

NEW



NXH 005-015

Monobloc air-water heat pump

A Carrier Company

RIELLO
Energy For Life

RIELLO PRESENTS NXH



NXH 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.

The heat pump is compact and quiet. It includes a DC inverter rotary compressor, electronic expansion valve, fans with brushless EC motor and a finned pack coil with hydrophilic treatment, optimised for heat pump operation with outside air temperatures as low as -20°C .

Winter unit operation is optimised to reach high seasonal energy efficiency coefficients thanks also to the "Free Defrost" logic that, with positive outside air temperatures, eliminates the ice that has formed on the finned coil pack without any need to reverse the cycle. This minimises electricity consumption in the heating period, notably increasing the level of indoor comfort.

NXH 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.

EFFICIENCY IS A CHOICE

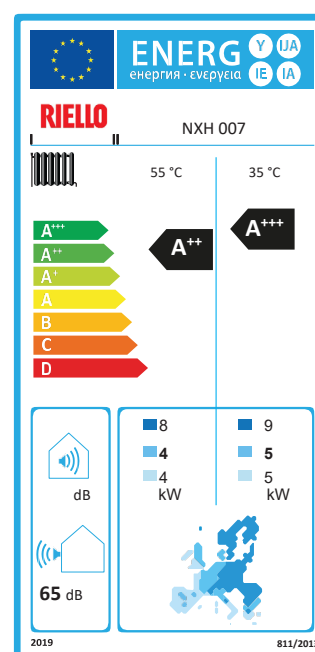
The use of **NXH** is:

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's the 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.



CONTROL PANELS AVAILABLE



WUI USER INTERFACE

For all those installations where the heat pump doesn't need to be integrated in complex systems, it can be combined with WUI command. For complete unit control that's clear and user friendly.

REC10CH SYSTEM CONTROLLER

The REC10CH control panel provides the user with a simple, intuitive way of managing heat pump operation and the full-electric system that it's installed in.

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 BAG3Hybrid distribution system, the operation of the multi-zone system can also be controlled.



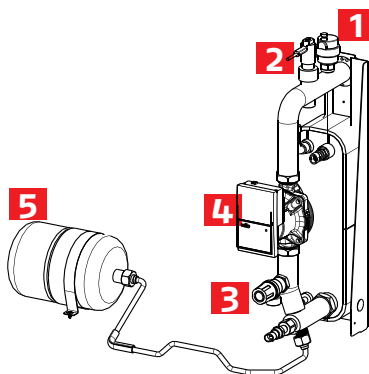
The panel is installed inside the home.

COMPACT AND FLEXIBLE

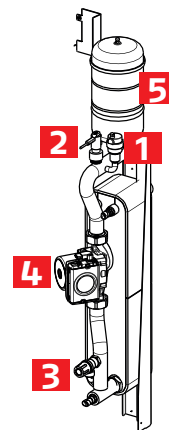
NXH is one of the most compact monobloc heat pumps on the market, providing quiet operation, energy efficiency and accessible internal components.

FULLY INTEGRATED

1. Automatic venting valve
2. Flow switch with blade
3. 3 bar safety valve
4. Circulator with variable rotations
5. 2-litre expansion tank (NXH 005-007) or 3-litre (NXH 011-015)



MODELS 005-007



MODELS 011-015



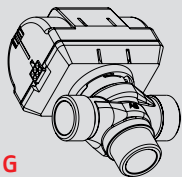
NXH 005-015

1. The NXH units are quiet, compact and efficient
2. They can work with outside air temperatures of -20°C in winter and $+46^{\circ}\text{C}$ in summer
3. Maximum output water temperature 60°C

ACCESSORIES TO MEET EVERY NEED

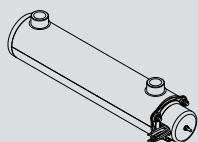
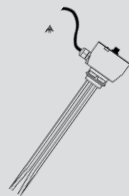
1" 3-WAY DIVERTING VALVE WITH STORAGE TANK PROBE

available separately or included in the STORAGE TANK RESISTOR kit



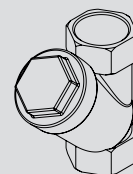
STORAGE TANK RESISTOR

2.2 kW power with single-phase supply. Includes 3-way diverting valve with storage tank probe. Remote control via the REC10CH



SUPPLEMENTARY RESISTOR

that can be configured from 2, 4 to 6kW single-phase or 6kW three-phase. Controlled by the heat pump.



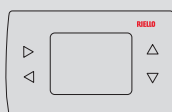
1" Y FILTER

ANTI-VIBRATION FEET.....:



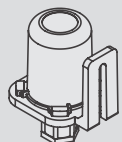
WUI REMOTE CONTROL

User interface for stand-alone installations. Compulsory for systems with several cascade units.



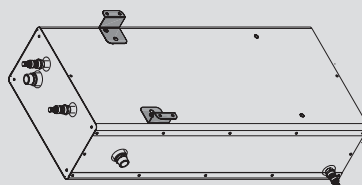
REC10CH REMOTE CONTROL

System controller for full-electric systems



OUTSIDE AIR PROBE

managed by the REC10CH remote control



INERTIAL TANK OF 50L OR 100L

suitable for horizontal installation underneath the heat pump

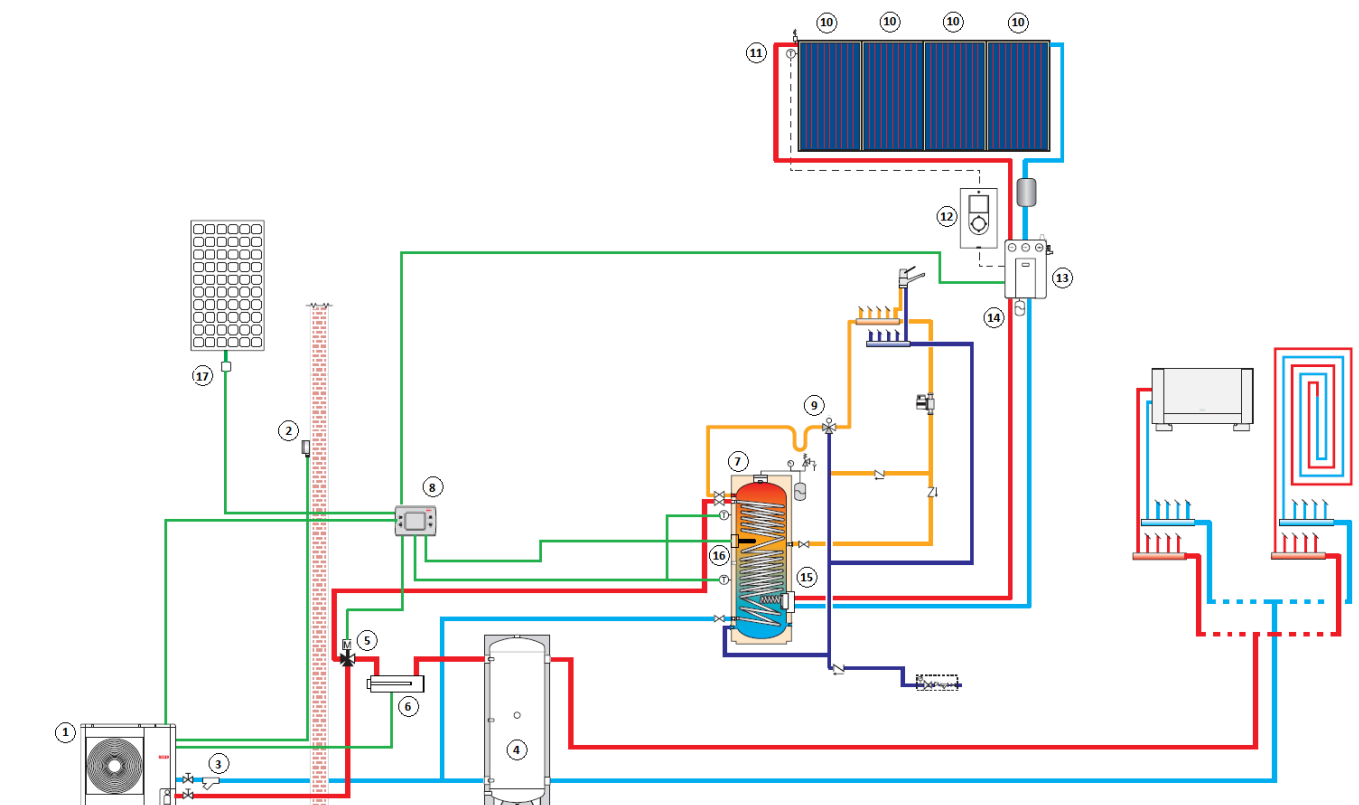
ACCESSORIES AVAILABLE UPON REQUEST AND FITTED ON THE WORKSITE

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 REC10CH remote control coordinates system operation so as to guarantee optimum comfort for the people with the lowest possible electricity consumption.

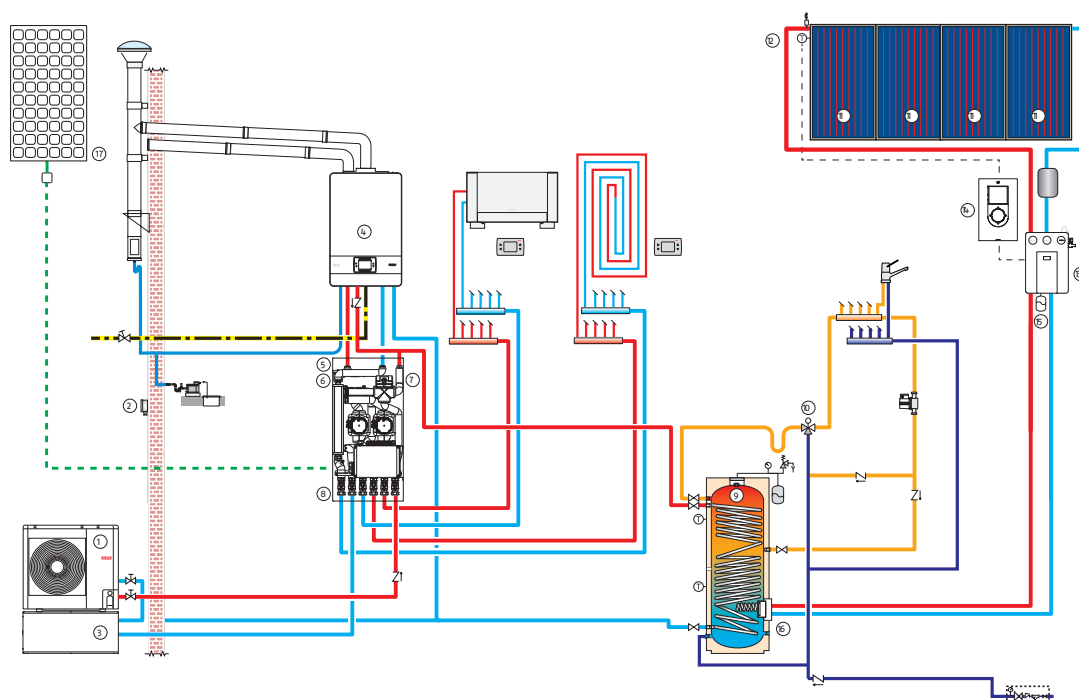
DIAGRAM: bivalent heating, cooling and DHW system (full-electric version)

- | | |
|--------------------------------------|---|
| 1 NXH heat pump | 10 Solar collector |
| 2 NXH external probe | 11 Manual solar outgasser kit |
| 3 Water filter | 12 Solar interface kit |
| 4 Hot/cold inertial accumulation kit | 13 RSS R solar hydraulic unit |
| 5 DHW diverting valve kit for NXH | 14 SUN 18-litre expansion tank |
| 6 Supplementary system resistor | 15 Solar exchanger |
| 7 Storage heater | 16 Storage tank resistor |
| 8 REC10CH system controller | 17 Photovoltaic system with clean contact |
| 9 3/4" thermostatic mixer | |

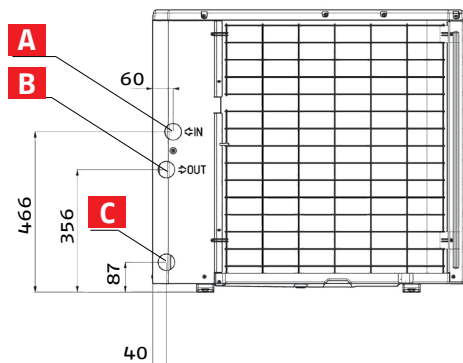


The following diagram shows one of the possible installation versions for a heat pump and a boiler that meet all the typical heating, cooling and DHW needs of a single-family domestic context. There are many hybrid solutions, but all of them are designed to minimise consumption without renouncing the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

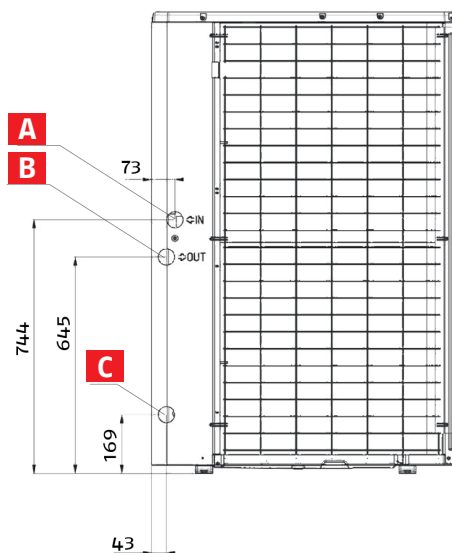
1 NXH heat pump	9 Storage heater
2 NXH external probe	10 ¾" thermostatic mixer
3 Hot/cold inertial accumulation kit	11 Solar collector
4 Wall-hung boiler	12 Manual solar outgasser kit
5 BAG ³ HYBRID	13 RSS R solar hydraulic unit
6 Flush-mounting box	14 Solar interface kit
7 BAG ³ HYBRID diverting valve kit	15 SUN 18-litre expansion tank
8 Tap kit for BAG ³ HYBRID (system side) and heat pump	16 Solar exchanger
	17 Photovoltaic system with clean contact



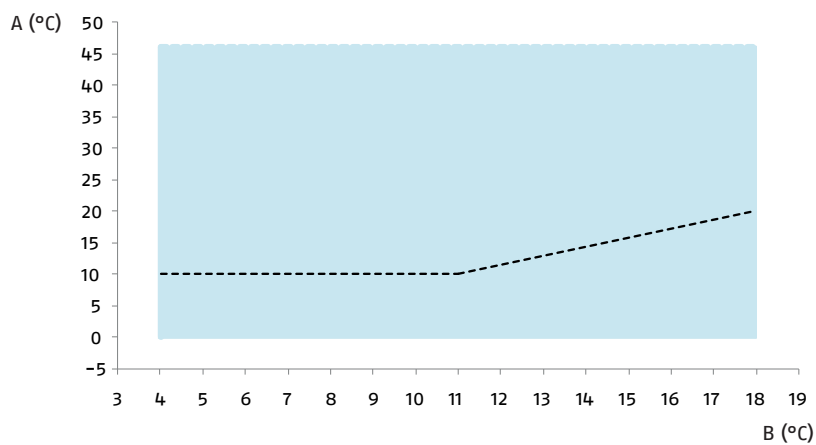
CONNECTIONS



- A. 1" water inlet connection
- B. 1" water outlet connection
- C. Discharge connection



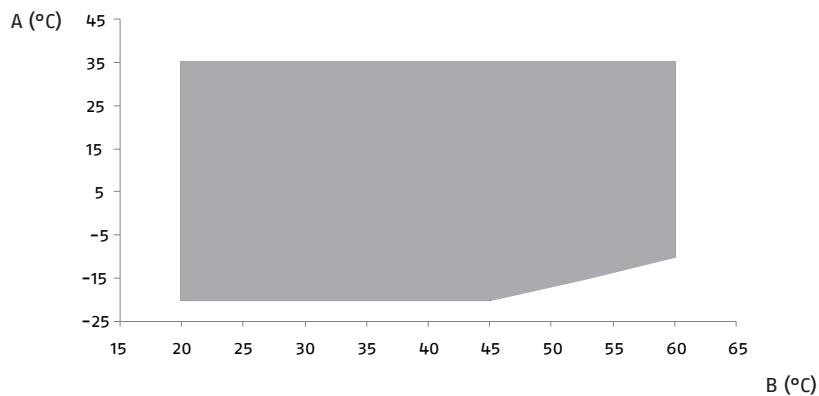
OPERATING LIMITS



COOLING MODE

- Device firing rate
- Model NXH 005

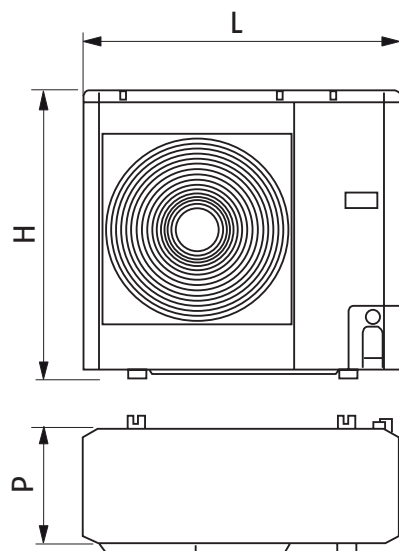
A Outside air temperature - B Water delivery temperature



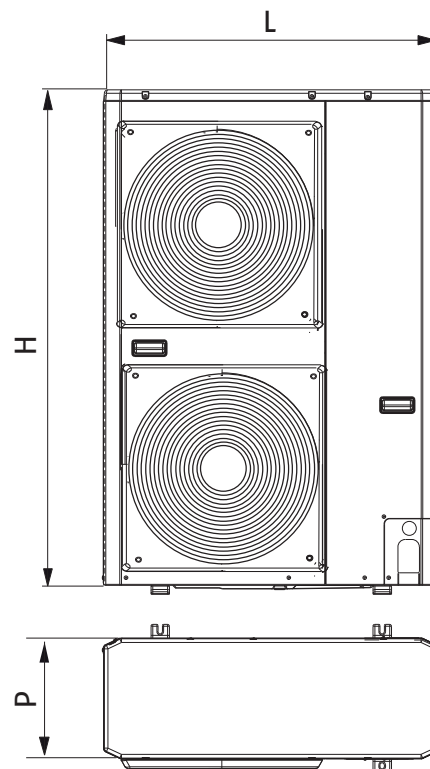
HEATING MODE

- Device firing rate

TECHNICAL DRAWINGS



NXH 05-07



NXH 011-015-011T-015T

Model		005	007	011	015	011T	015T
L - Width	mm	908	908	908	908	908	908
P - Depth	mm	400	400	400	400	400	400
H - Height	mm	821	821	1363	1363	1363	1363
Net weight	kg	57	69	115	115	121	121

TECHNICAL DATA

			005	007	011	015	011T	015T
PERFORMANCE DATA IN HEATING								
Performance in heating (A7°C DB; W35°C)								
Nominal heating capacity	(1)	kW	5.10	7.15	11.25	15.10	11.20	15.00
Total input power	(1)	kW	1.16	1.74	2.39	3.55	2.43	3.45
COP	(1)		4.40	4.10	4.70	4.25	4.60	4.35
SCOP	(6)		4.73	4.68	4.39	4.41	4.26	4.35
ηs	(6)	%	186	184	173	173	167	171
Performance in heating (A7°C DB; W45°C)								
Heating capacity	(2)	kW	4.85	6.80	11.30	13.40	10.40	13.50
Total input power	(2)	kW	1.43	2.13	3.14	3.94	2.89	3.86
COP	(2)		3.40	3.20	3.60	3.40	3.60	3.50
Performance in heating (A7°C DB; W55°)								
Heating capacity	(3)	kW	4.45	6.75	11.20	11.65	10.25	11.80
Total input power	(3)	kW	1.59	2.50	3.80	4.02	3.42	3.93
COP	(3)		2.80	2.70	2.95	2.90	3.00	3.00
SCOP	(7)		3.32	3.36	3.35	3.45	3.34	3.40
ηs	(7)	%	130	131	131	135	131	133
P rated	(7)	kW	3.49	4.32	8.69	10.30	8.69	11.09
Energy efficiency class			A++	A++	A++	A++	A++	A++
PERFORMANCE DATA IN COOLING								
Performance in cooling (A35°C; W18°C)								
Cooling capacity	(4)	kW	4.85	8.00	13.70	16.00	13.75	17.00
Total input power	(4)	kW	1.11	2.00	2.98	3.90	2.96	4.10
EER	(4)		4.35	4.00	4.60	4.10	4.65	4.15
Performance in cooling (A35°C; W7°C)								
Cooling capacity	(5)	kW	4.00	5.55	11.20	12.80	10.65	13.00
Total input power	(5)	kW	1.29	1.79	3.29	4.13	3.13	4.06
EER	(5)		3.10	3.10	3.40	3.10	3.40	3.20
SEER	(8)		4.85	5.75	5.15	5	5.4	5.25
ηs	(8)	%	191	227	203	197	212	208

The performance values comply with Standards EN 14511:2013 and EN 14825:2013

(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) Value referring to the average climatic profile for a 7°C delivery temperature. Values complying with regulation 2281/2016

			005	007	011	015	011T	015T
HYDRAULIC DATA								
Nominal flow rate (A7; W35)	(1)	m ³ /h	0.9	1.2	1.9	2.6	1.9	2.6
Nominal useful pump head	(1)	kPa	30	35	53	38	53	38
Expansion tank volume			2	2	3	3	3	3
System safety valve calibration		bar	3	3	3	3	3	3
CONNECTION DIAMETERS								
Water delivery/return		BSP GAS				1"		
SOUND DATA								
Sound pressure @10m			33	34	37	38	38	38
Sound power		dB(A)	64	65	68	69	69	69
ELECTRICAL DATA								
Supply voltage		V/ph/Hz			230/1+N/50		400/3+N/50	
COOLING DATA								
Compressor					DC inverter rotary			
Minimum capacity step			23	20	20	17	20	17
Refrigerant					R410A – GWP 2088			
Load		kg	1.10	1.60	2.80	2.80	3.00	3.00

(1) Outside air temperature 7°C DB, 6°C WB; water inlet/outlet 30/35°C



NXH

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The company is constantly working to perfect the features of its entire production range so the design and size, technical data, equipment and accessories may be subject to change.

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