



User manual
Air/water heat pump
JÄSPI Inverter Nordic R

UHB EN 2638-2
731922

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Important information

This manual contains information for operation and maintenance. For more technically detailed information and energy labelling, please refer to the Installer Manual.

For the latest version of the product’s documentation, see kaukora.fi.



CAUTION!
Read the enclosed safety manual when taking JÄSPI Inverter Nordic R into use and when taking it out of use.

Installation data

Product	JÄSPI Inverter Nordic R
Serial number	
Installation date	
Installer	

Accessories	

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

Symbols

Explanation of symbols that may be present in this manual.



CAUTION!

This symbol indicates danger to person or machine.



NOTE!

This symbol indicates important information to consider when maintaining the installation.

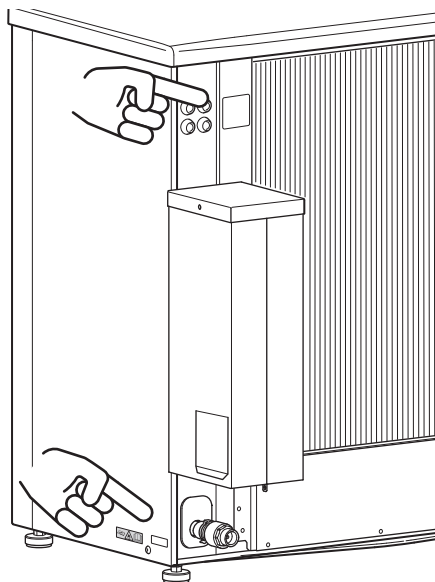


TIP!

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

Serial number

The serial number on JÄSPI Inverter Nordic R can be found on the rear cover and at the bottom on the side on the type plate.



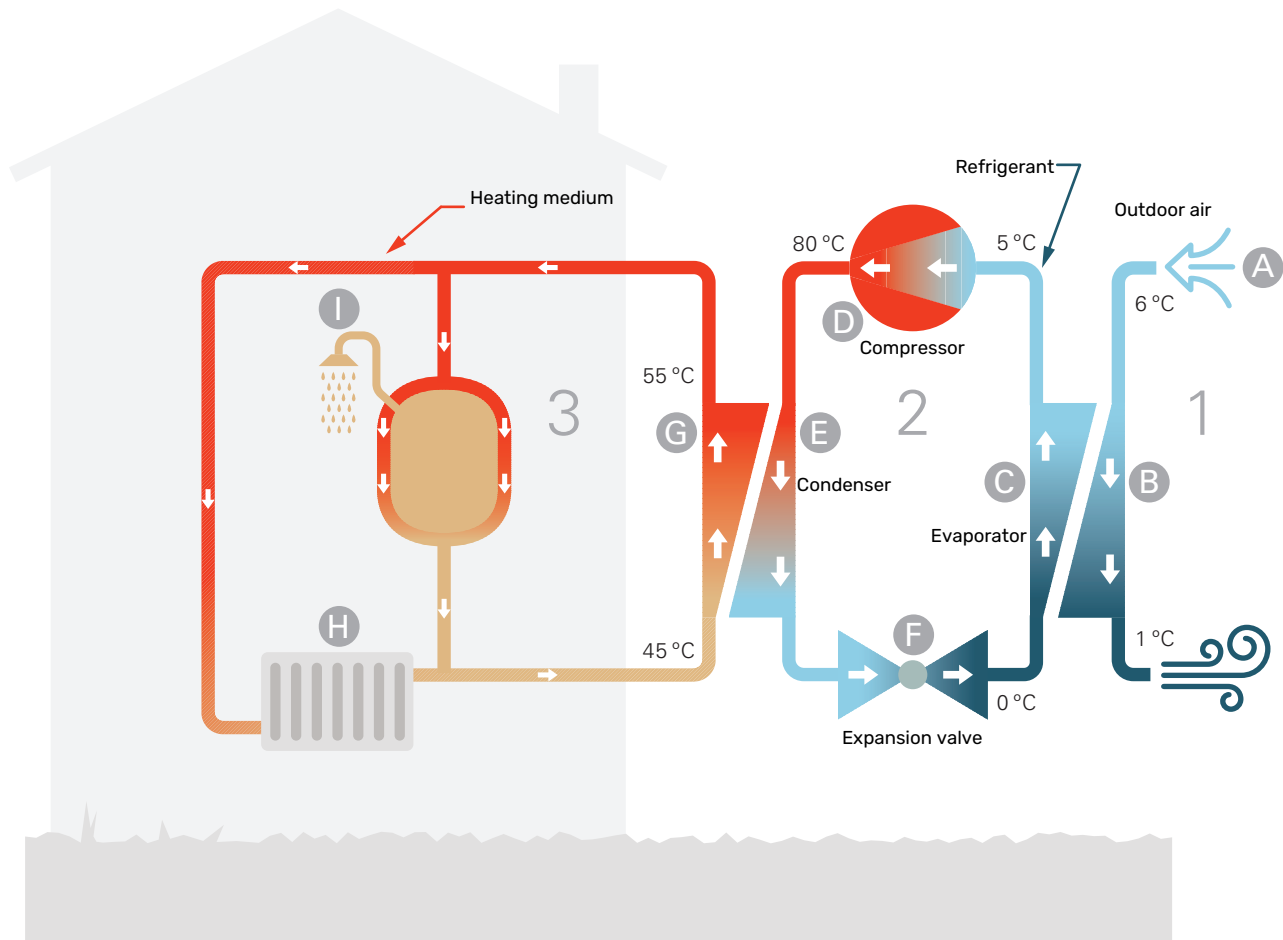
NOTE!

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

Installation function

An air/water heat pump installation uses the outdoor air to heat a property. The conversion of the outdoor air's energy into heating occurs in three different circuits. The heat energy is transferred from the outdoor air (1) to the refrigerant circuit

in the heat pump (2), where the refrigerant attains a higher temperature due to increased pressure from the heat pump's compressor. The heat is then transferred to the heating medium circuit (3), which distributes it into the property.



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 unit's heating medium, water, which is heated to approx. 55 °C (supply temperature).
- H** The heating medium circulates in a closed system and transports the heated water's thermal energy to the property's radiators/heating coils.

The heating medium circulates in a closed system and transports the heated water's heat energy to the property's heat pump heater and 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.

Control of JÄSPI Inverter Nordic R

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.

Maintenance of JÄSPI Inverter Nordic R

Regular checks

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



CAUTION!

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

CHECKING GRILLES AND BOTTOM PANEL ON JÄSPI INVERTER NORDIC R

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.

Check that the back is free from dirt and leaves.

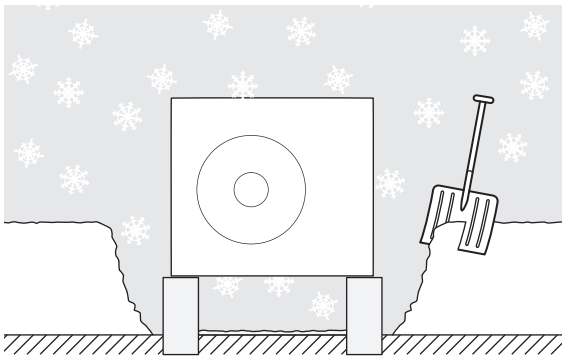
Also check that the drain holes in the bottom panel are free from dirt and leaves.

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 building up and covering the grille on JÄSPI Inverter Nordic R.

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 during cleaning. Avoid spraying water into the grilles or on the sides so that water penetrates into JÄSPI Inverter Nordic R. Prevent JÄSPI Inverter Nordic R coming into contact with alkaline cleaning agents.

ACTUATING THE SAFETY VALVE (FL2)

The safety valve must be actuated regularly, to remove dirt and to check that it is not blocked.

Remember to also check that the vent valve is working.

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. This is made easier if shut-off valves are installed. Ask your installer if you are uncertain.



NOTE!

Also disconnect the non-return valve (RM1.2) to prevent the condenser from freezing.

Silent mode

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

Fan de-icing

MENU 4.9.7 - TOOLS

FAN DE-ICING

Setting range: off/on

CONTINUOUS FAN DE-ICING

Setting range: off/on

Fan de-icing: Here, you set whether the "fan de-icing" function will be activated during the next "active defrosting". This can be activated if ice/snow sticks to the fan, grille or fan cone, which may be noticed due to abnormal fan noise from the outdoor unit.

"Fan de-icing" means that the fan, grille and fan cone are heated using hot air from the evaporator (EP1).

Continuous fan de-icing: There is the option to set recurring de-icing. In this case, every tenth defrosting will be "Fan de-icing". (This can increase annual energy consumption.)

Updating the software

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

Disturbances in comfort

In most cases, the indoor module / control module notes a malfunction and indicates this with alarms and presents action instructions in the display.



CAUTION!

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

Start by checking the following:

- All supply cables to the heat pump are connected.
- Group and main fuses of the accommodation.
- The property's earth circuit breaker.
- The heat pump's RCD.
- The heat pump's fuse / automatic protection.
- That the air flow to JÄSPI Inverter Nordic R is not blocked by foreign objects.
- That JÄSPI Inverter Nordic R does not have any external damage.

ICE BUILD-UP IN THE FAN, GRILLE AND/OR FAN CONE

If problems arise, contact your installer.

WATER BELOW JÄSPI INVERTER NORDIC R (LARGER AMOUNT)

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

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