TROPICO
heat pumps

noxa.pl

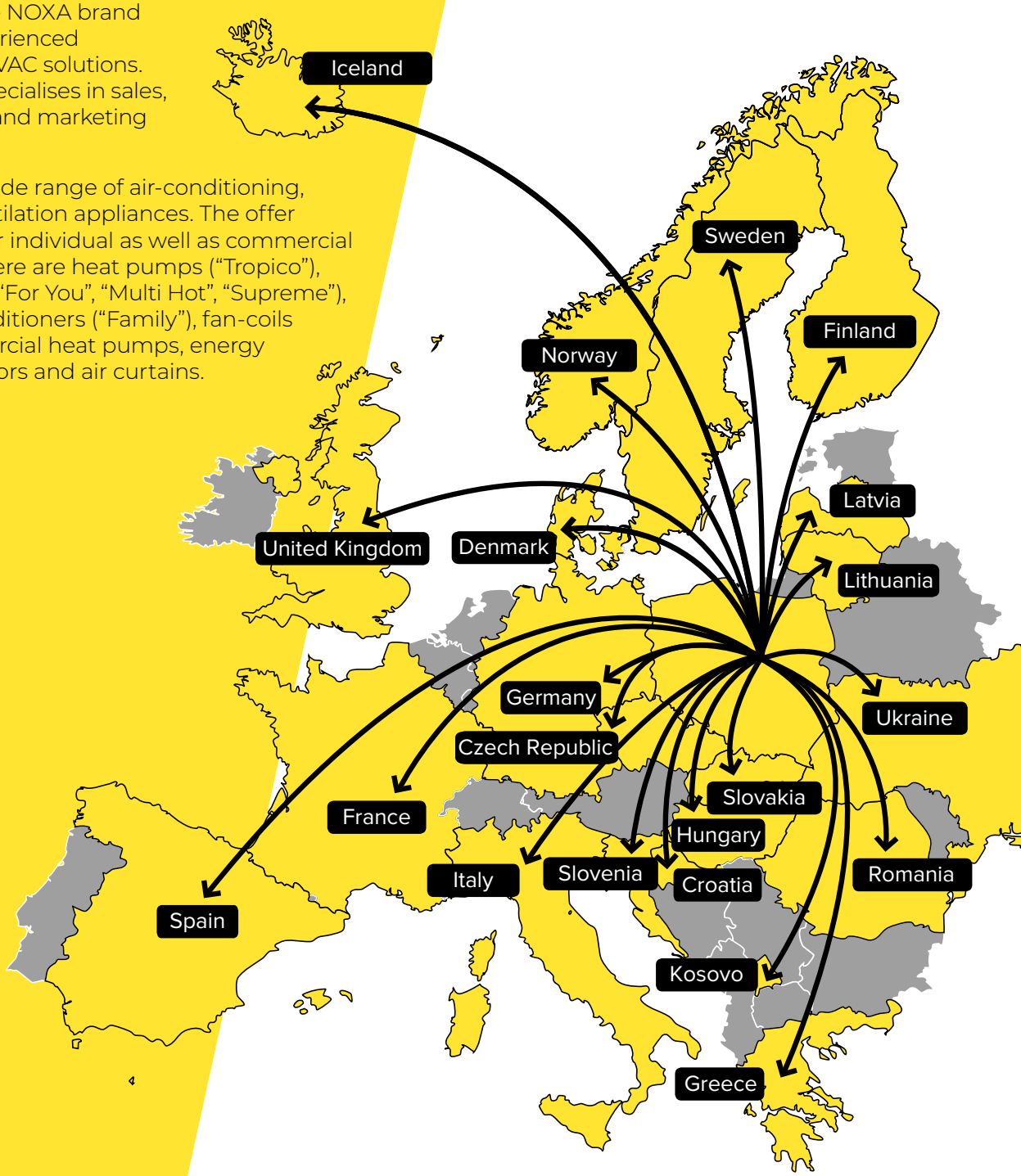
CONTENTS

EXPERIENCE

The main warehouse and the headquarter of NOXA are located in Poland, but it is an european brand, whose products meet any legal, energy and ecology standards of the European Union.

Nabilation, as the NOXA brand owner, is an experienced supplier of the HVAC solutions. The company specialises in sales, service, training and marketing support.

NOXA offers a wide range of air-conditioning, heating and ventilation appliances. The offer includes units for individual as well as commercial solutions and there are heat pumps (“Tropico”), air-conditioners (“For You”, “Multi Hot”, “Supreme”), portable air-conditioners (“Family”), fan-coils (“Aqua”), commercial heat pumps, energy recovery ventilators and air curtains.



ECOLOGY

A heat pump warms up space in a building, mainly by absorbing heat from outside air. Electrical energy is used only to drive the compressor that pumps refrigerant and to supply a controller. Thus, the heat pump transfers heat instead of producing it with use of electricity (as an electric heater does). Keeping the compressor working, and thus enabling heat transfer, requires electrical energy supply. However, these are much lower energy values than if the heat was produced.

The value of electrical energy consumed by a heat pump is usually 4 to 5 times lower than the value of heat supplied to the system. Which means that 75% to 80% of supplied energy comes from the environment.

Low electrical energy consumption (which is produced from coal and petroleum combustion) allows to limit greenhouse gas emissions, toxic pollutants and acid rains.

R32 refrigerant as compared to R410A

- higher heat transfer coefficient, 10% efficiency improvement and higher performance
- 30% lower volume of required refrigerant
- 75% lower CO_2 emission
- lower global warming potential (GWP reduction from 2088 to 675)
- safe and more environmentally friendly

eco-friendly refrigerant R32

Introduction

The Tropico heat pumps provide not only heating but also cooling mode. This is achieved by reversing the direction of flow of the working fluid. A four-way valve is used to completely reverse the cycle.

The Tropico heat pump will also satisfy the demand for domestic heat water. Furthermore, the offered DHW functions are tailored for specific situations.

For safety reasons, a water disinfection function is available and in cases of urgency – a fast DHW heating function.

Electrical energy is also saved during cooling and domestic hot water production.

Unit features

- Temperature control in two zones
- DHW priority
- Fast DHW production
- ECO mode
- Super quiet mode
- Weekly timer
- Control of auxiliary heat source
- Control of solar heating
- Holiday mode
- Wired remote controller with Wi-Fi control
- Floor drying
- Smart Grid
- Smartphone application
- Self-diagnosis
- BMS control

HEAT **PUMPS**

What distinguishes TROPICO

OPERATION AT A TEMPERATURE OF -25°C

The Tropico heat pump operates at an outdoor temperature of -25°C.

ANTI-FREEZE

Anti-freeze function protects hydraulic components from freezing and consequently from damage. This program has the highest priority, with the exception of the performance test.

DOMESTIC HOT WATER

Tropico heat pumps produce domestic hot water up to a temperature of 65°C. This operation is not interrupted even at outdoor temperature of -25°C.

DISINFECT FUNCTION

Because of Legionella that can grow in the domestic hot water system (e.g. in a DHW tank), it is required to perform appropriate disinfection. This bacteria constitutes a risk to human health. Tropico heat pumps offer the automatic thermal disinfection mode, which is easier and less expensive than the chemical disinfection. Water in the system is heated to the temperature of 70°C, instantly killing the Legionella bacteria.

AUXILIARY HEATER

Units are equipped with an electric heater which warms water (even at very low temperature) and makes it possible to reach the supply temperature of 70°C. Tropico heat pumps are equipped with a 9 kW electric heater with 3 capacity steps: 3/6/9 kW.

SMART GRID FUNCTION

Tropico heat pumps provide the possibility to integrate the system with the “smart grid”. Electrical energy consumption is automatically controlled, according to the peak power demand. The adjustment is carried out in order to maximise heating cost reduction.

SG Ready label confirms the availability of this function

HEATING CURVES FUNCTION

The user can choose from one of 32 heating curves. After selecting a specific one, the unit automatically sets the leaving water temperature, depending on the outside temperature. Changing the outlet water temperature at a different outside temperature allows for an adequate selection of heating power to weather conditions.

INVERTER CONTROL

Compressors, fans and water pumps in each unit are equipped with DC electric motors, making it possible to gradually and precise control of the rotational speed of individual components. Performance, and thereby electrical energy consumption, represents current operation requirements.

HIGH EFFICIENCY

Tropico heat pumps have the highest energy efficiency class: A+++*. This means the highest electrical energy saving, and thus money and also the lowest impact on the environment.
– Heating with full capacity up to -10°C
– The highest coefficient of performance COP 5.2
– Seasonal coefficient of performance for heating SCOP 4.8

OUTDOOR UNIT NOISE LEVEL LIMITATION

Tropico range outdoor units are equipped with a single fan. In addition, innovative blade design is implemented (defined as “bionic”). Special grooves in the fan blades reduce the intake whirl. A notch in the vane trailing edge is responsible for any changes in pressure distribution, and thanks to this, noise reduction. This innovation ensures lower air resistance and quieter operation.

SELF-DIAGNOSIS

The controller provides automatic information on errors and failures. It displays each error as a code.

BMS CONTROL

Possibility to connect with “Building Management System” means central control of the units through automation of the smart building management system.

iLetComfort APPLICATION

Possibility to remotely control operation of the heat pump and read the energy consumption status from within the application (available for Android or IOS system).

Android

iOS

*A+++ class reached for outdoor temperature: 7°C, supply water temperature: 35°C and return water temperature: 30°C.

HEAT **PUMPS**

TROPICO SPLIT

Tropico Split heat pump is a set composed of an outdoor unit and indoor unit (hydraulic module). The outdoor unit (in the heating mode) absorbs heat from the environment and the indoor unit is responsible for transferring this heat to domestic water. In the cooling mode, the circuit is reserved.

In case of Split type heat pumps, outside the building (beyond its outline) only the refrigerant is present (not the boiler feedwater), which has a much lower freezing point (-136°C) than the boiler feedwater. Hence, the risk of freezing is resolved.

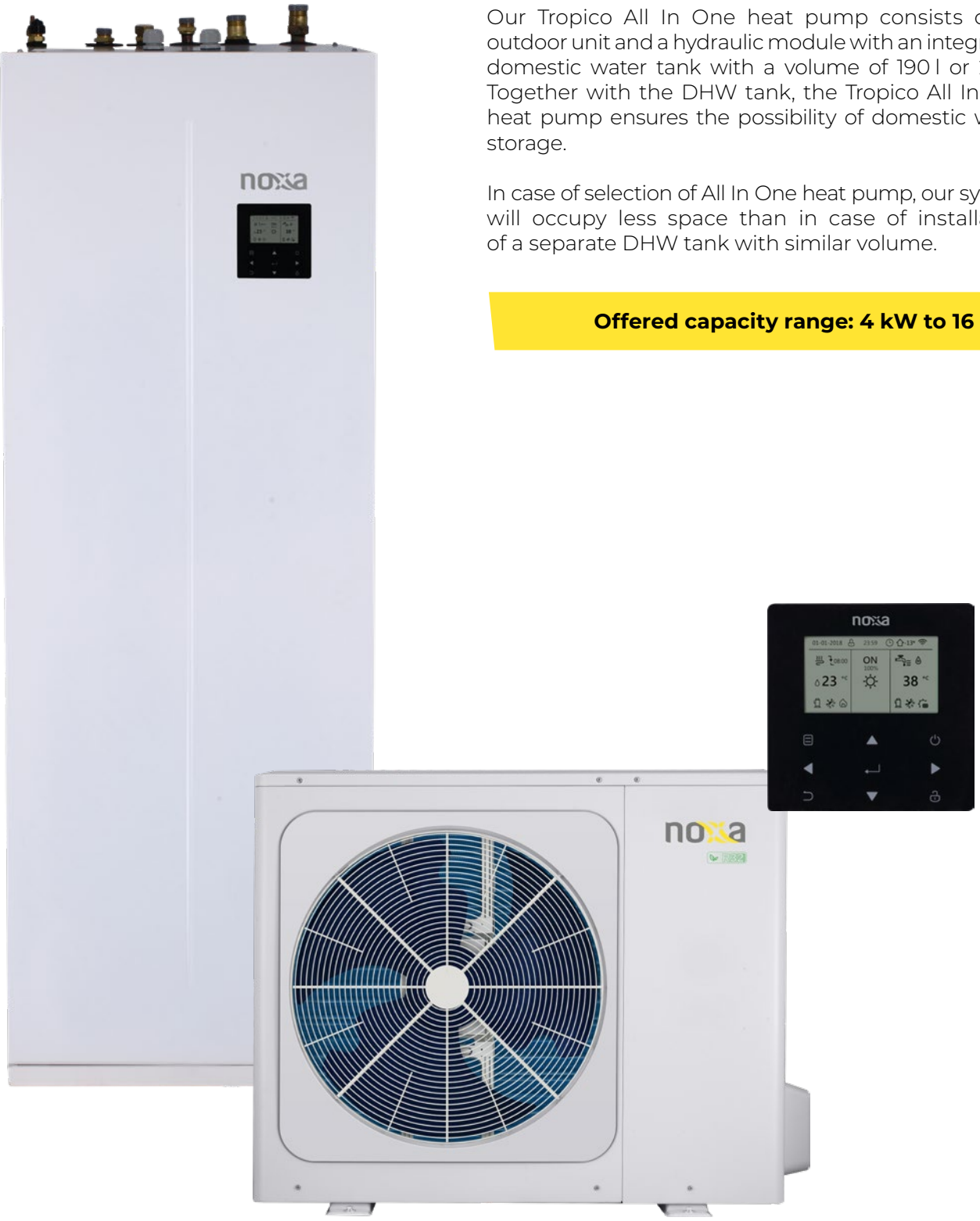
Offered capacity range: 4 kW to 16 kW

TROPICO ALL IN ONE

Our Tropico All In One heat pump consists of an outdoor unit and a hydraulic module with an integrated domestic water tank with a volume of 190 l or 240 l. Together with the DHW tank, the Tropico All In One heat pump ensures the possibility of domestic water storage.

In case of selection of All In One heat pump, our system will occupy less space than in case of installation of a separate DHW tank with similar volume.

Offered capacity range: 4 kW to 16 kW

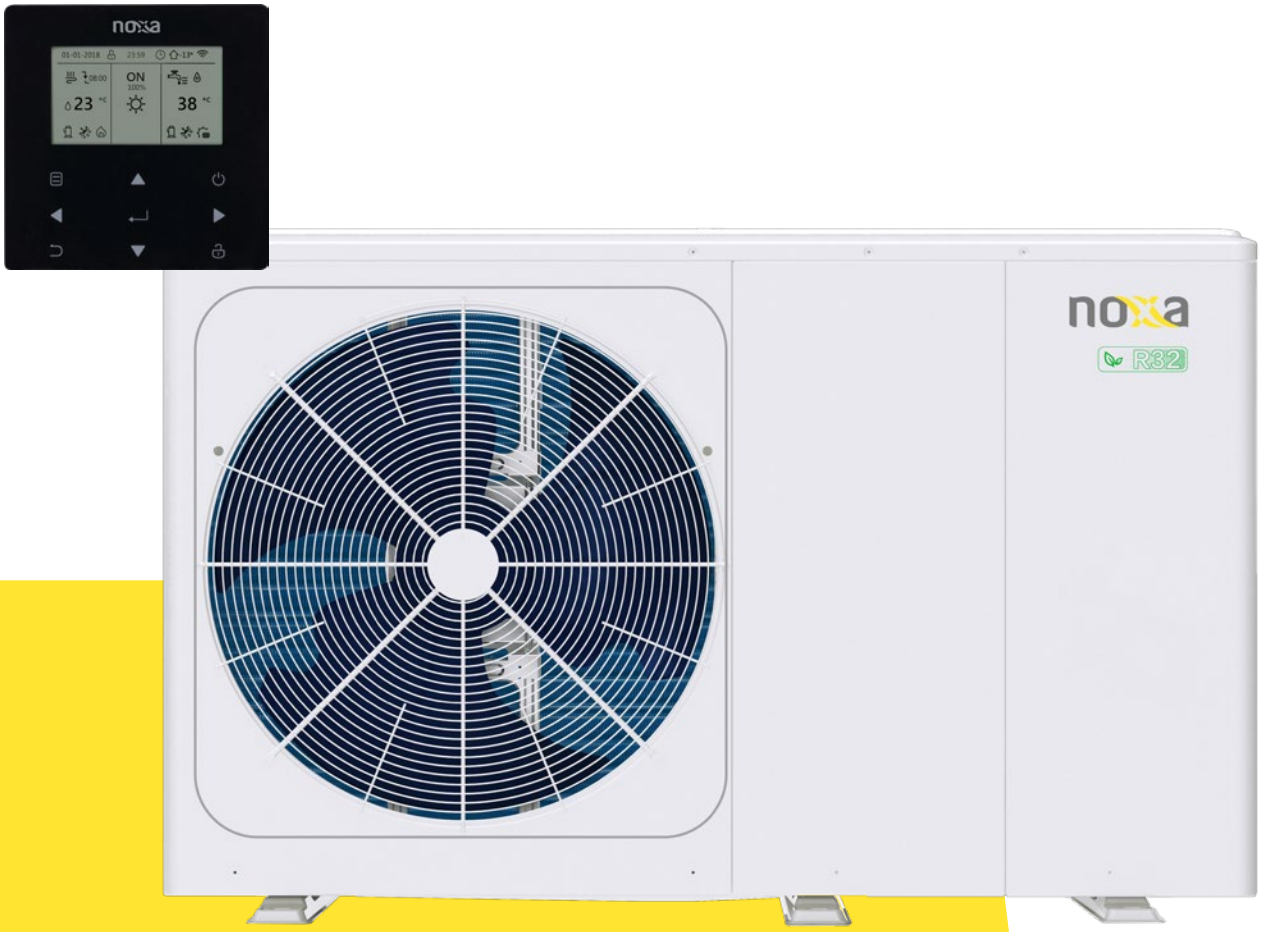


HEAT **PUMPS**

TROPICO MONO

A monoblock type heat pump consists of a refrigerant module and a hydraulic module set on one outdoor unit. It is therefore a compact solution.

Offered capacity range: 4 kW to 30 kW



CONTROL

WIRED CONTROLLER

Tropico heat pumps are equipped with the wired controller KJRH-120F/BMKO-E with a multi language menu. This controller has also a built-in Wi-Fi module. The device manages the heating system.

During the first run it is necessary to configure settings and unit parameters, which allows to adjust the functions and operating conditions to end-user preferences.

The controller is equipped with a touch panel, built-in temperature sensor, ModBus protocol.

Basic functions of a controller:

- On/Off
- Mode setting: cooling/heating, DHW, auto, fast production of DHW, quiet mode, holiday mode, disinfection, ECO, comfort
- Setting DHW tank temperature
- Display of the set room heating/cooling temperature, outdoor temperature, water tank temperature
- 12 h / 24 h time setting
- On / Off of solar heating
- Schedule: on/off; day/week; maximum 6 groups of settings
- Displays state of the components
- Error code; parameters
- Control of the cascade system (parameter settings)
- Test mode settings

Wi-Fi control
Wi-Fi module available as a standard provides unit control with use of the “iLetComfort” application, and thus:

- control of the pump operating state, switching of zones, operation modes and temperatures,
- monitoring of energy consumption and making use of guidance on saving energy.

Management of zones
Zone management function enables to set different temperatures for a number of independent heating circuits eg. radiator heating and floor heating. This enables setting of various temperatures for different spaces, and thus improves comfort of residents with diverse habits. It also provides more accurate coordination between heating circuits.

Daily and weekly schedule
Pump operation is set according to the schedule (daily or weekly), adapted to individual user’s needs. At any time, users can modify the schedule from the mobile application.

TECHNICAL **DATA**

TROPICO SPLIT

Set				Tropico-Split-4A1HB	Tropico-Split-6A1HB
Outdoor unit				NXHPS-V4W/D2N8-B	NXHPS-V6W/D2N8-B
Hydraulic module				NXHB-A60/CD30GN8-B	NXHB-A60/CD30GN8-B
Outdoor unit power supply (voltage/phases/frequency)			(V/-/Hz)	220-240/1/50	220-240/1/50
Hydraulic module power supply (voltage/phases/frequency)			(V/-/Hz)	220-240/1/50	220-240/1/50
Heating (1) (A7/W35)	Capacity		kW	4.25	6.20
	COP		-	5.18	5.00
Heating (2) (A7/W45)	Capacity		kW	4.35	6.35
	COP		-	3.82	3.76
Cooling (3) (A35/W18)	Capacity		kW	4.50	6.55
	EER		-	5.56	4.89
Electric heaters power			kW	3	3
Seasonal energy efficiency class (4)	Water temperature - inlet 35°C		-	A+++	A+++
	Water temperature - inlet 55°C		-	A++	A++
Outdoor temperature operating range	Cooling		°C	-5~43	-5~43
	Heating		°C	-25~35	-25~35
	Domestic Hot Water		°C	-25~43	-25~43
Outdoor unit	Dimensions (width/height/depth)		mm	1008×712×426	1008×712×426
	Transport dimensions (width/height/depth)		mm	1065×810×485	1065×810×485
Hydraulic module	Dimensions (width/height/depth)		mm	420×790×270	420×790×270
	Transport dimensions (width/height/depth)		mm	525×1050×360	525×1050×360
Sound pressure level (5)			dB(A)	44	45
Max. installation length			m	30	30
Max. height difference			m	20	20
Refrigerant (type/charge)			-/kg	R32/1.5	R32/1.5
Refrigerant port diameters		Gas	inch	5/8"	5/8"
		Liquid	inch	1/4"	1/4"
Hydraulic port diameters		Flow	inch	1"	1"
		Return	inch	1"	1"
Net weight (outdoor unit)			kg	60	60
Net weight (hydraulic module)			kg	37	37

(1) DB/WB 7/6°C, LWT 35°C (ΔT = 5°C)
(2) DB/WB 7/6°C, LWT 45°C (ΔT = 5°C)
(3) DB 35°C, LWT 18°C (ΔT = 5°C)
(4) Seasonal space heating energy efficiency class is determined under average climate conditions
(5) Sound pressure level is measured at a distance of 1 m from the unit and at the height of (1+H)/2 m (where H is the height of the unit) from the floor in a semi-anechoic chamber.
Conditions of sound pressure level measurements:
Outdoor air temperature 7°CDB, 85% R.H.; supply water temperature 30°C, outlet water temperature 35°C.
Outdoor air temperature 7°CDB, 85% R.H.; supply water temperature 47°C, outlet water temperature 55°C.

Related standards and regulations: PEN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207

Tropico-Split-8A1HB	Tropico-Split-10A1HB	Tropico-Split-12A3HB	Tropico-Split-14A3HB	Tropico-Split-16A3HB
NXHPS-V8W/D2N8-B	NXHPS-V10W/D2N8-B	NXHPS-V12W/D2RN8-B	NXHPS-V14W/D2RN8-B	NXHPS-V16W/D2RN8-B
NXHB-A100/CDS90GN8-B	NXHB-A100/CDS90GN8-B	NXHB-A160/CDS90GN8-B	NXHB-A160/CDS90GN8-B	NXHB-A160/CDS90GN8-B
220-240/1/50	220-240/1/50	380-415/3/50	380-415/3/50	380-415/3/50
380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50
8.30	10.00	12.10	14.50	16.00
5.19	5.00	4.96	4.70	4.50
8.20	10.00	12.30	14.20	16.00
3.94	3.80	3.80	3.65	3.60
8.40	10.00	12.00	13.50	14.90
5.06	4.81	4.00	3.60	3.40
3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
A+++	A+++	A+++	A+++	A+++
A++	A++	A++	A++	A++
-5~43	-5~43	-5~43	-5~43	-5~43
-25~35	-25~35	-25~35	-25~35	-25~35
-25~43	-25~43	-25~43	-25~43	-25~43
1118×865×523	1118×865×523	1118×865×523	1118×865×523	1118×865×523
1190×970×560	1190×970×560	1190×970×560	1190×970×560	1190×970×560
420×790×270	420×790×270	420×790×270	420×790×270	420×790×270
525×1050×360	525×1050×360	525×1050×360	525×1050×360	525×1050×360
46	49	50	51	55
30	30	30	30	30
20	20	20	20	20
R32/1.65	R32/1.65	R32/1.84	R32/1.84	R32/1.84
5/8"	5/8"	5/8"	5/8"	5/8"
3/8"	3/8"	3/8"	3/8"	3/8"
1"	1"	1"	1"	1"
1"	1"	1"	1"	1"
78.5	78.5	116	116	116
37	37	39	39	39

TECHNICAL **DATA**

TROPICO ALL IN ONE

Set			Tropico-AiO-4A1/190	Tropico-AiO-4A1/240	Tropico-AiO-6A1/190	Tropico-AiO-6A1/240
Outdoor unit			NXHPS-V4W/ D2N8-B	NXHPS-V4W/ D2N8-B	NXHPS-V6W/ D2N8-B	NXHPS-V6W/ D2N8-B
Hydraulic module			NXHBT-A100/ 190CD30GN8-B	NXHBT-A100/ 240CD30GN8-B	NXHBT-A100/ 190CD30GN8-B	NXHBT-A100/ 240CD30GN8-B
Outdoor unit power supply (voltage/phases/frequency)		(V/-/Hz)	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Hydraulic module power supply (voltage/phases/frequency)		(V/-/Hz)	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Heating (1) (A7/W35)	Capacity	kW	4.3	4.3	6.2	6.2
	COP	-	5.2	5.2	5.0	5.0
Heating (2) (A7/W45)	Capacity	kW	4.35	4.35	6.35	6.35
	COP	-	3.8	3.8	3.8	3.8
Cooling (3) (A35/W18)	Capacity	kW	4.5	4.5	6.55	6.55
	EER	-	5.55	5.55	4.9	4.9
Electric heaters power		kW	3	3	3	3
Seasonal energy efficiency class (4)	Water temperature - inlet 35°C	-	A+++	A+++	A+++	A+++
	Water temperature - inlet 55°C	-	A++	A++	A++	A++
Outdoor temperature operating range	Cooling	°C	-5~43	-5~43	-5~43	-5~43
	Heating	°C	-25~35	-25~35	-25~35	-25~35
	Domestic Hot Water	°C	-25~43	-25~43	-25~43	-25~43
Outdoor unit	Dimensions (width/height/depth)	mm	1008×712×426	1008×712×426	1008×712×426	1008×712×426
	Transport dimensions (width/height/depth)	mm	1065×810×485	1065×810×485	1065×810×485	1065×810×485
Hydraulic module	Dimensions (width/height/depth)	mm	600×1683×600	600×1943×600	600×1683×600	600×1943×600
	Transport dimensions (width/height/depth)	mm	653×1900×653	653×2160×653	653×1900×653	653×2160×653
Sound power level (outdoor unit) (5)		dB	56	56	58	58
Sound power level (hydraulic module) (5)		dB	38	38	38	38
Max. installation length		m	30	30	30	30
Max. height difference		m	20	20	20	20
Refrigerant (type/charge)		-/kg	R32/1.5	R32/1.5	R32/1.5	R32/1.5
Refrigerant port diameters	Gas	inch	5/8"	5/8"	5/8"	5/8"
	Liquid	inch	1/4"	1/4"	1/4"	1/4"
Hydraulic port diameters	Central Heating	inch	1"	1"	1"	1"
	DHW	inch	3/4"	3/4"	3/4"	3/4"
Net weight (outdoor unit)		kg	60	60	60	60
Net weight (hydraulic module)		kg	140	157	140	157

(1) DB/WB 7/6°C, LWT 35°C (ΔT = 5°C)
(2) DB/WB 7/6°C, LWT 45°C (ΔT = 5°C)
(3) DB 35°C, LWT 18°C (ΔT = 5°C)
(4) Seasonal space heating energy efficiency class is determined under average climate conditions
(5) Tested in accordance with EN12102-1 standard

Tropico-AiO-8A1/190	Tropico-AiO-8A1/240	Tropico-AiO-10A1/190	Tropico-AiO-10A1/240	Tropico-AiO-12A3/240	Tropico-AiO-14A3/240	Tropico-AiO-16A3/240
NXHPS-V8W/ D2N8-B	NXHPS-V8W/ D2N8-B	NXHPS-V10W/ D2N8-B	NXHPS-V10W/ D2N8-B	NXHPS-V12W/ D2RN8-B	NXHPS-V14W/ D2RN8-B	NXHPS-V16W/ D2RN8-B
NXHBT-A100/ 190CDS90GN8-B	NXHBT-A100/ 240CDS90GN8-B	NXHBT-A100/ 190CDS90GN8-B	NXHBT-A100/ 240CDS90GN8-B	NXHBT-A160/ 240CDS90GN8-B	NXHBT-A160/ 240CDS90GN8-B	NXHBT-A160/ 240CDS90GN8-B
220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	380-415/3/50	380-415/3/50	380-415/3/50
380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50
8.3	8.3	10	10	12.1	14.5	16
5.2	5.2	5.0	5.0	5.0	4.7	4.5
8.2	8.2	10	10	12.3	14.2	16
4.0	4.0	3.8	3.8	3.8	3.65	3.60
8.4	8.4	10	10	12	13.5	14.2
5.05	5.05	4.8	4.8	4	3.61	3.61
3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
A+++	A+++	A+++	A+++	A+++	A+++	A+++
A++	A++	A++	A++	A++	A++	A++
-5~43	-5~43	-5~43	-5~43	-5~43	-5~43	-5~43
-25~35	-25~35	-25~35	-25~35	-25~35	-25~35	-25~35
-25~43	-25~43	-25~43	-25~43	-25~43	-25~43	-25~43
1118×865×523	1118×865×523	1118×865×523	1118×865×523	1118×865×523	1118×865×523	1118×865×523
1190×970×560	1190×970×560	1190×970×560	1190×970×560	1190×970×560	1190×970×560	1190×970×560
600×1683×600	600×1943×600	600×1683×600	600×1943×600	600×1943×600	600×1943×600	600×1943×600
653×1900×653	653×2160×653	653×1900×653	653×2160×653	730×2180×730	730×2180×730	730×2180×730
59	59	60	60	64	65	68
40	40	40	40	42	44	44
30	30	30	30	30	30	30
20	20	20	20	20	20	20
R32/1.65	R32/1.65	R32/1.65	R32/1.65	R32/1.84	R32/1.84	R32/1.84
5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
1"	1"	1"	1"	1"	1"	1"
3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
78.5	78.5	78.5	78.5	116	116	116
140	157	140	157	159	159	159

TECHNICAL **DATA**

TROPICO MONO

Model				NXHPM-V4W/ D2N8-BE30	NXHPM-V6W/ D2N8-BE30	NXHPM-V8W/ D2N8-BE30	NXHPM-V10W/ D2N8-BE30
Power supply (voltage/phases/frequency)			(V/-/Hz)	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
Heating (1) (A7/W35)	Capacity		kW	4.20	6.35	8.40	10.00
	COP		-	5.12	4.96	5.15	4.95
Heating (2) (A7/W45)	Capacity		kW	4.30	6.30	8.10	10.00
	COP		-	3.81	3.71	3.86	3.75
Cooling (3) (A35/W18)	Capacity		kW	4.50	6.50	8.30	9.90
	EER		-	5.49	4.81	5.06	4.54
Electric heaters power			kW	3	3	3	3
Seasonal energy efficiency class (4)	Water temperature - inlet 35°C		-	A+++	A+++	A+++	A+++
	Water temperature - inlet 55°C		-	A++	A++	A++	A++
Outdoor temperature operating range	Cooling		°C	-5~43	-5~43	-5~43	-5~43
	Heating		°C	-25~35	-25~35	-25~35	-25~35
	Domestic Hot Water		°C	-25~43	-25~43	-25~43	-25~43
Dimensions (width/height/depth)			mm	1295×718×429	1295×718×429	1385×865×526	1385×865×526
Transport dimensions (width/height/depth)			mm	1375×885×475	1375×885×475	1465×1035×560	1465×1035×560
Sound pressure level (5)			dB(A)	45	47.5	48.5	50.5
Refrigerant (type/charge)			-/kg	R32/1.4	R32/1.4	R32/1.4	R32/1.4
Hydraulic port diameters		Flow	inch	1"	1"	11/4"	11/4"
		Return	inch	1"	1"	11/4"	11/4"
Net/gross weight			kg	86/107	86/107	105/132	105/132

(1) DB/WB 7/6°C, LWT 35°C (ΔT = 5°C)
(2) DB/WB 7/6°C, LWT 45°C (ΔT = 5°C)
(3) DB 35°C, LWT 18°C (ΔT = 5°C)
(4) Seasonal space heating energy efficiency class is determined under average climate conditions
(5) Sound pressure level is measured at a distance of 1 m from the unit and at the height of (1+H)/2 m (where H is the height of the unit) from the floor in a semi-anechoic chamber.
Conditions of sound pressure level measurements:
Outdoor air temperature 7°CDB, 85% R.H.; supply water temperature 30°C, outlet water temperature 35°C.
Outdoor air temperature 7°CDB, 85% R.H.; supply water temperature 47°C, outlet water temperature 55°C.

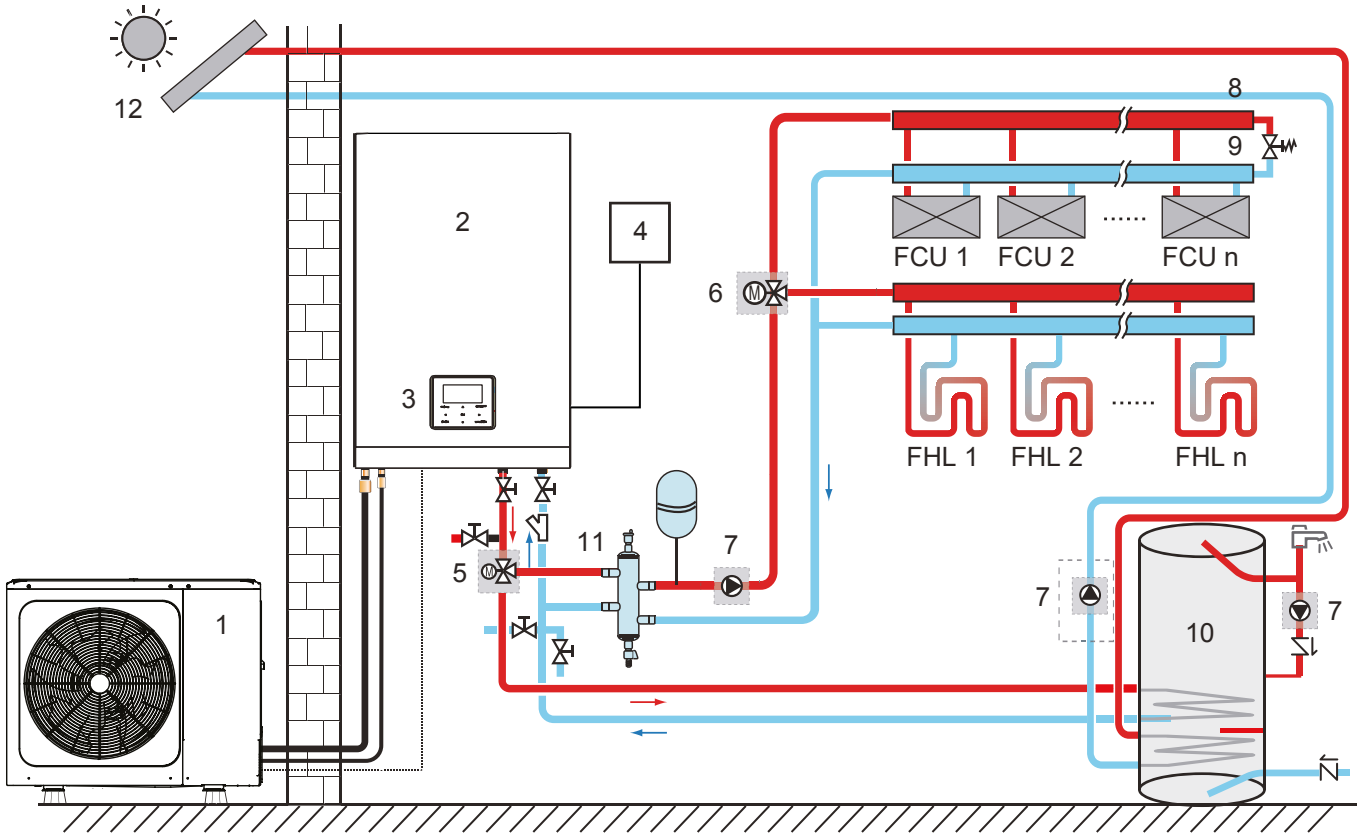
Related standards and regulations: EN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207

NXHPM-V12W/ D2RN8-BER90	NXHPM-V14W/ D2RN8-BER90	NXHPM-V16W/ D2RN8-BER90	NXHPM-V18W/ D2RN8	NXHPM-V22W/ D2RN8	NXHPM-V26W/ D2RN8	NXHPM-V30W/ D2RN8
380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50
12.10	14.50	15.90	18.00	22.00	26.00	30.10
4.95	4.60	4.50	4.70	4.40	4.08	3.91
12.30	14.10	16.00	18.00	22.00	26.00	30.00
3.70	3.60	3.50	3.50	3.40	3.10	2.90
12.00	13.50	14.90	18.50	23.00	27.00	31.00
3.95	3.60	3.40	4.75	4.60	4.30	4.00
3/6/9	3/6/9	3/6/9	-	-	-	-
A+++	A+++	A+++	A+++	A+++	A+++	A+++
A++	A++	A++	A++	A++	A++	A++
-5~43	-5~43	-5~43	-5~46	-5~46	-5~46	-5~46
-25~35	-25~35	-25~35	-25~35	-25~35	-25~35	-25~35
-25~43	-25~43	-25~43	-25~43	-25~43	-25~43	-25~43
1385×865×526	1385×865×526	1385×865×526	1129×1558×440	1129×1558×440	1129×1558×440	1129×1558×440
1465×1035×560	1465×1035×560	1465×1035×560	1220×1735×565	1220×1735×565	1220×1735×565	1220×1735×565
53.5	54	58	57.6	59.8	61.5	63.5
R32/1.75	R32/1.75	R32/1.75	R32/5.00	R32/5.00	R32/5.00	R32/5.00
11/4"	11/4"	11/4"	11/4"	11/4"	11/4"	11/4"
11/4"	11/4"	11/4"	11/4"	11/4"	11/4"	11/4"
144/172	144/172	144/172	177/206	177/206	177/206	177/206

EXAMPLE APPLICATION

Space heating and cooling as well as production of domestic hot water is realised in cooperation with solar collectors. As a lower source, the heat pump uses ambient air and solar energy. In cooling mode, cold air is distributed in rooms with use of fan-coils.

Central heating circuit is realised by the floor heating loop, low temperature radiators and fan-coils. Domestic hot water is warmed up by the heat pump and refrigerant from the solar collector circuit. Solar water pump is controlled by the Tsolar thermistor. A sensor in the low loss header/buffer tank is used to turn the heat pump on and off. After turning on the outdoor unit, the water pump stops in order to save energy, and then the expansion vessel supplies hot water for space heating.



1	Outdoor unit	8	Distributor (field supply)
2	Hydraulic module	9	Header (field supply)
3	User interface (integrated in the hydraulic module)	10	DHW tank (field supply)
4	Room thermostat	11	Low loss header/buffer tank (field supply)*
5	Automatic 3-way valve (field supply)	12	Solar collector
6	Automatic 3-way valve (field supply)	FHL 1...n	Floor heating (field supply)
7	External circulation pump (field supply)	FCU 1...n	Fan-coils (field supply)

*** Required expansion vessel size:**
Volume of the low loss header/buffer tank for the NXHB-A60/CGN8-B hydraulic module is ≥ 25 l
Volume of the low loss header/buffer tank for the NXHB-A100/CGN8-B hydraulic module is ≥ 25 l
Volume of the low loss header/buffer tank for the NXHB-A160/CGN8-B hydraulic module is ≥ 40 l

Note: The diagram is to present conceptual operation of the circuit. It should not be considered as design.

CERTIFICATES

CE

CE

CE marking placed on the product is the manufacturer's declaration that the product meets the requirements of the so-called The "New Approach" of the European Union (EU). These directives revolve around issues related to the usage safety, health protection and the environment. CE was established in order to eliminate obstacles to the movement of goods within the internal market. The Member States may not prohibit placing on the market any CE marked product.

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