NXHM
004÷016

Monobloc air to water heat pump R32

NEW

RIELLO
Energy For Life

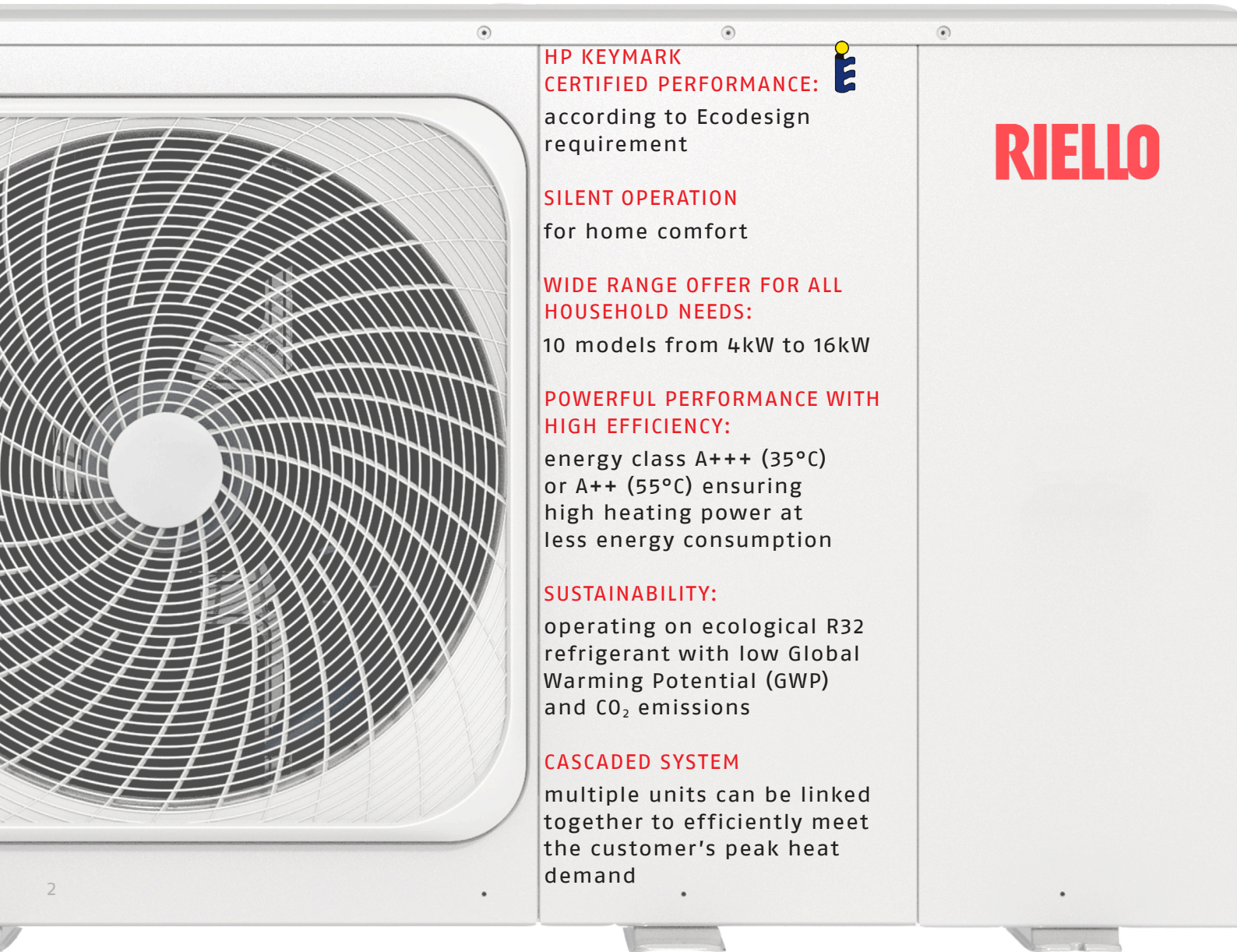
A Carrier Company

www.riello.com

RIELLO PRESENTS **NXHM**

NXHM IS A MONOBLOC HEAT PUMP FOR RESIDENTIAL APPLICATIONS, ABLE TO MEET ALL HEATING AND COOLING NEEDS ALONG WITH THE PRODUCTION OF DOMESTIC HOT WATER. THE SYSTEM IS DESIGNED TO BE INSTALLED OUTDOORS AND CONNECTED TO THE RESIDENTIAL SERVICES BY MEANS OF DEDICATED HYDRAULIC LINES.

NXHM can be installed as a stand-alone heat generator, as a generator in the hybrid configurations available in the Riello range, or as a single heat generator in full-electric systems



HP KEYMARK CERTIFIED PERFORMANCE:

according to Ecodesign requirement

SILENT OPERATION

for home comfort

WIDE RANGE OFFER FOR ALL HOUSEHOLD NEEDS:

10 models from 4kW to 16kW

POWERFUL PERFORMANCE WITH HIGH EFFICIENCY:

energy class A+++ (35°C) or A++ (55°C) ensuring high heating power at less energy consumption

SUSTAINABILITY:

operating on ecological R32 refrigerant with low Global Warming Potential (GWP) and CO_2 emissions

CASCADED SYSTEM

multiple units can be linked together to efficiently meet the customer's peak heat demand

EFFICIENCY IS A CHOICE

THE USE OF **NXHM** IS:

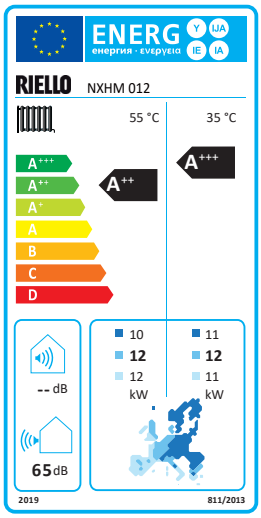
a choice of environmental responsibility, as it takes full advantage of renewable energy sources;

a design choice, as it guarantees the flexibility needed to adapt to a variety of application contexts, whether residential or otherwise;

an energy choice because, when combined with low temperature systems, it reaches class A+++;

a value choice, because it is a plant design solution that obtains the maximum overall energy efficiency of the building, minimising running costs and therefore enhancing the value of the building itself;

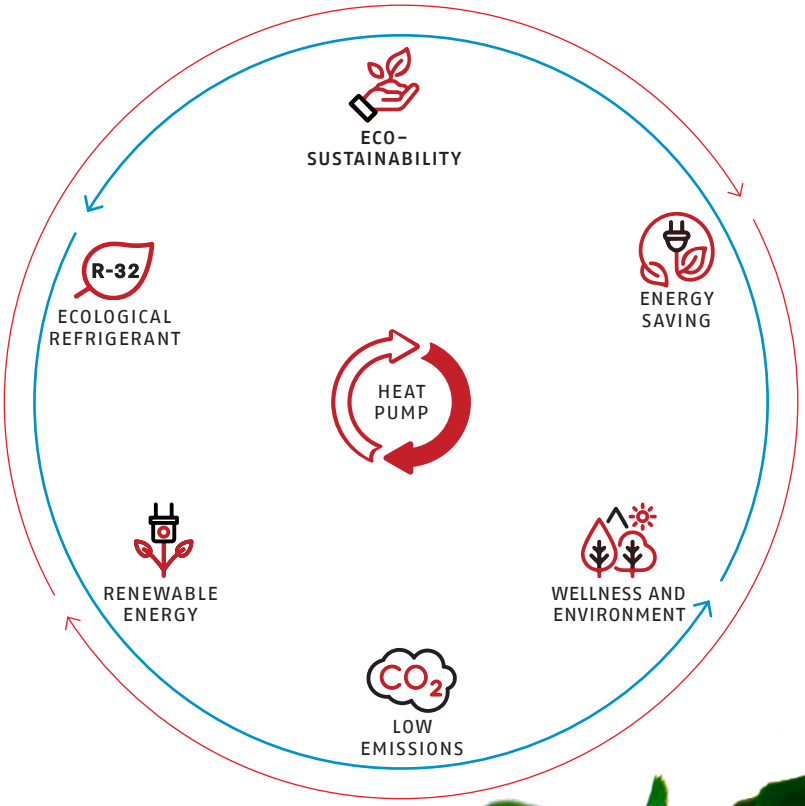
a suitability choice as it supplies a high output temperature of up to 65 °C with wide operating conditions such as -25°C in winter and +43°C in summer.



SUSTAINABILITY

The new **NXHM** supplied with **R32 refrigerant** helps the unit operate more sustainably and effectively. Thanks to lower Global Warming Potential (GWP) plus less charge volume, R32 provides the perfect solution of not only more environmentally friendly having lower CO_2 emissions but also higher energy efficiency*.

All parts containing fluorinated greenhouse gas have been hermetically sealed, which minimizes the potential for leaks and does not require to be opened for placing the system into operation.

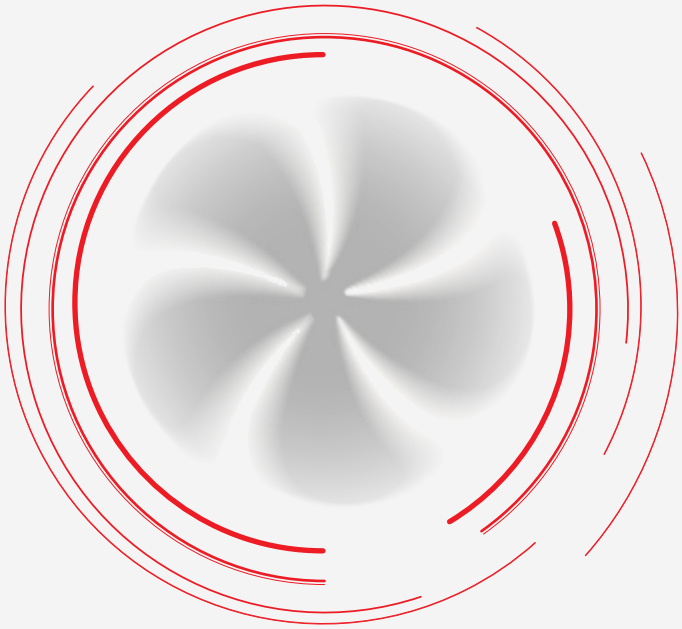


* in comparison with standard refrigerant e.g. R410A

HOME **COMFORT**

SILENT OPERATION

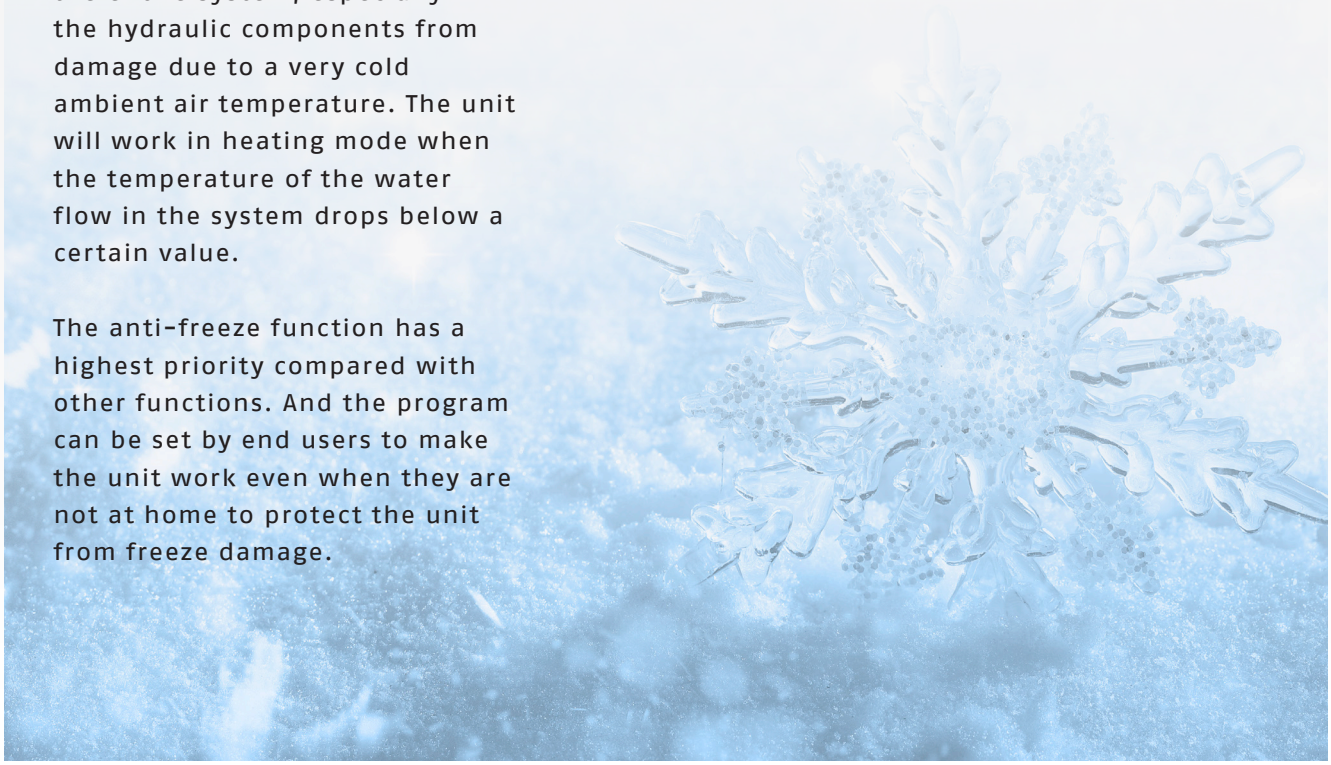
Single fan struture on the whole range reduced noise level during operation. In additional, when needed, the customer can program the unit to run in silent mode, reducing the maximum frequency of the compressor and fan speed ensuring very quiet environment.



ANTI-FREEZE

The anti-freeze program protects the entire system, especially the hydraulic components from damage due to a very cold ambient air temperature. The unit will work in heating mode when the temperature of the water flow in the system drops below a certain value.

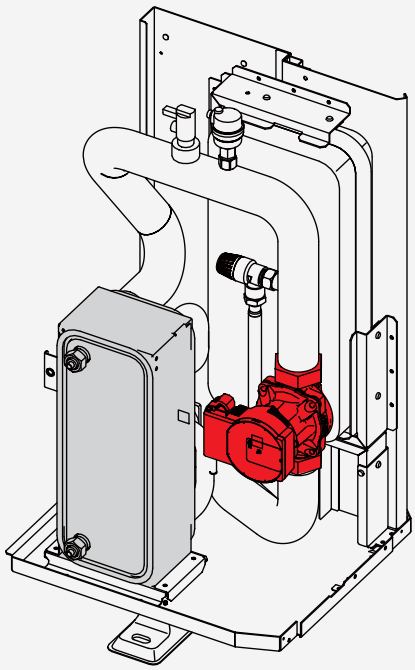
The anti-freeze function has a highest priority compared with other functions. And the program can be set by end users to make the unit work even when they are not at home to protect the unit from freeze damage.



EASE OF INSTALLATION

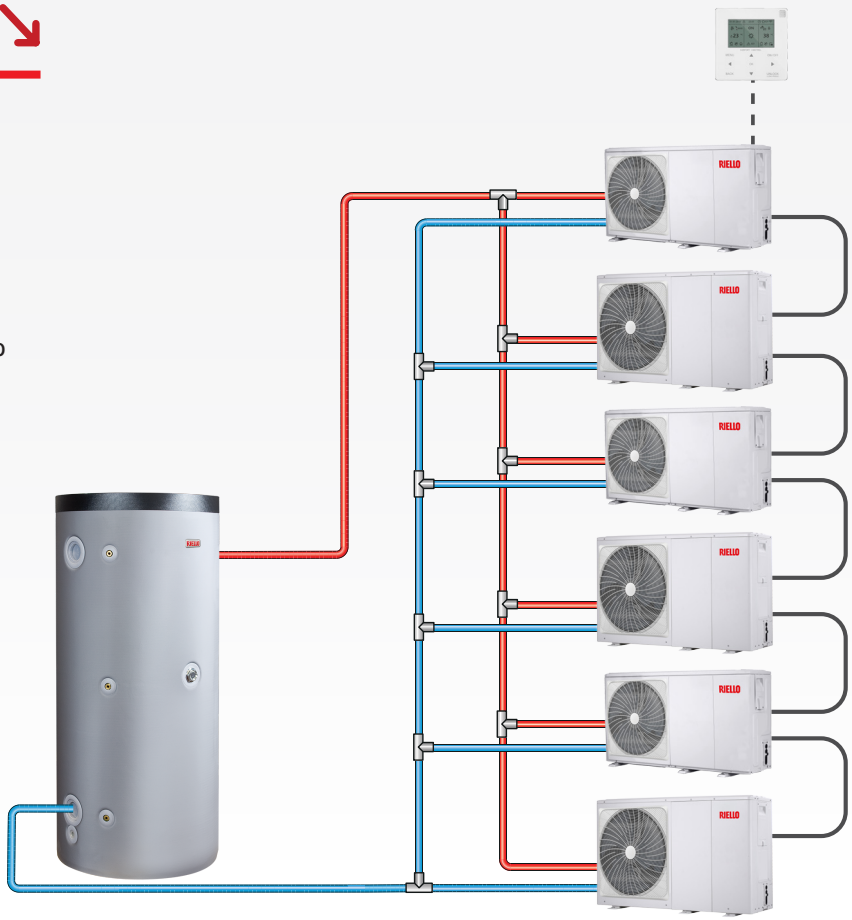
PLUG-IN DESIGN

All the units are equipped with Twin rotary DC inverter compressor, which modulates the power necessary to perfectly match the real needed load. Plus the complete hydronic kit with all essential components are inside the unit for a quick and easy installation.



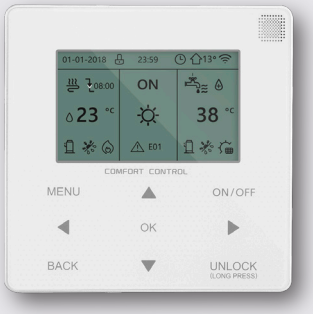
CASCADE SYSTEM

A cascaded heat pump system allows up to 6 units, even with different powers, to work together to meet customer's high heat load requirement. The system adjusts between minimum and maximum heat demand as needed, to adjust to seasonal variations which maximize efficiencies of multiple temperature zones and reduce overheating. Cascaded system can satisfy both space heating or cooling and domestic hot water demands simultaneously.



FULLY **UNDER CONTROL**

MULTI-FUNCTION WIRED CONTROLLER



- Multiple languages meet customer needs
- Modbus protocol and network flexibility
- Managing cascaded system up to 6 units
- Holiday away & Holiday home makes life convenient

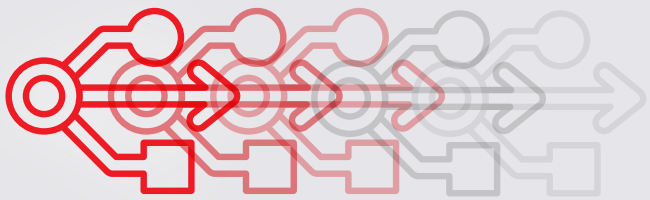
REC10MH SYSTEM CONTROLLER

The panel is installed inside the home.

The **REC10MH** control panel provides the user with a simple, intuitive way of managing heat pump operation and the full-electric system that is installed.

The large, backlit, colour display can be used to manage the various energy sources and set the operating temperatures and time bands.
And when combined with a hybrid distribution system, the operation of the multi-zone system can also be controlled via **REC10MH**.

USB FUNCTION



Easily transfer parameters setting between different wire controllers

Convenient program upgrade with one key and save the time of on-site installation

ACCESSORIES TO MEET **EVERY NEED**

STORAGE TANK HEATING ELEMENT

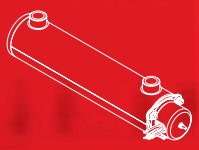
2.2 kW power with single-phase supply. Includes 3-way diverting valve with storage tank probe. Remote control via the REC10MH

1"¼ DIVERTER VALVE

Available separately or included in the STORAGE TANK heating element kit

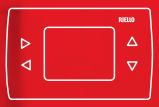
SUPPLEMENTARY HEATING ELEMENT

Available either 3 kW single phase or 4,5 kW single phase or three phase. Controlled by the heat pump.



REC10MH REMOTE CONTROL

System controller for full-electric systems

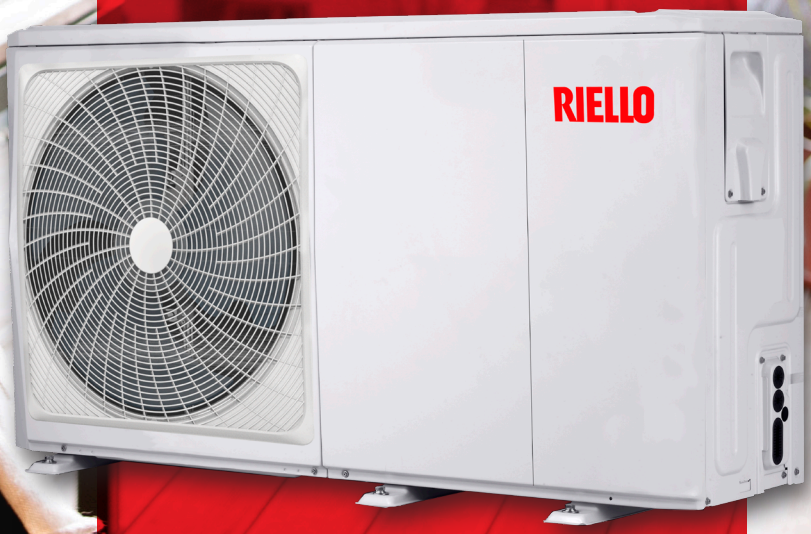


TEMPERATURE SENSOR

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

BUFFER TANK OF 50L

Suitable for vertical installation



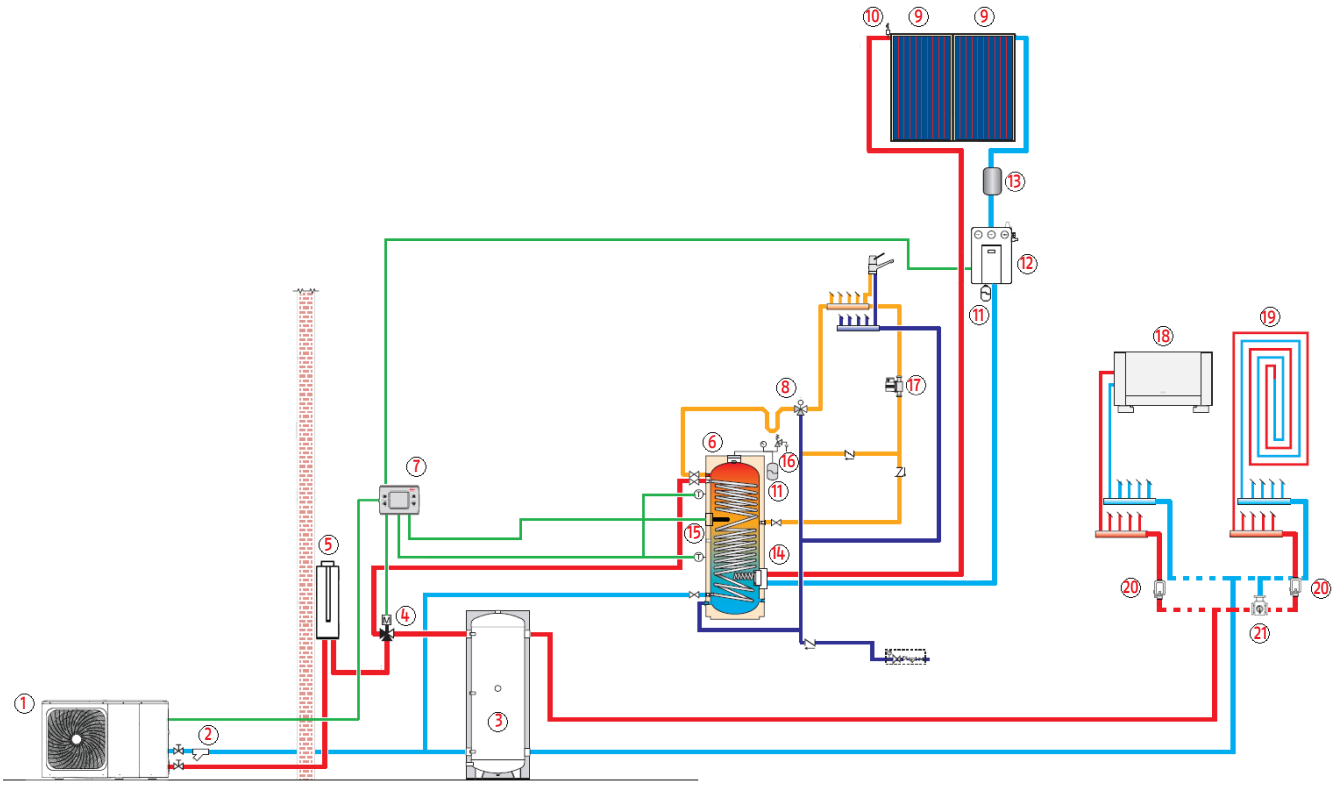
THE APPLICATIONS

The following diagram is an installation example where the only heat generator is the heat pump, which meets all the typical heating, cooling and DHW needs of a single-family domestic context.

The REC10MH remote control coordinates system operation so as to guarantee optimum comfort for the occupants with the lowest possible electricity consumption.

#1 DIAGRAM: BIVALENT HEATING, COOLING AND DHW SYSTEM (FULL-ELECTRIC VERSION)

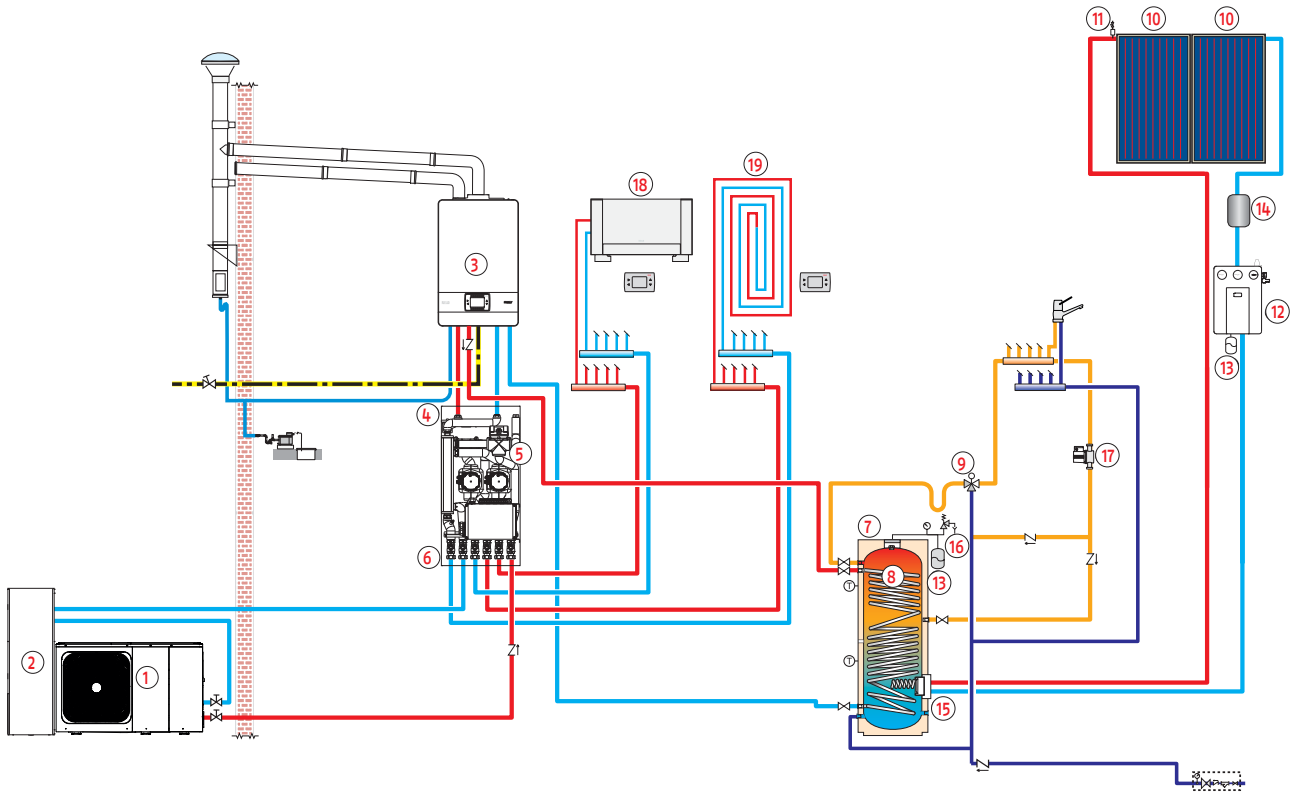
1 NXHM heat pump
2 Water filter
3 Buffer storage tank
4 DHW diverter valve kit
5 Supplementary system heating element
6 DHW tank
7 REC10MH system controller
8 ¾" thermostatic mixer
9 Solar collector
10 Manual solar vent kit
11 Expansion vessel
12 Solar hydraulic unit
13 Intermediate solar tank
14 Solar exchanger
15 DHW tank heating element
16 Safety valve
17 DHW recirculation pump
18 Fan coil unit
19 Floor heating system
20 Zone pump
21 Zone mixing valve



The following diagram shows one of the possible installation versions for a heat pump and a boiler that meet all the typical heating, cooling and DHW needs of a single-family domestic context. There are many hybrid solutions, but all of them are designed to minimise consumption without compromising the user's wellbeing.

#2 DIAGRAM: BIVALENT MULTI-ZONE HEATING, COOLING AND DHW SYSTEM (HYBRID VERSION)

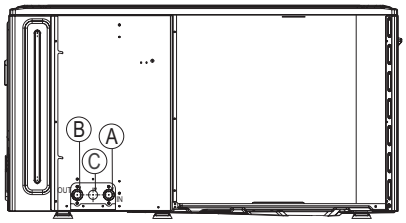
1 NXHM heat pump
2 Hot/cold inertial accumulation kit
3 Wall-hung boiler
4 BAG³ HYBRID
5 BAG³ HYBRID diverter valve kit
6 Tap kit for BAG3 HYBRID (system side) and heat pump
7 DWH tank
8 DWH tank heater
9 ¾" thermostatic mixer
10 Solar collector
11 Manual solar vent kit
12 Solar hydraulic unit
13 Expansion vessel
14 Intermediate solar tank
15 Solar exchanger
16 Safety valve
17 DHW recirculation pump
18 Fan coil unit
19 Floor heating system



CONNECTIONS AND TECHNICAL DATA **NXHM**

HYDRAULIC CONNECTIONS

NXHM 004-006



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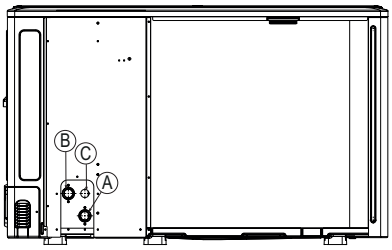
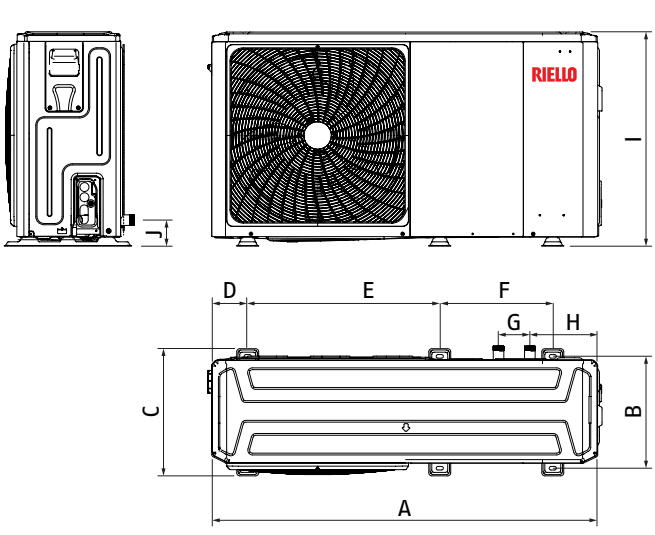


A. Water inlet connection B. Water outlet connection C. Discharge connection

TECHNICAL DRAWINGS

NXHM 004-006



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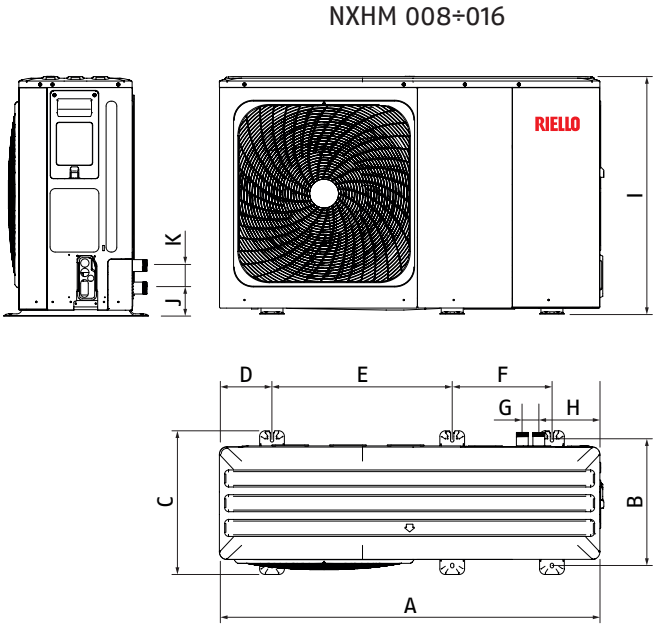


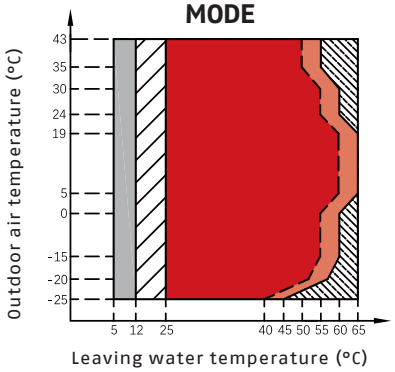
DIMENSION DATA AND WEIGHT

	uom	A	B	C	D	E	F	G	H	I	J	K
4 - 6	mm	1295	375	426	120	644	379	105	225	718	87	/
8 - 10 - 12 - 14 - 16 12T - 14T - 16T	mm	1385	458	523	192	656	363	60	221	865	101	81

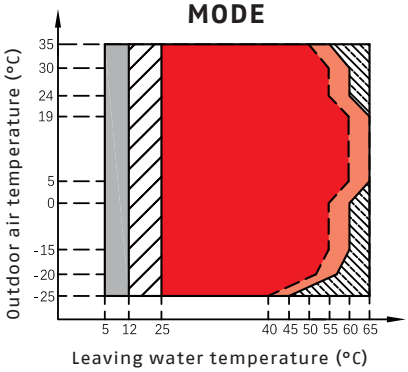
	uom	4	6	8	10	12	14	16	12T	14T	16T
Net weight	kg	86	86	105	105	129	129	129	144	144	144

OPERATING LIMITS

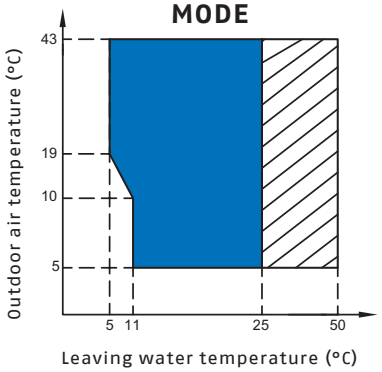
DOMESTIC HOT WATER MODE



HEATING MODE



COOLING MODE



KEY:

If **Backup Electric Heater / Additional Heat Source** setting is valid, only **Backup Electric Heater / Additional Heat Source** turns on;
If **Backup Electric Heater / Additional Heat Source** setting is invalid, only heat pump turns on. Limitation and protection may occur during heat pump operation.

Heat pump turns off, only **Backup Electric Heater/ Additional Heat Source** turns on.

Operation range by heat pump with possible limitation and protection.

Maximum inlet water temperature line for heat pump operation.

TECHNICAL DATA

	note	uom	4	6	8	10	12	14	16	12T	14T	16T
PERFORMANCE DATA IN HEATING												
Performance in heating (A7°C DB; W35°C)												
Nominal heating capacity	1	kW	4,20	6,35	8,40	10,00	12,10	14,50	15,90	12,10	14,50	15,90
COP	1		5,10	4,95	5,15	4,95	4,95	4,60	4,50	4,95	4,60	4,50
Energy efficiency class	6		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
Performance in heating (A7°C DB; W45°C)												
Heating capacity	2	kW	4,30	6,30	8,10	10,00	12,30	14,10	16,00	12,30	14,10	16,00
COP	2		3,80	3,70	3,85	3,75	3,70	3,60	3,50	3,70	3,60	3,50
Performance in heating (A7°C DB; W55°)												
Heating capacity	3	kW	4,40	6,00	7,50	9,50	11,90	13,80	16,00	11,90	13,80	16,00
COP	3		2,95	2,95	3,18	3,10	3,05	2,95	2,85	3,05	2,95	2,85
Energy efficiency class	7		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
PERFORMANCE DATA IN COOLING												
Performance in cooling (A35°C; W18°C)												
Cooling capacity	4	kW	4,50	6,50	8,30	9,90	12,00	13,50	14,20	12,00	13,50	14,20
EER	4		5,50	4,80	5,05	4,55	3,95	3,61	3,61	3,95	3,61	3,61
Performance in cooling (A35°C; W7°C)												
Cooling capacity	5	kW	4,70	7,00	7,45	8,20	11,50	12,40	14,00	11,50	12,40	14,00
EER	5		3,45	3,00	3,35	3,25	2,75	2,5	2,5	2,75	2,5	2,5
SOUND DATA												
Sound pressure	8	dB(A)	45,0	47,5	48,5	50,5	53,0	53,5	57,5	53,5	54,0	58,0
Sound power	9	dB(A)	55	58	59	60	65	65	68	65	65	68
ELECTRICAL DATA												
Supply voltage		V/ph/Hz	230/1/50							400/3/50		

(1) Outside air temperature 7°C DB, 6°C WB; water inlet/outlet 30/35°C
(2) Outside air temperature 7°C DB, 6°C WB; water inlet/outlet 40/45°C
(3) Outside air temperature 7°C DB, 6°C WB; 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) Value referring to the average climatic profile for a 35°C delivery temperature. Values complying with regulation 811/2013
(7) Value referring to the average climatic profile for a 55°C delivery temperature. Values complying with regulation 811/2013
(8) Measured at a position 1m in front of the unit and (1+unit height)/2m above the floor in semi-anechoic chamber
(9) Declared value in compliance with the EN 12102-1

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