

DOMUS M

NEW



Air-to-water split all-in-one heat pumps in R32

RIELLO
Energy For Life

A Carrier Company

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DOMUS M THE NEW RANGE OF ALL-IN-ONE AIR-TO-WATER HEAT PUMPS



ALL-SEASONS COMFORT



HIGH EFFICIENCY



SILENT OPERATION



COMPACT DIMENSIONS



R32 REFRIGERANT GAS



WIDE RANGE



INTEGRABLE INTO HYBRID SYSTEMS

DOMUS M split heat pumps are designed to provide heating, cooling and domestic hot water. Available in 10 different power sizes, they offer a wide range of choice between single-phase (from 4 to 16 kW) and three-phase (from 12 to 16 kW) models. Thanks to the compressor's DC Inverter technology, they can reach a heating temperature up to 65°C. The various functions are easily managed via the included on-board control. Furthermore, they are designed to be integrated into a hybrid system, in combination with a gas heating source (*).

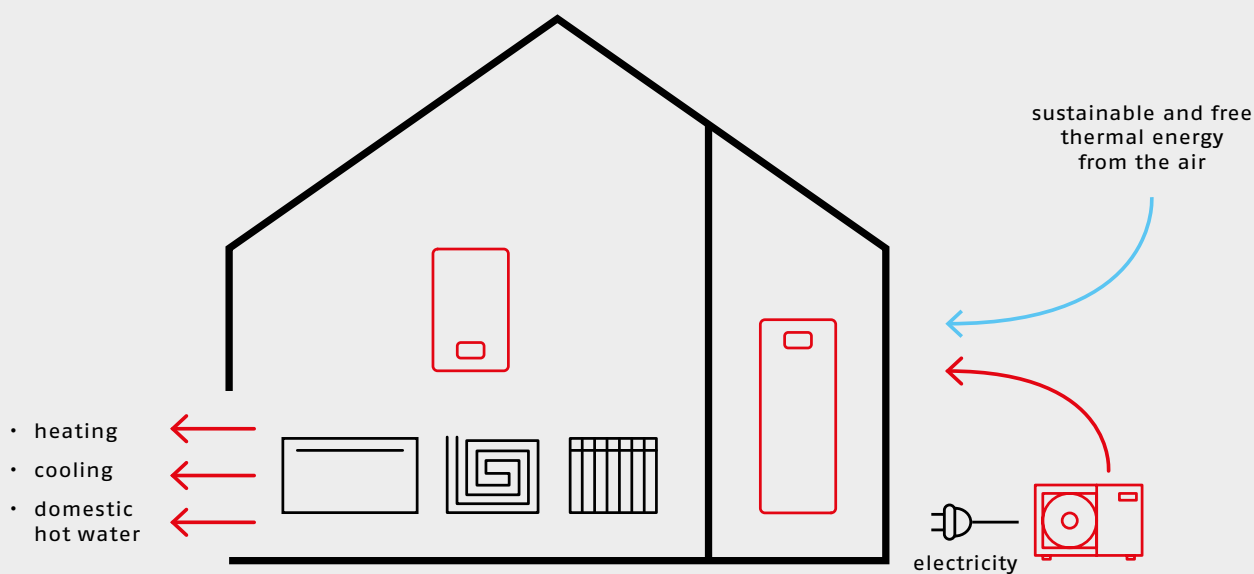
(*). For further information, please refer to the documentation -dedicated to Riello hybrid systems



HOW IT WORKS

DOMUS M is an air-to-water split heat pump that harnesses thermal energy from the air, a renewable and free source, by extracting it through the outdoor unit, and electricity, to provide comfort in all seasons, producing heating, cooling and domestic hot water.

Thanks to the Inverter compressor and the refrigerant gas, thermal energy from the air is transferred to the water for DHW use and to the circuit water to heat underfloor system, fan coils, and radiators.



R32 REFRIGERANT



The new DOMUS M range uses R32 refrigerant, which has several advantages over R410A refrigerant and is in line with European CO₂ emissions reduction targets.

ADVANTAGES OF R32 REFRIGERANT

- Low Global Warming Potential (GWP): R410A: 2,088 > R32: 675*
- Improved energy efficiency compared to products with R410A
- Proven and reliable solution, already used in residential air conditioners (including the Riello AARIA MONO PLUS and AARIA MULTI PLUS)



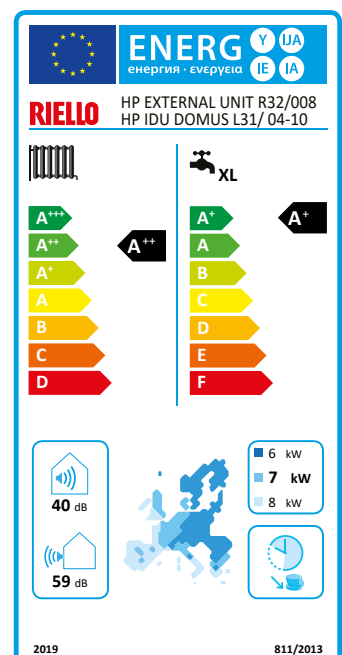
ENERGY CLASS A+++

The entry into force of the European ErP Directive (09/26/2015) requires that heat pumps, like other generators for the production of heating and domestic hot water, be classified through the appropriate energy label indicating the class. The mandatory labeling provides greater transparency on the characteristics of the products, which will be able to be easily compared, favoring the user in searching for those with higher efficiency. DOMUS M heat pumps achieve class A+++** (A7;W35°C) and class A+*** for domestic hot water.

* Pursuant to Regulation (EU) 2024/573

** The range of energy efficiency class of this product category is between D and A+++

*** The range of energy efficiency class of this product category is between F and A+



HI, COMFORT T300-I

Hi, Comfort T300-I is an advanced control system, with a modern and elegant design, which, thanks to the integrated gateway, allows remote management of home comfort via **Hi, Comfort App**.

Hi, Comfort T300-I works as a true System Manager for heating and cooling systems, including heat pumps, full-electric and hybrid systems. Its display is easy to read and features intuitive icons for a quick and easy use.



USB FUNCTION

Easily transfers parameter settings between different wire controllers.

Convenient update of the program with a key and **time saving** for on-site installation.



ON-BOARD CONTROL AS STANDARD

The onboard wired control is supplied as standard with each heat pump split system indoor unit. It is easy to navigate and enables you to activate all the available functions, including "Antifreeze" and "Holiday", and set a weekly program for home comfort management.

The large backlit display features intuitive icons that simplify reading, which is also made easier thanks to the multi-language menu.



OUTDOOR UNIT

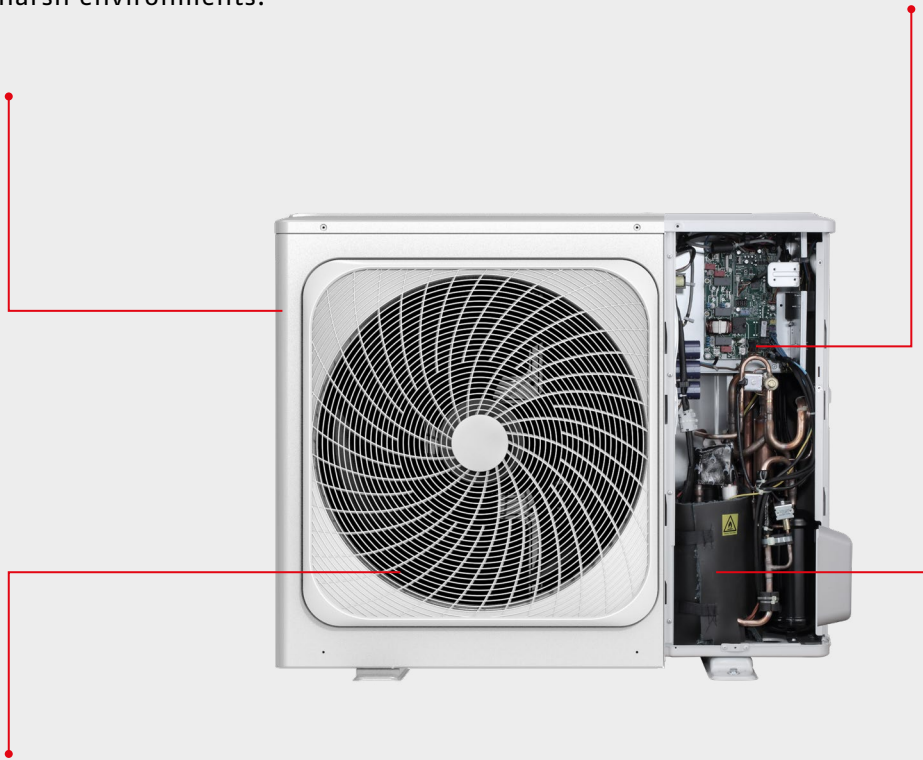
HIGH EFFICIENCY HEAT EXCHANGE BATTERY

Large heat exchange surface:

- Aluminum fins with large exchange surface to maximize heat transfer.
- Blue-Fin Treatment: Hydrophilic and anti-corrosive coating for greater durability and weather resistance, even in harsh environments.

INVERTER CONTROL BOARD

Optimized power management: maximizes power under critical load conditions, providing high performance and offering stability and efficiency at partial loads.



FAN

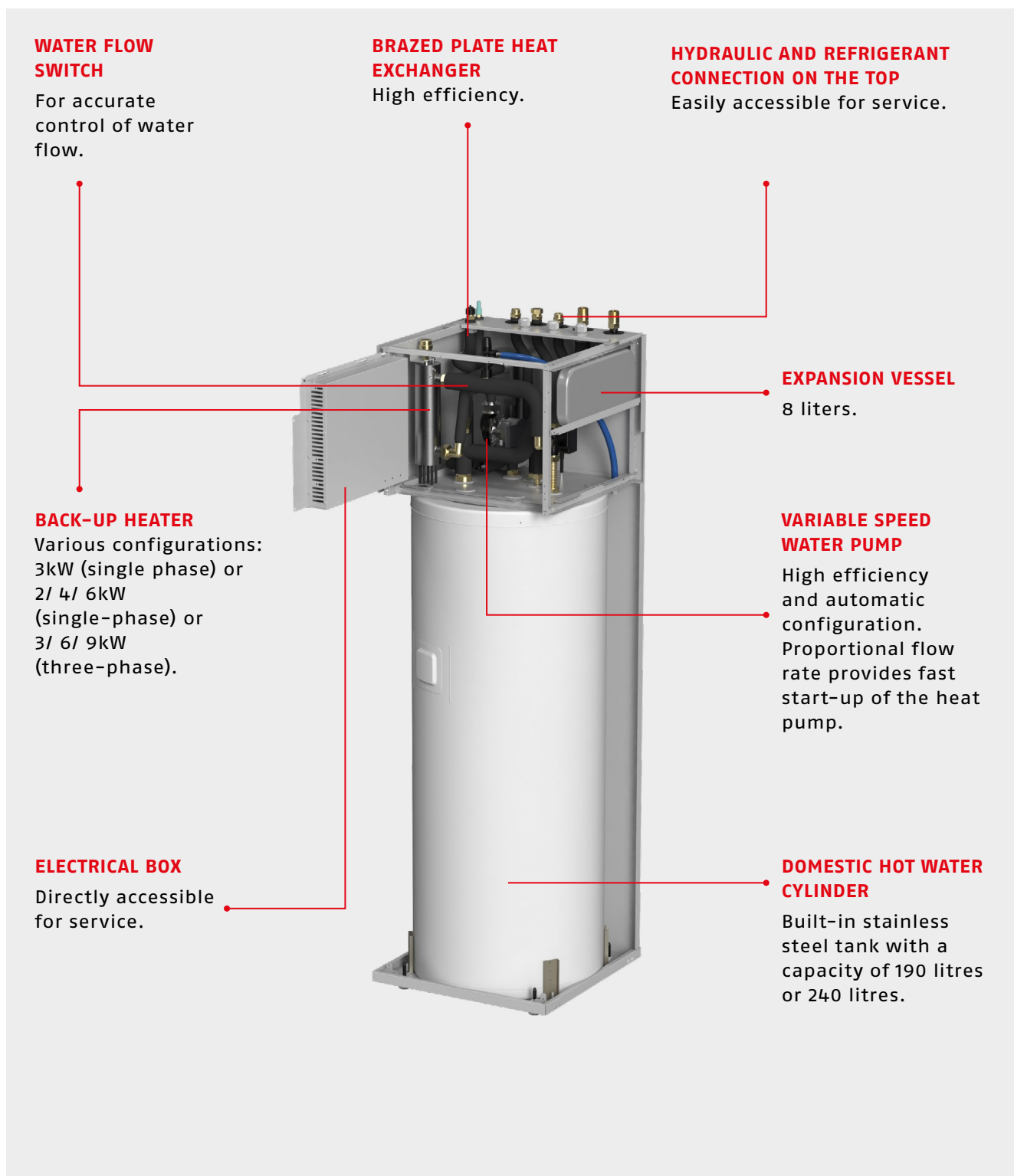
The innovative design of the blade and its edge has been optimized to maximize the airflow surface. This configuration allows to significantly improve the efficiency of the fan, while reducing the overall noise.

HIGH EFFICIENCY TWIN ROTARY DC INVERTER COMPRESSOR

Cutting-edge design: Twin Rotary compressor with DC Inverter technology, combined with fan motor and pump, provides precise control of motor speed.

Optimal energy efficiency: the ability to modulate power based on actual load allows you to minimize energy consumption and maximize savings.

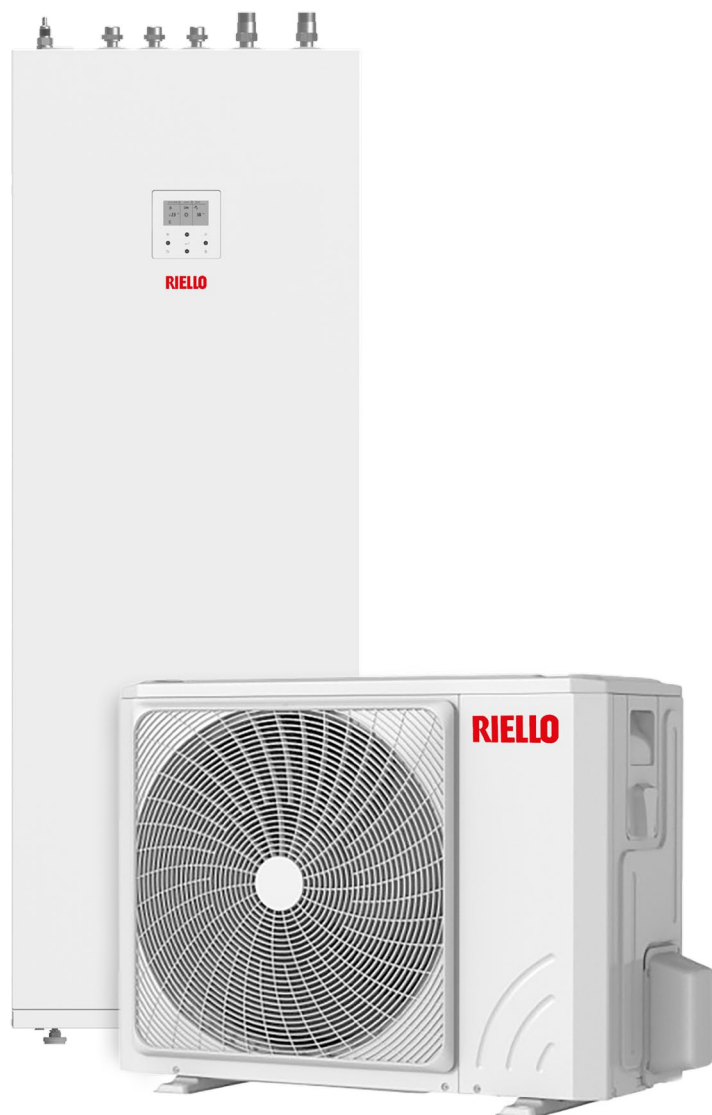
ALL-IN-ONE INDOOR UNIT



INSTALLATION FLEXIBILITY

DOMUS M represents a valid solution both for the replacement of a wall-hung gas boiler and for new construction. It is also possible to combine it with a Riello condensing boiler in the case of a hybrid system.

The condensing boiler can be an auxiliary source of heat in colder climates.

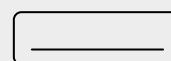


AUXILIARY HEAT SOURCES

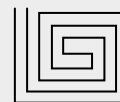


WALL-HUNG
CONDENSING BOILER

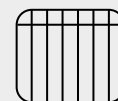
TERMINAL UNITS



FAN COILS



FLOOR HEATING SYSTEM



RADIATORS

DOMUS M STRENGTHS



SILENT OPERATION

The low noise level is achieved thanks to the construction measures and can be reduced up to 39 dB(A)* by setting the Silent Mode.



EFFICIENT PERFORMANCE

All DOMUS M power sizes have energy class A+++ ** in heating (air 7°C, water 35°C) and can reach a heating temperature of up to 65°C.

* Sound pressure of a 4 kW outdoor unit in silent mode 2, measured at 1m distance in front of the unit (1m + height of the unit) and at 2 m above the floor (with air +7°C, water 35°C)

** The range of energy efficiency class of this product category is between D and A+++



ALL-SEASONS COMFORT

The DOMUS M heat pump range can be used with different outside air temperatures.


As the graphs shows, in heating it can operate from -25°C of outside temperature, in cooling up to $+43^{\circ}\text{C}$, and, for domestic hot water, from -5°C to $+43^{\circ}\text{C}$ of outside temperature.



OPERATING LIMITS

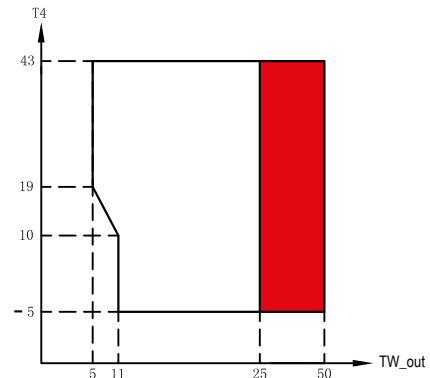
 Operating range only with gas boiler or electric resistance

 Operating range by heat pump with possible limitation and protection

 Maximum inlet water temperature line for heat pump operation

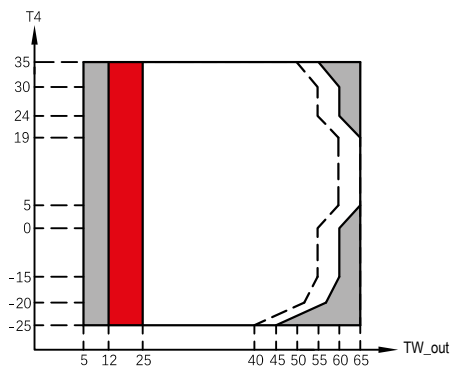
T_{w_out} = water flow temperature
 T_4 = outside air temperature

COOLING MODE



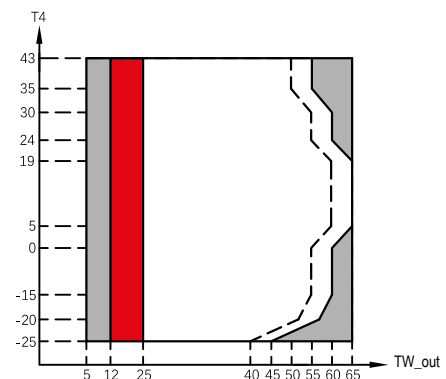
HEATING MODE

The maximum outlet water temperature (T_{w_out}) that the heat pump can reach at different outside temperatures (T_4) is listed below:



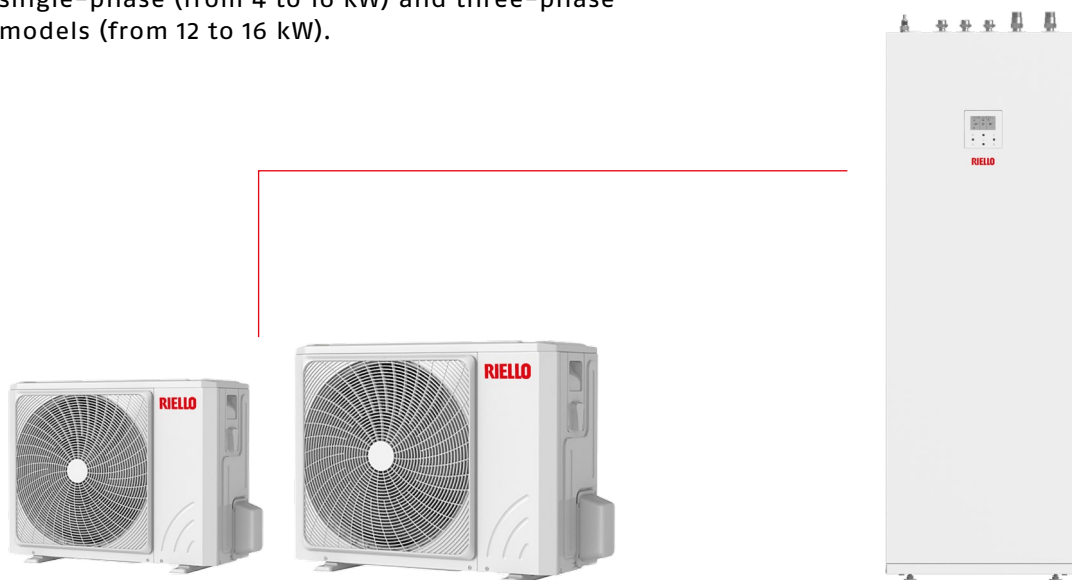
DHW MODE

The maximum outlet water temperature (T_{w_out}) that the heat pump can reach at different outside temperatures (T_4) is listed below:



WIDE RANGE

DOMUS M is **available in 10 different power sizes** and offers a wide range of choices between single-phase (from 4 to 16 kW) and three-phase models (from 12 to 16 kW).



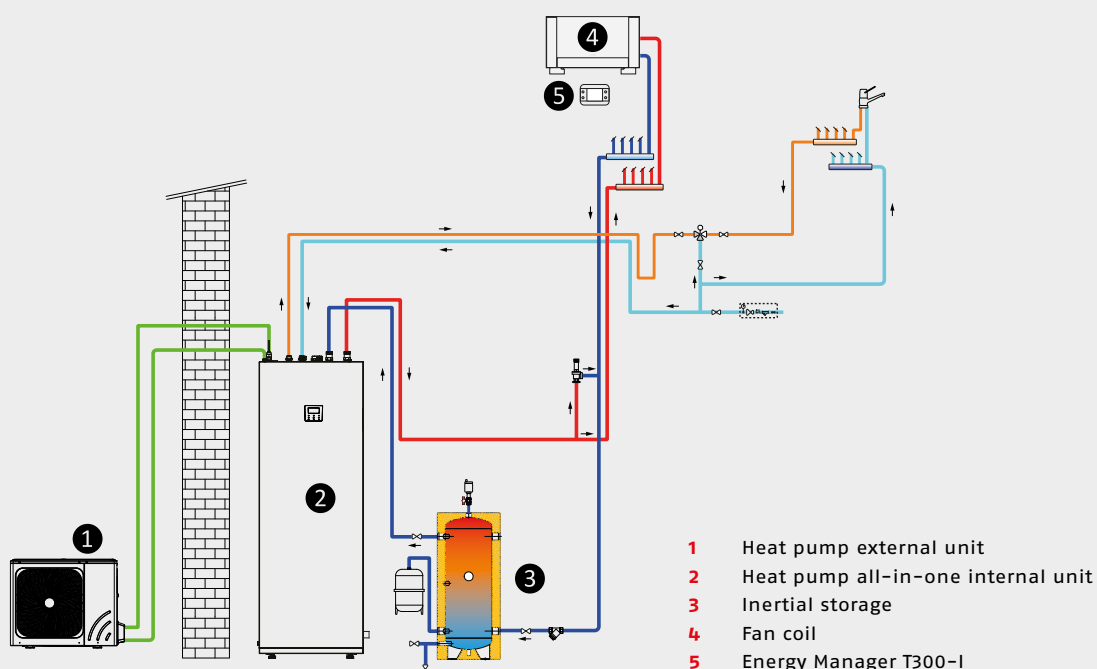
OUTDOOR UNIT

Two dimensions for 10 power sizes.

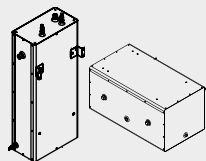
ALL-IN-ONE INTERNAL UNIT

Six models with different electric back-up heater configurations and two different DHW tank sizes (190lt or 240lt).

APPLICATION EXAMPLE

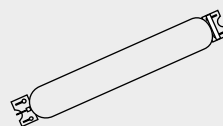


ACCESSORIES



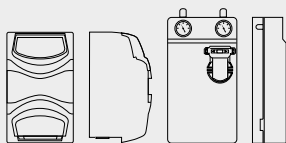
INERTIAL BUFFER TANK

50 litres buffer tank suitable for vertical or horizontal installation, inside or outside the building



EXPANSION VESSEL KIT FOR DHW

Kit expansion vessel for domestic hot water includes 8-litre expansion vessel, connection piping, safety valve and support to be installed on the back of the all-in-one indoor unit



MANAGEMENT MODULE OF THE AREAS

Pre-assembled modules, possibility of creating direct and/or mixed circuits, single or multiple, both in heating and cooling



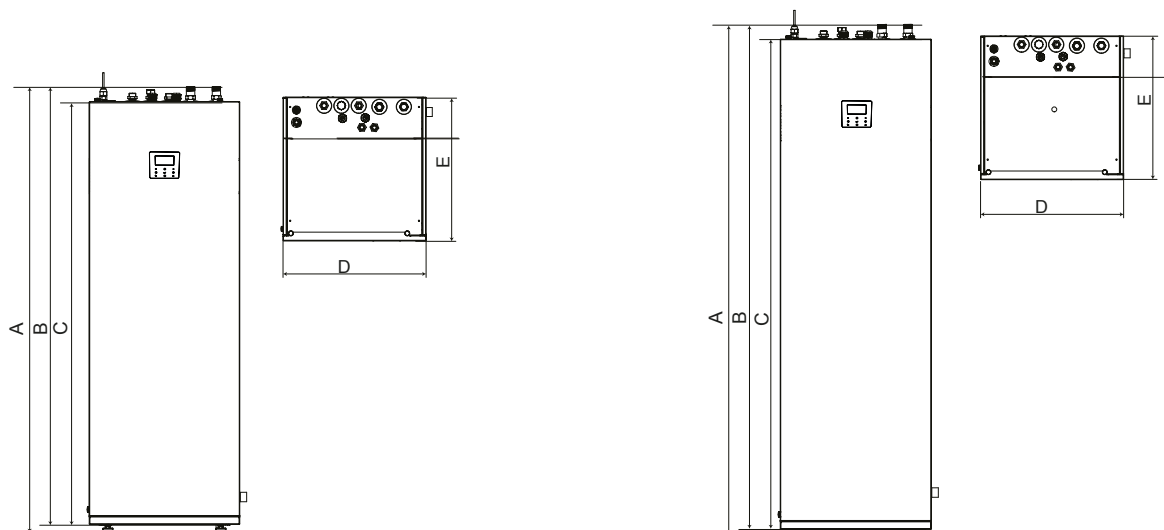
TEMPERATURE SENSOR

Allows to manage temperature operation for the balancing of tanks or the 2 zone flow temperature or the solar temperature

TECHNICAL DRAWINGS

M version with 190 litre DHW tank

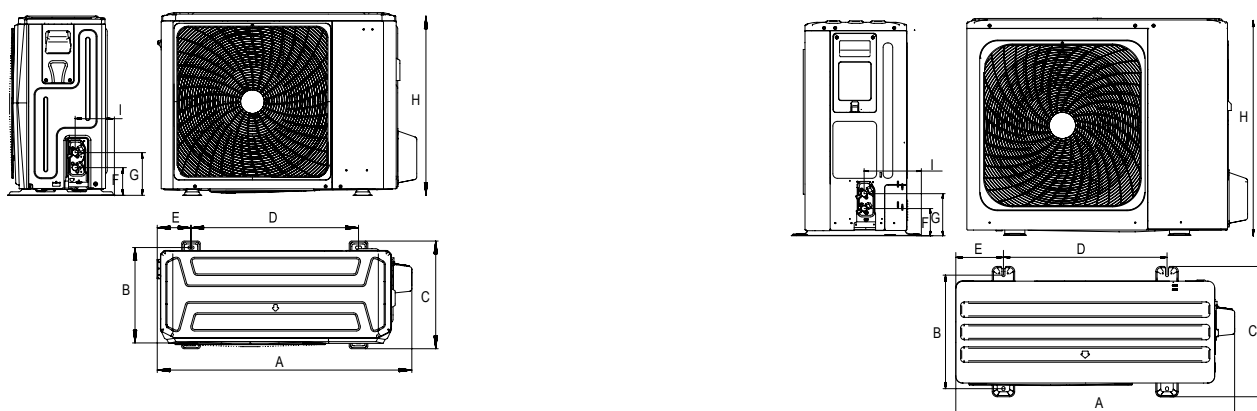
L version with 240 litre DHW tank



| MODEL | uom | A | B | C | D | E |
|-----------|-----|------|------|------|-----|-----|
| M version | mm | 1775 | 1748 | 1682 | 600 | 600 |
| L version | mm | 2034 | 2007 | 1942 | 600 | 600 |

4-6 KW

8-16 KW



| MODEL | uom | A | B | C | D | E | F | G | H | K |
|------------------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 4-6 kW | mm | 1008 | 375 | 426 | 663 | 134 | 110 | 170 | 712 | 160 |
| 8-10-12-14-16 kW | mm | 1118 | 456 | 523 | 656 | 191 | 110 | 170 | 865 | 230 |

THE RANGE

ALL-IN-ONE SET: VERSION WITH INDOOR UNIT M (190L ACS tank)

| SET | OUTDOOR UNIT | ALL-IN-ONE INDOOR UNIT | OUTPUT |
|-------------------------|-------------------------|-----------------------------|---------------------|
| SET DOMUS M 4M DHW M31 | HP OUTDOOR UNIT R32/004 | HP IDU DOMUS M31/ 04-10 (1) | 4kW (single phase) |
| SET DOMUS M 6M DHW M31 | HP OUTDOOR UNIT R32/006 | | 6kW (single phase) |
| SET DOMUS M 8M DHW M31 | HP OUTDOOR UNIT R32/008 | | 8kW (single phase) |
| SET DOMUS M 10M DHW M31 | HP OUTDOOR UNIT R32/010 | | 10kW (single phase) |
| SET DOMUS M 4M DHW M61 | HP OUTDOOR UNIT R32/004 | HP IDU DOMUS M61/ 04-10 (2) | 4kW (single phase) |
| SET DOMUS M 6M DHW M61 | HP OUTDOOR UNIT R32/006 | | 6kW (single phase) |
| SET DOMUS M 8M DHW M61 | HP OUTDOOR UNIT R32/008 | | 8kW (single phase) |
| SET DOMUS M 10M DHW M61 | HP OUTDOOR UNIT R32/010 | | 10kW (single phase) |

ALL-IN-ONE SET: VERSION WITH INDOOR UNIT L (240L ACS tank)

| SET | OUTDOOR UNIT | ALL-IN-ONE INDOOR UNIT | OUTPUT |
|-------------------------|--------------------------|-----------------------------|---------------------|
| SET DOMUS M 4M DHW L31 | HP OUTDOOR UNIT R32/004 | HP IDU DOMUS L31/ 04-10 (1) | 4kW (single phase) |
| SET DOMUS M 6M DHW L31 | HP OUTDOOR UNIT R32/006 | | 6kW (single phase) |
| SET DOMUS M 8M DHW L31 | HP OUTDOOR UNIT R32/008 | | 8kW (single phase) |
| SET DOMUS M 10M DHW L31 | HP OUTDOOR UNIT R32/010 | | 10kW (single phase) |
| SET DOMUS M 4M DHW L61 | HP OUTDOOR UNIT R32/004 | HP IDU DOMUS L61/ 04-10 (2) | 4kW (single phase) |
| SET DOMUS M 6M DHW L61 | HP OUTDOOR UNIT R32/006 | | 6kW (single phase) |
| SET DOMUS M 8M DHW L61 | HP OUTDOOR UNIT R32/008 | | 8kW (single phase) |
| SET DOMUS M 10M DHW L61 | HP OUTDOOR UNIT R32/010 | | 10kW (single phase) |
| SET DOMUS M 12M DHW L61 | HP OUTDOOR UNIT R32/012 | HP IDU DOMUS L61/ 12-16 (2) | 12kW (single phase) |
| SET DOMUS M 14M DHW L61 | HP OUTDOOR UNIT R32/014 | | 14kW (single phase) |
| SET DOMUS M 16M DHW L61 | HP OUTDOOR UNIT R32/016 | HP IDU DOMUS L93/ 12-16 (3) | 16kW (single phase) |
| SET DOMUS M 12T DHW L93 | HP OUTDOOR UNIT R32/012T | | 12kW (three phase) |
| SET DOMUS M 14T DHW L93 | HP OUTDOOR UNIT R32/014T | | 14kW (three phase) |
| SET DOMUS M 16T DHW L93 | HP OUTDOOR UNIT R32/016T | | 16kW (three phase) |

(1) Including 3kW back-up heater (single phase)

(2) Including 6kW (1ph) back-up heater. Default setting is 4kW, convertible on-site to either 2kW or 6kW.

(3) Including 9kW (3ph) back-up heater. Default setting is 9kW, convertible on-site to either 3kW or 6kW.

TECHNICAL DATA

TECHNICAL SPECIFICATIONS

| | UoM | 004 | 006 | 008 | 010 | 012 | 014 | 016 | 012T | 014T | 016T |
|---|----------------|-----------------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|
| PERFORMANCE DATA (*) | | | | | | | | | | | |
| HEATING PERFORMANCE [A7/W35] (1) | | | | | | | | | | | |
| Nominal heat output | kW | 4,25 | 6,20 | 8,30 | 10,00 | 12,10 | 14,50 | 16,00 | 12,10 | 14,50 | 16,00 |
| COP | kW/kW | 5,20 | 5,00 | 5,20 | 5,00 | 4,95 | 4,70 | 4,50 | 4,95 | 4,70 | 4,50 |
| SCOP (**) | kW/kW | 4,85 | 4,95 | 5,22 | 5,20 | 4,81 | 4,72 | 4,62 | 4,81 | 4,72 | 4,62 |
| ηs | % | 191 | 195 | 206 | 205 | 189 | 186 | 182 | 189 | 186 | 182 |
| Seasonal energy class | D → A+++ (***) | A+++ | A+++ | A+++ | A+++ | A+++ | A+++ | A+++ | A+++ | A+++ | A+++ |
| HEATING PERFORMANCE [A7/W45] (2) | | | | | | | | | | | |
| Nominal heat output | kW | 4,35 | 6,35 | 8,20 | 10,00 | 12,30 | 14,20 | 16,00 | 12,30 | 14,20 | 16,00 |
| COP | kW/kW | 3,80 | 3,75 | 3,95 | 3,80 | 3,80 | 3,65 | 3,60 | 3,80 | 3,65 | 3,60 |
| HEATING PERFORMANCE [A7/W55] (3) | | | | | | | | | | | |
| Nominal heat output | kW | 4,40 | 6,00 | 7,50 | 9,50 | 12,00 | 13,80 | 16,00 | 12,00 | 13,80 | 16,00 |
| COP | kW/kW | 2,95 | 3,00 | 3,18 | 3,10 | 3,10 | 3,00 | 2,90 | 3,10 | 3,00 | 2,90 |
| SCOP | kW/kW | 3,31 | 3,52 | 3,37 | 3,47 | 3,45 | 3,47 | 3,41 | 3,45 | 3,47 | 3,41 |
| ηs | % | 130 | 138 | 132 | 137 | 135 | 136 | 133 | 135 | 136 | 133 |
| Seasonal energy class | D → A+++ (***) | T0++ | T0++ | T0++ | T0++ | T0++ | T0++ | T0++ | T0++ | T0++ | T0++ |
| COOLING PERFORMANCE (A35/W18) (4) | | | | | | | | | | | |
| Nominal cooling output | kW | 4,50 | 6,55 | 8,40 | 10,00 | 12,00 | 13,50 | 14,20 | 12,00 | 13,50 | 14,20 |
| EER | | 5,55 | 4,90 | 5,05 | 4,80 | 4,00 | 3,61 | 3,61 | 4,00 | 3,61 | 3,61 |
| SEER | | 7,77 | 8,21 | 8,95 | 8,78 | 7,10 | 6,90 | 6,75 | 7,04 | 6,85 | 6,71 |
| COOLING PERFORMANCE (A35/W7) (5) | | | | | | | | | | | |
| Nominal cooling output | kW | 4,70 | 7,00 | 7,40 | 8,20 | 11,60 | 12,70 | 14,00 | 11,60 | 12,70 | 14,00 |
| EER | | 3,45 | 3,00 | 3,38 | 3,30 | 2,75 | 2,55 | 2,45 | 2,75 | 2,55 | 2,45 |
| SEER | | 4,99 | 5,34 | 5,83 | 5,98 | 4,89 | 4,86 | 4,69 | 4,86 | 4,83 | 4,67 |
| ηs | % | 196 | 210 | 229 | 235 | 192 | 191 | 184 | 192 | 191 | 184 |
| DOMESTIC HOT WATER PERFORMANCE **** | | | | | | | | | | | |
| DHW COP (M version/ L version) | kW/kW | 3,10/3,34 | 3,10/3,34 | 3,10/3,36 | 3,10/3,36 | na/3,00 | na/3,00 | na/3,00 | na/3,00 | na/3,00 | na/3,00 |
| DHW seasonal energy efficiency (M version/ L version) | % | 127/136 | 127/136 | 125/137 | 125/137 | na/123 | na/123 | na/123 | na/123 | na/123 | na/123 |
| Load profile (M version/ L version) | L / XL | L / XL | L / XL | L / XL | L / XL | n.a./ XL | n.a./ XL | n.a./ XL | n.a./ XL | n.a./ XL | n.a./ XL |
| DHW energy class | F → A+ (*****) | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ |
| Vmax @ 40°C (M version/ L version) | L | 200/275 | 200/275 | 200/275 | 200/275 | na/280 | na/280 | na/280 | na/280 | na/280 | na/280 |
| DHW tank volume (M version/ L version) | L | 190/240 | 190/240 | 190/240 | 190/240 | na/240 | na/240 | na/240 | na/240 | na/240 | na/240 |
| DHW tank material | | Stainless Steel | | | | | | | | | |
| SOUND LEVELS | | | | | | | | | | | |
| Outdoor unit sound pressure (6) | dB(A) | 44 | 45 | 46 | 49 | 50 | 51 | 54 | 50 | 51 | 55 |
| Outdoor unit sound power (7) | dB(A) | 56 | 58 | 59 | 60 | 64 | 65 | 68 | 64 | 65 | 68 |
| Indoor unit sound pressure (6) | dB(A) | 22 | 24 | 22 | 22 | 24 | 25 | 24 | 24 | 25 | 24 |
| Indoor unit sound power (7) | dB(A) | 38 | 38 | 40 | 40 | 42 | 44 | 44 | 42 | 44 | 44 |
| NET WEIGHT | | | | | | | | | | | |
| Outdoor unit | Kg | 58 | 58 | 75 | 75 | 111 | 111 | 111 | 126 | 126 | 126 |
| All-in-one indoor unit | Kg | 157 | 157 | 157 | 157 | 159 | 159 | 159 | 159 | 159 | 159 |
| COMPRESSOR TYPE | | | | | | | | | | | |
| | | DC Twin rotary | | | | | | | | | |
| REFRIGERANT | | | | | | | | | | | |
| | | R32 (GWP = 675) | | | | | | | | | |
| REFRIGERANT CHARGE | | | | | | | | | | | |
| | Kg | 1,50 | 1,50 | 1,65 | 1,65 | 1,84 | 1,84 | 1,84 | 1,84 | 1,84 | 1,84 |

(1) Outside air temperature 7°C DB; water inlet/outlet 30/35°C

(2) Outside air temperature 7°C DB; water inlet/outlet 40/45°C

(3) Outside air temperature 7°C DB; water inlet/outlet 47/55°C

(4) Outside air temperature 35°C; water inlet/outlet 23/18°C

(5) Outside air temperature 35°C; water inlet/outlet 12/7°C

(6) Measured at a position 1m in front of the unit and (1+unit height)/2m above the floor in semi-anechoic chamber

(7) Declared value in compliance with the EN 12102-1 standard

(*) Performance data refers to the combination of outdoor units and indoor units in accordance with EN 14511-3: 2022

(**) In accordance with EN 14825:2022. Average climate

(***) The range of energy efficiency class of this product category is between D and A+++

(****) Performance data is in accordance with EN 16147:2017. Average climate

(*****) The range of energy efficiency class of this product category is between F and A+



Performance is declared according to EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02.

RIELLO

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DOMUS M



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