

User Manual

Electric Heating Unit 19 kW / 40 kW

ERHEL20A, ERHEL40A



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German

1 Symbols and Terms Used

All safety and warning instructions in this manual are clearly highlighted. The following symbols and signal words are used for warnings.

	Danger Alerts you to hazards that may cause injury or significant property damage.
	Caution Failure to follow these instructions may result in operational disruptions.
	Risk of Electric Shock Indicates a situation where an electric shock may occur.
	Risk of Burns Indicates a situation where extreme high or low temperatures may cause burns.
	Explosion Hazard Points out a situation that could result in an explosion.
	Warning: Flammable Material
	Tip Helpful advice for using the device
	Information
Abbreviations:	
STB	Safety temperature limiter
MAG	Membrane expansion tank
KFE	Ball Valve Fill / Drain
VL	Supply Line
RL	Return Line
HK	Heating Circuit
TWW	Domestic Hot Water
mWS	Meters Water Column

2 Key Safety Instructions

IMPORTANT SAFETY GUIDELINES FOR THE BOILER

Please read these instructions carefully before connecting the boiler to the heating circuit. **Only qualified professionals should handle installation and connection.**

Risk of improper use!



Use this device only for the purpose described in these instructions. Otherwise, you could put yourself at risk or cause damage to the device.

Risk from unauthorized modifications!



Never modify the device or any of its components without first obtaining a safety clearance from the manufacturer.

You must secure written approval from the manufacturer before making any changes. Otherwise, you could put yourself and others at risk. This could lead to serious injuries and/or significant property damage.

Hazard for unauthorized operators!



Only operate this device if you have been properly trained and understand all the instructions in this manual.



Never bypass any safety features or settings. This unit must not be used in areas where there is a risk of explosion. Always disconnect the power supply before performing any maintenance on the unit.

Fire and Smoking Hazard!



Never smoke or light a fire in or near the system while working on or inside the heating unit. Failure to follow this warning could put you at risk of serious injury or significant property damage.

Burn Hazard!



Do not touch the unit or any internal components during or immediately after operation.

Risk of Electric Shock!



Work on electrical components must be carried out by qualified professionals and in accordance with local regulations.

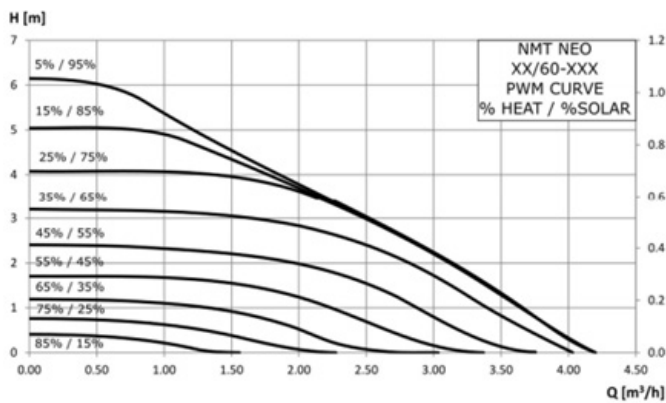
3 Technical Specifications

3.1 Purpose of Use

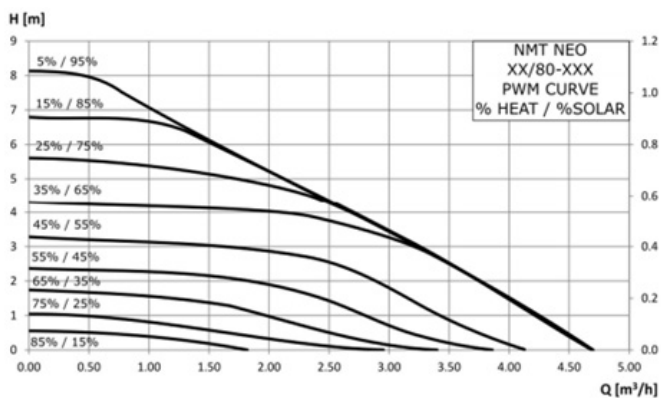
These electric mobile heating units are compact, fully functional portable electric boiler stations designed for versatile use. They serve as emergency heaters during heating system failures, support work on heat generators, provide frost protection, help with screed drying, or serve as a precautionary or initial heating solution, such as preventing freezing in geothermal heat pump systems.

3.2 Pump Characteristic Curve

ERHEL20A



ERHEL40A



4 Assembly / Commissioning

4.1 Transport

- Never lift or secure the device by its fittings.
- Store the device in a dry, frost-free, and dust-protected environment.
- Disconnect the device from the power supply before placing it into storage.
- After use, only store the device when it is completely drained. This ensures no damage occurs during transport or storage.

4.2 Setup and Commissioning

- Make sure the surface is solid and level.
- Secure the device to prevent it from rolling away.
- Before starting up, check that the heating circuit pump shaft moves freely to prevent damage to the motor winding or impeller.



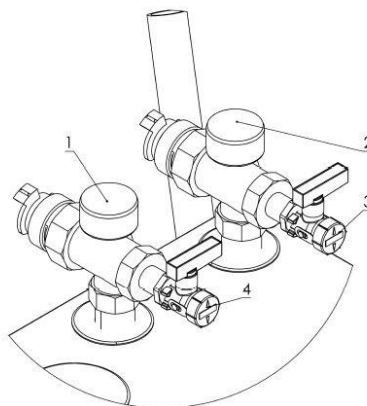
We recommend installing a magnetic separator.



Only qualified professionals are permitted to install and commission the equipment.

4.2.1 Connection

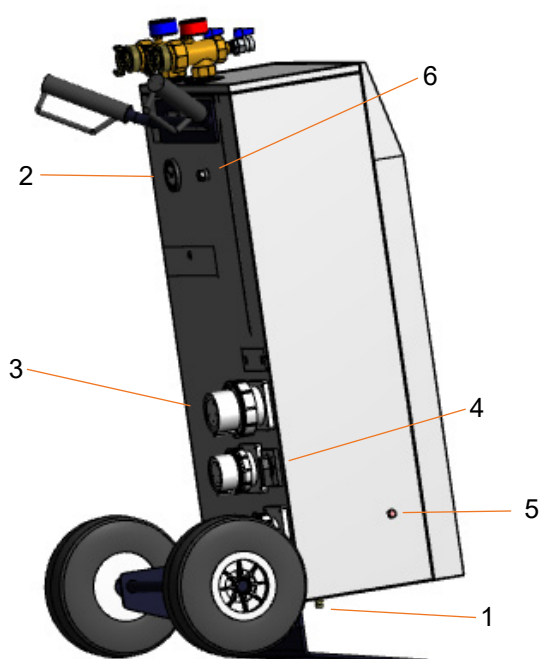
- Check to make sure the ball valves with thermometer handles are closed (positions 1 and 2, image 1). Close them if necessary.
- Connect the return (blue, position 2, image 1) and supply (red, position 2, image 1) pipes to the existing heating system.



(Image 1)

4.2.2 Filling and Venting

- Attach a vent line to the supply line (Pos. 4, Fig. 1).
- Connect a water supply line to the KFE valve (Pos. 3, Fig. 1).
- Close the KFE drain valve (Pos. 1, Fig. 2)
- Open the KFE valves for the water supply and air vent lines.
- Fill the device until all air has been expelled.
- Close the KFE valve at the supply line (Pos. 4, Fig. 1) and monitor the pressure gauge (Pos. 2, Fig. 2). The recommended operating pressure is 1.5–2 bar.
- Connect the device to the power supply (Pos. 3, Fig. 2).
- Set the power selector switch to your preferred connection (Pos. 4, Fig. 2)



Pos.	
1	KFE valve Drain Boiler
2	Pressure Gauge
3	Connections Power
4	Supply Power Selector Switch
5	LED Power Fault
6	STB Safety Temperature Limiter

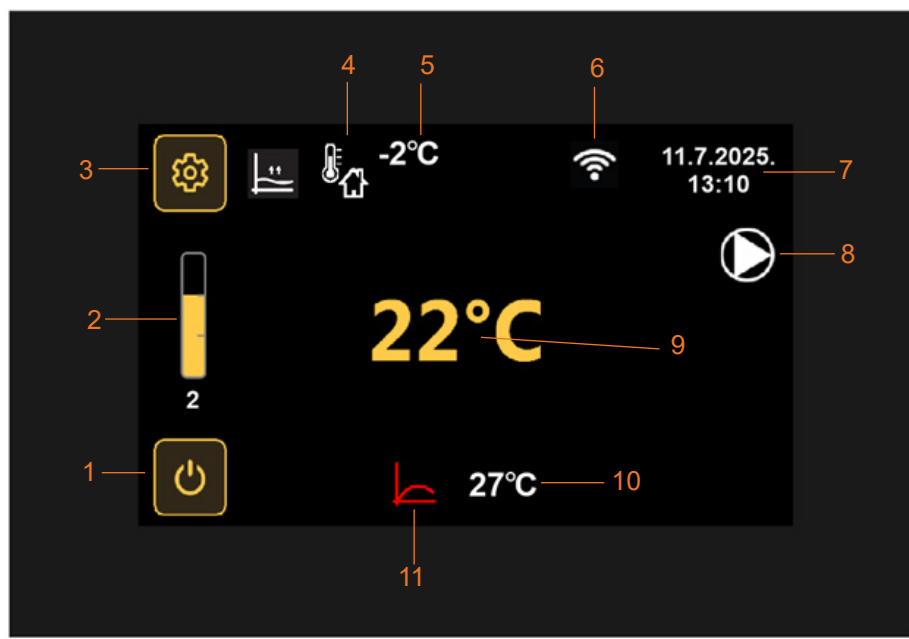
(Fig. 2)

- Never vent or fill the device while it is connected to the power supply.
- If you operate the device with demineralized water, in rare cases the water conductivity may be too low, causing the error message “Air in the boiler” to appear. This typically occurs when conductivity is below 20 μ S. If necessary, you can retrofit your device with a sensor for demineralized water.

5 Adjust Settings

5.1 Settings Overview

Only qualified professionals are permitted to install and commission the system



(Figure 3)

- 1 On/Off
- 2 Active heating levels display
- 3 Settings menu
- 4 Weather-based operation enabled
- 5 Outdoor temperature
- 6 Network connection
- 7 Date and time
- 8 Heating circuit pump running
- 9 Boiler actual temperature
- 10 Boiler target temperature
- 11 Floor drying program

5.2 Menu Overview

User Menu

- Select Language
- Power Limit
- Set Clock
- User Program
- Information
- Factory Settings
- Settings (Service Menu)
 - Floor Heating
 - Outdoor Temperature Sensor
 - Heating Curve
 - Pump Overrun Heating Circuit
 - Standby Temperature
 - Min. Boiler Temperature
 - Max. Boiler Temperature
 - Switch-On Delay Power Levels
 - Set Date and Time
 - Delete Log Files
 - Reset Counters
 - Control Mode
 - Restore Factory Defaults

5.3 Heating Programs



Manual heating mode is on—the system is working to maintain your selected temperature.

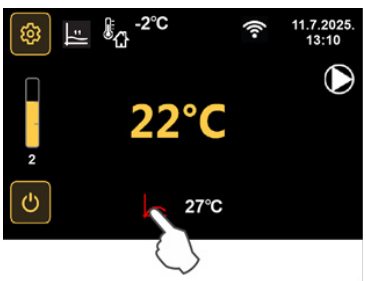


The screed drying program is running. The target temperature adjusts automatically each day according to the preset schedule.

5.3.1 Manual Heating

	Tap the current temperature display located at the center of the screen. In the next menu, you can set your desired target temperature using  and  to adjust the settings . With  Confirm your changes by tapping here.
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5.3.2 Floor Heating Program

	Tap the icon for the floor drying programs. In the next menu, you can select the desired floor heating program using  and  can be selected. With  then the selected program will begin.
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5.3.2.1 User Program

The heating program called User Program is a custom warming program that can be created directly on the heater itself .

You can set the temperatures in the user menu for up to 30 days. A guide to customizing the User Program can be found in section 5.4.4 Set User Program.

Afterwards, you can select the User Program from the program list.

5.3.2.2 Pre-installed Programs

Day	Initial Heating DIN 1264-4	Functional Heating DIN 1264-4	OE-Standard B 3732	OE-Standard B 2242-2	Suissetec Cement	Suissetec Calcium Sulfate CaSO ₄
1	25°C	25°C	20°C	20°C	20°C	20°C
2	30°C	25°C	25°C	25°C	20°C	20°C
3	95°F	25°C	30°C	30°C	20°C	20°C
4	104°F	122°F	95°F	95°F	20°C	20°C
5	113°F	122°F	104°F	104°F	20°C	20°C
6	122°F	122°F	113°F	113°F	20°C	20°C
7	122°F	122°F	113°F	122°F	20°C	25°C
8	122°F		113°F	122°F	20°C	25°C
9	122°F		95°F	122°F	20°C	25°C
10	122°F		25°C	104°F	20°C	122°F
11	122°F			30°C	20°C	122°F
12	122°F			20°C	20°C	122°F
13	122°F			20°C	20°C	122°F
14	122°F			20°C	20°C	
15	122°F				20°C	
16	122°F				20°C	
17	113°F				20°C	
18	95°F				20°C	
19	25°C				20°C	
20					20°C	
21					25°C	
22					25°C	
23					25°C	
24					122°F	
25					122°F	
26					122°F	
27					122°F	
Program finished: 25°C						

5.4 Menu Settings

5.4.1 Select Language

- Use the arrow keys to select   your preferred language, then confirm with the Enter key 

5.4.2 Power Limitation

- Select the number of heating levels using the buttons   and confirm press the Enter key 

5.4.3 Set the clock

- Use the   buttons Select the desired time, then confirm by pressing the Enter key 

5.4.4 User Program

- Choose how many days you want using the   buttons and confirm with the Enter key 
- Adjust using the   buttons set the temperature for day temperature #1 to the desired value, then confirm by pressing the Enter key 
- Repeat this process for each following day. When day temperature When day #1 appears again, confirm your selection by pressing Enter key 
- Adjust using the buttons   The final temperature the heater should maintain after the heating program ends has finished running should be kept, and confirm your setting by pressing Enter key 
- The user program you've created can now be selected and started as described in section 5.3.2

5.4.5 Information

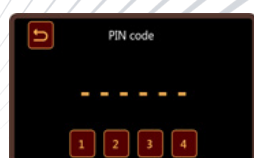
- In this menu, you can check the software version, hours of operation for each heating level, total operating hours, and the energy counter.

5.4.6 Factory Settings

- Here, you can reset the device to its factory default settings.

5.4.7 Settings

- To access the service menu, you'll need to enter a PIN.



PIN-Code: 3 3 4 1 1 2

5.4.7.1 Underfloor Heating

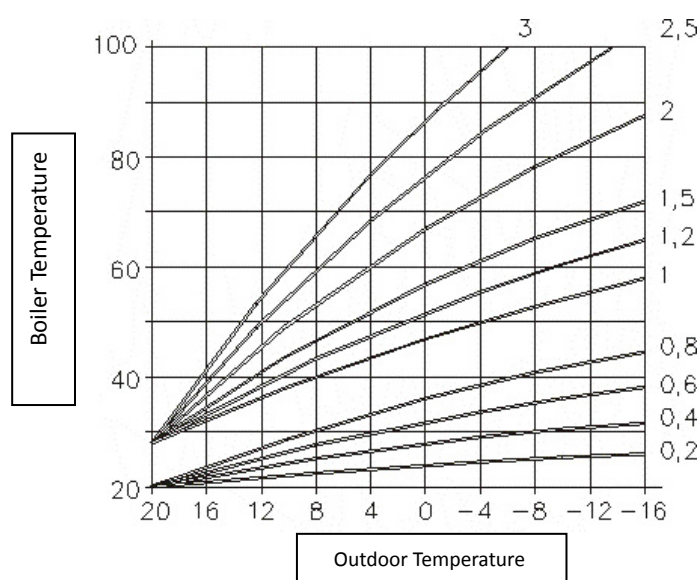
- Underfloor heating ON – Flow temperature range: 15° to 30°C.
- Underfloor heating OFF – Flow temperature range: 20° to 80°C.

5.4.7.2 Outdoor Temperature Sensor

- Here you can enable or disable weather-compensated operation

5.4.7.3 Heating Curve

Set heating curve (Only for units with outdoor temperature sensor)



- ☐ Underfloor heating ON → Heating curve 0.1 – 0.9
- ☐ Underfloor heating OFF → Heating curve 1 – 3
- ☐ Select the desired heating curve using the arrow keys **+** **-** and confirm with the Enter key **✓** to save your selection.
- ☐ The heating curve is only active when the outdoor temperature sensor is turned on.
- ☐ This feature is only available on units equipped with an outdoor sensor.

5.4.7.4 Circulation Pump Run-on (Heating Circuit)

- ☐ 0 – 15 minutes
- ☐ Select your preferred duration using the arrow keys **+** **-** choose using the buttons and confirm with Enter **✓** to save your selection.

5.4.7.5 Standby Temperature

- 10°C - 50°C
- Desired standby temperature –Select the temperature using the arrow keys   and confirm with the Enter key  to confirm.

5.4.7.6 Min. Boiler Temperature

- You can set the minimum boiler temperature between 20°C and 50°C.
- Select the desired temperature the arrow keys   and confirm with the Enter key  to confirm.

5.4.7.7 Max. Boiler Temperature

- You can set the boiler's maximum temperature from 50°C to 90°C. (Continuous max operating temperature: 80°C) 13
- Select the desired temperature the arrow keys   and confirm with the Enter key  to confirm.

5.4.7.8 Power Stage Activation Delay L.-Stages

- You can adjust the delay between switching two power levels anywhere from 10 - 120 seconds.
- Desired Time with the arrow keys   and confirm with the Enter key  to confirm.

5.4.7.9 Set Date and Time

- Select the desired date or time the arrow keys   and confirm with the Enter key  to confirm.

5.4.7.10 Delete Log Files

- You can delete saved heating logs.

5.4.7.11 Reset Counter

You can reset the hour counters for each heating stage, the total operating hours, and the service interval.

- Desired Operating Hours Counter with the arrow keys   and confirm with the Enter key  to confirm.

5.4.7.12 Restore Factory Settings

- In this menu, you can restore the device to its factory settings.

6 Heating Circuit Pump Settings

Press the button to toggle  The operating modes and pump curves are selected in sequence through the options.



Automatic operation mode (flashing)

Note: Pump curve selection is not available in this mode.



Proportional pressure



Constant pressure



Constant speed (RPM)

Yellow pump curve – maximum output

Green pump curve – medium output

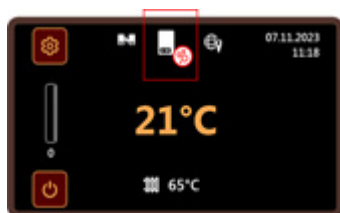
Blue pump curve – low output

7 Faults: Causes and Solutions

7.1 General

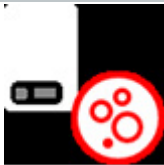
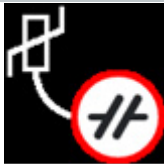
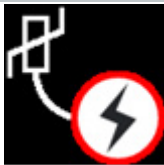
Issue	Possible Cause	Solution
Heating system cools down	No mains power	☐ Check site fuse ☐ Inspect power supply ☐ Check RCD and circuit breakers in unit and in the site Check distribution box ☐ Make sure the system is switched on
	☐ System pressure too low or too high. (Pressure should be maintained, minimum pressure 1.5 bar, maximum pressure 3 bar)	If pressure is low – refill water If pressure is too high – drain water
	☐ Flow - and return temperature check	☐ Flow temperature should match the boiler temperature (+/- 5°)
	☐ Air in the system	☐ Bleed the system
	☐ No circulation	☐ Check pump operation ☐ Inspect shutoff valves
	☐ STB has tripped (110°C)	☐ Reset STB
	☐ Incorrect setting Room thermostat	☐ Setting Room thermostat Check ☐ Thermostat jumper missing
Heating too warm	Check for fault message on controller, burner or pump	Check the fault list of the respective unit to eliminate the fault
	Check temperature setting on the controller	Adjust temperature
RCD cannot be switched on	STB defective	Check or replace STB
	Heating elements defective	Check or replace heating elements

7.2 Error Code Display



If an error occurs, a symbol will appear on the display above the set temperature.

Tap the symbol to see more details about the error.

Display Indicator	Cause	Solution
	General error message	
	Air inside the boiler	Bleed the unit
	Low voltage Power supply is insufficient	Check the power supply to the unit
	Temperature sensor disconnected	No connected temperature sensor detected, the sensor is not installed or the cable is damaged
	Temperature Sensor Short Circuit	The temperature sensor cable is damaged or the sensor itself is faulty
	Overtemperature	Boiler temperature is too high; heat isn't being properly released. Check the circulation pump and inspect any shut-off valves
	Service interval reached	Device maintenance is recommended

7.3 Heating Circuit Pump

7.3.1 Common Pump Issues

Malfunction	Possible Cause	Solution
Pump makes noise	Air in the system Pump defective Incorrect operating mode and output set Pump output too low	Vent the system Replace pump Adjust pump Check pump setting

7.3.2 Pump Error Codes

If a pump error occurs, the yellow, green, and blue LEDs will flash together.

Error Code	Possible Cause	Solution
Flashes once	Dry running	Bleed the unit
Flashes twice	Pump is jammed	Check the pump rotor
Flashes three times	Overheating	Lower boiler temperature, inspect shut-off valves
Blinks 4 times	Electrical error	Contact Enerent
Blinks 5 times	Motor error	Contact Enerent

8 Maintenance

8.1 Routine Maintenance

- After every use, clean the device.
- Inspect and clean the heating elements after each use. Remove larger debris with a soft plastic brush. Limescale deposits can be removed with a gentle descaling cleaner.
- Clean the dirt trap in the return line after every operation.
- Periodically clean the boiler using a descaler suitable for steel boilers.
- Before each use, check the STB.
- Before each use, ensure the heating circuit pump moves freely.
- Have ENERENT service the device once a year.

Please observe all legal inspection intervals.

8.3 Storage

- Always store the device after use only when it has been completely drained.
- Turn all ball valves to a 45° angle.
- This ensures that no damage occurs to the device during storage.

9 Other Information

Contact

Germany / Deutschland /
Germany / Allemagne
www.enerent.de



Austria
Austria
www.enerent.at



Switzerland
www.enerent.ch



International
International
www.enerent.com



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