MITSUBISHI HEAVY INDUSTRIES

USER'S MANUAL

AIR TO WATER HEAT PUMP
Hydrolution EZY

FDCM100/140VNX-W
PT300/PT500/RC-HY20-W/RC-HY40-W
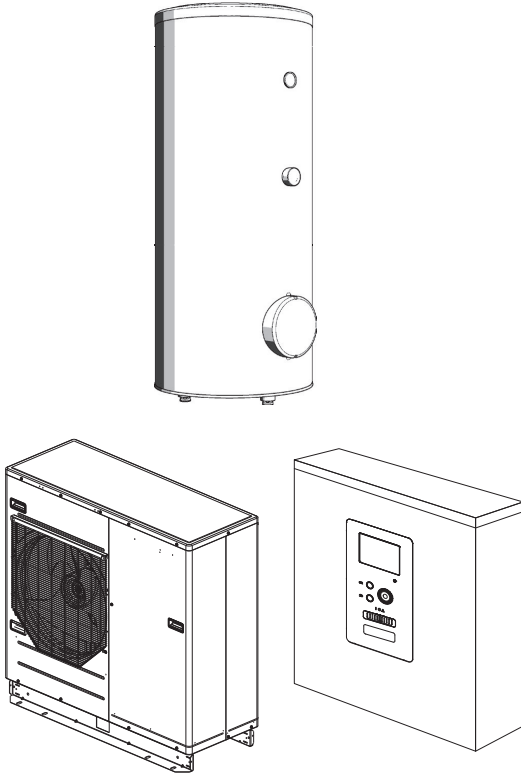
USER'S MANUAL AIR TO WATER HEAT PUMP	**ENGLISH**
MANUEL DE L'UTILISATEUR POMPE À CHALEUR AIR/EAU	**FRANÇAIS**
BENUTZERHANDBUCH LUFT-WASSER-WÄRMEPUMPE	**DEUTSCH**
MANUALE DELL'UTENTE POMPA DI CALORE ARIA-ACQUA	**ITALIANO**
MANUAL DE USUARIO BOMBA DE CALOR AIRE/AGUA	**ESPAÑOL**
GEBRUIKERSHANDLEIDING LUCHT-WATERWARMTEPOMP	**NEDERLANDS**
MANUAL DO UTILIZADOR BOMBA DE CALOR AR/ÁGUA	**PORTUGUÊS**
KULLANICI KILAVUZU HAVADAN SUYA ISI POMPASI	**TÜRKÇE**

CE   UK CA

English : Original instruction
Others : Translation of the original instruction

This heat pump complies with EMC Directive 2014/30/EU, LV Directive 2014/35/EU.
CE marking is applicable to the area of 50 Hz power supply.
This heat pump complies with EMC S.I. 2016/1091, EER S.I. 2016/1101.
UKCA marking is applicable to the area of 50Hz power supply.

Cette pompe à chaleur est conforme à la directive CEM 2014/30/UE et la directive BT 2014/35/UE.
Le marquage CE est applicable à la zone d'alimentation électrique de 50 Hz.

Diese Wärmepumpe erfüllt die EMV-Richtlinie 2014/30/EU und die Niederspannungsrichtlinie 2014/35/EU.
Die CE-Kennzeichnung gilt für die Gebiete mit einer Stromversorgung mit 50 Hz.

Questa pompa di calore è conforme alla direttiva EMC 2014/30/UE, direttiva Bassa tensione 2014/35/UE.
Il marchio CE è applicabile all'area di alimentazione a 50 Hz.

Esta bomba de calor cumple con la Directiva 2014/30/UE de CEM, Directiva 2014/35/UE de BT.
El marcado CE aplica al area con fuente de alimentación en 50 Hz.

Deze warmtepomp voldoet aan EMC-richtlijn 2014/30/EU, laagspanningsrichtlijn 2014/35/EU.
De CE-markering is van toepassing op gebieden met 50 Hz netvoeding.

Esta bomba de calor está em conformidade com a Diretiva CEM 2014/30/UE e Diretiva LV 2014/35/UE.
A marcação CE é aplicável à área de fonte de alimentação de 50 Hz.

Bu ısı pompası Elektromanyetik Uyumluluk (EMC) Direktifi 2014/30/EU, LV Direktifi 2014/35/EU ile uyumludur.
CE işareti 50 Hz güç kaynağı alanı için geçerlidir.

PSB012A025A

202312

● Compatibility

Compatible Controller (RC-HY)

		Outdoor unit	
		FDCM100VNX-W	FDCM140VNX-W
Controller	RC-HY20-W	○	○
	RC-HY40-W		

Safety precautions

ENGLISH

SAFETY PRECAUTIONS

■ Please read these "SAFETY PRECAUTIONS" before starting to use this product and use the product appropriately according to the instructions.

■ The precautions provided here are classified into "⚠ DANGER" and "⚠ CAUTION". The "⚠ DANGER" sections describe potentially hazardous situations that may lead to serious outcomes such as death and sericus injuries if the product is mishandled. Note, however, that depending on the situation, the items listed in the "⚠ CAUTION" sections do also have the potential of causing serious outcomes. Both warnings and cautions provide you important information related to safety ; please make sure to observe them.

■ The symbols used throughout the main text of this manual have the following meaning.

⚠ ⚠marks mean danger, alarm, and caution. The specified prohibited item is described in the triangle. The left mark means "Shock hazard alarm".

⃠ ⃠marks mean prohibited items. The specified prohibited item is described in the circle or in the vicinage.

♁ ♁marks mean compulsory action or instruction. The specified prohibited item is described in the circle. The left mark means "Earth is needed".

📖 The user's manual should be read carefully.

📖 There is information included in the user's manual and/or installation manual.

📖 A service personnel should be handing this equipment with reference to the installation manual.

NOTE
This indicates danger to machine or person.

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

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

■ After you have read the manual, always store it where other users can refer to at any time. If a new owner takes over the system, make sure to pass this manual. This heat pump complies with EMC Directive 2014/30/EC and EMC S.I. 2016/1091.

This appliance is designed for use in a home environment and can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children should not play with the appliance. Cleaning and user maintenance should not be made by children without supervision.
This in accordance to applicable parts of the low voltage directive 2014/35/EC, LVD and EER S.I. 2016/1101.
Its relevant outdoor unit and tanks are also intended for use by experts or trained users in shops, hotels, light industry, on farms and in similar environments.
CE and UKCA marking is applicable to the area of 50 Hz power supply.

▌Following precaution is only for R32.

⚠ This equipment uses flammable refrigerants. If the refrigerant is leaked, together with an external ignition source, there is a possibility of ignition.

⚠ DANGER

Strict compliance of the domestic laws must be observed when disposing the appliance. ♁

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer. ⃠

The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater). ♁

Do not pierce or burn. ⃠

Be aware that refrigerants may not contain an odour. ♁

The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.

The staff in servicing operations must hold the national qualification or other relevant qualifications.

INSTALLATION PRECAUTIONS

⚠ DANGER

Make sure to have the installation done by your dealer or a specialist.

If you install by yourself and the unit is not properly installed, water leakage, electric shock, fire and injuries caused by the drop of the unit may occur.

RC-HY20/40-W must be installed via an isolator switch with a minimum breaking gap of 3 mm.

If the power cable is found to be damaged, turn off the power and stop operation.

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

⚠ CAUTION

Make sure to perform grounding work.

Do not connect grounding wire to any gas pipe, water pipe, conductor rods or telephones. Incomplete grounding may cause electric shock through leakage of electricity.

Make sure to mount a leakage breaker.

Otherwise electric shock may occur. Please consult your dealer or a specialist for the mounting.

Do not mount where flammable gas leakage can happen.

If leaked gas stagnates in the unit, the gas may cause fire.

Make sure to layout the drain pipe so that the water is completely drained.

Otherwise, water may leak and wet household goods.

OPERATION PRECAUTIONS

⚠ DANGER

Do not expose yourself directly to radiator or any other heating device for a long time.

It may cause low temperature burn injury.

Do not set water temperature too high when under floor heating application is used.

It may cause low temperature burn injury.

Do not expose yourself directly to cooled air flow for a long time or cool too much.

It may be cause of deconditioning or health disorder.

Do not insert fingers or sticks into the air inlet or outlet grilles.

It may cause injuries because of the fan rotating at high speed.

If the unit has been submerged under water due to a natural disaster such as flood or typhoon, consult your dealer before using it again.

If you use it as it stands, it may lead to failure, electric shock or fire.

If any abnormal symptom (scorched flavor etc.) is found, cut off the power and stop the operation.
Then consult your dealer.

If you use it as it stands, it may lead to failure, electric shock or fire.

One of the causes of poor cooling or poor heating may be refrigerant leakage. Please consult your dealer.

If the repair requires additional refrigerant, determine the service with the service staff. The refrigerant of air conditioner is not toxic. Normally the refrigerant does not leak. But if it leaks and contacts fire such as fan heater, space heater or cooking heater, it may produce toxic chemicals.

Do not insert fingers or sticks even if air blower does not operate.

It may suddenly operate and cause injuries.

⚠ CAUTION

Do not use for particular purpose such as the storage of food, animals and plants, precision apparatus and arts etc.

Storage goods may degrade.

Do not operate the button with wet hand.

It may cause electric shock.

When a burning appliance is used together with the unit, ventilate frequently.

If ventilation is not sufficient, it may cause oxygen deficiency accident.

Do not place a burning appliance where the airflow from the unit is directly blown in case fan coil is used.

It may cause the imperfect combustion of the equipment.

Make sure that the unit installation foundation is not damaged due to long-term use.

If it is left to stand, the unit may fall down causing injury.

Do not lean on the unit.

It may overturn or fall if it is placed on unstable surface and if may cause injury.

Do not wash the unit with water, nor place a vase with water on the unit.

It may cause a electric shock or ignite.

Do not install the unit where the airflow is directly blown towards animals and plants.

They may suffer from adverse effect.

Before cleaning, make sure to stop operation and cut off the power.

The fan inside rotates at high speeds.

Make sure to use an appropriate fuse.

Using steel wire or copper wire may lead to failure or fire.

Do not store a flammable spray etc. near the unit, nor blow directly to the unit.

It may lead to fire.

Before maintenance, make sure to stop operation and cut off the power.

The fan inside rotates at high speeds.

Do not place any other electric appliances or household goods below or around the air conditioner.

Leakage from the unit may lead to failure or contamination.

Do not touch the aluminum fin.

Otherwise it may lead to injuries.

Do not clean the inside of the outdoor unit by yourself. Make sure to consult your dealer or user inquiry counter specified by our company.

If the detergent is dropped on the electric component or motor, it may lead to failure, smoking or ignition.

Do not place objects on the units, nor mount on it.

It may lead to injuries resulting from falling.

During the operation or maintenance, do not use an unstable footrest.

It may lead to injuries resulting from falling.

During thunderstorm, stop the operation and turn off the switch.

A lightning strike may lead to failure.

After several seasons of operating, inspections and maintenances are required except routine care and cleaning.

Accumulated dirt or dust inside the unit may cause odor, clogging of water discharging pipe. Specialized information and skills are required for inspections and maintenances. Therefore contact your dealer.

Do not place any object around the outdoor unit, nor allow fallen leaves to pile up.

Fallen leaves may induce insects and worms in them, and they may lead to failure, ignition or smoking by touching electric components.

Do not use with inlet/outlet grilles or other panel removed.

Otherwise, it may lead to injuries.

Do not operate or stop the unit by using the power supply switch. ⊘

It may lead to fire or water leakage. If auto restart is set effectively, the fan may rotate suddenly causing injuries.

Do not strain the controller cord. ⊘

A part of core wire may be cut off causing electric leakage.

Do not use water heater etc. near the controller. ⊘

If a Vapor-generating appliance is used near them, it may lead to water drop causing electric leakage or short circuit.

Do not use the unit where powder or fiber is floating. ⊘

Fine powder or fiber may stagnate inside the unit and lead to electric leak or short circuit.

Do not place objects under the unit which must avoid being exposed to water. ⊘

Over 80 percent humidity or the clogging of drain pipe may damage them through dew dropping.

■ **PRECAUTIONS FOR RELOCATION OR REPAIRING**

△ CAUTION

Never perform any modification. Contact your dealer for repairing. ❗

Improper repairing may lead to water leakage, electric shock or fire. Normally the refrigerant does not leak. But if it leaks and contacts fire such as fan heater, space heater or cooking heater, it may produce toxic chemicals. When repairing refrigerant leakage, determine the service with the service staff so that the repair has been finished without fault.

If it is required to relocate and reinstall the unit, consult your dealer or a specialist. ❗

Improper installation of air conditioning unit may cause water leakage, electric shock and/or fire.

Before repairing or checking the outdoor unit, be sure to turn off "outdoor unit power supply breaker". ❗

It can result in electric shock or injury due to rotation of outdoor unit fan if you perform check or repair with the "Outdoor unit power supply breaker" turned on.

Place the panels removed for repairing or checking on the stable spot. ❗

Otherwise, dropping or falling may lead to injury.

This manual is only for outdoor units connected to RC-HY20/40-W controllers and other accessories from MHI range. ❗

When you connect other controller to outdoor units, please refer to other manual.

If the temperature drops below zero and there is a possibility of power failure, there is serious danger of frost: if anti-freeze valves are not installed, drain the water system and the circuits of the heat pump. ❗

If the system is expected to remain idle for a long period, it is recommended to empty the liquid from the system. ❗

In the event of a prolonged power outage, close all shutoff valves in the water circuit and drain water from the outdoor water circuit through the drain valve inside unit. ❗

The main power source should keep turned on during low ambient season. ❗

If the power is turned off, it may cause freezing and/or damage to the unit.

General

Hydrolution EZY is a system for heating, cooling and producing hot water for small houses.

The system consists of an outdoor unit and a controller that supply and control the heat distribution in the house.

In order to get the best benefit from the system Hydrolution EZY you should read through the User's Manual.

Hydrolution EZY is a quality system offering a long service life and reliable operation.

NOTE

This Product contains fluorinated greenhouse gases.
Do not vent R32 into the atmosphere: R32 is a fluorinated greenhouse gas with a Global Warming Potential (GWP) = 675.
Refer to a label on outdoor unit for the weight of fluorinated greenhouse gas and CO2 equivalent.

The emission sound pressure level from each Indoor and Outdoor unit is under 70 dB(A).

Installation data

Completed by the installation engineer when the installation is installed

Installation data and installation check list on page 41 must be filled in by the installer in order for the warranty to apply.

Installation data

Controller	RC-HY20/40-W
Serial number	
Installation date	
Installer	
Indoor unit	
Outdoor unit	
Accessary	
Type of docking	

No.	Name	Default settings	Set
1.9.1	heating curve (offset/curve slope)	0 / 9	

Serial number

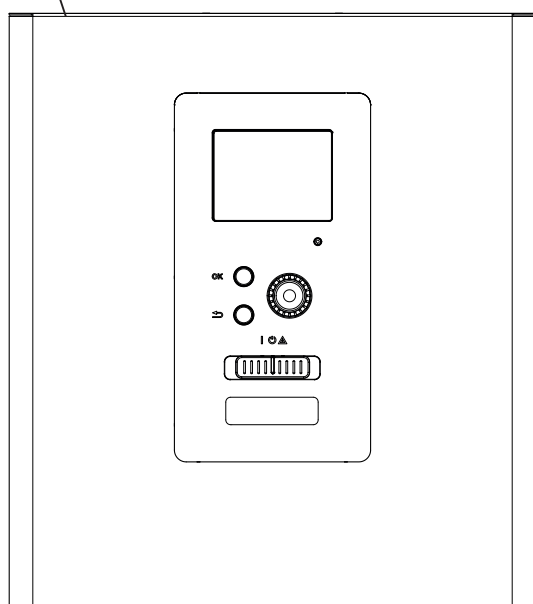### Serial number must always be given

It is hereby certified that the installation has been carried out according to instructions in the Installer Manual from MHI and applicable regulations.

Date _____   Signed _____

The serial number can be found on the top of the cover for the controller and in the info menu (menu 3.1).

Serial number

RC-HY20/40-W – An excellent choice

RC-HY20/40-W is an electric controller, which has been introduced to supply your home with inexpensive and environmentally friendly heating. Heat production is reliable and economical with a MHI air/water heat pump.

An additional heater (for example electric/oil/gas boiler) can engage automatically if something unexpected should occur or as reserve operation.

Excellent properties for RC-HY20/40-W:

■ Easy to read display

The controller has an easy-to-read colour display with easy-to-understand menus that facilitate setting a comfortable indoor climate.

■ Checks all of your installation

RC-HY20/40-W is installed together with one or more compatible MHI air/water heat pumps. The controller is connected to the heat pumps which means that all important settings can be made in RC-HY20/40-W. RC-HY20/40-W can control the whole heating installation and support many accessory functions.

Quick guide

Navigation

- Ok button (confirm/select)
- Control knob (move/increase/reduce)
- Back button (back/undo/exit)
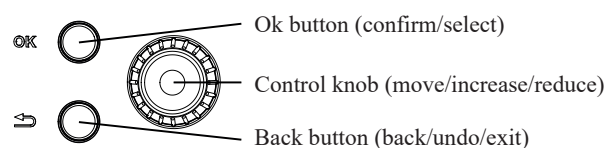
A detailed explanation of the button functions can be found on page 8.

How to scroll through menus and make different settings is described on page 10.

Set the indoor climate
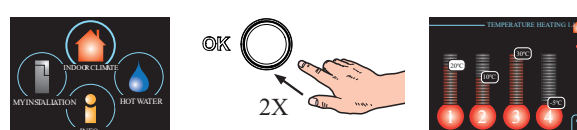
The mode for setting the indoor temperature is accessed by pressing the OK button twice, when in the start mode in the main menu. Read more about the settings on page 13.

Increase hot water volume

To temporarily increase the amount of hot water (if a hot water heater is installed to your RC-HY20/40-W), first turn the control knob to mark menu 2 (water droplet) and then press the OK button twice. Read more about the settings on page 21.

In event of disturbances in comfort

If a disturbance in comfort of any type occurs there are some measures that can be taken before you need to contact your installer. See page 36 for instructions.

The controller – the heart of the house

Controller function

RC-HY20/40-W is a simple electrical controller, which, together with MHI air/water heat pump, accumulator/water heater and additional heater (e.g. electric/oil/gas boiler), creates a complete installation. Among other things, it controls the heat pump, circulation pumps, reversing valves and additional heat to supply your home with inexpensive and environmentally friendly heating in the most efficient way.

Contact with RC-HY20/40-W

Display unit
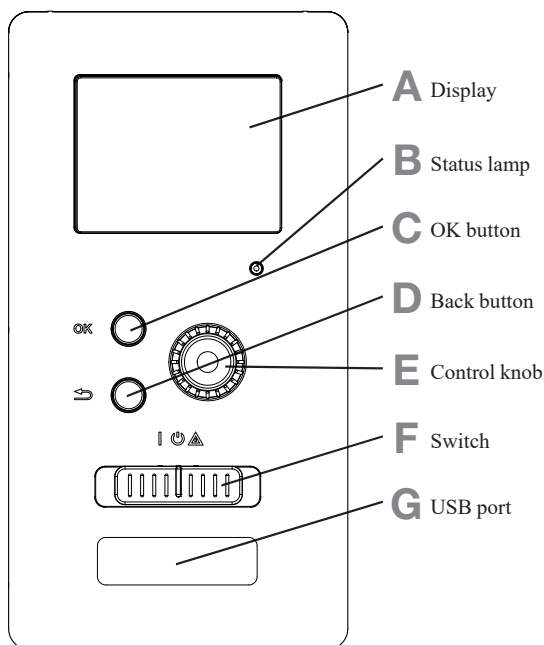
There is a display unit on the front of the controller, which is used to communicate with RC-HY20/40-W. Here you:

■ switch on, switch off or set the installation to emergency mode.

■ set the indoor climate and hot water as well as adjust the installation to your needs.

■ receive information about settings, status and events.

■ see different types of alarms and receive instructions about how they are to be rectified.

A Display

Instructions, settings and operational information are shown on the display. The easy-to-read display and menu system, make it easy to navigate between various menus and options, set comfort and get the necessary information.

B Status lamp

The status lamp indicates the status of the controller. It:

■ lights green during normal operation.

■ lights yellow in emergency mode.

■ lights red in the event of an alarm.

C OK button

The OK button is used to:

■ confirm selections of sub menus/options/set values/page in the start guide.

D Back button

The back button is used to:

■ go back to the previous menu.

■ change a setting that has not been confirmed.

E Control knob

The control knob can be turned to the right or left. You can:

■ scroll in menus and between options.

■ increase and decrease values.

■ change pages in multiple page instructions

(for example help text and service info).

F Switch (SF1)

The switch shows three positions:

■ On (|)

■ Standby (⏻)

■ Emergency mode (⚠)

Emergency mode must only be used in the event of a fault on the controller. In this mode, the compressor in the heat pump is turned off and the immersion heater is activate. The controller display is not illuminated and the status lamp lights yellow.

G USB port

The USB port is hidden behind the plastic badge of the product name.

The USB port is used to update the software.

Menu system

The menu system's four main menus are shown in the display as well as certain basic information.

RC-HY20-W

RC-HY40-W
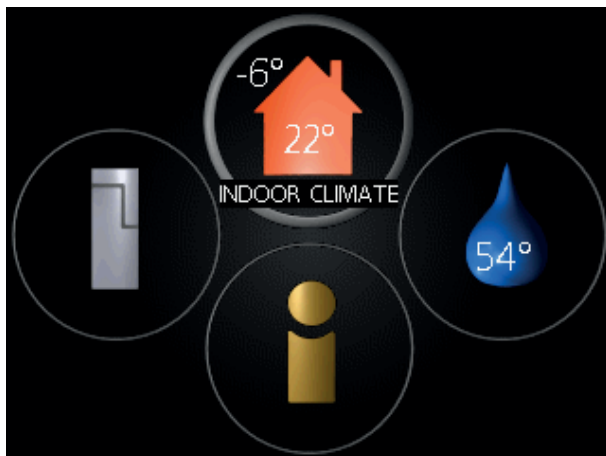
Menu 1 - INDOOR CLIMATE

Setting and scheduling the indoor climate. See page 13.

Menu 2 - HOT WATER

Setting and scheduling hot water production. See page 21.

This menu only appears if a water heater is installed in the system.

Menu 3 - INFO

Display of temperature and other operating information and access to the alarm log. See page 24.

Menu 4 - MY INSTALLATION

Setting time, date, language, display, operating mode etc. See information in the help menu or user manual.

Symbols in the display

The following symbols can appear in the display during operation.

Symbol	Description
	This symbol appears when there is information to be noticed in menu 3.1.
	These two symbols indicate whether the compressor in the outdoor unit or additional heat in the installation is blocked via controller. These functions will be blocked for example, when either of the operation mode is blocked in menu 4.2, when blocking of either function is scheduled in menu 4.9.5, or when an alarm for blocking the operation occurs. Blocking the compressor. Blocking additional heat.
	This symbol appears if periodic increase or lux mode for the hot water is activated.
	This symbol indicates if "holiday setting" is active in menu 4.7.
	This symbol indicates if the controller has contact with myUplink.
	This symbol indicates if cooling is active.
	This symbol indicates where pool heating is active. Accessory required - RC-HY40-W only.
	This symbol is visible in installations with active solar accessories.

Menu number – marked sub menu   Name and menu number – main menu

Symbol – main menu

INDOOR CLIMATE

MY INSTALLATION

INDOOR CLIMATE

HOT WATER

INFO

OK

1.1 temperature 25.0°

scheduling off

advanced

Marked main menu

Symbols – sub menus   Name – sub menus   Status information – sub menus
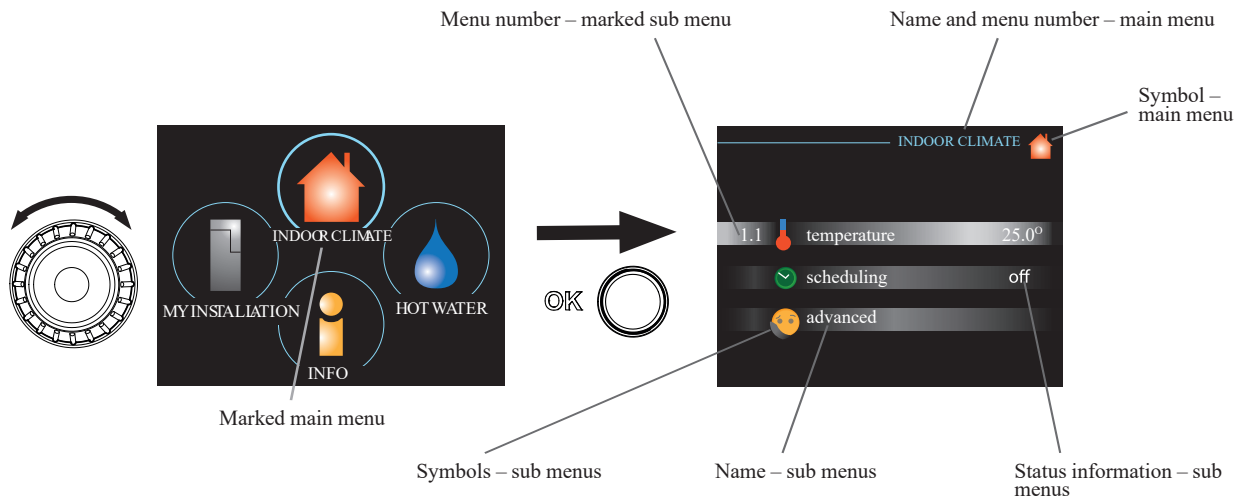
Operation

To move the cursor, turn the control knob to the left or the right. The marked position is brighter and/or has a light frame.

Selecting menu

To advance in the menu system select a main menu by marking it and then pressing the OK button. A new window opens with sub menus.

Select one of the sub menus by marking it and then pressing the OK button.

Selecting options

comfortmode 2.2

smart control

economy

normal

luxury
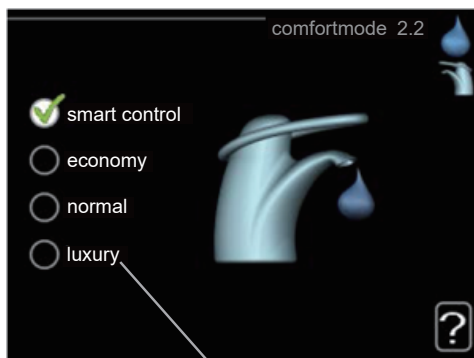
Alternative

In an options menu the current selected option is indicated by a green tick.

To select another option:

1. Mark the applicable option. One of the options is pre-selected (white).

2. Press the OK button to confirm the selected option.

The selected option has a green tick.

Setting a value

time & date 4.4

time

09 : 04   24 h

12 h

date

14 day   14.06.2013

06 month   2013-06-14

13 year

Stockholm

Values to be changed

To set a value:

1. Mark the value you want to set using the control knob.   01

2. Press the OK button. The background of the value becomes green, which means that you have accessed the setting mode.   01

3. Turn the control knob to the right to increase the value and to the left to reduce the value.   04

4. Press the OK button to confirm the value you have set. To change and return to the original value, press the Back button.   04

Use the virtual keyboard

Different keyboards
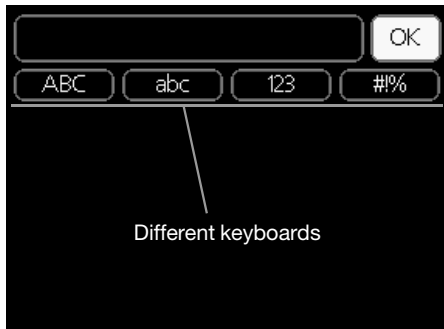
In some menus where text may require entering, a virtual keyboard is available.
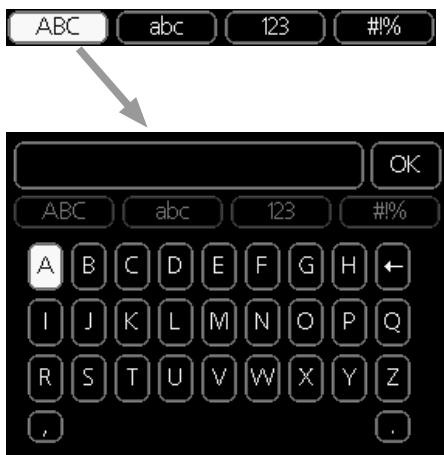
Depending on the menu, you can gain access to different character sets which you can select using the control knob. To change character table, press the Back button. If a menu only has one character set, the keyboard is displayed directly.

When you have finished writing, mark "OK" and press the OK button.

Scroll through the windows

A menu can consist of several windows. Turn the control knob to scroll between the windows.

Current menu   Number of windows
window   in the menu
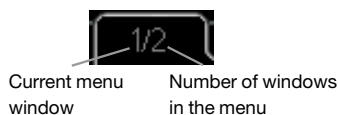
Scroll through the windows in the start guide

Current menu   Number of windows
window   in the menu
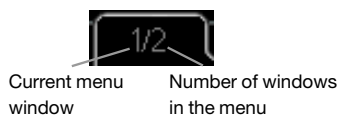
1. Turn the control knob until one of the arrows in the top left corner (at the page number) has been marked.

2. Press the OK button to skip between the steps in the start guide.

Help menu

In many menus there is a symbol that indicates that extra help is available.

To access the help text:

1. Use the control knob to select the help symbol.

2. Press the OK button.

The help text often consists of several windows that you can scroll between using the control knob.

Maintenance of RC-HY20/40-W

Regular checks

Your heat pump requires minimal maintenance after commissioning. On the other hand, it is recommended that you check your installation regularly. For more information regarding the maintenance of heat pumps and/or accumulator tanks/water heaters, refer to the relevant manual.

If something unusual occurs, messages about the malfunction appear in the display in the form of different alarm texts. See alarm management on page 36.

Saving tips

Your heat pump installation produces heat and hot water. This occurs via the control settings you made.

Factors that affect the energy consumption are, for example, indoor temperature, hot water consumption, the insulation level of the house and whether the house has many large window surfaces. The position of the house, e.g. wind exposure is also an affecting factor.

If you activate "Hot water Economy", less energy is used.

Power consumption

If you increase one degree of the desired indoor temperature, increases power consumption by approx. 5%.

Domestic electricity

In the past it has been calculated that an average Swedish household has an approximate annual consumption of 5000 kWh domestic electricity/year. In today's society it is usually between 6000-12000 kWh/year.

Equipment	Normal Output (W)		Approx. annual con- sump- tion (kWh)
	Opera- tion	Standby	
TV (Operation: 5 h/day, Standby: 19 h/day)	200	2	380
Digital box (Operation: 5 h/day, Standby:19 h/day)	11	10	90
DVD (Operation: 2 h/week)	15	5	45
TV games console (Operation: 6 h/week)	160	2	67
Radio/stereo (Operation: 3 h/day)	40	1	50
Computer incl. screen (Operation: 3 h/day, standby 21 h/day)	100	2	120
Bulb (Operation 8 h/day)	60	-	175
Spot light, Halogen (Operation 8 h/day)	20	-	58
Cooling (Operation: 24 h/day)	100	-	165
Freezer (Operation: 24 h/day)	120	-	380
Stove, hob (Operation: 40 min/day)	1500	-	365
Stove, oven (Operation: 2 h/week)	3000	-	310
Dishwasher, cold water connection (Operation 1 time/day)	2000	-	730
Washing machine (Operation: 1 times/day)	2000	-	730
Tumble drier (Operation: 1 times/day)	2000	-	730
Vacuum cleaner (Operation: 2 h/week)	1000	-	100
Engine block heater (Operation: 1 h/day, 4months a year)	400	-	50
Passenger compartment heater (Operation:1 h/day, 4 months a year)	800	-	100

These values are approximate example values.

Example: A family with 2 children live in a house with 1 flat-screen TV, 1 digital box, 1 DVD player, 1 TV games console, 2 computers, 3 stereos, 2 bulbs in the WC, 2 bulbs in the bathroom, 4 bulbs in the kitchen, 3 bulbs outside, a washing machine, tumble drier, fridge, freezer, oven, vacuum cleaner, engine block heater = 6240 kWh domestic electricity/year
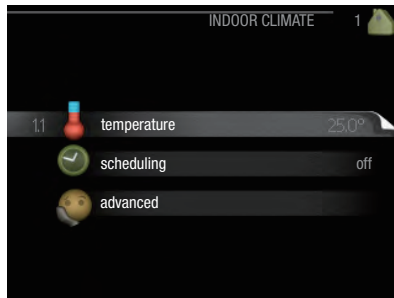
Energy meter

Check the accommodation's energy meter regularly, preferably once a month. This will indicate any changes in power consumption.

RC-HY20/40-W – at your service

Set the indoor climate

Overview

Sub-menus

For the menu "INDOOR CLIMATE" there are several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

"**temperature**" Setting the temperature for the climate system. The status information shows the set values for the climate system.

"**scheduling**" Scheduling heating and cooling. Status information "set" is displayed if you set a schedule but it is not active now, "holiday setting" is displayed if the vacation schedule is active at the same time as the schedule (the vacation function is prioritised), "active" displays if any part of the schedule is active, otherwise it displays " off".

"**advanced**" Setting of heat curve, adjusting with external contact, minimum value for supply temperature, room sensor and cooling function.

Menu 1.1 - temperature

If the house has several climate systems, this is indicated on the display by a thermometer for each system.

Choose heating or cooling and then set the desired temperature in the next menu "temperature heating/cooling" in menu 1.1.

Set the temperature (with room sensors installed and activated):
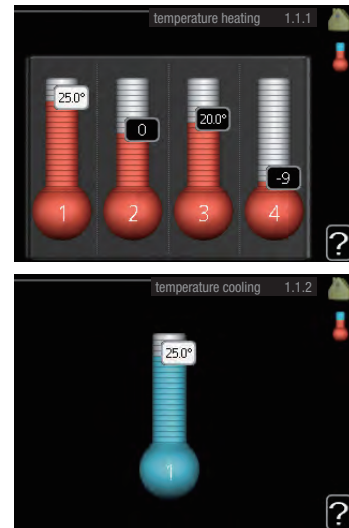
heating

Setting range: 5 – 30 °C
Default value: 20

cooling (accessory is required)

Setting range: 5 – 30 °C
Default value: 25

The value in the display appears as a temperature in °C if the climate system is controlled by a room sensor.

> **CAUTION**
>
> *A slow heat-releasing heating system, such as for example, underfloor heating, may not be suitable for control using the heat pump's room sensor.*

To change the room temperature, use the control knob to set the desired temperature in the display. Confirm the new setting by pressing the OK button. The new temperature is shown on the right-hand side of the symbol in the display.

Setting the temperature (without room sensors activated):

Setting range: -10 to +10
Default value: 0

The display shows the set values for heating (curve offset). To increase or reduce the indoor temperature, increase or reduce the value on the display.

Use the control knob to set a new value. Confirm the new setting by pressing the OK button.

The number of steps the value has to be changed to achieve a degree change of the indoor temperature depends on the heating installation. One step is usually enough but in some cases several steps may be required.

The new value is shown on the right-hand side of the symbol in the display.

CAUTION

An increase in the room temperature can be slowed by the thermostats for the radiators or under floor heating. Therefore, open the thermostats fully, except in those rooms where a cooler temperature is required, e.g. bedrooms.

TIP

Wait 24 hours before making a new setting, so that the room temperature has time to stabilise.

If it is cold outside temperature and the room temperature is too low, increase the curve slope in menu 1.9.1.1 by one increment.

If it is cold outside temperature and the room temperature is too high, reduce the curve slope in menu 1.9.1.1 by one increment.

If it is warm outside temperature and the room temperature is too low, increase the value in menu 1.1.1 by one increment.

If it is warm outside temperature and the room temperature is too high, reduce the value in menu 1.1.1 by one increment.

Menu 1.3 - temperature scheduling

In the menu scheduling indoor climate (heating/cooling) is scheduled for each weekday.

You can also schedule a longer period during a selected period (vacation) in menu 4.7.
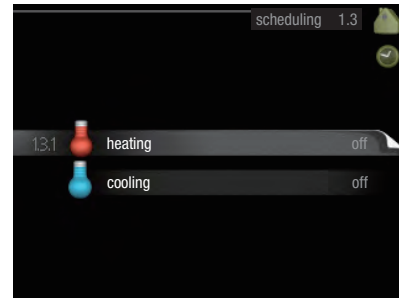
Menu 1.3.1 - heating

Increases or decreases in the accommodation temperature can be scheduled here for up to three time periods per day. One step is usually enough to change the room temperature by one degree, but in some cases several steps may be required for the accommodation temperature.

If a room sensor is installed and activated, the desired room temperature (°C) is set during the time periods.
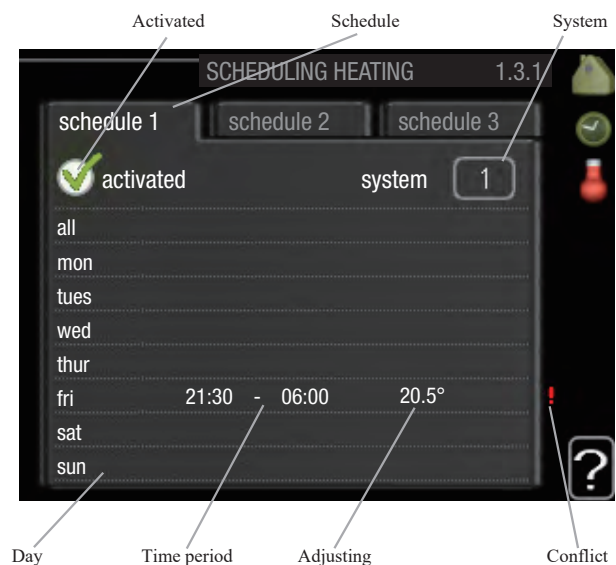
Schedule: The schedule to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

System (RC-HY40-W only): Which climate system the schedule is for is selected here. This alternative is only displayed if more than one climate system is present.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Adjusting: How much the heating curve is to be offset in relation to menu 1.1 during scheduling is set here. If the rooms sensor is installed and activated, the desired room temperature is set in °C.

Conflict: If two settings conflict with each other a red exclamation mark is displayed.

> **TIP**
>
> *If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.*

> **TIP**
>
> *Set the stop time earlier than the start time so that the period extends beyond midnight. Scheduling then stops at the set stop time the day after.*
>
> *Scheduling always starts on the date that the start time is set for.*

> **CAUTION**
>
> *Changes of temperature in accommodation take time. For example, short time periods in combination with underfloor heating will not give a noticeable difference in room temperature.*

Menu 1.3.2 - cooling

Here you can schedule when cooling is permitted in the accommodation for up to two different time periods per day.
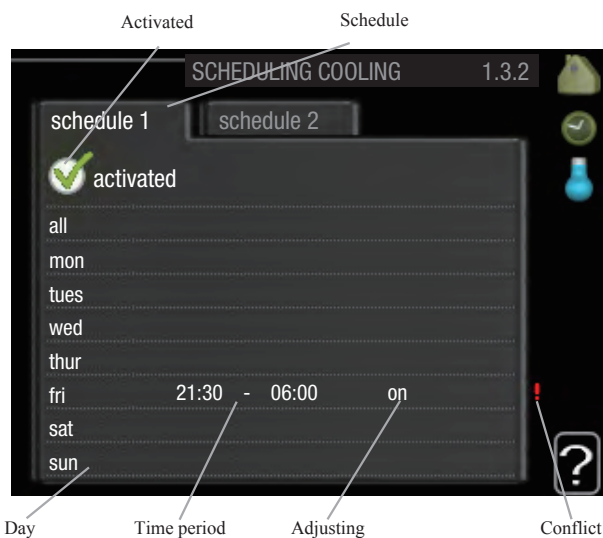
Schedule: The schedule to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Adjusting: Here, you set when active cooling will not be permitted.

Conflict: If two settings conflict with each other a red exclamation mark is displayed.

> **TIP**
>
> *If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.*

> **TIP**
>
> *Set the stop time earlier than the start time so that the period extends beyond midnight. Scheduling then stops at the set stop time the day after.*
>
> *Scheduling always starts on the date that the start time is set for.*

Menu 1.9 - advanced

Menu "advanced" has orange text and is intended for the advanced user. This menu has several sub-menus.

"**curve**" Setting the curve slope for heating and cooling.

"**external adjustment**" Setting the heat curve offset when the external contact is connected.

"**min. flow line temp.**" Setting minimum permitted flow line temperature.

"**room sensor settings**" Settings regarding the room sensor. "**cooling settings**" Settings for cooling.

"**own curve**" Setting own curve for heating and cooling.

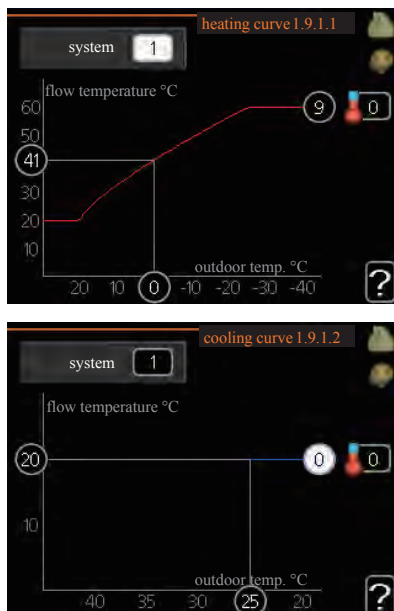"**point offset**" Setting the offset of the heating curve or cooling curve at a specific outdoor temperature.

Menu 1.9.1 - Heating/cooling curve setting

heating curve

Setting range: 0 – 15
Default value: 9

cooling curve (accessory required)

Setting range: 0 – 9
Default value: 0

The prescribed heating curve for your house can be viewed in the menu "heating curve". The task of the heating curve is to give an even indoor temperature, regardless of the outdoor temperature, and thereby energy efficient operation. From this heating curve, the controller determines the temperature of the water to the heating system, supply temperature, and therefore the indoor temperature. Select the heating curve and read off how the supply temperature changes at different outdoor temperatures here. If there is cooling function, the same settings can be made for the cooling curve.

Curve coefficient

The heating/cooling curve shows the relation between the target supply temperature and the corresponding outdoor temperature. A steep curve indicates that supply temperature becomes higher at low outdoor air temperature in heating and it becomes lower at high outdoor air temperature in cooling.
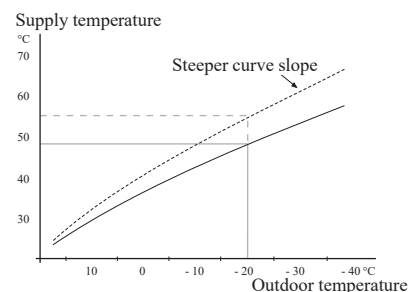
The optimum slope depends on the climate conditions in your location, the type of heating device (radiators or under floor heating) and how well insulated the house is.

The curve is set when the heating installation is installed, but may need adjusting later. Normally, the curve will not need further adjustment.

┌─ **CAUTION** ──────────────────────┐
│ *In the event of making fine adjustments of the indoor* │
│ *temperature, the curve must be offset up or down instead,* │
│ *this is done in menu 1.1 "temperature".* │
└────────────────────────────────────┘

Curve offset

The target temperature can be offset in parallel over the entire outdoor temperature range by this function. This is offset by 5 °C by adjusting 2 steps.

The target temperature can be parallel offset in the entire outdoor temperature range with this function. It is offset by 5 °C by adjusting 2 steps.
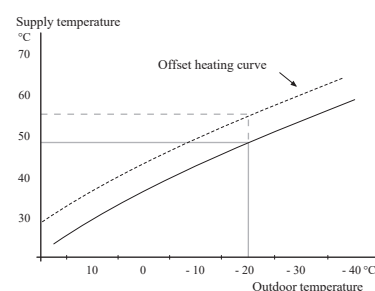
Flow line temperature – maximum and minimum values

This function is used in order to limit max-min supply temperature. The heating / cooling curve becomes flat beyond max / min target temperature.

⌐ **CAUTION** ────────

Underfloor heating systems are normally "max flow line temperature" set between 35 and 45°C. Take care not to cause low temperature burns in case it is set higher than 35°C.

Must be restricted with underfloor cooling min. flow line temp. to prevent condensation.

Check the max temperature for your floor with your installer/floor supplier.
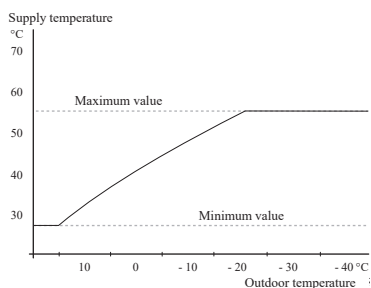

The figure at the end of the curve indicates the curve number. The figure beside the thermometer icon gives the curve offset. Use the control knob to set a new value.

Confirm the new setting by pressing the OK button.

Curve 0 is an own curve created in menu 1.9.7.

To select another curve (slope):

1. Press OK button to access the setting mode

2. Select a new curve. The curves are numbered from 0 to 15, and the bigger number curve has steeper slope.

   Curve 0 means that "own curve" (menu 1.9.7) is used.

3. Press OK button to exit the setting.

To read off a curve:

1. Turn the control knob so that the ring on the shaft with the outdoor temperature is marked.

2. Press OK button.

3. Follow the grey line up to the curve and out to the left to read off the value for the supply temperature at the selected outdoor temperature.

4. You can now select to take read outs for different outdoor temperatures by turning the control knob to the right or left and read off the corresponding flow temperature.

5. Press OK or Back button to exit read off mode.

⌐ **TIP** ────────

Wait 24 hours before making a new setting, so that the room temperature has time to stabilise.

If it is cold outdoors and the room temperature is too low, increase the curve slope by one increment.

If it is cold outdoors and the room temperature is too high, lower the curve slope by one increment.

If it is warm outdoors and the room temperature is too low, increase the curve offset by one increment.

If it is warm outdoors and the room temperature is too high, lower the curve offset by one increment.

Menu 1.9.2 - external adjustment
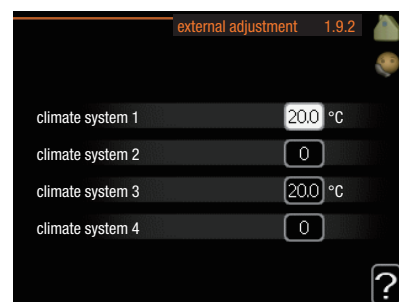
*If there is one climate system, display shows "climate system 1" only.

climate system

Setting range: -10 to +10 or desired room temperature if the room sensor is installed.

Default value: 0

Connecting an external contact, for example, a room thermostat or a timer allows you to temporarily or periodically increase or decrease the room temperature while heating. When the contact is on, the heating curve offset is changed by the number of steps selected in the menu. If a room sensor is installed and activated the desired room temperature (°C) is set.

If there is more than one climate system the setting can be made separately for each system.

Menu 1.9.3 - min. flow line temp.
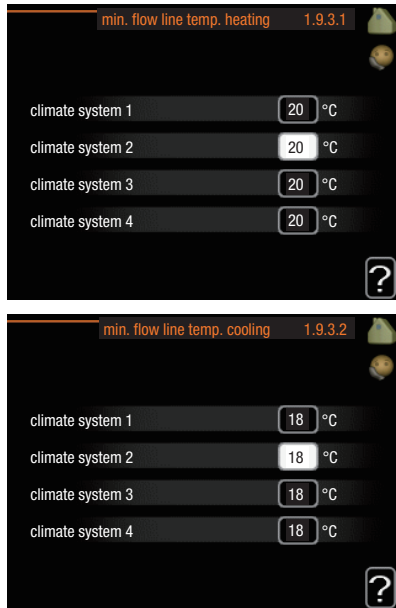
*If there is one climate system, display shows "climate system 1" only.

heating

Setting range: 5 – 70 °C
Default value: 20 °C

cooling (heat pump with cooling function required)

Depending on which cooling function (2 pipe /4 pipe-system) is used, the lower limit of the setting range can vary from 7 to 18 °C.

Setting range: 7 – 30 °C
Factory setting: 18 °C

In menu 1.9.3 you select heating or cooling, in the next menu (min. supply temp.heating/cooling) set the minimum temperature on the supply temperature to the climate system. This means that RC-HY20/40-W never calculates a temperature lower than that set here.
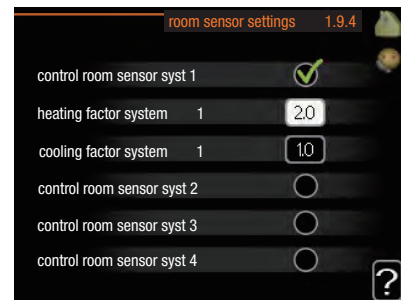
If there is more than one climate system the setting can be made separately for each system.

> **TIP**
>
> *The value can be increased if you have, for example, a cellar that you always want to heat, even in summer.*
>
> *You may also need to increase the value in "stop heating" menu 4.9.2 "auto mode setting".*

Menu 1.9.4 - room sensor settings

factor system

*If there is one climate system, display shows "control room sensor system 1" only.

heating

Setting range: 0.0 – 6.0
Factory setting heating: 2.0

cooling (accessory required)

Setting range: 0.0 – 6.0
Factory setting cooling: 1.0

Room sensors to control the room temperature can be activated here.

> **CAUTION**
>
> *A slow heat-releasing heating system, such as for example, underfloor heating, may not be suitable for control using the heat pump's room sensor.*

Here you can set a factor (a numerical value) that determines how much an over or sub normal temperature (the difference between the desired and actual room temperature) in the room is to affect the supply temperature to the climate system. A higher value gives a greater and faster change of the heating curve's set offset.

> **NOTE**
>
> *Too high a set value for "factor system" can (depending on your climate system) produce an unstable room temperature.*

If several climate systems are installed the above settings can be made for the relevant systems.

Menu 1.9.5 - cooling settings
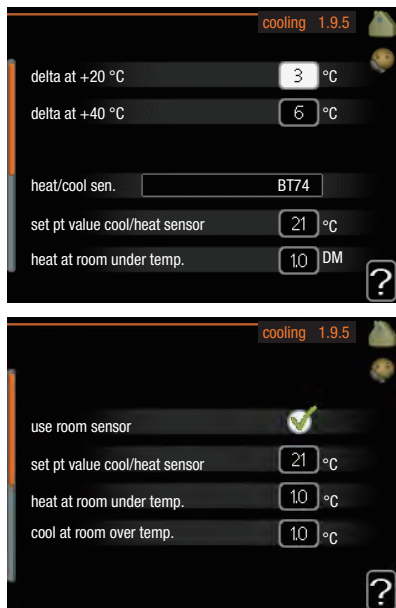
delta at +20 °C

Setting range: 3 – 10 °C
Factory setting: 3

delta at +40 °C

Setting range: 3 – 20 °C
Factory setting: 6

heat/cool sen.

Setting range: BT74 (BT50, RMU-BT50)
Factory setting: BT74

set pt value cool/heat sensor

Setting range: 5 – 40 °C
Factory setting: 21

heat at room under temp.

Setting range: 0.5 – 10.0 °C
Default value: 1.0

cool at room over temp.

Setting range: 0.5 – 10.0 °C
Default value: 3.0

start active cooling

Setting range: 10 – 300 DM
Factory setting: 30 DM

step difference compressors (RC-HY40-W only)

Setting range: 10 – 150
Default value: 30

degree minutes cooling (RC-HY40-W only)

Setting range: -3000 – 3000 cooling degree minutes
Factory setting: -1

time betw. switch heat/cool

Setting range: 0 – 48 h
Factory setting: 2

You can use RC-HY20/40-W to cool the house during hot periods of the year.

> **CAUTION**
>
> *Certain setting options only appear if their function is installed and activated in RC-HY20/40-W.*

delta at +20 °C

Set the desired temperature difference between supply and return lines to the climate system during cooling operation when the outdoor temperature is +20 °C. RC-HY20/40-W then attempts to get as close to the set temperature as possible.

delta at +40 °C

Set the desired temperature difference between supply and return lines to the climate system during cooling operation when the outdoor temperature is +40 °C. RC-HY20/40-W then attempts to get as close to the set temperature as possible.

heat/cool sen.

If a particular room will determine how the whole installation will work, a room sensor (BT74) is used. If room sensor (BT74) is connected to RC-HY20/40-W, room sensor (BT74) determines when it is time to switch between cooling and heating operation for the whole installation.

> **CAUTION**
>
> *When the heating/cooling sensors (BT74) have been connected and activated in menu 5.4, no other sensor can be selected in menu 1.9.5.*

set pt value cool/heat sensor

Here you can set at which indoor temperature RC-HY20/40-W is to shift between heating respectively cooling operation.

heat at room under temp.

Here you can set how far the room temperature can drop below the desired temperature before RC-HY20/40-W switches to heating operation.

cool at room over temp.

Here you can set how high the room temperature can increase above the desired temperature before RC-HY20/40-W switches to cooling operation.

start active cooling

Here you can set when active cooling is to start.

Degree minutes are a measurement of the current heating demand in the house and determine when the compressor, cooling operation respectively additional heat will start/stop.

step difference compressors (RC-HY40-W only)

> ⌐ **CAUTION** ┐
>
> *This setting option only appears if cooling is activated in menu 5.2.4.*

The degree minute difference for controlling when the next compressor is to start is set here.

degree minutes cooling (RC-HY40-W only)

This selection is only available when the connected accessory itself counts cooling degree minutes.

After a min or max value has been set, the system will automatically set the real value in relation to the number of compressors that are running cooling.

time betw. switch heat/cool

This selection is only available in cooling 2 pipe systems.

Here you can set how long RC-HY20/40-W is to wait before it returns to heating mode when the cooling demand has ceased or vice versa.

Menu 1.9.7 - own curve

supply temperature
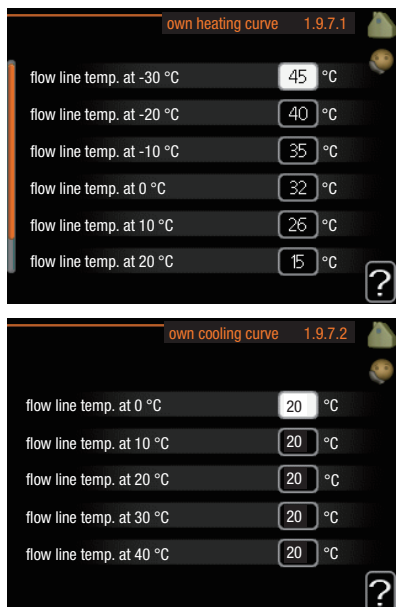
heating

Setting range: 5 – 70 °C

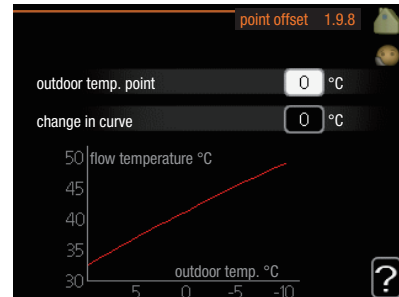**cooling (accessory required)**

Depending on which accessory is used the setting range can vary.

Setting range: 7 – 40 °C

Create your own heating or cooling curve here, by setting the desired supply temperatures for different outdoor temperatures.

> ⌐ **CAUTION** ┐
>
> *Curve 0 in menu 1.9.1 must be selected for own curve to apply.*

Menu 1.9.8 - point offset

outdoor temp. point

Setting range: -40 – 30 °C
Default value: 0 °C

change in curve

Setting range: -10 – 10 °C
Default value: 0 °C

Select a change in the heating curve at a certain outdoor temperature here. One step is usually enough to change the room temperature by one degree, but in some cases several steps may be required.

The heat curve is affected at ± 5 °C from set outdoor temp. point.

It is important that the correct heating curve is selected so that the room temperature is experienced as even.

> ⌐ **TIP** ┐
>
> *If it is cold in the house, at, for example -2 °C, "outdoor temp. point" is set to "-2" and "change in curve" is increased until the desired room temperature is maintained.*

> ⌐ **CAUTION** ┐
>
> *Wait 24 hours before making a new setting, so that the room temperature has time to stabilise.*

Set the hot water capacity

Overview

Sub-menus

This menu only appears if a water heater is docked to the heat pump.

For the menu "HOT WATER" there are several sub-menus. Status information for the relevant menu can be found on the display to the following menus.


"**temporary lux**" Activation of temporary increase in the hot water temperature. Status information displays "off" or what length of time of the temporary temperature increase remains.

"**comfort mode**" Setting hot water comfort. The status information displays what mode is selected, "economy", "normal" or "luxury".

"**scheduling**" Scheduling hot water comfort. The status information "set" appears if you have set scheduling but it is not currently active, "holiday setting" appears if holiday setting is active at the same time as scheduling (when the holiday function is prioritised), "active" appears if any part of scheduling is active, otherwise "off" appears.

"**advanced**" Setting periodic increase in the hot water temperature.

Menu 2.1 - temporary lux
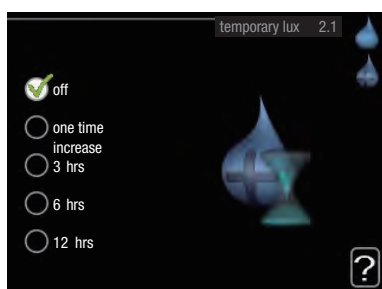
Setting range: 3, 6 and 12 hours
and mode "off" and "one time increase"
Default value: "off"

When hot water requirement has temporarily increased this menu can be used to select an increase in the hot water temperature to lux mode for a selectable time.

CAUTION

If comfort mode "luxury" is selected in menu 2.2 no further increase can be carried out.

The function is activated immediately when a time period is selected and confirmed using the OK button. The remaining time for the selected setting is shown to the right.

When the time has run out RC-HY20/40-W returns to the mode set in menu 2.2. Select "off" to switch off temporary lux .

Menu 2.2- comfort mode

Setting range: economy, normal, luxury
Default value: normal

The difference between the selectable modes is the temperature of the hot tap water. Higher temperature means that the hot water lasts longer.

smart control: In this menu you activate the Smart Control function. The function learns the previous week's hot water consumption and adapts the temperature in the water heater for the coming week to ensure minimal energy consumption. If the hot water demand is greater, there is a certain additional amount of hot water available. When the Smart Control function is activated, the water heater delivers the reported performance according to the energy decal.

economy: This mode gives less hot water than the others, but is more economical. This mode can be used in smaller households with a small hot water requirement.

normal: Normal mode gives a larger amount of hot water than the economy mode and is suitable for most households.

luxury: Lux mode gives the greatest possible amount of hot water. In this mode, the immersion heater, as well as the compressor, is used to heat hot water, which may increase operating costs.

Menu 2.3 - scheduling

Two different periods of hot water comfort per day can be scheduled here.

Scheduling is activated/deactivated by ticking/unticking" activated". Set times are not affected at deactivation.
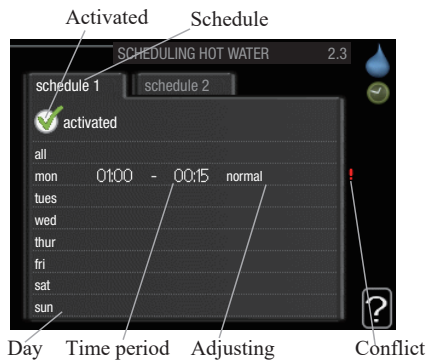
Schedule: The schedule to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the schedule is to apply to here.

To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Adjusting: Set the hot water comfort that is to apply during scheduling here.

Conflict: If two settings conflict with each other a red exclamation mark is displayed.

> ┌─ **TIP** ─────────────────
> *If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.*
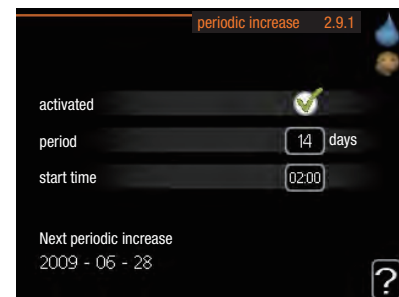
> ┌─ **TIP** ─────────────────
> *Set the stop time earlier than the start time so that the period extends beyond midnight. Scheduling then stops at the set stop time the day after.*
>
> *Scheduling always starts on the date that the start time is set for.*

Menu 2.9 - advanced

Menu "advanced" has orange text and is intended for the advanced user. This menu has several sub-menus.
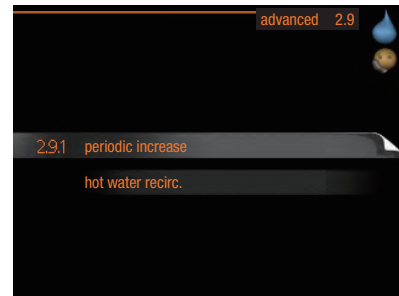
Menu 2.9.1 - periodic increase

period

Setting range: 1 – 90 days

Default value: 14 days

start time

Setting range: 00:00 – 23:00

Default value: 00:00

To prevent bacterial growth in the water heater, the heat pump and any additional heater can increase the hot water temperature for a short time at regular intervals.

The length of time between increases can be selected here. The time can be set between 1 and 90 days. Factory setting is 14 days. Tick/untick "activated" to start/switch off the function.

Menu 2.9.2 - hot water recirc. (accessory required)

operating time

Setting range: 1 – 60 min

Default value: 60 min

downtime

Setting range: 0 – 60 min

Default value: 0 min

Set the hot water circulation for up to three periods per day here. During the set periods the hot water circulation pump will run according to the settings above.

"operating time" decide how long the hot water circulation pump must run per operating instance.

"downtime" decide how long the hot water circulation pump must be stationary during operating instances.

Hot water circulation is activated in menu 5.4 "soft inputs and outputs".

Get information

Overview

Sub-menus

For the menu "INFO" there are several sub-menus. No settings can be made in these menus, they just display information. Status information for the relevant menu can be found on the display to the following menus.
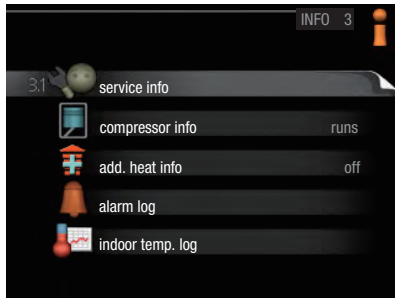
"**service info**" shows temperature levels and settings in the installation.

"**compressor info**" shows operating times, number of starts etc for the compressor in the heat pump.

"**add. heat info**" displays information about the additional heat's operating times etc.
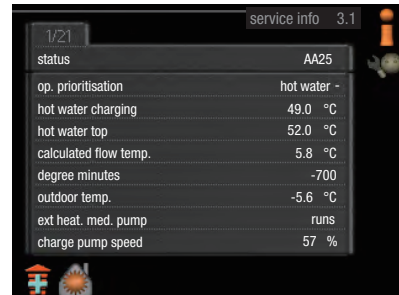
"**alarm log**" shows the latest alarms.

"**indoor temp. log**" the average temperature indoors week by week during the past year.

Menu 3.1 - service info

Information about the actual operating status of the installation (e.g. current temperatures etc.) can be obtained here. But no changes can be made.

The information is on several pages. Turn the control knob to scroll between the pages.

Symbols in this menu:

Compressor		Heating	
Addition		Hot water	
Cooling			
Heating medium pump (orange)			
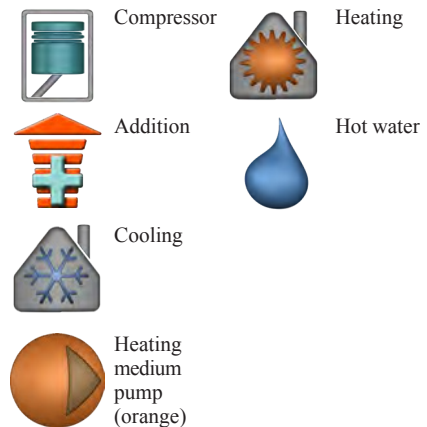
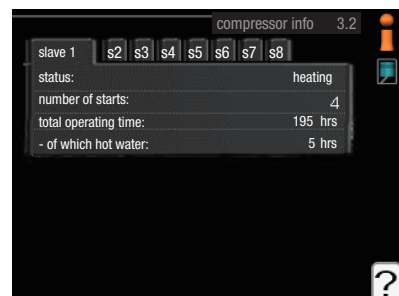## Menu 3.2 - compressor info

Information about the compressor's operating status and statistics can be obtained here. But no changes can be made.

If there is more than one climate system the information is on several pages. Turn the control knob to scroll between the pages.

Menu 3.3 - add. heat info

Information about the additional heat's settings, operating status and statistics can be obtained here. But no changes can be made.

If there is more than are climate system the information is on several pages. Turn the control knob to scroll between the pages.
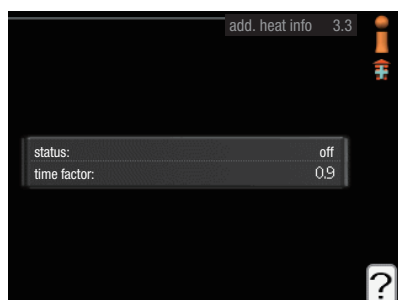
Menu 3.4 - alarm log

To facilitate fault-finding the installation's operating status at alarm alerts is stored here. You can see information for the 10 most recent alarms.

To view the run status in the event of an alarm, mark the alarm and press the OK button.
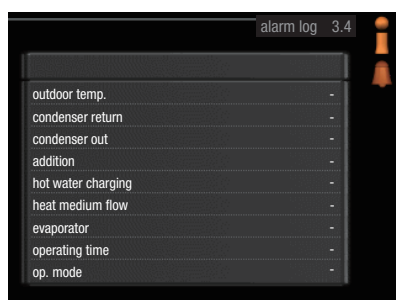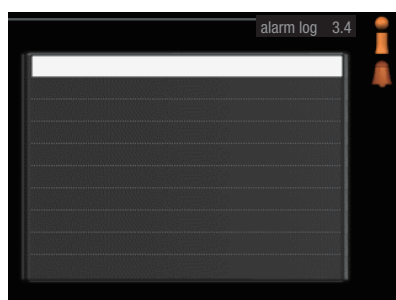
Information about an alarm.

Menu 3.5 - indoor temp. log

Here you can see the average temperature indoors week by week during the past year. The dotted line indicates the annual average temperature.

The average outdoor temperature is only shown if a room temperature sensor/room unit is installed.

To read off an average temperature

1 Turn the control knob so that the ring on the shaft with the week number is marked.

2 Press the OK button.

3. Follow the grey line up to the graph and out to the left to read off the average indoor temperature at the selected week.

4. You can now select to take read outs for different weeks by turning the control knob to the right or left and read off the average temperature.

5. Press the OK or Back button to exit read off mode.
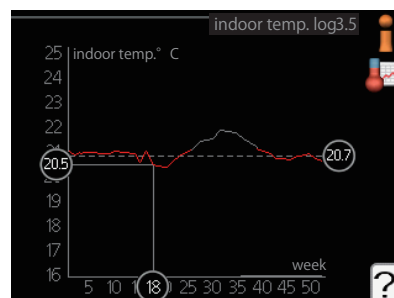
Adjust the heat pump

Overview

Sub-menus

For the menu "MY SYSTEM" there are several sub-menus. Status information for the relevant menu can be found on the display to the right of the menus.

"**plus functions**" Settings applying to any installed extra functions in the heating system.
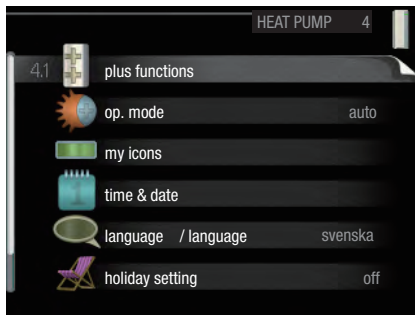
"**op. mode**" Activation of manual or automatic operating mode. The status information shows the selected operating mode.

"**my icons**" Settings regarding which icons in the control module's user interface that are to appear on the hatch when the door is closed.

"**time & date**" Setting current time and date.

"**language**" Select the language for the display here. The status information shows the selected language.

"**holiday setting**" Vacation scheduling heating, hot water and ventilation. Status information "set" is displayed if you set a vacation schedule but it is not active at the moment, "active" is displayed if any part of the vacation schedule is active, otherwise it displays " off".
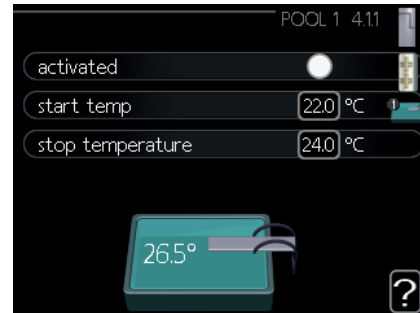
"**advanced**" Settings of controller work mode.

Menu 4.1 - plus functions

Settings for any additional functions installed in RC-HY20/40-W can be made in the sub menus.

Menu 4.1.1/4.1.2 - Pool 1/Pool 2

Here you can activate pool heating and set start and stop temperatures.

start temp

Setting range: 5 – 80 °C
Default value: 22 °C

stop temperature

Setting range: 5 – 80 °C
Default value: 24 °C

maximum number of compr. (Cascade only)

Setting range: 1-8
Default value: 8

Select whether the pool control is to be activated, within what temperatures (start and stop temperature) pool heating must occur and how many compressors may work again the pool at the same time.

Maximum number of compressors gives the possibility of restricting the number of compressors that are permitted to work with pool heating. The setting can be adjusted if requirements other than pool heating must be prioritised for example.

When the pool temperature drops below the set temperature and there is no hot water or heating requirement, RC-HY40-W starts pool heating.
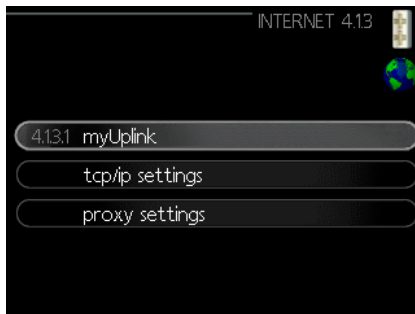
Untick "activated" to switch off the pool heating.

> ⚠ **CAUTION**
>
> *The start temperature cannot be set to a value that is higher than the stop temperature.*

Menu 4.1.3 - internet

Here you make settings for connecting RC-HY20/40-W to the internet.

NOTE

For these functions to work the network cable must be connected.

Menu 4.1.3.1 - myUplink

Here you can manage the installation's connection to myUplink (www.myuplink.com or download myUplink app on Google Play Store/Apple Store) see the number of users connected to the installation via the internet.

A connected user has a user account in myUplink, which has been given permission to control and/or monitor your installation.
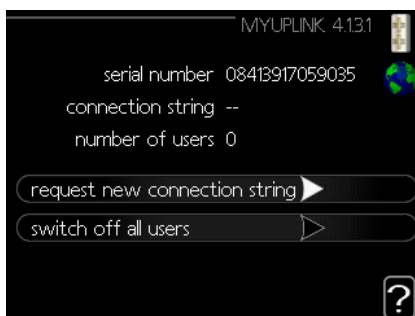
Request new connection string

To connect a user account on myUplink to your installation, you must request a unique connection code.

1. Mark "request new connection string" and press the OK button.

2. The installation now communicates with myUplink to create a connection code.

3. When a connection string has been received, it is shown in this menu at "connection string" and is valid for 60 minutes.

Disconnect all users

1. Mark "switch off all users" and press the OK button.

2. The installation now communicates with myUplink to release your installation from all users connected via the internet.

NOTE

After disconnecting all users, none of them can monitor or control your installation via myUplink without requesting a new connection code

---

Menu 4.1.3.8 - tcp/ip settings

You can set TCP/IP settings for your installation here.

Automatic setting (DHCP)

1. Tick "automatic". The installation now receives the TCP/IP settings using DHCP.

2. Mark "confirm" and press the OK button.
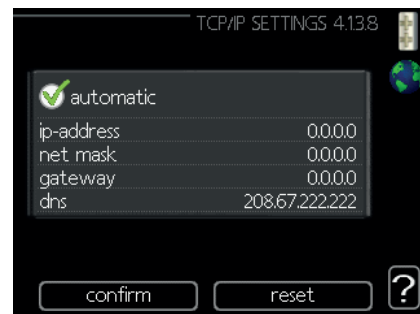
Manual setting

1. Untick "automatic", you now have access to several setting options.

2. Mark "ip-address" and press the OK button.

3. Enter the correct details via the virtual keypad.

4. Mark "OK" and press the OK button.

5. Repeat 1 - 3 for "net mask", "gateway" and "dns".

6. Mark "confirm" and press the OK button.

CAUTION

The installation cannot connect to the internet without the correct TCP/IP settings. If unsure about applicable settings use the automatic mode or contact your network administrator (or similar) for further information.

TIP

All settings made since opening the menu can be reset by marking "reset" and pressing the OK button.

Menu 4.1.3.9 - proxy settings

You can set proxy settings for your installation here.

Proxy settings are used to give connection information to a intermediate server (proxy server) between the installation and Internet. These settings are primarily used when the installation connects to the Internet via a company network. The installation supports proxy authentication of the HTTP Basic and HTTP Digest type.

If unsure about applicable settings, contact your network administrator (or similar) for further information.
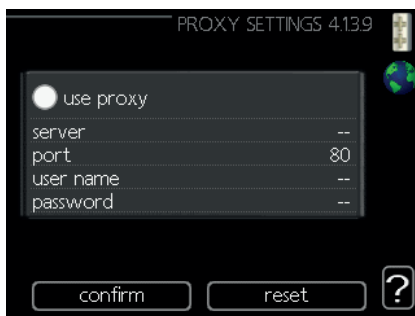
Setting

1. Tick "use proxy" if you do not want to use a proxy.
2. Mark "server" and press the OK button.
3. Enter the correct details via the virtual keypad.
4. Mark "OK" and press the OK button.
5. Repeat 1 - 3 for "port", "user name" and "password".
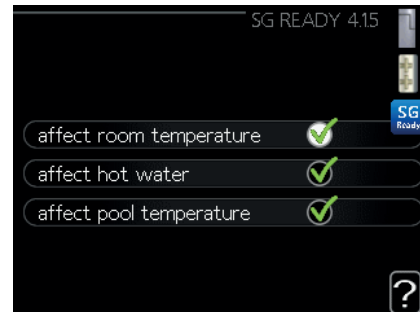6. Mark "confirm" and press the OK button.

> **TIP**
>
> *All settings made since opening the menu can be reset by marking "reset" and pressing the OK button.*

Menu 4.1.5 - SG Ready

This function can only be used in SG Ready 4.1.5 mains networks that support the "SG Ready"-standard .

Make settings for the function "SG Ready" here.

affect room temperature

Here you set whether room temperature should be affected when activating "SG Ready".

With low price mode on "SG Ready" the parallel offset for the indoor temperature is increased by "+1". If a room sensor is installed and activated, the desired room temperature is instead increased by 1 °C.

With over capacity mode on "SG Ready" the parallel offset for the indoor temperature is increased by "+2". If a room sensor is installed and activated, the desired room temperature is instead increased by 2 °C.

affect hot water

Here you set whether the temperature of the hot water should be affected when activating "SG Ready".

With low price mode on "SG Ready" the stop temperature of the hot water is set as high as possible at only compressor operation (immersion heater not permitted).

With over capacity mode of "SG Ready" the hot water is set to "luxury" (immersion heater permitted).

affect cooling (accessory required)

Here you set whether room temperature during cooling operation should be affected when activating "SG Ready".

With low price mode of "SG Ready" and cooling operation the indoor temperature is not affected.

With over capacity mode on "SG Ready" and cooling operation, the parallel offset for the indoor temperature is reduced by "-1". If a room sensor is installed and activated, the desired room temperature is instead reduced by 1 °C.

> **NOTE**
>
> *The function must be connected and activated in your RC-HY20/40-W.*

Menu 4.1.6 - Smart price adaption™

area

In this menu you state where the heat pump is located and how great a role the electricity price should play. The greater the value, the greater the effect the electricity price has and the possible savings are larger, but at the same time there is an increased risk of affecting comfort. Smart price adaption is available on selected markets, at present Austria, Denmark, Estonia, Finland, Norway and Sweden.
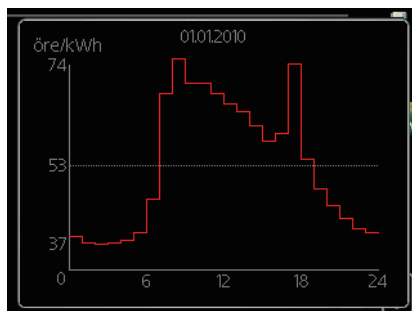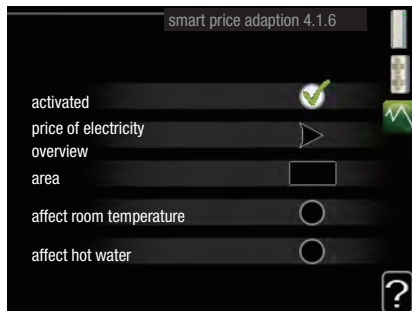
price of electricity overview

Here you can obtain information on how the electricity price varies over up to three days.

affect room temperature

Setting range: 1 – 10
Factory setting: 5

affect hot water

Setting range: 1 – 4
Factory setting: 2

affect cooling

Setting range: 1 – 10
Factory setting: 3

Smart price adaption™ moves the heat pump's consumption over 24 hours to periods with the cheapest electricity tariff, which gives savings for hourly rate based electricity contracts. The function is based on hourly rates for the next 24 hours being retrieved via myUplink and therefore an internet

connection and an account for myUplink are required.

Deselect "activated" to switch off Smart price adaption™.

Menu 4.1.8 - smart energy source™ (RC-HY40-W only)
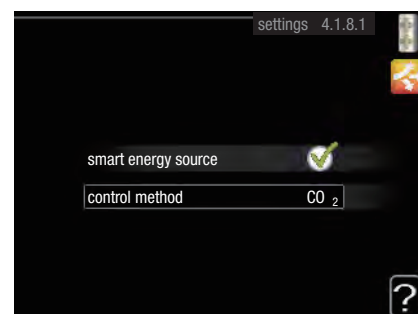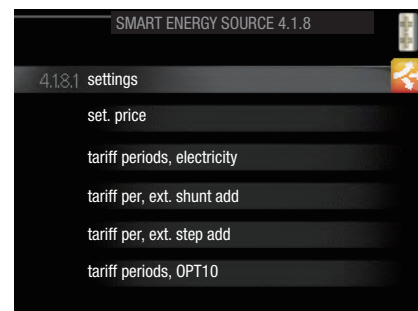
settings
set. price
CO2 impact*
tariff per, ext. shunt add
tariff per, ext. step add

The function prioritises how / to what extent each docked energy source will be used. Here you can choose if the system is to use the energy source that is cheapest at the time. You can also choose if the system is to use the energy source that is most carbon neutral at the time.

*Select control method "CO_2" under settings to open this menu.

Menu 4.1.8.1 - settings
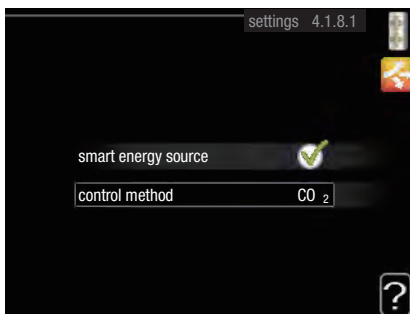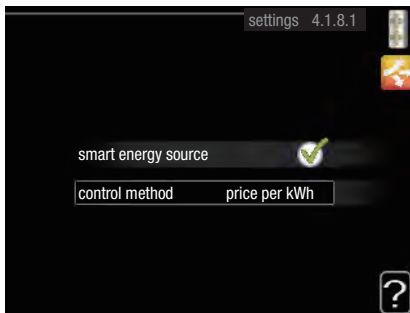
smart energy source™

Setting range: Off/On
Factory setting: Off

control method

Setting range: Price /CO_2
Factory setting: Price

Menu 4.1.8.2 - set. price

price, electricity

Setting range: spot, tariff, fixed price
Factory setting: fixed price
Setting range fixed price: 0 – 100,000*

price, extern shunt add.

Setting range: tariff, fixed price
Factory setting: fixed price
Setting range fixed price: 0 – 100,000*

price, extern step add.

Setting range: tariff, fixed price
Factory setting: fixed price
Setting range fixed price: 0 – 100,000*
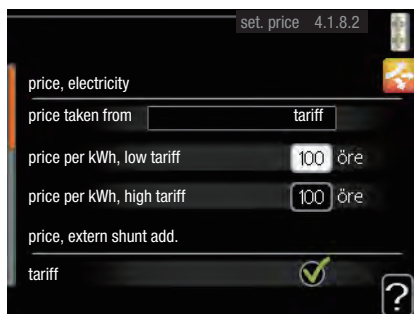
Here you can choose if the system is to exercise control based on the spot price, tariff control or a set price. The setting is made for each individual energy source. Spot price can only be used if you have an hourly tariff agreement with your electricity supplier.

*The currency varies depending on the country selected.

Menu 4.1.8.3 - CO2 impact
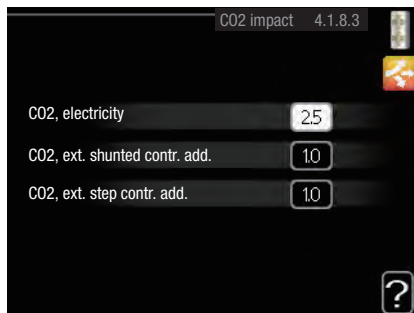
CO2, electricity

Setting range: 0 – 5
Default value: 2.5

CO2, ext. shunted contr. add.

Setting range: 0 – 5
Default value: 1

CO2, ext. step contr. add.

Setting range: 0 – 5
Default value: 1

Here you set the size of the carbon footprint for each energy source.

The carbon footprint is different for different energy sources. For example, the energy from solar cells and wind turbines can be considered carbon dioxide neutral and, therefore, has a low CO_2 impact. Energy from fossil fuels can be considered to have a higher carbon footprint and, therefore, has a higher CO_2 impact.

Menu 4.1.8.4 - tariff periods, electricity

Here you can use tariff control for the electric additional heat.

Set the lower tariff periods. It is possible to set two different date periods per year. Within these periods, it is possible to set up to four different periods on weekdays (Monday to Friday) or four different periods on weekends (Saturdays and Sundays).
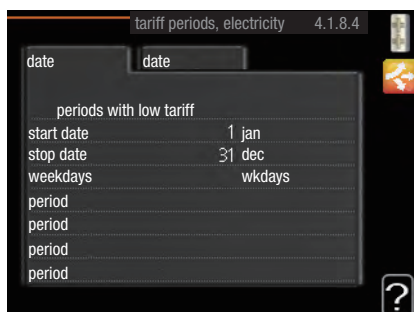
Menu 4.1.8.6 - tariff per, ext. shunt add

Here you can use tariff control for the external shunted additional heat.

Set the lower tariff periods. It is possible to set two different date periods per year. Within these periods, it is possible to set up to four different periods on weekdays (Monday to Friday) or four different periods on weekends (Saturdays and Sundays).
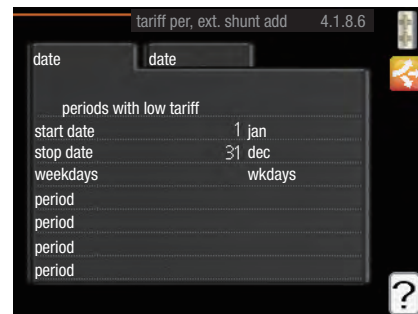
Menu 4.1.8.7 - tariff per, ext. step add

Here you can use tariff control for the external step controlled additional heat.

Set the lower tariff periods. It is possible to set two different date periods per year. Within these periods, it is possible to set up to four different periods on weekdays (Monday to Friday) or four different periods on weekends (Saturdays and Sundays).

Menu 4.1.10 - Solar electricity

Here you set wheter you want EME20M to affect the room temperature and/or the hot water and/or pool.

affect room temperature

Setting range: on/off
Default value: off

affect hot water

Setting range: on/off
Default value: off

affect pool temperature

Setting range: on/off
Default value: off

Menu 4.2 - op. mode

op. mode

Setting range: auto, manual, add. heat only
Default value: auto

functions

Setting range: compressor, addition, heating, cooling

The controller operating mode is usually set to "auto". It is also possible to set the controller to "add. heat only", when only additional heat is used, or "manual" and then select what functions are to be permitted.

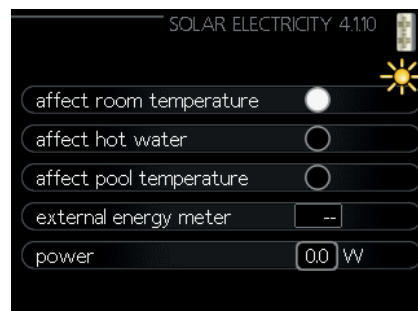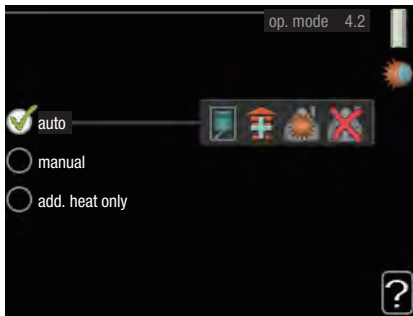Change the operating mode by marking the desired mode and pressing the OK button. When an operating mode is selected it shows what in the controller is permitted (crossed out = not permitted) and selectable alternatives to the right. To select selectable functions that are permitted or not, mark the function using the control knob and press the OK button.

Operating mode auto

In this operating mode the controller automatically selects what functions are permitted.

Operating mode manual

In this operating mode you can select what functions are permitted. You cannot deselect "compressor" in manual mode.

Operating mode add. heat only

In this operating mode the compressor is not active, only additional heat is used.

CAUTION

If you choose mode "add. heat only" the compressor is deselected and there is a higher operating cost.

CAUTION

You cannot change from only additional heat if you do not have a heat pump connected.

Functions

"compressor" is that which produces heating and hot water for the accommodation. If "compressor" is deselected, a symbol is displayed in the main menu on the symbol for the controller. You cannot deselect "compressor" in manual mode.

"addition" is what helps the compressor to heat the accommodation and/or the hot water when it cannot manage the whole requirement alone.

"heating" means that you get heat in the accommodation. You can deselect the function when you do not wish to have heating running.

"cooling" means that you get cooling in the accommodation in hot weather. This alternative requires an accessory for cooling or that the heat pump has a built in function for cooling and is activated in the menu. You can deselect the function when you do not wish to have the cooling running.

Menu 4.4 - time & date

Set time and date, display mode and time zone here.

TIP

Time and date are set automatically if the heat pump is connected to myUplink. To obtain the correct time, the time zone must be set.

Menu 4.6 - language

Choose the language that you want the information to be displayed in here.

Menu 4.7 - holiday setting

To reduce energy consumption during a holiday you can schedule a reduction in heating and hot water temperature. Cooling can also be scheduled if the functions are connected.

If a room sensor is installed and activated, the desired room temperature (°C) is set during the time period. This setting applies to all climate systems with room sensors.

If a room sensor is not activated, the desired offset of the heating curve is set. One step is usually enough to change the room temperature by one degree, but in some cases several steps may be required. This setting applies to all climate systems without room sensors.

Vacation scheduling starts at 00:00 on the start date and stops at 23:59 on the stop date.

> **TIP**
>
> *Complete holiday setting about a day before your return so that room temperature and hot water have time to regain usual levels.*

> **TIP**
>
> *Set the vacation setting in advance and activate just before departure in order to maintain the comfort.*

> **CAUTION**
>
> *If you choose to switch off hot water production during the vacation "periodic increase" (preventing bacterial growth) are blocked during this time. "periodic increase" started in conjunction with the vacation setting being completed.*

Menu 4.9 - advanced

Menu "advanced" has orange text and is intended for the advanced user. This menu has several sub-menus.
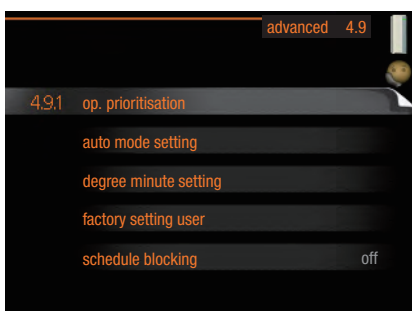
Menu 4.9.1 - op. prioritisation
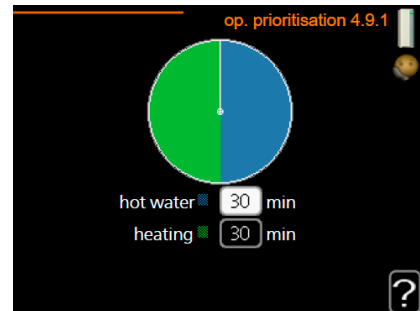
op. prioritisation

Setting range: 0 – 180 min
Default value: 30 min

Choose here how long the installation should work with each requirement if there are several requirements at the same time. If there is only one requirement the installation only works with that requirement.

The indicator marks where in the cycle the installation is.

If 0 minutes is selected it means that requirement is not prioritised, but will only be activated when there is no other requirement.

Menu 4.9.2 - auto mode setting
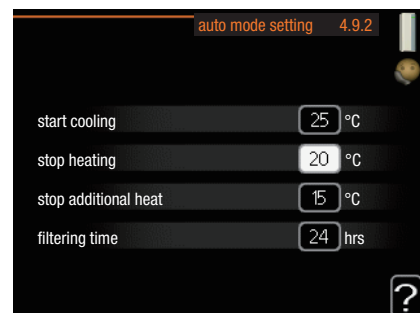
start cooling (accessory auto mode setting required)

Setting range: 15 – 40 °C
Factory setting: 25

stop heating

Setting range: -20 – 40 °C
Default values: 17

stop additional heat

Setting range: -25 – 40 °C
Factory setting: 5

filtering time

Setting range: 0 – 48 h
Default value: 24 h

When the operating mode is set to "auto", the controller selects when start and stop of additional heat and heat production is permitted, depending on the average outdoor temperature. If

the heat pump has the integrated cooling function and it is activated in the menu you can also select the start temperature for cooling.

Select the average outdoor temperatures in this menu.

You can also set the time over which (filtering time) the average temperature is calculated. If you select 0, the present outdoor temperature is used.

> **CAUTION**
>
> *It cannot be set "stop additional heat" higher than "stop heating".*

> **CAUTION**
>
> *In systems where heating and cooling share the same pipes "stop heating" cannot be set higher than "start cooling" if there is not a cooling/heating sensor.*

Menu 4.9.3 - degree minute setting

degree minute setting	4.9.3
current value	100 DM
start compressor	-60 DM
step difference compressors	60 DM
start diff additional heat	400 DM
diff. between additional steps	100 DM

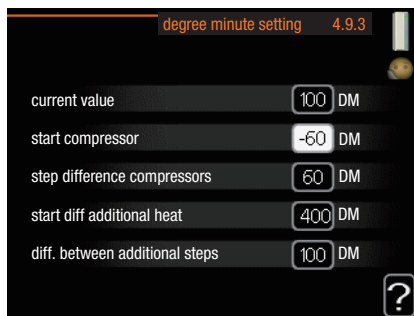*current value*

Setting range: -3000 – 3000

start compressor

Setting range: -1000 – -30
Default value: -60

step difference compressors (RC-HY40-W only)

Setting range: 10 – 2000
Default value: 60

start diff additional heat

Setting range: 100 – 2000
Factory setting: 400

diff. between additional steps

Setting range: 10 – 1000
Factory setting: 30

Degree minutes are a measurement of the current heating requirement in the house and determine when the compressor respectively additional heat will start/stop.

> **CAUTION**
>
> *Higher value on "start compressor" gives more compressor starts, which increase wear on the compressor. Too low value can give uneven indoor temperatures.*

Menu 4.9.4 - factory setting user

All settings that are available to the user (including advanced menus) can be reset to default values here.

factory setting user	4.9.4
Do you want to reset all user settings to factory settings?	
no	yes
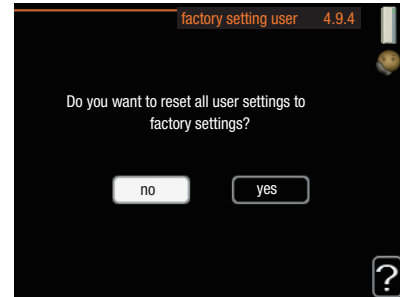
> **CAUTION**
>
> *After factory setting, personal settings such as heating curves must be reset.*

Menu 4.9.5 - schedule blocking

The additional heat can be scheduled to be blocked for up to two different time periods here.

Activated   Schedule

schedule blocking	4.9.5
schedule 1 schedule 2	
✓ activated	
all	
mon	
tues	
wed	
thur 14:00 - 16:30	
fri	
sat	
sun	

Day   Time period   Blocking   Conflict
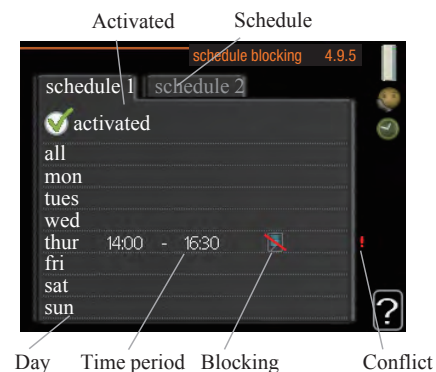
When scheduling is active the relevant blocking symbol is shown in the main menu on the symbol for the controller.

Schedule: The period to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start and stop time for the selected day for scheduling are selected here.

Blocking: The desired blocking is selected here.

Conflict: If two settings conflict with each other a red exclamation mark is displayed.

Blocking the compressor in the outdoor unit.

Blocking additional heat.

TIP

If you wish to set similar scheduling for every day of the week start by filling in "all" and then changing the desired days.

TIP

Set the stop time earlier than the start time so that the period extends beyond midnight. Scheduling then stops at the set stop time the day after.

Scheduling always starts on the date that the start time is set for.

CAUTION

Long term blocking can cause reduced comfort and operating economy.

Menu 4.9.6 - schedule silent mode

The compressor can be scheduled to be set to "silent mode" (the heat pump must support this) for up to two different time periods here.

When scheduling is active the "silent mode" symbol is shown in the main menu on the symbol for the controller.
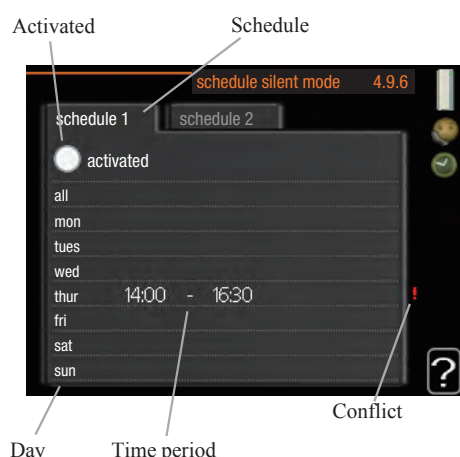
Schedule: The period to be changed is selected here.

Activated: Scheduling for the selected period is activated here. Set times are not affected at deactivation.

Day: Select which day or days of the week the schedule is to apply to here. To remove the scheduling for a particular day, the time for that day must be reset by setting the start time to the same as the stop time. If the line "all" is used, all days in the period are set for these times.

Time period: The start time, stop time and frequency level for scheduling are set here. Set between "Max. freq 1" and "Max. freq. 2".

Conflict: If two settings conflict with each other a red exclamation mark is displayed.

Disturbances in comfort

In most cases, the controller notes a malfunction and indicates this with alarms and shows instructions to rectify it in the display. See "Manage alarm" for information about managing alarms. If the malfunction does not appear in the display, or if the display is not lit, the following troubleshooting guide can be used.
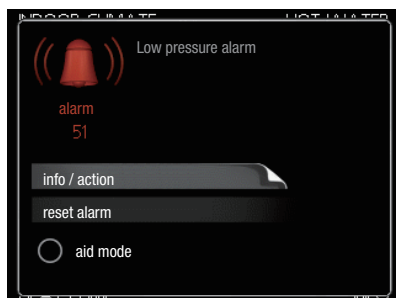
Manage alarm

In the event of an alarm, some kind of malfunction has occurred, which is indicated by the status lamp changing from green continuously to red continuously. In addition, an alarm bell appears in the information window.

Alarm

In the event of an alarm with a red status lamp a malfunction has occurred that the heat pump and/or controller cannot remedy itself. In the display, by turning the control knob and pressing the OK button, you can see the type of alarm it is and reset it. You can also choose to set the installation to aid mode.

info / action: Here you can read what the alarm means and receive tips on what you can do to correct the problem that caused the alarm.

reset alarm: In most cases it is enough to select "reset alarm" to correct the problem that caused the alarm. If a green light illuminates after selecting "reset alarm" the alarm has been remedied. If a red light is still visible and a menu called "alarm" is visible in the display, the problem that caused the alarm remains. If the alarm disappears and then returns, contact your installer.

aid mode: "aid mode" is a type of emergency mode. This means that the installation produces heat and/or hot water despite there being some kind of problem. This can mean that the heat pump's compressor is not running. In this case any electrical addition produces heat and/or hot water.

> ⚠ **CAUTION**
>
> *Selecting "aid mode" is not the same as correcting the problem that caused the alarm. The status lamp will therefore continue to be red.*

If the alarm does not reset, contact your installer for suitable remedial action.

> **NOTE**
>
> *Always give the product's serial number (14 digits) when reporting a fault.*

Troubleshooting

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

Basic actions

Start by checking the following possible fault sources:

■ The switch's position.
■ Group and main fuses of the accommodation.
■ The property's earth circuit breaker.
■ Correctly set load monitor (if installed).

Low hot water temperature or a lack of hot water

This part of the fault-tracing chapter only applies if the water heater is installed in the system.

■ Closed or choked filling valve
 − Open the valve.
■ Mixing valve (if there is one installed) set too low.
 − Adjust the mixer valve.
■ Controller in incorrect operating mode.
 − If mode "manual" is selected, select "addition".
■ Large hot water consumption.
 − Wait until the hot water has heated up. Temporarily increased hot water capacity (temporary lux) can be activated in menu 2.1.
■ Too low hot water setting.
 − Enter menu 2.2 and select a higher comfort mode.
■ Too low or no operating prioritisation of hot water.
 − Enter menu 4.9.1 and increase the time for when hot water is to be prioritised.

Low room temperature

■ Closed thermostats in several rooms.
 − Set the thermostats to max, in as many rooms as possible. Adjust the room temperature via menu 1.1, instead of choking the thermostats.
■ Control module in incorrect operating mode.
 − Enter menu 4.2. If mode "auto" is selected, select a higher value on "stop heating" in menu 4.9.2.
 − If mode "manual" is selected, select "heating". If this is not enough, select "addition".
■ Too low set value on the automatic heating control.
 − Enter menu 1.1 "temperature" and adjust the offset heating curve up. If the room temperature is only low in cold weather the curve slope in menu 1.9.1 "heating curve" needs adjusting up.

■ Too low or no operating prioritisation of heat.

– Enter menu 4.9.1 and increase the time for when heating is to be prioritised.

■ "Holiday mode" activated in menu 4.7.

– Enter menu 4.7 and select "Off".

■ External switch for changing the room heating activated.

– Check any external switches.

■ Air in the climate system.

– Vent the climate system.

■ Closed valves to the climate system.

– Open the valves (contact your installer for assistance in finding them).

■ Incorrectly adjusted flow across the heat pump.

– Check whether alarm high condenser in (163) or high condenser out (162) is in the alarm log. Follow the instructions for adjusting charge flow.

High room temperature

■ Too high set value on the automatic heating control.

– Enter menu 1.1 (temperature) and reduce the offset heating curve. If the room temperature is only high in cold weather the curve slope in menu 1.9.1 "heating curve" needs adjusting down.

■ External switch for changing the room heating activated.

– Check any external switches.

Low system pressure

■ Not enough water in the climate system.

– Top up the water in the climate system.

The compressor does not start

■ There is no heating requirement.

– The heat pump does not call on heating nor hot water.

■ Temperature conditions tripped.

– Wait until the temperature condition has been reset.

■ Minimum time between compressor starts has not been reached.

– Wait 30 minutes and then check if the compressor has started.

■ Alarm tripped.

– Follow the display instructions.

Additional heating only

If you are unsuccessful in rectifying the fault and are unable to heat the house, you can, whilst waiting for assistance, continue running the heat pump in "add. heat only". This means that additional heating only is used to heat the house.

Set the installation to additional heat mode

1. Go to menu 4.2 op. mode.

2. Mark "add. heat only" using the control knob and then press the OK button.

3. Return to the main menus by pressing the Back button.

> **CAUTION**
>
> *When commissioning without MHI air/water heat pump an alarm communication error may appear in the display.*
>
> *The alarm is reset if the relevant heat pump is deactivated in menu 5.2.2 ("installed slaves").*

Maintenance

PT300/500

Periodic inspections and maintenance are the conditions of continuous operational readiness, reliability and a long service life of the product.

Maintenance activities include the following:

- routine inspections and replacement of the protective magnesium anode
- cleaning of the storage tank

> **CAUTION**
>
> *Check the safety valve performance as specified by the valve manufacturer periodically (min. every 14 days) or before each start-up of the heater after decommissioning.*

Inspection of the Protective Magnesium Anode

Storage tanks with one coil of PT Series are, in order to protect them against corrosion, coated inside with ceramic enamel and in addition, protected with isolated protective magnesium anode. The anode corrodes first under normal operation, thus protecting the storage tank jacket. Therefore, you have to inspect its condition from time to time. Corrosion rate of the protective anode is different and depends upon the quality of water in the area. We recommend checking the protective anode condition once a year in order to ensure optimum corrosion protection.

> **INFORMATION**
>
> *The use of the isolated anode allows you to monitor the degree of wear of the anode by measuring the intensity of the protecting direct current without having to remove it and empty the tank (interrupting operation of the storage tank). This solution simplifies operation and additionally contributes to the reliability and long lifetime.*
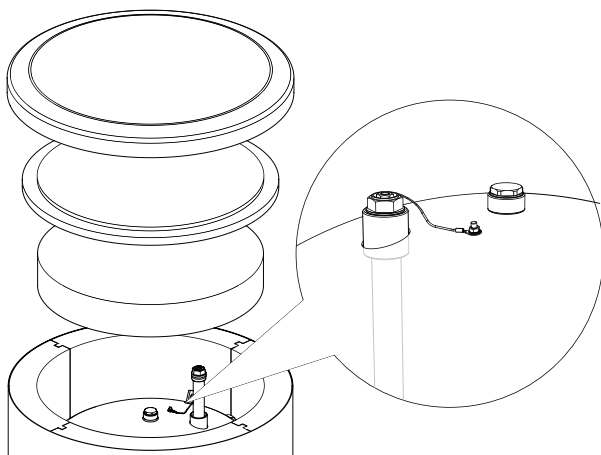
Insulated protective magnesium anode

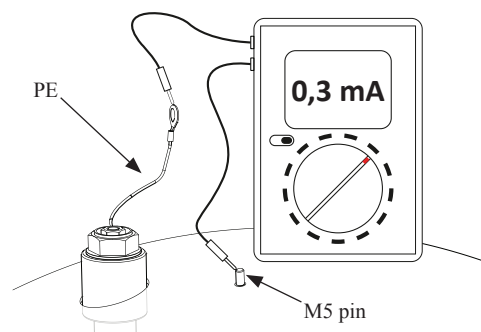### Measurement of the Protective Magnesium Anode Wear

In order to check the degree of wear of the anode, do the following:

1. Remove the housing cover together with thermal insulation.
2. Disconnect the connecting conductor (protective) from the storage tank top head.
3. Connect an electric meter (range in mA) between the protective conductor and the M5 threaded pin and measure the intensity of the protective direct current.

Intensity of the protective direct current should not be lower than 0.3 mA at full storage tank. If it is too low, remove the anode and check its wear visually. If the anode is significantly corroded (above 50 % loss), replace it immediately. Connect the anode protective conductor to the tank after the measurement.

> **CAUTION**
>
> *If the current intensity measurements do not indicate any wear of the anode, its max operating time is not longer than 18 months. The anode should be replaced after this time.*

Measurement of the protective direct current intensity

Replacement of the Protective Magnesium Anode

Replace the protective magnesium anode every 18 months (regardless the measurement). Instead of the magnesium anode, you can use the titanium anode. Install it in accordance with the anode installation manual.

> ## CAUTION
>
> *Replace the protective magnesium anode every 18 months. Its timely exchange and proper installation are the conditions to maintain the warranty on the storage tank*

When replacing the magnesium anode, follow the procedure below:

1. In units with the electric heating unit installed, disconnect power from the unit first.
2. Switch the storage tank coil heaters OFF and wait until the water inside cools down.
3. Cut-off the hot water supply and drain some water from the tank through the drain valve.
4. Remove the housing cover together with thermal insulation (1).
5. Remove the anode protective conductor (2).
6. Remove the worn magnesium anode (3).
7. Screw the new magnesium anode.
8. Connect the anode protective conductor to the storage tank.
9. Fill the tank with water and vent it as described in par. 4.2 Start-Up.
10. Check tightness of the installed anode.
11. Reinstall the thermal insulation and the housing cover.

Once making the above steps, the storage tank is ready to use.

Ensure that the anode protective conductor is connected to the storage tank top head after installing the new isolated magnesium anode. Lack of contact between the anode and the tank will interfere operation of the anode and the tank will not be protected against corrosion.
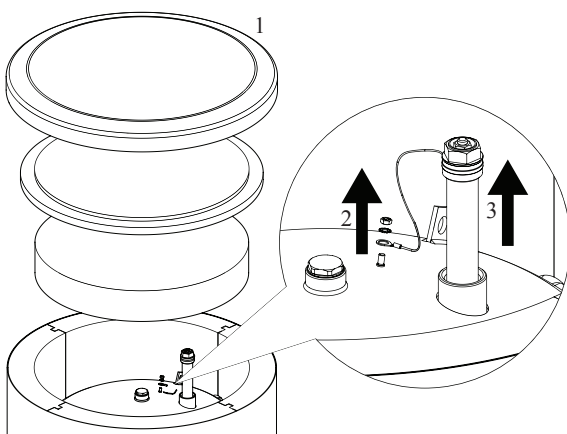
Replacement of the protective magnesium anode

Connect the anode protective conductor to the M5 pin fixed to the top head of the storage tank.

Cleaning of the Storage Tank

Boiler scale is precipitated from the heated water during the storage tank operation. The amount of deposited scale depends on the water hardness, the operating temperature and operating time. Heating surfaces covered with boiler scale reduce the heat output of the storage tank, increase power consumption and extend the heating time. It is recommended to clean the storage tank from deposits at least once every two years. In the case of hard or very hard water, cleaning should be carried out at shorter intervals.

Storage tank cleaning procedure:

1. Prepare a new inspection opening gasket. The old gasket may not be reused (for the list of the inspection opening gaskets, see the manual for PT300.
2. In storage tanks with the electric heating unit installed, disconnect power from the unit first.
3. Switch the storage tank coil heaters OFF and wait until the water inside cools down.
4. Cut-off the hot water supply and drain the storage tank through the drain valve.
5. Remove the inspection opening blanking plate and gasket
6. Remove the inspection opening screws and flanged cover and flush the storage tank and remove accumulated sludge and lime slurry. If necessary, remove lime deposits from the coil – this guarantees a proper heat exchange. Pay special attention to not damage the ceramic enamel coating.
7. Replace a new gasket and the inspection opening flanged cover. Screw tightening torque: 35±5 Nm.
8. Fill the tank with water and vent it as described in par. 4.2 Start-Up.
9. Check tightness of the inspection opening.
10. Replace the insulation and inspection opening blanking plate.

Once cleaned, the unit is ready to use.

> ## IMPORTANT
>
> *During mechanical cleaning, be careful not to damage the enamel. In the case of chemical cleaning, pay special attention to neutralize the chemicals used for cleaning.*
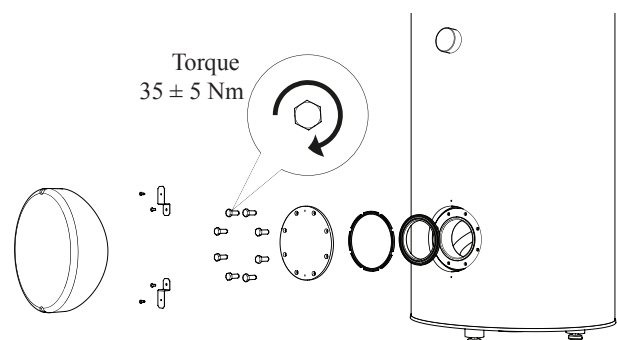
Installation of the inspection opening cover (mounting order).

FDCM100/140VNX-W

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

NOTE

Insufficient oversight can cause serious damage to FDCM and other unit which is not covered by the guarantee.

Checking grilles and bottom panel on FDCM

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

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

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

Keep free of snow and ice
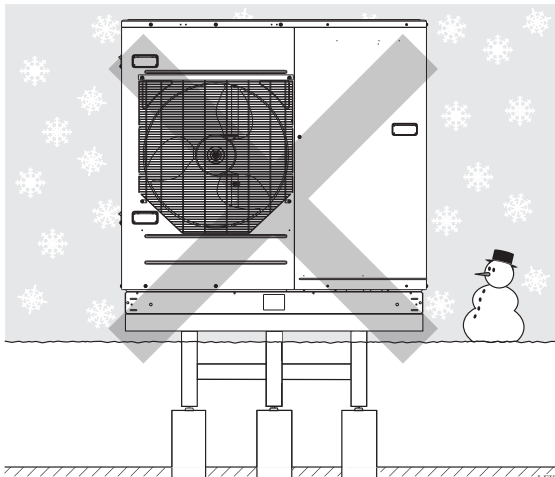
Prevent snow from building up and covering the grilles and drain holes on FDCM.
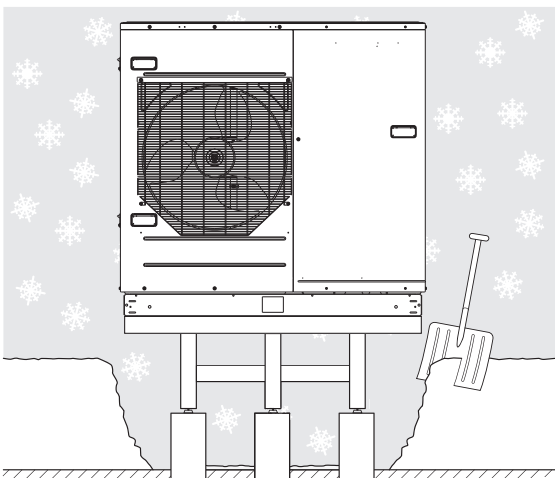
Keep free of snow and/or ice.

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 FDCM. Prevent FDCM coming into contact with alkaline cleaning agents.

Checklist: Checks before commissioning

Hot water	Notes	Checked
Safety valve	Is it installed in cold water line ?	☐
Mixer valve	Is it installed in right direction ?	☐
		☐

Heating	Notes	Checked
System volume	_____ ℓ	☐
Safety valve	Is safety valve installed ?	☐
Expansion vessel	System volume × 5% or more _____ ℓ	☐
Internal heater	Permitted/prohibited (Menu 5.1.12)	☐
External heat Source	Yes → Type _____ Setting (Menu 5.3.2) _____ No	☐
		☐

Cooling	Notes	Checked
Pipe system, condensation insulation		☐
Reversing valve (QN12)	Is it installed in right direction ?	☐
		☐

Electrical installation	Notes	Checked
Property's main fuse	3/1 phase _____ A	☐
Group fuse	3/1 phase _____ A	☐
Current limiter/current sensor	Is it installed properly if the power supply is 3 phase ?	☐
		☐

Accessories	Notes	Checked
External circulation pump	Yes/No	☐
Buffer vessel	Yes/No Volume _____ ℓ	☐
Relief valve	Yes/No	☐
Room sensor	Yes/No _____ Setting (Menu 1.9.4, 1.9.5)	☐
		☐

Glossary

Additional heat

The additional heat is the heat produced in addition to the heat supplied by the compressor in your heat pump. Additional heaters can be for example, immersion heater, electric heater, solar power system, gas/oil/pellet/wood burner or district heating.

Calculated flow line temperature

The temperature that the heat pump calculates that the heating system requires for an optimum accommodation temperature. The colder the outdoor temperature, the higher the calculated supply temperature.

Circulation pump

Pump that circulates liquid in a pipe system.

Climate system

Climate systems can also be called heating systems. The building is heated using radiators, under floor coils or convector fans.

Compressor

Compresses the gas state refrigerant. When the refrigerant is compressed, the pressure and the temperature increase.

Condenser

Heat exchanger where the hot gas state refrigerant condenses (cooled and becomes a liquid) and releases heat energy to the house heating and hot water systems.

COP

If a heat pump has COP of 5, this means that you only pay for a fifth of your heating demand. This is the efficiency of the heat pump. This is measured at different measurement values, e.g.: 7 / 45 where 7 stands for the outdoor temperature and where 45 stands for how many degrees the supply temperature is maintaining.

Disturbances in comfort

Disturbances in comfort are undesirable changes to the hot water/indoor comfort, for example when the temperature of the hot water is too low or if the indoor temperature is not at the desired level.

A malfunction in the heat pump can sometimes be noticed in the form of a disturbance in comfort.

In most cases, the heat pump notes operational interference and indicates this with alarms and shows instructions in the display.

Domestic hot water

The water one showers in for example.

DUT, dimensioned outdoor temperature

The dimensioned outdoor temperature differs depending on where you live. The lower the dimensioned outdoor temperature, the lower the value should be selected on "selecting a heat curve".

Efficiency

A measurement of how effective the heat pump is. The higher the value is the better it is.

Electrical addition

This is electricity that, for example, an immersion heater uses as addition during the coldest days of the year to cover the heating demand that the heat pump cannot manage.

Filtering time

Indicates the time the average outdoor temperature is calculated on.

Flow pipe

The line in which the heated water is transported from the heat pump out to the house heating system (radiators/heating coils).

Heat exchanger

Device that transfers heat energy from one medium to another without mixing mediums. Examples of different heat exchangers are evaporators and condensers.

Heat factor

Measurement of how much heat energy the heat pump gives off in relation to the electric energy it needs to operate. Another term for this is COP.

Heating curve

The heating curve determines which heat the heat pump is to produce depending on the temperature outdoors. If a high value is selected, this tells the heat pump that it must produce a lot of heat when it is cold outdoor temperature in order to achieve a warm indoor temperature.

Heating medium

Hot liquid, usually normal water, which is sent from the heat pump to the house climate system and makes the accommodation warm. The heating medium also heats the hot water through the double jacketed tank or coil tank.

Heating medium side

Pipes to the house's climate system and condenser make up the heating medium side.

Mixing valve

A valve that mixes the cold water with the hot water leaving the heater.

Outside sensor

A sensor that is located outdoors. This sensor tells the heat pump how hot it is outdoors.

Pressostat

Pressure switch that triggers an alarm and/or stops the compressor if non- permitted pressures occur in the system. A high pressure pressostat trips if the condensing pressure is too great. A low pressure pressostat trips if the evaporation pressure is too low.

Radiator

Another word for heating element. They must be filled with water in order to be used with RC-HY20/40-W.

Return pipe

The line in which the water is transported back to the heat pump from the house heating system (radiators/heating coils).

Return temp

The temperature of the water that returns to the heat pump after releasing the heat energy to the radiators/heating coils.

Room sensor

A sensor that is located indoors. This sensor tells the heat pump how hot it is indoors.

Safety valve

A valve that opens and releases a small amount of liquid if the pressure is too high.

Shuttle valve

A valve that can send liquid in two directions. A shuttle valve that enables liquid to be sent to the climate system, when the heat pump produces heating for the house, and to the hot water heater, when the heat pump produces hot water.

Supply temperature

The temperature of the heated water that the heat pump sends out to the heating system. The colder the outdoor temperature, the higher the supply line temperature becomes.

Water heater

Container where domestic water is heated. Is located somewhere outside the heat pump.

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