

# NXH M

## 004-016

Monobloc air to water heat pump R32

NEW



A Carrier Company

**RIELLO**  
Energy For Life

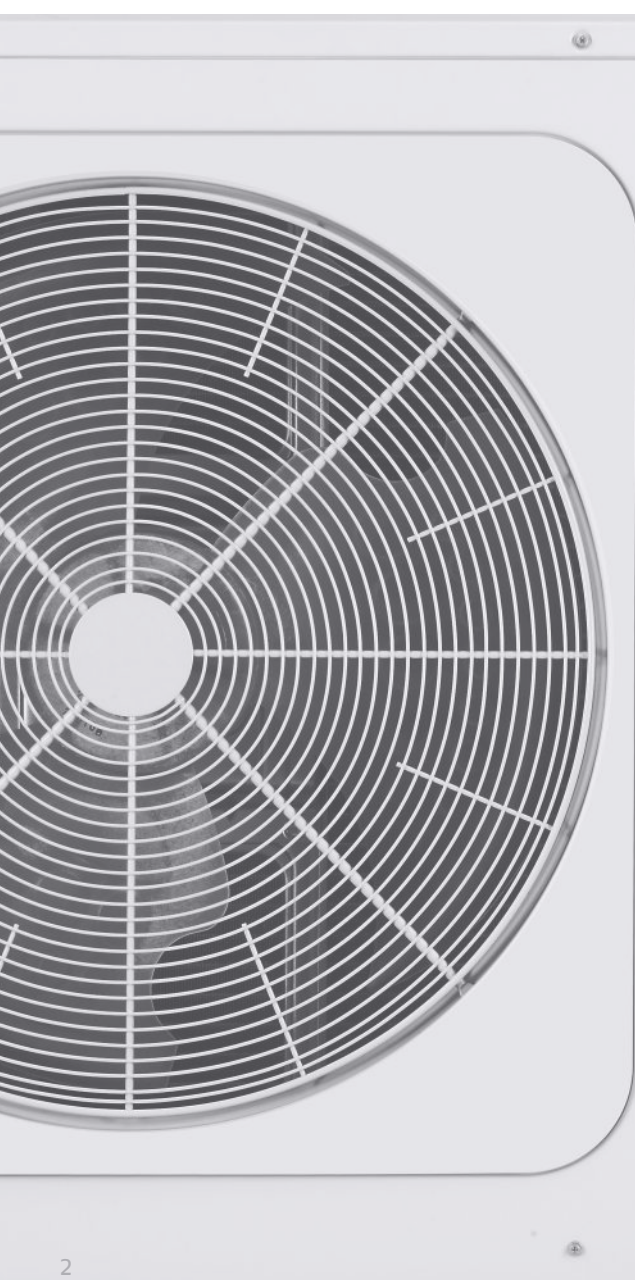
[www.riello.com](http://www.riello.com)

## RIELLO PRESENTS **NXHM**

**NXHM IS A MONOBLOC AIR SOURCE HEAT PUMP FOR RESIDENTIAL APPLICATIONS, ABLE TO MEET ALL HEATING 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 a

hybrid configuration, or as a single heat generator in fully electric systems



**MCS ACCREDITED:**

may therefore be eligible for government funding

**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<sub>2</sub> emissions

**CASCADED SYSTEM:**

multiple units can be linked together to efficiently meet the customer's peak heat demand or integrated with other heat sources

**RIELLO**



7 Year Warranty\*



**PCDB LISTED:**

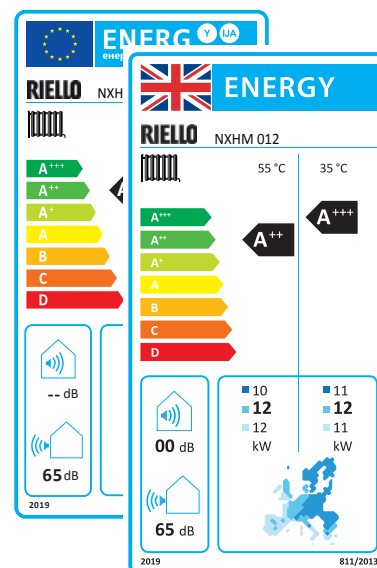
scan QR code for entry

\*accredited installers, 5 years as standard

## EFFICIENCY IS A CHOICE

**NXHM OFFERS:**

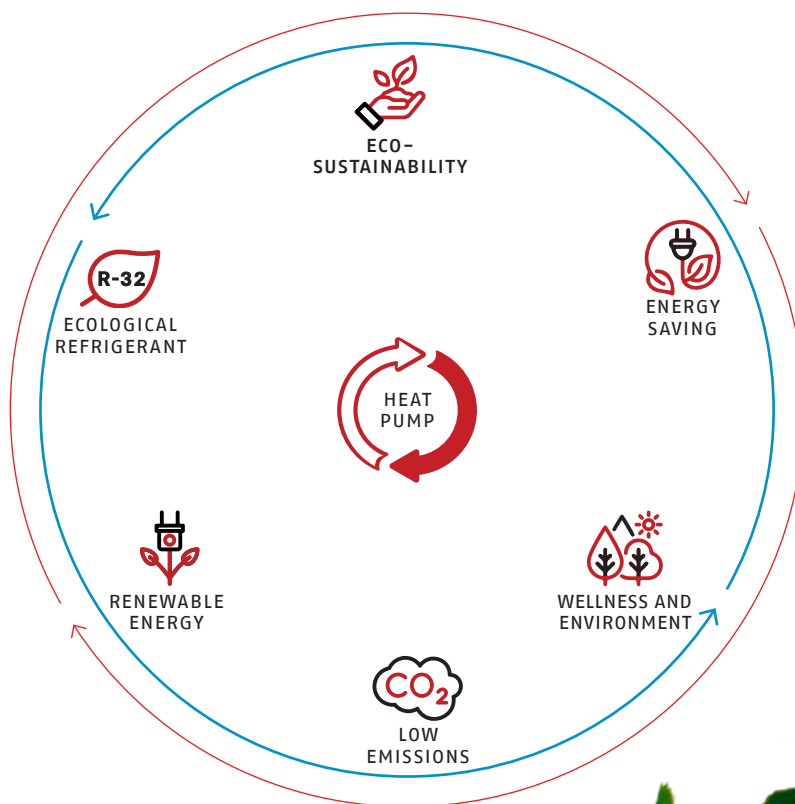
- a choice of environmental responsibility**, as it takes full advantage of a renewable energy source;
- a design choice**, as it guarantees the flexibility needed to adapt to a variety of applications, whether residential or otherwise;
- an energy choice**, when combined with low temperature systems, it reaches class A+++;
- a value choice**, because it is a solution that contributes to the maximum overall energy efficiency of the building, minimising running costs and therefore enhancing the value of the building itself;
- a suitable 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. A lower Global Warming Potential (GWP) and reduced charge volume, R32 provides the perfect solution being not only more environmentally friendly having lower CO<sub>2</sub> emissions but also higher energy efficiency\*\*.

All parts containing fluorinated greenhouse gas have been hermetically sealed, this minimises the potential for leaks and will not require the unit to be opened when placing the system into operation.



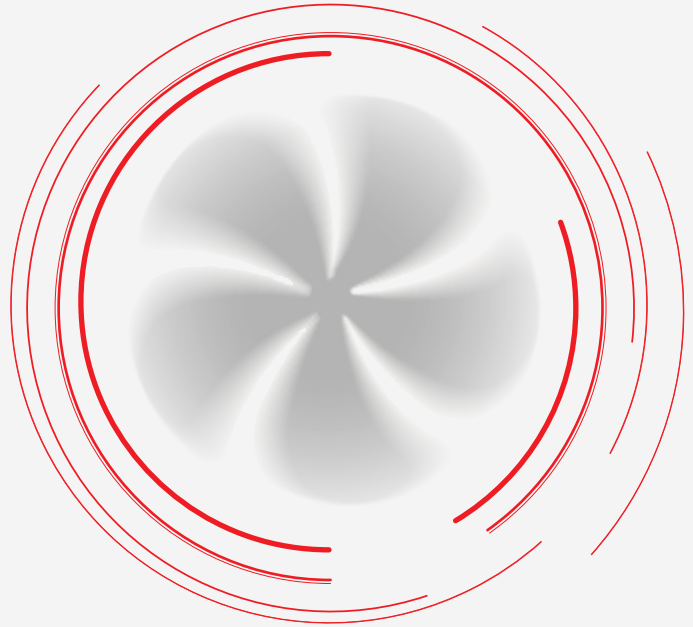
\*\* in comparison with standard refrigerant e.g. R410A

## HOME COMFORT

### SILENT OPERATION



The single fan structure across the whole range reduces noise levels during operation. Additionally, when needed, the customer can program the unit to run in silent mode. This reduces the maximum operation of the compressor and fan speed ensuring very quiet operation.



### 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. The program can be set by the end user to make the unit work when they are not at home to protect the heat pump from damage due to freezing.



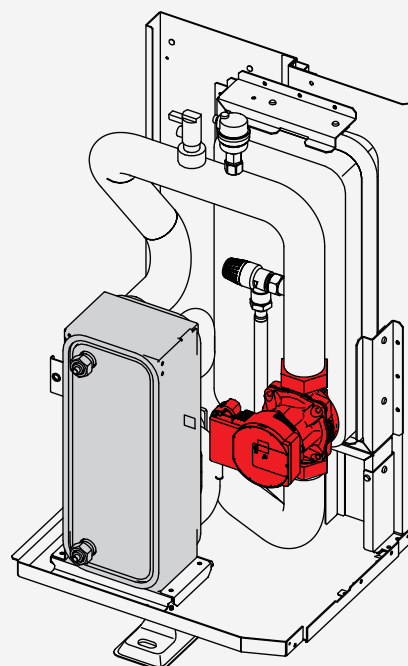
## EASE OF INSTALLATION

### PLUG-IN DESIGN



All the units are equipped with a Twin rotary DC inverter compressor, which modulates the power necessary to perfectly match the actual required load.

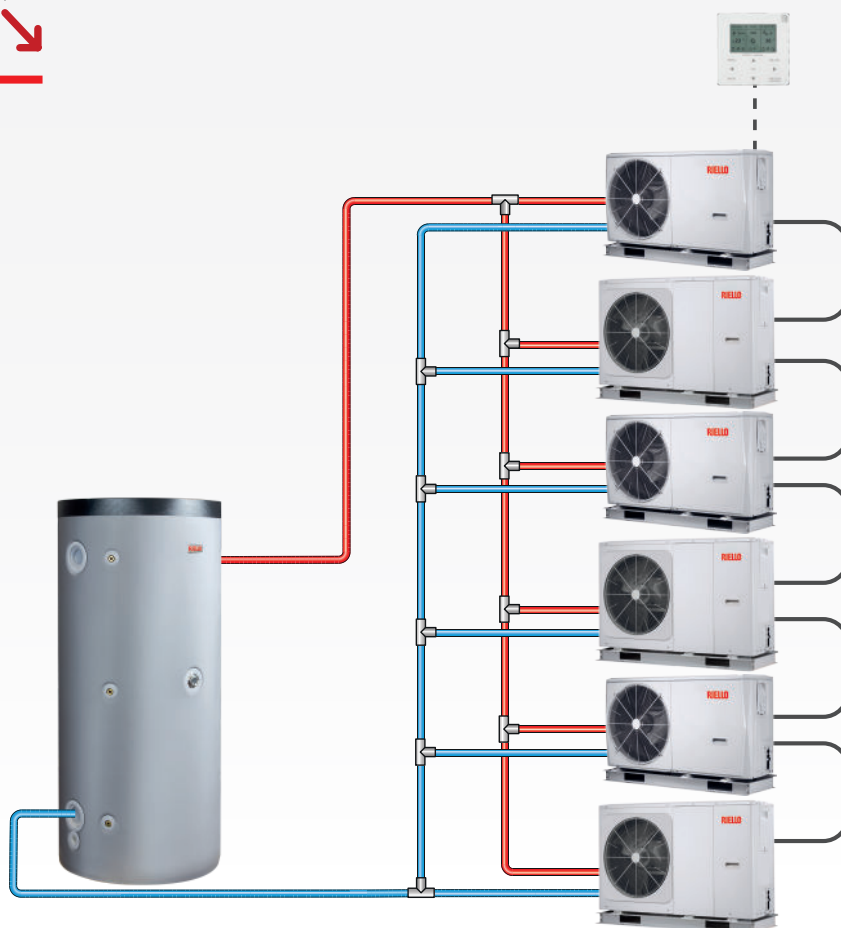
The complete hydronic kit with all the essential components is inside the unit for quick and easy installation.



### CASCADE SYSTEM



A cascaded heat pump system allows up to 6 units, even with differing outputs, to work together to meet customer's high heat load requirement. The system modulates between minimum and maximum heat demand as needed, adjusting to seasonal variations maximising efficiencies at multiple temperature zones and reducing overheating. Cascaded system can satisfy both space heating or cooling and domestic hot water demands simultaneously.



## FULLY UNDER CONTROL

### MULTI-FUNCTION WIRED CONTROLLER

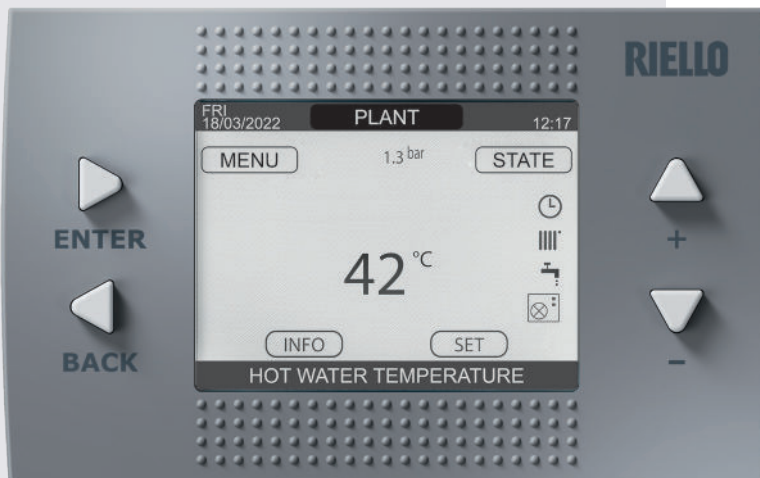
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- Multiple language options to meet customer needs
- Modbus protocol and network flexibility
- Manage cascaded system of up to 6 units
- Holiday & Comfort settings make for convenience

### REC10MH SYSTEM CONTROLLER

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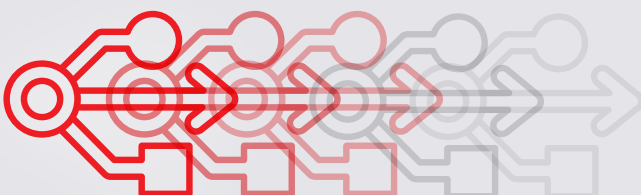
The panel is installed inside the home.

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. When combined with a hybrid distribution system, the operation of a multi-zone system can also be controlled via REC10MH.

### USB FUNCTION

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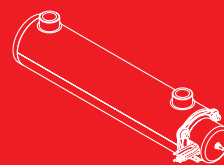
Easily transfer parameter settings between different wire controllers

Convenient program upgrades with one key and save time on site installation

# ACCESSORIES TO MEET EVERY NEED

## SUPPLEMENTARY HEATING ELEMENT

Available as 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.



## OUTDOOR AIR SENSOR

Managed by the REC10MH remote control.



## BUFFER TANK OF 50L

Suitable for vertical installation.



## 1" Y FILTER



## HEAT PUMP CYLINDER

Indirect, unvented stainless-steel hot water storage cylinder with 50 litre buffer store. Pre-plumbed with pre-fabricated pipework and wiring saves installation time. Magnetic system filter included. Available in 170, 200, 250 and 300 litre capacities.

MODEL	PRODUCT CODE
170	29450639
200	29450640
250	29450641
300	29450642



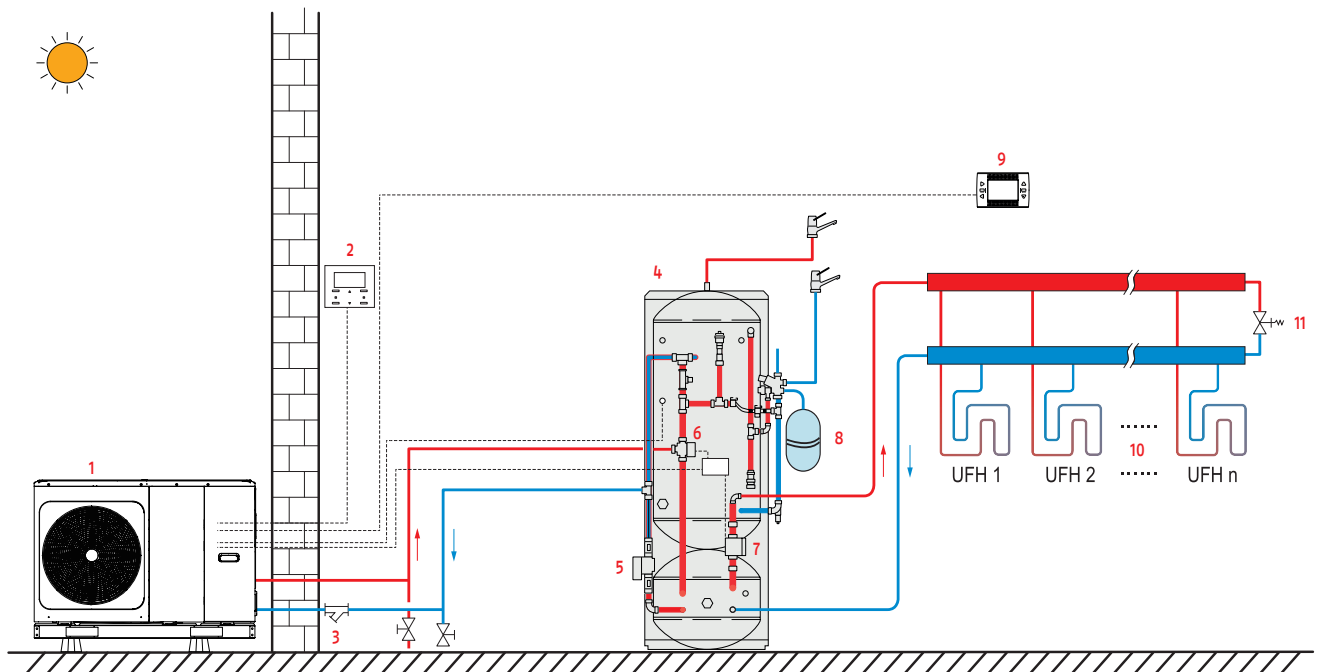
## THE APPLICATIONS

The following diagram is an installation example where the only heat generator is the heat pump. This meets all the typical space heating and DHW needs of a single-family domestic home.

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

### #1 DIAGRAM: UNDERFLOOR HEATING AND DHW SYSTEM (FULL-ELECTRIC VERSION)

- |                        |                                 |
|------------------------|---------------------------------|
| 1 NXHM heat pump       | 7 System pump                   |
| 2 Heat pump controller | 8 DHW expansion vessel          |
| 3 Mesh filter          | 9 REC10MH controller            |
| 4 Heat pump cylinder   | 10 Under floor heating circuits |
| 5 Magnetic filter      | 11 System by-pass               |
| 6 3-way valve          |                                 |



A fully indemnified system design service is available, please contact your local representative for further details.

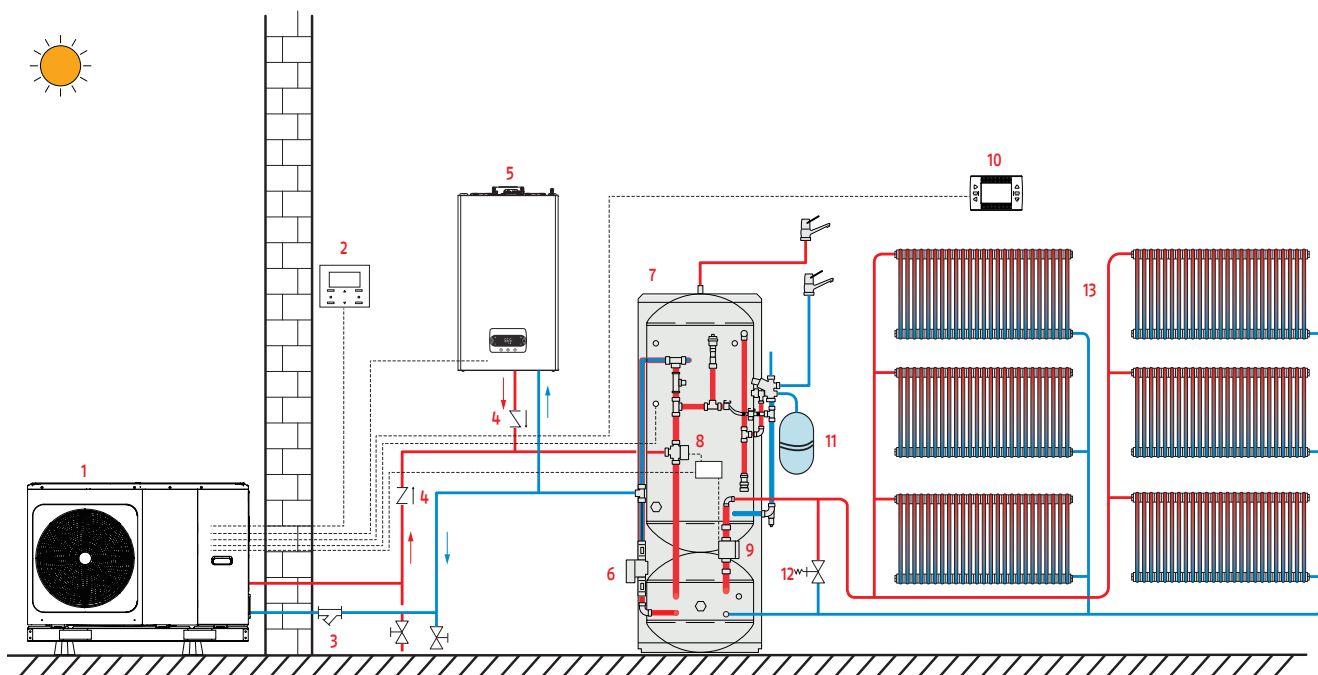


The following diagram shows one of the possible installation configurations for a heat pump and a gas boiler that meet all the typical space heating and DHW needs of

a single-family domestic home. There are many hybrid solutions, but all of them are designed to minimise consumption without compromising the user's comfort.

**#2 DIAGRAM: HEATING WITH RADIATORS AND DHW SYSTEM (HYBRID VERSION)**

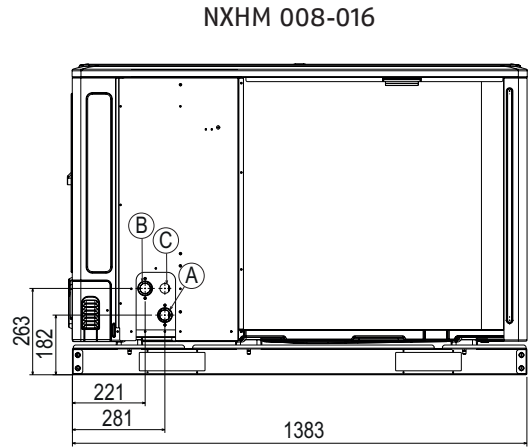
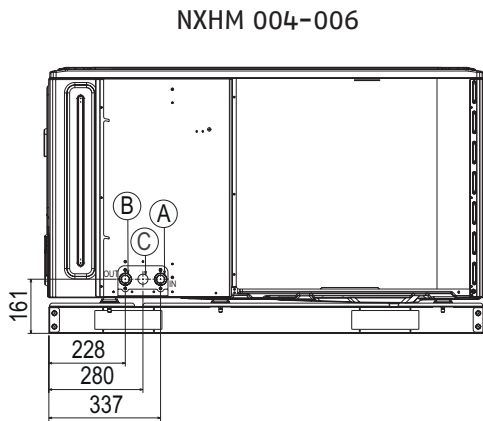
- |                        |                         |
|------------------------|-------------------------|
| 1 NXHM heat pump       | 8 3-way valve           |
| 2 Heat pump controller | 9 System pump           |
| 3 Mesh filter          | 10 REC10MH controller   |
| 4 Non-return valves    | 11 DHW expansion vessel |
| 5 Gas boiler           | 12 System by-pass       |
| 6 Magnetic filter      | 13 Radiator circuit     |
| 7 Heat pump cylinder   |                         |



A fully indemnified system design service is available, please contact your local representative for further details.

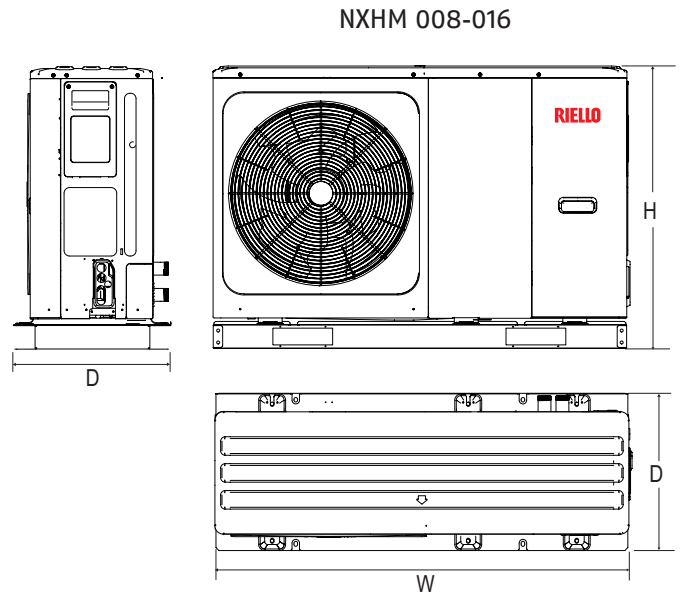
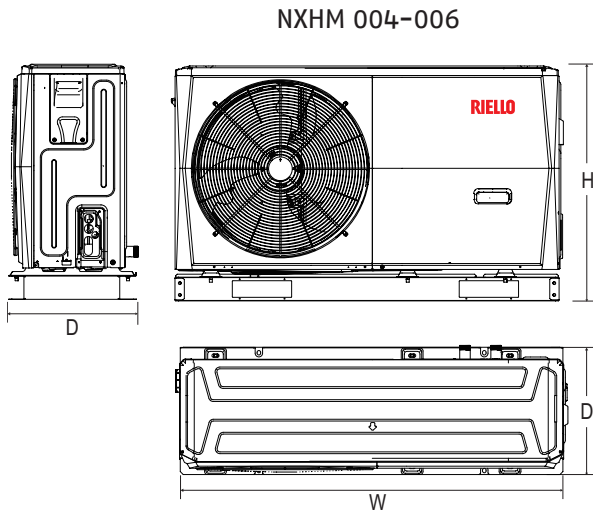
# CONNECTIONS AND TECHNICAL DATA NXHM

## HYDRAULIC CONNECTIONS



- A. Water inlet connection\*    B. Water outlet connection\*    C. Discharge connection\*\*  
 \*1" (models 4 & 6) - 1 1/4" (all other models)  
 \*\*1/2"

## TECHNICAL DRAWINGS



## DIMENSIONS

	uom	4	6	8	10	12	14	16	12T	14T	16T
<b>Product code</b>		20191936	20191940	20191942	20191943	20191944	20191945	20191946	20191947	20191948	20191949
W - Width	mm	1295	1295	1385	1385	1385	1385	1385	1385	1385	1385
D - Depth	mm	429	429	526	526	526	526	526	526	526	526
H - Height	mm	792	792	945	945	945	945	945	945	945	945
Net weight	kg	98	98	121	121	144	144	144	160	160	160

**TECHNICAL DATA**

	note	uom	4	6	8	10	12	14	16	12T	14T	16T	
<b>PERFORMANCE DATA SPACE HEATING</b>													
<b>Performance in heating (A7°C DB; W35°C)</b>													
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	
SCOP	1		4.85	4.95	5.21	5.19	4.81	4.72	4.62	4.81	4.72	4.62	
<b>Performance in heating (A7°C DB; W45°C)</b>													
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	
<b>Performance in heating (A7°C DB; W55°)</b>													
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	
SCOP	3		3.31	3.52	3.52	3.49	3.45	3.47	3.41	3.45	3.47	3.41	
<b>Performance in heating (A2°C DB; W35°C)</b>													
Nominal heating capacity	4	kW	4.40	5.50	7.10	8.20	9.20	11.00	13.00	9.20	11.00	13.00	
COP	4		4.00	3.90	4.10	4.00	3.90	3.60	3.45	3.90	3.60	3.45	
<b>Performance in heating (A2°C DB; W45°C)</b>													
Heating capacity	5	kW	5.10	5.80	7.40	7.85	10.60	11.50	12.70	10.60	11.50	12.70	
COP	5		3.00	3.00	3.25	3.20	3.00	2.85	2.85	3.00	2.85	2.85	
<b>Performance in heating (A2°C DB; W55°)</b>													
Heating capacity	6	kW	5.10	5.65	7.10	8.10	11.30	12.40	13.30	11.30	12.40	13.30	
COP	6		2.45	2.45	2.60	2.56	2.50	2.45	2.40	2.50	2.45	2.40	
<b>Performance in heating (A-7°C DB; W35°C)</b>													
Nominal heating capacity	7	kW	4.70	6.00	7.00	8.00	10.00	12.00	13.10	10.00	12.00	13.10	
COP	7		3.10	3.00	3.20	3.05	3.00	2.85	2.70	3.00	2.85	2.70	
<b>Performance in heating (A-7°C DB; W45°C)</b>													
Heating capacity	8	kW	4.30	5.40	6.60	7.35	10.20	11.70	12.80	10.20	11.70	12.80	
COP	8		2.35	2.40	2.55	2.55	2.40	2.35	2.25	2.40	2.35	2.25	
<b>Performance in heating (A-7°C DB; W55°)</b>													
Heating capacity	9	kW	4.00	5.15	6.15	6.85	9.80	11.00	12.50	9.80	11.00	12.50	
COP	9		1.95	2.00	2.05	2.00	2.05	2.05	2.00	2.05	2.05	2.00	
<b>ENERGY EFFICIENCY SPACE HEATING</b>													
Energy efficiency class (W35°C)	10		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	
Energy efficiency class (W55°C)	11		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	
<b>SOUND DATA</b>													
Sound pressure	12	dB(A)	45.0	47.5	48.5	50.5	53.0	53.5	57.5	53.5	54.0	58.0	
Sound power	13	dB(A)	55	58	59	60	65	65	68	65	65	68	
<b>ELECTRICAL DATA</b>													
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 2°C DB; 1°C WB; water inlet/outlet 30/35°C

(5) Outside air temperature 2°C DB; 1°C WB; water inlet/outlet 40/45°C

(6) Outside air temperature 2°C DB; 1°C WB; water inlet/outlet 47/55°C

(7) Outside air temperature -7°C DB; -8°C WB; water inlet/outlet 30/35°C

(8) Outside air temperature -7°C DB; -8°C WB; water inlet/outlet 40/45°C

(9) Outside air temperature -7°C DB; -8°C WB; water inlet/outlet 47/55°C

(10) Value referring to the average climatic profile for a 35°C delivery temperature. Values complying with regulation 811/2013

(11) Value referring to the average climatic profile for a 55°C delivery temperature. Values complying with regulation 811/2013

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

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

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