

NXHM

004÷016

NEW



Monobloc air to water heat pump R32

RIELLO
Energy For Life

A Carrier Company

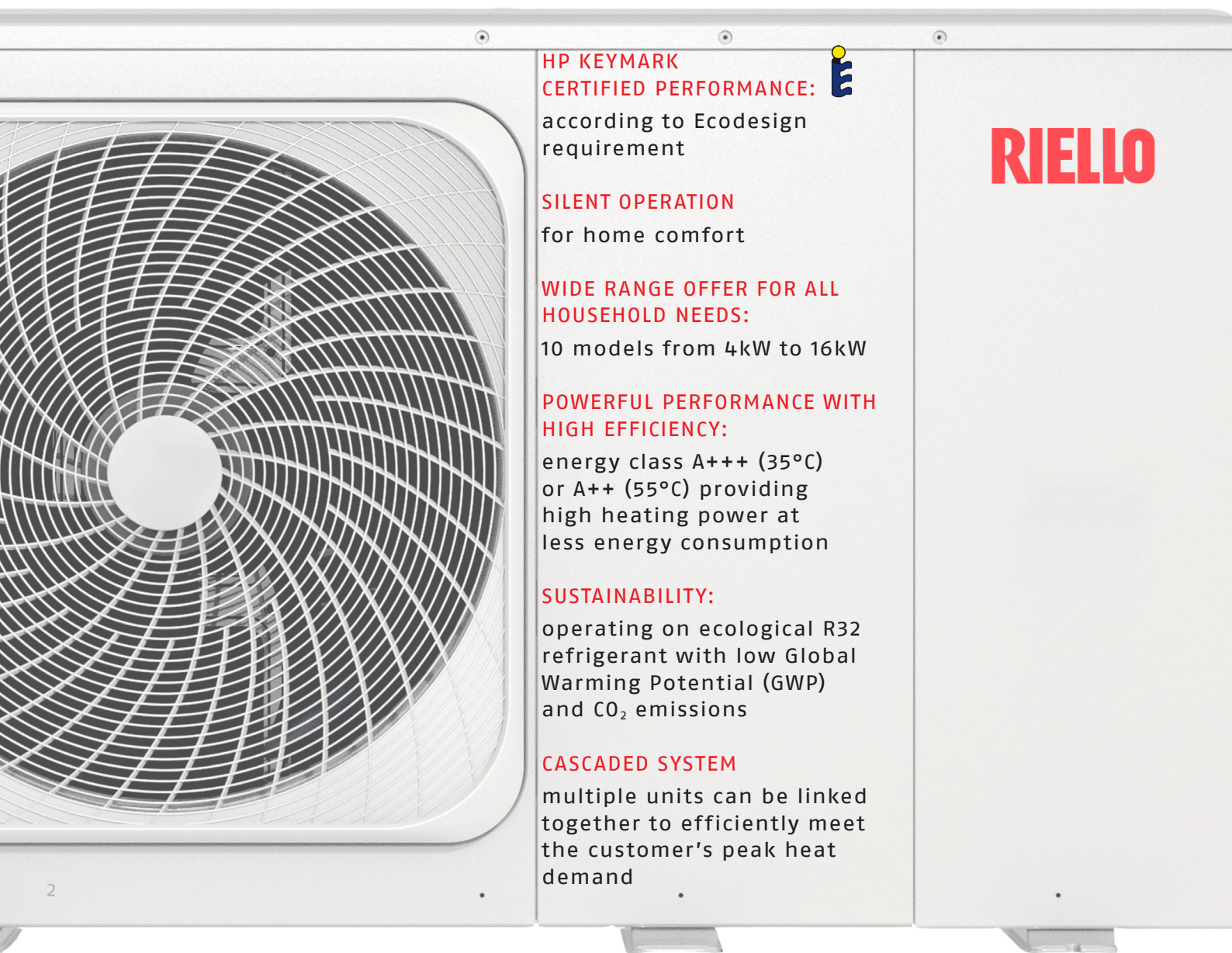
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RIELLO PRESENTS **NXHM**

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) providing
high heating power at
less energy consumption

SUSTAINABILITY:

operating on ecological R32
refrigerant with low Global
Warming Potential (GWP)
and CO₂ emissions

CASCADED SYSTEM

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

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EFFICIENCY IS A CHOICE

THE USE OF NXHM IS:

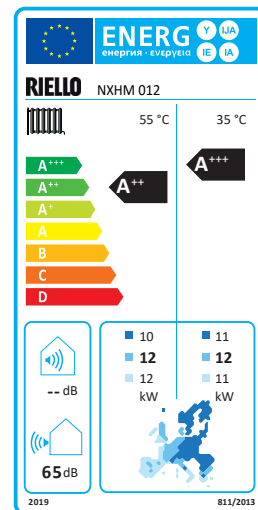
a choice of environmental responsibility, as it takes full advantage of renewable energy sources;

a design choice, as it offers 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;

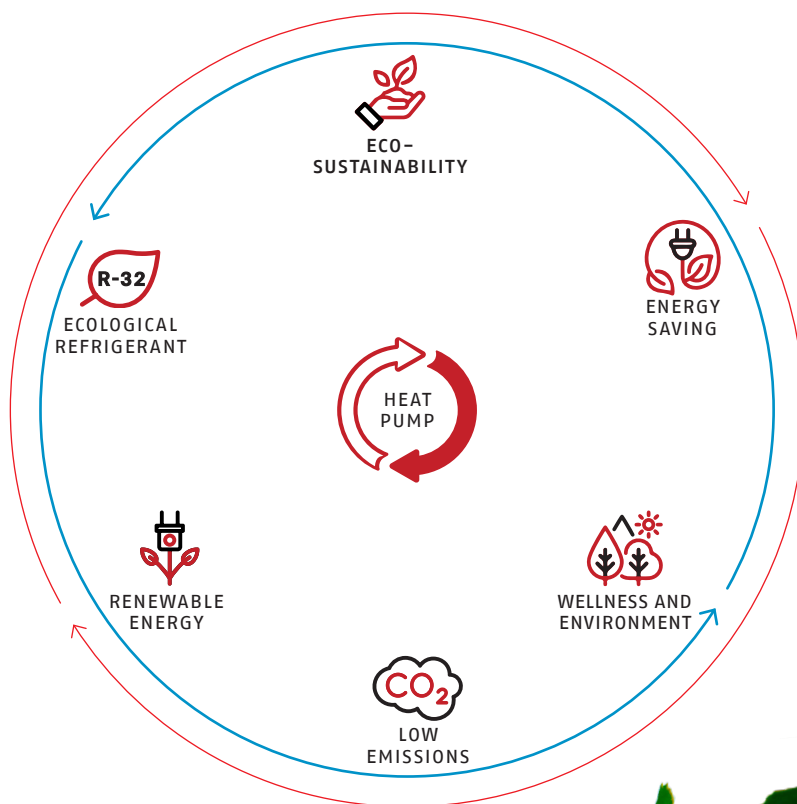
a comfort choice as it supplies a high output temperature of up to 65 °C with wide operating conditions such as -25°C in winter and +43°C in summer.



SUSTAINABILITY

The new NXHM supplied with R32 refrigerant helps the unit operate more sustainably and effectively. Due to lower Global Warming Potential (GWP) and smaller charge volume, R32 offers an excellent solution not only in terms of increased environmental protection, due to lower CO₂ emissions, but also in terms of increased 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.



(*) Compared to standard refrigerant, e.g. R410A

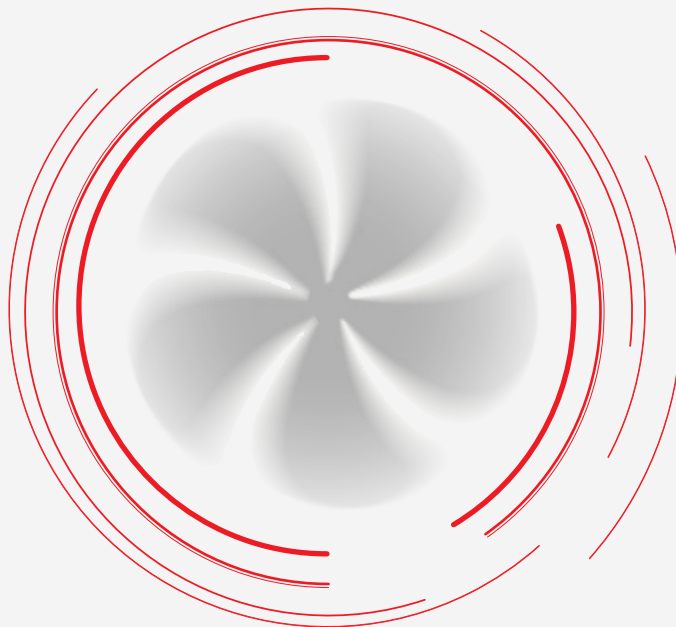
HOME COMFORT

VERY SILENT OPERATION



The low noise level is provided by the construction measures and can be further reduced by programming the Silent mode, which is available to the user.

Using the advanced remote control, supplied as standard, the user can select two quiet levels for maximum comfort.



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.

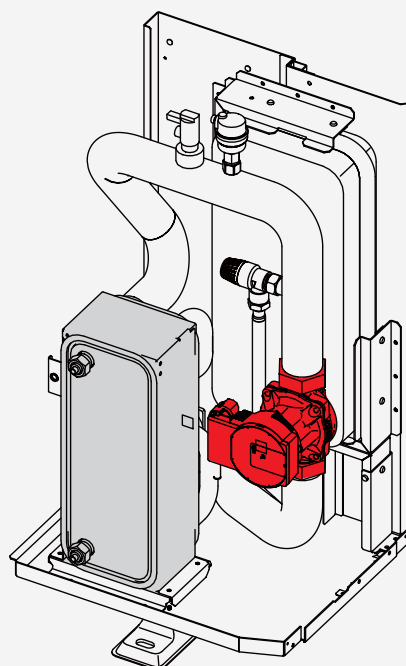


EASE OF INSTALLATION

PLUG-IN DESIGN



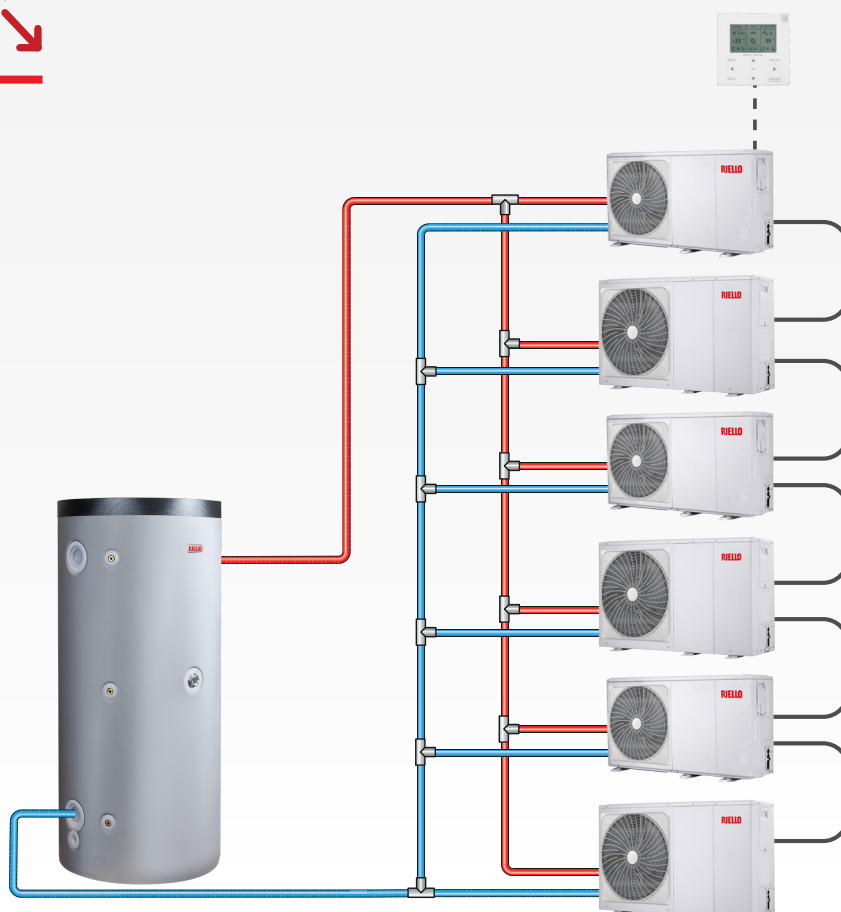
All the units are equipped with Twin rotary DC inverter compressor, which modulates the power necessary to perfectly match the real needed load. In addition, the complete hydronic kit with all essential components are inside the unit for a quick and easy installation.



CASCADE SYSTEM



A cascaded heat pump system allows up to 6 units, even with different powers. This makes it possible to meet the requirements of even high thermal load in multiple applications, such as small apartment buildings and light commercial installations. 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 mode

REC10MH SYSTEM CONTROLLER

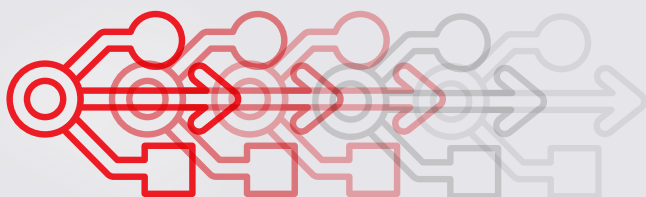


The panel is installed inside the home.

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 in the residential application.

The large, backlit, colour display can be used to manage the various energy sources and set the operating temperatures and time slots. And when combined with a hybrid distribution system in the residential application, 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 VARIOUS NEEDS

STORAGE TANK RESISTANCE

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



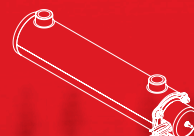
1"¼ DIVERTER VALVE

Available separately or included in the STORAGE TANK RESISTANCE kit



SUPPLEMENTARY RESISTANCE

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



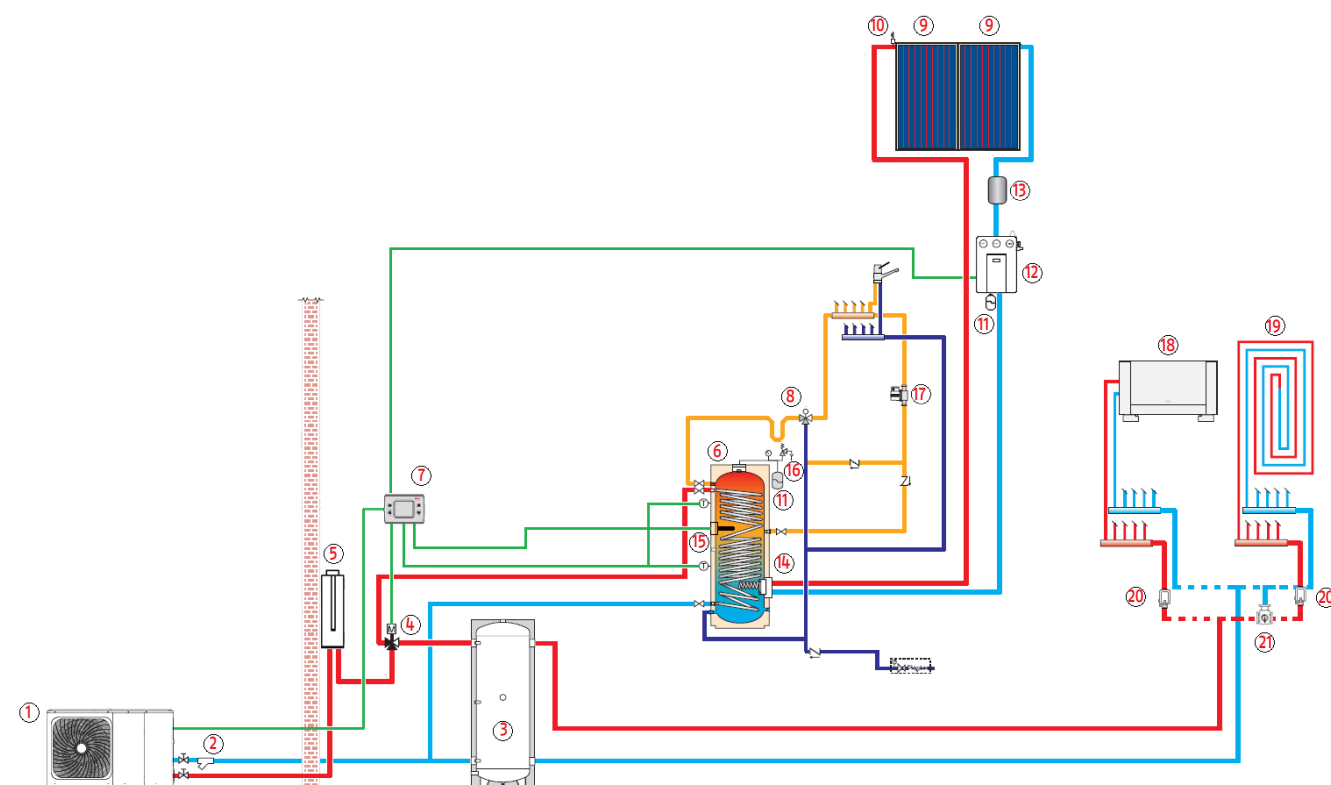
THE APPLICATIONS

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

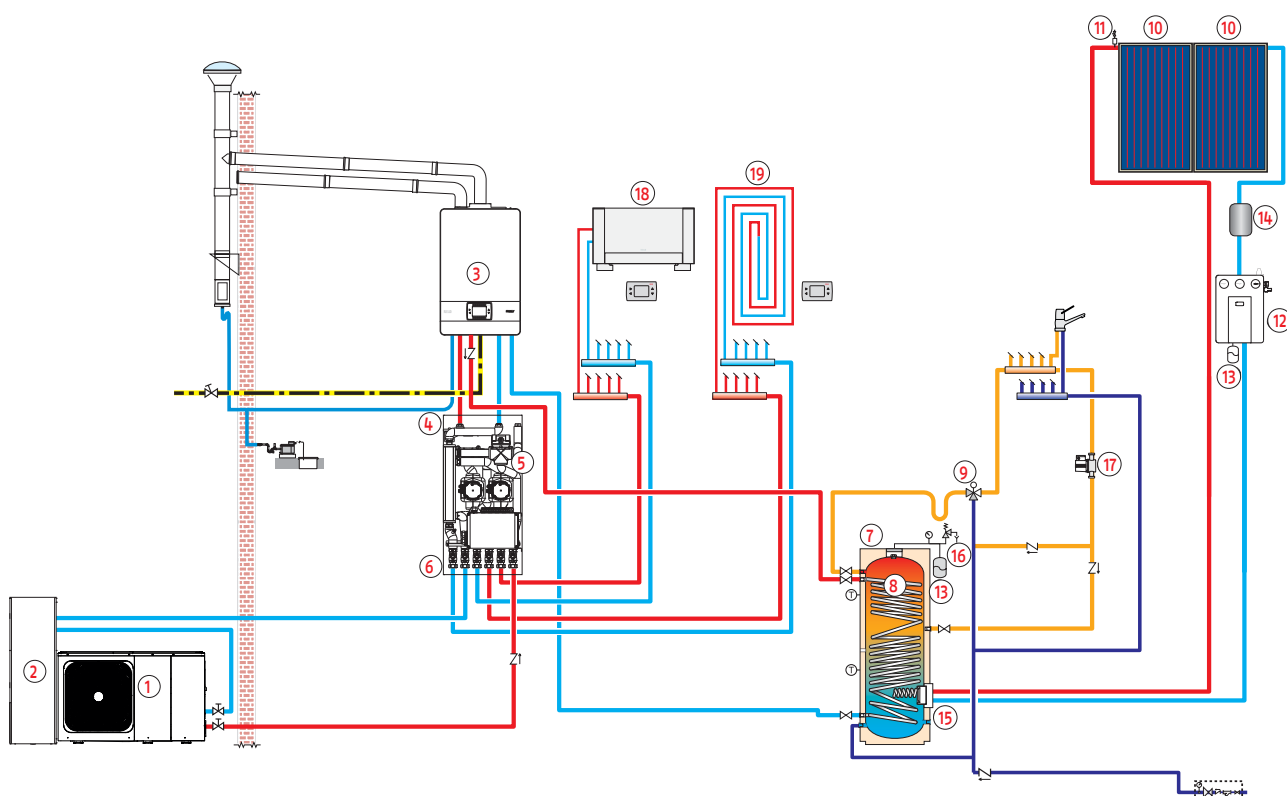


The following diagram shows one of the possible installation versions for a heat pump and a boiler that meet all the typical heating, cooling and DHW needs of a single-family

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)

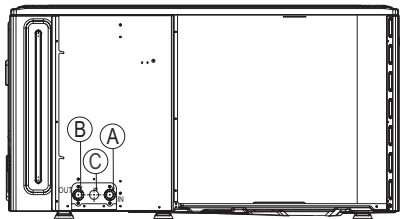
- | | |
|---|----------------------------|
| 1 NXHM heat pump | 10 Solar collector |
| 2 Hot/cold inertial accumulation kit | 11 Manual solar vent kit |
| 3 Wall-hung boiler | 12 Solar hydraulic unit |
| 4 BAG ³ HYBRID | 13 Expansion vessel |
| 5 BAG ³ HYBRID diverter valve kit | 14 Intermediate solar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



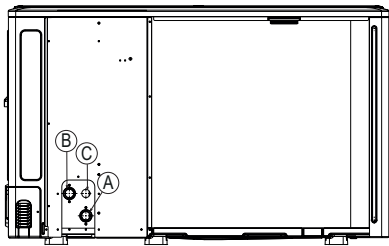
CONNECTIONS AND TECHNICAL DATA NXHM

HYDRAULIC CONNECTIONS

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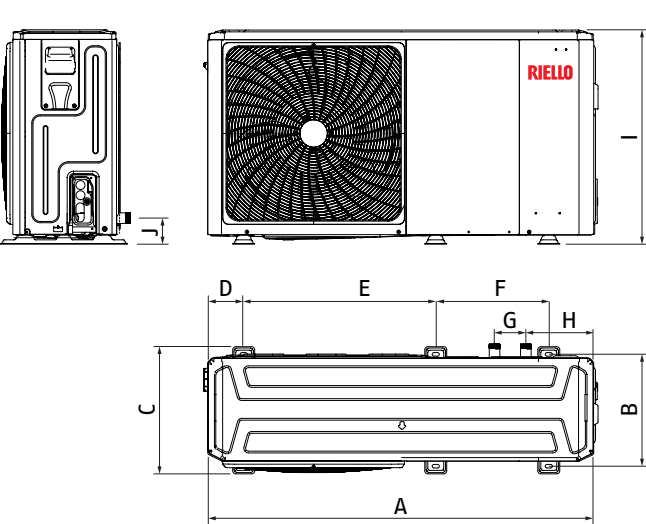
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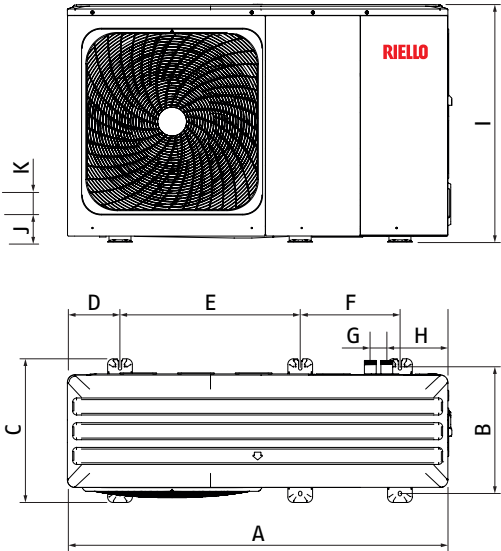
A. Water inlet connection B. Water outlet connection C. Discharge connection

TECHNICAL DRAWINGS

NXHM 004-006



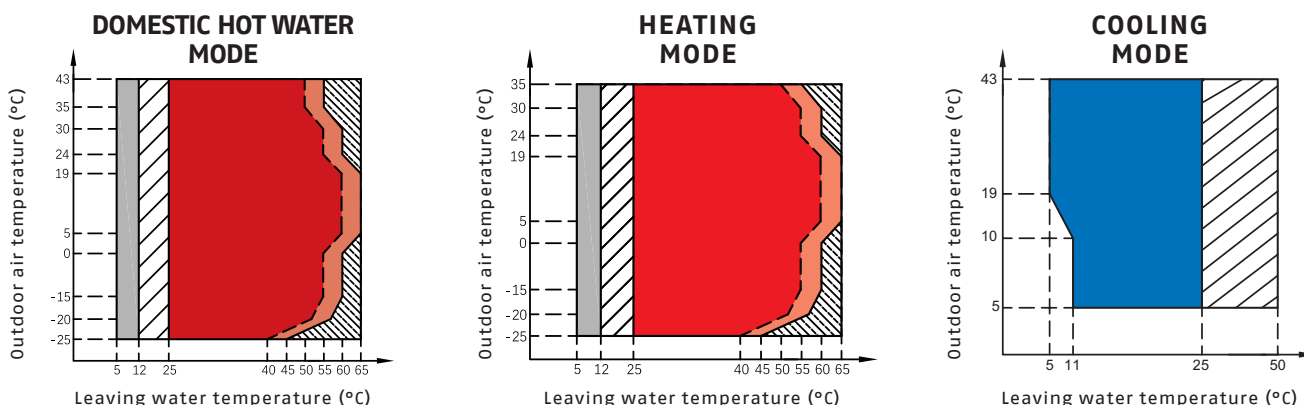
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DIMENSION DATA AND WEIGHT

	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



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

RIELLO

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