



User manual
JÄSPI Inverter Nordic
8, 12, 16, 20
Air/water heat pump

UHB EN 2214-4
331844

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1 Important information

Installation data

Product	JÄSPI Inverter Nordic
Serial number	
Installation date	
Installer	

Serial number must always be given.

Certification that the installation is carried out according to instructions in the accompanying installer manual and applicable regulations.

Date _____ Signed _____

Safety information

This appliance is designed for use in a home environment and not intended to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. This in accordance to applicable parts of the low-voltage directive 2006/95/EC, LVD. The appliance is also intended for use by experts or trained users in shops, hotels, light industry, on farms and in similar environments. This in accordance to applicable parts of the machinery directive 2006/42/EC. Children should be supervised to ensure that they do not play with the appliance.

This is an original instruction manual. Translation is not allowed without approval from Kaukora.

Rights to make any design or technical modifications are reserved.

JÄSPI Inverter Nordic must be installed via an isolator switch. The cable area has to be dimensioned based on the fuse rating used.

If the supply cable is damaged, only Kaukora, its service representative or similar authorised person may replace it to prevent any danger and damage.

Symbols

Explanation of symbols that may be present in this manual.



NOTE

This symbol indicates danger to person or machine.



Caution

This symbol indicates important information about what you should observe when maintaining your installation.

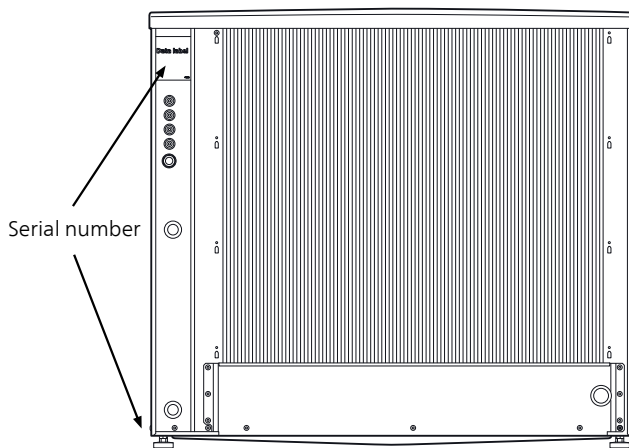


TIP

This symbol indicates tips on how to facilitate using the product.

Serial number

The serial number can be found at the top left on the rear cover and at the bottom on the side.



Caution

You need the product's (14 digit) serial number for servicing and support.

JÄSPI Inverter Nordic – An excellent choice

JÄSPI Inverter Nordic is an air/water heat pump, specially designed for the Nordic climate, which uses the outdoor air as its energy source.

The heat pump is intended for connection to water borne heating systems and can both heat hot water effectively at high outdoor temperatures and give a high output to the heating system at low outdoor temperatures.

If the outdoor temperature drops to a level below the stop temperature all heating must then occur with external additional heat.

Excellent properties for JÄSPI Inverter Nordic:

- ***Efficient speed-controlled scroll compressor***

Efficient speed-controlled scroll compressor that operates at temperatures down to -25 °C.

- ***Intelligent control***

JÄSPI Inverter Nordic connected to intelligent control for optimum control of the heat pump.

- ***Fan***

JÄSPI Inverter Nordic has automatic capacity regulation of the fan.

- ***Long service life***

The material has been chosen for a long service life and is designed to withstand the Nordic outdoor conditions.

- ***Many possibilities***

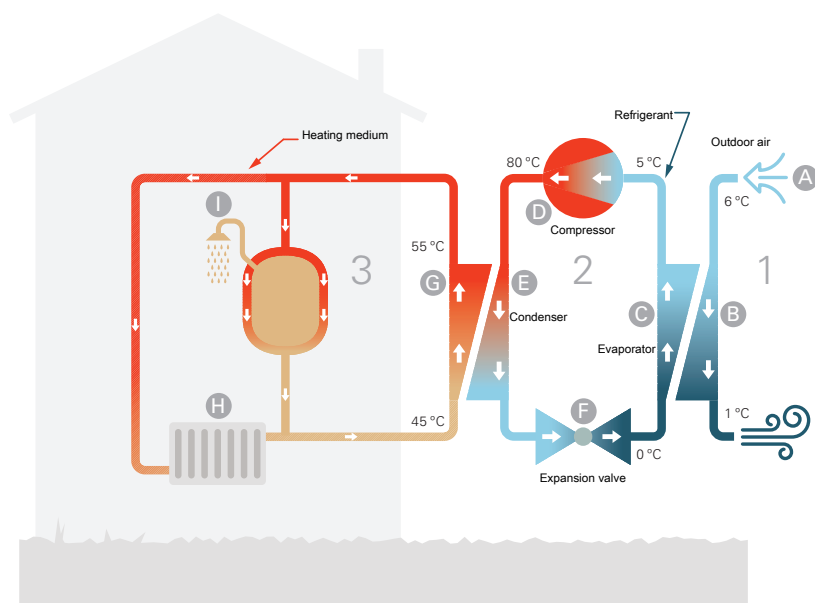
JÄSPI Inverter Nordic is intended for combination with the indoor module JÄSPI Theowatti Air / control module JÄSPI_MCU40. There is a wide range of system solutions and accessories for indoor modules and control modules.

- ***Silent operation***

JÄSPI Inverter Nordic has a silent mode function that allows scheduling when JÄSPI Inverter Nordic must operate at an even quieter noise level.

2 Installation function

An air/water heat pump installation uses the outdoor air to heat up a home. The conversion of the outdoor air's energy into residential heating occurs in three different circuits. From the outdoor air, (1), free heat energy is retrieved and transported to the heat pump. The heat pump increases the retrieved heat's low temperature to a high temperature in the refrigerant circuit, (2). The heat is distributed around the building in the heating medium circuit, (3).



The temperatures are only examples and may vary between different installations and time of year.

Outdoor air

- A** The outdoor air is sucked into the heat pump.
- B** The fan then routes the air to the heat pump's evaporator. Here, the air releases the heating energy to the refrigerant and the air's temperature drops. The cold air is then blown out of the heat pump.

Refrigerant circuit

- C** A gas circulates in a closed system in the heat pump, a refrigerant, which also passes the evaporator. The refrigerant has a very low boiling point. In the evaporator the refrigerant receives the heat energy from the outdoor air and starts to boil.
- D** The gas that is produced during boiling is routed into an electrically powered compressor. When the gas is compressed, the pressure increases and the gas's temperature increases considerably, from 0 °C to approx 80 °C.
- E** From the compressor, gas is forced into a heat exchanger, condenser, where it releases heat energy to the indoor module, whereupon the gas is cooled and condenses to a liquid form again.
- F** As the pressure is still high, the refrigerant can pass an expansion valve, where the pressure drops so that the refrigerant returns to its original temperature. The refrigerant has now completed a full cycle. It is routed to the evaporator again and the process is repeated.

Heat medium circuit

- G** The heat energy that the refrigerant produces in the condenser is retrieved by the indoor module's water, the heating medium, which is heated to 55 °C (supply temperature).
- H** The heating medium circulates in a closed system and transports the heated water's heat energy to the house radiators/heating coils.
- I** The indoor module's integrated charge coil is placed in the boiler section. The water in the coil heats up the surrounding domestic hot water.

3 Control of JÄSPI Inverter Nordic

The heat pump is controlled in various ways, depending on your system. You control the heat pump via your indoor module JÄSPI Theowatti Air or control module JÄSPI_MCU40.

See the Installer Manual for the indoor module/control module.

During installation, the installation engineer adjusts the necessary settings for the heat pump in the indoor module or control module, so that the heat pump works optimally in your system.

4 Maintenance of JÄSPI Inverter Nordic

Regular checks

When your heat pump is located outdoors some external maintenance is required.



NOTE

Insufficient maintenance can cause serious damage to JÄSPI Inverter Nordic, which is not covered by the guarantee.

Checking grilles and bottom panel on JÄSPI Inverter Nordic

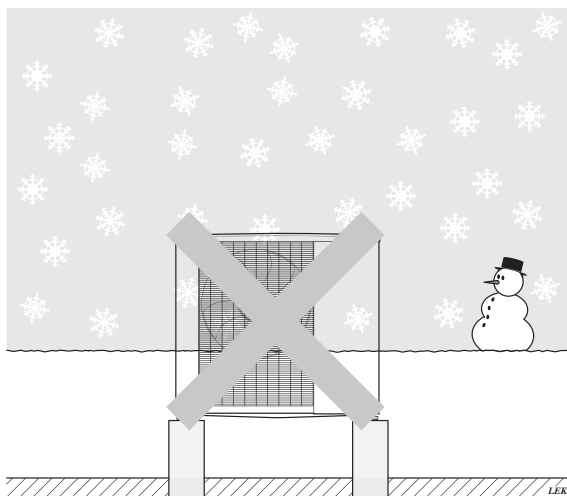
Check regularly throughout the year that the grille is not clogged by leaves, snow or anything else.

You should be particularly vigilant during windy conditions and/or in the event of snow, as the grille can become blocked.

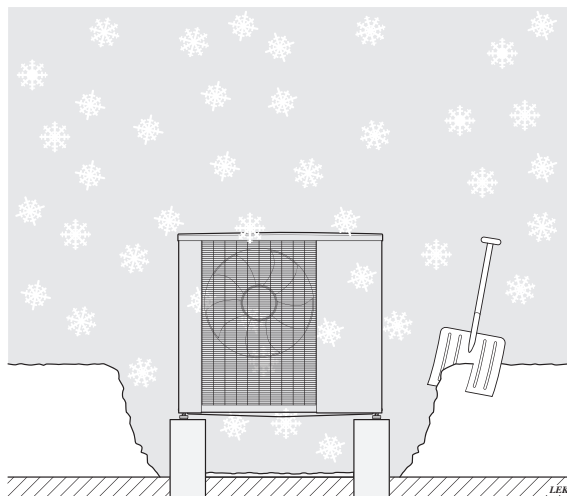
Also check that the drain holes in the bottom panel are free from dirt and leaves.

Regularly check that condensation is routed away correctly through the condensation pipe. Ask your installer for assistance if required.

Keep free of snow and ice



Prevent snow from building up and covering the grilles and drain holes on JÄSPI Inverter Nordic.



Keep free of snow and/or ice.

Cleaning the outer casing

If necessary the outer casing can be cleaned using a damp cloth.

Care must be exercised so that the heat pump is not scratched when cleaning. Avoid spraying water into the grilles or the sides so that water penetrates into JÄSPI Inverter Nordic. Prevent JÄSPI Inverter Nordic coming into contact with alkaline cleaning agents.

In event of long power cuts

In the event of prolonged power failures it is recommended that the part of the heating system located outdoors is drained. Your installer has installed a shut off and drain valve to facilitate this. Call and ask your installer if you are unsure.

Silent mode

The heat pump can be set to "Silent mode", which reduces the heat pump's noise level. This function is useful when JÄSPI Inverter Nordic must be placed in noise-sensitive areas. The function should only be used for limited periods, because JÄSPI Inverter Nordic might not reach its dimensioned power.

Updating the software

Information about updating software can be found in the Installer Manual for your indoor module or control module.

5 Disturbances in comfort

In most cases, the indoor module/control module notes a malfunction (a malfunction can lead to disturbance in comfort) and indicates this with alarms and action instructions in the display.



NOTE

Work behind covers secured by screws may only be carried out by, or under the supervision of, a qualified installation engineer.

Troubleshooting

If the operational interference is not shown in the display the following tips can be used:

Basic actions

- Group and main fuses of the accommodation.
- The property's earth circuit breaker.
- Make sure that the air flow to JÄSPI Inverter Nordic is not blocked by foreign objects.
- Check that JÄSPI Inverter Nordic does not have any external damage.

Ice build-up in the fan, grille and/or fan cone

Set the "Fan de-icing" function in the indoor module/control module. For more information, see the section "Control – Heat pump EB101" in the Installer Manual.

If problems arise, contact your installer.

Water below JÄSPI Inverter Nordic (larger amount)

- Fit an accessory KVR 11 to divert condensation from the air/water heat pump.
- Check that the water drainage via the condensation pipe (KVR 11) is working.

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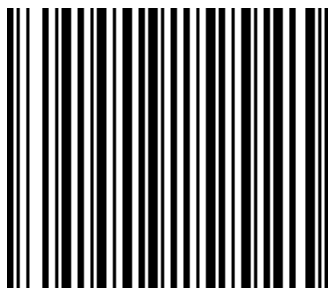
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