411  | Room temperature sensor IP54                                                        | € 119 |
| <b>4</b> | 0629412  | Room CO2 sensor                                                                     | € 617 |
| <b>5</b> | 0629413  | Room humidity sensor                                                                | € 341 |
| <b>2</b> | 0629414  | Presence sensor                                                                     | € 214 |
| <b>8</b> | 0631390  | Potentiometer 10K with on/off contact IP54                                          | € 196 |
| <b>7</b> | 3004561  | Constant pressure control 230V                                                      | € 500 |
| <b>7</b> | 3004560  | Constant pressure control 400V                                                      | € 500 |
|          | 0631163  | Isolator switch 4 poles 230V, separate delivery                                     | € 71  |
|          | 0631167  | Isolator switch 8 poles 400V, separate delivery                                     | € 91  |
|          | 5017098  | Isolator switch 4 poles 230V, pre-wired                                             | € 125 |
|          | 5017099  | Isolator switch 8 poles 400V, pre-wired                                             | € 169 |

For explanation see chapter controls



# COLDSTREAM

## Adiabatic cooling

Sustainable ventilation and adiabatic cooling  
Air displacement 20.000 and 25.000 m<sup>3</sup>/h.



For more information, downloads  
and videos, visit the Coldstream  
page on our website



### Sustainable ventilation and adiabatic cooling

The Mark ColdStream adiabatic cooling is based on the evaporation of water. The required heat is taken from the outside air. The fresh outside air flows through the water-wetted cellulose filters. Due to the evaporation of the water, the air temperature is reduced in a natural and environmental-friendly manner.

The principle is based on the ventilated cooling with very low operational costs for a favorable price. The system is particularly suitable for cooling and ventilation of large industrial areas.

The technique is reliable, safe, easy and virtually maintenance free. Another big advantage is that there is no annual inspection required. The simple technique is cheap in terms of system maintenance. In addition, the system is legionella proof.

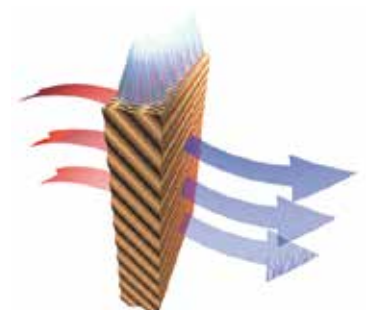
The Mark ColdStream is suitable for workshops, garages, weldinghalls, sports halls, bakeries and exhibition halls.

#### Product features

- Electronic remote control with the following functions:
  - Temperature
  - Speed control
  - Relative humidity control
  - Daily and weekly programming
- Economical fan
- Electrical shut-off valve on the water connection
- Water distribution system with an electric pump
- High efficiency cellulose filter pack
- Automatic water change
- Automatic water drainage
- Automatic cleaning

#### Advantages:

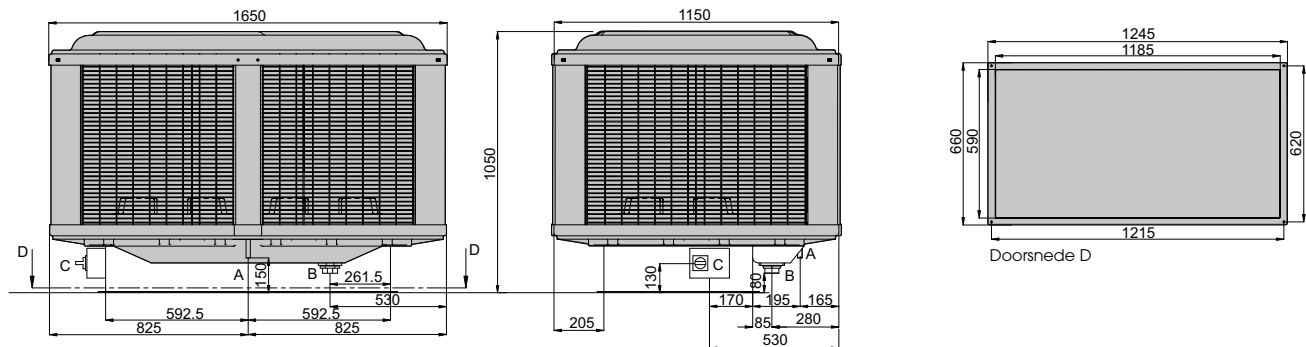
- High ventilation rate
- Ventilation and / or cooling in one system
- Low operating costs
- Favourable purchase price
- Cheap maintenance
- Environmentally friendly
- Increased productivity
- Durable



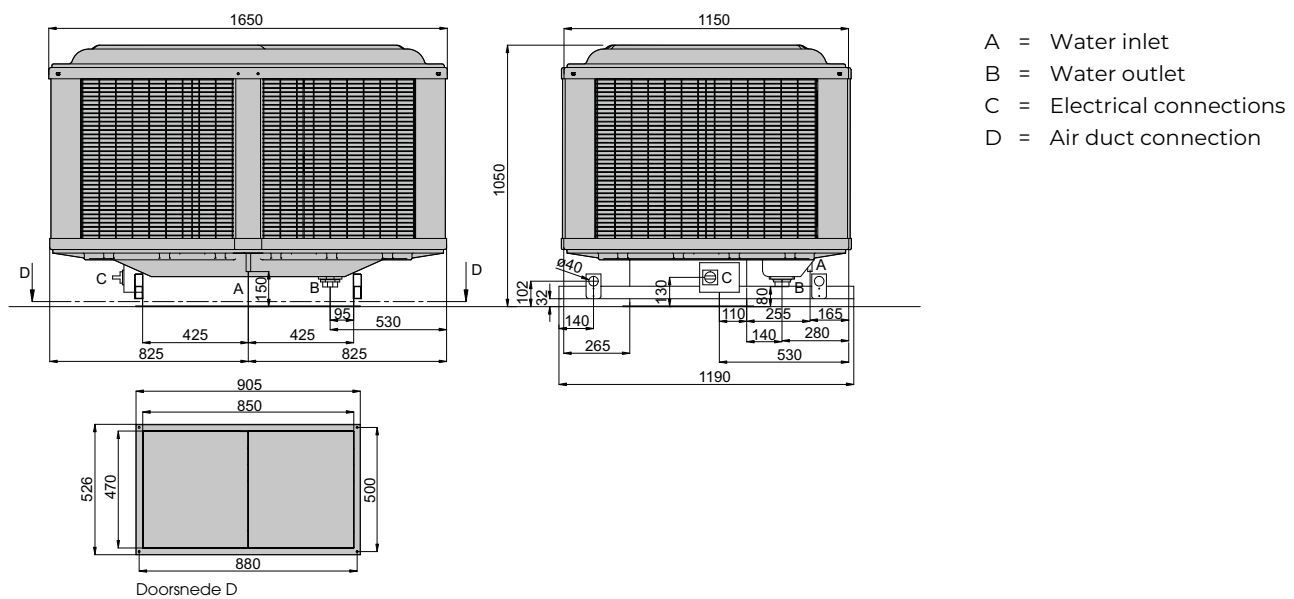


## Dimensions

### TYPE TA209



### TYPE TC209

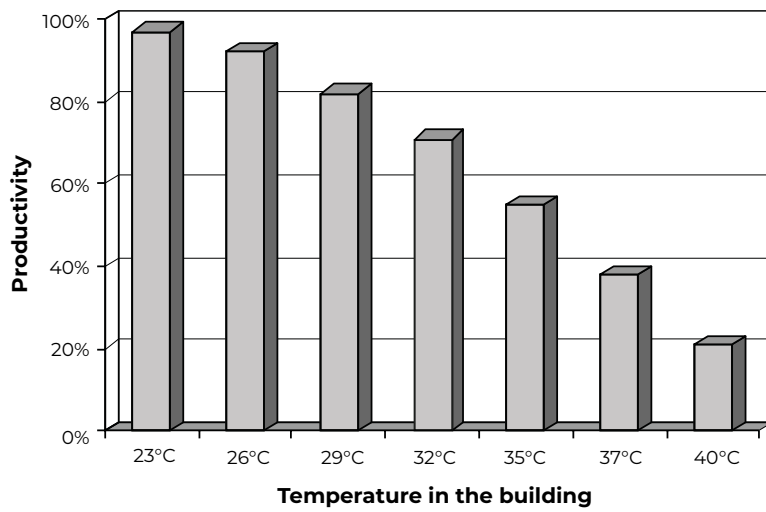
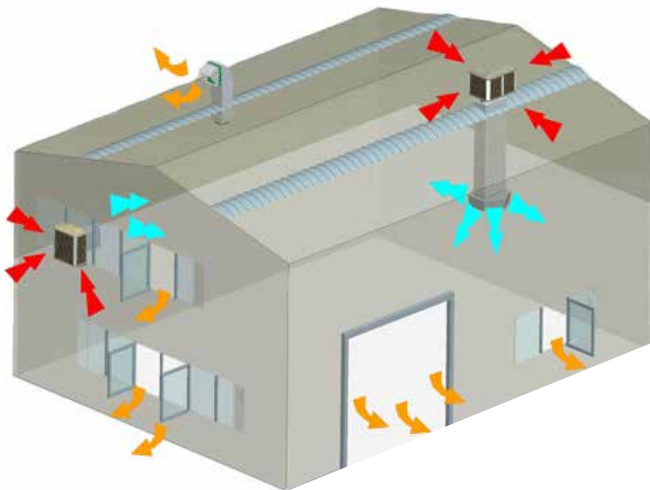


## Technical information

| Type             |                   | TA209  | TC209* |
|------------------|-------------------|--------|--------|
| Cooling capacity | kW                | 30     | 30     |
| Airflow          | m <sup>3</sup> /h | 20.000 | 20.000 |
| Nominal power    | W                 | 1.800  | 3.200  |
| Voltage          | V/Hz              | 230/50 | 400/50 |
| Weight           | kg                | 146    | 186    |

\* Unit with centrifugal fan: available static pressure = 80 Pa  
Specials on request.

| Relative air humidity     | 30% T.  | 40% T.  | 50% T.  | 60% T.  | 70% T.  | 80% T.  |
|---------------------------|---------|---------|---------|---------|---------|---------|
|                           | outlet  | outlet  | outlet  | outlet  | outlet  | outlet  |
| Outside temperature 20 °C | 13,5 °C | 14,5 °C | 15,5 °C | 16,5 °C | 17,5 °C | 18,5 °C |
| Outside temperature 25 °C | 16,0 °C | 17,5 °C | 19,0 °C | 20,0 °C | 21,5 °C | 23,0 °C |
| Outside temperature 30 °C | 19,0 °C | 21,0 °C | 23,0 °C | 24,5 °C | 26,0 °C | 28,0 °C |
| Outside temperature 35 °C | 22,5 °C | 25,0 °C | 27,5 °C | 29,5 °C | 31,0 °C | 32,5 °C |
| Outside temperature 40 °C | 22,5 °C | 25,0 °C | 27,5 °C | 29,5 °C | 31,0 °C | 37,5 °C |

**MARK COLDSTREAM ENSURES OPTIMAL PRODUCTIVITY****Assembly/location suggestions**

## Accessories

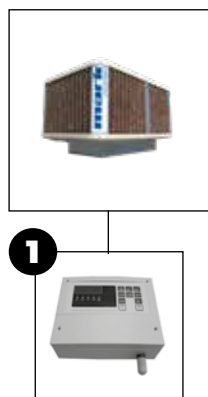


Winter cover



6-sided hexagonal air blowing plenum with horizontal louvers

## Controls



### Control combination options

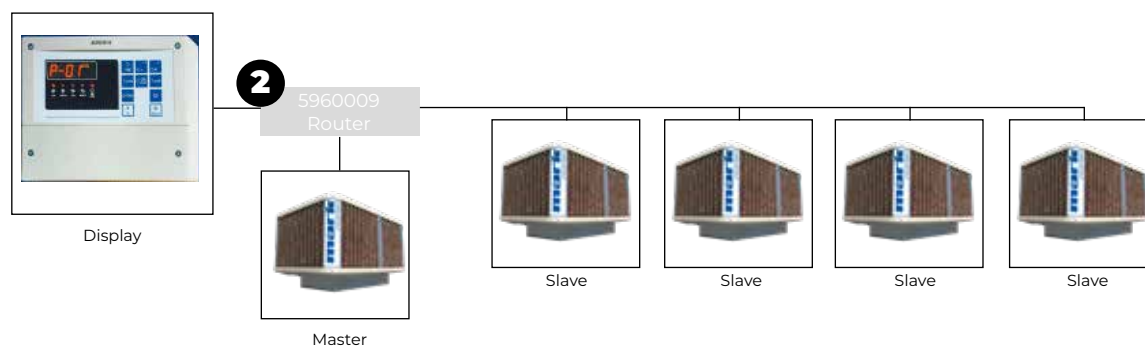
Coldstream - 1 unit + **1**

Coldstream - up to 5 units + **1** + **2**

See price list for description and code numbers of the relevant items

### CABS-SYSTEM

With the CABS system 5 ColdStream units can be controlled with 1 Electronic Remote. Mark ColdStream CABS-System is available on request.



## Prices Coldstream



### PRODUCT - COLDSTREAM ADIABATIC COOLER

| Code nr. | Description                                 | Price |       |
|----------|---------------------------------------------|-------|-------|
| 5960004  | Mark ColdStream TA 209                      | €     | 8137  |
| 5960006  | Mark ColdStream TC 209 with centrifugal fan | €     | 12950 |

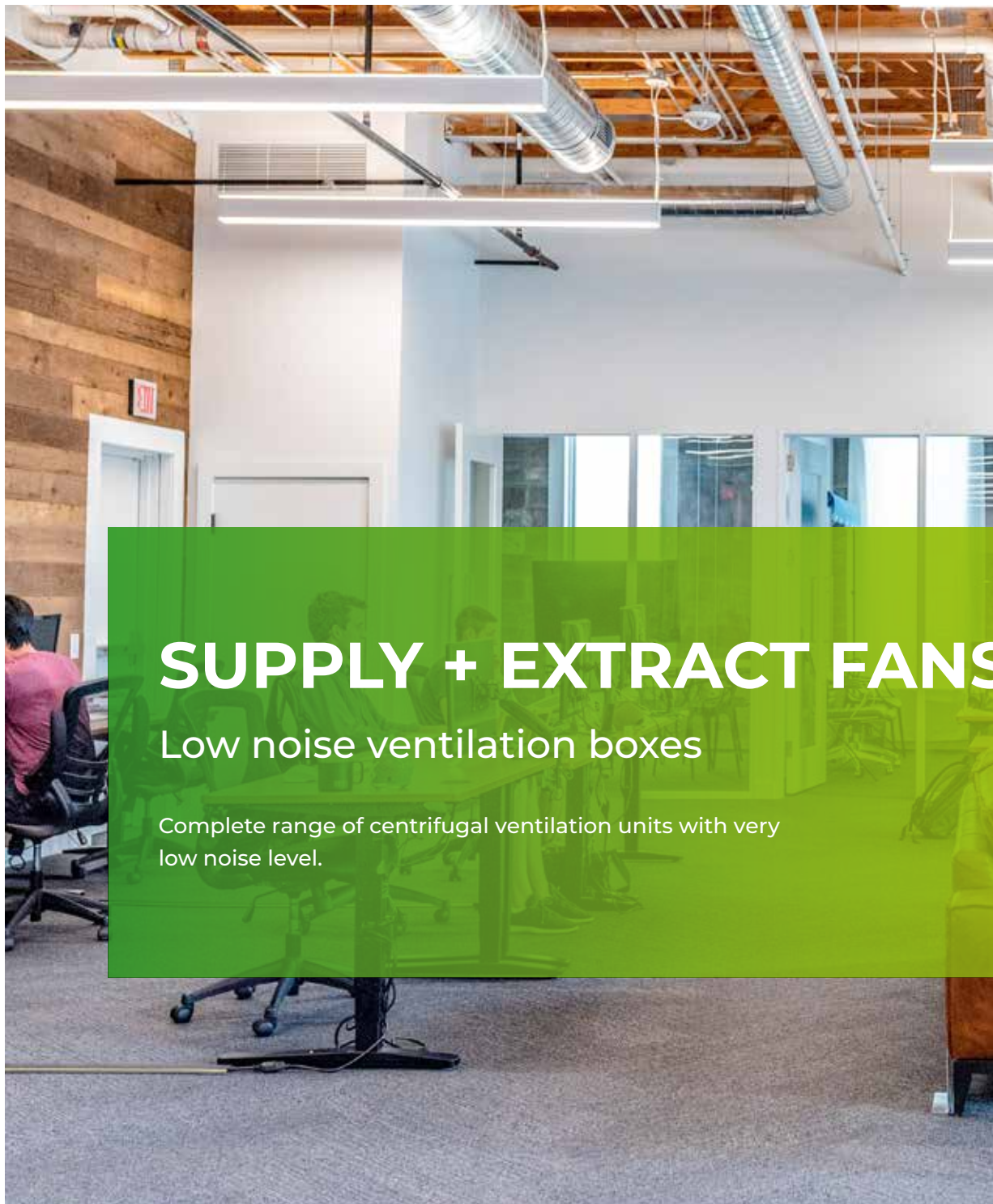
### ACCESSORIES - CONTROLS

|   | Code nr. | Description                                        | Price |     |
|---|----------|----------------------------------------------------|-------|-----|
| 1 | 5960010  | EVO display electronic remote control              | €     | 979 |
| 2 | 5960009  | Router for CABS-system                             | €     | 921 |
|   | 0631163  | Isolator switch, separate delivery, 230V (4 poles) | €     | 71  |
|   | 0631167  | Isolator switch, separate delivery, 400V (8 poles) | €     | 91  |

*For explanation see chapter controls*

### ACCESSORIES - OTHER

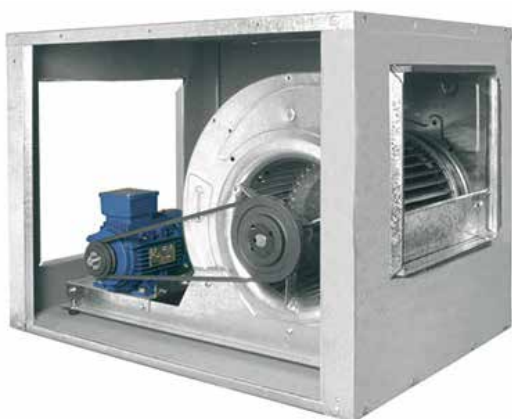
| Code nr. | Description                                                  | Price |      |
|----------|--------------------------------------------------------------|-------|------|
| 5960011  | Winter cover for ColdStream TA 209 and TC 209                | €     | 503  |
| 5960012  | 6-sided hexagonal air blowing plenum with horizontal louvres | €     | 1865 |
| 5960013  | Air duct TA 209 L=1000mm                                     | €     | 1009 |
| 5960014  | Air duct TA 209 L=2000mm                                     | €     | 1047 |
| 5960015  | Air duct TC 209 L=1000mm                                     | €     | 841  |
| 5960016  | Air duct TC 209 L=2000mm (2x1000mm)                          | €     | 1208 |



For more information, downloads  
and videos, visit the supply and  
extract fans page on our website

### Low noise ventilation boxes

A complete range of centrifugal ventilation units of very low noise level. The supply and extract fans are fitted in a solid casing, versatile and easy to mount. The casing is made of aluminium or galvanised steel with a 50 mm layer of mineral wool, that insulates from noise and external temperature.



#### Product features

- Galvanized steel or aluminium.
- Double inlet centrifugal fans with forward-curved impellers, backward impeller, EC fan, easy to connect to spiral ducts using mounting clamps.
- Integrated thermal-contacts that protect the motors from overheating with lead for connection to a motor protection device.
- Maintenance-free external rotor motors.
- External terminal box.



#### BD Box Supply/Return Fan

Belt driven centrifugal fan in soundproof cabinet.



#### BD Twinbox Supply/Return Fan

Belt driven centrifugal in soundproof cabinet.



#### DDF Kitchen Extract Fan

Simple inlet forward impeller fan.



#### BD SS Supply/Return Fan

Box fan with backward impeller and belt transmission - F400-120.



#### TF Inline (EC) Fan

The TF and TF EC is an in-line centrifugal duct fan with high capacity and excellent reliability.



# Air Conditioning

## AIR TREATMENT

AIRSTREAM

COMPACT

ERV

FLAT LINE

AIRSTREAM AHU

CALFLO

## HEAT PUMPS

MISTRAL MDX  
(VRF-SYSTEM)

MARK  
HEAT PUMPS  
(AIR-WATER)

HEAT PUMPS  
(DX AND AIR-WATER)

MARK HEAT PUMP  
SPLIT UNIT

## DRY COOLERS

AWS

AWD

AWVS

AWS-EPA





# AIRSTREAM

## Plug & Play high-efficiency heat recovery unit

High-efficiency heat recovery unit.  
Air displacement 600 to 45,000 m<sup>3</sup>/h.



For more information, downloads  
and videos, visit the Airstream page  
on our website



### Plug and play heat recovery unit

Increasingly high demands are being placed on the air quality in buildings. Multiple ventilation is often needed in order to comply with these demands. A great deal of energy is lost when standard ventilation equipment is used. To counter the loss of energy, Mark has included a heat recovery unit, the AIRSTREAM, in its product range.

The unit has an efficiency upto 90%. This means that 90% of the energy expelled is supplied to the fresh intake air. This high-efficiency means that in many cases no after-heating is required.

The AIRSTREAM heat recovery unit is available in two versions for both indoor and outdoor installation. The AIRSTREAM CFX is equipped with a certified high-efficiency counterflow heat exchanger with bypass. The AIRSTREAM HWX is equipped with a corrosion-resistant rotary heat exchanger.

Possible applications for the AIRSTREAM include offices, schools, workshops and changing areas.

#### Product features

- Efficiency > 90%
- Air amounts between 600-45000 m<sup>3</sup>/h
- Indoor and outdoor installation
- Low noise level
- Plug & play version
- Supplied pre-assembled
- High external pressure possible
- Various construction types possible as standard as well as specials on request
- Certification according to RLT Richtlinie-01

#### Standard equipment:

- 45 mm environmentally friendly foam sandwich panel
- The outer panelling consists of galvanized plate coated in RAL 9002 (white - grey). Other colors available on request at extra cost.
- The internal panelling is made of Magnelis ZM310 with a C4 corrosion resistance
- Thermal-bridge-free cabinet construction with aluminum profiles
- Seamless connection of the panels to the inside with rubber seal (hygienic)
- Removable doors
- Plug Fans equipped with energy-saving EC-motors

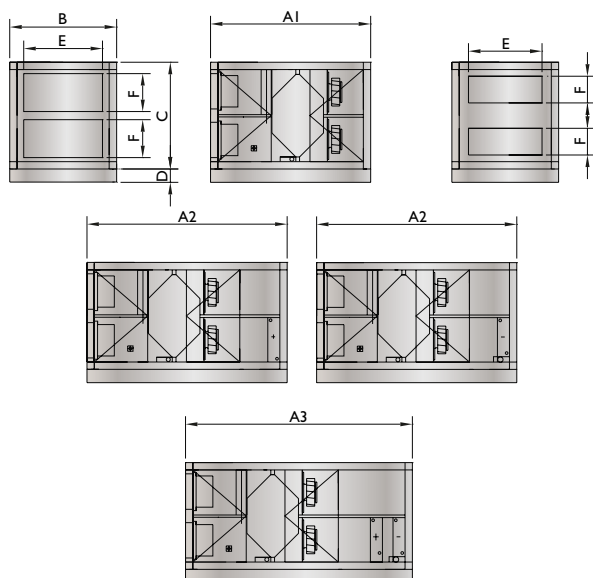
#### Optional:

- Pre- and after-heating: electric, gas, water, change-over
- Cooling coil
- Heat pump
- Indirect adiabatic cooling

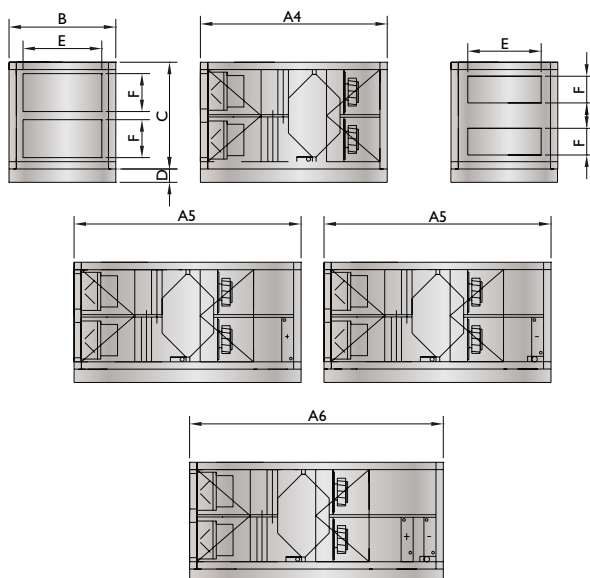


## Dimensions

Airstream CFX\*



Airstream CFX with external air damper and return damper\*



| T     | A1   | A2   | A3   | A4   | A5   | A6   | B    | C    | D   | E    | F   |
|-------|------|------|------|------|------|------|------|------|-----|------|-----|
| 600   | 1700 | 2000 | 2200 | 1900 | 2200 | 2400 | 1000 | 900  | 100 | 565  | 265 |
| 1400  | 1800 | 2100 | 2300 | 2000 | 2300 | 2500 | 1100 | 1150 | 100 | 565  | 265 |
| 2000  | 2000 | 2300 | 2500 | 2200 | 2500 | 2700 | 1050 | 1150 | 100 | 565  | 265 |
| 3200  | 2100 | 2400 | 2600 | 2300 | 2600 | 2800 | 1300 | 1400 | 100 | 565  | 465 |
| 4000  | 2200 | 2500 | 2700 | 2400 | 2700 | 2900 | 1400 | 1400 | 100 | 865  | 465 |
| 5400  | 2500 | 2800 | 3000 | 2700 | 3000 | 3200 | 1500 | 1700 | 100 | 1155 | 465 |
| 6400  | 2600 | 2900 | 3100 | 2800 | 3100 | 3300 | 1700 | 1750 | 100 | 1155 | 565 |
| 8600  | 2700 | 3000 | 3200 | 2900 | 3200 | 3400 | 2400 | 1750 | 180 | 1455 | 565 |
| 10000 | 3000 | 3300 | 3500 | 3200 | 3500 | 3700 | 2050 | 1950 | 180 | 1455 | 565 |
| 12500 | 3100 | 3400 | 3600 | 3300 | 3600 | 3800 | 2500 | 2000 | 180 | 2030 | 565 |
| 15200 | 3600 | 3900 | 4100 | 3800 | 4100 | 4300 | 2300 | 2700 | 180 | 1755 | 865 |
| 20000 | 3700 | 4000 | 4200 | 3900 | 4200 | 4400 | 2950 | 2700 | 180 | 2030 | 865 |

- A1 Airstream CFX
- A2 Airstream CFX with post-heating or cooling coil
- A3 Airstream CFX with post-heating and cooling coil
- A4 Airstream CFX with external air damper
- A5 Airstream CFX with external air damper, post-heating or cooling coil
- A6 Airstream CFX with external air damper, post-heating and cooling coil

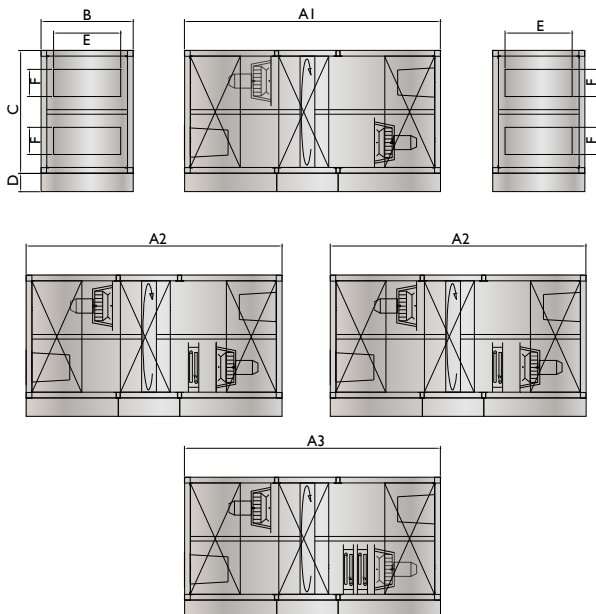
\* Optional change of airflow



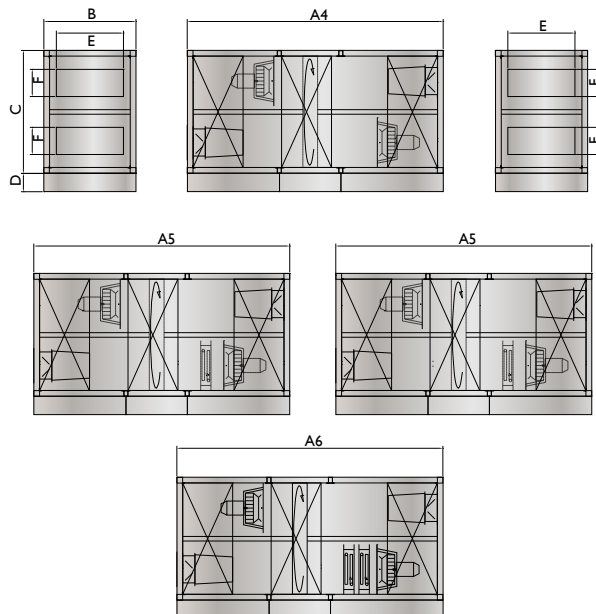
Optional: heat pump



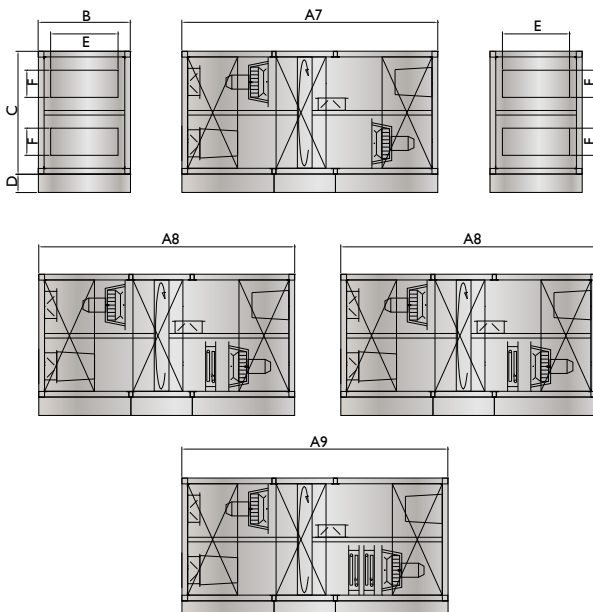
Airstream HWX\*



Airstream HWX with external air damper\*



Airstream HWX with external air damper and recirculation damper\*



- A1 Airstream HWX
- A2 Airstream HWX with post-heating or cooling coil
- A3 Airstream HWX with post-heating and cooling coil
- A4 Airstream HWX with external air damper
- A5 Airstream HWX with external air damper, post-heating or cooling coil
- A6 Airstream HWX with external air damper, post-heating and cooling coil
- A7 Airstream HWX with external air damper and recirculation damper
- A8 Airstream HWX with external air damper, recirculation damper, post-heating or cooling coil
- A9 Airstream HWX with external air damper, recirculation damper, post-heating and cooling coil

| T     | A1   | A2   | A3   | A4   | A5   | A6   | A7   | A8   | A9   | B    | C    | D   | E    | F   |
|-------|------|------|------|------|------|------|------|------|------|------|------|-----|------|-----|
| 1500  | 1400 | 1650 | 1900 | 1700 | 1950 | 2200 | 2200 | 2450 | 2700 | 1200 | 1200 | 100 | 565  | 265 |
| 3000  | 1900 | 2150 | 2400 | 2200 | 2450 | 2700 | 2700 | 2950 | 3200 | 1200 | 1300 | 100 | 865  | 465 |
| 4500  | 1900 | 2150 | 2400 | 2200 | 2450 | 2700 | 2700 | 2950 | 3200 | 1500 | 1500 | 100 | 1155 | 465 |
| 6000  | 2100 | 2350 | 2600 | 2400 | 2650 | 2900 | 2900 | 3150 | 3400 | 1600 | 1600 | 100 | 1155 | 565 |
| 9500  | 2600 | 2850 | 3100 | 2900 | 3150 | 3400 | 3400 | 3650 | 3900 | 1800 | 1900 | 180 | 1455 | 565 |
| 12000 | 2700 | 2950 | 3200 | 3000 | 3250 | 3500 | 3500 | 3750 | 4000 | 2400 | 2000 | 180 | 2030 | 565 |
| 15000 | 2300 | 2550 | 2800 | 2600 | 2850 | 3100 | 3100 | 3350 | 3600 | 2400 | 2400 | 180 | 2030 | 865 |
| 20000 | 2600 | 2850 | 3100 | 2900 | 3150 | 3400 | 3400 | 3650 | 3900 | 2500 | 2500 | 180 | 2030 | 865 |
| 27500 | 3100 | 3350 | 3600 | 3400 | 3650 | 3900 | 3900 | 4150 | 4400 | 2900 | 2900 | 180 | 2030 | 865 |

\* Optional change of airflow

## Technical information

| AIRSTREAM CFX                        |      | 600   | 1400  | 2000  | 3200    | 4000    | 5400    | 6400    | 8600    | 10000   | 12500   | 15200   | 20000   |
|--------------------------------------|------|-------|-------|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Maximum air volume                   | m³/h | 600   | 1400  | 2000  | 3200    | 3700    | 5400    | 6400    | 8600    | 9200    | 12100   | 14250   | 19400   |
| Maximum external pressure            | Pa   | 250   | 425   | 150   | 1140    | 915     | 595     | 375     | 395     | 720     | 470     | 450     | 570     |
| Efficiency                           | %    | 90    | 90    | 90    | 90      | 90      | 90      | 90      | 90      | 90      | 90      | 90      | 90      |
| Maximum current consumption per unit | A    | 3,6   | 4,7   | 4,7   | 7,9     | 7,9     | 7,9     | 7,7     | 11,4    | 16,7    | 15,6    | 22,5    | 33,2    |
| Weight of unit for L = A1            | kg   | 435   | 520   | 530   | 690     | 745     | 980     | 1105    | 1550    | 1505    | 1810    | 2120    | 2690    |
| Weight of unit for L = A2            | kg   | 470   | 565   | 570   | 745     | 805     | 1030    | 1180    | 1645    | 1600    | 1930    | 2245    | 2855    |
| Weight of unit for L = A3            | kg   | 510   | 620   | 620   | 815     | 870     | 1125    | 1270    | 1770    | 1725    | 2085    | 2400    | 3075    |
| Weight of unit for L = A4            | kg   | 450   | 540   | 545   | 715     | 775     | 995     | 1145    | 1600    | 1555    | 1870    | 2195    | 2775    |
| Weight of unit for L = A5            | kg   | 485   | 585   | 590   | 765     | 835     | 1065    | 1220    | 1700    | 1650    | 1990    | 2320    | 2940    |
| Weight of unit for L = A6            | kg   | 585   | 640   | 645   | 830     | 915     | 1145    | 1310    | 1825    | 1775    | 2145    | 2470    | 3160    |
| Supply voltage (50Hz)                | V    | 1~230 | 1~230 | 1~230 | 3~400+N | 3~400+N | 3~400+N | 3~400+N | 3~400+N | 3~400+N | 3~400+N | 3~400+N | 3~400+N |

| AIRSTREAM HWX                        |      | 1500  | 3000    | 4500    | 6000    | 9500    | 12000   | 15000   | 20000   | 27500   |
|--------------------------------------|------|-------|---------|---------|---------|---------|---------|---------|---------|---------|
| Maximum air volume                   | m³/h | 1500  | 3000    | 4500    | 6000    | 9500    | 12000   | 15000   | 20000   | 27000   |
| Maximum external pressure            | Pa   | 500   | 1250    | 975     | 580     | 875     | 500     | 230     | 845     | 265     |
| Temperature efficiency               | %    | 82,4  | 83,7    | 81,8    | 81      | 82,3    | 80,2    | 83,1    | 81      | 78,4    |
| Humidity efficiency                  | %    | 88,8  | 90,9    | 87,7    | 86,4    | 88,6    | 85,3    | 90      | 86,3    | 81,9    |
| Maximum current consumption per unit | A    | 5,0   | 8,5     | 8,5     | 17,2    | 17,5    | 17      | 16,9    | 34,4    | 29,1    |
| Weight of unit for L = A1            | kg   | 525   | 590     | 755     | 860     | 1115    | 1475    | 1785    | 1845    | 2245    |
| Weight of unit for L = A2            | kg   | 570   | 640     | 815     | 925     | 1195    | 1585    | 1895    | 1980    | 2385    |
| Weight of unit for L = A3            | kg   | 630   | 705     | 900     | 1015    | 1310    | 1745    | 2075    | 2165    | 2625    |
| Weight of unit for L = A4            | kg   | 550   | 625     | 795     | 900     | 1170    | 1540    | 1865    | 1935    | 2335    |
| Weight of unit for L = A5            | kg   | 600   | 670     | 855     | 965     | 1250    | 1655    | 1985    | 2070    | 2475    |
| Weight of unit for L = A6            | kg   | 655   | 735     | 935     | 1065    | 1365    | 1810    | 2160    | 2250    | 2715    |
| Weight of unit for L = A7            | kg   | 595   | 665     | 850     | 960     | 1240    | 1635    | 1965    | 2035    | 2445    |
| Weight of unit for L = A8            | kg   | 640   | 715     | 950     | 1030    | 1315    | 1750    | 2080    | 2315    | 2595    |
| Weight of unit for L = A9            | kg   | 695   | 785     | 990     | 1120    | 1430    | 1905    | 2250    | 2345    | 2825    |
| Supply voltage (50Hz)                | V    | 1~230 | 3~400+N | 3~400+N | 3~400+N | 3~400+N | 3~400+N | 3~400+N | 3~400+N | 3~400+N |

## Accessories – additional sections



The Airstream can be equipped with the following options:

Integrated dampers for external air, waste air, recirculated air.

Integrated pre- and after-heater (electric or hot water), change-over system, integrated cooler (cold water or DX).

## Assembly/location suggestions



Indoor version



Outdoor version

## Mark Airstream

Mark Airstream is constructed with 45 mm prefab insulated panels. The mechanical strengths of the casing have been tested according to NEN-EN 1886.

- Deflection: Class D1
- Air leakage: Class L1
- Thermal transmission: Class T2
- Thermal bridging: Class TB2

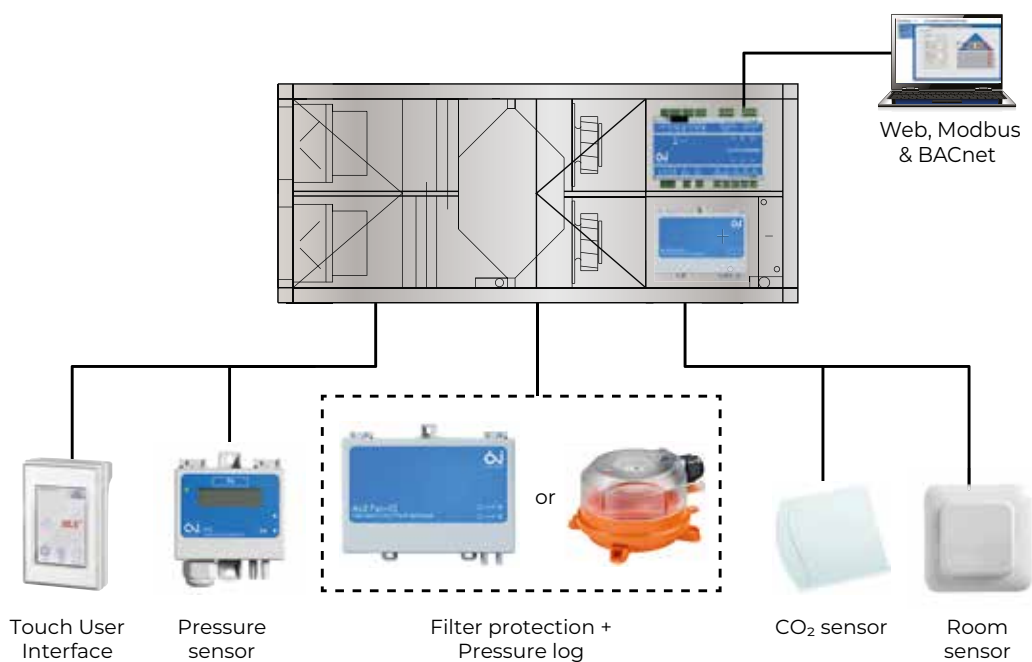
The fans in the air handling units are equipped with high-efficiency intelligent centrifugal fans with EC-technology, the advantages of which are:

- The highest efficiency in case of speed control
- Up to 50% energy saving in case of partial load
- Almost completely linearly adjustable
- Long lifetime
- Low noise level
- Integrated electronic thermal protection

## Controls

Mark AIRSTREAM is provided with OJ-controls. This control system manages the entire unit. Frost protection for the counterflow heat exchanger, control of the bypass but also the control of the fans are included. This control system is extremely easy to adjust using the remote control or laptop / computer. For operation with laptop / computer, no additional software is needed. A network connection through webbrowser Google Chrome is all you need to get access. The menu structure is clear and intuitive, with different levels of access and authority.

It is possible to control the air amount on the basis of CO<sub>2</sub>, air quality, loss of pressure or humidity. Each unit is internally fused and completely wired from the components to the isolator switch. Optional is the control of a 3-way valve for cooler, heater or battery change-over with the release of a pump. Obviously much more is possible, we will be pleased to advise you.







# COMPACT

## Plug & Play high-efficiency heat recovery unit

High-efficiency heat recovery unit. Air displacement 600 to 3200 m<sup>3</sup>/h.



For more information, downloads and videos, visit the Compact page on our website

## Plug and play heat recovery unit

### Delivery from stock!

Are you familiar with our COMPACT? This economical and compact version of our Plug & Play AIRSTREAM heat recovery unit is equipped with a counterflow heat exchanger with bypass and a fully integrated control.

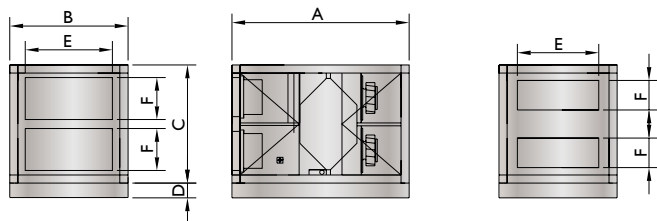
Where our AIRSTREAM is a custom-made and project-built device that excels in its versatility, the COMPACT is only equipped with the necessary options. This makes this unit an economical alternative for ventilation of offices, schools, workshops and changing rooms.



### Product features

- Compact and standard construction
- The outer panelling consists of galvanized plate coated in RAL 9002 (white - grey)
- Counter flow plate heat exchanger
- Bypass for night ventilation and cooling
- EC fans
- Plug & play
- Fully integrated control, connectable via internet to BMS, BACnet or Modbus
- Air volumes of 600, 1400, 2000 or 3200 m<sup>3</sup>/h
- Efficiency > 90%
- Indoor and outdoor installation
- Filter pressure monitoring
- On/off contact
- Fire alarm contact

## Dimensions



| T    | A    | B    | C    | D   | E   | F   |
|------|------|------|------|-----|-----|-----|
| 600  | 1203 | 800  | 955  | 100 | 565 | 265 |
| 1400 | 1403 | 1000 | 955  | 100 | 565 | 265 |
| 2000 | 1503 | 950  | 955  | 100 | 565 | 265 |
| 3200 | 1703 | 1200 | 1305 | 100 | 865 | 465 |

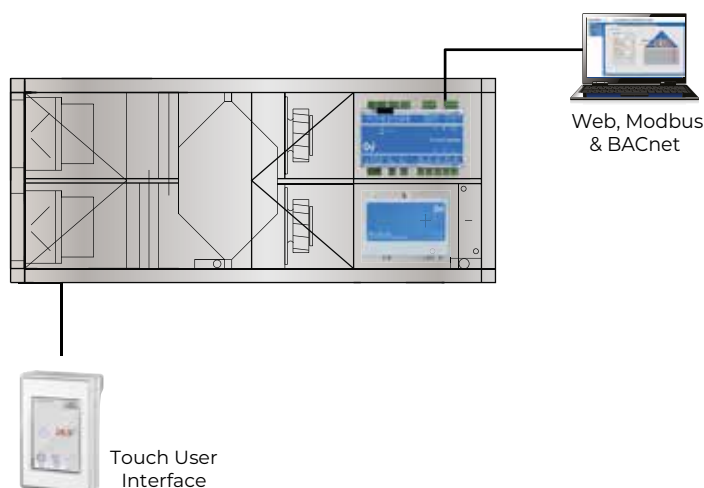
## Technical information

| COMPACT                              |                   | 600   | 1400  | 2000  | 3200    |
|--------------------------------------|-------------------|-------|-------|-------|---------|
| Max. air volume                      | m <sup>3</sup> /h | 600   | 1400  | 2000  | 3200    |
| Max. external pressure               | Pa                | 250   | 300   | 300   | 300     |
| Efficiency                           | %                 | 90    | 90    | 90    | 90      |
| Maximum current consumption per unit | A                 | 3     | 11,4  | 11,4  | 6       |
| Nominal                              | A                 | 2,2   | 3,9   | 6,5   | 2,8     |
| Unit weight                          | kg                | 175   | 218   | 215   | 345     |
| Supply voltage (50Hz)                | V                 | 1~230 | 1~230 | 1~230 | 3~400+N |

## Controls

Mark COMPACT is provided with OJ-controls. This control system manages the entire unit. Frost protection for the counterflow heat exchanger, control of the bypass but also the control of the fans are included. This control system is extremely easy to adjust using the remote control or laptop / computer. For operation with laptop / computer, no additional software is needed. A network connection through webbrowser Google Chrome is all you need to get access. The menu structure is clear and intuitive, with different levels of access and authority.

Each unit is internally fused and completely wired from the components to the isolator switch. Obviously much more is possible, we will be pleased to advise you.



## Prices Compact

### PRODUCT - COMPACT - INDOOR

| Code nr. | Description  | Price   |
|----------|--------------|---------|
| 5995530  | Compact 600  | € 10388 |
| 5995531  | Compact 1400 | € 11839 |
| 5995532  | Compact 2000 | € 12550 |
| 5995533  | Compact 3200 | € 17350 |

### PRODUCT - COMPACT - OUTDOOR

| Code nr. | Description  | Price   |
|----------|--------------|---------|
| 5995550  | Compact 600  | € 11052 |
| 5995551  | Compact 1400 | € 12380 |
| 5995552  | Compact 2000 | € 13115 |
| 5995553  | Compact 3200 | € 17925 |

### ACCESSORIES

| Code nr. | Description                                                                   | Price |
|----------|-------------------------------------------------------------------------------|-------|
| 0442465  | Filter for compact 600, 1400, 2000 ePM1 55% (F7)                              | € 290 |
| 0442455  | Filter for compact 600, 1400, 2000 ePM10 60% (M5)                             | € 206 |
| 0442466  | Filter for compact 3200 before 2024 ePM1 55% (F7)                             | € 196 |
| 0442456  | Filter for compact 3200 before 2024 ePM10 60% (M5)                            | € 202 |
| 0442469  | Filter for compact 3200 after 2024 ePM1 55% (F7)                              | € 250 |
| 0442459  | Filter for compact 3200 After 2024 ePM10 60% (M5)                             | € 275 |
| 5960100  | Duct reducer from square to round for Compact 600, from 565x265mm to D=200mm  | € 307 |
| 5960101  | Duct reducer from square to round for Compact 1400, from 565x265mm to D=315mm | € 351 |
| 5960102  | Duct reducer from square to round for Compact 2000, from 565x265mm to D=400mm | € 372 |
| 5960103  | Duct reducer from square to round for Compact 3200, from 565x465mm to D=500mm | € 384 |
| 0631374  | OJ user interface with touchscreen                                            | € 481 |
| 5995791  | Ball siphon over/under pressure set complete                                  | € 125 |
| 0414322  | Playground tile 45mm, 505x505mm                                               | € 45  |
| 3004595  | Vibration mats, set 15 stuks, 60x100mm                                        | € 28  |

### REMARKS

The COMPACT is standard delivered with:

- M5 and F7 panel filters D = 50 mm
- Filter pressure monitoring
- Plug & Play OJ scheme
- Bypass
- Control side = right (looking in the direction of the airflow)

In addition, the outdoor installation also comes with:

- Aluminum roof
- Rain cover
- Relief hood
- Heating element for ball siphon



# ERV

## Heat recovery unit

Compact high-efficiency heat recovery unit.  
Air displacements of 500, 1000 and 2000 m<sup>3</sup>/h.



For more information, downloads  
and videos, visit the ERV page on  
our website

## Ceiling heat recovery unit with an efficiency up to 78%

### Delivery from stock!

The Mark ERV is the ideal solution for energy efficient ventilation and a comfortable indoor climate. The appliance is equipped with a high efficiency counter flow heat exchanger with an heat recovery efficiency up to 78%. This means that 78% of the energy expelled is supplied to the fresh intake air. This high efficiency means that in many cases no after-heating is required.

Possible applications for the ERV include offices, showrooms, apartment complexes and schools.

The Mark ERV is intended as a decentralized heat recovery unit. For central heat recovery, please refer to the Mark AIRSTREAM.

Optional:

- Electric re-heaters
- Disinfection-unit to sterilize the outdoor polluted air

### Product features

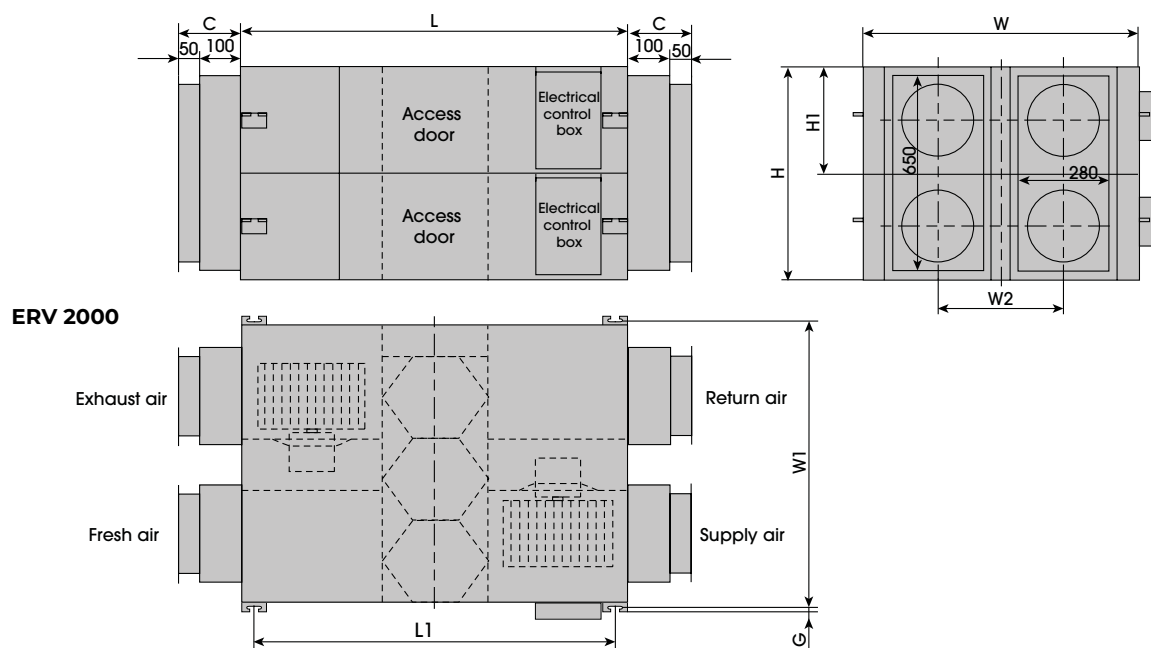
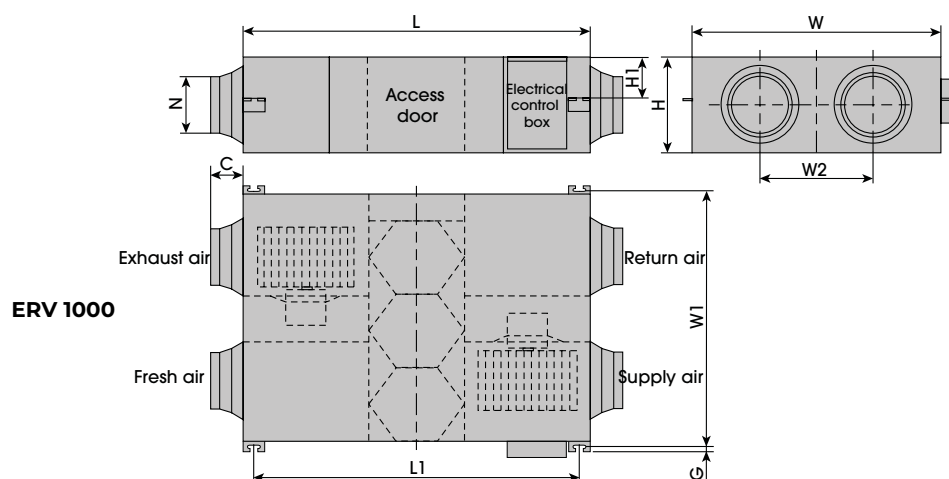
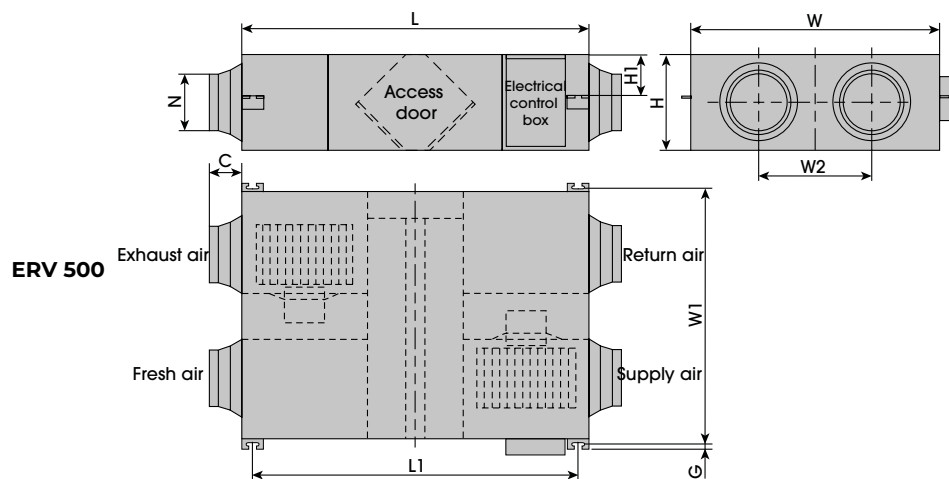
- High efficiency for optimal air comfort
- No condensation drain required
- Exchange of heat and moisture
- Energy-saving BLDC motor with 10 speeds
- Innovative high efficiency counter flow exchanger
- Low weight
- Indoor installation
- Automatic bypass, intelligently controlled by outside temperature
- Plug & play control, optional CO2 and humidity control function, remote control and Modbus/BMS\* control available
- ErP 2018 ready!

\* For type 2000 only available at extra cost. Inquire about the possibilities.



A Mark disinfection unit (MDU) can be used in combination with a Mark ERV. This unit is equipped with a UVC germicidal lamp with a wavelength of 254 nm and a medical photocatalytic sterilization filter to kill bacteria and viruses in a short time. This makes the MDU an excellent weapon in the fight for cleaner air.

## Dimensions





| Type*   | L    | L1   | W    | W1   | W2  | H   | H1  | C   | G  | N       |
|---------|------|------|------|------|-----|-----|-----|-----|----|---------|
| ERV500  | 962  | 890  | 904  | 960  | 500 | 270 | 111 | 107 | 19 | ø 194   |
| ERV1000 | 1322 | 1250 | 1134 | 1190 | 678 | 388 | 170 | 85  | 19 | ø 242   |
| ERV2000 | 1322 | 1250 | 1134 | 1190 | 678 | 785 | 170 | 150 | 19 | 280*650 |

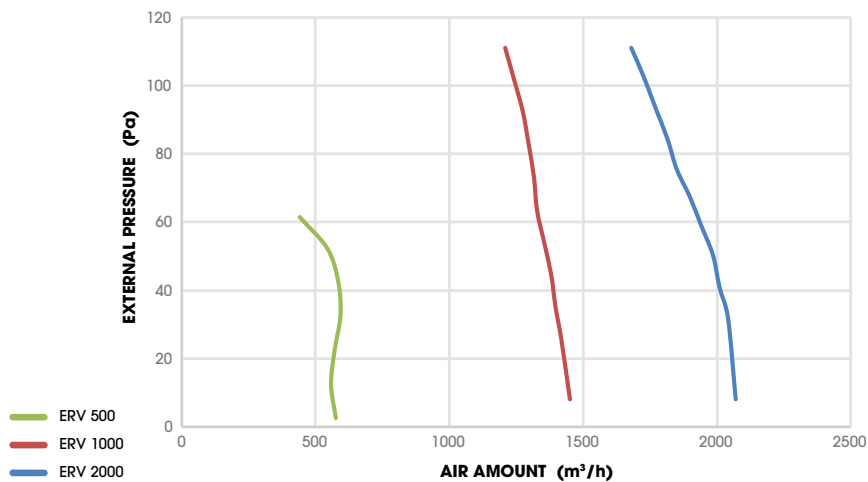
\*See images previous page

## Technical information

| Type                   |                   | 500   | 1000  | 2000  |
|------------------------|-------------------|-------|-------|-------|
| Air amount             | m <sup>3</sup> /h | 441   | 1208  | 1680  |
| External pressure      | Pa                | 60    | 110   | 110   |
| Cooling efficiency     | %                 | 62-74 | 65-74 | 65-74 |
| Heating efficiency     | %                 | 67-75 | 71-78 | 71-78 |
| Temperature efficiency | %                 | 75-86 | 75-85 | 75-85 |
| Noise level (1m)       | dB(A)             | 39    | 43    | 51.5  |
| Supply voltage         | V                 | 220   | 220   | 220   |
| Power                  | W                 | 88    | 243   | 486   |
| Weight                 | kg                | 43    | 83    | 189   |

Noise level (dB):

| Type    | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | Overall dB(A) |
|---------|------|-------|-------|-------|------|------|------|------|---------------|
| ERV500  | 34   | 40    | 35    | 35    | 36   | 28   | 22   | 17   | 39            |
| ERV1000 | 38   | 44    | 39    | 41    | 40   | 31   | 31   | 19   | 43            |
| ERV2000 | 45   | 52    | 46    | 48    | 48   | 48   | 37   | 23   | 51            |



## Prices ERV



### PRODUCT - ERV CEILING HEAT RECOVERY UNIT\*

| Code nr. | Description | Price |      |
|----------|-------------|-------|------|
| 5997401  | ERV 500     | €     | 2997 |
| 5997403  | ERV 1000    | €     | 3994 |
| 5997405  | ERV 2000    | €     | 8526 |



### ACCESSORIES - CONTROLS

| Code nr. | Description                   | Price |     |
|----------|-------------------------------|-------|-----|
| 5997450  | Touch control user interface* | €     | 289 |
| 5997451  | CO2 sensor                    | €     | 400 |
| 5997452  | Humidity sensor               | €     | 159 |



### ACCESSORIES - DISINFECTION-UNIT

| Code nr. | Description                             | Price |      |
|----------|-----------------------------------------|-------|------|
| 5997402  | Fresh air disinfection-unit MDU 500**   | €     | 888  |
| 5997404  | Fresh air disinfection-unit MDU 1000*** | €     | 1036 |

### ACCESSORIES

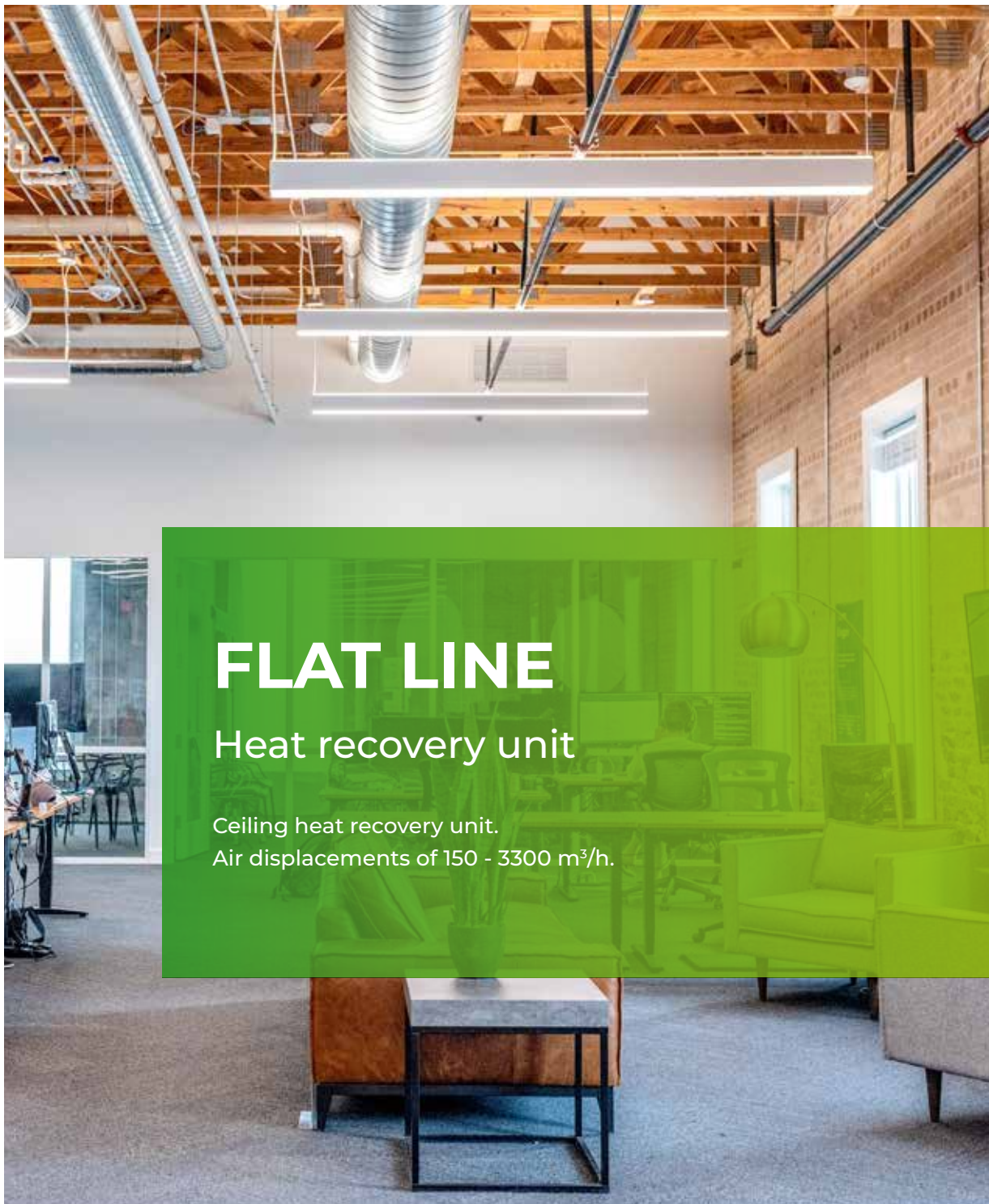
| Code nr. | Description                              | Price |     |
|----------|------------------------------------------|-------|-----|
| 0620320  | Filter for ERV 500                       | €     | 40  |
| 0620321  | Filter for ERV 1000 / 2000               | €     | 64  |
| 5997460  | Electric duct heater 1.0 kW for ERV 500  | €     | 620 |
| 5997461  | Electric duct heater 2.0 kW for ERV 1000 | €     | 695 |
| 5997462  | Electric duct heater 3.0 kW for ERV 2000 | €     | 812 |

### REMARKS

\* all ERV heat recovery units are delivered with a Touch control user interface including data cable (5 meter).

\*\* Compatible with ERV 500

\*\*\* Compatible with ERV 1000



# FLAT LINE

## Heat recovery unit

Ceiling heat recovery unit.  
Air displacements of 150 - 3300 m<sup>3</sup>/h.



For more information, downloads  
and videos, visit the FLAT LINE  
page on our website



### Ceiling heat recovery unit with an efficiency up to 93%

The Mark FLAT LINE compact heat recovery unit is the ideal solution for energy efficient ventilation and a comfortable indoor climate. The appliance is equipped with a high efficiency counter flow heat exchanger with a heat recovery efficiency of 93%. This means that 93% of the energy expelled is supplied to the fresh intake air. This high efficiency means that in many cases no after-heating is required.

The ceiling heat recovery units are tested in the factory and are supplied Plug & Play.

Possible applications for the FLAT LINE include offices, showrooms, apartment complexes and schools. Due to the low height of the devices they are ideal for placing above suspended ceilings.

The Mark ERV is intended as a decentralized heat recovery unit. For central heat recovery, please refer to the Mark AIRSTREAM.

#### Product features

- High efficiency for optimal air comfort
- Flat heat recovery unit suitable for ceiling mounting
- High efficiency aluminium counter flow exchanger with an efficiency up to 93%
- Double-walled insulated steel housing, supplied with mineral wool.
- EC-motors (IE4)
- Supply filter ePM2,5 65%
- Return filter ePM10 50%
- Integrated multifunctional Plug & Play control
- Modbus
- Service acces: underside
- Condensation drain required (2 pieces)

#### Optional:

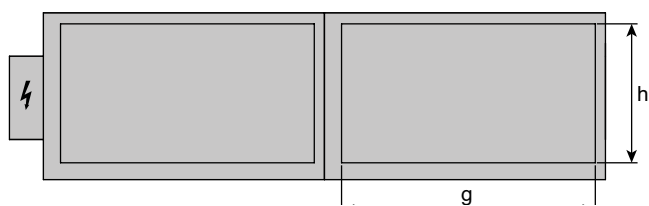
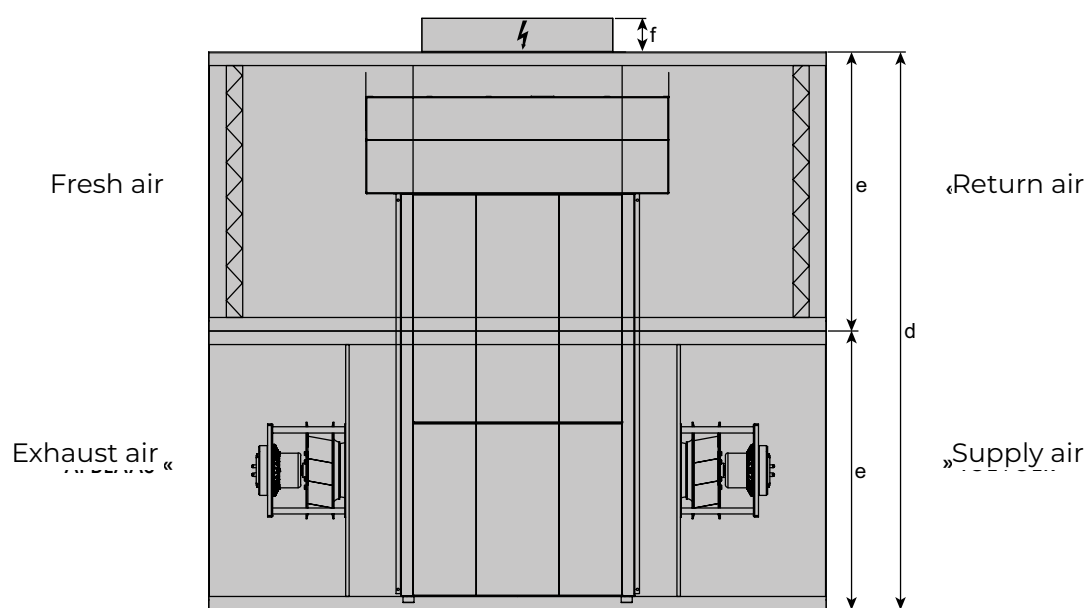
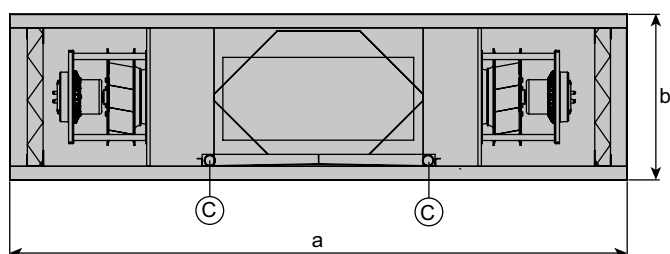
- Water-supplied after-heating/cooling
- Electric after-heating
- DX-change-over coil
- Bag filters
- Attenuator
- Flexible connections
- Round connections
- Damper

**Prices on request.**

## Dimensions standard unit\*

| Type  | a    | b   | d    | e    | f   | g   | h    |
|-------|------|-----|------|------|-----|-----|------|
| 500F  | 1251 | 400 | 830  | 415  | 100 | 318 | 335  |
| 1000F | 1500 | 400 | 1190 | 595  | 100 | 318 | 515  |
| 1500F | 1500 | 400 | 1590 | 795  | 100 | 318 | 715  |
| 2000F | 1826 | 490 | 1650 | 825  | 100 | 408 | 745  |
| 3000F | 1826 | 490 | 2200 | 1100 | 100 | 408 | 1020 |

C = Condensation drain  
 \* Non-standard units on request



## Technical information

| Type               |                   | 500F      | 1000F      | 1500F      | 2000F      | 3000F      |
|--------------------|-------------------|-----------|------------|------------|------------|------------|
| Nominal air flow   | m <sup>3</sup> /h | 500       | 1000       | 1500       | 2000       | 2500       |
| Air amount (range) | m <sup>3</sup> /h | 150 - 650 | 300 - 1100 | 450 - 1650 | 600 - 2200 | 900 - 3300 |
| External pressure  | Pa                | 200       | 250        | 300        | 300        | 300        |
| Noise level @ 1m   | dB(A)             | 52        | 55         | 57         | 59         | 57         |
| Voltage            | V                 | 230       | 230        | 230        | 230        | 230        |
| Power              | W                 | 2 x 160   | 2 x 240    | 2 x 420    | 2 x 520    | 2 x 760    |
| Weight             | kg                | 171       | 242        | 292        | 361        | 468        |



# AIRSTREAM AHU

## Air Handling Unit

Modular air handling unit made of double-walled insulated seawater-resistant aluminum. Air displacements of 150.000 m<sup>3</sup>/h.



For more information, downloads  
and videos, visit the Airstream  
AHU page on our website





### The ultimate in air handling units: directly and indirectly fired

Mark has developed a range of air handling units with several options for a wide variety of applications. From a simple air intake unit to a fully automatically-controlled air handling unit suitable for both indoor or outdoor use.

There is a wide selection of heating systems, such as hot water batteries, gas or oil-fired modules, gas-fired make-up air systems or high performance gas-fired heating systems. Heat recovery and cooling are of course also possible.

Mark Airstream AHU air handling units are made from seawater-resistant aluminium panels with double-walled insulation as standard. This means lower weight and a longer lifespan. The Mark air handling unit is a highly developed, premium quality product that can be adjusted to the customer's requirements.

The mechanical strengths of the casing of the Mark Airstream AHU have been tested according to NEN-EN 1886.

- Deflection: Class D3
- Air leakage: Class L2
- Thermal transmission: Class T4
- Thermal bridging: Class TB4

The fans in the air handling units are equipped with high-efficiency intelligent centrifugal fans with EC-technology, the advantages of which are:

- The highest efficiency in case of speed control
- Up to 50% energy saving in case of partial load
- Almost completely linearly adjustable
- Long lifetime
- Low noise level
- Integrated electronic thermal protection

#### Product features

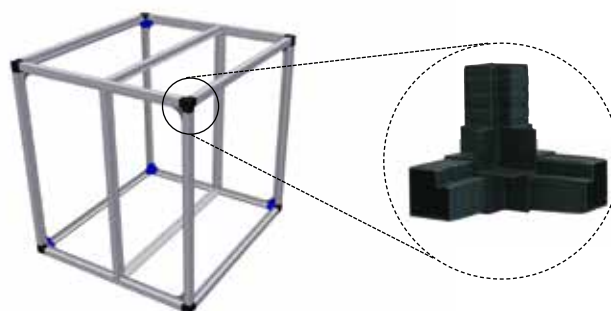
- Air displacements up to 150,000 m<sup>3</sup>/h
- Very economical to buy and use
- Integration of high-efficiency heating modules is possible
- Modular construction
- Easy to maintain
- Long life
- Flexible and variable
- Proven design
- Low weight

## Dimensions

| Type of air handling unit | Air displacement max.       | Dimensions<br>(Width x Height) |
|---------------------------|-----------------------------|--------------------------------|
| Airstream AHU 15 – 15     | 10 000 m <sup>3</sup> /h    | 975 x 975                      |
| Airstream AHU 15 – 20     | 14 150 m <sup>3</sup> /h    | 975 x 1280                     |
| Airstream AHU 20 – 20     | 19 150 m <sup>3</sup> /h    | 1280 x 1280                    |
| Airstream AHU 25 – 20     | 23 350 m <sup>3</sup> /h    | 1530 x 1280                    |
| Airstream AHU 30 – 20     | 29 150 m <sup>3</sup> /h    | 1890 x 1280                    |
| Airstream AHU 35 – 25     | 40 000 m <sup>3</sup> /h    | 2195 x 1530                    |
| Airstream AHU 35 – 35     | 60 000 m <sup>3</sup> /h    | 2195 x 2195                    |
| Airstream AHU 40 – 35     | 69 500 m <sup>3</sup> /h    | 2508 x 2195                    |
| Airstream AHU 50 – 50     | 150 000 m <sup>3</sup> /h   | 3120 x 3120                    |
| Projects on request       | > 150 000 m <sup>3</sup> /h |                                |

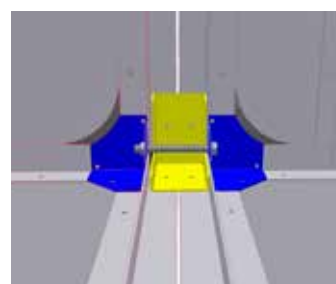
## Construction

- The air handling unit is of modular construction.
- The frame construction consists of profiled closed aluminium tube profiles.
- The individual cabinet modules can be installed in different ways, either in line, next to each other or on top of each other.
- The tube profiles are attached to each other using plastic angled profides to create a stable frame construction.



## Modular construction

- The individual parts of the air handling unit are quick and easy to install due to a well thought out system.
- In almost every case, the modules are supplied pre-assembled.
- The individual modules are fixed to each other so that they are airtight.
- The double-walled aluminium panels are mounted in the frame in an airtight manner.
- The centering section in the corner of the module ensures correct installation to the next module.



## Technical detail

The access doors are fitted with adjustable, maintenance-free hinges (adjustable both in height and at the sides). The hinges, or panel clips if required, are mounted on the outside of the air handling unit. This prevents dirt from building up on the inside of the unit.

The access doors of the air handling unit are fitted with lockable spring locks. The airtight closure of the doors against the housing is guaranteed by a special rubber profile.

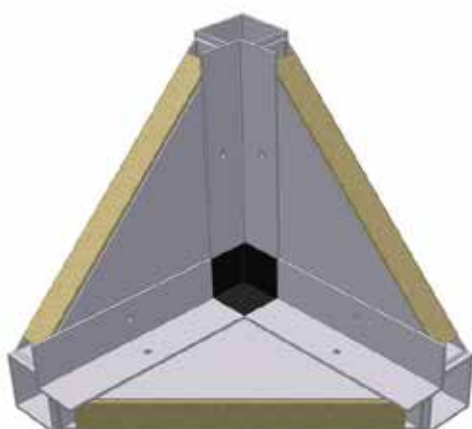


## Sound and thermal insulation

Noise reduction is an important point for consideration in the design of an air handling unit. For this reason, we have opted to use a double-walled seawater-resistant aluminium panel with 25 or 40 mm mineral wool insulation. This also results in excellent thermal insulation.

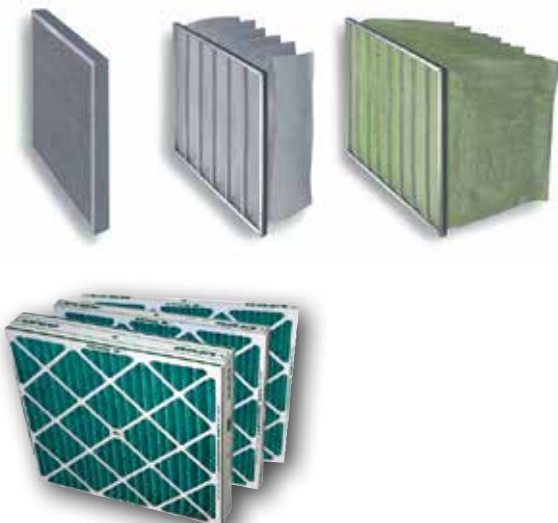
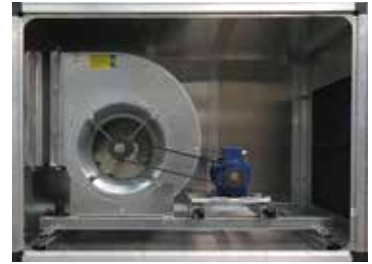
A lot of attention is paid to the smooth finishing on the inside of the unit, which makes it easy to clean. See table for sound insulation values.

| Air/noise insulation      |     |     |     |      |      |      |      |
|---------------------------|-----|-----|-----|------|------|------|------|
| Frequency (Hz)            | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Air/sound insulation (dB) | 18  | 17  | 22  | 26   | 29   | 28   | 24   |



## Optimal fan power

- The heart of the air handling unit is the fan.
- Mark selects the most suitable fan for the application requested.
- Depending on the application, a fan with forward or backward curved blades or a free-running fan can be used.
- The fan and the motor are placed on a frame. The frame is set up on shock absorbers in the housing.
- Delta P air flow monitoring is possible.



## Filter section

To guarantee the right air quality, Mark offers a wide selection of filters.

All necessary care is taken in the sealing of the filter frames and filters.

Filters should be changed from the inside on the dirty side.

The filter options are:

- Panel filter
- Bag filter short
- Bag filter long
- High temperature filter

Special filters are available on request.

Delta P filter monitoring is possible.

## Heating systems

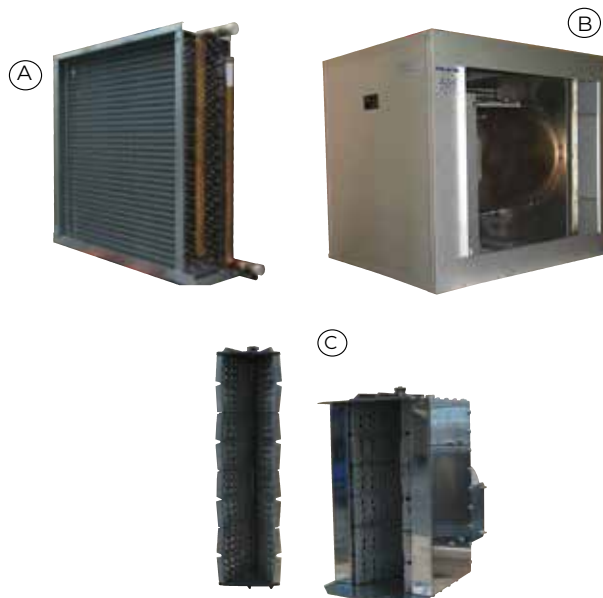
Mark air handling units can be equipped with various heat generators.

- A Hot water battery
- B Gas-fired condensing modulating high-efficiency air heater (> 106% efficiency)
- C Direct gas-fired make-up air burner, only applicable if all intake air is expelled in a controlled manner.

Benefits:

Gas-fired air heaters

- No heat intermediary
- No heat loss during stoppages
- Large selection of heating capacities
- High-efficiency
- Good temperature control
- The air handling unit can be supplied as plug & play.

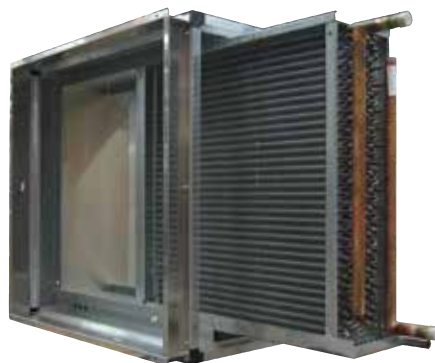


## Hot water batteries

Hot water batteries are designed as standard in copper-aluminium. The heat exchanger connections can be fitted internally or externally.

Optional:

- Hot-dip galvanised
- Anti-corrosion coating
- Steam, thermal oil
- Frost protection thermostat



## Gas-fired condensing modulating air heater

- High modulation range
- Efficiency >106%
- Closed design.
- Electronic ignition of the main burner.
- Control: modulating.
- Module suitable for installation in an air handling unit.



| Type                       |      | 15    | 25    | 35    | 40    | 60    | 80    | 100   | 135   | 150   | 200   | 300   | 400   | 540   | 600   | 800   |
|----------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Nominal load (upper value) | kW   | 16,1  | 27,2  | 38,8  | 44,4  | 66,7  | 88,9  | 110,6 | 149,9 | 166,7 | 216,7 | 331,8 | 433,4 | 599,6 | 650,1 | 866,8 |
| Maximal power              | kW   | 13,6  | 23,0  | 33,4  | 38,4  | 56,2  | 75,6  | 96,6  | 128,9 | 141,0 | 185,7 | 279,9 | 371,4 | 515,6 | 557,1 | 742,8 |
| Minimal load (upper value) | kW   | 4,6   | 6,8   | 9,6   | 9,6   | 13,9  | 24,5  | 10,8  | 21,1  | 36,6  | 41,6  | 32,4  | 83,2  | 84,4  | 124,8 | 166,4 |
| Minimal power              | kW   | 4,3   | 6,6   | 9,2   | 9,2   | 13,5  | 23,8  | 10,6  | 20,6  | 35,3  | 40,6  | 31,8  | 81,2  | 82,4  | 121,8 | 162,4 |
| Efficiency at 100% load    | %    | 94,1  | 93,9  | 95,7  | 94,8  | 94,2  | 94,3  | 94,2  | 95,1  | 94,8  | 93,6  | 94,8  | 93,6  | 95,1  | 94,8  | 93,6  |
| Efficiency at min. load    | %    | 104,4 | 106,1 | 107,3 | 107,3 | 107,4 | 106,2 | 106,3 | 107,9 | 107,0 | 107,3 | 107,0 | 107,3 | 107,9 | 107,0 | 107,3 |
| Burner turndown ratio      | +/-  | 3:1   | 4:1   | 4:1   | 5:1   | 5:1   | 7:1   | 6:1   | 7:1   | 4:1   | 5:1   | 4:1   | 5:1   | 7:1   | 4:1   | 5:1   |
| Air volume, min.           | m³/h | 1250  | 2000  | 3760  | 3760  | 5640  | 7520  | 9400  | 13500 | 14200 | 17500 | **    | **    | **    | **    | **    |
| Air volume, max.*          | m³/h | 4100  | 4100  | 7200  | 7200  | 8640  | 13680 | 16200 | 20880 | 20880 | 24500 | **    | **    | **    | **    | **    |

\* Larger air volumes using a bypass.

\*\* On request

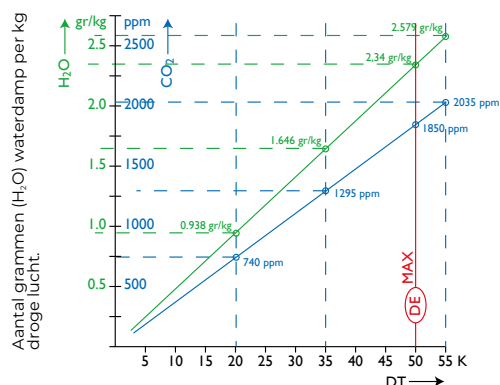
## Direct gas-fired make-up air burner

Direct gas-fired air make-up air heaters are integrated into the air handling unit.

This type of air heater is suitable only if the heated air is extracted mechanically.

Adjustment:  
modulating 20:1.

CO ≤ 5 ppm  
NO ≤ 1 ppm  
NO<sub>2</sub> ≤ 1 ppm



| MONO Type                  |                   | 55   | 110   | 165   | 220   | 275   | 330   | 385   | 440   | 495   | 550   | 660   | 770   |
|----------------------------|-------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Nominal load (upper value) | kW                | 71   | 142   | 213   | 284   | 356   | 427   | 498   | 569   | 640   | 712   | 854   | 996   |
| Nominal load (lower value) | kW                | 64   | 128   | 192   | 256   | 320   | 384   | 448   | 512   | 576   | 640   | 768   | 896   |
| Minimum load (lower value) | kW                | 3,2  | 6,4   | 9,6   | 12,8  | 16,0  | 19,2  | 22,4  | 25,6  | 28,8  | 32,0  | 37,4  | 44,8  |
| Air volume, min.           | m <sup>3</sup> /h | 3500 | 7020  | 10450 | 14130 | 17510 | 20800 | 24350 | 27820 | 31210 | 39730 | 41680 | 48700 |
| Air volume, max.           | m <sup>3</sup> /h | 9600 | 19200 | 28800 | 38400 | 48000 | 57600 | 67200 | 69500 | 69500 | 69500 | 69500 | 69500 |



## Mixing boxes

The air handling unit can be equipped with a mixing box. This box is placed between the air extraction section and the air inlet section.

The mixing box can be fitted with servomotor-controlled dampers.

Optional:

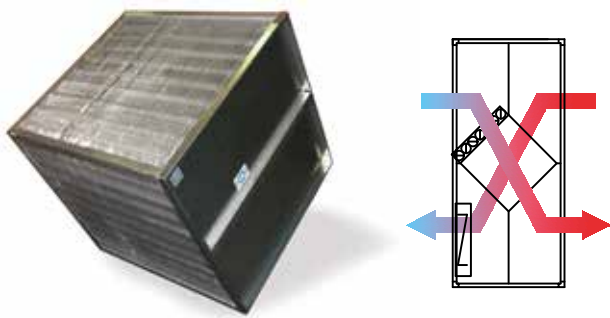
- Modulating - or open/closed control
- 24 V or 230 V.



## Heat recovery

Operating costs can be reduced and the environment protected by the use of heat recovery. Heat can be recovered using the following systems:

### Cross-flow plate heat exchanger



Benefits:

- Durable, no mechanical moving parts
- Reliable
- Simple installation
- Separate air flows
- Air flow via a by-pass is possible
- Very economical solution for heat recovery
- Efficiency > 50%

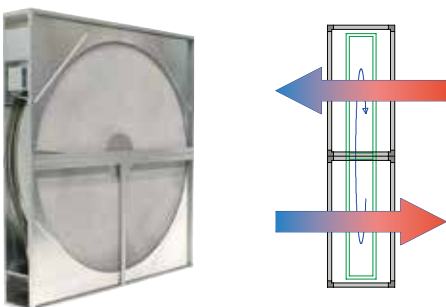
### Twin-coil heat exchanger



Benefits:

- Fresh air and return air can be separated spatially
- Short installation length
- Suitable for installation in existing units
- Can also be used at higher temperatures, large selection of heat exchangers, number of tube rows and materials used (Cu/Al or galvanized steel)
- Efficiency up to approx. 50%

### Heat wheel



Benefits:

- Low pressure drop
- Compact construction
- High heat-exchanging power
- Option to re-use latent heat
- Option to re-use available humidity
- Efficiency between 60% and 90% can be selected



## Cooling

Direct cooling (air cooling), "DX system"  
Indirect cooling (water cooling), "Chiller"  
Adiabatic cooling, "soft cool" (optional)

### Indirect cooling



Water is cooled in the cooling unit. Cold water is pumped into a cold water battery in the air handling unit. This will cool the air flow.

#### Benefits:

- The cooling unit is installed separately from the air handling unit.
- Low investment costs
- Short installation length
- Low operating costs
- Good cooling efficiency
- Excellent air dehumidification
- Control sends the quantity of cold water through the air-cooled cold water battery
- The cooling unit ensures the water temperature is constant
- Highly adjustable
- Guaranteed cooling capacity.

### Direct cooling



The air flow is cooled directly, the humidifier is situated directly in the air flow that needs to be cooled.

#### Benefits:

- Low investment costs
- Short installation length
- Low operating costs
- No water-related problems (risk of freezing, glycol concentrate, corrosion)
- Good cooling efficiency
- Excellent air dehumidification.



# CALFLO

## Gas-fired make-up air heater

Air heater with burner located directly in the air flow.  
Output from 64 to 896 kW.



For more information, downloads  
and videos, visit the Calflo page  
on our website



### Maximum performance with large air quantities

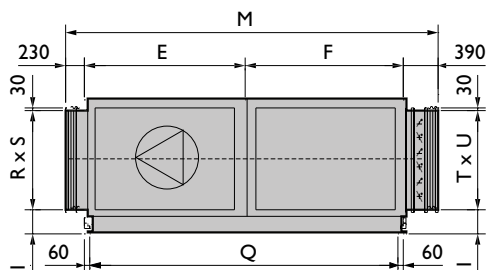
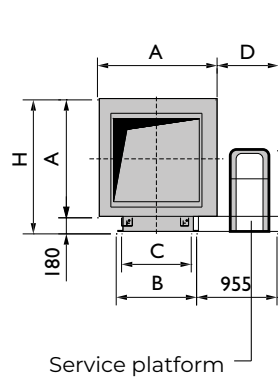
The Mark CALFLO is a make up air heating system. This means that the burner (and the flame) is located directly in the air flow to deliver maximum performance. The flue gases are so clean that they may be blown into the building. The CALFLO is suitable for rooms requiring large degrees of ventilation. This appliance is equipped with a modulating stainless steel burner and a seawater-resistant aluminium housing.

Possible applications include sand blasting areas, welding areas, and the processing industry.

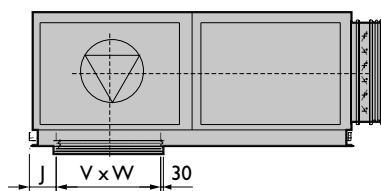
#### Product features

- Stainless steel line or box burners
- AlMg3 seawater-resistant aluminium housing (single-skin or double-skin)
- Low weight
- Available for both inside and outside installation
- Large air displacement
- Wide turndown ratio through use of modulating burner
- Long lifespan
- Extensive configuration options
- Reliable
- HT filters (option)

## Dimensions

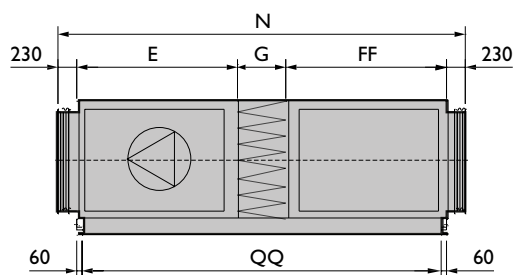


1

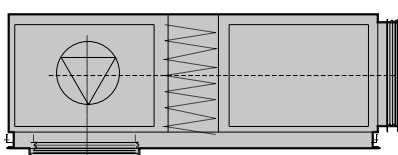


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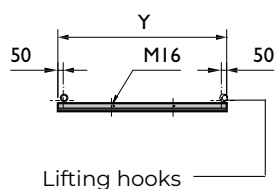
1-4: Indoor version  
5&6: External installation



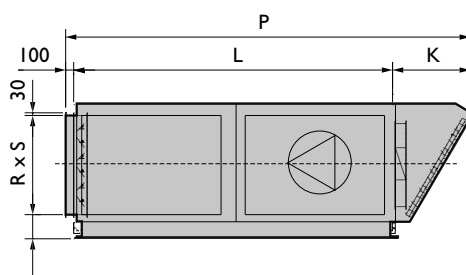
3



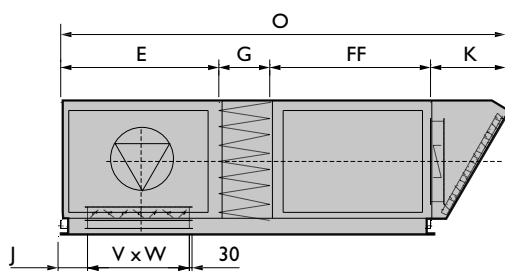
4



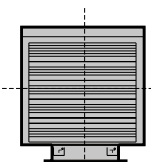
Lifting hooks



5



6



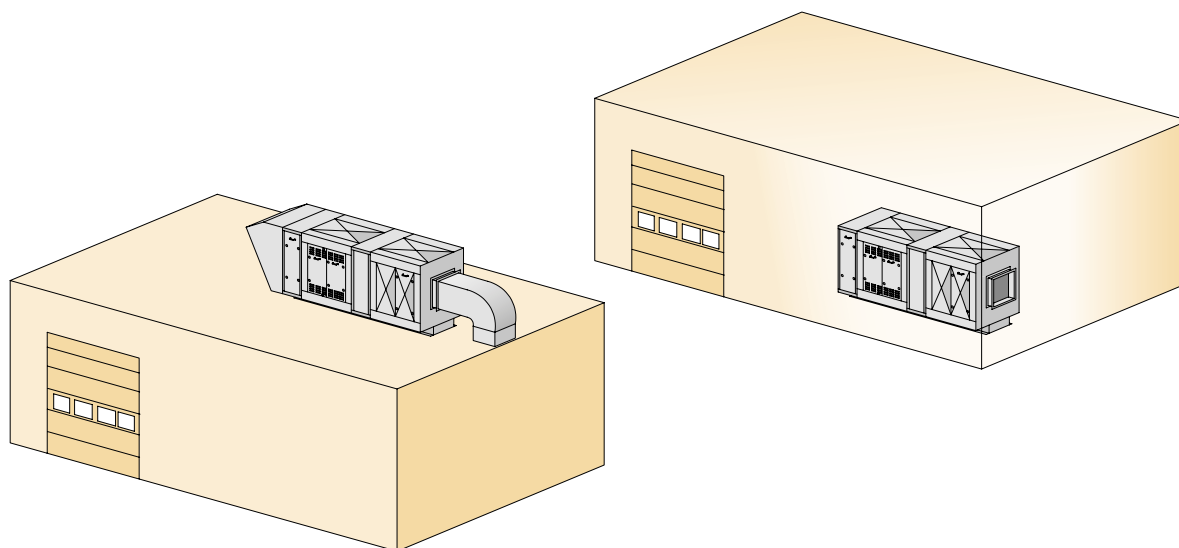
This table belongs to the previous page

| Type    | A    | B    | C    | D   | E    | F    | FF   | G   | H    | I   | J   | K    | L    | M    | N    | O    | P    | Q    | QQ   | RxS       | TxU       | VxW       | Y    |
|---------|------|------|------|-----|------|------|------|-----|------|-----|-----|------|------|------|------|------|------|------|------|-----------|-----------|-----------|------|
| 55CK55  | 1090 | 870  | 750  | 845 | 1090 | 1090 | 1680 | 590 | 1270 | 295 | 160 | 745  | 2180 | 2800 | 3820 | 4105 | 3025 | 2040 | 3220 | 860x820   | 1025x1020 | 820x530   | 1400 |
| 55CK35  | 1090 | 870  | 750  | 845 | 1090 | 1090 | 1680 | 590 | 1270 | 295 | 160 | 745  | 2180 | 2800 | 3820 | 4105 | 3025 | 2040 | 3220 | 860x820   | 1025x1020 | 820x530   | 1400 |
| 110CK55 | 1090 | 870  | 750  | 845 | 1090 | 1090 | 1680 | 590 | 1270 | 295 | 160 | 745  | 2180 | 2800 | 3820 | 4105 | 3025 | 2040 | 3220 | 860x820   | 1025x1020 | 820x530   | 1400 |
| 110CK35 | 1090 | 870  | 750  | 845 | 1090 | 1090 | 1680 | 590 | 1270 | 295 | 160 | 745  | 2180 | 2800 | 3820 | 4105 | 3025 | 2040 | 3220 | 860x820   | 1025x1020 | 820x530   | 1400 |
| 165CK55 | 1404 | 960  | 840  | 733 | 1900 | 1900 | 1900 | 600 | 1584 | 287 | 340 | 915  | 3800 | 4420 | 4860 | 5315 | 4815 | 3680 | 4280 | 1190x1220 | 1190x1220 | 1220x695  | 2000 |
| 165CK35 | 1404 | 960  | 840  | 733 | 1900 | 1900 | 1900 | 600 | 1584 | 287 | 340 | 915  | 3800 | 4420 | 4860 | 5315 | 4815 | 3680 | 4280 | 1190x1220 | 1190x1220 | 1220x695  | 2000 |
| 220CK55 | 1404 | 960  | 840  | 733 | 1900 | 1900 | 1900 | 600 | 1584 | 287 | 340 | 915  | 3800 | 4420 | 4860 | 5315 | 4815 | 3680 | 4280 | 1190x1220 | 1190x1220 | 1220x695  | 2000 |
| 220CK35 | 1404 | 960  | 840  | 733 | 1900 | 1900 | 1900 | 600 | 1584 | 287 | 340 | 915  | 3800 | 4420 | 4860 | 5315 | 4815 | 3680 | 4280 | 1190x1220 | 1190x1220 | 1220x695  | 2000 |
| 275CK55 | 1404 | 960  | 840  | 733 | 1900 | 1900 | 1900 | 600 | 1584 | 287 | 340 | 915  | 3800 | 4420 | 4860 | 5315 | 4815 | 3680 | 4280 | 1190x1220 | 1190x1220 | 1220x695  | 2000 |
| 275CK35 | 1804 | 1370 | 1250 | 738 | 1900 | 1900 | 1900 | 600 | 1984 | 405 | 240 | 1165 | 3800 | 4420 | 4860 | 5565 | 5065 | 3680 | 4280 | 1355x1420 | 1685x1620 | 1420x1025 | 2400 |
| 330CK55 | 1804 | 1370 | 1250 | 738 | 1900 | 1900 | 1900 | 600 | 1984 | 405 | 240 | 1165 | 3800 | 4420 | 4860 | 5565 | 5065 | 3680 | 4280 | 1355x1420 | 1685x1620 | 1420x1025 | 2400 |
| 330CK35 | 1804 | 1370 | 1250 | 738 | 1900 | 1900 | 1900 | 600 | 1984 | 405 | 240 | 1165 | 3800 | 4420 | 4860 | 5565 | 5065 | 3680 | 4280 | 1355x1420 | 1685x1620 | 1420x1025 | 2400 |
| 385CK55 | 1804 | 1370 | 1250 | 738 | 1900 | 1900 | 1900 | 600 | 1984 | 405 | 240 | 1165 | 3800 | 4420 | 4860 | 5565 | 5065 | 3680 | 4280 | 1355x1420 | 1685x1620 | 1420x1025 | 2400 |
| 385CK35 | 1804 | 1370 | 1250 | 738 | 1900 | 1900 | 1900 | 600 | 1984 | 405 | 240 | 1165 | 3800 | 4420 | 4860 | 5565 | 5065 | 3680 | 4280 | 1355x1420 | 1685x1620 | 1420x1025 | 2400 |
| 440CK55 | 1804 | 1370 | 1250 | 738 | 1900 | 1900 | 1900 | 600 | 1984 | 405 | 240 | 1165 | 3800 | 4420 | 4860 | 5565 | 5065 | 3680 | 4280 | 1355x1420 | 1685x1620 | 1420x1025 | 2400 |
| 495CK55 | 1804 | 1370 | 1250 | 738 | 1900 | 1900 | 1900 | 600 | 1984 | 405 | 240 | 1165 | 3800 | 4420 | 4860 | 5565 | 5065 | 3680 | 4280 | 1355x1420 | 1685x1620 | 1420x1025 | 2400 |
| 440CK35 | 2204 | 1810 | 1690 | 758 | 2200 | 2200 | 2200 | 600 | 2384 | 357 | 190 | 1280 | 4400 | 5020 | 5460 | 6280 | 5780 | 4280 | 4880 | 1850x1820 | 2015x2020 | 1820x1355 | 2800 |
| 495CK35 | 2204 | 1810 | 1690 | 758 | 2200 | 2200 | 2200 | 600 | 2384 | 357 | 190 | 1280 | 4400 | 5020 | 5460 | 6280 | 5780 | 4280 | 4880 | 1850x1820 | 2015x2020 | 1820x1355 | 2800 |
| 550CK55 | 2204 | 1810 | 1690 | 758 | 2200 | 2200 | 2200 | 600 | 2384 | 357 | 190 | 1280 | 4400 | 5020 | 5460 | 6280 | 5780 | 4280 | 4880 | 1850x1820 | 2015x2020 | 1820x1355 | 2800 |
| 550CK35 | 2204 | 1810 | 1690 | 758 | 2200 | 2200 | 2200 | 600 | 2384 | 357 | 190 | 1280 | 4400 | 5020 | 5460 | 6280 | 5780 | 4280 | 4880 | 1850x1820 | 2015x2020 | 1820x1355 | 2800 |
| 660CK55 | 2204 | 1810 | 1690 | 758 | 2200 | 2200 | 2200 | 600 | 2384 | 357 | 190 | 1280 | 4400 | 5020 | 5460 | 6280 | 5780 | 4280 | 4880 | 1850x1820 | 2015x2020 | 1820x1355 | 2800 |
| 660CK35 | 2204 | 1810 | 1690 | 758 | 2200 | 2200 | 2200 | 600 | 2384 | 357 | 190 | 1280 | 4400 | 5020 | 5460 | 6280 | 5780 | 4280 | 4880 | 1850x1820 | 2015x2020 | 1820x1355 | 2800 |
| 770CK55 | 2204 | 1810 | 1690 | 758 | 2200 | 2200 | 2200 | 600 | 2384 | 357 | 190 | 1280 | 4400 | 5020 | 5460 | 6280 | 5780 | 4280 | 4880 | 1850x1820 | 2015x2020 | 1820x1355 | 2800 |
| 770CK35 | 2204 | 1810 | 1690 | 758 | 2200 | 2200 | 2200 | 600 | 2384 | 357 | 190 | 1280 | 4400 | 5020 | 5460 | 6280 | 5780 | 4280 | 4880 | 1850x1820 | 2015x2020 | 1820x1355 | 2800 |

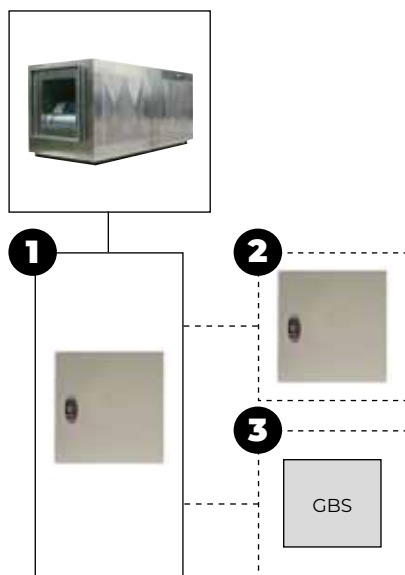
## Technical information

| Type                           |      | 55   | 110   | 165   | 220   | 275   | 330   | 385   | 440   | 495   | 550   | 660   | 770   |
|--------------------------------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Nominal load (upper value)     | kW   | 71   | 142   | 213   | 284   | 356   | 427   | 498   | 569   | 640   | 712   | 854   | 996   |
| Nominal load (lower value)     | kW   | 64   | 128   | 192   | 256   | 320   | 384   | 448   | 512   | 576   | 640   | 768   | 896   |
| Minimum load (lower value)     | kW   | 3,2  | 6,4   | 9,6   | 12,8  | 16,0  | 19,2  | 22,4  | 25,6  | 28,8  | 32,0  | 38,4  | 44,8  |
| Burner turndown ratio          |      | 20:1 | 20:1  | 20:1  | 20:1  | 20:1  | 20:1  | 20:1  | 20:1  | 20:1  | 20:1  | 20:1  | 20:1  |
| Gas consumption G20 (15 °C)    | m³/h | 7,9  | 15,8  | 23,6  | 31,5  | 39,4  | 47,3  | 55,1  | 63,0  | 70,9  | 78,8  | 94,5  | 110,3 |
| Gas consumption G25 (15 °C)    | m³/h | 6,8  | 13,5  | 20,3  | 27,1  | 33,9  | 40,6  | 47,4  | 54,2  | 60,9  | 67,7  | 81,3  | 94,8  |
| Gas consumption G31 (15 °C)    | kg/h | 5,0  | 9,9   | 14,9  | 19,9  | 24,8  | 29,8  | 34,8  | 39,7  | 44,7  | 49,7  | 59,6  | 69,5  |
| Gas consumption G30 (15 °C)    | kg/h | 5,1  | 10,1  | 15,2  | 20,2  | 25,3  | 30,3  | 35,4  | 40,4  | 45,5  | 50,5  | 60,6  | 70,7  |
| Air displacement ΔT35K (15 °C) | m³/h | 5430 | 10870 | 16300 | 21740 | 27170 | 32600 | 38040 | 43470 | 48900 | 54340 | 65200 | 76080 |
| Fan type ΔT35K                 |      | 355  | 450   | 560   | 560   | 710   | 710   | 710   | 900   | 900   | 900   | 900   | 1000  |
| Air displacement ΔT55K (15 °C) | m³/h | 3500 | 7020  | 10450 | 14130 | 17510 | 20800 | 24350 | 27820 | 31210 | 34730 | 41680 | 48700 |
| Fan type ΔT55K                 |      | 355  | 450   | 560   | 560   | 560   | 710   | 710   | 710   | 710   | 900   | 900   | 900   |

## Assembly/location suggestions



## Controls



### Control combination options

|                           |   |          |   |          |
|---------------------------|---|----------|---|----------|
| Calflo                    | + | <b>1</b> |   |          |
| Calflo on/off or high/low | + | <b>1</b> | + | <b>2</b> |
| Calflo on/off or high/low | + | <b>1</b> | + | <b>3</b> |

1 = Motor control box

2 = Remote control C10 CALFLO on/off  
 Remote control C12 CALFLO on/off with clock  
 Remote control C20 CALFLO high/low  
 Remote control C22 CALFLO high/low with clock



# MISTRAL MDX

Air-to-air VRF heat pump system  
for large spaces

Sustainable heating and cooling with the Mark MDX  
VRF system. Powers of 33 and 56 kW.



For more information, downloads and  
videos, visit the MISTRAL MDX page on  
our website



## Sustainable heating and cooling with the Mark MISTRAL MDX



The Mark MISTRAL MDX is a VRF system, which is specially developed for energy-efficient heating and cooling of large spaces. The combination of an air-to-air heat pump (outdoor unit) with a compact air heater / cooler (indoor unit) ensures excellent performance. Thanks to the extensive setting options, the installation can be fully adapted to the use of the building and the wishes of the users.

Thanks to the long available pipe lengths (90m MDX 33/ 170m MDX 56) and the wide temperature range, the MISTRAL MDX has many application options. Suitable for heating and cooling garages, warehouses, workshops, distribution centers and showrooms.

### Product features

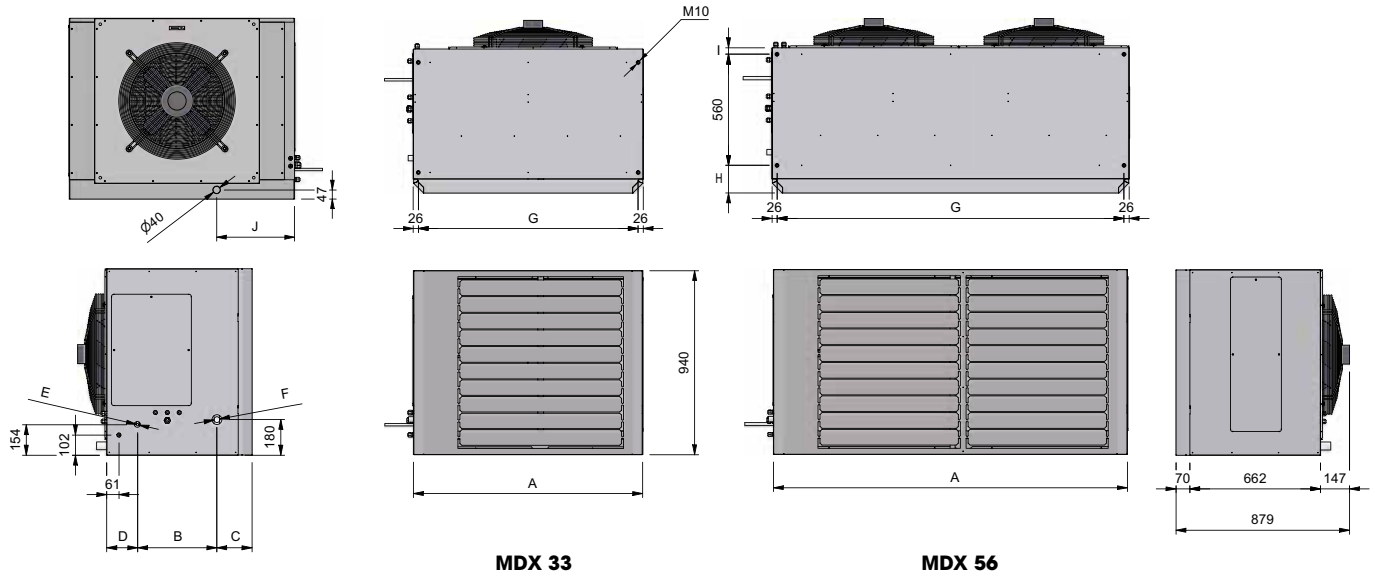
- Available with powers of 33 kW and 56 kW
- Air to air heat pump VRF-system
- Cooling and heating
- Large temperature range
- Indoor unit with EC fan
- Energy efficient
- Pipe length: (90m MDX 33/ 170m MDX 56)
- Refrigerant: R410a
- Optional: integrated condensate pump

### Ambient temperature range (indoor unit):

- Cooling: +17°C - +43°C
- Heating: +7°C - +25°C



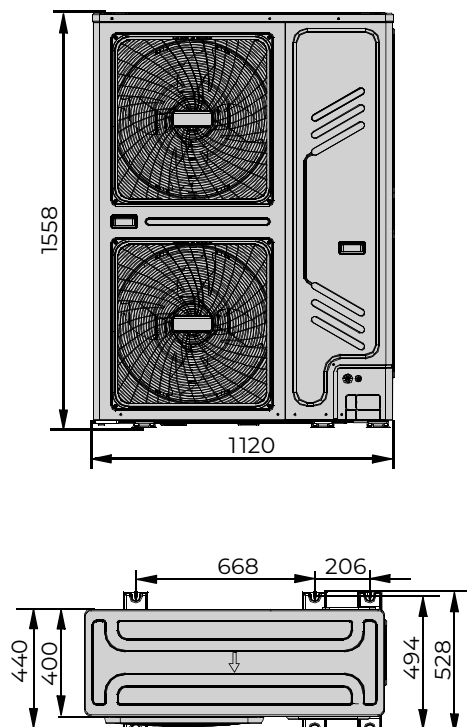
## Dimensions - indoor unit



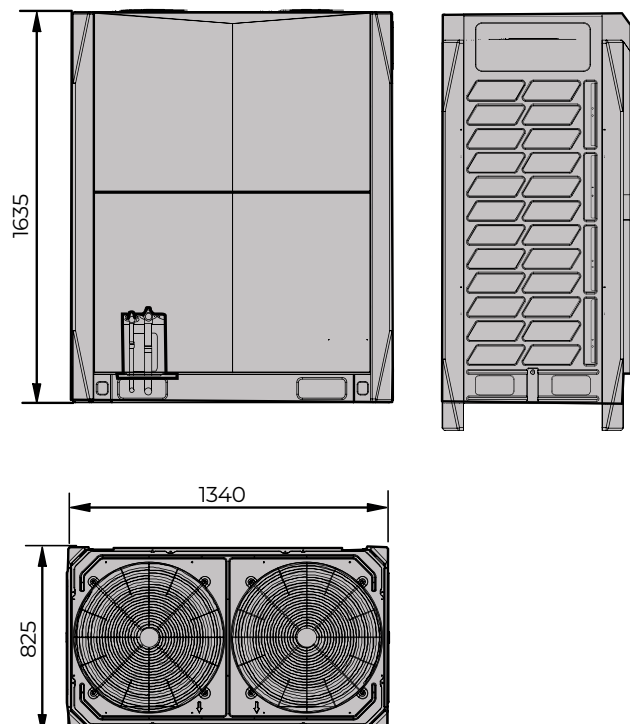
| TYPE   | A    | B   | C   | D   | E  | F    | G    | H   | I  | J   | K  |
|--------|------|-----|-----|-----|----|------|------|-----|----|-----|----|
| MDX 33 | 1170 | 399 | 178 | 156 | 28 | 1/2" | 1118 | 105 | 68 | 404 | 47 |
| MDX 56 | 1800 | 373 | 206 | 154 | 28 | 5/8" | 1748 | 140 | 33 | 389 | 47 |

## Dimensions - outdoor unit

MDX 33



MDX 56



## Technical information

| Type                                          |                               |             | MDX 33                 | MDX 56                 |
|-----------------------------------------------|-------------------------------|-------------|------------------------|------------------------|
| Power                                         |                               |             | 12                     | 20                     |
| heating                                       | Nominal capacity <sup>2</sup> | kW          | 37,5                   | 63,0                   |
|                                               | Absorbed power <sup>2</sup>   | kW          | 9,08                   | 19,21                  |
|                                               | Nominal capacity <sup>3</sup> | kW          | 30,7                   | 51,6                   |
|                                               | Absorbed power <sup>3</sup>   | kW          | 10,79                  | 22,83                  |
| SCOP                                          |                               |             | 3,96                   | 4,31                   |
| cooling                                       | Nominal capacity <sup>1</sup> | kW          | 33,5                   | 56                     |
|                                               | Absorbed power <sup>1</sup>   | kW          | 15,3                   | 32,2                   |
|                                               | SEER <sup>1</sup>             |             | 6,77                   | 6,45                   |
| Electrical data                               |                               |             |                        |                        |
| Power supply                                  |                               | Ph/V/Hz     | 3/380-415/50           | 3/380-415/50           |
| Nominal Consumed current                      |                               | A           | 19,6                   | 35                     |
| Maximum current                               |                               | A           | 26,4                   | 45,9                   |
| Fuse                                          |                               | A           | 32                     | 50                     |
| Refrigerant features                          |                               |             |                        |                        |
| Refrigerant                                   |                               |             | R410A                  | R410A                  |
| Refrigerant content <sup>4</sup>              |                               | kg          | 8                      | 17 <sup>5</sup>        |
| DC Inverter compressor                        |                               | no. / type  | 1 / Rotary DC Inverter | 2 / Scroll DC Inverter |
| Pipe connections                              | Liquid                        | Ø inch      | 1/2"                   | 5/8"                   |
|                                               | Gas                           | Ø mm        | 28                     | 28                     |
| Distance indoor and outdoor unit              | min                           | m           | 2                      | 2                      |
|                                               | max                           | m           | 90                     | 170                    |
| Maximum height difference                     |                               | m           | 40                     | 90                     |
| Specifications outdoor unit                   |                               |             |                        |                        |
| Dimensions (LxHxD)                            |                               | mm          | 1120x1558x528          | 1340x1635x825          |
| Net weight                                    |                               | kg          | 157                    | 344                    |
| Sound pressure level (5 mtr.)                 |                               | max dB(A)   | 47                     | 52                     |
| Air flow                                      |                               | max m³/h    | 11300                  | 17000                  |
| Operating limits (outside temperature)        | Cooling                       | °C          | -5 ~ +48               | -5 ~ +48               |
|                                               | Heating                       | °C          | -20 ~ +24              | -23 ~ +24              |
| Specifications indoor unit                    |                               |             |                        |                        |
| Weight                                        |                               | kg          | 112                    | 160                    |
| Air flow                                      |                               | max m³/h    | 6600                   | 11200                  |
| Sound pressure level (5 mtr.) at max air flow |                               | dB(A)       | 53                     | 56                     |
| Throw                                         |                               | m           | 19                     | 22                     |
| Pipe connections                              | Liquid                        | Ø mm (inch) | 12,7 (1/2")            | 15,8 (5/8")            |
|                                               | Gas                           | Ø mm        | 28                     | 28                     |
| Power supply                                  |                               | Ph/V/(Hz)kW | 1/230/(50)0,24         | 1/230/(50)0,48         |
| Temperature range                             | Cooling                       | °C          | +17 ~ +43              |                        |
|                                               | Heating                       | °C          | +7 ~ +25               |                        |

<sup>1</sup> Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.

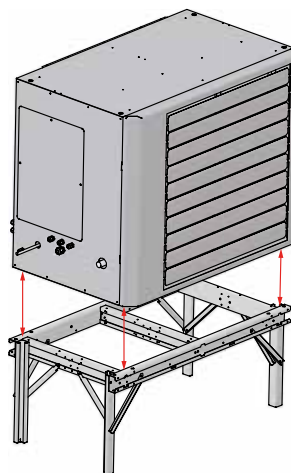
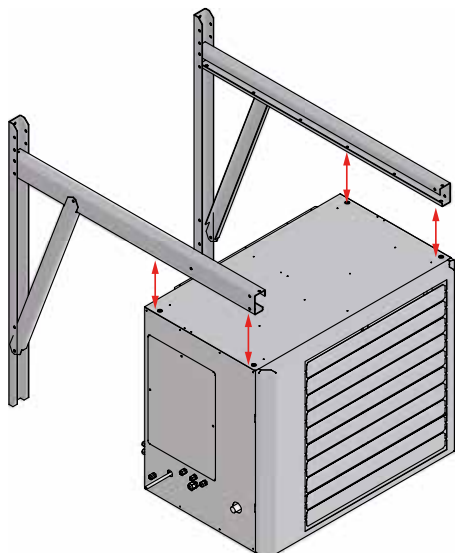
<sup>2</sup> Indoor air temperature 20°C DB, 19°C WB; outdoor air temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.

<sup>3</sup> Indoor air temperature 16°C DB, 19°C WB; outdoor air temperature -19,8°C DB, -20°C WB; equivalent refrigerant piping length 7.5m with zero level difference.

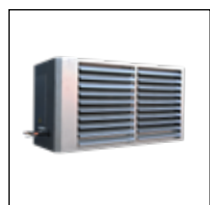
<sup>4</sup> Excl. liquid line refill

<sup>5</sup> Refill 5.2 kg on location, excluding refill liquid line.

## Assembly/location suggestions



## Controls



### Control combination options

Mistral MDX + **1** + **2**

See price list for description and code numbers of the relevant items

**1**



**2**



## Prices Mark MISTRAL MDX



### PRODUCT - MISTRAL MDX VRF HEAT PUMP SYSTEM

| Code nr. | Description                                                      | Price   |
|----------|------------------------------------------------------------------|---------|
| 5992703  | Mistral MDX 33 kW (indoor + outdoor unit, excl. condensate pump) | € 19728 |
| 5992705  | Mistral MDX 56 kW (indoor + outdoor unit, excl. condensate pump) | € 34122 |
| 5992713  | Mistral MDX 33 kW (indoor + outdoor unit, incl. condensate pump) | € 20148 |
| 5992715  | Mistral MDX 56 kW (indoor + outdoor unit, incl. condensate pump) | € 34542 |

### ACCESSORIES - CONTROL

| Code nr.         | Description                              | Price  |
|------------------|------------------------------------------|--------|
| <b>1</b> 0629110 | Pintherm Mistral                         | € 726  |
| <b>2</b> 0629086 | Room sensor required for 0629110         | € 93   |
| 3004481          | Multi controller for max. 3x Mistral MDX | € 1995 |
| 3004482          | Multi controller for max. 6x Mistral MDX | € 3098 |
| 0631144          | Isolator switch 80A black                | € 572  |
| 0631146          | Isolator switch 50A black                | € 111  |
| 0631163          | Isolator switch 230V (4 poles)           | € 71   |

### ACCESSORIES - MOUNTING

| Code nr. | Description                                                       | Price  |
|----------|-------------------------------------------------------------------|--------|
| 5017595  | Set wall mounting brackets (2 pieces)                             | € 405  |
| 5017597  | Adjustable support frame for outdoor unit Mistral MDX (heat pump) | € 1318 |
| 5016840  | Support frame for Mistral MDX 33 indoor unit                      | € 396  |
| 5016841  | Support frame for Mistral MDX 56 indoor unit                      | € 417  |

### ACCESSORIES - ADDITIONAL SECTIONS - VERTICAL LOUVRES

| Code nr. | Description                      | Price |
|----------|----------------------------------|-------|
| 5064341  | Vertical louvres for MDX type 33 | € 227 |
| 5064342  | Vertical louvres for MDX type 56 | € 401 |



# MARK HEAT PUMPS

## Air-Water heat pumps

Wide range of heat pumps with various applications.



For more information, downloads  
and videos, visit the Mark Heat  
Pumps page on our website



#### Product features

- Frame made of solid galvanized sheet steel
- Scroll 3-phase compressor complete with integrated protection module
- Axial fans type AC, with which condensation control up to 0 °C is possible.
- Evaporator
- Front operation
- Microprocessor with logic program for overheating
- Refrigerant circuit manufactured according to UNI EN 13134 directive
- High and low pressure transducers, with values that can be shown on the display
- Water circuit with copper pipes
- Standard quipped with control and security equipment
- Refrigerant: R410a

### High-quality air-water heat pumps from Mark

In addition to our wide range of DX heat pumps, Mark Climate Technology now also has high-quality air-water heat pumps in its range. The air-water heat pumps are very easy to install and extremely suitable in combination with various systems for cooling and heating.

They can of course also be used in combination with the Mark Airstream heat recovery units and the Mark Airstream AHU air handling units. In addition, the heat pumps are easily adjustable, low maintenance and reliable.

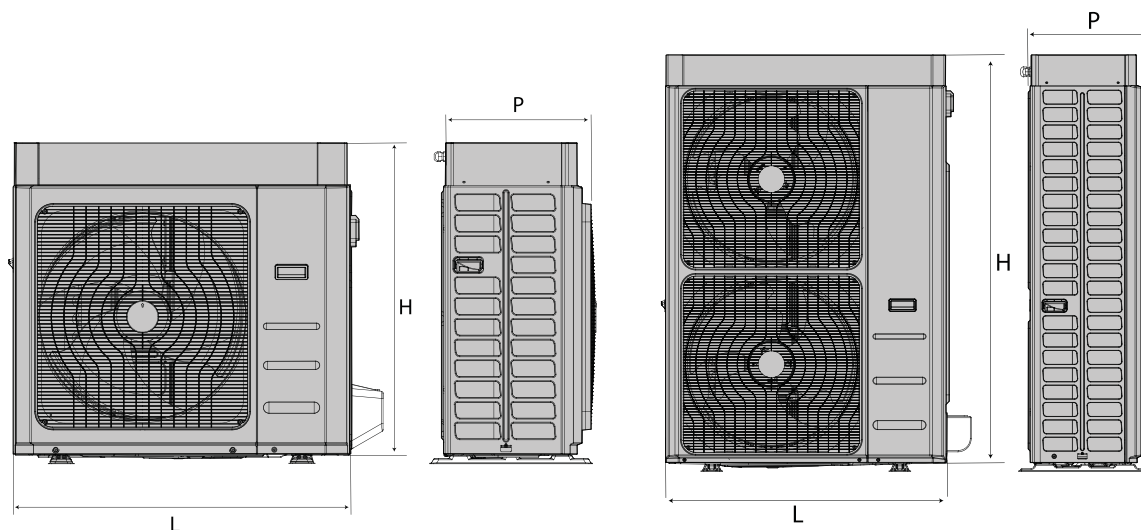
Mark's air-water heat pumps are selected customer-specifically for each project.

#### We deliver three types:

- i-MV5: Monoblock air-water heat pump for cooling or heating.  
Capacities: 4-18 kW
- MWAI-A: cooling only. Capacities: 40-85 kW & 106-349 kW
- MWAI-A/H: air-cooled heat pump for cooling or heating.  
Capacities: 40-85 kW & 109-345 kW
- iMax: air-cooled heat pump for cooling, heating and hot water.  
Capacities: 79,6-102,8 kW



## Dimensions i-MV5 (4-18 kW)



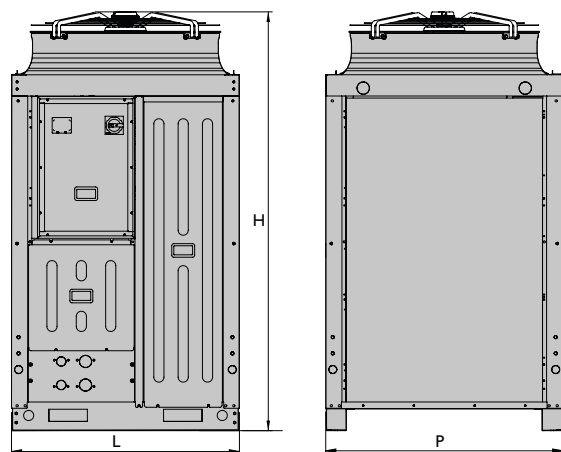
| Type |    | 04  | 06  | 08  | 10   | 10T  | 12   | 12T  | 14   | 14T  | 16   | 16T  | 18T  |
|------|----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| L    | mm | 924 | 924 | 924 | 1047 | 1047 | 1047 | 1047 | 1044 | 1044 | 1044 | 1044 | 1044 |
| P    | mm | 377 | 377 | 377 | 456  | 456  | 456  | 456  | 455  | 455  | 455  | 455  | 455  |
| H    | mm | 828 | 828 | 828 | 936  | 936  | 936  | 936  | 1409 | 1409 | 1409 | 1409 | 1409 |

## Technical information i-MV5 (4-18 kW)

| Type    |                                        | 04                      | 06          | 08   | 10   | 10T              | 12          | 12T              | 14          | 14T              | 16          | 16T              | 18T              |
|---------|----------------------------------------|-------------------------|-------------|------|------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|------------------|
| cooling | Cooling capacity <sup>(1)</sup>        | kW                      | 4,23        | 5,02 | 6,08 | 7,53             | 7,53        | 8,51             | 8,51        | 11,48            | 11,48       | 13,8             | 15,04            |
|         | Power input <sup>(1)</sup>             | kW                      | 1,29        | 1,6  | 1,99 | 2,39             | 2,39        | 2,79             | 2,79        | 3,53             | 3,53        | 4,38             | 4,88             |
|         | EER <sup>(1)</sup>                     | W/W                     | 3,28        | 3,14 | 3,05 | 3,15             | 3,15        | 3,05             | 3,05        | 3,25             | 3,25        | 3,15             | 3,08             |
|         | Cooling capacity <sup>(2)</sup>        | kW                      | 5,51        | 6,18 | 7,72 | 9,5              | 9,5         | 11,6             | 11,6        | 14,0             | 14,0        | 15,8             | 17,1             |
|         | Power input <sup>(2)</sup>             | kW                      | 1,10        | 1,28 | 1,76 | 2,15             | 2,15        | 2,79             | 2,79        | 2,59             | 2,59        | 3,15             | 3,59             |
|         | EER <sup>(2)</sup>                     | W/W                     | 5,02        | 4,82 | 4,38 | 4,41             | 4,41        | 4,16             | 4,16        | 5,40             | 5,40        | 5,02             | 4,76             |
| heating | SEER <sup>(5)</sup>                    | W/W                     | 4,07        | 4,12 | 4,25 | 4,15             | 4,15        | 4,25             | 4,25        | 4,62             | 4,62        | 4,80             | 4,91             |
|         | Water flow <sup>(1)</sup>              | L/s                     | 0,20        | 0,24 | 0,28 | 0,36             | 0,36        | 0,41             | 0,41        | 0,55             | 0,55        | 0,66             | 0,71             |
|         | Pressure drop <sup>(1)</sup>           | kPa                     | 80,8        | 78,8 | 76,0 | 68,9             | 68,9        | 63,4             | 63,4        | 75,0             | 75,0        | 62,3             | 55,6             |
|         | Thermal power <sup>(3)</sup>           | kW                      | 4,55        | 6,08 | 7,81 | 10,1             | 10,1        | 11,8             | 11,8        | 14,1             | 14,1        | 16,3             | 17,9             |
|         | Power input <sup>(3)</sup>             | kW                      | 0,95        | 1,35 | 1,78 | 2,28             | 2,28        | 2,73             | 2,73        | 2,91             | 2,91        | 3,49             | 4,07             |
|         | COP <sup>(3)</sup>                     | W/W                     | 4,78        | 4,51 | 4,38 | 4,43             | 4,43        | 4,32             | 4,32        | 4,85             | 4,85        | 4,67             | 4,40             |
|         | Thermal power <sup>(4)</sup>           | kW                      | 4,47        | 5,88 | 7,58 | 9,76             | 9,76        | 11,47            | 11,47       | 13,56            | 13,56       | 15,77            | 17,32            |
|         | Power input <sup>(4)</sup>             | kW                      | 1,17        | 1,66 | 2,17 | 2,80             | 2,80        | 3,33             | 3,33        | 3,55             | 3,55        | 4,24             | 4,92             |
|         | COP <sup>(4)</sup>                     | W/W                     | 3,82        | 3,54 | 3,50 | 3,48             | 3,48        | 3,44             | 3,44        | 3,82             | 3,82        | 3,72             | 3,52             |
|         | SCOP <sup>(6)</sup>                    | W/W                     | 4,52        | 4,46 | 4,46 | 4,53             | 4,53        | 4,47             | 4,47        | 4,48             | 4,48        | 4,49             | 4,46             |
|         | Water flow <sup>(4)</sup>              | l/s                     | 0,22        | 0,28 | 0,37 | 0,47             | 0,47        | 0,55             | 0,55        | 0,65             | 0,65        | 0,76             | 0,83             |
|         | Heat exchanger pressure <sup>(4)</sup> | kPa                     | 80,0        | 75,8 | 66,3 | 55,2             | 55,2        | 43,4             | 43,4        | 63,6             | 63,6        | 48,5             | 37,3             |
|         | Energy efficiency (water 35°C)         | A+++/A++                |             |      |      |                  |             |                  |             |                  |             |                  |                  |
|         | Compressor type                        | Twin Rotary DC Inverter |             |      |      |                  |             |                  |             |                  |             |                  |                  |
|         | Number of compressors                  | n°                      | 1           | 1    | 1    | 1                | 1           | 1                | 1           | 1                | 1           | 1                | 1                |
|         | Refrigerant circuits                   | n°                      | 1           | 1    | 1    | 1                | 1           | 1                | 1           | 1                | 1           | 1                | 1                |
|         | Refrigerant charge l <sup>(4)</sup>    | kg                      | 1,5         | 1,5  | 1,5  | 2,5              | 2,5         | 2,5              | 2,5         | 3,6              | 3,6         | 4                | 4                |
|         | Water connections                      | inch                    | 1"          | 1"   | 1"   |                  |             |                  |             |                  |             |                  | 1"               |
|         | Minimum water volume <sup>(8)</sup>    | L                       | 35          | 40   | 40   | 50               | 50          | 60               | 60          | 60               | 60          | 70               | 70               |
|         | Sound power <sup>(9)</sup>             | dB(A)                   | 64          | 64   | 64   | 64               | 64          | 65               | 65          | 68               | 68          | 68               | 68               |
|         | Sound pressure <sup>(10)</sup>         | dB(A)                   | 49,8        | 49,8 | 49,8 | 49,4             | 49,4        | 50,4             | 50,4        | 52,7             | 52,7        | 52,7             | 52,7             |
|         | Power supply                           |                         | 230V/1/50Hz |      |      | 400V/3P+N+T/50Hz | 230V/1/50Hz | 400V/3P+N+T/50Hz | 230V/1/50Hz | 400V/3P+N+T/50Hz | 230V/1/50Hz | 400V/3P+N+T/50Hz | 400V/3P+N+T/50Hz |
|         | Maximum power input                    | kW                      | 2,9         | 3,5  | 3,9  | 4,6              | 4,6         | 5,1              | 5,1         | 6,6              | 6,6         | 7,0              | 8,3              |
|         | Maximum current input                  | A                       | 12,6        | 15,1 | 17,0 | 20,2             | 6,6         | 22,1             | 7,3         | 28,6             | 9,5         | 30,4             | 10,1             |
|         | Gross weight                           | kg                      | 84          | 84   | 84   | 110              | 110         | 110              | 110         | 134              | 148         | 140              | 154              |
|         | Operating weight                       | kg                      | 72          | 72   | 72   | 96               | 96          | 96               | 96          | 121              | 136         | 126              | 141              |

Operating conditions; see page 225

## Dimensions MWA1-A en MWA1-A/H (40-85 kW)



| Type |    | 0140 | 0147 | 0260 | 027  | 0285 |
|------|----|------|------|------|------|------|
| L    | mm | 1125 | 1125 | 1125 | 1125 | 1125 |
| P    | mm | 1170 | 1170 | 1170 | 1170 | 1170 |
| H    | mm | 2040 | 2040 | 2070 | 2070 | 2070 |

## Technical information MWA1-A (40-85 kW)

| Type                                |                  | 0140      | 0147      | 0260      | 0273      | 0285   |
|-------------------------------------|------------------|-----------|-----------|-----------|-----------|--------|
| Cooling capacity <sup>(1)</sup>     | kW               | 39,7      | 46,8      | 60,8      | 73,3      | 86,5   |
| Power input <sup>(1)</sup>          | kW               | 12,5      | 15,1      | 19,3      | 24,8      | 29,3   |
| EER <sup>(1)</sup>                  | W/W              | 3,16      | 3,11      | 3,16      | 2,95      | 2,96   |
| Cooling capacity <sup>(12)</sup>    | kW               | 54,4      | 63,5      | 81,9      | 99,4      | 116,3  |
| Power input <sup>(12)</sup>         | kW               | 14,3      | 17,0      | 21,9      | 28,0      | 33,3   |
| EER <sup>(12)</sup>                 | W/W              | 3,80      | 3,74      | 3,75      | 3,55      | 3,50   |
| SEER <sup>(5)</sup>                 | W/W              | 3,80      | 3,80      | 4,05      | 3,98      | 4,14   |
| Cooling capacity <sup>(13)</sup>    | kW               | 22,7      | 27,0      | 36,2      | 42,9      | 51,1   |
| Power input <sup>(13)</sup>         | kW               | 11,4      | 13,5      | 16,9      | 22,1      | 25,7   |
| EER <sup>(13)</sup>                 | W/W              | 1,99      | 2,01      | 2,14      | 1,94      | 1,99   |
| Water flow <sup>(11)</sup>          | L/s              | 1,90      | 2,24      | 2,92      | 3,51      | 4,14   |
| Pressure drop <sup>(11)</sup>       | kPa              | 54,08     | 51,68     | 56,79     | 46,43     | 50,41  |
| Compressor type                     |                  | Scroll    | Scroll    | Scroll    | Scroll    | Scroll |
| Number of compressors               | n°               | 1         | 1         | 2         | 2         | 2      |
| Refrigerant circuits                | n°               | 1         | 1         | 1         | 1         | 1      |
| Refrigerant charge <sup>(7)</sup>   | kg               | 7,8       | 7,8       | 12,8      | 13,4      | 14,6   |
| Nominal air flow                    | m³/s             | 4,04/5,32 | 3,88/5,23 | 4,15/5,44 | 4,86/6,01 | 7,4    |
| Maximum pressure hydronic kit       | bar              | 6         | 6         | 6         | 6         | 6      |
| Water connections                   | inch             | 2"        | 2"        | 2"        | 2"        | 2"     |
| Minimum water volume <sup>(8)</sup> | L                | 330       | 380       | 260       | 380       | 490    |
| Sound power <sup>(9)</sup>          | dB(A)            | 81        | 81        | 82        | 83        | 84     |
| Sound pressure <sup>(10)</sup>      | dB(A)            | 49,3      | 49,3      | 50,3      | 51,3      | 52,3   |
| Power supply                        | 400V/3P+N+T/50Hz |           |           |           |           |        |
| Maximum power input                 | kW               | 17,0      | 21,5      | 28,0      | 35,0      | 43,0   |
| Maximum current input               | A                | 28,0      | 38,0      | 45,0      | 56,0      | 71,0   |
| Gross weight                        | kg               | 365       | 375       | 470       | 495       | 510    |
| Operating weight                    | kg               | 350       | 360       | 455       | 480       | 495    |

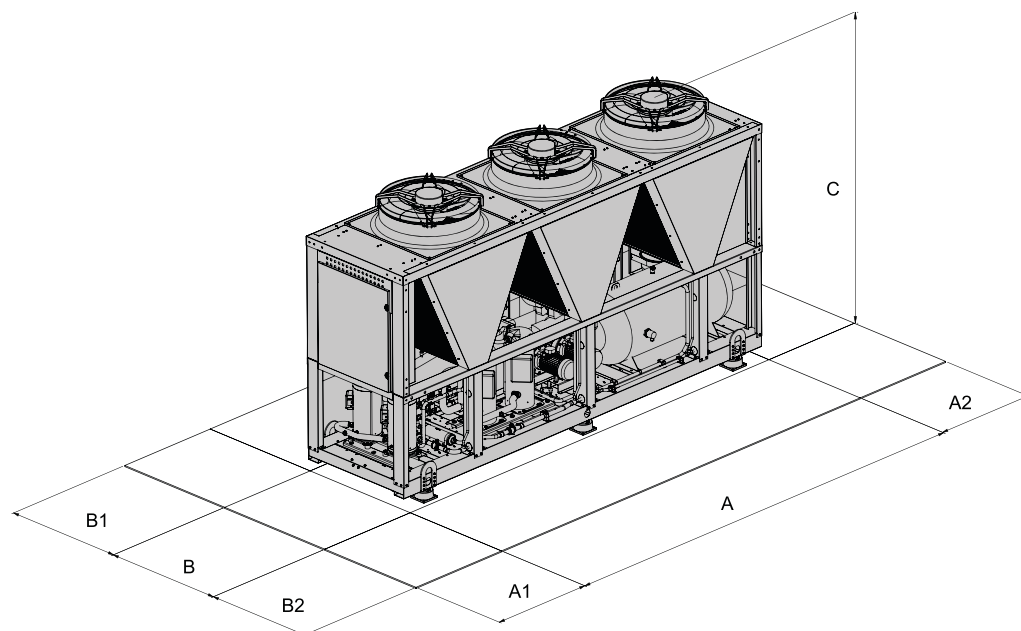
Operating conditions; see page 217

## Technical information MWA1-A/H (40-85 kW)

| Type                                |                                        | 0140   | 0147   | 0260   | 0273   | 0285   |       |
|-------------------------------------|----------------------------------------|--------|--------|--------|--------|--------|-------|
| cooling                             | Cooling capacity <sup>(1)</sup>        | kW     | 38,6   | 45,6   | 58,6   | 71,2   | 80,2  |
|                                     | Power input <sup>(1)</sup>             | kW     | 13,0   | 15,7   | 19,9   | 24,6   | 29,2  |
|                                     | EER <sup>(1)</sup>                     | W/W    | 2,97   | 2,91   | 2,94   | 2,90   | 2,75  |
|                                     | Cooling capacity <sup>(2)</sup>        | kW     | 51,8   | 60,6   | 77,7   | 94,1   | 106,4 |
|                                     | Power input <sup>(2)</sup>             | kW     | 14,7   | 17,6   | 22,6   | 28,0   | 33,3  |
|                                     | EER <sup>(2)</sup>                     | W/W    | 3,53   | 3,43   | 3,43   | 3,37   | 3,20  |
|                                     | SEER <sup>(5)</sup>                    | W/W    | 3,82   | 3,8    | 3,94   | 3,98   | 4,07  |
|                                     | Water flow <sup>(1)</sup>              | L/s    | 1,86   | 2,20   | 2,83   | 3,41   | 3,84  |
|                                     | Pressure drop <sup>(1)</sup>           | kPa    | 55,8   | 56,6   | 61,5   | 63,7   | 66,6  |
| heating                             | Thermal power <sup>(3)</sup>           | kW     | 43,5   | 48,2   | 64,1   | 80,9   | 88,7  |
|                                     | Power input <sup>(3)</sup>             | kW     | 10,7   | 12,3   | 15,6   | 20,0   | 22,7  |
|                                     | COP <sup>(3)</sup>                     | W/W    | 4,05   | 3,92   | 4,10   | 4,05   | 3,90  |
|                                     | Thermal power <sup>(4)</sup>           | kW     | 42,1   | 47,8   | 63,0   | 74,9   | 84,6  |
|                                     | Power input <sup>(4)</sup>             | kW     | 12,8   | 14,8   | 18,8   | 23,3   | 28,5  |
|                                     | COP <sup>(4)</sup>                     | W/W    | 3,28   | 3,23   | 3,35   | 3,22   | 2,97  |
|                                     | SCOP <sup>(6)</sup>                    | W/W    | 3,49   | 3,34   | 3,85   | 3,84   | 3,70  |
|                                     | Water flow <sup>(4)</sup>              | l/s    | 2,02   | 2,30   | 3,03   | 3,60   | 4,07  |
|                                     | Heat exchanger pressure <sup>(4)</sup> | kPa    | 84,4   | 81,6   | 84,1   | 81,5   | 84,1  |
|                                     | Energy efficiency (water 35°C)         | A+     | A+     | A++    | A++    | A+     |       |
|                                     | Compressor type                        | Scroll | Scroll | Scroll | Scroll | Scroll |       |
|                                     | Number of compressors                  | n°     | 1      | 1      | 2      | 2      | 2     |
|                                     | Refrigerant circuits                   | n°     | 1      | 1      | 1      | 1      | 1     |
|                                     | Refrigerant charge <sup>(7)</sup>      | kg     | 9,98   | 9,98   | 14     | 15,25  | 15,6  |
|                                     | Nominal air flow                       | m³/s   | 4,3    | 5,3    | 6,3    | 6,9    | 7,4   |
| Maximum pressure hydronic kit       | bar                                    | 6      | 6      | 6      | 6      | 6      |       |
| Water connections                   | inch                                   | 2"     | 2"     | 2"     | 2"     | 2"     |       |
| Minimum water volume <sup>(8)</sup> | L                                      | 330    | 380    | 260    | 380    | 490    |       |
| Sound power <sup>(9)</sup>          | dB(A)                                  | 84     | 85     | 88     | 88     | 88     |       |
| Sound pressure <sup>(10)</sup>      | dB(A)                                  | 52,3   | 53,3   | 56,3   | 56,3   | 56,3   |       |
| Power supply                        | 400V/3P+N+T/50Hz                       |        |        |        |        |        |       |
| Maximum power input                 | kW                                     | 17,0   | 21,5   | 28,0   | 35,0   | 43,0   |       |
| Maximum current input               | A                                      | 28,0   | 38,0   | 45,0   | 56,0   | 71,0   |       |
| Gross weight                        | kg                                     | 400    | 420    | 520    | 545    | 555    |       |
| Operating weight                    | kg                                     | 390    | 410    | 505    | 530    | 540    |       |

Operating conditions; see page 225

## Dimensions MWA1-A (106-349 kW)



| Type  | Dimensions (mm) |      |      | Recommended free space (mm) |     |      |      | Heat exchanger |               |
|-------|-----------------|------|------|-----------------------------|-----|------|------|----------------|---------------|
|       | A               | B    | C    | A1                          | A2  | B1   | B2   | Type           | Ø             |
| 02106 | 2860            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN65 (2" 1/2) |
| 02120 | 2860            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN65 (2" 1/2) |
| 02128 | 2860            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN65 (2" 1/2) |
| 02140 | 4060            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN65 (2" 1/2) |
| 04155 | 4060            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04177 | 4060            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04184 | 4060            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04209 | 2860            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04239 | 2860            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04258 | 2860            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04305 | 4060            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04349 | 4060            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |

## Technical information MWA1-A (106-349 kW)

| Type                                |       | 02106                   | 02120                   | 02128                   | 02140                            | 04155                            | 04177                            |
|-------------------------------------|-------|-------------------------|-------------------------|-------------------------|----------------------------------|----------------------------------|----------------------------------|
| Cooling capacity <sup>(1)</sup>     | kW    | 105,3                   | 119,2                   | 127,9                   | 139,3                            | 155,0                            | 176,5                            |
| Power input <sup>(1)</sup>          | kW    | 33,6                    | 38,3                    | 44,0                    | 44,3                             | 49,9                             | 56,8                             |
| EER <sup>(1)</sup>                  | W/W   | 3,14                    | 3,11                    | 2,91                    | 3,15                             | 3,11                             | 3,11                             |
| Cooling capacity <sup>(2)</sup>     | kW    | 139,4                   | 155,9                   | 164,8                   | 184,9                            | 204,4                            | 231,0                            |
| Power input <sup>(2)</sup>          | kW    | 35,8                    | 40,9                    | 46,9                    | 47,5                             | 52,9                             | 60,9                             |
| EER <sup>(2)</sup>                  | W/W   | 3,90                    | 3,81                    | 3,51                    | 3,89                             | 3,87                             | 3,79                             |
| SEER <sup>(5)</sup>                 | W/W   | 4,05                    | 4,03                    | 3,80                    | 4,27                             | 4,11                             | 4,00                             |
| Cooling capacity <sup>(13)</sup>    | kW    | 61,9                    | 70,6                    | 76,3                    | 82,0                             | 91,5                             | 103,4                            |
| Power input <sup>(13)</sup>         | kW    | 29,9                    | 34,1                    | 39,1                    | 39,5                             | 45,4                             | 50,8                             |
| EER <sup>(13)</sup>                 | W/W   | 2,07                    | 2,07                    | 1,95                    | 2,08                             | 2,02                             | 2,04                             |
| Water flow <sup>(1)</sup>           | L/s   | 5,11                    | 5,82                    | 6,19                    | 6,45                             | 7,19                             | 8,25                             |
| Pressure drop <sup>(1)</sup>        | kPa   | 18,02                   | 21,48                   | 24,50                   | 27,84                            | 21,08                            | 17,27                            |
| Compressor type                     |       | Scroll                  | Scroll                  | Scroll                  | Scroll                           | Scroll                           | Scroll                           |
| Number of compressors               | n°    | 2                       | 2                       | 2                       | 2                                | 4                                | 4                                |
| Refrigerant circuits                | n°    | 1                       | 1                       | 1                       | 1                                | 2                                | 2                                |
| Refrigerant charge 1 <sup>(7)</sup> | kg    | 12                      | 12                      | 12                      | 17                               | 11                               | 11                               |
| Refrigerant charge 2 <sup>(7)</sup> | kg    | -                       | -                       | -                       | -                                | 9                                | 9                                |
| Nominal air flow                    | l/s   | 10142                   | 10200                   | 10520                   | 14649                            | 14467                            | 15072                            |
| Number of fans                      | n°    | 2                       | 2                       | 2                       | 3                                | 3                                | 3                                |
| Maximum pressure hydronic kit       | bar   | 6                       | 6                       | 6                       | 6                                | 6                                | 6                                |
| Minimum water volume <sup>(6)</sup> | L     | 420                     | 530                     | 530                     | 690                              | 400                              | 520                              |
| Sound power <sup>(9)</sup>          | dB(A) | 86/(SL) 85/<br>(SSL)83  | 86/(SL) 85/<br>(SSL)83  | 87/(SL) 86/<br>(SSL)84  | 87/(SL) 86/<br>(SSL)84           | 87/(SL) 86/<br>(SSL)84           | 88/(SL) 87/<br>(SSL)85           |
| Sound pressure <sup>(10)</sup>      | dB(A) | 54/(SL) 53/<br>(SSL) 51 | 54/(SL) 53/<br>(SSL) 51 | 55/(SL) 54/<br>(SSL) 52 | 54,9/(SL) /<br>53,9/(SSL) / 51,9 | 54,9/(SL) /<br>53,9/(SSL) / 51,9 | 55,9/(SL) /<br>54,9/(SSL) / 52,9 |
| Power supply                        |       | 400V/3P/50Hz            |                         |                         |                                  |                                  |                                  |
| Maximum power input                 | kW    | 48,9                    | 55,0                    | 61,1                    | 66,9                             | 82,4                             | 87,4                             |
| Maximum current input               | A     | 83,0                    | 93,4                    | 103,8                   | 113,5                            | 139,9                            | 148,3                            |
| Gross weight                        | kg    | 1.080                   | 1.080                   | 1.090                   | 1.510                            | 1.620                            | 1.620                            |
| Operating weight                    | kg    | 1.090                   | 1.090                   | 1.100                   | 1.520                            | 1.630                            | 1.630                            |

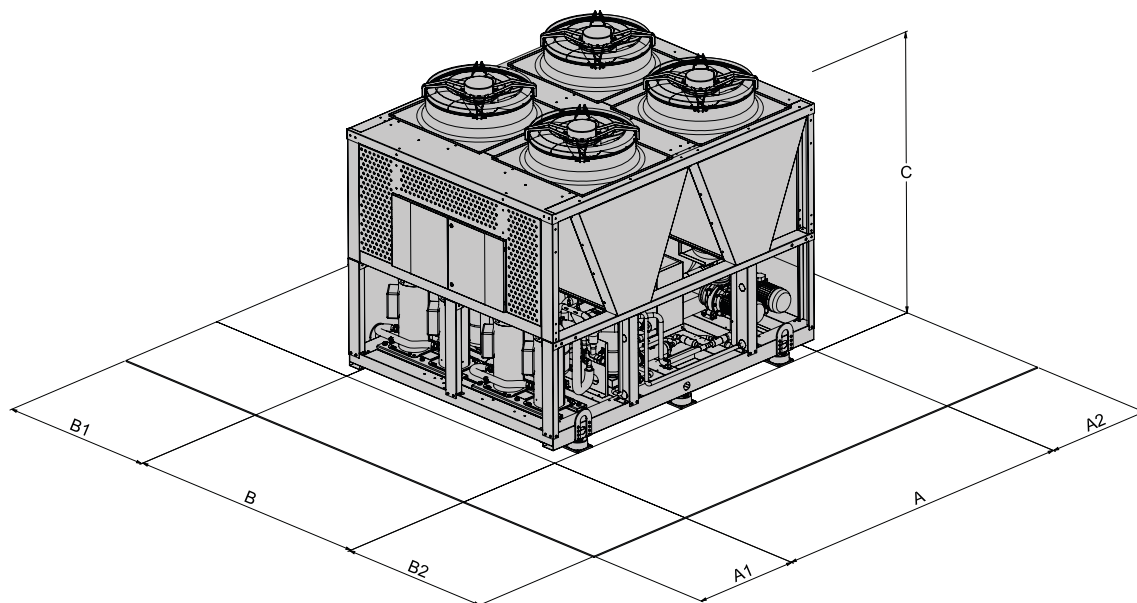
Operating conditions: see page 225

| Type                                |       | 04184                            | 04209                            | 04239                            | 04258                            | 04305                            | 04349                            |
|-------------------------------------|-------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Cooling capacity <sup>(1)</sup>     | kW    | 183,2                            | 208,4                            | 238,1                            | 257,1                            | 304,8                            | 348,9                            |
| Power input <sup>(1)</sup>          | kW    | 62,9                             | 67,1                             | 76,8                             | 88,6                             | 98,3                             | 112,1                            |
| EER <sup>(1)</sup>                  | W/W   | 2,91                             | 3,11                             | 3,10                             | 2,90                             | 3,10                             | 3,11                             |
| Cooling capacity <sup>(2)</sup>     | kW    | 240,4                            | 278,6                            | 314,3                            | 334,8                            | 405,3                            | 460,6                            |
| Power input <sup>(2)</sup>          | kW    | 67,9                             | 71,7                             | 81,9                             | 94,8                             | 105,2                            | 121,2                            |
| EER <sup>(2)</sup>                  | W/W   | 3,54                             | 3,89                             | 3,84                             | 3,53                             | 3,85                             | 3,80                             |
| SEER <sup>(5)</sup>                 | W/W   | 3,97                             | 4,07                             | 4,24                             | 3,83                             | 4,16                             | 4,03                             |
| Cooling capacity <sup>(13)</sup>    | kW    | 108,9                            | 122,9                            | 144,1                            | 157,1                            | 183,8                            | 210,6                            |
| Power input <sup>(13)</sup>         | kW    | 55,8                             | 59,7                             | 68,8                             | 79,2                             | 88,5                             | 100,5                            |
| EER <sup>(13)</sup>                 | W/W   | 1,95                             | 2,06                             | 2,09                             | 1,98                             | 2,08                             | 2,10                             |
| Water flow <sup>(1)</sup>           | L/s   | 8,92                             | 10,10                            | 11,40                            | 12,47                            | 14,69                            | 16,31                            |
| Pressure drop <sup>(1)</sup>        | kPa   | 19,87                            | 25,54                            | 34,23                            | 40,86                            | 31,97                            | 27,47                            |
| Compressor type                     |       | Scroll                           | Scroll                           | Scroll                           | Scroll                           | Scroll                           | Scroll                           |
| Number of compressors               | n°    | 4                                | 4                                | 4                                | 4                                | 4                                | 4                                |
| Refrigerant circuits                | n°    | 2                                | 2                                | 2                                | 2                                | 2                                | 2                                |
| Refrigerant charge 1 <sup>(7)</sup> | kg    | 11                               | 11                               | 12                               | 12                               | 18                               | 19                               |
| Refrigerant charge 2 <sup>(7)</sup> | kg    | 9                                | 11                               | 12                               | 12                               | 19                               | 19                               |
| Nominal air flow                    | l/s   | 15054                            | 19713                            | 20471                            | 21067                            | 29279                            | 30351                            |
| Number of fans                      | n°    | 3                                | 4                                | 4                                | 4                                | 6                                | 6                                |
| Maximum pressure hydronic kit       | bar   | 6                                | 6                                | 6                                | 6                                | 6                                | 6                                |
| Minimum water volume <sup>(6)</sup> | L     | 520                              | 520                              | 650                              | 650                              | 850                              | 850                              |
| Sound power <sup>(9)</sup>          | dB(A) | 88/(SL) 87/<br>(SSL)85           | 88/(SL) 87/<br>(SSL)85           | 88/(SL) 87/<br>(SSL)85           | 88/(SL) 87/<br>(SSL)85           | 88/(SL) 87/<br>(SSL)85           | 90/(SL) 89/<br>(SSL)87           |
| Sound pressure <sup>(10)</sup>      | dB(A) | 55,9/(SL) /<br>54,9/(SSL) / 52,9 | 55,9/(SL) /<br>54,9/(SSL) / 52,9 | 55,9/(SL) /<br>54,9/(SSL) / 52,9 | 55,9/(SL) /<br>54,9/(SSL) / 52,9 | 55,8/(SL) /<br>54,8/(SSL) / 52,8 | 57,8/(SL) /<br>56,8/(SSL) / 54,8 |
| Power supply                        |       | 400V/3P/50Hz                     |                                  |                                  |                                  |                                  |                                  |
| Maximum power input                 | kW    | 90,9                             | 97,8                             | 110,0                            | 122,3                            | 146,0                            | 165,8                            |
| Maximum current input               | A     | 154,3                            | 166,0                            | 186,8                            | 207,6                            | 247,8                            | 281,4                            |
| Gross weight                        | kg    | 1.620                            | 1.950                            | 1.960                            | 1.960                            | 2.670                            | 2.850                            |
| Operating weight                    | kg    | 1.630                            | 1.960                            | 1.970                            | 1.980                            | 2.690                            | 2.870                            |

Operating conditions; see page 225



## Dimensions MWA1-A/H (109-345 kW)



| Type  | Dimensions (mm) |      |      | Recommended free space (mm) |     |      |      | Heat exchanger |               |
|-------|-----------------|------|------|-----------------------------|-----|------|------|----------------|---------------|
|       | A               | B    | C    | A1                          | A2  | B1   | B2   | Type           | Ø             |
| 02109 | 2860            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN65 (2" 1/2) |
| 02121 | 2860            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN65 (2" 1/2) |
| 02142 | 4060            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN65 (2" 1/2) |
| 02148 | 4060            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN65 (2" 1/2) |
| 02160 | 4060            | 1100 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN65 (2" 1/2) |
| 04176 | 2860            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04199 | 2860            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04215 | 2860            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04237 | 2860            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04273 | 4060            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04304 | 4060            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |
| 04345 | 4060            | 2200 | 2350 | 1000                        | 800 | 1000 | 1000 | Victaulic      | DN80 (3")     |

## Technical information MWA1-A/H (109-345 kW)

| Type                                |                                        | 02109                   | 02121                   | 02142                            | 02148                            | 02160                            | 04176                            |        |
|-------------------------------------|----------------------------------------|-------------------------|-------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|--------|
| cooling                             | Cooling capacity <sup>(1)</sup>        | kW                      | 102,8                   | 113,1                            | 131,8                            | 137,9                            | 148,1                            | 165,3  |
|                                     | Power input <sup>(1)</sup>             | kW                      | 33,8                    | 38,9                             | 41,3                             | 44,4                             | 49,8                             | 52,6   |
|                                     | EER <sup>(1)</sup>                     | W/W                     | 3,05                    | 2,90                             | 3,19                             | 3,11                             | 2,97                             | 3,14   |
|                                     | Cooling capacity <sup>(2)</sup>        | kW                      | 139,0                   | 150,6                            | 177,0                            | 187,8                            | 202,4                            | 223,6  |
|                                     | Power input <sup>(2)</sup>             | kW                      | 36,5                    | 42,7                             | 44,1                             | 47,7                             | 53,0                             | 55,7   |
|                                     | EER <sup>(2)</sup>                     | W/W                     | 3,81                    | 3,53                             | 4,01                             | 3,94                             | 3,82                             | 4,01   |
|                                     | SEER <sup>(5)</sup>                    | W/W                     | 4,35                    | 4,36                             | 4,38                             | 4,73                             | 4,50                             | 4,61   |
|                                     | Water flow <sup>(1)</sup>              | L/s                     | 4,92                    | 5,41                             | 6,31                             | 6,61                             | 7,09                             | 7,90   |
|                                     | Pressure drop <sup>(1)</sup>           | kPa                     | 21,65                   | 20,13                            | 26,53                            | 24,3                             | 20,21                            | 21,7   |
| heating                             | Thermal power <sup>(3)</sup>           | kW                      | 112,6                   | 125,1                            | 147,8                            | 154,1                            | 166,2                            | 187,6  |
|                                     | Power input <sup>(3)</sup>             | kW                      | 27,6                    | 30,9                             | 36,6                             | 37,7                             | 41,4                             | 46,0   |
|                                     | COP <sup>(3)</sup>                     | W/W                     | 4,09                    | 4,05                             | 4,04                             | 4,08                             | 4,01                             | 4,08   |
|                                     | Thermal power <sup>(4)</sup>           | kW                      | 108,3                   | 120,1                            | 141,5                            | 147,9                            | 159,7                            | 179,1  |
|                                     | Power input <sup>(4)</sup>             | kW                      | 32,9                    | 37,5                             | 43,9                             | 45,3                             | 49,4                             | 55,9   |
|                                     | COP <sup>(4)</sup>                     | W/W                     | 3,30                    | 3,20                             | 3,22                             | 3,26                             | 3,23                             | 3,21   |
|                                     | SCOP <sup>(6)</sup>                    | W/W                     | 3,72                    | 3,77                             | 3,62                             | 3,69                             | 3,68                             | 3,90   |
|                                     | Water flow <sup>(4)</sup>              | l/s                     | 5,20                    | 5,78                             | 6,80                             | 6,96                             | 7,68                             | 8,62   |
|                                     | Heat exchanger pressure <sup>(4)</sup> | kPa                     | 24,16                   | 22,92                            | 30,61                            | 28,4                             | 24,03                            | 26,63  |
|                                     | Energy efficiency (water 35°C)         | A+/A+                   | A+/A+                   | A+/A+                            | A+/A+                            | A+/A+                            | A+/A+                            | A++/A+ |
|                                     | Compressor type                        | Scroll                  | Scroll                  | Scroll                           | Scroll                           | Scroll                           | Scroll                           | Scroll |
|                                     | Number of compressors                  | n°                      | 2                       | 2                                | 2                                | 2                                | 2                                | 4      |
|                                     | Refrigerant circuits                   | n°                      | 1                       | 1                                | 1                                | 1                                | 1                                | 2      |
|                                     | Refrigerant charge 1 <sup>(7)</sup>    | kg                      | 28                      | 33                               | 33                               | 42                               | 42                               | 23     |
|                                     | Refrigerant charge 2 <sup>(7)</sup>    | kg                      | -                       | -                                | -                                | -                                | -                                | 23     |
|                                     | Nominal air flow                       | l/s                     | 10021                   | 9984                             | 15109                            | 15088                            | 15045                            | 20954  |
|                                     | Number of fans                         | n°                      | 2                       | 2                                | 3                                | 3                                | 3                                | 4      |
|                                     | Maximum pressure hydronic kit          | bar                     | 6                       | 6                                | 6                                | 6                                | 6                                | 6      |
| Minimum water volume <sup>(8)</sup> | L                                      | 490                     | 630                     | 630                              | 820                              | 820                              | 480                              |        |
| Sound power <sup>(9)</sup>          | dB(A)                                  | 88/(SL) 87/<br>(SSL) 84 | 88/(SL) 87/<br>(SSL) 84 | 88/(SL) 87/<br>(SSL) 84          | 88/(SL) 87/<br>(SSL) 84          | 88/(SL) 87/<br>(SSL) 84          | 89/(SL) 88/<br>(SSL) 85          |        |
| Sound pressure <sup>(10)</sup>      | dB(A)                                  | 56/(SL) 55/<br>(SSL) 52 | 56/(SL) 55/<br>(SSL) 52 | 55,9/(SL) /<br>54,9/(SSL) / 51,9 | 55,9/(SL) /<br>54,9/(SSL) / 51,9 | 55,9/(SL) /<br>54,9/(SSL) / 51,9 | 56,9/(SL) /<br>55,9/(SSL) / 52,9 |        |
| Power supply                        |                                        | 400V/3P/50Hz            |                         |                                  |                                  |                                  |                                  |        |
| Maximum power input                 | kW                                     | 48,9                    | 55,0                    | 63,1                             | 66,9                             | 73,0                             | 87,9                             |        |
| Maximum current input               | A                                      | 83,0                    | 93,4                    | 107,1                            | 113,5                            | 123,9                            | 149,2                            |        |
| Gross weight                        | kg                                     | 1.180                   | 1.210                   | 1.470                            | 1.530                            | 1.530                            | 2.030                            |        |
| Operating weight                    | kg                                     | 1.190                   | 1.220                   | 1.480                            | 1.540                            | 1.540                            | 2.040                            |        |

Operating conditions; see page 225

## Technical information MWA1-A (106-349 kW)

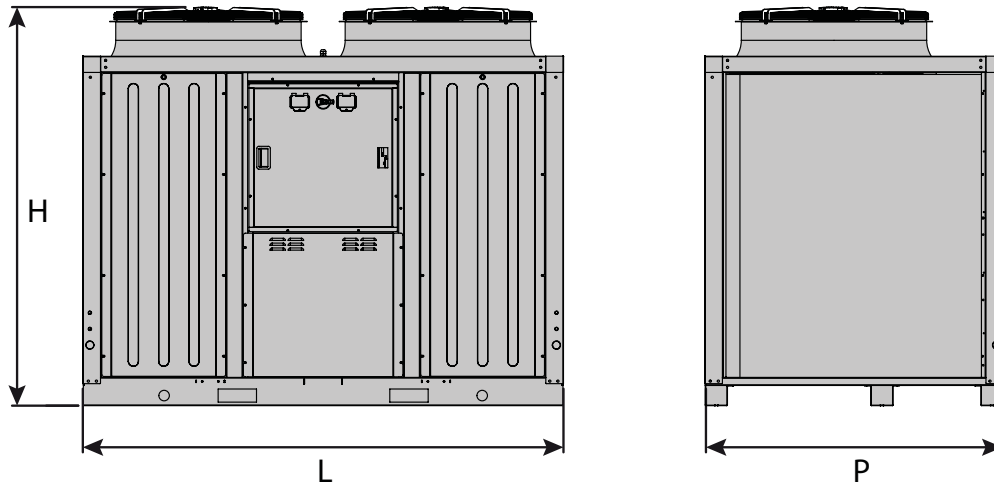
|                                     | Type                                   | 04199                            | 04215                            | 04237                            | 04273                            | 04304                            | 04345                            |        |
|-------------------------------------|----------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|--------|
| cooling                             | Cooling capacity <sup>(1)</sup>        | kW                               | 186,9                            | 208,3                            | 224,8                            | 259,6                            | 289,1                            | 324,6  |
|                                     | Power input <sup>(1)</sup>             | kW                               | 59,4                             | 67,2                             | 77,5                             | 80,6                             | 92,9                             | 111,9  |
|                                     | EER <sup>(1)</sup>                     | W/W                              | 3,15                             | 3,10                             | 2,90                             | 3,22                             | 3,10                             | 2,90   |
|                                     | Cooling capacity <sup>(2)</sup>        | kW                               | 252,0                            | 282,0                            | 301,1                            | 351,2                            | 387,5                            | 433,8  |
|                                     | Power input <sup>(2)</sup>             | kW                               | 63,8                             | 71,6                             | 83,2                             | 87,0                             | 100,5                            | 121,8  |
|                                     | EER <sup>(2)</sup>                     | W/W                              | 3,95                             | 3,94                             | 3,62                             | 4,04                             | 3,86                             | 3,56   |
|                                     | SEER <sup>(3)</sup>                    | W/W                              | 4,64                             | 4,71                             | 4,53                             | 4,65                             | 4,73                             | 4,42   |
|                                     | Water flow <sup>(1)</sup>              | L/s                              | 8,94                             | 9,97                             | 10,76                            | 12,42                            | 13,81                            | 15,53  |
| heating                             | Pressure drop <sup>(1)</sup>           | kPa                              | 26,48                            | 24,66                            | 27,21                            | 18,78                            | 24,85                            | 17,91  |
|                                     | Thermal power <sup>(3)</sup>           | kW                               | 207,3                            | 223,0                            | 245,9                            | 285,8                            | 316,1                            | 356,1  |
|                                     | Power input <sup>(3)</sup>             | kW                               | 50,7                             | 54,8                             | 61,1                             | 69,2                             | 78,3                             | 88,5   |
|                                     | COP <sup>(3)</sup>                     | W/W                              | 4,09                             | 4,07                             | 4,02                             | 4,13                             | 4,04                             | 4,02   |
|                                     | Thermal power <sup>(4)</sup>           | kW                               | 198,1                            | 214,1                            | 236,7                            | 273,0                            | 303,3                            | 344,4  |
|                                     | Power input <sup>(4)</sup>             | kW                               | 61,5                             | 66,0                             | 74,0                             | 83,8                             | 94,7                             | 107,6  |
|                                     | COP <sup>(4)</sup>                     | W/W                              | 3,22                             | 3,24                             | 3,20                             | 3,26                             | 3,20                             | 3,20   |
|                                     | SCOP <sup>(6)</sup>                    | W/W                              | 3,84                             | 3,96                             | 4,00                             | 3,92                             | 3,95                             | 4,01   |
|                                     | Water flow <sup>(4)</sup>              | l/s                              | 9,54                             | 10,29                            | 11,38                            | 13,13                            | 14,59                            | 16,57  |
|                                     | Heat exchanger pressure <sup>(4)</sup> | kPa                              | 31,94                            | 27,61                            | 30,53                            | 22,86                            | 29,13                            | 22,26  |
|                                     | Energy efficiency (water 35°C)         |                                  | A++/A+                           | A++/A+                           | A++/A+                           | A++/A+                           | A++/A+                           | A++/A+ |
|                                     | Compressor type                        |                                  | Scroll                           | Scroll                           | Scroll                           | Scroll                           | Scroll                           | Scroll |
| Number of compressors               | n°                                     | 4                                | 4                                | 4                                | 4                                | 4                                | 4                                |        |
| Refrigerant circuits                | n°                                     | 2                                | 2                                | 2                                | 2                                | 2                                | 2                                |        |
| Refrigerant charge 1 <sup>(7)</sup> | kg                                     | 23                               | 30                               | 31                               | 45                               | 59                               | 61                               |        |
| Refrigerant charge 2 <sup>(7)</sup> | kg                                     | 23                               | 30                               | 31                               | 35                               | 32                               | 32                               |        |
| Nominal air flow                    | l/s                                    | 20888                            | 20815                            | 20738                            | 31370                            | 31264                            | 31109                            |        |
| Number of fans                      | n°                                     | 4                                | 4                                | 4                                | 6                                | 6                                | 6                                |        |
| Maximum pressure hydronic kit       | bar                                    | 6                                | 6                                | 6                                | 6                                | 6                                | 6                                |        |
| Minimum water volume <sup>(8)</sup> | L                                      | 610                              | 610                              | 780                              | 1.020                            | 1.020                            | 1.290                            |        |
| Sound power <sup>(9)</sup>          | dB(A)                                  | 89/(SL) 88/<br>(SSL) 85          | 89/(SL) 88/<br>(SSL) 85          | 90/(SL) 89/<br>(SSL) 86          | 90/(SL) 89/<br>(SSL) 86          | 91/(SL) 90/<br>(SSL) 87          | 92/(SL) 91/<br>(SSL) 88          |        |
| Sound pressure <sup>(10)</sup>      | dB(A)                                  | 56,9/(SL) /<br>55,9/(SSL) / 52,9 | 56,9/(SL) /<br>55,9/(SSL) / 52,9 | 57,9/(SL) /<br>56,9/(SSL) / 53,9 | 57,8/(SL) /<br>56,8/(SSL) / 53,8 | 58,8/(SL) /<br>57,8/(SSL) / 54,8 | 59,8/(SL) /<br>58,8/(SSL) / 55,8 |        |
| Power supply                        |                                        | 400V/3P/50Hz                     |                                  |                                  |                                  |                                  |                                  |        |
| Maximum power input                 | kW                                     | 92,8                             | 97,8                             | 110,0                            | 123,8                            | 139,8                            | 160,1                            |        |
| Maximum current input               | A                                      | 157,6                            | 166,0                            | 186,8                            | 210,2                            | 237,4                            | 271,8                            |        |
| Gross weight                        | kg                                     | 2.060                            | 2.100                            | 2.130                            | 2.680                            | 2.880                            | 2.900                            |        |
| Operating weight                    | kg                                     | 2.070                            | 2.110                            | 2.140                            | 2.700                            | 2.900                            | 2.930                            |        |

### Operating conditions:

- (1) Cooling: outdoor air temperature 35 °C; water temperature inlet/outlet 12/7 °C.
- (2) Cooling: outdoor air temperature 35 °C; water temperature inlet/outlet 23/18 °C.
- (3) Heating: outdoor air temperature 7 °C d.b. 6°C w.b.; water temperature inlet/outlet 30/35 °C.
- (4) Heating: outdoor air temperature 7 °C d.b. 6°C w.b.; water temperature inlet/outlet 40/45 °C.
- (5) Internal exchanger water reference temperature = 12/7 °C.
- (6) Heating: average climatic conditions; T<sub>biv</sub> = -7 °C; water temperature in/out 30/35 °C.
- (7) Indicative data and subject to change. For the correct data, always refer to the technical label on the unit.
- (8) The calculated value of minimum volume of water at the plant does not consider the volume of water contained in the internal exchanger (evaporator). With low external air temperature applications or low average loads required, the minimum volume of water to the system is obtained by doubling the indicated value.
- (9) Condition (3); value determined on the basis of measurements carried out in accordance with the UNI EN ISO 9614-2 standard.
- (10) Value calculated from the sound power level using ISO 3744: 2010, referred to 10 m distance from the unit.
- (11) Internal exchanger water temperature = 12/7 °C, air entering the external heat exchanger 35 °C.
- (12) Internal exchanger water temperature = 23/18 °C, air entering the external heat exchanger 35 °C.
- (13) Cooling version BT: outdoor air temperature 35 °C, internal exchanger water temperature = -3 / -8 °C. Fluid treated with 35% ethylene glycol.

N.B. The performance data are indicative and could be subject to change. In addition, the performances declared in apex (1), (2), and (8) refer to the instantaneous power according to EN 14511. The declared data stated in the apex (6) is determined according to the UNI EN 14825.

## Dimensions iMax



| Type  | Dimensions (mm) |      |      |
|-------|-----------------|------|------|
|       | L               | P    | H    |
| 0466  | 2250            | 1170 | 1985 |
| 0475  | 2250            | 1170 | 1985 |
| 0485  | 2250            | 1170 | 1985 |
| 0695  | 2250            | 1170 | 2250 |
| 06105 | 2250            | 1450 | 1450 |
| 06115 | 2250            | 1450 | 2010 |

## Technical information iMax

|         | Type                                   |       | 0466                       | 0475                       | 0485                       | 0695                       | 06105                     | 06115                      |  |
|---------|----------------------------------------|-------|----------------------------|----------------------------|----------------------------|----------------------------|---------------------------|----------------------------|--|
| cooling | Cooling capacity <sup>(1)</sup>        | kW    | 65,59                      | 74,6                       | 83,9                       | 94,7                       | 105,6                     | 114,3                      |  |
|         | Power input <sup>(1)</sup>             | kW    | 22,62                      | 25,72                      | 28,83                      | 32,66                      | 36,16                     | 39,4                       |  |
|         | EER <sup>(1)</sup>                     | W/W   | 2,90                       | 2,90                       | 2,91                       | 2,90                       | 2,92                      | 2,90                       |  |
|         | Cooling capacity <sup>(2)</sup>        | kW    | 79,6                       | 90,16                      | 102,8                      | 113,3                      | 127,3                     | 139,3                      |  |
|         | Power input <sup>(2)</sup>             | kW    | 21,81                      | 24,64                      | 28,16                      | 31,04                      | 34,88                     | 38,16                      |  |
|         | EER <sup>(2)</sup>                     | W/W   | 3,65                       | 3,66                       | 3,65                       | 3,65                       | 3,65                      | 3,65                       |  |
|         | SEER <sup>(5)</sup>                    | W/W   | 3,82                       | 3,85                       | 3,81                       | 3,8                        | 3,83                      | 3,81                       |  |
|         | Water flow <sup>(1)</sup>              | L/s   | 3,14                       | 3,57                       | 4,01                       | 4,53                       | 5,05                      | 5,47                       |  |
|         | Pressure drop <sup>(1)</sup>           | kPa   | 32                         | 36                         | 37                         | 34                         | 33                        | 38                         |  |
| heating | Thermal power <sup>(3)</sup>           | kW    | 68,4                       | 74,7                       | 85,6                       | 93,34                      | 102,47                    | 111,47                     |  |
|         | Power input <sup>(3)</sup>             | kW    | 16,85                      | 18,44                      | 21,14                      | 23,87                      | 25,3                      | 28,58                      |  |
|         | COP <sup>(3)</sup>                     | W/W   | 4,06                       | 4,05                       | 4,05                       | 3,91                       | 4,05                      | 3,90                       |  |
|         | Thermal power <sup>(4)</sup>           | kW    | 65,86                      | 71,0                       | 82,12                      | 88,57                      | 97,13                     | 108,28                     |  |
|         | Power input <sup>(4)</sup>             | kW    | 20,52                      | 22,19                      | 25,66                      | 27,68                      | 30,35                     | 36,09                      |  |
|         | COP <sup>(4)</sup>                     | W/W   | 3,21                       | 3,20                       | 3,20                       | 3,20                       | 3,20                      | 3,00                       |  |
|         | SCOP <sup>(6)</sup>                    | W/W   | 3,58                       | 3,55                       | 3,53                       | 3,54                       | 3,57                      | 3,50                       |  |
|         | Water flow <sup>(4)</sup>              | l/s   | 3,15                       | 3,40                       | 3,93                       | 4,24                       | 4,65                      | 5,18                       |  |
|         | Heat exchanger pressure <sup>(4)</sup> | kPa   | 30                         | 31                         | 31                         | 32                         | 27                        | 27                         |  |
|         | Energy efficiency (water 35°C)         |       | A+/A+                      | A+/A+                      | A+/A+                      | A+/A+                      | A+/A+                     | A+/A+                      |  |
|         | Compressor type                        |       | Scroll                     | Scroll                     | Scroll                     | Scroll                     | Scroll                    | Scroll                     |  |
|         | Number of compressors                  | n°    | 4                          | 4                          | 4                          | 6                          | 6                         | 6                          |  |
|         | Refrigerant circuits                   | n°    | 2                          | 2                          | 2                          | 2                          | 2                         | 2                          |  |
|         | Refrigerant charge <sup>(7)</sup>      | kg    | 13,4                       | 14,2                       | 14,3                       | 13,4                       | 14,2                      | 14,3                       |  |
|         | Nominal air flow                       | m3/s  | 6,5x2                      | 7x2                        | 7,5x2                      | 8x2                        | 8,5x2                     | 9x2                        |  |
|         | Maximum pressure hydronic kit          | bar   | 6                          | 6                          | 6                          | 6                          | 6                         | 6                          |  |
|         | Water connections                      | inch  | 2" 1/2                     | 2" 1/2                     | 2" 1/2                     | 2" 1/2                     | 2" 1/2                    | 2" 1/2                     |  |
|         | Minimum water volume <sup>(8)</sup>    | L     | 200                        | 200                        | 200                        | 260                        | 260                       | 260                        |  |
|         | Sound power <sup>(9)</sup>             | dB(A) | 84 / SL 82,0 /<br>SSL 81,2 | 84 / SL 82,5 /<br>SSL 81,7 | 85 / SL 83,0 /<br>SSL 82,2 | 85 / SL 83,2 /<br>SSL 82,7 | 85 / SL 83,2/<br>SSL 82,7 | 86 / SL 83,7 /<br>SSL 83,2 |  |
|         | Sound pressure <sup>(10)</sup>         | dB(A) | 52,2                       | 52,2                       | 53,2                       | 53,2                       | 53,2                      | 54,2                       |  |
|         | Power supply                           |       | 400V/3P+N+T/50Hz           |                            |                            |                            |                           |                            |  |
|         | Maximum power input                    | kW    | 39,9                       | 42,3                       | 46,7                       | 52,3                       | 55,8                      | 63,0                       |  |
|         | Maximum current input                  | A     | 60,1                       | 63,5                       | 70,3                       | 78,7                       | 83,9                      | 94,7                       |  |
|         | Gross weight                           | kg    | 943                        | 955                        | 1011                       | 1026                       | 1128                      | 1142                       |  |
|         | Operating weight                       | kg    | 923                        | 946                        | 996                        | 1011                       | 1105                      | 1120                       |  |

Operating conditions:

<sup>(1)</sup> Cooling: outdoor air temperature 35 °C; water temperature inlet/outlet 12/7 °C.

<sup>(2)</sup> Cooling: outdoor air temperature 35 °C; water temperature inlet/outlet 23/18 °C.

<sup>(3)</sup> Heating: outdoor air temperature 7 °C d.b. 6°C w.b.; water temperature inlet/outlet 30/35 °C.

<sup>(4)</sup> Heating: outdoor air temperature 7 °C d.b. 6°C w.b.; water temperature inlet/outlet 40/45 °C.

<sup>(5)</sup> Cooling: water temperature inlet/outlet = 12/7 °C.

<sup>(6)</sup> Heating: average climatic conditions; T<sub>biv</sub> = -7 °C; water temperature in/out 30/35 °C.

<sup>(7)</sup> Indicative data and subject to change. For the correct data, always refer to the technical label on the unit.

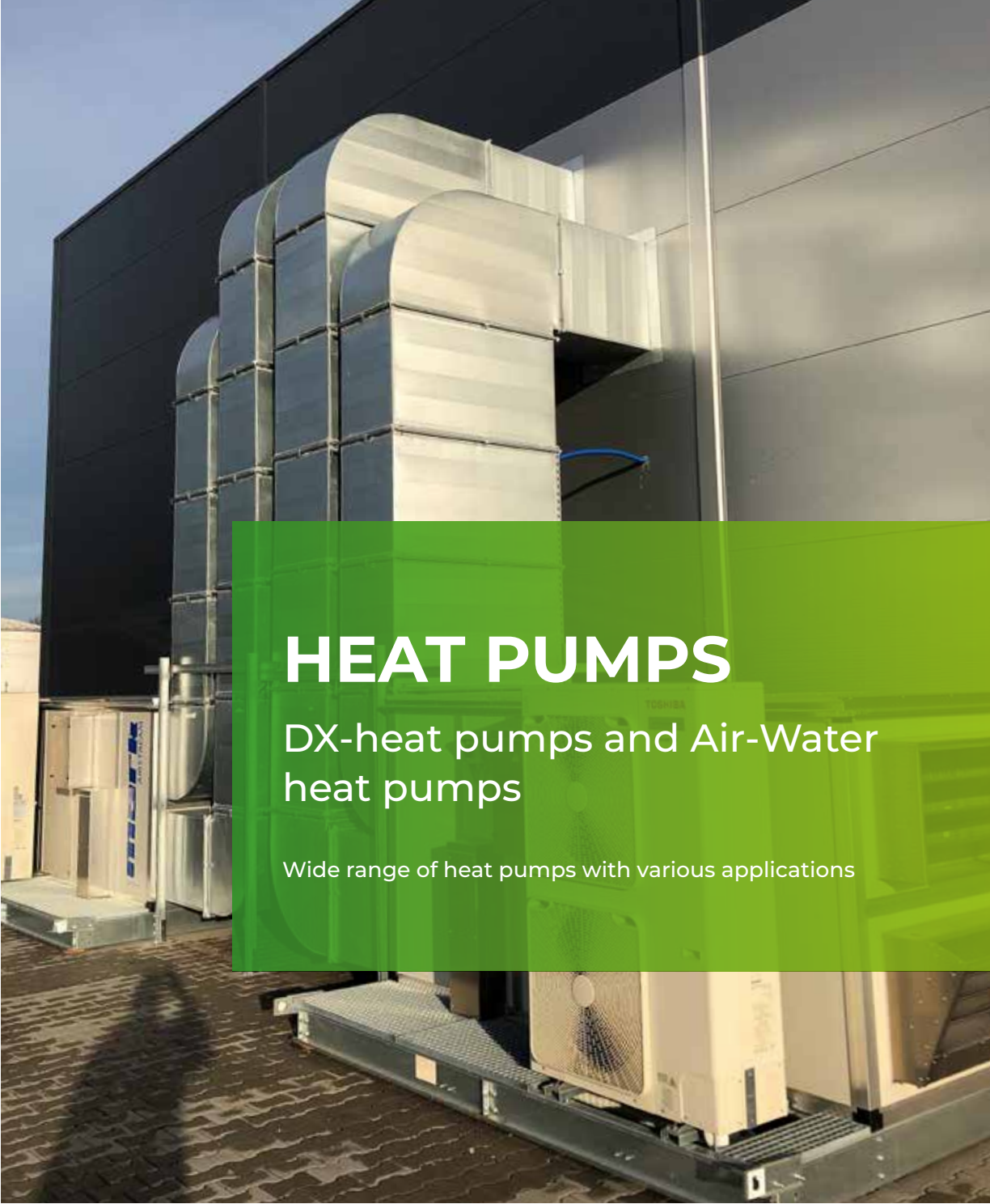
<sup>(8)</sup> Calculated in the case of the plant water temperature decreased by 10°C for 6 minutes of defrosting.

<sup>(9)</sup> Condition (3); value determined on the basis of measurements carried out in accordance with the UNI EN ISO 9614-2 standard.

<sup>(10)</sup> Value calculated from the sound power level using ISO 3744: 2010, referred to 10 m distance from the unit.

<sup>(\*)</sup> The prevalence data and characteristics of the pump refer to kit CII for all sizes except 0270 for which the data are expressed for kit CI6

NB: The performance data are indicative and could be subject to change. In addition, the performances declared in apex (1), (2), (3) and (4) refer to the instantaneous power according to EN 14511. The declared data stated in the apex (5) and (6) is determined according to the UNI EN 14825.



# HEAT PUMPS

DX-heat pumps and Air-Water  
heat pumps

Wide range of heat pumps with various applications



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and videos, visit the Heat Pumps  
page on our website



### Wide range of heat pumps with various applications

Mark Climate Technology also has the energy-efficient TOSHIBA heat pumps in its program. These DX heat pumps are fully compatible with the Mark AIRSTREAM heat recovery units and air handling units. The heat pumps are also available separately.

#### Applications:

- Combination with DX battery in an air handling unit for cooling and / or heating.
- Combination with DX air curtains.

#### Air-water heat pumps:

Also available are Air-Water heat pumps, which are still able to heat with the nominal capacity at an outside temperature of up to -15 °C.

#### Product features

- High energy efficiency, distinctive partial load efficiencies and therefore high S(easonal) COPs
- A high and highly valued reliability.
- Inverter controlled Twin-Rotary compressor technology with individual control, low starting currents and a very large control range.
- Technical support



## DX HEAT PUMPS

| Type                                          |         | RAV-GM301ATP | RAV-GM401ATP | RAV-GM561ATP | RAV-GM801ATP |
|-----------------------------------------------|---------|--------------|--------------|--------------|--------------|
| Nominal cooling capacity                      | kW      | 2,5          | 3,6          | 5,0          | 6,7          |
| Nominal heating capacity                      | kW      | 3,4          | 4,0          | 5,3          | 7,7          |
| Cool power range                              | kW      | 0,9 - 3,0    | 0,9 - 4,0    | 1,5 - 5,6    | 1,5 - 8,0    |
| Heat power range                              | kW      | 0,8 - 4,5    | 0,8 - 5,0    | 1,5 - 6,3    | 1,5 - 9,0    |
| SEER                                          |         | 5,94         | 5,76         | 6,34         | 5,81         |
| SCOP                                          |         | 5,48         | 5,08         | 5,29         | 4,79         |
| Heating capacity at -10°C                     | kW      | 2,92         | 3,25         | 4,09         | 5,85         |
| Electrical connection                         | V/ph/Hz | 230/1/50     | 230/1/50     | 230/1/50     | 230/1/50     |
| Recommended fuse                              | A       | 16           | 16           | 16           | 16           |
| Air quantity                                  | m³/h    | 1.800        | 2.200        | 2.400        | 2.700        |
| Power condenser fan                           | W       | 43           | 43           | 43           | 43           |
| Sound pressure level cooling / heating        | dB(A)   | 38/39        | 41/42        | 40/42        | 40/44        |
| Cooling / heating sound power                 | dB(A)   | 61/62        | 64/65        | 63/65        | 65/69        |
| Dimensions H x W x D                          | mm      | 550x780x290  | 550x780x290  | 550x780x290  | 550x780x290  |
| Weight                                        | kg      | 33           | 39           | 40           | 44           |
| Minimum outdoor temperature cooling / heating | °C      | -15/ -15     | -15/ -15     | -15/ -15     | -15/ -15     |
| Refrigeration connection                      | flare   | 1/4" x 3/8"  | 1/4" x 1/2"  | 1/4" x 1/2"  | 3/8" x 5/8"  |
| Cooling pipe length max.                      | m       | 15/20*       | 15/20*       | 20/30*       | 20/30*       |
| Maximum height difference                     | m       | 10           | 10           | 30           | 30           |
| Refrigerant content R32                       | kg      | 0,6          | 0,9          | 0,9          | 1,3          |
| Extra refrigerant                             | g/m     | 20           | 20           | 20           | 20           |
| Article number                                |         | 0699500      | 0699501      | 0699502      | 0699503      |
| Price                                         | €       | 1.814        | 2.050        | 2.529        | 3.466        |

| Type                                          |         | RAV-GM901ATP | RAV-GM1101ATP | RAV-GM1401ATP | RAV-GP1601AT8 |
|-----------------------------------------------|---------|--------------|---------------|---------------|---------------|
| Nominal cooling capacity                      | kW      | 8,0          | 9,5           | 12,0          | 14,0          |
| Nominal heating capacity                      | kW      | 9,0          | 11,2          | 13,0          | 16,0          |
| Cool power range                              | kW      | 1,9 - 8,8    | 3,0 - 11,2    | 3,0 - 13,2    | 2,6 - 16      |
| Heat power range                              | kW      | 1,6 - 9,9    | 3,0 - 13,0    | 3,0 - 16,0    | 2,4 - 19,0    |
| SEER                                          |         | 7,0          | 6,15          | 5,71          | 6,72 (EER)    |
| SCOP                                          |         | 5,22         | 4,71          | 4,69          | 4,82 (COP)    |
| Heating capacity at -10°C                     | kW      | 6,43         | 8,45          | 10,40         | 13,14         |
| Electrical connection                         | V/ph/Hz | 230/1/50     | 230/1/50      | 230/1/50      | 400/3-N/50    |
| Insurance value                               | A       | 16           | 20            | 25            | 3 x 16        |
| Air quantity                                  | m³/h    | 2.900        | 4.080         | 4.200         | 6.180         |
| Power condenser fan                           | W       | 45           | 100           | 100           | 2 x 100       |
| Sound pressure level cooling / heating        | dB(A)   | 43/47        | 47/51         | 47/51         | 45/47         |
| Cooling / heating sound power                 | dB(A)   | 68/72        | 70/74         | 70/74         | 68/70         |
| Dimensions H x W x D                          | mm      | 630x800x300  | 890x900x320   | 890x900x320   | 1.340x900x320 |
| Weight                                        | kg      | 47           | 68            | 68            | 95            |
| Minimum outdoor temperature cooling / heating | °C      | -15/ -15     | -15/ -15      | -15/ -15      | -15/ -20      |
| Refrigeration connection                      | flare   | 3/8" x 5/8"  | 3/8" x 5/8"   | 3/8" x 5/8"   | 3/8" x 5/8"   |
| Cooling pipe length max.                      | m       | 30/50*       | 30/50*        | 30/50*        | 30/75*        |
| Maximum height difference                     | m       | 30           | 30            | 30            | 30            |
| Refrigerant content R32                       | kg      | 2,0 (R32)    | 2,1 (R32)     | 2,1 (R32)     | 2,6 (R32)     |
| Extra refrigerant                             | g/m     | 20           | 40            | 40            | 40            |
| Article number                                |         | 0699507      | 0699504       | 0699505       | 0699506       |
| Price                                         | €       | 3.770        | 4.581         | 5.234         | 7.439         |

\* With extra refrigerant charge

| Type                                          |             | RAV-GP561ATP | RAV-GP801AT     | RAV-GP1101AT    | RAV-GP1401AT    |
|-----------------------------------------------|-------------|--------------|-----------------|-----------------|-----------------|
| Nominal cooling capacity                      | kW          | 5,0          | 7,1             | 10,0            | 12,5            |
| Nominal heating capacity                      | kW          | 5,6          | 8,0             | 11,2            | 14,0            |
| Cool power range                              | kW          | 1,2 - 5,6    | 1,9 - 8,0       | 3,1 - 12,0      | 3,1 - 14,0      |
| Heat power range                              | kW          | 0,9 - 8,1    | 1,3 - 11,3      | 2,6 - 13,0      | 2,6 - 16,5      |
| SEER                                          |             | 7,61         | 8,8             | 8,65            | 8,15            |
| SCOP                                          |             | 5,54         | 6,48            | 5,87            | 5,79            |
| Heating capacity at -10°C                     | kW          | 4,79         | 6,84            | 9,89            | 12,17           |
| Electrical connection                         | V/ph/<br>Hz | 230/1/50     | 230/1/50        | 230/1/50        | 230/1/50        |
| Insurance value                               | A           | 16           | 16              | 25              | 25              |
| Air quantity                                  | m³/h        | 2.250        | 3.180           | 6.960           | 6.960           |
| Power condenser fan                           | W           | 43           | 60              | 2 x 100         | 2 x 100         |
| Sound pressure level cooling / heating        | dB(A)       | 40/42        | 40/42           | 43/44           | 44/45           |
| Cooling / heating sound power                 | dB(A)       | 63/65        | 63/65           | 66/67           | 67/68           |
| Dimensions H x W x D                          | mm          | 630x799x299  | 1.050x1.010x370 | 1.550x1.010x370 | 1.550x1.010x370 |
| Weight                                        | kg          | 45           | 74              | 104             | 104             |
| Minimum outdoor temperature cooling / heating | °C          | -15/ -27     | -15/ -27        | -15/ -27        | -15/ -27        |
| Refrigeration connection                      | flare       | 1/4" x 1/2"  | 3/8" x 5/8"     | 3/8" x 5/8"     | 3/8" x 5/8"     |
| Cooling pipe length max.                      | m           | 20/50*       | 30/50*          | 30/75*          | 30/75*          |
| Maximum height difference                     | m           | 30           | 30              | 30              | 30              |
| Refrigerant content R32                       | kg          | 1,35         | 1,9             | 3,1             | 3,1             |
| Extra refrigerant                             | g/m         | 20           | 40              | 40              | 40              |
| Article number                                |             | 0699512      | 0699513         | 0699514         | 0699515         |
| Price                                         | €           | 3.234        | 3.946           | 6.451           | 7.132           |

| Type                                          |         | RAV-GM1101AT8P | RAV-GM1401AT8P | RAV-GM1601AT8P | RAV-GM2241AT8   | RAV-GM2801AT8   |
|-----------------------------------------------|---------|----------------|----------------|----------------|-----------------|-----------------|
| Nominal cooling capacity                      | kW      | 9,5            | 12,0           | 14,0           | 20,0            | 23,5            |
| Nominal heating capacity                      | kW      | 11,2           | 12,8           | 16,0           | 22,4            | 27,0            |
| Cool power range                              | kW      | 3,0 - 11,2     | 3,0 - 13,2     | 3,0 - 16,0     | 4,6 - 22,4      | 4,6 - 27,0      |
| Heat power range                              | kW      | 3,0 - 13,0     | 3,0 - 16,0     | 3,0 - 18,0     | 4,6 - 25,0      | 4,6 - 31,5      |
| SEER                                          |         | 6,15           | 5,71           | 6,3            | 6,53            | 6,21            |
| SCOP                                          |         | 4,71           | 4,69           | 4,71           | 4,41            | 4,67            |
| Heating capacity at -10°C                     | kW      | 8,45           | 10,4           | 11,7           | 16,95           | 21,57           |
| Electrical connection                         | V/ph/Hz | 400/3-N/50     | 400/3-N/50     | 400/3-N/50     | 400/3-N/50      | 400/3-N/50      |
| Insurance value                               | A       | 3x10           | 3x10           | 3x16           | 3 x 20          | 3 x 25          |
| Air quantity                                  | m³/h    | 4.080          | 4.200          | 6.900          | 9150            | 10.890          |
| Power condenser fan                           | W       | 2x100          | 2x100          | 2x100          | 2 x 100         | 2 x 100         |
| Sound pressure level cooling / heating        | dB(A)   | 47/51          | 47/51          | 45/47          | 53/53           | 55/57           |
| Cooling / heating sound power                 | dB(A)   | 70/74          | 70/74          | 70/72          | 76/76           | 78/80           |
| Dimensions H x W x D                          | mm      | 890x900x320    | 890x900x320    | 1.340x900x320  | 1.550x1.010x370 | 1.550x1.010x370 |
| Weight                                        | kg      | 69             | 69             | 94             | 142             | 142             |
| Minimum outdoor temperature cooling / heating | °C      | -15/ -15       | -15/ -15       | -15/ -15       | -15/ -27        | -15/ -27        |
| Refrigeration connection                      | flare   | 3/8" x 5/8"    | 3/8" x 5/8"    | 3/8" x 5/8"    | 1/2" x 1 1/8"   | 1/2" x 1 1/8"   |
| Cooling pipe length max.                      | m       | 30/50*         | 30/50*         | 30/50*         | 30/60*          | 30/60*          |
| Maximum height difference                     | m       | 30             | 30             | 30             | 30              | 30              |
| Refrigerant content R32                       | kg      | 2,1            | 2,1            | 2,4            | 5               | 5               |
| Extra refrigerant                             | g/m     | 40             | 40             | 40             | 80              | 80              |
| Article number                                |         | 0699520        | 0699521        | 0699522        | 0699527         | 0699528         |
| Price                                         | €       | 5.316          | 6.069          | 6.784          | 12.863          | 14.423          |

\* With extra refrigerant charge

## AIR-WATER HEAT PUMPS

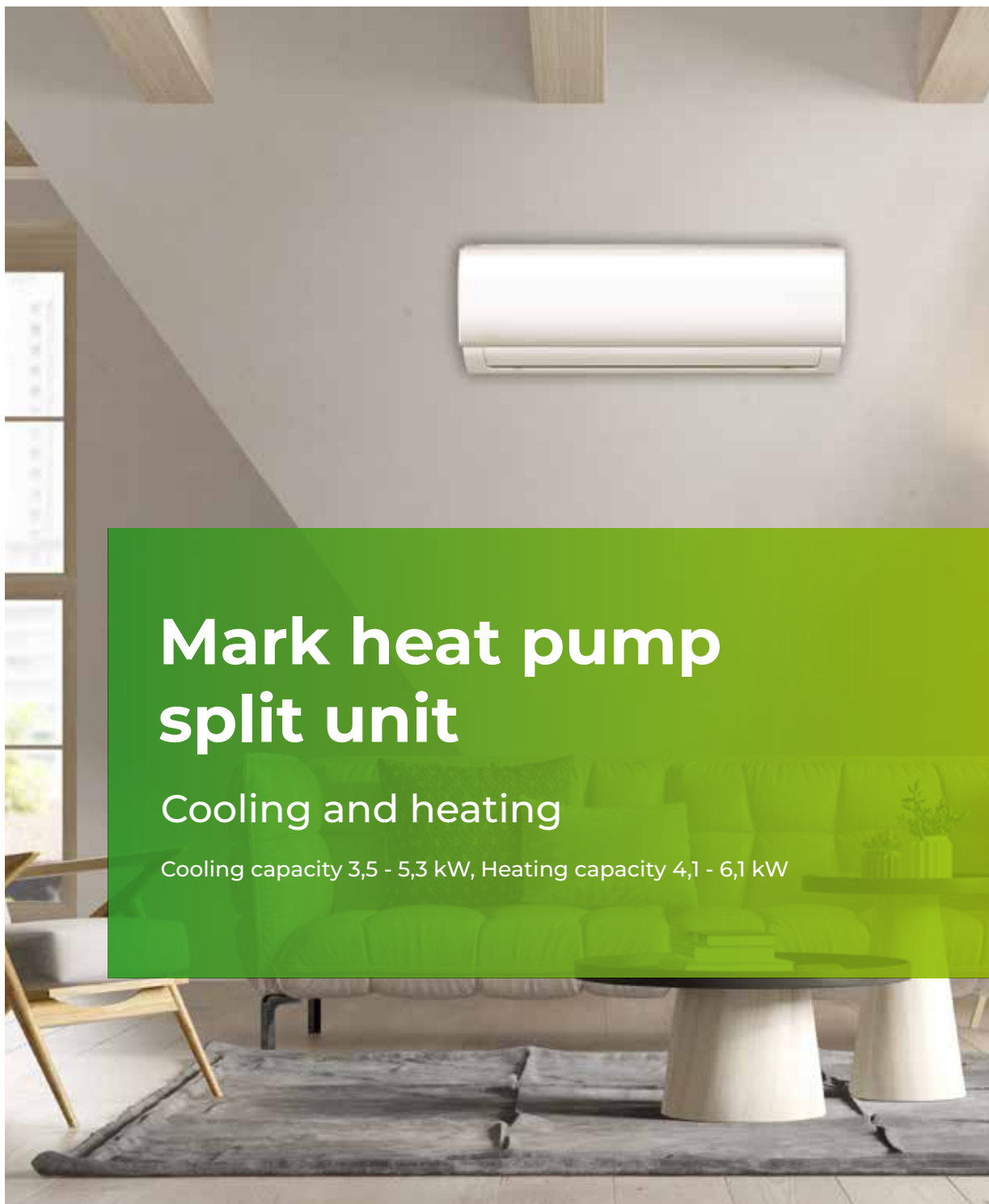
|         | Type                                          |         | HWS-P805HR     | HWS-P1105HR    | HWS-P805H8R    | HWS-P1105H8R   | HWS-P1405H8R   |
|---------|-----------------------------------------------|---------|----------------|----------------|----------------|----------------|----------------|
|         |                                               |         |                |                |                |                |                |
| heating | Nominal heating capacity*                     | kW      | 8,0            | 11,2           | 8,0            | 11,2           | 14,0           |
|         | Power consumption*                            | kW      | 1,68           | 2,29           | 1,71           | 2,33           | 3,15           |
|         | Water outlet temperature                      | °C      | 20-60          | 20-60          | 20-60          | 20-60          | 20-60          |
|         | Heating capacity -7 °C/-15 °C                 | kW      | 11,92 / 9,37   | 12,79 / 11,23  | 10,82 / 8,18   | 11,62 / 9,26   | 13,44 / 10,7   |
|         | COP                                           |         | 4,76           | 4,88           | 4,68           | 4,80           | 4,44           |
| cooling | Nominal cooling capacity*                     | kW      | 6,0            | 10,0           | 6,0            | 10,0           | 11,0           |
|         | Power consumption*                            | kW      | 1,64           | 3,33           | 1,64           | 3,33           | 3,9            |
|         | Water outlet temperature                      | °C      | 7-25           | 7-25           | 7-25           | 7-25           | 7-25           |
|         | Annual energy consumption heating             | kWh     | 5.881          | 5.523          | 5.372          | 5.476          | 6.588          |
|         | Energy label heating                          |         | A+++           | A+++           | A+++           | A+++           | A+++           |
|         | SCOP                                          |         | 4,01           | 4,48           | 4,31           | 4,43           | 4,43           |
|         | Fuse                                          | A       | 20             | 25             | 3 x 16         | 3 x 16         | 3 x 16         |
|         | Electrical connection                         | V/ph/Hz | 230/1/50       | 230/1/50       | 400/3-N/50     | 400/3-N/50     | 400/3-N/50     |
|         | Compressor type                               |         | DC Twin Rotary | DC Twin Rotary | DC Twin Rotary | DC Twin Rotary | DC Twin Rotary |
|         | Connections (gas-fluid)                       | flare   | 5/8" x 3/8"    | 5/8" x 3/8"    | 5/8" x 3/8"    | 5/8" x 3/8"    | 5/8" x 3/8"    |
|         | Sound pressure level **                       | dB(A)   | 47             | 47             | 47             | 48             | 49             |
|         | Dimensions (H x W x D)                        | mm      | 1.340x900x320  | 1.340x900x320  | 1.340x900x320  | 1.340x900x320  | 1.340x900x320  |
|         | Weight                                        | kg      | 92             | 92             | 94             | 94             | 94             |
|         | Minimum outdoor temperature cooling / heating | °C      | 10/-25         | 10/-25         | 10/-25         | 10/-25         | 10/-25         |
|         | Minimum pipe length                           | m       | 5              | 5              | 5              | 5              | 5              |
|         | Maximum pipe length                           | m       | 30             | 30             | 30             | 30             | 30             |
|         | Maximum height difference                     | m       | 30             | 30             | 30             | 30             | 30             |
|         | Pipe length without refill                    | m       | 30             | 30             | 30             | 30             | 30             |
|         | Refrigerant                                   |         | R410A          | R410A          | R410A          | R410A          | R410A          |
|         | Article number                                |         | 0699550        | 0699551        | 0699555        | 0699556        | 0699557        |
|         | Price                                         | €       | 14.737         | 16.083         | 15.447         | 16.784         | 18.266         |

\* These capacities apply under the following conditions and are in accordance with standard EN14511:

Heating: hot water outlet temperature: 35°C (ΔT 5°C), outside temperature: 7°C DB / 6 °C WB.

Cooling: cold water outlet temperature: 7°C (ΔT 5°C), outside temperature: 35°C DB.

\*\* The sound pressure level is specified at 2 m distance in free field conditions.



# Mark heat pump split unit

Cooling and heating

Cooling capacity 3,5 - 5,3 kW, Heating capacity 4,1 - 6,1 kW

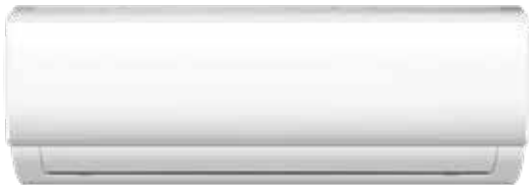


For more information, downloads and videos, visit the Mark heat pump split unit page on our website

### Both cooling and heating with a split unit

Control the climate at the office, in the store or in your home with Mark's energy-efficient air conditioners. Enjoy an air conditioner that can both cool and heat. The Mark heat pump split unit consists of an indoor and outdoor unit. In addition to cooling, the indoor unit also provides heating and dehumidification

The Mark heat pump split unit is equipped with advanced inverter technology. This technology ensures that the temperature of the air conditioner is quickly adapted to the changed conditions in a room. It also makes the air conditioner very energy efficient.



#### Features of the Mark Heat pump split unit:

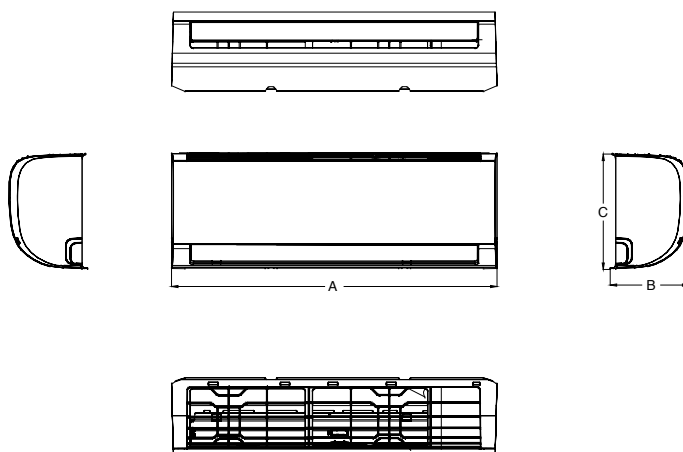
- Very attractively priced
- Both cooling and heating
- Energy saving
- Environmentally friendly
- Extremely quiet: 25dB(A) (Indoor unit)
- Self-cleaning function
- Self-diagnosis function
- Cooling medium R32
- High density filter
- Installation flexibility: up to 25 m (type 353) / 30 m (type 553) piping length possible between the indoor and outdoor unit.
- Standard remote control with temperature sensor
- Optional: Control via Wi-Fi
- Delivery from stock



## Dimensions

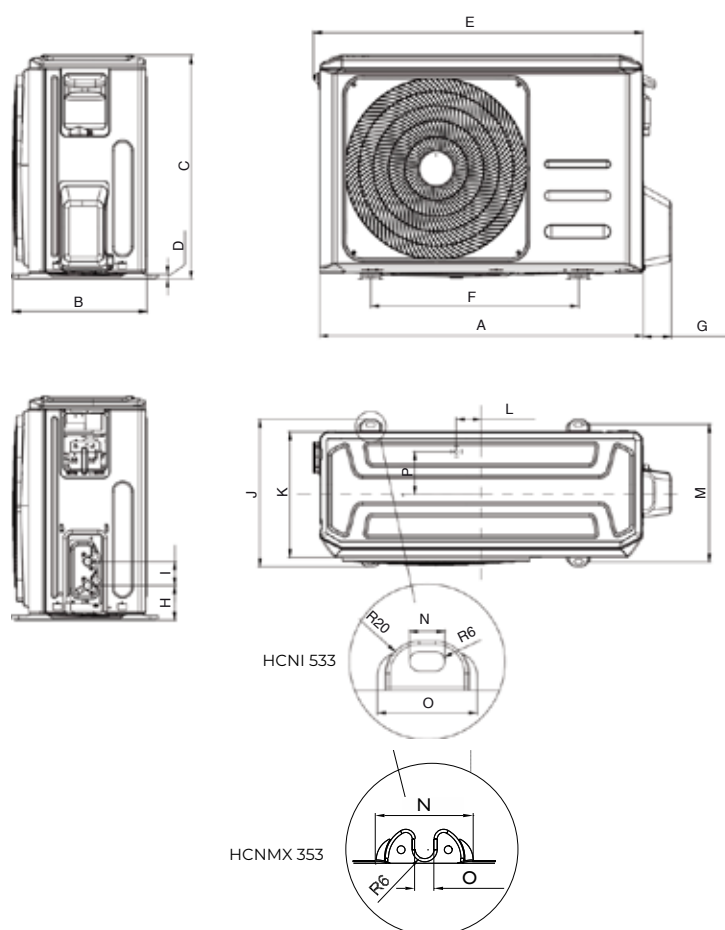
### Indoor unit

| Type     | a   | b   | c   |
|----------|-----|-----|-----|
| HKEU 353 | 805 | 194 | 285 |
| HKEU 533 | 957 | 213 | 302 |



### Outdoor unit

| Type      | a   | b   | c   | d    | e   | f   | g  | h    | i  | j   | k   | l  | m   | n  | o    | p    |
|-----------|-----|-----|-----|------|-----|-----|----|------|----|-----|-----|----|-----|----|------|------|
| HCNMX 353 | 720 | 270 | 495 | 7.6  | 727 | 452 | 70 | 87   | 60 | 281 | 245 | 33 | 256 | 49 | 11   | 76.5 |
| HCNI 533  | 800 | 333 | 554 | 12.0 | 815 | 514 | 70 | 85.5 | 60 | 365 | 311 | 62 | 340 | 20 | 61.6 | 106  |



## Technical information

|                                              |                                                         | Indoor unit model     | HKEU 353                  | HKEU 533                   |
|----------------------------------------------|---------------------------------------------------------|-----------------------|---------------------------|----------------------------|
|                                              |                                                         | Outdoor unit model    | HCNMX 353                 | HCNI 533                   |
| Type                                         |                                                         | DC-Inverted heat pump |                           |                            |
| Control                                      |                                                         | Infra-red             |                           |                            |
| cooling                                      | Rated capacity (T=+35 °C)                               | kW                    | 3.52 (1.11~4.16)          | 5.28 (1.82~6.13)           |
|                                              | Rated absorbed power (T=+35 °C)                         | KW                    | 1.21 (0.13~1.58)          | 1.54 (0.14~2.36)           |
|                                              | Rated energie efficiency coefficient                    | EER                   | 2.91                      | 3.43                       |
|                                              | Seasonal energy efficiency class                        | 626/2011              | A++                       | A++                        |
|                                              | Seasonal energy efficiency index                        | SEER                  | 6.1                       | 7.1                        |
|                                              | Annual energy consumption                               | kWh/a                 | 221                       | 256                        |
|                                              | Theoretical load (Pdesignc)                             | kW                    | 3.60                      | 5.20                       |
|                                              | Operating limits (outside temperature)                  | °C                    | -15~50                    |                            |
| heating                                      | Rated capacity (T=+7 °C)                                | kW                    | 3.81 (1.08~4.22)          | 5.57 (1.38~6.74)           |
|                                              | Rated absorbed power (T=+7 °C)                          | kW                    | 1.09 (0.10~1.68)          | 1.48 (0.20~2.41)           |
|                                              | Rated energy performance coefficient                    | COP                   | 3.50                      | 3.76                       |
|                                              | Energy efficiency class (average season)                | 626/2011              | A+                        | A+                         |
|                                              | Seasonal energy efficiency class index (average season) | SCOP                  | 4.0                       | 4.0                        |
|                                              | Annual energy consumption                               | kWh/a                 | 945                       | 1435                       |
|                                              | Theoretical load (Pdesignc) @-10 °C                     | kW                    | 2.70                      | 4.10                       |
|                                              | Operating limits (outside temperature)                  | °C                    | -15~30                    |                            |
| Electrical data                              |                                                         |                       |                           |                            |
| Power supply                                 | Outdoor unit                                            | Ph-V-Hz               | 1Ph-220/240V-50Hz         |                            |
| Power cable                                  |                                                         | Type                  | 3 x 2.5 mm²               | 3 x 4 mm²                  |
| Indoor and outdoor unit communication cable  |                                                         | Type                  | 5 x 1.5 mm²               | 5 x 1.5 mm²                |
| Refrigerant circuit                          |                                                         |                       |                           |                            |
| Refrigerant (GWP)                            |                                                         |                       | R32(675)                  | R32(675)                   |
| Diameter of refrigerant piping on liquid/gas |                                                         | mm (inches)           | Ø6.35(1/4") - Ø9.52(3/8") | Ø6.35(1/4") - Ø12.74(1/2") |
| Max splitting length                         |                                                         | m                     | 25                        | 30                         |
| Max height difference I.U./O.U.              |                                                         | m                     | 10                        | 20                         |
| Split length without additional charge       |                                                         | m                     | 5                         | 5                          |
| Additional load                              |                                                         | g/m                   | 12                        | 12                         |
| Indoor unit specifications                   |                                                         |                       |                           |                            |
| Net weight                                   |                                                         | Kg                    | 7.6                       | 10                         |
| Sound pressure level (I.U.)                  | Hi/Me/Lo                                                | dB(A)                 | 40.5/34.5/25              | 44/37/25                   |
| Sound power level (I.U.)                     | Hi                                                      | dB(A)                 | 55                        | 55                         |
| Treated air volume                           | Hi/Me/Lo                                                | m³/h                  | 540/430/314               | 840/680/540                |
| Motor power (Output)                         |                                                         | W                     | 40                        | 36                         |
| Outdoor unit specifications                  |                                                         |                       |                           |                            |
| Net weight                                   |                                                         | Kg                    | 23.2                      | 34                         |
| Sound pressure level (O.U.)                  |                                                         | dB(A)                 | 56                        | 56                         |
| Sound power level (O.U.)                     |                                                         | dB(A)                 | 63                        | 61                         |
| Treated air (Max)                            |                                                         | m³/h                  | 1800                      | 2500                       |
| Motor power (Output)                         |                                                         | W                     | 63                        | 63                         |

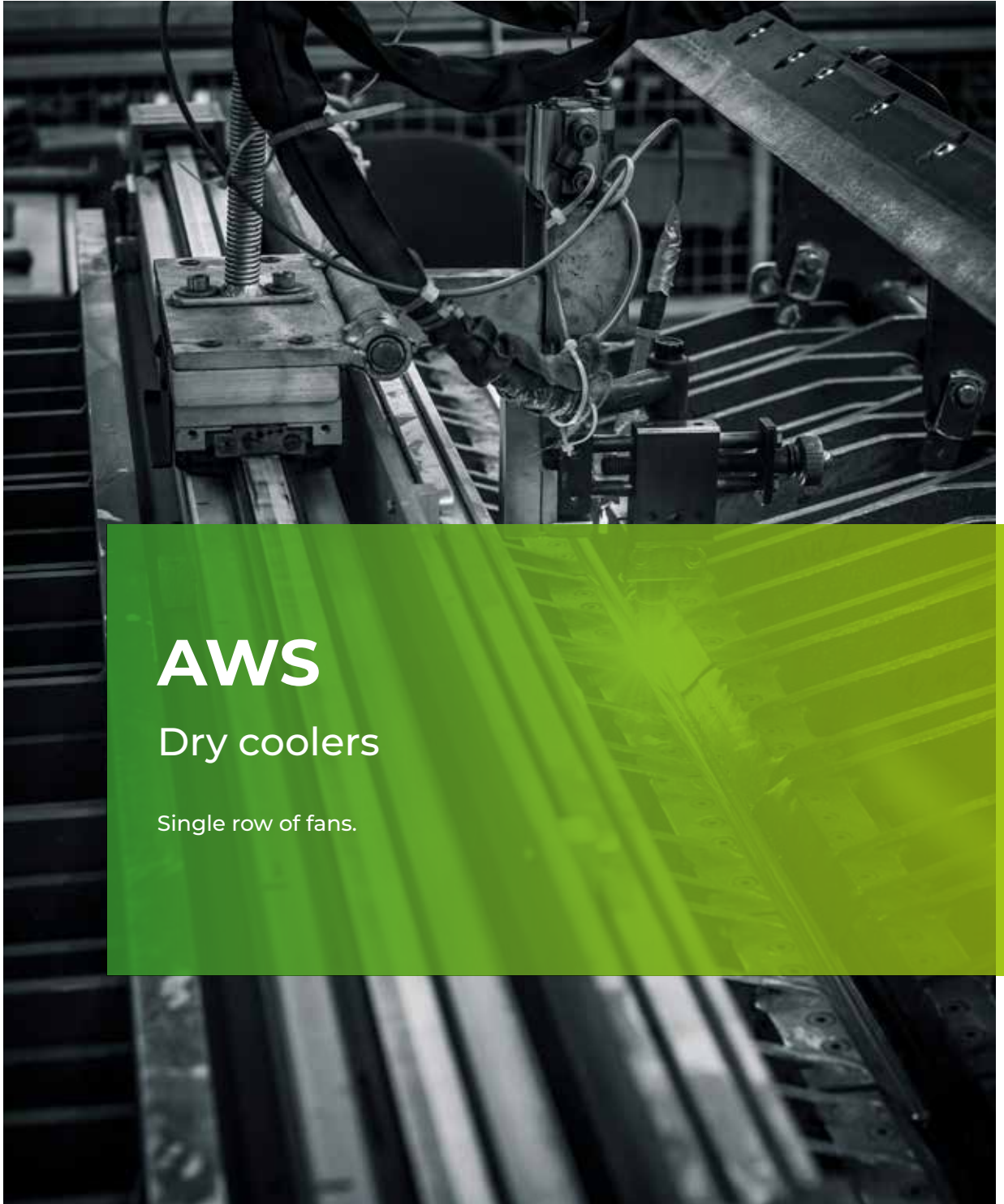
## Prices Mark heat pump split unit (Note: net prices)



### PRODUCT - MARK HEAT PUMP SPLIT UNIT - INDOOR AND OUTDOOR UNIT - INCL. REMOTE CONTROL

| Code nr. | Description   | Netto Price |     |
|----------|---------------|-------------|-----|
| 0699601  | Type HKEU 353 | €           | 536 |
| 0699602  | Type HKEU 533 | €           | 730 |





# AWS

## Dry coolers

Single row of fans.



For more information, downloads  
and videos, visit the AWS page on  
our website



#### Product features

- Optimized heat exchangers and fans
- Compact
- Quiet
- Robust
- Economical
- Completely wired up to the terminal box

#### Dry coolers: Single row of fans

The Mark AWS is a series of Dry Coolers with a single row of fans. Both the standard version and the low-noise version are available in cooling capacities from 44 kW to 217 kW.

The AWS Dry Coolers are compact and robust. They are made of galvanized steel for both horizontal and vertical mounting using the correct kit. The units are equipped with anchor and lifting points for placement.

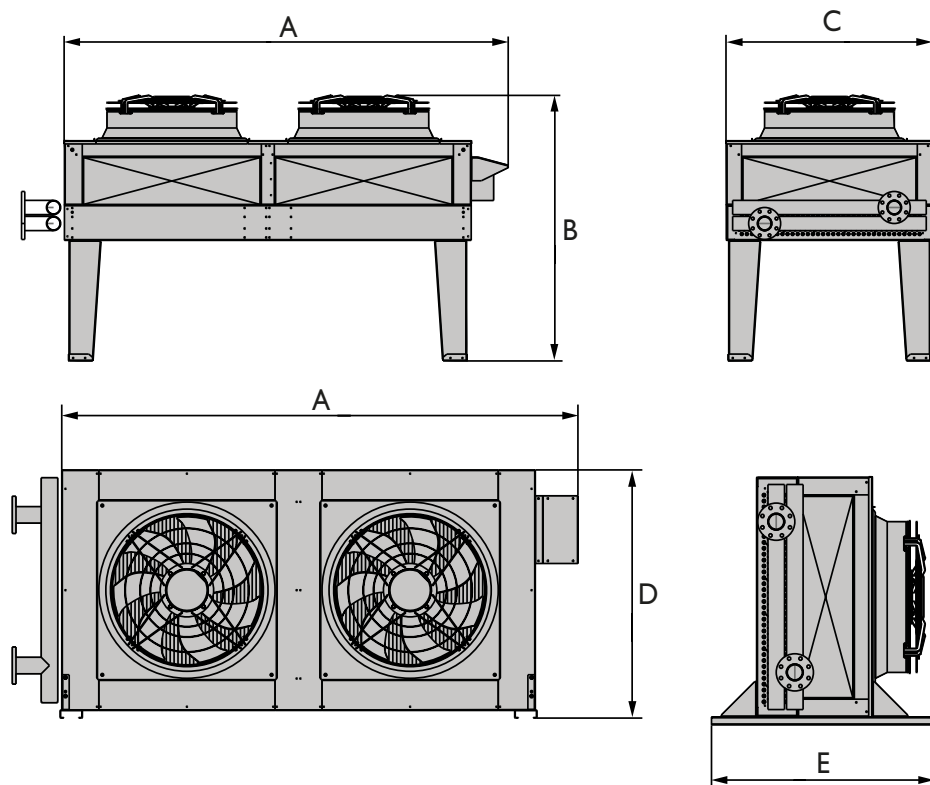
The chassis and housing are fully protected with a paint layer with a high corrosion resistance that offers maximum weather resistance. The parts are each coated in RAL 9002 prior to assembly.

Mark single row Dry Coolers are equipped with heat exchangers with a copper tube and aluminum fins. They are equipped with a steel threaded connection.

The fans incorporate 3-phase asynchronous external rotor motors with IP54 protection level, class F insulation, with the possibility of connecting them in star or delta, having in this way two speeds of operation.

Adaptation to the most restrictive noise conditions, this range of fan motors is available with a different number of poles.

## Dimensions



AWSN series - Ø 800 mm fans - standard version

| Type          | Number of fans | Surface<br>m <sup>2</sup> | Internal volume<br>dm <sup>3</sup> | Connection<br>Ø | A<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | Weight<br>kg |
|---------------|----------------|---------------------------|------------------------------------|-----------------|---------|---------|---------|---------|---------|--------------|
| AWSN-41C-044M | 1              | 99                        | 13                                 | 2"              | 1575    | 1660    | 1295    | 1335    | 1200    | 271          |
| AWSN-41D-051M |                | 132                       | 17                                 |                 |         |         |         |         |         | 283          |
| AWSN-41E-054M |                | 164                       | 21                                 |                 |         |         |         |         |         | 294          |
| AWSN-42C-090M | 2              | 197                       | 26                                 | 3"              | 2775    | 1660    | 1295    | 1335    | 1200    | 471          |
| AWSN-42D-102M |                | 263                       | 35                                 |                 |         |         |         |         |         | 495          |
| AWSN-42E-108M |                | 329                       | 43                                 |                 |         |         |         |         |         | 518          |
| AWSN-43C-135M | 3              | 296                       | 39                                 | 3"              | 3975    | 1660    | 1295    | 1335    | 1200    | 648          |
| AWSN-43D-154M |                | 395                       | 52                                 |                 |         |         |         |         |         | 682          |
| AWSN-43E-163M |                | 493                       | 64                                 |                 |         |         |         |         |         | 718          |
| AWSN-44C-181M | 4              | 395                       | 52                                 | 4"              | 5175    | 1660    | 1295    | 1335    | 1200    | 854          |
| AWSN-44D-205M |                | 526                       | 69                                 |                 |         |         |         |         |         | 900          |
| AWSN-44E-217M |                | 658                       | 87                                 |                 |         |         |         |         |         | 947          |

## AWSB series - Ø 800 mm fans - low noise fans

| Type          | Number of fans | Surface<br>m <sup>2</sup> | Internal volume<br>dm <sup>3</sup> | Connection<br>Ø | A<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | Weight<br>kg |
|---------------|----------------|---------------------------|------------------------------------|-----------------|---------|---------|---------|---------|---------|--------------|
| AWSB-41C-035M | 1              | 99                        | 13                                 | 2"              | 1575    | 1660    | 1295    | 1335    | 1200    | 266          |
| AWSB-41D-039M |                | 132                       | 17                                 |                 |         |         |         |         |         | 278          |
| AWSB-41E-040M |                | 164                       | 21                                 |                 |         |         |         |         |         | 289          |
| AWSB-42C-070M | 2              | 197                       | 26                                 | 3"              | 2775    | 1660    | 1295    | 1335    | 1200    | 461          |
| AWSB-42D-077M |                | 263                       | 35                                 |                 |         |         |         |         |         | 484          |
| AWSB-42E-081M |                | 329                       | 43                                 |                 |         |         |         |         |         | 508          |
| AWSB-43C-106M | 3              | 296                       | 39                                 | 3"              | 3975    | 1660    | 1295    | 1335    | 1200    | 632          |
| AWSB-43D-117M |                | 395                       | 52                                 |                 |         |         |         |         |         | 667          |
| AWSB-43E-122M |                | 493                       | 64                                 |                 |         |         |         |         |         | 702          |
| AWSB-44C-140M | 4              | 395                       | 52                                 | 4"              | 5175    | 1660    | 1295    | 1335    | 1200    | 833          |
| AWSB-44D-155M |                | 526                       | 69                                 |                 |         |         |         |         |         | 880          |
| AWSB-44E-162M |                | 658                       | 87                                 |                 |         |         |         |         |         | 927          |

## AWSN series - Ø 910 mm fans - standard version

| Type          | Number of fans | Surface<br>m <sup>2</sup> | Internal volume<br>dm <sup>3</sup> | Connection<br>Ø | A<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | Weight<br>kg |
|---------------|----------------|---------------------------|------------------------------------|-----------------|---------|---------|---------|---------|---------|--------------|
| AWSN-51C-71L  | 1              | 180                       | 24                                 | 2"              | 2175    | 1768    | 1747    | 1588    | 1260    | 404          |
| AWSN-51D-81L  |                | 241                       | 32                                 |                 |         |         |         |         |         | 425          |
| AWSN-51F-90L  |                | 362                       | 48                                 |                 |         |         |         |         |         | 470          |
| AWSN-52C-142L | 2              | 362                       | 48                                 | 2 1/2"          | 3975    | 1768    | 1747    | 1588    | 1260    | 664          |
| AWSN-52D-162L |                | 482                       | 63                                 |                 |         |         |         |         |         | 708          |
| AWSN-52F-181L |                | 724                       | 95                                 |                 |         |         |         |         |         | 795          |
| AWSN-53C-221L | 3              | 543                       | 71                                 | 3"              | 5775    | 1768    | 1747    | 1588    | 1260    | 960          |
| AWSN-53D-251L |                | 724                       | 95                                 |                 |         |         |         |         |         | 1024         |
| AWSN-53F-279L |                | 1086                      | 143                                |                 |         |         |         |         |         | 1152         |
| AWSN-54C-262L | 4              | 817                       | 94                                 | 4"              | 7575    | 1768    | 1747    | 1588    | 1260    | 1255         |
| AWSN-54D-308L |                | 1089                      | 125                                |                 |         |         |         |         |         | 1335         |
| AWSN-54F-365L |                | 1634                      | 188                                |                 |         |         |         |         |         | 1494         |
| AWSN-55C-333L | 5              | 1021                      | 117                                | 4"              | 9375    | 1768    | 1747    | 1588    | 1260    | 1540         |
| AWSN-55D-391L |                | 1361                      | 156                                |                 |         |         |         |         |         | 1640         |
| AWSN-55F-462L |                | 2042                      | 234                                |                 |         |         |         |         |         | 1838         |
| AWSN-56F-560L | 6              | 2450                      | 281                                | 4"              | 11175   | 1768    | 1747    | 1588    | 1260    | 2183         |

## Technical information

### AWSN series - Ø 800 mm fans - standard version

| Type          | ~ 400v/50 Hz Connection Δ |           |               |                   |       | ~ 400v/50 Hz Connection Y |           |               |                   |       |
|---------------|---------------------------|-----------|---------------|-------------------|-------|---------------------------|-----------|---------------|-------------------|-------|
|               | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound |
|               | kW                        | m³/h      | kPa           | kW                | dB(A) | kW                        | m³/h      | kPa           | kW                | dB(A) |
| AWSN-41C-044M | 44                        | 8         | 23            |                   | 47    | 37                        | 6         | 16            |                   | 42    |
| AWSN-41D-051M | 51                        | 9         | 38            | 1,94              | 48    | 41                        | 7         | 26            | 1,21              | 43    |
| AWSN-41E-054M | 54                        | 9         | 31            |                   | 50    | 43                        | 7         | 20            |                   | 44    |
| AWSN-42C-090M | 90                        | 16        | 33            |                   | 50    | 74                        | 13        | 23            |                   | 45    |
| AWSN-42D-102M | 102                       | 18        | 34            | 3,88              | 51    | 82                        | 14        | 23            | 2,42              | 46    |
| AWSN-42E-108M | 108                       | 19        | 26            |                   | 53    | 85                        | 15        | 17            |                   | 47    |
| AWSN-43C-135M | 135                       | 24        | 36            |                   | 52    | 111                       | 19        | 25            |                   | 46    |
| AWSN-43D-154M | 154                       | 27        | 43            | 5,82              | 53    | 124                       | 22        | 29            | 3,63              | 48    |
| AWSN-43E-163M | 163                       | 28        | 37            |                   | 54    | 129                       | 22        | 24            |                   | 49    |
| AWSN-44C-181M | 181                       | 32        | 42            |                   | 53    | 150                       | 26        | 30            |                   | 48    |
| AWSN-44D-205M | 205                       | 36        | 37            | 7,76              | 54    | 165                       | 29        | 26            | 4,84              | 49    |
| AWSN-44E-217M | 217                       | 38        | 34            |                   | 56    | 171                       | 30        | 22            |                   | 50    |

Room (environment) temperature = 25 °C. Water inlet T = 40 °C. Water outlet T = 35 °C.

### AWSB series - Ø 800 mm fans - low noise fans

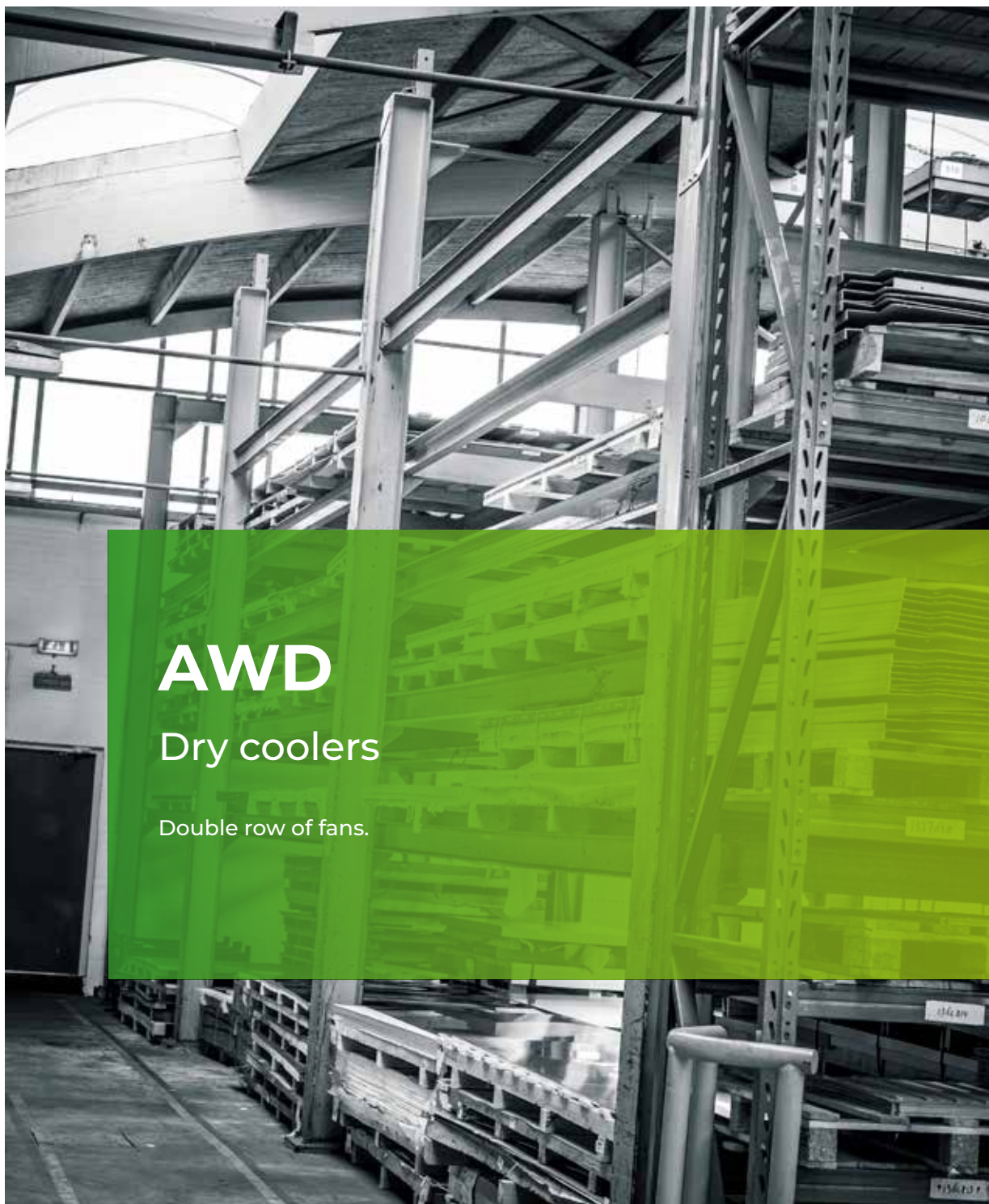
| Type          | ~ 400v/50 Hz Connection Δ |           |               |                   |       | ~ 400v/50 Hz Connection Y |           |               |                   |       |
|---------------|---------------------------|-----------|---------------|-------------------|-------|---------------------------|-----------|---------------|-------------------|-------|
|               | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound |
|               | kW                        | m³/h      | kPa           | kW                | dB(A) | kW                        | m³/h      | kPa           | kW                | dB(A) |
| AWSB-41C-035M | 35                        | 6         | 29            | 0,83              | 39    | 30                        | 5         | 22            | 0,50              | 34    |
| AWSB-41D-039M | 39                        | 7         | 23            | 0,83              | 40    | 32                        | 6         | 17            | 0,50              | 35    |
| AWSB-41E-040M | 40                        | 7         | 18            | 0,83              | 41    | 33                        | 6         | 13            | 0,50              | 36    |
| AWSB-42C-070M | 70                        | 12        | 31            | 1,66              | 42    | 60                        | 10        | 24            | 1,00              | 37    |
| AWSB-42D-077M | 77                        | 14        | 21            | 1,66              | 43    | 65                        | 11        | 15            | 1,00              | 38    |
| AWSB-42E-081M | 81                        | 14        | 15            | 1,66              | 44    | 66                        | 12        | 11            | 1,00              | 39    |
| AWSB-43C-106M | 106                       | 18        | 34            | 2,94              | 44    | 91                        | 16        | 26            | 1,50              | 39    |
| AWSB-43D-117M | 117                       | 20        | 26            | 2,49              | 45    | 98                        | 17        | 19            | 1,50              | 40    |
| AWSB-43E-122M | 123                       | 21        | 22            | 2,49              | 46    | 100                       | 17        | 15            | 1,50              | 41    |
| AWSB-44C-140M | 140                       | 24        | 27            | 3,32              | 45    | 120                       | 21        | 20            | 2,00              | 40    |
| AWSB-44D-155M | 155                       | 27        | 22            | 3,32              | 46    | 130                       | 23        | 17            | 2,00              | 41    |
| AWSB-44E-162M | 162                       | 28        | 20            | 3,32              | 47    | 133                       | 23        | 14            | 2,00              | 42    |

Room (environment) temperature = 25 °C. Water inlet T = 40 °C. Water outlet T = 35 °C.

## AWSN series - Ø 910 mm fans - standard version

| Type          | ~ 400v/50 Hz Connection Δ |           |               |                   |       | ~ 400v/50 Hz Connection Y |           |               |                   |       |
|---------------|---------------------------|-----------|---------------|-------------------|-------|---------------------------|-----------|---------------|-------------------|-------|
|               | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound |
|               | kW                        | m³/h      | kPa           | kW                | dB(A) | kW                        | m³/h      | kPa           | kW                | dB(A) |
| AWSN-51C-71L  | 71                        | 12        | 20            |                   | 49    | 59                        | 10        | 14            |                   | 43    |
| AWSN-51D-81L  | 81                        | 14        | 18            | 2,48              | 49    | 66                        | 11        | 12            | 1,57              | 43    |
| AWSN-51F-90L  | 90                        | 16        | 14            |                   | 49    | 72                        | 12        | 9             |                   | 44    |
| AWSN-52C-142L | 142                       | 25        | 20            |                   | 52    | 118                       | 21        | 14            |                   | 46    |
| AWSN-52D-162L | 162                       | 28        | 19            | 4,96              | 52    | 132                       | 23        | 13            | 3,14              | 46    |
| AWSN-52F-181L | 181                       | 31        | 17            |                   | 52    | 144                       | 25        | 11            |                   | 47    |
| AWSN-53C-221L | 221                       | 38        | 52            |                   | 53    | 184                       | 32        | 38            |                   | 48    |
| AWSN-53D-251L | 251                       | 44        | 43            | 7,44              | 54    | 205                       | 35        | 30            | 4,71              | 48    |
| AWSN-53F-279L | 279                       | 48        | 32            |                   | 54    | 223                       | 39        | 21            |                   | 49    |
| AWSN-54C-262L | 262                       | 46        | 61            |                   | 55    | 223                       | 39        | 46            |                   | 49    |
| AWSN-54D-308L | 308                       | 53        | 51            | 9,92              | 55    | 259                       | 45        | 37            | 6,28              | 49    |
| AWSN-54F-365L | 365                       | 63        | 37            |                   | 55    | 299                       | 52        | 26            |                   | 49    |
| AWSN-55C-333L | 333                       | 58        | 114           |                   | 56    | 283                       | 49        | 86            |                   | 50    |
| AWSN-55D-391L | 391                       | 68        | 94            | 12,4              | 56    | 328                       | 57        | 69            | 7,85              | 50    |
| AWSN-55F-462L | 462                       | 80        | 68            |                   | 56    | 378                       | 66        | 47            |                   | 50    |
| AWSN-56F-560L | 560                       | 97        | 111           | 14,88             | 56    | 457                       | 79        | 77            | 9,42              | 51    |

Room (environment) temperature = 25 °C. Water inlet T = 40 °C. Water outlet T = 35 °C.



# AWD

## Dry coolers

Double row of fans.



For more information, downloads  
and videos, visit the AWD page on  
our website





### Dry coolers: Double row of fans

The Mark AWD is a series of Dry Coolers with a double row of fans. Both the standard version and the low-noise version are available in cooling capacities from 163 kW to 763 kW.

The AWD Dry Coolers are compact and robust. They are made of galvanized steel for both horizontal and vertical mounting using the correct kit. The units are equipped with anchor and lifting points for placement.

The chassis and housing are fully protected with a paint layer with a high corrosion resistance that offers maximum weather resistance. The parts are each coated in RAL 9002 prior to assembly.

Mark double row Dry Coolers are equipped with heat exchangers with a copper tube and aluminum fins. They are equipped with a steel threaded connection.

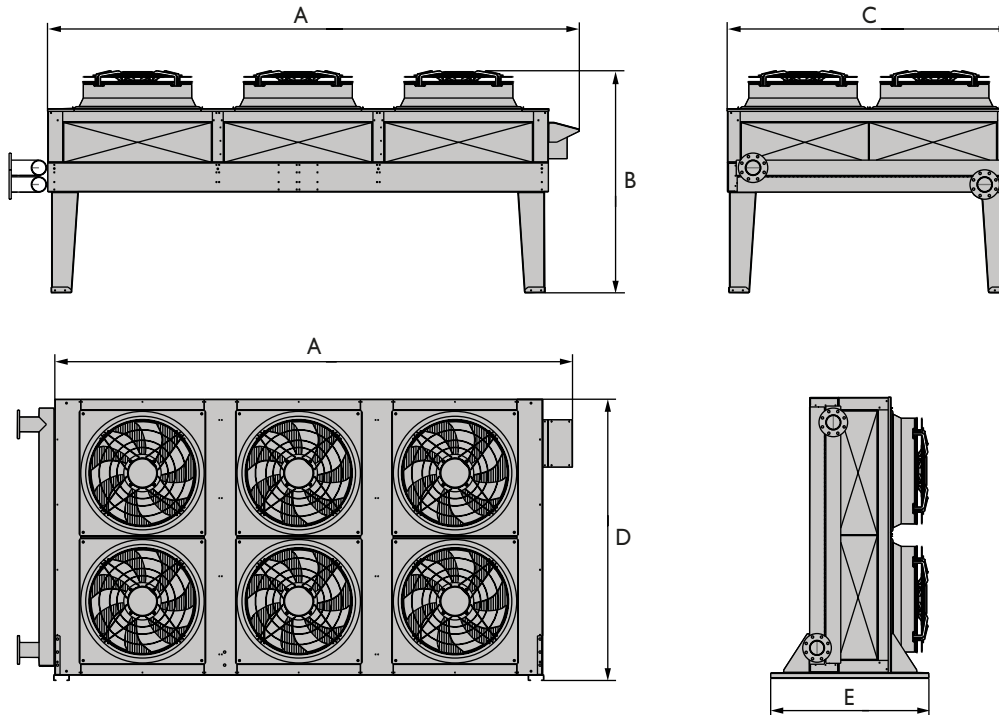
The fans incorporate 3-phase asynchronous external rotor motors with IP54 protection level, class F insulation, with the possibility of connecting them in star or delta, having in this way two speeds of operation.

Adaptation to the most restrictive noise conditions, this range of fan motors is available with a different number of poles.

#### Product features

- Optimized EC fans
- Stainless steel housing
- Multi circuit water connection
- Compact
- Quiet
- Robust
- Economical
- Completely wired up to the terminal box

## Dimensions



AWDN series - Ø 800 mm fans - standard version

| Type          | Number of fans | Surface<br>m <sup>2</sup> | Internal volume<br>dm <sup>3</sup> | Connection<br>Ø | A<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | Weight<br>kg |
|---------------|----------------|---------------------------|------------------------------------|-----------------|---------|---------|---------|---------|---------|--------------|
| AWDN-44C-163M | 4              | 340                       | 45                                 | 3"              | 2775    | 1660    | 2120    | 2160    | 1215    | 691          |
| AWDN-44D-184M |                | 453                       | 60                                 |                 |         |         |         |         |         | 732          |
| AWDN-44E-194M |                | 566                       | 74                                 |                 |         |         |         |         |         | 772          |
| AWDN-46C-245M | 6              | 509                       | 67                                 | 4"              | 3975    | 1660    | 2120    | 2160    | 1215    | 1145         |
| AWDN-46D-276M |                | 680                       | 90                                 |                 |         |         |         |         |         | 1265         |
| AWDN-46E-293M |                | 850                       | 112                                |                 |         |         |         |         |         | 1385         |
| AWDN-48C-330M | 8              | 680                       | 90                                 | 4"              | 8175    | 1660    | 2120    | 2160    | 1215    | 1263         |
| AWDN-48D-368M |                | 907                       | 119                                |                 |         |         |         |         |         | 1345         |
| AWDN-48E-391M |                | 1133                      | 149                                |                 |         |         |         |         |         | 1425         |

## AWDB series - Ø 800 mm fans - low noise fans

| Type          | Number of fans | Surface<br>m <sup>2</sup> | Internal volume<br>dm <sup>3</sup> | Connection<br>Ø | A<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | Weight<br>kg |
|---------------|----------------|---------------------------|------------------------------------|-----------------|---------|---------|---------|---------|---------|--------------|
| AWDB-44C-130M | 4              | 340                       | 45                                 | 3"              | 2775    | 1660    | 2120    | 2160    | 1215    | 670          |
| AWDB-44D-141M |                | 453                       | 60                                 |                 |         |         |         |         |         | 712          |
| AWDB-44E-145M |                | 566                       | 74                                 |                 |         |         |         |         |         | 752          |
| AWDB-46C-195M | 6              | 509                       | 67                                 | 4"              | 3975    | 1660    | 2120    | 2160    | 1215    | 1115         |
| AWDB-46D-211M |                | 680                       | 90                                 |                 |         |         |         |         |         | 1235         |
| AWDB-46E-219M |                | 850                       | 112                                |                 |         |         |         |         |         | 1355         |
| AWDB-48C-259M | 8              | 680                       | 90                                 | 4"              | 8175    | 1660    | 2120    | 2160    | 1215    | 1223         |
| AWDB-48D-281M |                | 907                       | 119                                |                 |         |         |         |         |         | 1305         |
| AWDB-48E-293M |                | 1133                      | 149                                |                 |         |         |         |         |         | 1385         |

## AWDN series - Ø 910 mm fans - standard version

| Type           | Number of fans | Surface<br>m <sup>2</sup> | Internal volume<br>dm <sup>3</sup> | Connection<br>Ø | A<br>mm | B<br>mm | C<br>mm | D<br>mm | E<br>mm | Weight<br>kg |
|----------------|----------------|---------------------------|------------------------------------|-----------------|---------|---------|---------|---------|---------|--------------|
| AWDN-54C-244L  | 4              | 542                       | 71                                 | 3"              | 3975    | 1761    | 2246    | 2287    | 1275    | 912          |
| AWDN-54D-276L  |                | 723                       | 95                                 |                 |         |         |         |         |         | 977          |
| AWDN-54F-304L  |                | 1085                      | 143                                |                 |         |         |         |         |         | 1107         |
| AWDN-56C-379L  | 6              | 814                       | 107                                | 4"              | 5775    | 1761    | 2246    | 2287    | 1275    | 1311         |
| AWDN-56D-428L  |                | 1085                      | 143                                |                 |         |         |         |         |         | 1407         |
| AWDN-56F-470L  |                | 1628                      | 214                                |                 |         |         |         |         |         | 1599         |
| AWDN-58C-431L  | 8              | 1157                      | 132                                | 4"              | 7575    | 1761    | 2246    | 2287    | 1275    | 1633         |
| AWDN-58D-510L  |                | 1542                      | 177                                |                 |         |         |         |         |         | 1746         |
| AWDN-58F-602L  |                | 2314                      | 265                                |                 |         |         |         |         |         | 1972         |
| AWDN-510D-647L | 10             | 1928                      | 221                                | 4"              | 9375    | 1761    | 2246    | 2287    | 1275    | 2140         |
| AWDN-510F-763L |                | 2892                      | 332                                |                 |         |         |         |         |         | 2422         |

## Technical information

### AWDN series - Ø 800 mm fans - standard version

| Type          | ~ 400v/50 Hz Connection Δ |           |               |                   |       | ~ 400v/50 Hz Connection Y |           |               |                   |       |
|---------------|---------------------------|-----------|---------------|-------------------|-------|---------------------------|-----------|---------------|-------------------|-------|
|               | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound |
|               | kW                        | m³/h      | kPa           | kW                | dB(A) | kW                        | m³/h      | kPa           | kW                | dB(A) |
| AWDN-44C-163M | 163                       | 28        | 37            |                   | 54    | 134                       | 23        | 26            |                   | 49    |
| AWDN-44D-184M | 184                       | 32        | 42            | 7,76              | 56    | 148                       | 26        | 29            | 4,84              | 50    |
| AWDN-44E-194M | 194                       | 34        | 34            |                   | 57    | 153                       | 27        | 22            |                   | 52    |
| AWDN-46C-245M | 245                       | 43        | 36            |                   | 56    | 201                       | 35        | 25            |                   | 50    |
| AWDN-46D-276M | 276                       | 48        | 39            | 11,64             | 57    | 222                       | 39        | 26            | 7,26              | 52    |
| AWDN-46E-293M | 293                       | 51        | 38            |                   | 59    | 230                       | 40        | 25            |                   | 53    |
| AWDN-48C-330M | 330                       | 57        | 51            |                   | 57    | 271                       | 47        | 36            |                   | 52    |
| AWDN-48D-368M | 368                       | 64        | 40            | 15,52             | 59    | 296                       | 52        | 27            | 9,68              | 53    |
| AWDN-48E-391M | 391                       | 68        | 45            |                   | 60    | 308                       | 54        | 29            |                   | 55    |

Room (environment) temperature = 25 °C. Water inlet T = 40 °C. Water outlet T = 35 °C.

### AWDB series - Ø 800 mm fans - low noise fans

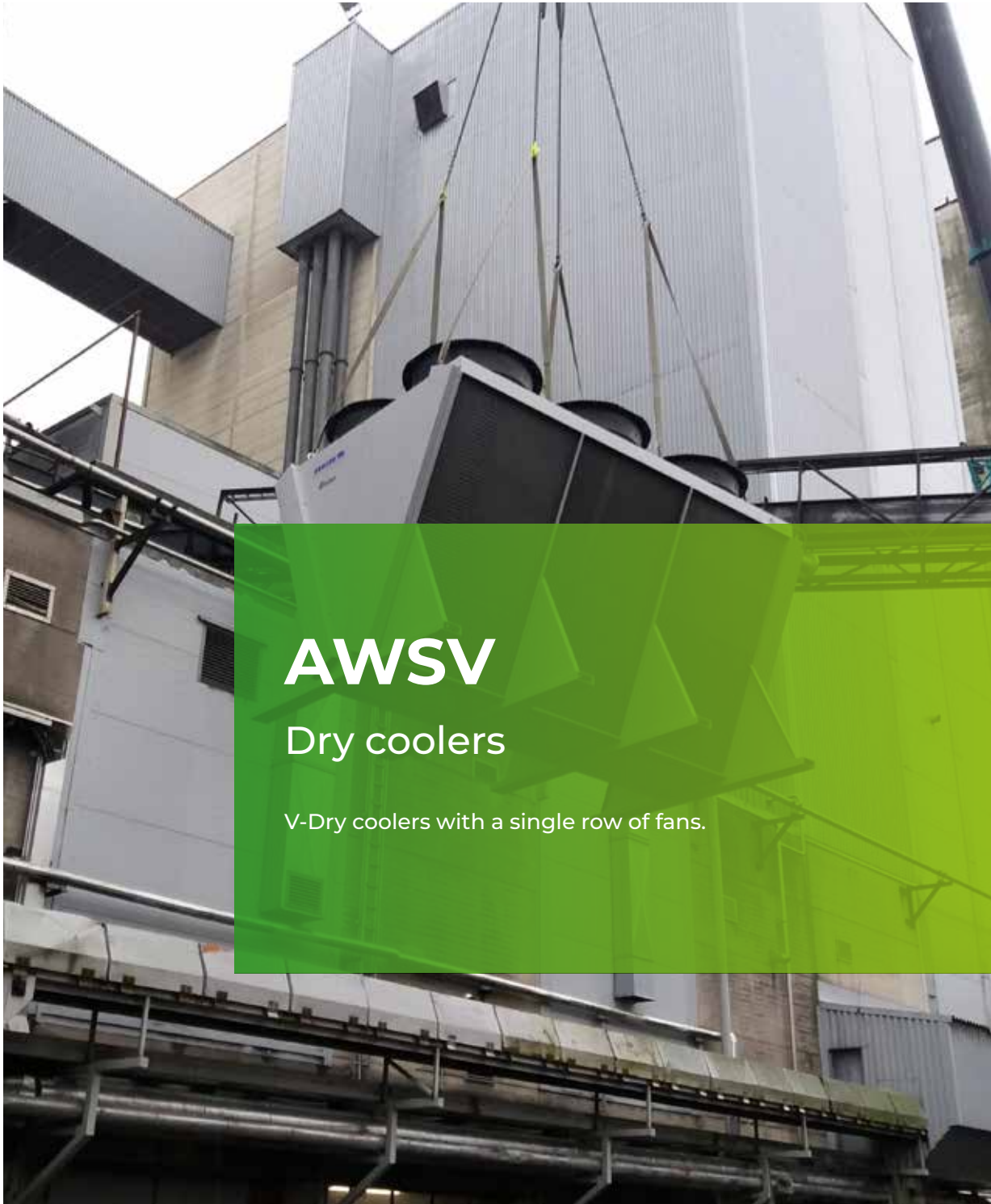
| Type          | ~ 400v/50 Hz Connection Δ |           |               |                   |       | ~ 400v/50 Hz Connection Y |           |               |                   |       |
|---------------|---------------------------|-----------|---------------|-------------------|-------|---------------------------|-----------|---------------|-------------------|-------|
|               | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound |
|               | kW                        | m³/h      | kPa           | kW                | dB(A) | kW                        | m³/h      | kPa           | kW                | dB(A) |
| AWDB-44C-130M | 130                       | 23        | 36            |                   | 46    | 111                       | 19        | 27            |                   | 40    |
| AWDB-44D-141M | 141                       | 24        | 26            | 3,32              | 48    | 116                       | 20        | 18            | 2                 | 42    |
| AWDB-44E-145M | 145                       | 25        | 21            |                   | 49    | 118                       | 21        | 14            |                   | 43    |
| AWDB-46C-195M | 195                       | 34        | 37            |                   | 47    | 167                       | 29        | 28            |                   | 42    |
| AWDB-46D-211M | 211                       | 37        | 24            | 4,98              | 49    | 174                       | 30        | 17            | 3                 | 44    |
| AWDB-46E-219M | 219                       | 38        | 23            |                   | 51    | 178                       | 31        | 16            |                   | 45    |
| AWDB-48C-259M | 259                       | 45        | 33            |                   | 49    | 222                       | 39        | 25            |                   | 43    |
| AWDB-48D-281M | 281                       | 49        | 25            | 6,64              | 51    | 232                       | 40        | 18            | 4                 | 45    |
| AWDB-48E-293M | 293                       | 51        | 27            |                   | 51    | 238                       | 41        | 18            |                   | 46    |

Room (environment) temperature = 25 °C. Water inlet T = 40 °C. Water outlet T = 35 °C.

### AWDN series - Ø 910 mm fans - standard version

| Type           | ~ 400v/50 Hz Connection Δ |           |               |                   |       | ~ 400v/50 Hz Connection Y |           |               |                   |       |
|----------------|---------------------------|-----------|---------------|-------------------|-------|---------------------------|-----------|---------------|-------------------|-------|
|                | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound |
|                | kW                        | m³/h      | kPa           | kW                | dB(A) | kW                        | m³/h      | kPa           | kW                | dB(A) |
| AWDN-54C-244L  | 244                       | 42        | 28            |                   | 55    | 204                       | 34        | 20            |                   | 49    |
| AWDN-54D-276L  | 276                       | 47        | 26            | 9,92              | 56    | 227                       | 39        | 18            | 6,28              | 50    |
| AWDN-54F-304L  | 304                       | 52        | 23            |                   | 58    | 242                       | 42        | 15            |                   | 52    |
| AWDN-56C-379L  | 379                       | 65        | 65            |                   | 57    | 316                       | 54        | 47            |                   | 51    |
| AWDN-56D-428L  | 428                       | 74        | 52            | 14,88             | 57    | 351                       | 61        | 37            | 9,42              | 52    |
| AWDN-56F-470L  | 470                       | 81        | 36            |                   | 59    | 374                       | 64        | 24            |                   | 54    |
| AWDN-58C-431L  | 431                       | 74        | 84            |                   | 58    | 371                       | 64        | 65            |                   | 52    |
| AWDN-58D-510L  | 509                       | 88        | 74            | 19,84             | 58    | 432                       | 75        | 55            | 12,56             | 52    |
| AWDN-58F-602L  | 602                       | 104       | 59            |                   | 59    | 494                       | 85        | 41            |                   | 54    |
| AWDN-510D-647L | 646                       | 112       | 136           |                   | 59    | 547                       | 95        | 101           |                   | 53    |
| AWDN-510F-763L | 763                       | 132       | 105           | 24,8              | 60    | 626                       | 108       | 73            | 15,7              | 55    |

Room (environment) temperature = 25 °C. Water inlet T = 40 °C. Water outlet T = 35 °C.



# AWSV

## Dry coolers

V-Dry coolers with a single row of fans.



For more information, downloads  
and videos, visit the AWSV page  
on our website



#### Product features

- Optimized EC fans
- Multi circuit water connection
- Compact
- Quiet
- Robust
- Economical
- Completely wired up to the terminal box

#### V-Dry coolers with a single row of fans

De Mark AWSV is a serie of Dry Coolers with two coils and a single row of fans, arranged in a "V-shape". Both the standard version and the low-noise version are available in cooling capacities from 130 kW to 964 kW. Larger capacities on request.

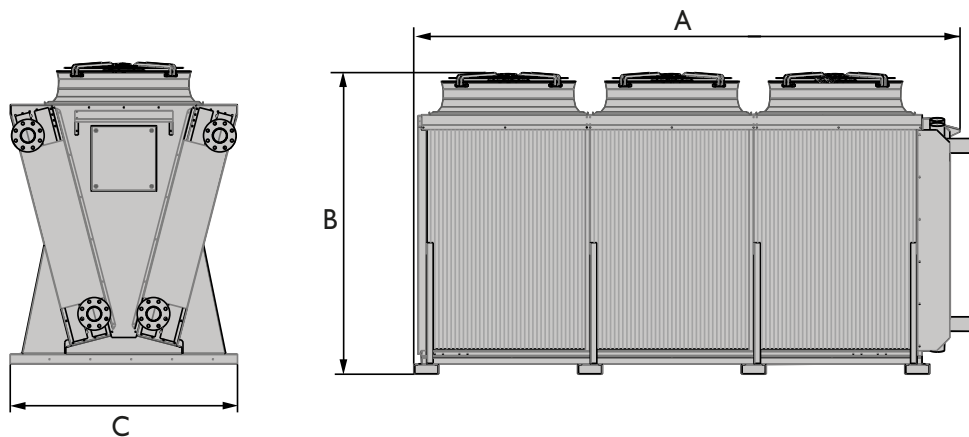
The AWSV Dry Coolers are compact and robust. They are made of galvanized steel for both horizontal and vertical mounting using the correct kit. The units are equipped with anchor and lifting points for placement.

The chassis and housing are fully protected with a paint layer with a high corrosion resistance that offers maximum weather resistance. The parts are each coated in RAL 9002 prior to assembly.

Mark single row V-Dry Coolers are equipped with heat exchangers with a copper tube and aluminum fins. They are equipped with a steel threaded connection.

The fans incorporate 3-phase asynchronous external rotor motors with IP54 protection level, class F insulation, with the possibility of connecting them in star or delta, having in this way two speeds of operation.

## Dimensions



AWSVN series - Ø 800 mm fans - standard version

| Type           | Number of fans | Surface<br>m <sup>2</sup> | Internal volume<br>dm <sup>3</sup> | Connection<br>Ø | A<br>mm | B<br>mm | C<br>mm | Weight<br>kg |
|----------------|----------------|---------------------------|------------------------------------|-----------------|---------|---------|---------|--------------|
| AWSVN-42C-130M | 2              | 402                       | 53                                 | 2"              | 2342    | 1875    | 1390    | 710          |
| AWSVN-42D-148M |                | 536                       | 70                                 |                 |         |         |         | 757          |
| AWSVN-43C-195M | 3              | 603                       | 79                                 | 2"              | 3342    | 1875    | 1390    | 1029         |
| AWSVN-43D-222M |                | 804                       | 106                                |                 |         |         |         | 1100         |
| AWSVN-44C-261M | 4              | 804                       | 106                                | 2" 1/2          | 4342    | 1875    | 1390    | 1275         |
| AWSVN-44D-296M |                | 1072                      | 141                                |                 |         |         |         | 1370         |
| AWSVN-45C-326M | 5              | 1005                      | 132                                | 2" 1/2          | 5342    | 1875    | 1390    | 1560         |
| AWSVN-45D-371M |                | 1340                      | 177                                |                 |         |         |         | 1679         |
| AWSVN-46C-392M | 6              | 1206                      | 159                                | 3"              | 6342    | 1875    | 1390    | 1834         |
| AWSVN-46D-445M |                | 1608                      | 212                                |                 |         |         |         | 1976         |

AWSVB series - Ø 800 mm fans - low noise fans

| Type           | Number of fans | Surface<br>m <sup>2</sup> | Internal volume<br>dm <sup>3</sup> | Connection<br>Ø | A<br>mm | B<br>mm | C<br>mm | Weight<br>kg |
|----------------|----------------|---------------------------|------------------------------------|-----------------|---------|---------|---------|--------------|
| AWSVB-42C-97M  | 2              | 402                       | 53                                 | 2"              | 2342    | 1875    | 1390    | 700          |
| AWSVB-42D-108M |                | 536                       | 70                                 |                 |         |         |         | 747          |
| AWSVB-43C-146M | 3              | 603                       | 79                                 | 2"              | 3342    | 1875    | 1390    | 1014         |
| AWSVB-43D-162M |                | 804                       | 106                                |                 |         |         |         | 1085         |
| AWSVB-44C-195M | 4              | 804                       | 106                                | 2" 1/2          | 4342    | 1875    | 1390    | 1255         |
| AWSVB-44D-217M |                | 1072                      | 141                                |                 |         |         |         | 1350         |
| AWSVB-45C-244M | 5              | 1005                      | 132                                | 2" 1/2          | 5342    | 1875    | 1390    | 1535         |
| AWSVB-45D-272M |                | 1340                      | 177                                |                 |         |         |         | 1654         |
| AWSVB-46C-293M | 6              | 1206                      | 159                                | 3"              | 6342    | 1875    | 1390    | 1804         |
| AWSVB-46D-326M |                | 1608                      | 212                                |                 |         |         |         | 1946         |



## AWSVN series - Ø 910 mm fans - standard version

| Type           | Number of fans | Surface<br>m <sup>2</sup> | Internal volume<br>dm <sup>3</sup> | Connection<br>Ø | A<br>mm | B<br>mm | C<br>mm | Weight<br>kg |
|----------------|----------------|---------------------------|------------------------------------|-----------------|---------|---------|---------|--------------|
| AWSVN-52C-195M | 2              | 712                       | 93                                 | 2" 1/2          | 3425    | 2047    | 1390    | 993          |
| AWSVN-52D-220M |                | 950                       | 125                                |                 |         |         |         | 1076         |
| AWSVN-52F-244M |                | 1425                      | 187                                |                 |         |         |         | 1242         |
| AWSVN-53C-287M | 3              | 1069                      | 140                                | 2" 1/2          | 4925    | 2047    | 1390    | 1405         |
| AWSVN-53D-324M |                | 1425                      | 187                                |                 |         |         |         | 1531         |
| AWSVN-53F-361M |                | 2138                      | 281                                |                 |         |         |         | 1781         |
| AWSVN-54C-390M | 4              | 1425                      | 187                                | 3"              | 6425    | 2047    | 1390    | 1919         |
| AWSVN-54D-439M |                | 190                       | 250                                |                 |         |         |         | 2085         |
| AWSVN-54F-488M |                | 2851                      | 375                                |                 |         |         |         | 2417         |
| AWSVN-55C-493M | 5              | 1781                      | 234                                | 4"              | 7925    | 2047    | 1390    | 2159         |
| AWSVN-55D-555M |                | 2375                      | 312                                |                 |         |         |         | 2365         |
| AWSVN-55F-615M |                | 3563                      | 469                                |                 |         |         |         | 2777         |
| AWSVN-56C-535M | 6              | 2382                      | 273                                | 4"              | 9425    | 2047    | 1390    | 2492         |
| AWSVN-56D-618M |                | 3176                      | 364                                |                 |         |         |         | 2720         |
| AWSVN-56F-715M |                | 4624                      | 546                                |                 |         |         |         | 3177         |
| AWSVN-57C-629M | 7              | 2779                      | 319                                | 4"              | 10925   | 2047    | 1390    | 2870         |
| AWSVN-57D-727M |                | 3705                      | 425                                |                 |         |         |         | 3136         |
| AWSVN-57F-840M |                | 5558                      | 638                                |                 |         |         |         | 3667         |
| AWSVN-58D-835M | 8              | 4235                      | 486                                | 5"              | 12425   | 2047    | 1390    | 3551         |
| AWSVN-58F-964M |                | 6353                      | 729                                |                 |         |         |         | 4158         |

## Technical information

## AWSVN series - Ø 800 mm fans - standard version

| Type           | ~ 400v/50 Hz Connection Δ |                   |               |                   |       | ~ 400v/50 Hz Connection Y |                   |               |                   |       |
|----------------|---------------------------|-------------------|---------------|-------------------|-------|---------------------------|-------------------|---------------|-------------------|-------|
|                | Capacity                  | Mass flow         | Pressure drop | Power consumption | Sound | Capacity                  | Mass flow         | Pressure drop | Power consumption | Sound |
|                | kW                        | m <sup>3</sup> /h | kPa           | kW                | dB(A) | kW                        | m <sup>3</sup> /h | kPa           | kW                | dB(A) |
| AWSVN-42C-130M | 130                       | 23                | 37            | 3,88              | 49    | 106                       | 18                | 26            | 2,42              | 43    |
| AWSVN-42D-148M | 148                       | 26                |               |                   |       | 118                       | 21                | 25            |                   |       |
| AWSVN-43C-195M | 195                       | 34                | 38            | 5,82              | 51    | 159                       | 28                | 27            | 3,63              | 45    |
| AWSVN-43D-222M | 222                       | 39                |               |                   |       | 177                       | 31                | 26            |                   |       |
| AWSVN-44C-261M | 261                       | 45                | 40            | 7,76              | 52    | 212                       | 37                | 28            | 4,84              | 46    |
| AWSVN-44D-296M | 296                       | 52                |               |                   |       | 237                       | 41                | 27            |                   |       |
| AWSVN-45C-326M | 326                       | 57                | 44            | 9,7               | 53    | 266                       | 46                | 31            | 6,05              | 47    |
| AWSVN-45D-371M | 371                       | 64                |               |                   |       | 297                       | 52                | 30            |                   |       |
| AWSVN-46C-392M | 392                       | 68                | 48            | 11,64             | 54    | 319                       | 56                | 34            | 7,26              | 48    |
| AWSVN-46D-445M | 445                       | 77                |               |                   |       | 356                       | 62                | 34            |                   |       |

Room (environment) temperature = 25 °C. Water inlet T = 40 °C. Water outlet T = 35 °C.

## AWSVB series - Ø 800 mm fans - low noise fans

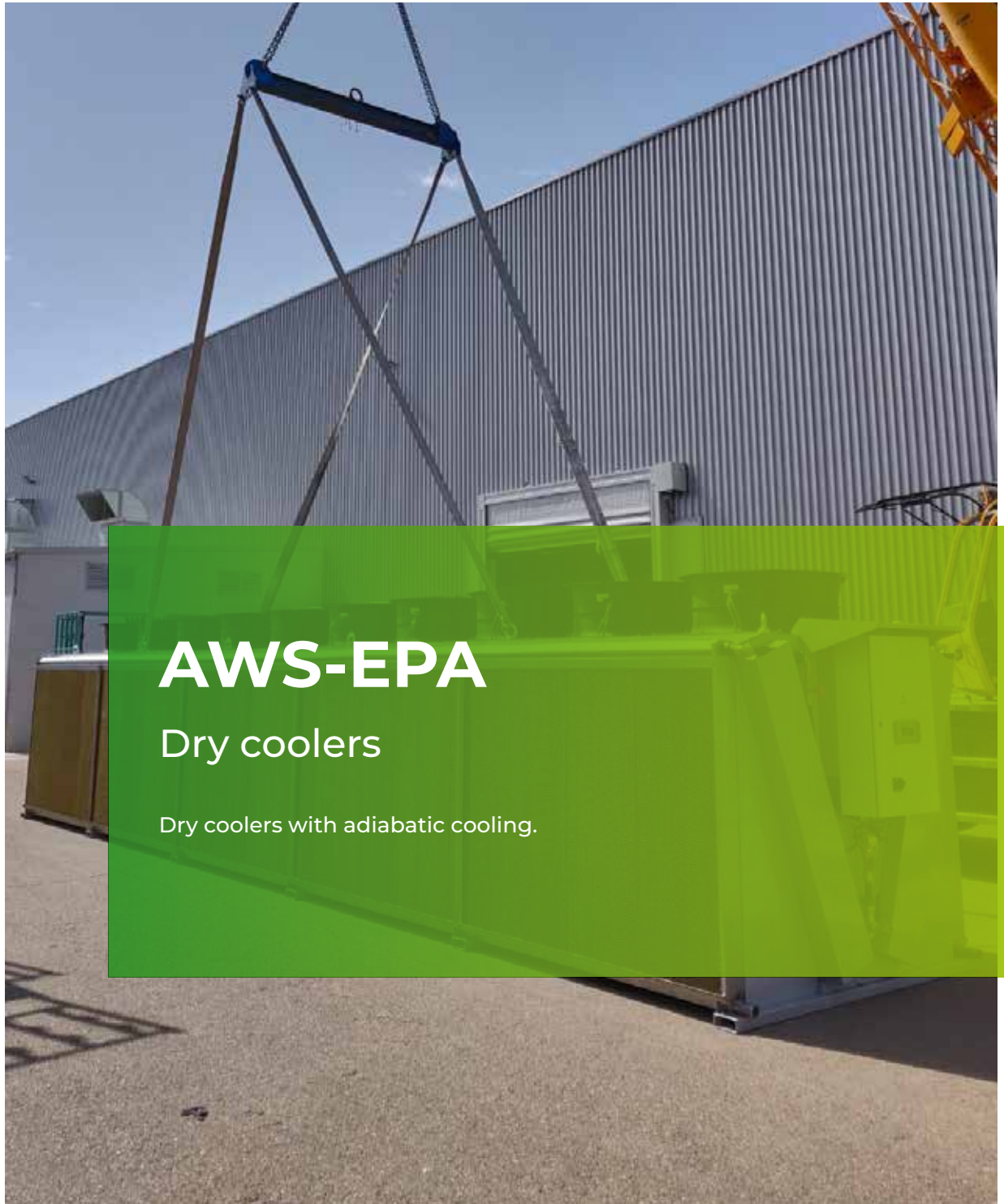
| Type           | ~ 400v/50 Hz Connection Δ |           |               |                   |       | ~ 400v/50 Hz Connection Y |           |               |                   |       |
|----------------|---------------------------|-----------|---------------|-------------------|-------|---------------------------|-----------|---------------|-------------------|-------|
|                | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound |
|                | kW                        | m³/h      | kPa           | kW                | dB(A) | kW                        | m³/h      | kPa           | kW                | dB(A) |
| AWSVB-42C-97M  | 97                        | 17        | 22            | 1,66              | 41    | 85                        | 15        | 17            | 1                 | 38    |
| AWSVB-42D-108M | 108                       | 19        | 21            |                   |       | 93                        | 16        | 16            |                   |       |
| AWSVB-43C-146M | 146                       | 25        | 23            | 2,49              | 43    | 128                       | 22        | 18            | 1,5               | 39    |
| AWSVB-43D-162M | 162                       | 28        | 22            |                   |       | 140                       | 24        | 17            |                   |       |
| AWSVB-44C-195M | 195                       | 34        | 24            | 3,32              | 44    | 170                       | 30        | 19            | 2                 | 41    |
| AWSVB-44D-217M | 217                       | 38        | 23            |                   |       | 187                       | 32        | 18            |                   |       |
| AWSVB-45C-244M | 244                       | 42        | 26            | 4,15              | 45    | 213                       | 37        | 21            | 2,5               | 41    |
| AWSVB-45D-272M | 272                       | 47        | 26            |                   |       | 234                       | 41        | 20            |                   |       |
| AWSVB-46C-293M | 293                       | 51        | 29            | 4,98              | 46    | 256                       | 45        | 23            | 3                 | 42    |
| AWSVB-46D-326M | 326                       | 57        | 29            |                   |       | 281                       | 49        | 22            |                   |       |

Room (environment) temperature = 25 °C. Water inlet T = 40 °C. Water outlet T = 35 °C.

## AWSVN series - Ø 910 mm fans - standard version

| Type           | ~ 400v/50 Hz Connection Δ |           |               |                   |       | ~ 400v/50 Hz Connection Y |           |               |                   |       |
|----------------|---------------------------|-----------|---------------|-------------------|-------|---------------------------|-----------|---------------|-------------------|-------|
|                | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound | Capacity                  | Mass flow | Pressure drop | Power consumption | Sound |
|                | kW                        | m³/h      | kPa           | kW                | dB(A) | kW                        | m³/h      | kPa           | kW                | dB(A) |
| AWSVN-52C-195M | 195                       | 33        | 34            | 4,96              | 53    | 160                       | 27        | 24            | 3,14              | 47    |
| AWSVN-52D-220M | 220                       | 38        | 27            |                   | 52    | 177                       | 30        | 19            |                   | 47    |
| AWSVN-52F-244M | 244                       | 42        | 18            |                   | 52    | 193                       | 33        | 12            |                   | 47    |
| AWSVN-53C-287M | 287                       | 49        | 20            | 7,44              | 54    | 235                       | 40        | 14            | 4,71              | 49    |
| AWSVN-53D-324M | 324                       | 56        | 18            |                   | 54    | 262                       | 45        | 12            |                   | 49    |
| AWSVN-53F-361M | 361                       | 62        | 16            |                   | 54    | 286                       | 49        | 10            |                   | 48    |
| AWSVN-54C-390M | 390                       | 57        | 36            | 9,92              | 56    | 320                       | 55        | 25            | 6,28              | 50    |
| AWSVN-54D-439M | 439                       | 76        | 30            |                   | 55    | 355                       | 61        | 20            |                   | 50    |
| AWSVN-54F-488M | 488                       | 84        | 31            |                   | 55    | 386                       | 67        | 20            |                   | 50    |
| AWSVN-55C-493M | 493                       | 85        | 59            | 12,4              | 56    | 404                       | 70        | 42            | 7,85              | 51    |
| AWSVN-55D-555M | 555                       | 96        | 45            |                   | 56    | 448                       | 77        | 31            |                   | 51    |
| AWSVN-55F-615M | 615                       | 106       | 29            |                   | 56    | 487                       | 84        | 19            |                   | 50    |
| AWSVN-56C-535M | 535                       | 92        | 60            | 14,88             | 58    | 447                       | 77        | 44            | 9,42              | 52    |
| AWSVN-56D-618M | 618                       | 107       | 49            |                   | 57    | 510                       | 88        | 35            |                   | 52    |
| AWSVN-56F-715M | 715                       | 124       | 34            |                   | 57    | 575                       | 99        | 23            |                   | 52    |
| AWSVN-57C-629M | 629                       | 109       | 92            | 17,36             | 58    | 526                       | 91        | 67            | 10,99             | 53    |
| AWSVN-57D-727M | 727                       | 126       | 75            |                   | 58    | 599                       | 104       | 53            |                   | 52    |
| AWSVN-57F-840M | 840                       | 145       | 52            |                   | 58    | 675                       | 117       | 35            |                   | 52    |
| AWSVN-58D-835M | 835                       | 144       | 108           | 19,84             | 59    | 688                       | 119       | 76            | 12,56             | 53    |
| AWSVN-58F-964M | 964                       | 167       | 74            |                   | 58    | 775                       | 134       | 50            |                   | 53    |

Room (environment) temperature = 25 °C. Water inlet T = 40 °C. Water outlet T = 35 °C.



# AWS-EPA

## Dry coolers

Dry coolers with adiabatic cooling.



For more information, downloads  
and videos, visit the AWS-EPA  
page on our website



### AWS-EPA Adiabatic Dry Coolers

The Mark AWS-EPA adiabatic series is a range of Dry Coolers with an integrated adiabatic pre-cooler. This pre-cooling system is used to cool ambient air before it enters the coil, thereby ensuring an increase in cooling capacity and large energy savings.

The adiabatic dry coolers allow to obtain the following temperatures in the heat exchanger:

- DRY AREAS: 15°C below the maximum outside temperature.
- MEDIUM AND WET AREAS: between 10°C and 5°C below the maximum outside temperature.

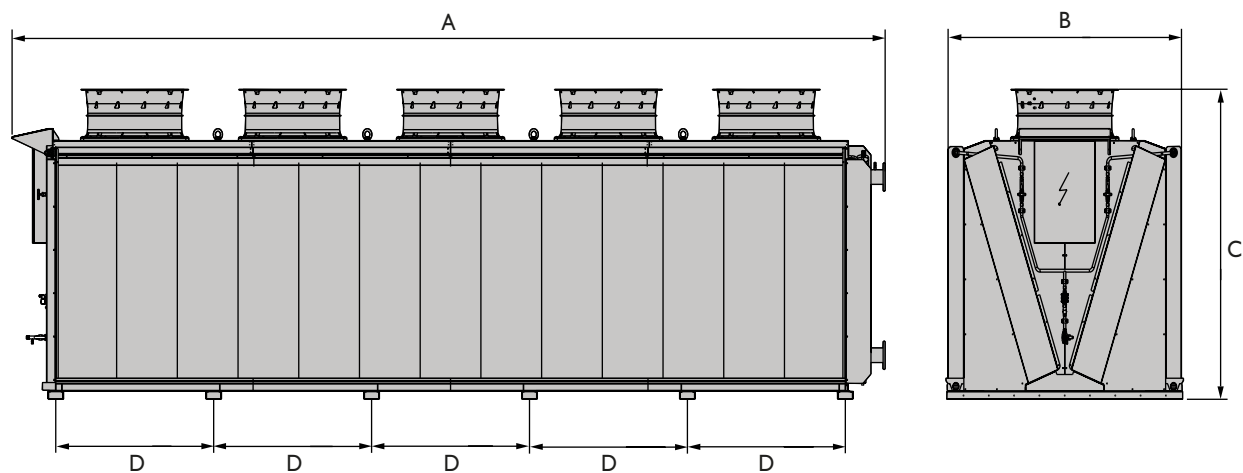
Water temperature target: 28-32°C.

The chassis and housing are fully protected with a paint layer with a high corrosion resistance that offers maximum weather resistance. The parts are each coated in RAL 9002 prior to assembly.

#### Product features

- Energy saving
- Water saving
- High efficiency evaporation
- Maintenance friendly
- Environmentally friendly
- Legionella proof
- Good controls

## Dimensions AWSN-EPA



AWSN-EPA series - Ø 910 mm fans - standard version

| Type               | Number of fans | Surface<br>m <sup>2</sup> | Internal volume<br>dm <sup>3</sup> | A<br>mm | B<br>mm | C<br>mm | D<br>mm |
|--------------------|----------------|---------------------------|------------------------------------|---------|---------|---------|---------|
| AWSN-EPA-52E-A/B/C | 2              | 868                       | 134                                | 3118    | 2230    | 2421    | 1200    |
| AWSN-EPA-53E-A/B/C | 3              | 1302                      | 202                                | 4318    | 2230    | 2421    | 1200    |
| AWSN-EPA-54E-A/B/C | 4              | 1736                      | 270                                | 5518    | 2230    | 2421    | 1200    |
| AWSN-EPA-55E-A/B/C | 5              | 2170                      | 337                                | 6718    | 2230    | 2421    | 1200    |

## Technical information AWSN-EPA

### AWSN-EPA series - Ø 910 mm fans - standard version - Dry Environments

| Type           | ~ 400v/50 Hz Connection |                   |               |                   |       |            |        |
|----------------|-------------------------|-------------------|---------------|-------------------|-------|------------|--------|
|                | Capacity                | Mass flow         | Pressure drop | Power consumption | Sound | Connection | Weight |
|                | kW                      | m <sup>3</sup> /h | kPa           | kW                | dB(A) | Ø          | kg     |
| AWSN-EPA-52E-A | 209                     | 36                | 36            | 8                 | 58    | 2" 1/2     | 1390   |
| AWSN-EPA-53E-A | 314                     | 54                | 39            | 12                | 60    | 2" 1/2     | 1920   |
| AWSN-EPA-54E-A | 424                     | 73                | 77            | 16                | 61    | 3"         | 2690   |
| AWSN-EPA-55E-A | 517                     | 90                | 29            | 20                | 62    | 3"         | 3120   |

Water inlet T = 35 °C. Water outlet T = 30 °C.

### AWSN-EPA series - Ø 910 mm fans - standard version - Medium Environments

| Type           | ~ 400v/50 Hz Connection |                   |               |                   |       |            |        |
|----------------|-------------------------|-------------------|---------------|-------------------|-------|------------|--------|
|                | Capacity                | Mass flow         | Pressure drop | Power consumption | Sound | Connection | Weight |
|                | kW                      | m <sup>3</sup> /h | kPa           | kW                | dB(A) | Ø          | kg     |
| AWSN-EPA-52E-A | 154                     | 27                | 25            | 8                 | 58    | 2"         | 1380   |
| AWSN-EPA-53E-A | 231                     | 40                | 31            | 12                | 60    | 2"         | 1910   |
| AWSN-EPA-54E-A | 313                     | 54                | 49            | 16                | 61    | 2" 1/2     | 2615   |
| AWSN-EPA-55E-A | 379                     | 66                | 22            | 20                | 62    | 2" 1/2     | 3005   |

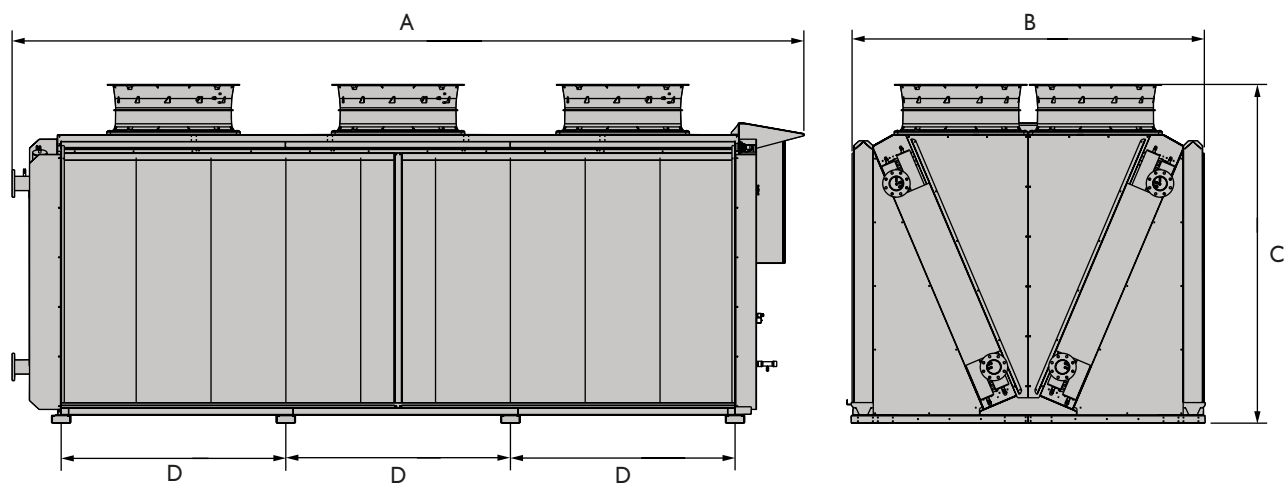
Water inlet T = 35 °C. Water outlet T = 30 °C.

### AWSN-EPA series - Ø 910 mm fans - standard version - Wet-Coastal Environments

| Type           | ~ 400v/50 Hz Connection |                   |               |                   |       |            |        |
|----------------|-------------------------|-------------------|---------------|-------------------|-------|------------|--------|
|                | Capacity                | Mass flow         | Pressure drop | Power consumption | Sound | Connection | Weight |
|                | kW                      | m <sup>3</sup> /h | kPa           | kW                | dB(A) | Ø          | kg     |
| AWSN-EPA-52E-A | 81                      | 14                | 30            | 8                 | 58    | 1" 1/2     | 1370   |
| AWSN-EPA-53E-A | 120                     | 21                | 29            | 12                | 60    | 1" 1/2     | 1895   |
| AWSN-EPA-54E-A | 164                     | 29                | 47            | 16                | 61    | 2"         | 2440   |
| AWSN-EPA-55E-A | 202                     | 35                | 34            | 20                | 62    | 2"         | 3005   |

Water inlet T = 35 °C. Water outlet T = 30 °C.

## Dimensions AWS-D-EPA



AWSD-EPA series - Ø 910 mm fans - standard version

| Type                | Number of fans | Surface<br>m <sup>2</sup> | Internal volume<br>dm <sup>3</sup> | A<br>mm | B<br>mm | C<br>mm | D<br>mm |
|---------------------|----------------|---------------------------|------------------------------------|---------|---------|---------|---------|
| AWSD-EPA-56F-A/B/C  | 6              | 2338                      | 293                                | 4468    | 2837    | 2715    | 1250    |
| AWSD-EPA-58F-A/B/C  | 8              | 3117                      | 391                                | 5718    | 2837    | 2715    | 1250    |
| AWSD-EPA-510F-A/B/C | 10             | 3896                      | 488                                | 6968    | 2837    | 2715    | 1250    |



## Technical information AWSD-EPA

### AWSD-EPA series - Ø 910 mm fans - standard version - Dry Environments

| Type            | - 400v/50 Hz Connection |                   |               |                   |       |            |        |
|-----------------|-------------------------|-------------------|---------------|-------------------|-------|------------|--------|
|                 | Capacity                | Mass flow         | Pressure drop | Power consumption | Sound | Connection | Weight |
|                 | kW                      | m <sup>3</sup> /h | kPa           | kW                | dB(A) | Ø          | kg     |
| AWSD-EPA-56F-A  | 512                     | 89                | 41            | 24                | 65    | 3"         | 2885   |
| AWSD-EPA-58F-A  | 694                     | 120               | 73            | 32                | 67    | 4"         | 3725   |
| AWSD-EPA-510F-A | 840                     | 146               | 27            | 40                | 67    | 4"         | 4640   |

Water inlet T = 35 °C. Water outlet T = 30 °C.

### AWSD-EPA series - Ø 910 mm fans - standard version - Medium Environments

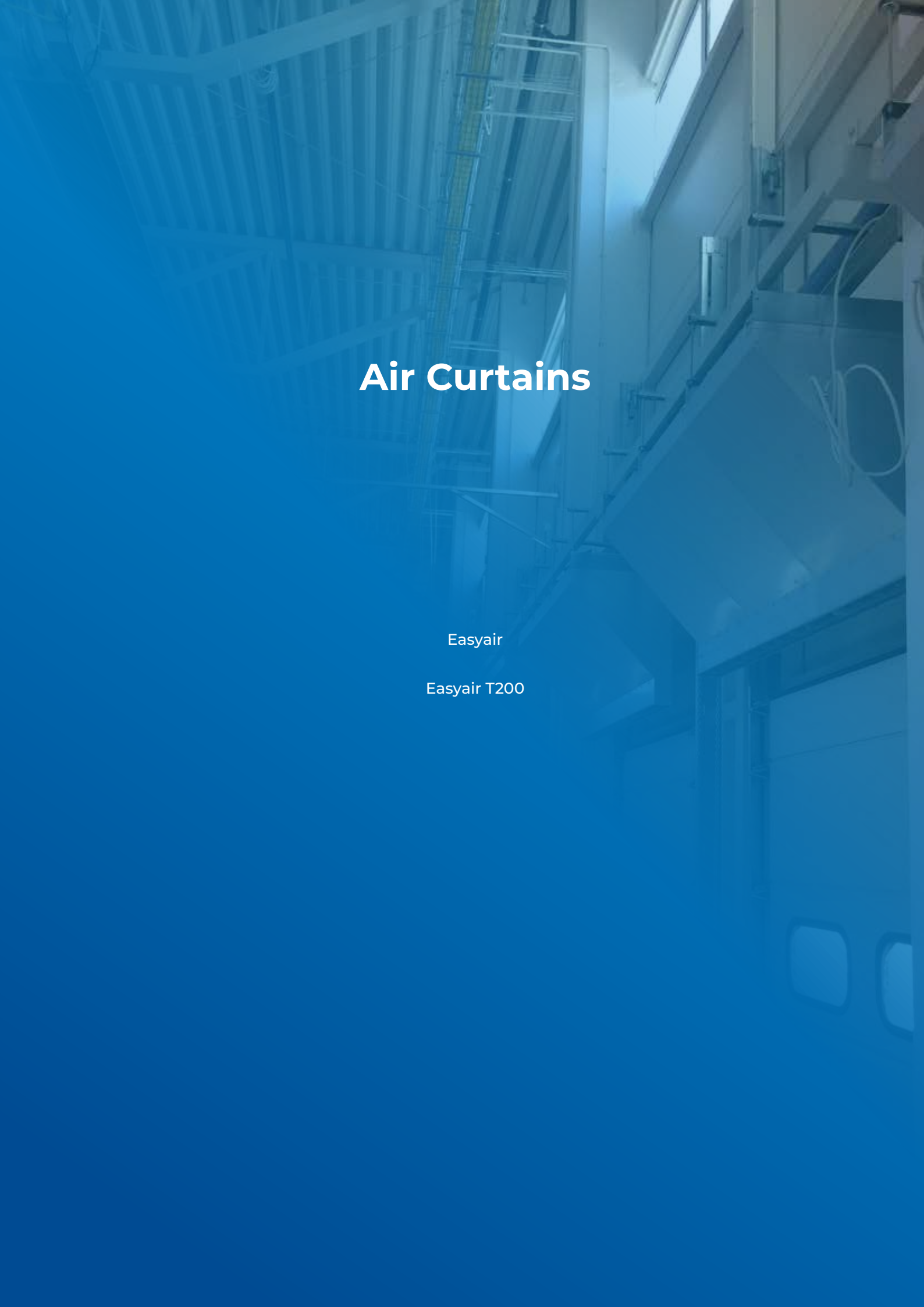
| Type            | - 400v/50 Hz Connection |                   |               |                   |       |            |        |
|-----------------|-------------------------|-------------------|---------------|-------------------|-------|------------|--------|
|                 | Capacity                | Mass flow         | Pressure drop | Power consumption | Sound | Connection | Weight |
|                 | kW                      | m <sup>3</sup> /h | kPa           | kW                | dB(A) | Ø          | kg     |
| AWSD-EPA-56F-A  | 396                     | 67                | 62            | 24                | 65    | 3"         | 2880   |
| AWSD-EPA-58F-A  | 510                     | 88                | 50            | 32                | 67    | 3"         | 3690   |
| AWSD-EPA-510F-A | 647                     | 112               | 79            | 40                | 67    | 4"         | 4630   |

Water inlet T = 35 °C. Water outlet T = 30 °C.

### AWSD-EPA series - Ø 910 mm fans - standard version - Wet-Coastal Environments

| Type            | - 400v/50 Hz Connection |                   |               |                   |       |            |        |
|-----------------|-------------------------|-------------------|---------------|-------------------|-------|------------|--------|
|                 | Capacity                | Mass flow         | Pressure drop | Power consumption | Sound | Connection | Weight |
|                 | kW                      | m <sup>3</sup> /h | kPa           | kW                | dB(A) | Ø          | kg     |
| AWSD-EPA-56F-A  | 198                     | 34                | 42            | 24                | 65    | 2" 1/2     | 2865   |
| AWSD-EPA-58F-A  | 264                     | 46                | 44            | 32                | 67    | 2" 1/2     | 3670   |
| AWSD-EPA-510F-A | 338                     | 59                | 77            | 40                | 67    | 3"         | 4595   |

Water inlet T = 35 °C. Water outlet T = 30 °C.

The background of the page is a photograph of an industrial facility, possibly a warehouse or factory, with a blue color overlay. The image shows structural elements like beams and pipes. 

# Air Curtains

Easyair

Easyair T200



# EASYAIR

Water-supplied, electrical or  
cold air curtain

Water-supplied, electrical or cold air curtain for retail or industrial applications. Output from 6 to 39,3 kW.



For more information, downloads  
and videos, visit the Easyair page  
on our website



#### Product features

- Compact and modern design
- Silent operation
- Efficient EC motor
- Standard white finish in RAL 9016
- Simple installation
- Low maintenance
- Optional: version in RAL 7016 (dark grey)

### Keep cold and contaminated air outside

Due to its broad range, the EASYAIR air curtain can be used in any sort of open entrance, such as in shops, supermarkets, builder's merchants, offices and hospitals. The air curtains are available as water-supplied and electric. Ambient air curtains without a heating source are also available.

The EASYAIR air curtains are suitable for an installation height of up to 3.7 meters and are available in widths of 1, 1.5 and 2 meters. The air curtain without a heating source is even suitable for an installation height of up to 4.7 meters. The air curtains can be mounted both horizontally and vertically with the optional mounting brackets.

The air curtains can be connected to each other to create a wider air curtain (up to 8 pieces per controller).

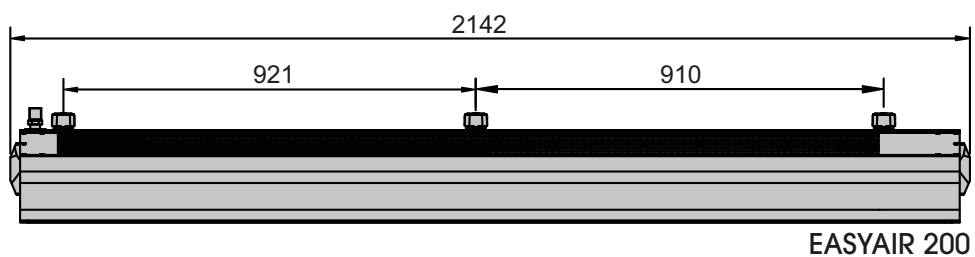
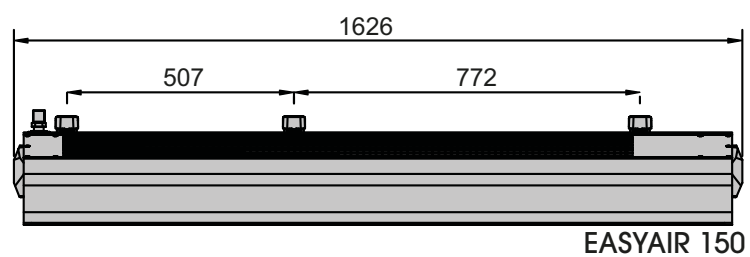
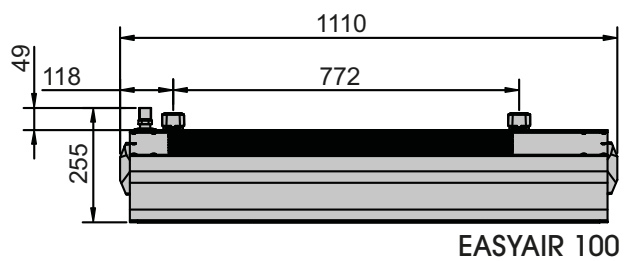
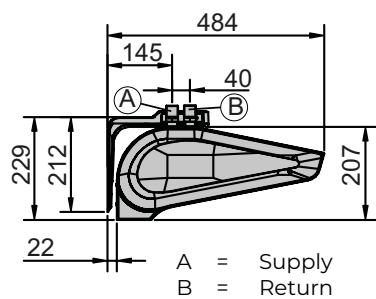
The housing of the EASYAIR consists of a double coating (galvanization + powder coating) and offers long-term protection against corrosion.

Suitable for use in shops, offices, hospitals and factories.

EASYAIR air curtains are equipped with a speed controlled low noise EC-fan. Advantages:

- The highest efficiency in case of speedcontrol
- Up to 50% energy saving in case of partial load
- Almost completely linearly adjustable
- Long lifetime
- Low noise level
- Integrated electronic thermal protection

## Dimensions



## Technical information

| Type                                        |         | Water-supplied air curtain                 |       |       | Electric air curtain                       |                     |                       | Ambient air curtain |      |      |
|---------------------------------------------|---------|--------------------------------------------|-------|-------|--------------------------------------------|---------------------|-----------------------|---------------------|------|------|
|                                             |         | W100                                       | W150  | W200  | E100                                       | E150                | E200                  | C100                | C150 | C200 |
| Maximum door width (1 unit)                 | m       | 1                                          | 1,5   | 2     | 1                                          | 1,5                 | 2                     | 1                   | 1,5  | 2    |
| Maximum door height (vertical air stream)** | m       | 3,7                                        |       |       | 3,7                                        |                     |                       | 4,7                 |      |      |
| Maximum air flow                            | m³/h    | 1850                                       | 3100  | 4400  | 1850                                       | 3150                | 4500                  | 1950                | 3200 | 4600 |
| Heating power range*                        | kW      | 4-17                                       | 10-32 | 17-47 | 2-6 or 4-6                                 | 4-12 or 8-12        | 6-15 or 9-15          | -                   |      |      |
| Maximum temperature heat exchanger          | °C      | 95                                         |       |       | -                                          |                     |                       | -                   |      |      |
| Maximum operating pressure                  | MPa     | 1,6                                        |       |       | -                                          |                     |                       | -                   |      |      |
| Water volume                                | dm³     | 1,6                                        | 2,6   | 3,6   | -                                          |                     |                       | -                   |      |      |
| Number of rows heat exchanger               | st      | 2                                          |       |       | -                                          |                     |                       | -                   |      |      |
| Supply voltage                              | V/ph/Hz | ~ 230/1/50                                 |       |       | ~230/1/50 for 2kW<br>~400/3/50 for 2/4/6kW |                     |                       | ~ 230/1/50          |      |      |
| Power electric heating coil                 | kW      | -                                          |       |       | 2 or 4                                     | 4 or 8              | 6 or 9                | -                   |      |      |
| Current electric heating coil               | A       | -                                          |       |       | max.9                                      | 6/11,3/<br>max 17,3 | 8,5/12,9/<br>max 21,4 | -                   |      |      |
| Motor power                                 | kW      | 0,2                                        | 0,3   | 0,45  | 0,2                                        | 0,3                 | 0,45                  | 0,2                 | 0,3  | 0,45 |
| Nominal current                             | A       | 1,1                                        | 1,3   | 1,9   | 1,1                                        | 1,3                 | 1,9                   | 1,1                 | 1,3  | 1,9  |
| Weight (without water)                      | kg      | 21,5                                       | 29    | 37,5  | 22                                         | 30,5                | 39                    | 19                  | 25,5 | 32,5 |
| Protection class                            | IP      | 20                                         |       |       |                                            |                     |                       |                     |      |      |
| Colour                                      |         | Casing: RAL 9016, Exhaust grille: RAL 9022 |       |       |                                            |                     |                       |                     |      |      |

| Fan speed | Noise level | Easyair W100-200 |      |    | Easyair E100-200 |      |    | Easyair C100-200 |      |    |
|-----------|-------------|------------------|------|----|------------------|------|----|------------------|------|----|
|           |             | 1m               | 1,5m | 2m | 1m               | 1,5m | 2m | 1m               | 1,5m | 2m |
| I         | dB(A)***    | 52               | 53   | 56 | 49               | 51   | 55 | 53               | 54   | 57 |
| II        | dB(A)***    | 55               | 58   | 61 | 51               | 56   | 59 | 59               | 62   | 61 |
| III       | dB(A)***    | 57               | 59   | 62 | 58               | 58   | 60 | 62               | 63   | 63 |

\* available heating power in the control option configuration:

Easyair E100 2-6 kW or 4-6 kW

Easyair E150 4-12kW or 8-12kW

Easyair E200 6-15 kW or 9-15 kW

\*\* air stream range depends on curtain operation speed

\*\*\* measurement conditions: semi-open space, horizontal installation on the wall,  
measurement performed 5 m away from the device



**EASYAIR W - WATER-SUPPLIED AIR CURTAIN**T<sub>z</sub> = water temperature at the inlet to the deviceT<sub>p</sub> = water temperature at the outlet from the deviceT<sub>p1</sub> = air temperature at the inlet to the deviceT<sub>p2</sub> = air temperature at the outlet from the deviceP<sub>g</sub> = heating power of the deviceQ<sub>w</sub> = water flow

Δp = pressure drop in the heat exchanger

| Parameters                          |  | Easyair W100 |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
|-------------------------------------|--|--------------|------|------|------|-------|------|------|------|-------|------|------|------|-------|------|------|------|
| T <sub>z</sub> /T <sub>p</sub> [°C] |  | 90/70        |      |      |      | 80/60 |      |      |      | 70/50 |      |      |      | 60/40 |      |      |      |
| T <sub>pl</sub> [°C]                |  | 5            | 10   | 15   | 20   | 5     | 10   | 15   | 20   | 5     | 10   | 15   | 20   | 5     | 10   | 15   | 20   |
| III/1850[m³/h]/57dB(A)*             |  |              |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
| P <sub>g</sub> [kW]                 |  | 17,7         | 16,3 | 14,9 | 13,5 | 14,8  | 13,3 | 11,9 | 10,5 | 11,6  | 10,2 | 8,7  | 7,0  | 8,0   | 5,1  | 4,3  | 3,5  |
| T <sub>p2</sub> [°C]                |  | 32,0         | 35,3 | 38,5 | 41,7 | 27,5  | 30,7 | 33,8 | 36,8 | 22,8  | 25,8 | 28,7 | 31,3 | 17,2  | 17,9 | 21,8 | 25,6 |
| Q <sub>w</sub> [m³/h]               |  | 0,8          | 0,7  | 0,7  | 0,6  | 0,7   | 0,6  | 0,5  | 0,5  | 0,5   | 0,5  | 0,4  | 0,3  | 0,4   | 0,2  | 0,2  | 0,2  |
| Δp [kPa]                            |  | 0,5          | 0,4  | 0,4  | 0,3  | 0,4   | 0,3  | 0,2  | 0,2  | 0,2   | 0,2  | 0,1  | 0,1  | 0,1   | 0,1  | 0,04 | 0,03 |
| II/1350[m³/h]/55dB(A)*              |  |              |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
| P <sub>g</sub> [kW]                 |  | 15,0         | 13,8 | 12,6 | 11,4 | 12,5  | 11,3 | 10,1 | 8,8  | 9,8   | 8,5  | 7,2  | 4,7  | 5,4   | 4,6  | 3,9  | 3,2  |
| T <sub>p2</sub> [°C]                |  | 34,7         | 37,8 | 40,8 | 43,7 | 29,7  | 32,7 | 35,6 | 38,4 | 24,4  | 27,2 | 29,7 | 29,7 | 15,6  | 19,3 | 23,0 | 26,7 |
| Q <sub>w</sub> [m³/h]               |  | 0,7          | 0,6  | 0,6  | 0,5  | 0,6   | 0,5  | 0,4  | 0,9  | 0,4   | 0,4  | 0,3  | 0,2  | 0,2   | 0,2  | 0,2  | 0,1  |
| Δp [kPa]                            |  | 0,4          | 0,3  | 0,3  | 0,2  | 0,3   | 0,2  | 0,2  | 0,1  | 0,2   | 0,1  | 0,1  | 0,1  | 0,1   | 0,1  | 0,04 | 0,03 |
| I/880[m³/h]/52dB(A)*                |  |              |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
| P <sub>g</sub> [kW]                 |  | 11,9         | 10,9 | 9,9  | 9,0  | 9,8   | 8,9  | 7,9  | 6,9  | 7,6   | 6,5  | 4,6  | 4,0  | 4,6   | 4,0  | 3,4  | 2,8  |
| T <sub>p2</sub> [°C]                |  | 38,5         | 41,3 | 44,0 | 46,7 | 32,8  | 35,5 | 38,0 | 40,4 | 26,5  | 28,8 | 28,6 | 31,9 | 18,0  | 21,5 | 24,9 | 28,4 |
| Q <sub>w</sub> [m³/h]               |  | 0,5          | 0,5  | 0,4  | 0,4  | 0,4   | 0,4  | 0,4  | 0,3  | 0,3   | 0,3  | 0,2  | 0,2  | 0,2   | 0,2  | 0,2  | 0,1  |
| Δp [kPa]                            |  | 0,2          | 0,2  | 0,2  | 0,1  | 0,2   | 0,1  | 0,1  | 0,1  | 0,1   | 0,1  | 0,1  | 0,0  | 0,1   | 0,04 | 0,03 | 0,02 |

| Parameters                          |  | Easyair W150 |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
|-------------------------------------|--|--------------|------|------|------|-------|------|------|------|-------|------|------|------|-------|------|------|------|
| T <sub>z</sub> /T <sub>p</sub> [°C] |  | 90/70        |      |      |      | 80/60 |      |      |      | 70/50 |      |      |      | 60/40 |      |      |      |
| T <sub>pl</sub> [°C]                |  | 5            | 10   | 15   | 20   | 5     | 10   | 15   | 20   | 5     | 10   | 15   | 20   | 5     | 10   | 15   | 20   |
| III/3100[m³/h]/59dB(A)*             |  |              |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
| P <sub>g</sub> [kW]                 |  | 31,7         | 29,3 | 26,9 | 24,5 | 26,9  | 24,5 | 22,1 | 19,8 | 22,0  | 19,6 | 17,3 | 14,9 | 17,0  | 14,5 | 12,1 | 9,5  |
| T <sub>p2</sub> [°C]                |  | 33,9         | 37,2 | 40,4 | 43,6 | 29,5  | 32,7 | 35,9 | 39,0 | 25,1  | 28,2 | 31,3 | 34,3 | 20,5  | 23,5 | 26,4 | 29,1 |
| Q <sub>w</sub> [m³/h]               |  | 1,4          | 1,3  | 1,2  | 1,1  | 1,2   | 1,1  | 1,0  | 0,9  | 1,0   | 0,9  | 0,8  | 0,7  | 0,7   | 0,6  | 0,5  | 0,4  |
| Δp [kPa]                            |  | 2,1          | 1,8  | 1,6  | 1,3  | 1,6   | 1,4  | 1,2  | 0,9  | 1,2   | 1,0  | 0,8  | 0,6  | 0,8   | 0,6  | 0,4  | 0,3  |
| II/2050[m³/h]/58dB(A)*              |  |              |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
| P <sub>g</sub> [kW]                 |  | 26,5         | 24,5 | 22,5 | 20,5 | 22,5  | 20,5 | 18,5 | 16,6 | 18,5  | 16,5 | 14,4 | 12,4 | 14,2  | 12,1 | 10,0 | 7,7  |
| T <sub>p2</sub> [°C]                |  | 36,9         | 40,0 | 43,0 | 46,0 | 32,1  | 35,1 | 38,1 | 41,0 | 27,2  | 30,1 | 33,0 | 35,7 | 22,1  | 24,8 | 27,5 | 29,7 |
| Q <sub>w</sub> [m³/h]               |  | 1,2          | 1,1  | 1,0  | 0,9  | 1,0   | 0,9  | 0,8  | 0,7  | 0,8   | 0,7  | 0,6  | 0,5  | 0,6   | 0,5  | 0,4  | 0,3  |
| Δp [kPa]                            |  | 1,5          | 1,3  | 1,2  | 1,0  | 1,2   | 1,0  | 0,8  | 0,7  | 0,9   | 0,7  | 0,6  | 0,4  | 0,6   | 0,4  | 0,3  | 0,2  |
| I/1420[m³/h]/53dB(A)*               |  |              |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
| P <sub>g</sub> [kW]                 |  | 21,6         | 19,9 | 18,3 | 16,7 | 18,3  | 16,7 | 15,1 | 13,5 | 15,0  | 13,4 | 11,7 | 10,1 | 11,5  | 9,8  | 8,0  | 4,8  |
| T <sub>p2</sub> [°C]                |  | 40,4         | 43,3 | 46,1 | 48,9 | 35,1  | 37,9 | 40,6 | 43,3 | 29,6  | 32,3 | 34,9 | 37,4 | 23,9  | 26,3 | 28,5 | 28,3 |
| Q <sub>w</sub> [m³/h]               |  | 1,0          | 0,9  | 0,8  | 0,7  | 0,8   | 0,7  | 0,7  | 0,6  | 0,7   | 0,6  | 0,5  | 0,4  | 0,5   | 0,4  | 0,4  | 0,2  |
| Δp [kPa]                            |  | 1,1          | 0,9  | 0,8  | 0,7  | 0,8   | 0,7  | 0,6  | 0,5  | 0,6   | 0,5  | 0,4  | 0,3  | 0,4   | 0,3  | 0,2  | 0,1  |



| Parameters              | Easyair W200 |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
|-------------------------|--------------|------|------|------|-------|------|------|------|-------|------|------|------|-------|------|------|------|
| $T_2/T_p$ [°C]          | 90/70        |      |      |      | 80/60 |      |      |      | 70/50 |      |      |      | 60/40 |      |      |      |
| $T_{p1}$ [°C]           | 5            | 10   | 15   | 20   | 5     | 10   | 15   | 20   | 5     | 10   | 15   | 20   | 5     | 10   | 15   | 20   |
| III/4400[m³/h]/62dB(A)* |              |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
| $P_g$ [kW]              | 46,9         | 42,7 | 39,3 | 35,9 | 39,4  | 36,0 | 32,6 | 29,3 | 32,6  | 29,2 | 25,8 | 22,5 | 25,7  | 22,3 | 18,9 | 15,4 |
| $T_{p2}$ [°C]           | 34,6         | 37,9 | 41,1 | 44,3 | 30,3  | 33,5 | 36,7 | 39,8 | 25,9  | 29,1 | 32,2 | 35,2 | 21,5  | 24,5 | 27,5 | 30,4 |
| $Q_w$ [m³/h]            | 2,0          | 1,9  | 1,7  | 1,6  | 1,7   | 1,6  | 1,4  | 1,3  | 1,4   | 1,3  | 1,1  | 1,0  | 1,1   | 1,0  | 0,8  | 0,7  |
| $\Delta p$ [kPa]        | 5,6          | 4,9  | 4,2  | 3,6  | 4,3   | 3,7  | 3,1  | 2,6  | 3,2   | 2,6  | 2,1  | 1,7  | 2,2   | 1,7  | 1,3  | 0,9  |
| II/3150[m³/h]/61dB(A)*  |              |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
| $P_g$ [kW]              | 40,9         | 37,9 | 34,8 | 31,9 | 35,0  | 31,9 | 28,9 | 26,0 | 28,9  | 25,9 | 22,9 | 20,0 | 22,8  | 19,8 | 16,7 | 13,7 |
| $T_{p2}$ [°C]           | 36,6         | 39,8 | 42,9 | 46,0 | 32,0  | 35,1 | 38,2 | 41,2 | 27,4  | 30,4 | 33,4 | 36,3 | 22,6  | 25,6 | 28,4 | 31,1 |
| $Q_w$ [m³/h]            | 1,8          | 1,7  | 1,5  | 1,4  | 1,5   | 1,4  | 1,3  | 1,1  | 1,3   | 1,1  | 1,0  | 0,9  | 1,0   | 0,9  | 0,7  | 0,6  |
| $\Delta p$ [kPa]        | 4,5          | 3,9  | 3,4  | 2,9  | 3,5   | 3,0  | 2,5  | 2,1  | 2,6   | 2,1  | 1,7  | 1,4  | 1,8   | 1,4  | 1,0  | 0,7  |
| I/2050[m³/h]/56dB(A)*   |              |      |      |      |       |      |      |      |       |      |      |      |       |      |      |      |
| $P_g$ [kW]              | 34,0         | 31,4 | 28,9 | 26,4 | 29,0  | 26,5 | 24,0 | 21,6 | 24,1  | 21,6 | 19,1 | 16,6 | 19,0  | 16,4 | 13,9 | 11,3 |
| $T_{p2}$ [°C]           | 39,9         | 42,8 | 45,8 | 48,6 | 34,8  | 37,7 | 40,6 | 43,3 | 29,7  | 32,5 | 35,3 | 37,9 | 24,5  | 27,2 | 29,8 | 32,2 |
| $Q_w$ [m³/h]            | 1,5          | 1,4  | 1,3  | 1,2  | 1,3   | 1,2  | 1,1  | 1,0  | 1,1   | 1,0  | 0,8  | 0,7  | 0,8   | 0,7  | 0,6  | 0,5  |
| $\Delta p$ [kPa]        | 3,2          | 2,8  | 2,4  | 2,1  | 2,5   | 2,2  | 1,8  | 1,5  | 1,9   | 1,6  | 1,2  | 1,0  | 1,3   | 1,0  | 0,7  | 0,5  |

### EASYAIR E - ELECTRIC AIR CURTAIN

$T_{p1}$  = air temperature at the inlet to the device

$T_{p2}$  = air temperature at the outlet from the device

$P_g$  = heating power of the device

| Parameters              | Easyair E100 |          |          |                         | Easyair E150 |       |       |                         | Easyair E200 |       |       |       |
|-------------------------|--------------|----------|----------|-------------------------|--------------|-------|-------|-------------------------|--------------|-------|-------|-------|
| $T_{p1}$ [°C]           | 5            | 10       | 15       | 20                      | 5            | 10    | 15    | 20                      | 5            | 10    | 15    | 20    |
| III/1850[m³/h]/59dB(A)* |              |          |          | III/3150[m³/h]/61dB(A)* |              |       |       | III/4500[m³/h]/62dB(A)* |              |       |       |       |
| $P_g$ [kW]              | 2/4/6        | 2/4/6    | 2/4/6    | 2/4/6                   | 8/12         | 8/12  | 8/12  | 8/12                    | 10/15        | 10/15 | 10/15 | 10/15 |
| $T_{p2}$ [°C]           | 8/11/15      | 13/16/20 | 18/21/25 | 23/26/30                | 12/15        | 17/20 | 22/25 | 27/30                   | 10/14        | 15/19 | 20/24 | 25/29 |
| II/1400[m³/h]/48dB(A)*  |              |          |          | II/2050[m³/h]/48dB(A)*  |              |       |       | II/3200[m³/h]/48dB(A)*  |              |       |       |       |
| $P_g$ [kW]              | 2/4/6        | 2/4/6    | 2/4/6    | 2/4/6                   | 8/12         | 8/12  | 8/12  | 8/12                    | 10/15        | 10/15 | 10/15 | 10/15 |
| $T_{p2}$ [°C]           | 9/12/16      | 14/17/21 | 19/22/26 | 24/27/31                | 14/19        | 19/24 | 24/29 | 29/34                   | 12/16        | 17/21 | 22/26 | 27/31 |
| I/920[m³/h]/44dB(A)*    |              |          |          | I/1450[m³/h]/43dB(A)*   |              |       |       | I/2150[m³/h]/45dB(A)*   |              |       |       |       |
| $P_g$ [kW]              | 2/4/6        | 2/4/6    | 2/4/6    | 2/4/6                   | 8/12         | 8/12  | 8/12  | 8/12                    | 10/15        | 10/15 | 10/15 | 10/15 |
| $T_{p2}$ [°C]           | 11/16/21     | 16/21/26 | 21/26/31 | 26/31/36                | 19/26        | 24/31 | 29/36 | 34/41                   | 15/21        | 20/26 | 25/31 | 30/36 |

### EASYAIR C - AMBIENT AIR CURTAIN

| Parameters          | EASYAIR C100 |      |      | EASYAIR C150 |      |      | EASYAIR C200 |      |      |
|---------------------|--------------|------|------|--------------|------|------|--------------|------|------|
| Fan speed           | III          | II   | I    | III          | II   | I    | III          | II   | I    |
| $Q_p$ [m³/h]        | 1950         | 1500 | 1050 | 3200         | 2250 | 1500 | 4600         | 3400 | 2340 |
| Noise level [dB(A)] | 62           | 59   | 53   | 63           | 62   | 54   | 63           | 61   | 57   |

## Accessories



HMI-EC Controller  
(0699150)



Door sensor  
(0699151)



Valve with actuator  
(0699152)



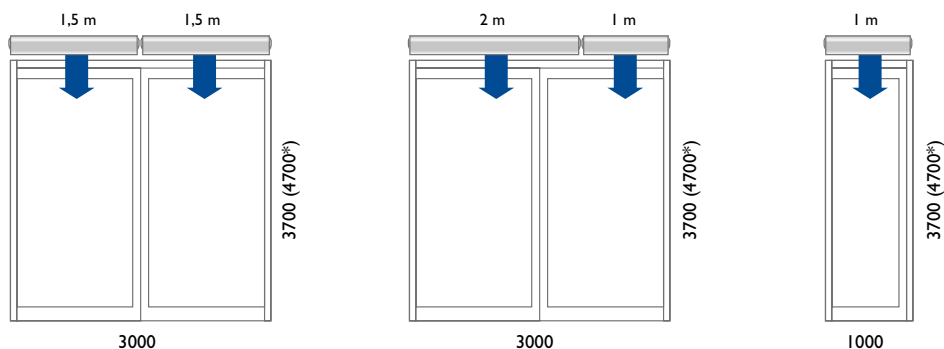
Mounting brackets  
(0699153/0699154)



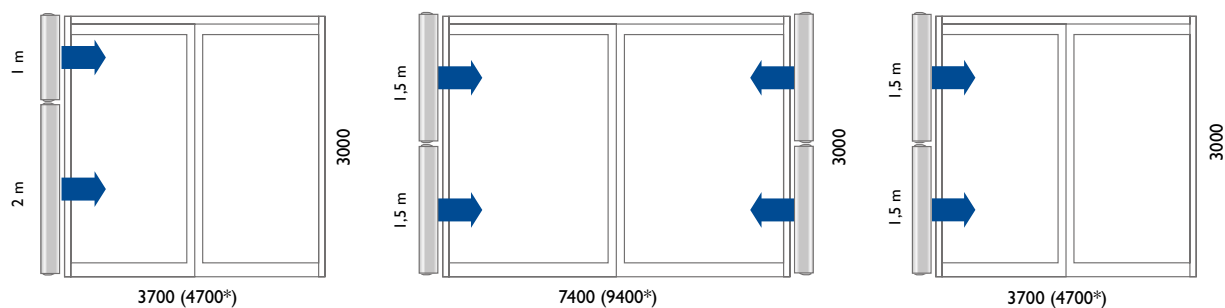
Flexible hoses  
(0699155)

## Assembly/location suggestions

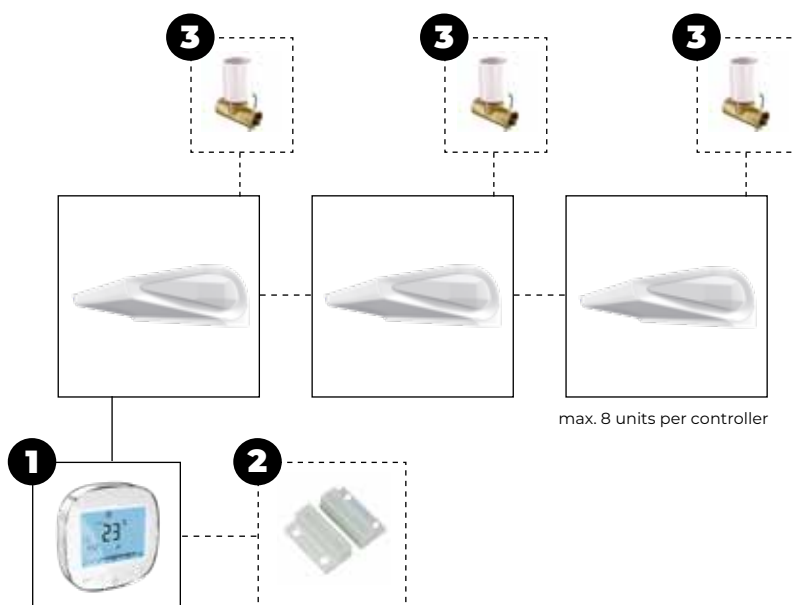
### HORIZONTAL INSTALLATION



### VERTICAL INSTALLATION



## Controls



#### Control combination options

|         |   |   |   |   |   |   |
|---------|---|---|---|---|---|---|
| Easyair | + | 1 |   |   |   |   |
| Easyair | + | 1 | + | 2 |   |   |
| Easyair | + | 1 | + | 3 |   |   |
| Easyair | + | 1 | + | 2 | + | 3 |

See price list for description and code numbers of the relevant items

## Prices Easyair



### PRODUCT - AIR CURTAIN EASYAIR W WITH EC-MOTOR - MAX. MOUNTAIN HEIGHT 3,7 M

| Code nr. | Description                                                    | Price |      |
|----------|----------------------------------------------------------------|-------|------|
| 5992600  | Easyair W100 water-supplied air curtain, nominal power 14,9 kW | €     | 1467 |
| 5992601  | Easyair W150 water-supplied air curtain, nominal power 26,9 kW | €     | 1715 |
| 5992602  | Easyair W200 water-supplied air curtain, nominal power 39,3 kW | €     | 2029 |



### PRODUCT - AIR CURTAIN EASYAIR E WITH EC-MOTOR - MAX. MOUNTAIN HEIGHT 3,7 M

| Code nr. | Description                                            | Price |      |
|----------|--------------------------------------------------------|-------|------|
| 5992605  | Easyair E100 electric air curtain, nominal power 6 kW  | €     | 1467 |
| 5992606  | Easyair E150 electric air curtain, nominal power 12 kW | €     | 1715 |
| 5992607  | Easyair E200 electric air curtain, nominal power 15 kW | €     | 2069 |



### PRODUCT - AIR CURTAIN EASYAIR C WITH EC-MOTOR - MAX. MOUNTAIN HEIGHT 4,7 M

| Code nr. | Description                                                       | Price |      |
|----------|-------------------------------------------------------------------|-------|------|
| 5992610  | Easyair C100 ambient air curtain, air flow 1950 m <sup>3</sup> /h | €     | 1278 |
| 5992611  | Easyair C150 ambient air curtain, air flow 3200 m <sup>3</sup> /h | €     | 1529 |
| 5992612  | Easyair C200 ambient air curtain, air flow 4600 m <sup>3</sup> /h | €     | 1781 |

### ACCESSORIES - INSTALLATION

| Code nr. | Description                       | Price |    |
|----------|-----------------------------------|-------|----|
| 0699153  | Mounting brackets Easyair 100     | €     | 63 |
| 0699154  | Mounting brackets Easyair 150/200 | €     | 95 |
| 0699155  | Flexible hoses                    | €     | 79 |

### ACCESSORIES - CONTROLS

|          | Code nr. | Description                                      | Price |     |
|----------|----------|--------------------------------------------------|-------|-----|
| <b>1</b> | 0699150  | HMI-EC controller                                | €     | 272 |
|          | 0699156  | Surface mounted box for HMI-EC control (0699150) | €     | 45  |
| <b>2</b> | 0699151  | Door sensor                                      | €     | 36  |
| <b>3</b> | 0699152  | Valve with actuator                              | €     | 202 |

*For explanation see chapter controls*



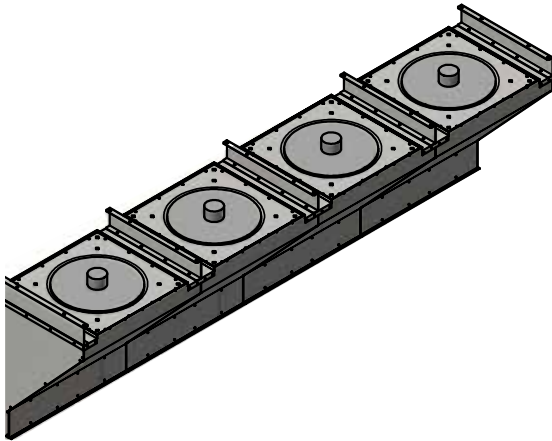
# EASYAIR T200

## Recirculation air curtain

Recirculation air curtain for industrial applications.  
Air displacement 11.200 to 36.600 m<sup>3</sup>/h.



For more information, downloads  
and videos, visit the Easyair T200  
page on our website



#### Product features

- Economical
- Sharp pricing
- No maintenance required
- Speed controllable
- Low weight
- Easy installation
- Corrosion-resistant aluzinc housing
- Optional: vertical version
- Optional: gas-fired or water-supplied version

#### Keep cold and contaminated air outside

For industrial applications, Mark has the Easyair T200 in its product range. This industrial air curtain is available with 3, 4 or 5 fans, which can be combined to create the desired width. The air curtain is suitable for an installation height up to 8 metres.

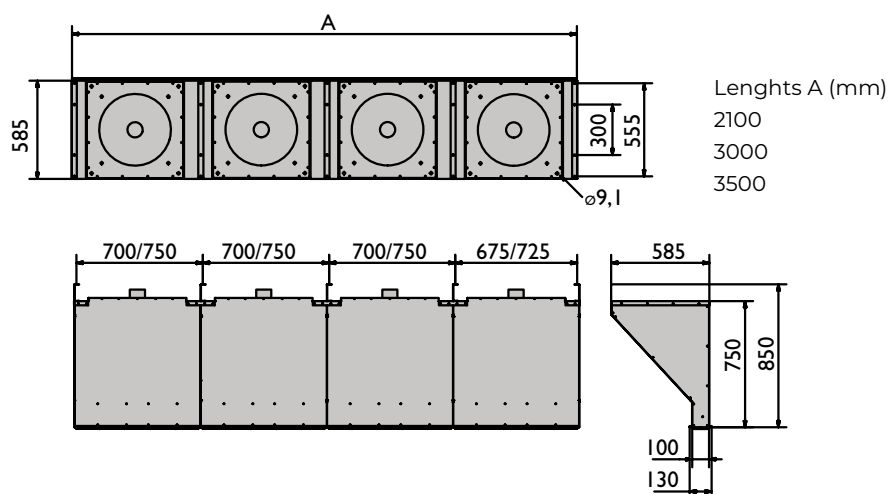
The EASYAIR T200 blows the warm air located at the top of the room down to the occupied area. Therefore, for this type of air curtain no heat source is required. It works simple and efficiently!

In addition to the Easyair T200, there is now also the Easyair T200+. This air curtain is equipped with water-fed heat exchangers, so that the unit can also blow out hot air.

Optional: speed controlled low noise 1~230V EC-motor with 0-10V control. Advantages:

- The highest efficiency in case of speed control
- Up to 50% energy saving in case of partial load
- Almost completely linearly adjustable
- Long lifetime
- Low noise level
- Integrated electronic thermal protection

## Dimensions



## Technical information

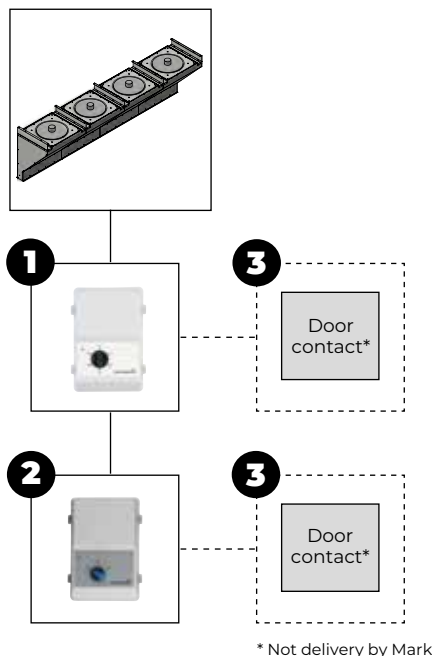
| Type                      | Length<br>mm | Air displacement<br>m³/h | Connection voltage<br>V | Current<br>A | Weight<br>kg | Mounting height<br>m |
|---------------------------|--------------|--------------------------|-------------------------|--------------|--------------|----------------------|
| T200 provided with 3 fans | 2100         | 11200                    | 400                     | 1,53         | 93           | 4-8                  |
| T200 provided with 4 fans | 3000         | 14900                    | 400                     | 2,04         | 130          | 4-8                  |
| T200 provided with 5 fans | 3500         | 18650                    | 400                     | 2,55         | 153          | 4-8                  |

It is possible to combine the above mentioned Easyair T200 air curtains to create the desired length.

## Assembly/location suggestions



## Controls



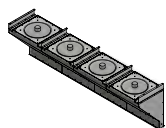
### Control combination options

|              |   |   |   |   |
|--------------|---|---|---|---|
| Easyair T200 | + | 1 |   |   |
| Easyair T200 | + | 2 |   |   |
| Easyair T200 | + | 1 | + | 3 |
| Easyair T200 | + | 2 | + | 3 |

See price list for description and code numbers of the relevant items

1 = on/off  
2 = high/low

## Prices Easyair T200



### PRODUCT - INDUSTRIAL AIR CURTAIN EASYAIR T200 INCL. WIRING AND A TERMINAL BOX - MAX. MOUNTING HEIGHT 8 M

| Code nr. | Description                                                  | Price  |
|----------|--------------------------------------------------------------|--------|
| 5063010  | Easyair T200 provided with 3 fans L=2100mm, H=750mm On/Off   | € 1929 |
| 5063011  | Easyair T200 provided with 4 fans L=3000mm, H=750mm On/Off   | € 2592 |
| 5063012  | Easyair T200 provided with 5 fans L=3500mm, H=750mm On/Off   | € 3150 |
| 5063020  | Easyair T200 provided with 3 fans L=2100mm, H=750mm High/Low | € 2225 |
| 5063021  | Easyair T200 provided with 4 fans L=3000mm, H=750mm High/Low | € 2900 |
| 5063022  | Easyair T200 provided with 5 fans L=3500mm, H=750mm High/Low | € 3506 |

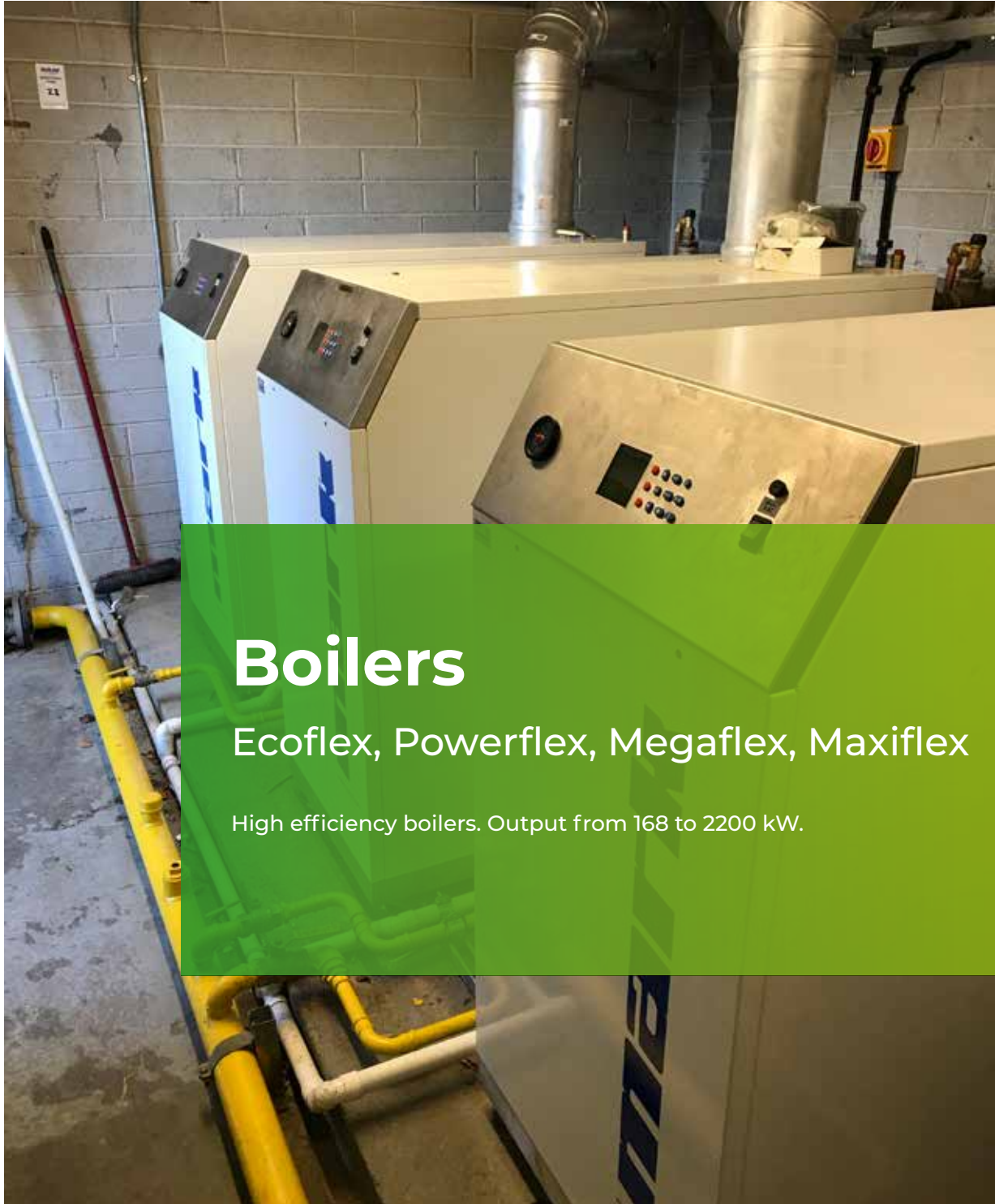
It is possible to combine the above mentioned Easyair T200 air curtains to create the desired length..

### ACCESSORIES - CONTROLS

| Code nr.  | Description                                        | Price  |
|-----------|----------------------------------------------------|--------|
| 1 0616162 | Control box 5-steps, 400V, 2A                      | € 752  |
| 1 0616164 | Control box 5-steps, 400V, 2A                      | € 1050 |
| 1 0616166 | Control box 5-steps, 400V, 7A                      | € 1245 |
| 2 0616170 | High / low / off control, 400V, 10A                | € 446  |
| 0631167   | Isolator switch, separate delivery, 400V (8 poles) | € 91   |

For explanation see chapter controls





# Boilers

Ecoflex, Powerflex, Megaflex, Maxiflex

High efficiency boilers. Output from 168 to 2200 kW.



For more information, downloads  
and videos, visit the Boiler pages  
on our website



## The high-efficiency boilers of Mark

The Mark High-efficiency boilers are very compact, sustainable and available in 4 different models:

- ECOFLEX (capacities: 168 kW, 210 kW, 252 kW and 294 kW)
- POWERFLEX (capacities: 340 kW up to 600 kW)
- MEGAFLEX (capacities: 850 kW and 1020 kW)
- MAXIFLEX (capacities: 2200 kW)

The Mark boilers are a.o. suitable to heat offices, garages, warehouses, apartment buildings, workshops, distribution centers and showrooms.

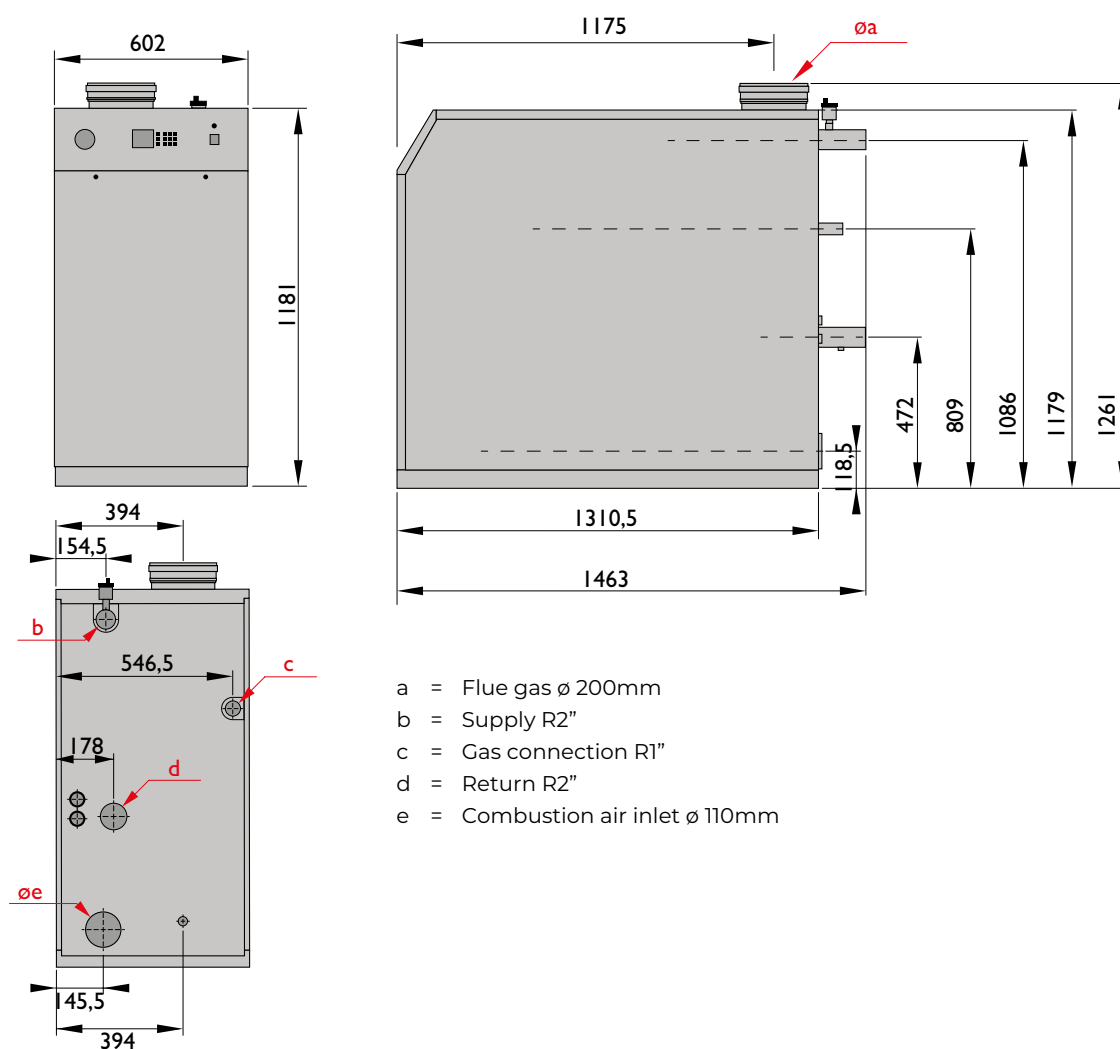
For a complete heating solution from Mark it is also possible to combine the Mark boilers with water-supplied products such as the TANNER MDA and INFRA AQUA ECO.

### Product features

- Competitive pricing
- Proven and innovative technology
- Cast aluminum heat exchanger
- Robust
- Low-noise
- Advanced diagnostic system
- Very low maintenance interval
- Low service interval
- Integrated pump control
- Closed version available
- Cascade control already integrated
- Weather-dependant control
- Control:
  - On/off thermostat
  - OpenTherm
  - BMS 0-10V control



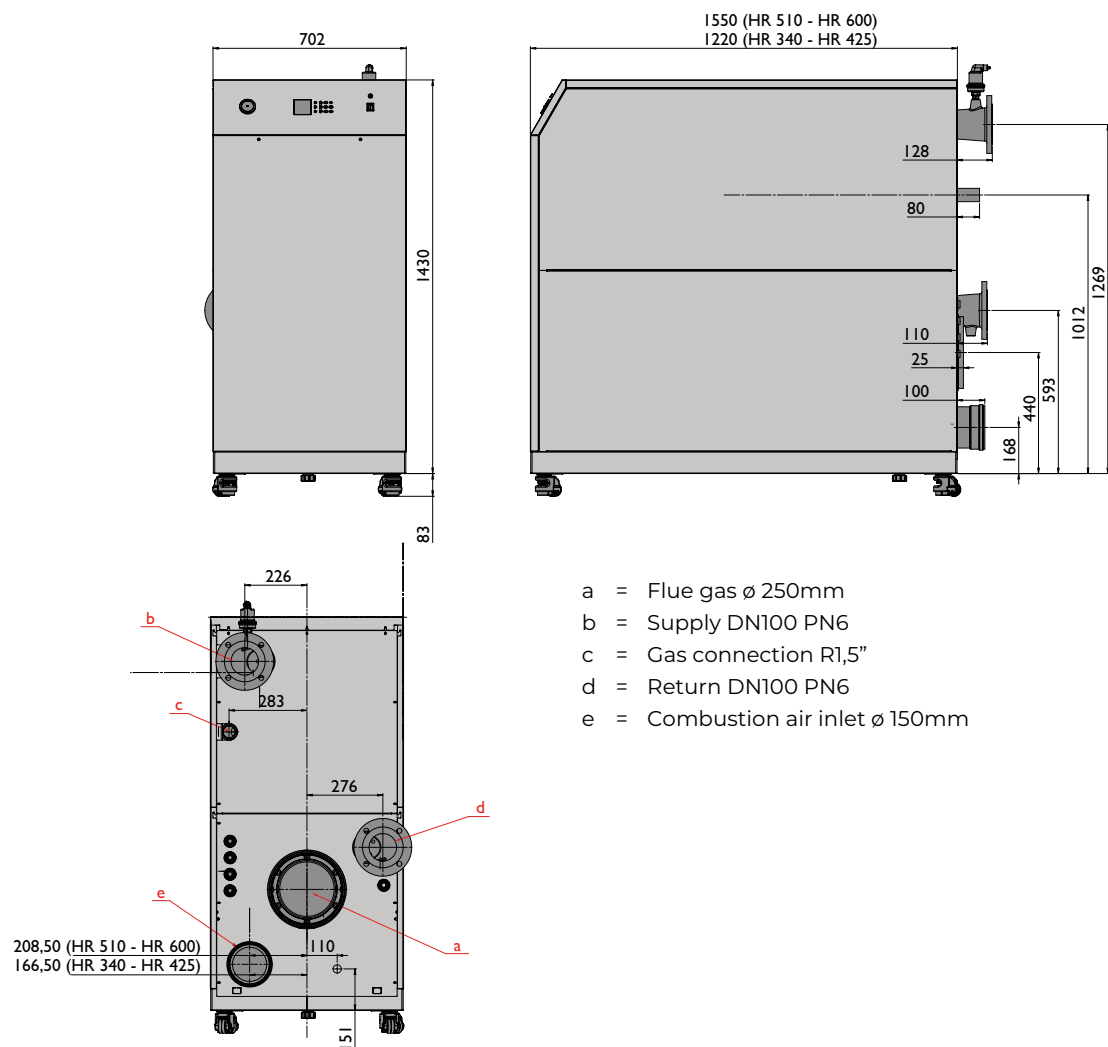
## Dimensions ECOFLEX



## Technical information ECOFLEX

| ECOFLEX                 |     | HR 168         | HR 210 | HR 252 | HR 294 |
|-------------------------|-----|----------------|--------|--------|--------|
| Nominal output 80/60 °C | kW  | 163,6          | 204,5  | 245,4  | 282,5  |
| Efficiency              | %   | 107,5          | 107,5  | 107,5  | 107,5  |
| Operating pressure      | bar | 6              | 6      | 6      | 6      |
| Weight                  | kg  | 193            | 210    | 227    | 244    |
| Supply voltage          |     | 230V 1F ~50 Hz |        |        |        |

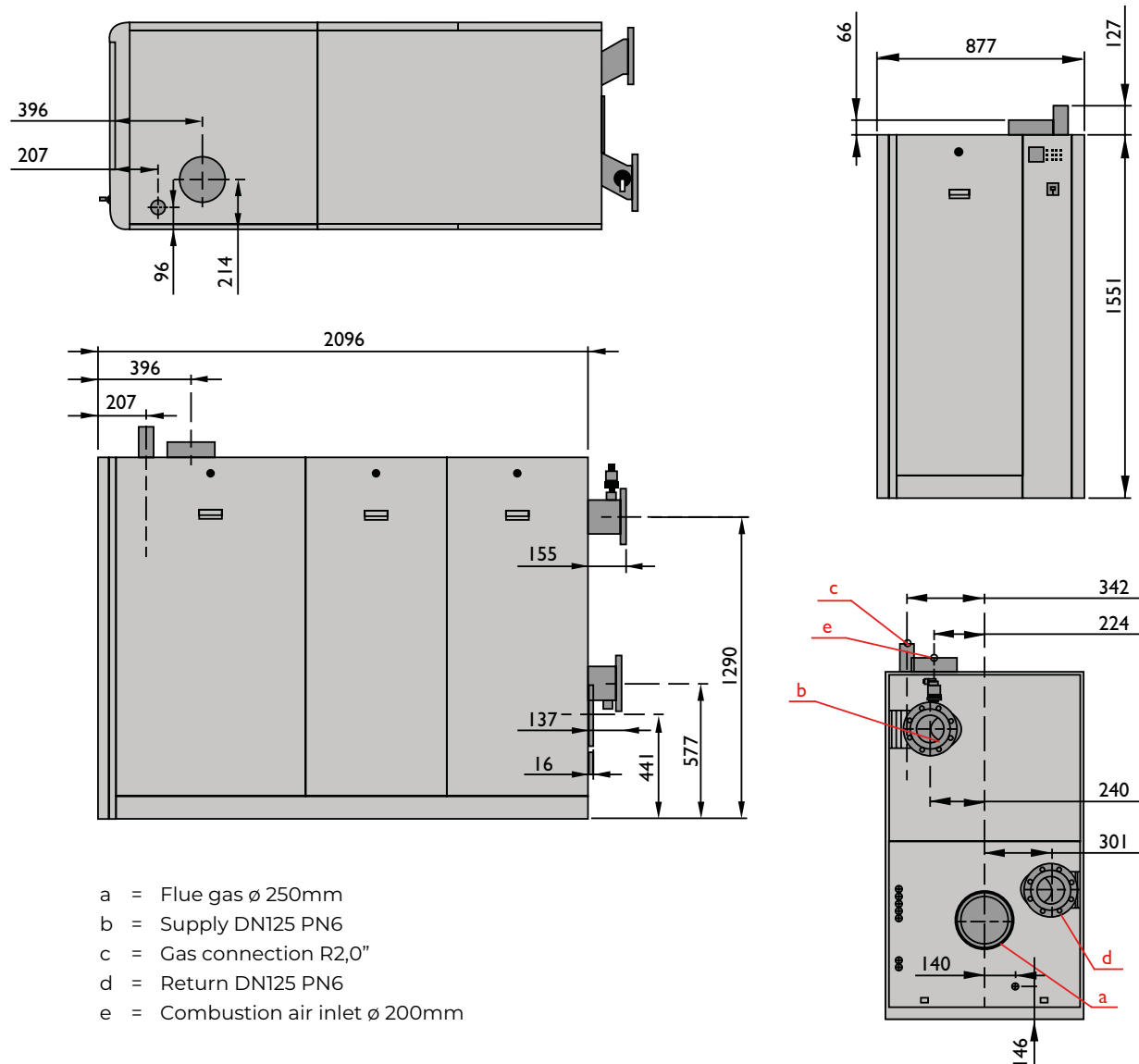
## Dimensions Powerflex



## Technical information Powerflex

| POWERFLEX               |                | HR 340 | HR 425 | HR 510 | HR 600 |
|-------------------------|----------------|--------|--------|--------|--------|
| Nominal output 80/60 °C | kW             | 331    | 413,1  | 495,7  | 578,3  |
| Efficiency              | %              | 108,1  | 108,1  | 108,1  | 108,1  |
| Operating pressure      | bar            | 6      | 6      | 6      | 6      |
| Weight                  | kg             | 330    | 365    | 429    | 464    |
| Supply voltage          | 230V 1F ~50 Hz |        |        |        |        |

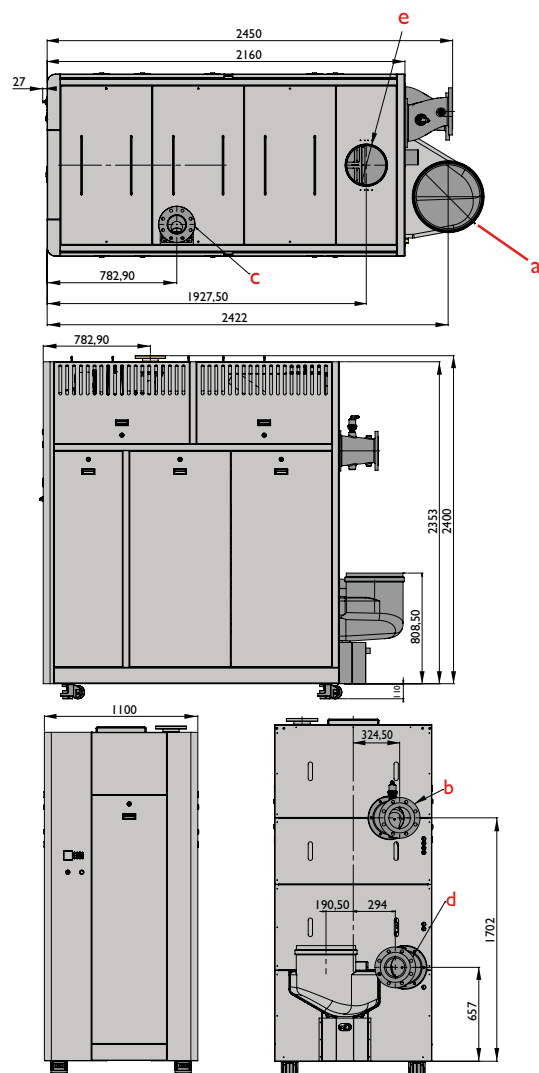
## Dimensions Megaflex



## Technical information Megaflex

| MEGAFLEX                |     | HR 850     | HR 1020 |
|-------------------------|-----|------------|---------|
| Nominal output 80/60 °C | kW  | 828,8      | 994,5   |
| Efficiency              | %   | 108,3      | 108,3   |
| Operating pressure      | bar | 6          | 6       |
| Weight                  | kg  | 625        | 700     |
| Supply voltage          |     | 400V~3N/10 |         |

## Dimensions Maxiflex



- a = Flue gas  $\varnothing$  400 mm
- b = Supply DN150 PN10
- c = Gas connection R2,0"
- d = Return DN150 PN10
- e = Combustion air inlet  $\varnothing$  250 mm

## Technical information Maxiflex

| MAXIFLEX                | HR 2200        |       |
|-------------------------|----------------|-------|
| Nominal output 80/60 °C | kW             | 2156  |
| Efficiency              | %              | 107,9 |
| Operating pressure      | bar            | 6     |
| Weight                  | kg             | 1740  |
| Supply voltage          | 230V 1F ~50 Hz |       |

## Controls



### Control combination options

CV-ketel + **1**

CV-ketel + **2**

CV-ketel + **3**

See price list for description and code numbers of the relevant items

## Prices Boilers



### PRODUCT - ECOFLEX - NATURAL GAS G25

| Code nr. | Description    | Price |       |
|----------|----------------|-------|-------|
| 5970005  | EcoFlex HR 168 | €     | 18096 |
| 5970006  | EcoFlex HR 210 | €     | 19129 |
| 5970007  | EcoFlex HR 252 | €     | 20630 |
| 5970008  | EcoFlex HR 294 | €     | 23692 |

Other gas types on request.



### PRODUCT - POWERFLEX - NATURAL GAS G25

| Code nr. | Description      | Price |       |
|----------|------------------|-------|-------|
| 5970010  | PowerFlex HR 340 | €     | 30744 |
| 5970011  | PowerFlex HR 425 | €     | 32647 |
| 5970012  | PowerFlex HR 510 | €     | 37023 |
| 5970013  | PowerFlex HR 600 | €     | 39701 |

Other gas types on request.





## PRODUCT - MEGAFLEX - NATURAL GAS G25

| Code nr. | Description      | Price   |
|----------|------------------|---------|
| 5970051  | MegaFlex HR 850  | € 62518 |
| 5970052  | MegaFlex HR 1020 | € 82438 |

Other gas types on request.



## PRODUCT - MAXIFLEX - NATURAL GAS G25

| Code nr. | Description      | Price    |
|----------|------------------|----------|
| 5970053  | MaxiFlex HR 2200 | € 189570 |

Other gas types on request.

## ACCESSORIES - CONTROLS

| Code nr.         | Description                               | Price |
|------------------|-------------------------------------------|-------|
| <b>2</b> 0629077 | Chronotherm Touch (modulating) thermostat | € 507 |
| <b>1</b> 0629039 | Clock thermostat (1A)                     | € 394 |

For explanation see chapter controls. Circulation pump on request.

## ACCESSORIES - FLUE GAS EXHAUST

| Code nr. | Description                            | Price  |
|----------|----------------------------------------|--------|
| 5990301  | Wall bracket Ø150                      | € 7    |
| 5990302  | TwinSafe + Extension pipe RVS Ø100/150 | € 124  |
| 5990303  | Sealing EPDM Ø150                      | € 9    |
| 5990304  | Roof flashing PB Ø205 25-45            | € 357  |
| 5990305  | Adhesive plate ALU Ø370                | € 195  |
| 5990306  | ALU-Fix Bend AL Ø250 90gr              | € 533  |
| 5990307  | ALU Fix Bend Ø250 45gr                 | € 394  |
| 5990308  | ALU Fix Extension pipe Ø250 L=1000     | € 221  |
| 5990310  | ALU Fix Roof terminal AL Ø250 L=1450   | € 1337 |
| 5990311  | Twinline Reducer PP Ø130-150           | € 44   |
| 5990312  | Air grill AL Ø150 L=180                | € 74   |
| 5990313  | Roof terminal ALU Ø250 L=2500          | € 1956 |
| 5990314  | T-piece ALU Ø250-200-350 90gr          | € 557  |
| 5990319  | Twinline Bend PP Ø200 90gr             | € 119  |
| 5990320  | Twinline Bend PP Ø200 45gr             | € 107  |
| 5990321  | Twinline Extension pipe PP Ø200 L=1900 | € 291  |
| 5990322  | Twinline Extension pipe PP Ø200 L=1000 | € 143  |
| 5990323  | Twinline Extension pipe PP Ø200 L=500  | € 128  |
| 5990324  | Twinline Roof terminal PP Ø200 L=500   | € 695  |
| 5990326  | Bracket Ø200                           | € 32   |
| 5990327  | Fix-Safe Sealing ring Ø250             | € 77   |
| 5990328  | Sealing ring Sil. Ø200 Blue            | € 26   |
| 5990329  | Sealing ring EPDM Ø200                 | € 17   |
| 5990330  | Adhesive plate ALU Ø275                | € 96   |

## ACCESSORIES - FLUE GAS EXHAUST

| Code nr. | Description                                    | Price  |
|----------|------------------------------------------------|--------|
| 5990331  | Twinline Bend PP Ø150 90gr                     | € 60   |
| 5990332  | Twinline Bend PP Ø150 45gr                     | € 49   |
| 5990333  | Twinline Extension pipe PP Ø150 L=2000         | € 154  |
| 5990334  | Twinline Extension pipe PP Ø150 L=1000         | € 87   |
| 5990335  | Twinline Extension pipe PP Ø150 L=500          | € 60   |
| 5990336  | Twinline Gradient PP Ø150-150                  | € 113  |
| 5990337  | Single flue set horizontal PP Ø150 black       | € 209  |
| 5990342  | ALU-Fix Extension pipe AL Ø200 L=500           | € 202  |
| 5990343  | ALU Fix Extension pipe AL Ø200 L=2000          | € 452  |
| 5990344  | ALU Fix Bend AL Ø200 90gr                      | € 232  |
| 5990345  | Extension pipe AL Ø200 L=500                   | € 116  |
| 5990346  | Wall terminal AL M2000 Ø200 200-150            | € 1388 |
| 5990347  | Connection kit PP DN200 Compact Condens        | € 595  |
| 5990348  | Adhesive plate AL Ø210 130/200x150             | € 49   |
| 5990349  | Adhesive plate AL Ø320                         | € 169  |
| 5990350  | Roof flashing for pitched roof PB Ø318 18-22gr | € 381  |
| 5990351  | Roof flashing for pitched roof PB Ø318 58-62gr | € 526  |
| 5990352  | Adhesive plate AL Ø150/220x175                 | € 75   |
| 5990353  | Roof flashing for pitched roof PB Ø228 18-22gr | € 338  |



# CONTROL EQUIPMENT

Overview of the control options  
provided by Mark



For more information, downloads  
and videos, visit the control equip-  
ment page on our website



### Mark takes care of it for you!

Devices can be regulated and controlled in various ways. Each individual will have his own ideas and requirements. Mark has thus developed a range of options from standard to project-specific.

Our range includes various types of thermostats, speed controllers, packaged digital controllers and full custom made power and control panels, enabling the user to control a single unit or multiple units.

Mark has its own electrical engineering and manufacturing department and is therefore able to offer a solution for any control requirement. Our engineers would be pleased to advise you. Simply contact them to discuss the options within our range of control equipment.

#### Our assortment includes:

- Full range of thermostats and sensors
- Time controls
- Digital time and temperature controllers
- Speed controllers including variable speed drives (VSD)
- Custom-made power and control panels



New in our range are the thermostats and controllers controlled via Internet (web-based). This allows remote connection with the thermostat via a web browser or mobile app. For example, you can operate or change the thermostat anywhere in the world with a telephone, tablet or laptop / PC.

### 230V Room thermostat



**Order code: 0629013**

A room thermostat for 1 to 1 control of a device based on room temperature.

**Specifications:**

- Required temperature adjustable from 10...30°C.
- Switch contact voltage free max. 4A / 230V.

**Can be used for:**

- G-TYPE
- Tanner MDA (230V)
- Tanner MDE
- Tanner MDC (230V)
- MDV Blue AC
- Ecofan P
- Fohn
- 5-position controller 230V
- High/low/off controller

### Clock thermostat RAMSES 811 top3



**Order code: 0629039**

A digital clock thermostat for 1 to 1 control of a device based on room temperature.

**Specifications:**

- Language can be set to English, German, Dutch, French, Italian or Spanish.
- NO contact, voltage free max. 10A(2)/250V~
- Temperature measurement range 0...50°C increments of 0.1°C.
- Temperature setting range 2...30°C in stages from 0.2°C.
- 3 control programmes, freely programmable with 40 memory points.
- Comfort, Eco/Reduction, Frost protection
- Automatic switching between summer/winter.
- Protection class IP40 in accordance with EN 60529 -1.
- 2x alkaline batteries, 1.5V, type AA.
- Power back up when battery replaced 10 minutes.
- Holiday program with a separate setpoint
- Setting various parameters using Ramses top 3 Application Communication via Bluetooth

**Can be used for:**

- Tanner MDA
- Tanner MDE
- Tanner MBA
- 5-position controller 230V
- High/low/off controller

### Water-proof room thermostat



**Order code: 0629004**

Water resistant (IP65) room thermostat with adjustable differential. Measures the temperature using a sensor filled with liquid connected to the thermostat with a capillary.

**Specifications:**

- Bulb sensor filled with liquid.
- Adjustment range from -5...+28°C.
- Differential adjustable from 2...8K.
- Material protection class and resistant to splashing in accordance with IP65.
- Switching power 230V~, 15(8)A.

**Can be used for:**

- Tanner MDE
- Tanner MDA
- Tanner MDC
- Tanner MBA
- 5-position controller 230V
- High/low/off controller

## Zone control infra

WEB-BASED 

Order code: 3003795

Digital temperature control suitable to on/off, high/low or modulated control multiple Infra's based on room temperature. With the ability for area control and PIN security to modify settings.

**Specifications:**

- Delivery: Control panel with external display
- Size ext. display (WxHxD): 160x98x43mm
- Languages: English, French, German and Dutch
- Protection class: IP20
- Mounting of display: built-in / wall installation
- Number of areas: 3
- Number of Infra's per area: 6
- Temperature range: 2 / 40°C per 0,5°C.
- Operating options: Auto, continuous day, continuous night or continuous off
- Day-/night temperature monitoring with reading of the actual room temperature on the display
- Automatic switching between summer/winter time.
- Control: on/off, high/low or modulating
- High/low control: Auto 1, 2 or 3K
- Time switch with week program (7 switch blocks)
- Overtime timer: 0-180 min.
- Signaling of burner malfunction.
- Reset option to release a burner malfunction per area.
- PIN security to modify for example switching times and temperatures.
- Temperature sensor: PT1000 (black bulb) to order separately (required per area)
- Modbus TCP/IP
- Power: 230Vac / 50Hz
- Embedded webserver

**Can be used for:**

- Infra on/off and high/low model.
- Infra Mono on/off and high/low model.
- Infra HT

**Accessories:**

- External black bulb sensor
- Order code: 0629081 or 0629082

## Mark PinTherm Connect

WEB-BASED 

Order code: 0629108

The PinTherm Connect is a digital week clock room thermostat. The controller is equipped with an on/off contact and a 0-10VDC output. Both signals are reversible, so the control is suitable for heating and cooling. The settings of the thermostat can be read and/or modified with Modbus or Ethernet. The thermostat can be connected to the BMS (building management system).

**Specifications:**

- Power PinTherm Connect: 230Vac / 50Hz
- Own consumption: < 9W
- Clock: 24 hour clock with automatic summer/winter time switching
- Switching programs: 3 switching programs a day
- Switching differential: 0,1 - 3K
- Dimensions: 166 x 160 x 106mm (bxwxh)
- Weight: 880 grams
- Protection class: IP54
- Installation environment:
  - Transport/storage: -20°C until +70°C
  - Operational: -10°C until +60°C
  - Relative air humidity: 0-90% not condensating
- Switch contact(s):
  - Heating: 230Vac/16A (4A)
  - Others: 230Vac/10A (2,5A)
- Temperature setting: 0 until 39°C per 1°C adjustable
- Overtime timer: adjustable 1, 2 or 3 hours (060, 120, 180)
- Calibration: adjustable from -3.5°C until +3.5°C
- Heating/cooling:
  - Reversible contact for heating or cooling
  - 0-10 VDC output for heating or cooling
- Languages: NL/EN/DE/FR/PL/RO/LT
- Fuse: 6A

**Can be used for:**

- G-Type
- Tanner MDA / MDC / MBA
- LDA Swirl
- Ecofan W
- MDV Blue
- Fohn

**Accessories:**

- External room temperature sensor
- Order code: 0629086

## Mark PinTherm Infra Connect

WEB-BASED 

Order code: 0629109

The PinTherm Infra Connect is a digital room thermostat to switch an Infra on/off or control high/low or modulating based on room temperature. The settings of the thermostat can be read and/or modified with Modbus or Ethernet. The thermostat can be connected to the BMS (building management system).

**Specifications:**

- Power PinTherm Infra Connect : 230Vac / 50Hz
- Own consumption: < 9W
- Clock : 24 hour clock with automatic summer/winter time switching
- Switching programs : 3 switching programs a day
- Switching differential: 1°C
- Dimensions: 166 x 160 x 106mm (bxwxh)
- Weight: 880 grams
- Protection class: IP-54
- Installation environment :
  - Transport/storage: -20°C until +70°C
  - Operational: -10°C until +60°C
  - Relative air humidity: 0-90% not condensating
- Switch contact(s):
  - Heating: 230Vac/16A (4A)
  - Others: 230Vac/10A (2,5A)
- Temperature setting : 0 until 39°C per 1°C adjustable
- Overtime timer : adjustable 1, 2 or 3 hours (060, 120, 180)
- Calibration : adjustable from -3.5°C until +3.5°C
- High/low switching: Temperature 1K, 2K, 3K or manual. PinTherm Infra Connect always starts 20 min on high a heat demand.
- Languages : NL/EN/DE/FR/PL/RO/LT
- Fuse: 6A

**Can be used for:**

- Infra on/off and high/low model.
- Infra Mono on/off and high/low model.
- Infra HT
- Infra Line
- Tanner MDE

**Accessories:**

- External black bulb sensor
- Order code: 0629087
- External room temperature sensor
- Order code: 0629086

### Mark PinTherm Infra HE Connect



WEB-BASED   

**Order code: 3003796**

The PinTherm Infra HE Connect is a digital temperature controller suitable for modulating control of one or more Infra HEs based on the room temperature. With the possibility of PIN code protection for changing the settings.

#### Specifications:

- Power supply: 230Vac/50Hz
- Dimensions: 376 x 300 x 120mm (lxbxh)
- Protection class: IP54
- Installation: surface / wall mounting
- Maximum number of Infra HEs: 8
- Temperature setting: 2 until 40°C per 0,5°C adjustable
- Operating mode selection: Automatic, continuous day, continuous night or continuous off
- Day/night temperature monitoring with reading of the current room temperature on the display
- Automatic summer/winter time switching
- Control: modulating
- Time switch with weekly program (7 switching blocks)
- Overtime timer: 0-180 min
- Burner fault indication
- Reset option for unlocking a burner fault
- Pin code protection to be able to change switching times and temperatures, among other things
- Languages: EN/FR/DE/NL
- Fuse: 10A
- Modbus TCP/IP
- Built-in web server

#### Can be used for:

- Infra HE

#### Accessories:

- External black bulb sensor  
Order code: 0629002

### Optitherm+



**Order code: 0629185**

The OptiTherm+ is a digital clock thermostat with internal room sensor with which 1 or more air heaters (type GS+), up to a maximum of 8, can be controlled on the basis of the room temperature by means of a bus system.

#### Specifications:

- Push-button for switching the heating mode on and off.
- Push-button for switching the fan of the air heater(s) on and off.
- LED to indicate a malfunction along with notification on the display in the form of a failure code.
- Reset button to release a burner malfunction.
- An annual clock with 20 program blocks, clock program Mon-Fri, Tues-Fri, Sat-Son, daily or every day.
- Exceptional days, 20 program blocks, programmable by date, switching to daytime, eco or night-time temperature.
- 4 different operating modes (day, eco, night, frost).
- An overtime timer for switching to a different operating mode outside the switching times. Overtime timer freely adjustable from 15 min to 24 hours switching to daytime, eco or night-time temperature.
- Pin code protection to protect settings such as temperature, clock program, etc.
- Frost protection which automatically switches on the air heaters if the room temperature falls too far.
- Digital clock thermostat.
- Connection: bus system (2-wire).
- Dimensions: 129 x 129 x 20mm (lxbxh)
- Weight: 188 grams.
- Protection class: IP30.
- Ambient temperature: 0-40°C.
- Temperature setting: 0 to 40°C per 0.5°C can be set
- Time display: 24 hours
- Summer/winter: adjustable automatic/off
- Languages can be set to Dutch, English, German, French, Polish or Romanian
- External sensor: option of measuring the temperature per unit or on the basis of an average value.

#### Can be used for:

- GS+
- G(C)+
- GSX

#### Accessories:

- External room sensor to be connected to the air heater. Order code 0629194
- Data cable 12,5 meter (3000600), 25 meter (3000601), 100 meter (3000602)

**Mark PinTherm Mistral**WEB-BASED  **Order code: 0629110**

The PinTherm Mistral is a digital week clock room thermostat. The controller is suitable for controlling the Mark Mistral MDX, but also an air/water heat pump in combination with the Mark Tanner MDA+ air heater. The controller is equipped with an on/off contact and a 0-10 VDC output. The thermostat settings can be read and/or changed using Modbus or Ethernet. The thermostat can be linked to the BMS (building management system).

**Specifications:**

- Power: 230Vac / 50Hz
- Clock: 24 hour clock with automatic summer/winter time switching
- Switching programs: 3 switching programs a day
- Switching differential: 0,1 - 3K
- Dimensions: 166 x 160 x 106mm (lxwxh)
- Weight: 880 grams
- Protection class: IP54
- Installation environment:
  - Operational: -10°C until +60°C
  - Relative air humidity: 0-90% not condensating
- Switch contact(s):
  - Heating: 230Vac
  - Others: 230Vac
- Temperature setting: 0 until 39°C per 1°C adjustable
- Overtime timer: adjustable 1, 2 or 3 hours (060, 120, 180)
- Calibration: adjustable from -3.5°C until +3.5°C
- Heating/cooling:
  - Automatic changeover for heating or cooling.
  - 0-10 VDC output for heating or cooling
- Languages: NL/EN/DE/FR/PL/RO/LT
- Fuse: 6A

**Can be used for:**

- Mistral MDX
- Tanner MDA+

**Accessories:**

- External room temperature sensor
- Order code: 0629086

**CHRONOTHERM TOUCH  
(Modulating thermostat)****Order code: 0629077**

A programmable, modulating clock thermostat for modulating boilers, that control according to the OpenTherm®-communication protocol, as Mark EcoFlex, PowerFlex, MegaFlex and MaxiFlex. Operation is extremely easy through the touch screen.

**Specifications:**

- Display: large touch screen with backlight.
- The touch screen display can be locked in whole or in part.
- Cleaning ability for the touch screen without changing the settings.
- Clock program: week program.
- Adjustable up to 6 periods per day.
- Possibility to program multiple days simultaneously.
- Possibility to program a day off, holiday period or shiftwork.
- Overtime timer easy to program.
- Automatic switching between summer/winter.
- Temperature range -4,5...+32 °C
- Control: modulating. Self-learning and optimizing.
- Weather-dependant control possible.
- Fitted with a permanent memory which stores all saved settings. Only temporary settings are not memorized.
- No battery power.

**Can be used for:**

- EcoFlex
- PowerFlex
- MegaFlex
- MaxiFlex

**Destratificatieregeling RJ402  
incl. PinTherm Connect\*****Order code: 3002660**

Automatic energy-saving system for continuous control of ECOFAN ceiling fans depending on the temperature difference. Incl. two room temperature sensors, 1. room sensor in the lounge area, 2. room sensor in the ceiling area.

**Specifications:**

- Power: 230Vac / 50Hz
- Own consumption: < 0,5W
- Permissible ambient temperature: 0° - 50°C
- Temperature range: 0° - 50°C
- Hysteresis: 2° - 35°C
- Output: Switch contact
- Maximum permissible continuous current: 5A AC1
- Temperature sensor: 10K S

**Can be used for:**

- Ecofan W (With EC and AC motor)
- Ecofan P



### Room thermostat with speed control



**Order code: 5997350**

Programmable room thermostat for speed control of appliances with an EC motor.

**Specifications:**

- Power supply: 230V/50Hz, 230V/60Hz or 24V/60Hz
- Protection class: IP30.
- Room temperature adjustable from 0...40°C
- Transport / storage temperature: -10...+50°C
- Humidity limits: 20...80% RH (not condensing)
- Dimensions: 132 x 87 x 23,6 mm (wxhxd)
- Weight: 265 gram
- Plastic housing in RAL 9003
- Wall mounting

**Can be used for:**

- Tanner CLA
- Fan Coil

### Surface contact thermostat



**Order code: 0629180**

Thermostat to start a water-supplied air heater, for example, when the water is at the required temperature.

**Specifications:**

- Temperature adjustable from 20...90°C per 5°C.
- Protection class IP40.
- Voltage free exchange contact.
- Switching power 24...230V~, 16(4)A, min. 150mA at 24V~.
- Ambient temperature -35...+65°C.
- Maximum sensor temperature 110°C.
- Dimensions 38 x 48 x 103mm.
- Process connection using the 220mm metal butterfly clips supplied.

**Can be used for:**

- Tanner MDA
- Tanner MDC
- Tanner MBA
- 5-position controller 230V
- High/low/off controller

### Frost protection thermostat



**Order code: 0629125**

Thermostat to protect against the danger of frost. Equipped with a bulb sensor which is active over the entire length.

**Specifications:**

- Adjustment range from -10...+12°C.
- Switch differential 1K.
- Protection class IP40.
- Voltage free exchange contact.
- Switching power 24...230V~, 15(8)A, min. 150mA at 24V~.
- Ambient temperature -9...+55°C.
- Dimensions 105 x 112 x 55mm.
- Colour grey (RAL 7035).
- Copper capillary.
- Capillary filled with Solkane R134a.
- Capillary active across the entire length.
- Capillary length 1.8m.

**Can be used for:**

- Tanner MDA
- Tanner MDC
- 5-position controller 230V
- High/low/off controller

## Digital time clock



Order code: 0633030

Digital time switch to switch installations on and off or to control temperature reductions for the night or over the weekend.

**Specifications:**

- Simple to use.
- 8 on/off cycles with 13 different day blocks, programmable by day or block of days.
- 4 different operating positions: manually on constantly, manually off constantly, adjustable count-down timer, automatic operation in accordance with timer switching programme.
- Integrated countdown timer.
- Suitable for wall installation or installation on DIN rail.
- Manual on/off.
- Rapid summer/winter time switching.
- Power reserve 72 hours.
- Dimensions 78.8 x 106 x 56mm.
- Protection degree IP20 in accordance with EN 60 529.
- Operating voltage AC 230V -15...10%, 50/60Hz, 3.0VA.
- Relay contact Q AC24...240V, DC 24V, max. 6(3)A.

## OJ user interface with touch panel



Order code: 0631374

User friendly control panel for commissioning and setting the daily operation of the Mark Airstream. The control panel is very easy to use, thanks to the logical menu's, easy navigation and recognizable symbols.

**Specifications:**

- 3.5" color Touchscreen.
- Easy navigation through graphic interface.
- Connection and installation through Modbus.
- Mounting on the Airstream or wall is possible.
- QuickPlug™ installation.
- All system parameters are visible to each user.
- Only authorised users can change the system parameters. Access to the control system can be granted for 3 different levels:
  - User
  - Installer
  - Service
- Voltage 24 V DC,  $\pm 15\%$
- Consumed current max 37,5 mA
- Modbus RS-485, 115 kBaud
- Modbus connection 2 x RJ12 6/6
- Max. cable length 50 m (in low EMC environment)
- Ambient temperature  $-10^{\circ}\text{C}/+40^{\circ}\text{C}$
- Air humidity 0-95% (not condensing)
- Dimensions 80 x 121 x 42
- Modbus cable MPFK6S
- Density class IP21
- Weight 190 g

**Can be used for:**

- Airstream

## CO2 sensor



Order code: 0629165 (muurmontage)

Sensor that detects CO2 content in the air. The detection range of this CO2 sensor is calibrated for standard applications such as monitoring of residential rooms or conference rooms.

**Specifications:**

- Power supply 24 V AC/DC.
- Several measurement ranges possible: 0...2000ppm, 0...5000 ppm, 0...10000ppm.
- Output signal 0...10V.
- Measuring accuracy:  $\pm 70\text{ppm}$  plus 5% of measured value.
- Pressure dependence:  $\pm 1,6\%$  / kPa.
- Warm-up time: approximately 1 hour.
- Ambient temperature: 0...50°C
- Reaction time: approximately 1 minute.
- Electrical connection: 0,14 - 1,5 mm<sup>2</sup>.
- Plastic enclosure (RAL 9010).
- Dimensions 98 x 106 x 32 mm.

**Can be used for:**

- Airstream

## 5-position transformer regulator 230V



**Order code: 6A 0616186 - IP54**

**6A 3003096 - IP54 (Ecofan W142)**

**12A 0616188 - IP21**

**12A 3003097 - IP21 (Ecofan W142)**

**14A 0616189 - IP54**

**14A 3003098 - IP54 (Ecofan W142)**

Regulator to regulate the speed of 1~230V voltage adjustable fan motors.

### Specifications:

- Option to connect several fans with the maximum connection current.
- Protection class IP54/IP21.
- Selector to switch the fan to 6 positions, including off.
- Green operating lamp.
- Option to connect a room and/or construction thermostat.
- Option to control an air valve for example via a co-switching contact (max 2A).
- Motor protection via thermo contacts (not for PTC thermister). The regulator switches off automatically in the case of overload.

### Can be used for:

- Tanner MDA (230V)
- MDV Blue (230V)
- Ecofan W
- Ecofan P (6A)

## 5-position transformer regulator 400V



**Order code: 2A 0616162 - IP54**

**4A 0616164 - IP21**

**7A 0616166 - IP21**

Regulator to regulate the speed of 3~400V voltage adjustable fan motors.

### Specifications:

- Option to connect several fans with the maximum connection current.
- Protection class IP54/IP21.
- Selector to switch the fan to 6 positions, including off.
- Green operating lamp.
- Option to connect a room and/or construction thermostat.
- Option to control an air valve for example via a co-switching contact (max 2A).
- Motor protection via thermo contacts (not for PTC thermister). The regulator switches off automatically in the case of overload.

### Can be used for:

- Tanner MDA (400V)
- MDV Blue (400V)
- Easyair T200

## High/low/off regulator 400V



**Order code: 10A 0616170**

Regulator to manually switch 3~400V fan motors in Y/Δ to high/low.

### Specifications:

- Option to connect several fans with the maximum connection current.
- Protection class IP54.
- A selector to switch the fan to high, low and off.
- A green operating lamp.
- The option to connect a room and/or construction thermostat.
- The option to control an air valve for example via a co-switching contact (max 2A).
- Motor protection via thermo contacts (not for PTC thermister). The regulator switches off automatically in the case of overload.

### Can be used for:

- Tanner MDA (400V)
- Easyair T200

## HMI-EC Controller



Order code: 0699150

The HMI-EC controller is an electronic controller with an LCD screen especially for the range of EASYAIR air curtains. The controller manages the performance of an air curtain by means of fan revolutions and control of the air heating capacity.

The HMI-EC is equipped with a Modbus RTU port that supports communication with BMS systems. The controller is suitable for all types of EASYAIR air curtains.

**Specifications:**

- Power supply: 1\*90-240 VAC 50/60 Hz
- Type of temperature sensor NTC, 10 k $\Omega$  @ 25 °C
- Temperature setting: 0 °C...50 °C
- Precision temperature measurement:  $\pm 0.5$  °C
- Relative humidity: 10-90% with no condensation
- Protection class: IP20
- Dimensions: 86 x 86 x 48 mm
- Weight: 150 gr

**Can be used for:**

- Easyair

3-position selector  
MDC 230V

Order code: 0631175

Selector to switch the fan on the MDC 230V to 3 positions.

**Can be used for:**

- Tanner MDC (230V)
  - In combination with MDC 230V motor control
- Order code: 3003500

## Speed controller



Order code: 0616040

Controller P140 for max. 9x Ecofan P140 ceiling fans.

**Specifications:**

- On/off button
- Selector to switch the fan to 10 different positions, from low to high.
- Power supply: 230/1 Ph/50Hz
- Max amperage: 3 A
- Up to max. 9x Ecofan P ceiling fans
- Up to max. 2x Ecofan W42 / 1x W82
- Ambient temperature: 0-40 °C
- Dimensions surface mounting: 108x108x60 (lxwxh)
- Dimensions flush mounting: 108x108x55 (lxwxh)

**Can be used for:**

- Ecofan P140
- Ecofan W42 / W82

## WEB MODULE

WEB-BASED **Order code: 0629187 (Temporarily unavailable)**

Module for remote control and reading out an Optitherm+ thermostat by means of an app for mobile phone and tablet. The Optitherm+ is suitable for GS+/GSX/GC+ air heaters.

A WiFi bridge (0629186) can be added to create a wireless connection.

You need a separate Optitherm+ and Web module for each unit that you want to read out via the app. When using one Web module, only the fault messages and history of the first unit can be read via the app. It is possible to control multiple unit with one Web module via the app.

**Can be used for:**

- Optitherm+ (0629185)
- GS+
- GSX
- GC+

## INTERFACE+

**Order code: 3002866**

An Interface+ can be used in two ways.

1. Power control: An externally supplied 0-10VDC signal is converted into a power control of the burner. With an Interface+ module, one G(S)+ can be controlled.

|                       |             |
|-----------------------|-------------|
| Potential free entry: | Reset       |
| Potential free exits: | Malfunction |
|                       | Operation   |

2. Connection BMS (building management system): Settings, actual temperatures and fault codes can be read using Modbus. Settings of the OptiTherm+ can be modified.

**Specifications:**

- Wiring: Shielded data cable (between Interface+ and air heater)
- Dimensions: 109x154x49 mm (lxwxh)
- Weight: 498 grams
- Degree of protection: IP20
- Ambient temperature: 0-40°C

**Can be used for:**

- GS+
- G(C)+
- GSX

## Pressure sensor



Order code: 3004561 (230V)  
3004560 (400V)

To control an EC-fan based on pressure.

**Specifications:**

- Measuring range: 0-2500Pa
- Accuracy: 0,5% \* measured value  $\pm 2,5$ Pa
- Maximum pressure: 20kPa
- Dimensions: 91x75x38mm (wxhxd)
- Ambient temperature:  
-20 / +40°C (operation)  
0 / +50°C (display)
- Humidity environment: 10-95 %RH
- Protection class: IP54
- Weight: 110 grams
- Output: 0-10Vdc, 2-10Vdc, 0-20mA, 4-20mA"

**Can be used for:**

- MDV Blue EC

## Potentiometer with on/off contact



Order code: 0631390

To variable control the MDV Blue EC fan through a 0-10V signal.

**Specifications:**

- Type: 10K
- Resistance: 10kOhm (-20% / +20%)
- Contact load: 1A 230Vac
- Ambient temperature: 35°C
- Protection class: IP54 built-on, IP44 built-in
- Weight: 145 grams
- Color: RAL 9010
- Housing: Plastic ASA
- Mounting: built-in or built-on

**Can be used for:**

- MDV Blue EC
- Tanner MDA EC
- LDA Swirl
- Ecofan W EC

## Multi-functional controller 230V with integrated display



Order code: 0629400

Controller to control MDV Blue fans on the basis of temperature and CO<sub>2</sub>, constant flow, constant pressure, constant humidity, constant CO<sub>2</sub>, CO<sub>2</sub> and temperature.

**Specifications:**

- Power supply: 230Vac  $\pm 10\%$
- Protection class: IP40
- Dimensions (wxhxd): 87x87x42mm
- Modbus: RS485 connection (slave)
- Temperature range: 0-50°C
- Languages: English, German, Danish and Swedish
- Easy to operate
- Contrast adjustable
- Menu password protection is possible
- Output: 0-10V
- Relay contact: NO 250Vac 5.0A-AC1
- With overtime timer adjustable 0-240min
- Suitable to connect a presence sensor, temperature sensor, CO<sub>2</sub> sensor, humidity sensor and pressure sensor.
- Equipped with a switch with weekly program up to 10 blocks per day
- Weight: 160 grams

**Can be used for:**

- MDV Blue AC
- MDV Blue EC

### Room presence sensor for multi-functional controller



**Order code: 0629414**

PIR presence sensor for mounting on the wall.

**Specifications:**

- Dimensions (wxhxd): 85x85x33mm
- Angle: 90°
- Distance: 5 meter
- Switch-off delay: 15 sec. not adjustable
- Protection class: IP20
- Temperature range: +10 / +30°C
- The sensor measures the temperature changes to a limited distance from the front of the sensor.
- Weight: 74 grams

**Can be used for:**

- MDV Blue AC
- MDV Blue EC

### Room temperature sensor ip20 for the multi-functional controller



**Order code: 0629410**

22K ohm NTC room temperature sensor for wall mounting in IP20 housing.

**Specifications:**

- Dimensions (wxhxd): 85x85x33mm
- Temperature range: -20 / +40°C
- Accuracy: ±1°C
- Protection class: IP20, humid rooms area 3
- Sensor type: NTC 22K 2%
- Mounting: Wall mounting
- Weight: 88 grams

**Can be used for:**

- MDV Blue AC
- MDV Blue EC

### Temperature sensor IP54 for the multi-functional controller



**Order code: 0629411**

22K ohm NTC external room temperature sensor in IP54 housing.

**Specifications:**

- Dimensions (wxhxd): 80x80x55mm
- Temperature range: -40 / +60°C
- Accuracy: 2°C full range
- Protection class: IP54
- Sensor type: NTC 22K 2%
- Mounting: Wall mounting
- Weight: 152 grams
- Storage temperature: -40 / +80°C

**Can be used for:**

- MDV Blue AC
- MDV Blue EC

**Room co2 sensor for the multi-functional controller**

**Order code: 0629412**
**Room humidity sensor for the multi-functional controller**

**Order code: 0629413**
**Active pressure & flow sensor with display**

**Order code: 3004506**

To measure the CO<sub>2</sub> in a room.

**Specifications:**

- Dimensions (wxhxd): 85x85x33mm
- Measuring range: 0-2000 ppm
- Accuracy: ±50ppm per 500ppm
- Protection class: IP21
- Mounting: Wall mounting
- Weight: 94 grams
- Operating temperature: +10 / +60°C
- Output: proportional 0-10V 15mA

**Can be used for:**

- MDV Blue AC
- MDV Blue EC

To measure the temperature and/or the relative humidity in a room.

**Specifications:**

- Dimensions (wxhxd): 85x85x33mm
- Room temperature: 0 / +60°C
- Accuracy temp.: 0-10V = 0-50°C (max5mA)
- Accuracy temp.: ±1°C
- Humidity output: 0-10V = 0-100%RH (max 5mA)
- Accuracy humidity: ±5% RH (10-90% RH)
- Protection class: IP20, humid rooms area 3
- Sensor type: NTC 22K 2%
- Mounting type: Wall mounting
- Weight: 88 grams

**Can be used for:**

- MDV Blue AC
- MDV Blue EC

Pressure sensor to monitor and control based on pressure difference or flow.

**Specifications:**

- Measuring range: 0-2500Pa
- Accuracy: -20/+40°C ±3 % (> 350 Pa), ±10 Pa (< 350 Pa)
- Maximum pressure: 20kPa
- Dimensions: 91x75x36mm (wxhxd)
- Room temperature: -20 / +40°C (operation) 0 / +50°C (display)
- Protection class: IP54
- Weight: 110g
- Output: 0-10Vdc, 2-10Vdc, 0-20mA, 4-20mA
- K-factor: 0.1 to 9999 m<sup>3</sup>/h can be modified to l/s.
- Supply 24Vac ±15%, 50/60 Hz, 3.5-28Vdc
- Setting pressure range: -50/+50 Pa, 0/100 Pa, 0/150 Pa, 0/300Pa, 0/500 Pa, 0/1000 Pa, 0/1600 Pa, 0/2500 Pa
- Setting flow range: 100 m<sup>3</sup>/h, 300 m<sup>3</sup>/h, 500 m<sup>3</sup>/h, 1000 m<sup>3</sup>/h, 3000 m<sup>3</sup>/h, 5000 m<sup>3</sup>/h, 9999 m<sup>3</sup>/h, 30.00 m<sup>3</sup>/h x 1000, 50.00 m<sup>3</sup>/h x 1000, 99.99 m<sup>3</sup>/h x 1000

**Can be used for:**

- MDV Blue EC
- Airstream



## W9 G+



|                    |             |            |                |
|--------------------|-------------|------------|----------------|
| <b>Order code:</b> | <b>W9-1</b> | <b>GS+</b> | <b>3004401</b> |
|                    | <b>W9-2</b> | <b>GS+</b> | <b>3004402</b> |
|                    | <b>W9-3</b> | <b>GS+</b> | <b>3004403</b> |
|                    | <b>W9-4</b> | <b>GS+</b> | <b>3004404</b> |
|                    | <b>W9-5</b> | <b>GS+</b> | <b>3004405</b> |
|                    | <b>W9-6</b> | <b>GS+</b> | <b>3004406</b> |

Switchbox for modulating regulation of 1 or more modulating air heaters based on room temperature.

### Specifications:

- Steel box with cylinder lock
- One 230V power supply group per device with a switchbox for several devices.
- Digital time switch with weekly programme.
- Day and night temperature regulator.
- Holiday switch to operate devices at the night-time temperature over longer periods.
- Overtime timer adjustable from midnight to 6.0 a.m.
- Selector per device for "heat / off / ventilate".
- Illuminated reset button per device to indicate and reset a burner trip
- A room temperature sensor supplied separately.

### Can be used for:

- GS+
- GC+

## C10



**Order code: 3004231**

Switchbox for controlling a Calflo with on/off fan based on room temperature with minimum inlet temperature restriction.

### Specifications:

- Steel box with cylinder lock
- Regulator for the room temperature and minimum inlet temperature restriction using 2-10Vdc control signal.
- Selector for heat/off/ventilate.
- Failure lamps for:
  - Burner failure
  - Intake air failure
  - Burner fan thermally off
  - Maximum failure
  - Dirty filter
- Operating lamps for:
  - Burner on
  - Burner in operation
  - Release of control
- Reset button to reset a burner failure.
- Voltage free contact to operate extraction (24Vmax).
- Voltage free contact (supply to third parties) to check whether extraction is operating.
- A room temperature sensor supplied separately.
- A duct temperature sensor supplied separately for the minimum inlet temperature restriction.

### Can be used for:

- Calflo on/off model

## C12



**Order code: 3004233**

Switchbox for controlling a Calflo with on/off fan based on room temperature with minimum inlet temperature restriction.

### Specifications:

- Steel box with cylinder lock
- Regulator for the room temperature and minimum inlet temperature restriction using 2-10Vdc control signal.
- Selector for heat / off / ventilate.
- Digital time switch with weekly programme.
- Holiday switch to allow devices to operate at the night-time temperature over longer periods.
- Overtime timer adjustable from midnight to 6.00 a.m.
- Failure lamps for:
  - Burner failure
  - Intake air failure
  - Burner fan thermally off
  - Maximum/gas pressure failure
  - Dirty filter failure
- Operating lamps for:
  - Burner on
  - Burner in operation
  - Supply fan on
  - Release control
- Reset button to reset a burner failure.
- Voltage free contact to operate extraction (24Vmax).
- Voltage free contact (supply to third parties) to check whether extraction is operating.
- A room temperature sensor supplied separately.
- A duct temperature sensor supplied separately for the minimum inlet temperature restriction.

### Can be used for:

- Calflo on/off model

**C20****Order code: 3004241**

Switchbox for controlling a Calflo with high/low fan based on room temperature with minimum inlet temperature restriction.

**Specifications:**

- Steel box with cylinder lock
- Regulator for the room temperature and minimum inlet temperature restriction using 2-10Vdc control signal.
- Selector for heat / off / ventilate.
- High/low selector supply fan selector.
- Failure lamps for:
  - Burner failure
  - Intake air failure
  - Burner fan thermally off
  - Maximum/gas pressure failure
  - Dirty filter
- Operating lamps for:
  - Burner on
  - Burner in operation
  - Supply fan low
  - Supply fan high
  - Release control
- Reset button to reset a burner failure.
- Voltage free contact to start extraction (24V max).
- Voltage free contact to switch extraction to high (24V max).
- Voltage free contact (supply to third parties) to check whether extraction is operating at low.
- Voltage free contact (supply to third parties) to check whether extraction is operating at high.
- A room temperature sensor supplied separately.
- A duct temperature sensor supplied separately for the minimum inlet temperature restriction.

**Can be used for:**

- Calflo high/low model

**C22****Order code: 3004243**

Switchbox for controlling a Calflo with high/low fan based on room temperature with minimum inlet temperature restriction. With day/night temperature monitoring.

**Specifications:**

- Steel box with cylinder lock.
- Regulator for the room temperature and minimum inlet temperature restriction using 2-10Vdc control signal.
- Selector for heat / off / ventilate.
- High/low selector supply fan selector.
- Digital time switch with weekly programme.
- A holiday switch to allow the device to be operated at the night-time temperature over longer periods.
- A digital timer (0-6 hours) to switch to the daytime mode temporarily outside the clock programme.
- Failure lamps to indicate:
  - Burner failure
  - Intake air failure
  - Burner fan thermally off
  - Maximum failure
  - Dirty filter
- Operating lamps to indicate:
  - Burner on
  - Burner in operation
  - Supply fan low
  - Supply fan high
  - Release control
- Reset button to reset a burner failure.
- Voltage free contact to start extraction (24V max).
- Voltage free contact to switch extraction to high (24V max).
- Voltage free contact (supply to third parties) to check whether extraction is operating at low.
- Voltage free contact (supply to third parties) to check whether extraction is operating at high.
- A room temperature sensor supplied separately.
- A duct temperature sensor supplied separately for the minimum inlet temperature restriction.

**Can be used for:**

- Calflo high/low model

### MDC 230V motor control up to 3.0kW



**Order code: 3003500**

To be able to switch the 1~230V fan on the MDC. Plus the option to connect an external room thermostat and a 3-position selector for the fan.

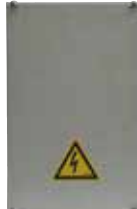
**Specifications:**

- Steel box.
- Solenoid switch to control the fan.
- Connecting terminals for external room thermostat.
- Connecting terminals for external 3-position selector.

**Can be used for:**

- Tanner MDC (230V)

### MDC 400V motor control



**Order code: 3003502 (1,1 kW)**

**3003503 (1,5 kW)**

**3003504 (2,2 kW)**

**3003505 (3,0 kW)**

To control the 3~400V fan on the MDC. Plus the option to connect an external room thermostat.

**Specifications:**

- Steel box.
- Solenoid switch to control the fan.
- Connecting terminals for an external room thermostat.

**Can be used for:**

- Tanner MDC (400V)



# SUPPLY AIR SYSTEMS

On request



For more information, downloads  
and videos, visit the Supply air  
systems page on our website

The background of the page is a photograph of industrial machinery, likely a large-scale manufacturing or processing plant. The machinery consists of several large, cylindrical components arranged in a row, with various pipes, valves, and structural elements visible. The entire image is overlaid with a semi-transparent blue filter, which gives it a monochromatic, industrial feel. The lighting is somewhat dim, emphasizing the metallic textures and complex geometry of the equipment.

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## AN OPTIMAL INDOOR CLIMATE

Mark Climate Technology is happy to work with you to find the perfect solution for an optimal indoor climate for your building. With free advice (also on site), our own service department and a wide product range, Mark has proven itself for 75 years as a reliable partner for consultants, installers and end users.