



Instruction manual

MIDI 400/450/600/E/H

MAXI 450



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1. VARNING/DANGER!!!



HETA YTOR!
HOT SURFACES!



ANVÄND SKYDDSHANDSKAR!
USE PROTECTIVE GLOVES!



BRANDFARA!
FIRE HAZARD!



ANVÄND BRANDSLÄCKARE
VID BRAND!

USE FIRE EXTINGUISHER IN
CASE OF FIRE!



DIESEL!

GIFTIGT!



DIESEL FUEL!

TOXIC!



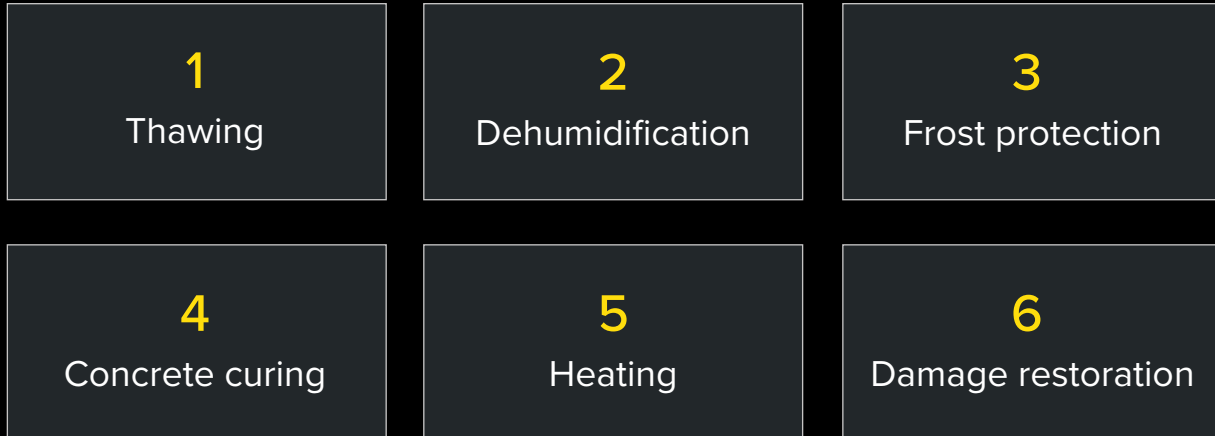
ELFARA! ELECTRIC DANGER!
230 VAC / 400 VAC!



KLÄMRISK!
CRUSH HAZARD!

2. Introduction

Flexi Heater is a mobile heating unit that can be used for:



Flexi Heater is available in three variants.

2.1 FLEXI HEATER MIDI

Main components of the Flexi Heater Midi:

- Diesel boiler
- Diesel tank
- Glycol tank
- Hoses with hose reel
- Insulation mats
- Manifold hose connection
- Circulation pump
- Hoses
- Control panel
- 12-volt battery with battery charger
- Generator

2.2 FLEXI HEATER MIDI HYBRID

Main components of the Flexi Heater Midi Hybrid:

- Diesel boiler
- Diesel tank
- Glycol tank
- Hoses with hose reel
- Insulation mats
- Manifold hose connection
- Circulation pump
- Hoses
- Control panel
- 12-volt battery with battery charger
- Generator
- Electrical connection box with control

2.3 FLEXI HEATER MIDI ELECTRIC

Main components of the Flexi Heater Midi Electric:

- Diesel boiler
- Hoses with hose reel
- Insulation mats
- Manifold hose connection
- Circulation pump
- Hoses
- Control panel
- 12-volt battery with battery charger
- Electrical connection box with control

The three main variants are available with different hose lengths.

Thanks to the diesel-powered generator, the Midi and Hybrid variants are extremely mobile and completely independent of external power supply. The Electric variant is mobile but dependent on a power connection.

2.4 AIR HEATER

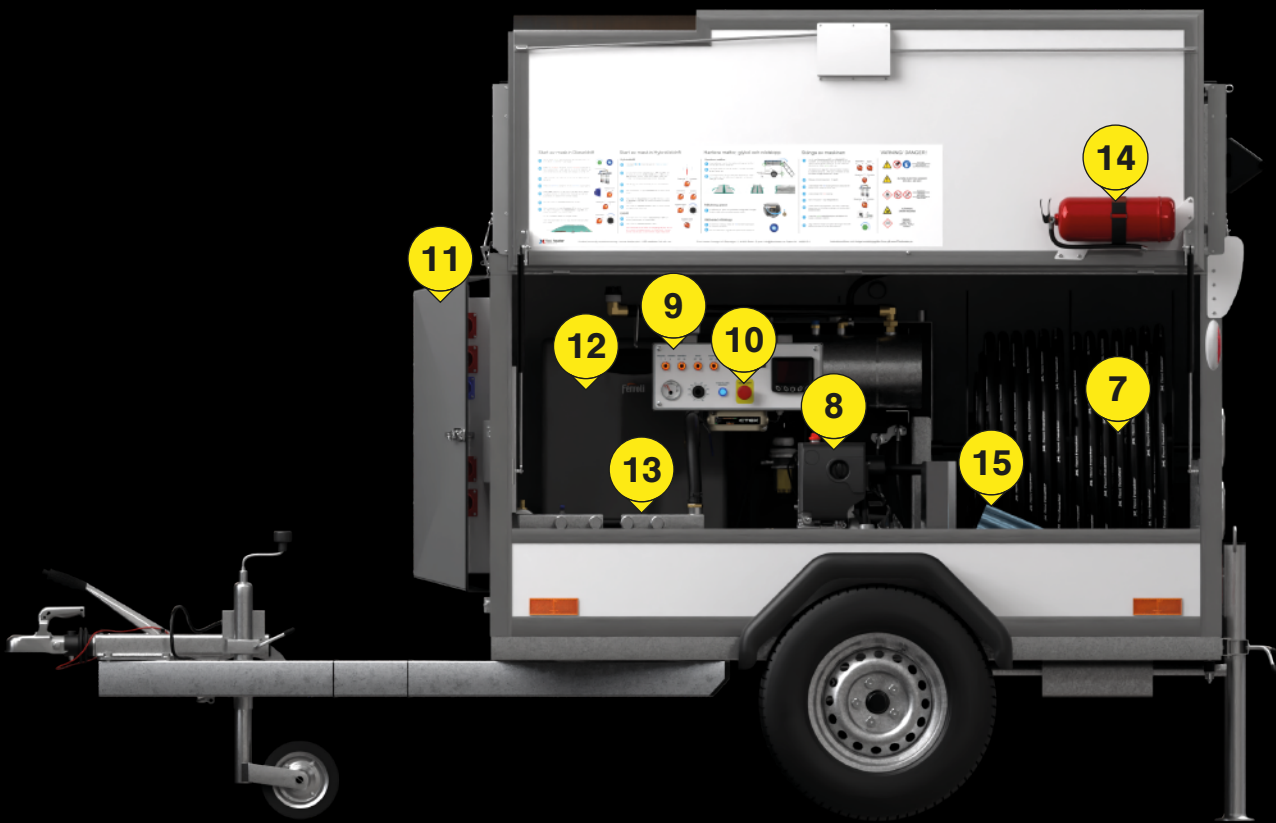
Additionally, an air heater with an electric fan can be connected. The heater is glycol-driven, and the fan is powered by a separate 230-volt supply. The fan has three different speed settings, and the output is approximately 35 kW. This is a separate accessory.



3. Construction and function

3.1 OVERVIEW OF FLEXI HEATER





- | | |
|----------------------------------------------------------------------------------|------------------------------------------------------|
| 1 Roof module mats | 10 Emergency stop |
| 2 Power connection (400V 16Ax2, 400V 32Ax2, 230V 10A) (Hybrid & Electric) | 11 Electrical cabinet |
| 3 Service door | 12 Oil Boiler (Midi & Hybrid) |
| 4 Chimney (Midi & Hybrid) | 13 Hose connections |
| 5 Transport cart | 14 Fire extinguisher |
| 6 Container | 15 Hydraulic power unit |
| 7 Hose reel | 16 Support legs |
| 8 Generator (Midi & Hybrid) | 17 Service hatch for electric heating element |
| 9 Control panel | 18 Diesel refueling |

3.2 ELECTRIC HEATING ELEMENTS (Hybrid & Electric)

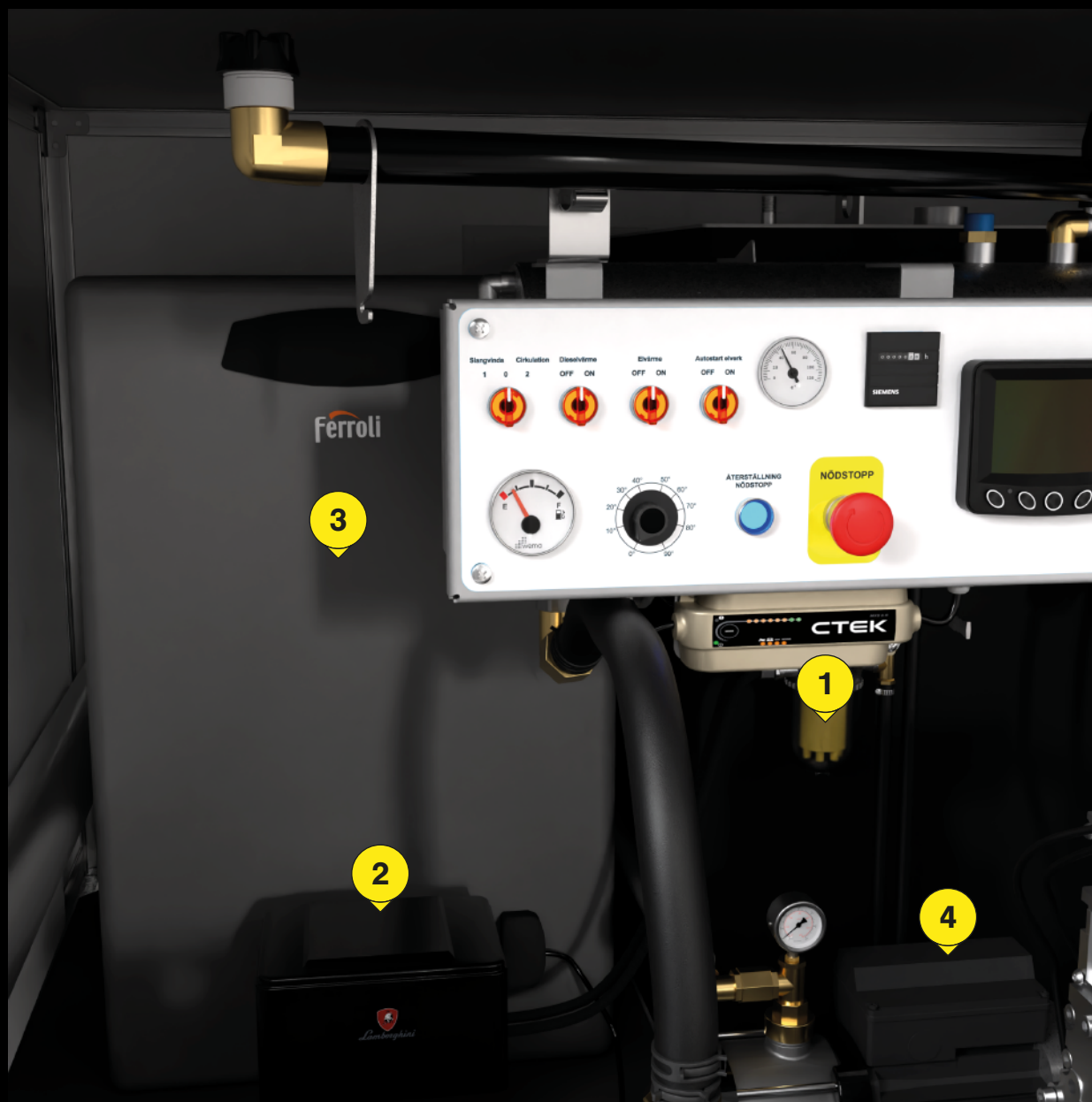
The electric heating elements are mounted in a tank connected to the glycol circuit. The electric boiler is equipped with an overheating protection system that trips when the temperature in the tank becomes too high. There is also a sensor that monitors the temperature of the glycol fluid.



The electric heating element is accessible through the vehicle's service hatch.

3.3 DIESEL BOILER WITH BURNER (Midi and Hybrid)

To heat the glycol fluid without an electrical connection, a diesel boiler with an attached tank is used. The diesel burner is located in front of the boiler. The burner's fuel filter has an automatic air vent, which means no additional actions are required to restart if the fuel runs out. The filter should be replaced once a year or if it appears visibly dirty.



1 Fuel filter

3 Boiler

2 Burner

4 Circulation pump

3.4 EXPANSION TANK

The expansion tank is located to the left of the hose reel. The tank should be filled between the limits in the sight glass. Refilling is done via a swing-out "trumpet." The expansion tank has a pressure relief valve that opens if the system pressure becomes too high.

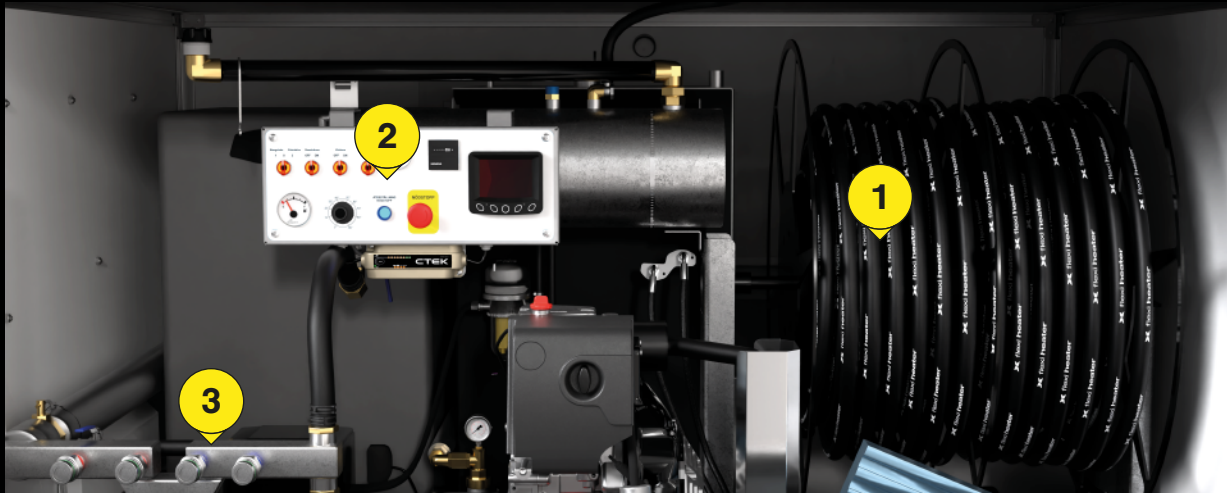


1 Expansion tank with level tube

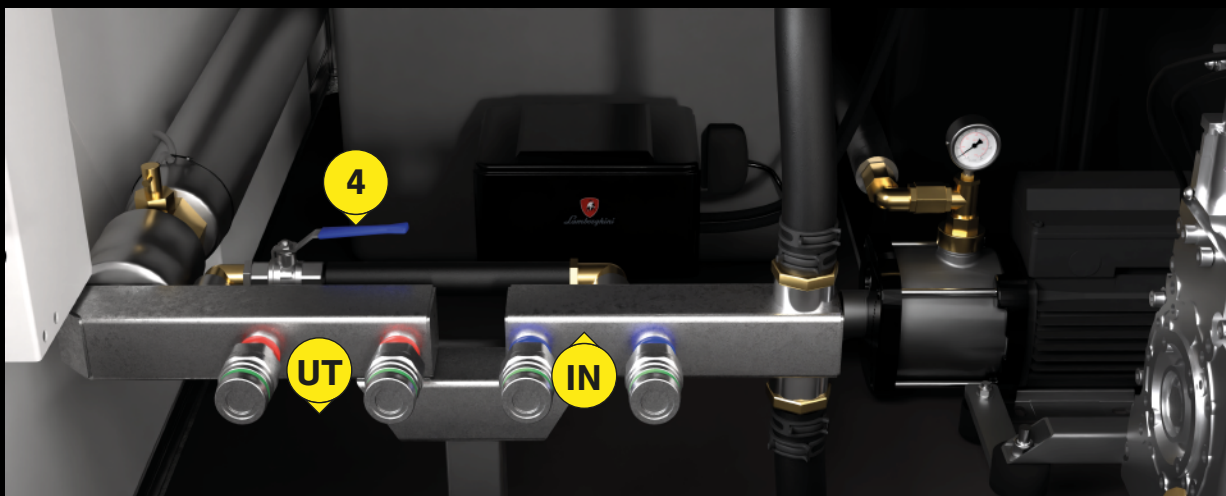
2 Filling pipe

3.5 HEATING CIRCUIT

At the rear of the vehicle is the hose reel. The hoses are filled with glycol, and the reel is powered by a motor for rewinding the hoses. To remove the hoses from the reel, they are simply pulled out. Hose lengths range from 400 to 600 meters, depending on the variant.



The hoses have leak-free hydraulic couplings at both ends and are connected to the manifold pipe to the left of the control panel – see the image below. The connections are color-coded – red for the outlet and blue for the return. The bypass valve is used during startup to quickly raise the system's temperature. During startup, it is beneficial to keep the bypass valve open to heat up the system, gradually closing the valve to allow the hoses to thaw as the temperature increases.



1 Hose reel

3 Hose connections

2 Control panel

4 Bypass valve

3.6 CONTROL PANEL

In front of the expansion tank is the control panel. From here, the circulation pump and the hydraulic motor for the hose reel are started to rewind the hoses. To start the rewinding, press the green foot pedal to activate the hydraulic motor.

From this panel, the diesel heating and electric heating are also started, depending on the selected heating source.

The temperature is regulated via a potentiometer..



On the control panel, there are the following functions, controls, and gauges

- | | |
|---------------------------------------------------------|--------------------------------|
| 1 Battery charger | 7 Hour meter |
| 2 Knob for Hose Reel/Circulation | 8 Fuel gauge with light |
| 3 Knob for Diesel Heating (Non-Electric Vehicle) | 9 Potentiometer 0-90° C |
| 4 Knob for Electric Heating | 10 Emergency stop reset |
| 5 Knob for Auto-start Generator OFF/ON | 11 Emergency stop |
| 6 Current temperature | 12 Generator display |

3.7 CONTROL PANEL - Electrical cabinet



1 Switch 16A/32A

2 Inlet 400V 32A

3 Inlet 400V 16A

4 Inlet Shuko 230V 10A

5 Circuit breaker
400V 16A
400V 32A
230V 10A

3.8 EMERGENCY STOP

On all vehicles, an EMERGENCY STOP **11** is also installed. When the emergency stop is activated, the heating is stopped and all power is cut off.

To restart, the emergency stop must be reset, and the reset button **10** must be pressed.

All knobs should be set to 0/OFF.



3.9 ELECTRICAL GENERATOR (MIDI & HYBRID)

The MIDI and hybrid wagons have a separate diesel-powered generator. The generator is used when there is no grid connection and as a backup in case the grid fails.

If 230V or other power sources are connected (400V 16A, 400V 32A), the generator can be set to “Auto” mode by turning the knob to Auto-start generator ON. The generator will then start automatically if the grid voltage is lost. If you choose OFF, the generator will not start.

NOTE! (No backup will start if the grid power is lost.)

3.10 BATTERY / BATTERY CHARGER

For starting the generator and backup operation of the control unit, all wagons are equipped with a standard 12-volt battery and battery charger. The battery is always charged when available power is connected or when the generator is in operation.

3.11 ROOF MODULE

The insulation mats for frost heaving are stored in a cage on the roof of the wagon.

4. OPERATION

4.1 BEFORE TRANSPORT

Walk around the heating unit and check.

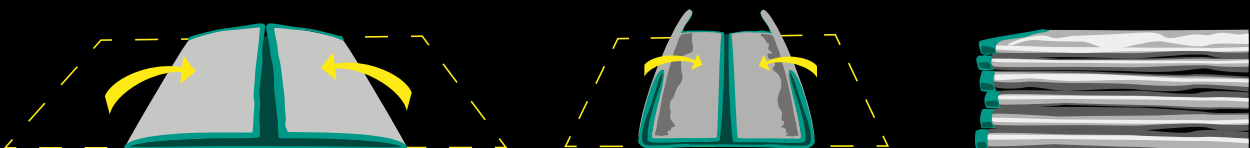
- 1 That all doors are closed.
- 2 That the tensioning devices of the roof module are locked.
- 3 That the wagon is properly connected to the vehicle.
- 3 Make sure that the support legs are retracted.

4.2 UNLOAD / LOAD HEATING MATS

- 1 Loosen the four tensioning devices of the roof rack. Two at the front and two at the rear.
- 2 Pull the basket backwards and down to the ground as shown in the picture. Two hooks prevent it from falling down.
- 3 If a vehicle is not connected to the trailer, the support legs can be lowered to prevent the machine from tipping backward when lowering the roof rack.



- After finishing the work, fold the outer ends of the mats towards each other. Green side inwards.
- Fold once more as shown in the picture below.
- Stack the mats to let the air out of them more quickly.



4.3 HANDLE THE HEATING HOSES

The hoses are detached from the hose reel by simply pulling them out using the knob for "Hose Reel/Circulation" in the "0" position.



What primarily affects how quickly the thawing process goes is the temperature of the hoses and the distance between the hoses. The surrounding conditions also play a role. How much ice there is, the ambient temperature, and how much frost there is in the ground.

Midi 400

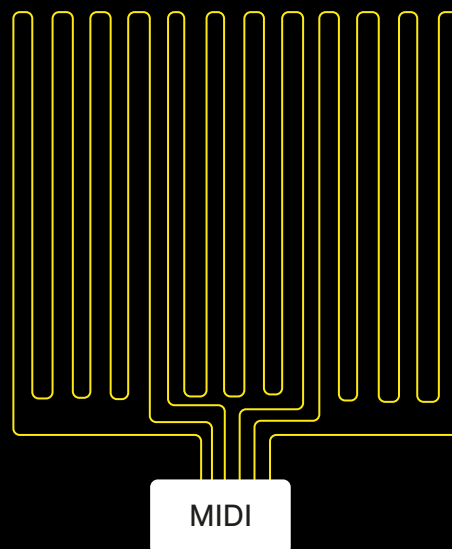
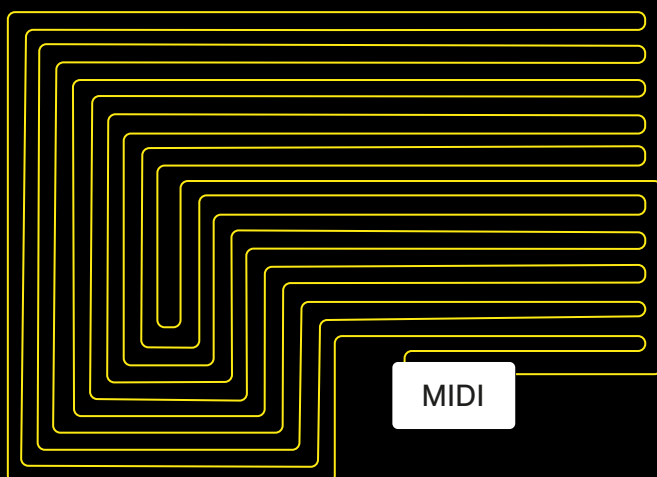
Thaws 125m²

Midi 600

Thaws 185m²

- Careless placement of the hoses results in reduced thawing efficiency.
- The hoses should be placed with a 20-30 cm gap between them. Tight loops may cause the hose to kink when it gets warm, stopping the flow.
- To ensure optimal performance, the hoses must have good contact with the ground; for example, excess water can reduce their effectiveness.
- Do not place the hoses against sharp objects.
- Cover the hoses carefully with the insulation mats.
- The insulation mats should overlap by 30-40 cm.
- Place the mats 50 cm beyond the hose area at the edges.
- Other mats than those provided may result in reduced thawing efficiency.
- Weigh down the mats to prevent them from being blown away.
- In slopes, a chimney effect may occur.

Spread pattern, see example below:



It is important to plan each job and place the Flexi Heater in a way that allows you to thaw the area that needs to be covered.

4.3 HANDLE THE HEATING HOSES

After finishing the work, roll the hoses back onto the hose reel. Set the switch on the control panel to the "Hose Reel" position.



This starts the hydraulic motor for the hose reel. The hose reel is activated with the included foot pedal – see the image below.

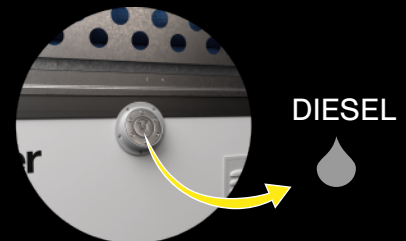


4.4 REFILLING OF DIESEL AND GLYCOL

The diesel tank cap is located on the rear of the machine. Fill as usual and avoid spillage. The fuel gauge is located on the front of the control panel.

The glycol system has a retractable spout for easy refilling.

Only use propylene glycol when refilling the heating system. Fill so that the level is between the MAX and MIN markings on the sight glass.



WARNING!

Fire hazard in case of diesel spill.

Risk to personal safety!

Dangerous if swallowed. Risk to personal safety!

Risk of environmental damage in case of diesel, glycol, or oil spill!

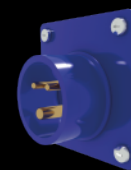


5. START OF FLEXI HEATER MIDI

- 1 Tighten the **green** battery disconnect on one of the battery terminals and press the **blue** reset button.
- 2 Connect the **red-marked hoses** to the **red-marked connections**. With the bypass valve in the open position, you can preheat the machine, which may be necessary when it is very cold. It should be closed during normal operation.
- 3 Lay out the hose. Be careful to avoid any kinks in the hoses.
- 4 Connect the **blue-marked hoses** to the **blue-marked connections**.
- 5 Connect 230V mains power, if available, to the blue Schuko outlet. The generator will start automatically if the mains power fails and will stop automatically when the mains power is restored.
- 6 Make sure the knob for Auto-start generator is set to "ON".
- 7 Set the switch to the "Circulation" position (2) to start the circulation. Set the diesel heater switch to the "ON" position. Select the desired temperature using the potentiometer.



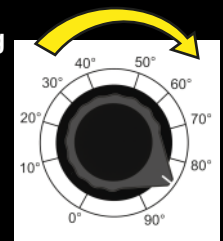
Bypass valve closed



Auto-start generator

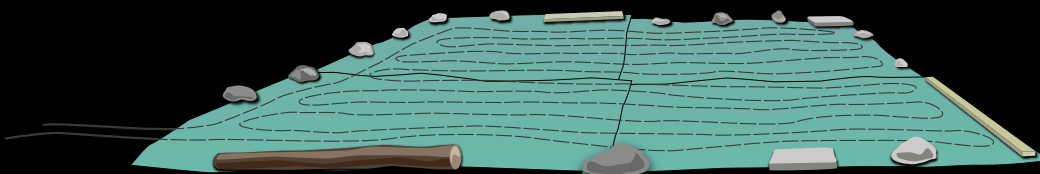


Diesel heating



(The process has now started and thawing begins)

Cover with insulation mats and make sure to seal them as airtight as possible.

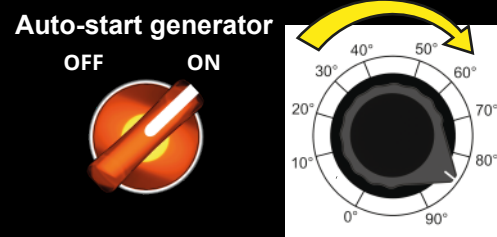
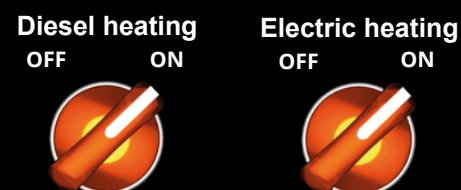
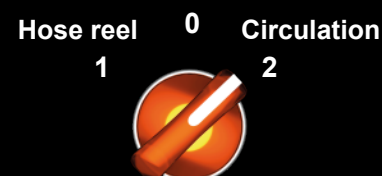
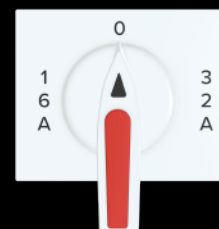


6. START OF FLEXI HEATER MIDI H

Hybrid operation

- 1 Follow steps 1 to 4 according to the instructions "START OF FLEXI HEATER MIDI"
- 2 In hybrid operation, available power (16A or 32A) is connected. It is possible to use 2x16A, 2x32A, or one 16A and one 32A connection simultaneously. Use the connections marked with "Primary" as the first option. For additional connections, use "Secondary."
- 3 Select the correct setting on the knob depending on the chosen power supply.
- 4 Set the switch to the "Circulation" position (2) to start the circulation.
- 5 Set the knob for diesel heating to the "ON" position. Also, set the knob for electric heating to the "ON" position and select the desired temperature using the potentiometer.

Set the knob for auto-start generator to **ON**. The generator will now start automatically if the mains power is lost.



Electric operation

- 6 In electric-only operation, turn the knob for diesel heating to **OFF** and use the potentiometer to set the desired power level.
- 7 Set the knob for auto-start generator to **OFF**.

Note! Depending on the selected power and hose length, there is a risk of not reaching full operating temperature in electric-only mode. The generator will not start in the event of a power outage when in electric-only mode.



7. STOP OF FLEXI HEATER MIDI/H

- 1 Turn to the position **Diesel Heating/OFF** and Electric **Heating/OFF** in hybrid operation. Let the circulation pump run while you remove the mats to allow the hose to cool down a bit. Fold the outer ends of the mats towards the center, with the **green side** facing up.

Fold the mats and stack them on the ground while you handle the hoses. The air will escape faster, making it easier to put them back into the reel.

- 2 Turn off the circulation pump, to position 0.

- 3 Disconnect the hose from the **blue connection** first and connect it to the hose reel at the bottom of a spoke.

- 4 Disconnect the hose from the **red connection**.

- 5 Set the switch to the "**Hose reel**" position (1).

- 6 The reel is started with the foot pedal. Stand at least 2 meters away from the hose reel when rewinding the hose and always wear protective gloves.

- 7 Loosen the **green** battery disconnect switch on the battery and disconnect the connected mains power.

- 8 Place the mats in the basket and secure the basket with the 4 locking devices.

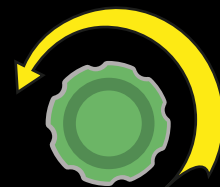
Diesel heating OFF Electric heating OFF ON



Hose reel 1 0 Circulation 2

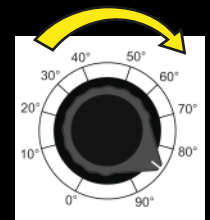
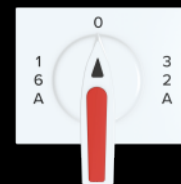
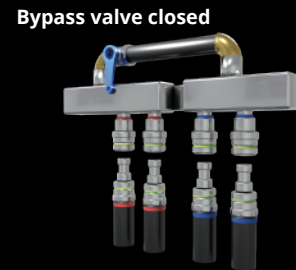


Hose reel 1 0 Circulation 2



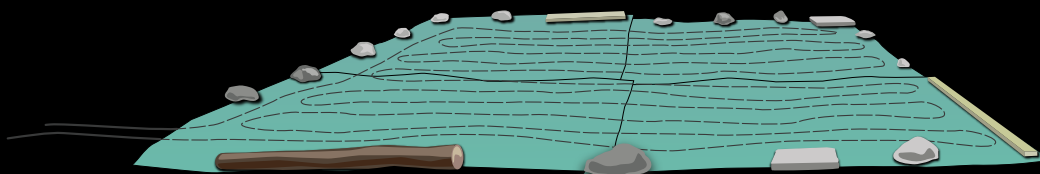
8. START OF FLEXI HEATER MIDDLE

- 1 Tighten the **green** battery disconnect switch on one of the battery terminals and press the **blue** reset button.
- 2 Connect the **red-marked hoses** to the **red-marked connections**. With the bypass valve in the open position, you can preheat the machine, which may be necessary when it is very cold. It should be closed during normal operation.
- 3 Lay out the hose. Be careful to avoid any kinks in the hoses.
- 4 Connect the **blue-marked hoses** to the **blue-marked connections**.
- 5 Add mains power (**16A** or **32A**) and select the correct setting on the knob depending on the chosen power. It is possible to use **2x16A**, **2x32A**, or one **16A** and one **32A** simultaneously.
- 6 Set the switch to the "**Circulation**" position (**2**).
- 7 Set the switch to the "**Electric Heating/ON**" position, then select the desired temperature using the **potentiometer (0-90°)**.



(The process has now started and thawing begins)

Cover with insulation mats and ensure they are as airtight as possible.



9. STOP OF FLEXI HEATER MIDDLE

- 1 Turn to the "**Electric Heating/OFF**" position. Let the circulation pump run while you remove the mats to allow the hose to cool down a bit. Fold the outer ends of the mats towards the center, with the **green** side facing up.

Fold the mats and stack them on the ground while you handle the hoses. The air will escape faster, making it easier to put them back into the reel.

- 2 Turn off the **circulation pump**, to position **0**.

- 3 Disconnect the hose from the **blue connection** first and connect it to the hose reel at the bottom of a spoke.

- 4 Disconnect the hose from the **red connection**.

- 5 Set the switch to the "**Hose Reel**" position (**1**).

- 6 The reel is started with the foot pedal. Stand at least 2 meters away from the hose reel when rewinding the hose and always wear protective gloves.

- 7 Turn the **power switch** to position **0**.

- 8 Place the mats in the basket and secure the basket with the 4 locking devices.

- 9 Turn the **green** battery disconnect switch on the battery and disconnect the connected mains power. Raise the support legs.

Electric heating
OFF ON



Hose reel
1

0

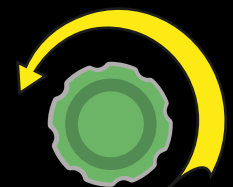
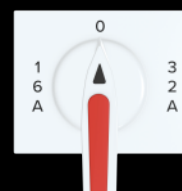
Circulation
2



Hose reel
1

0

Circulation
2












10. ACTIVATED EMERGENCY STOP

- 1 When the emergency stop is activated, the emergency stop reset button must be pressed to reset it.
- 2 All knobs must then be set to position 0 before the system can be restarted.

11. MAINTENANCE AND SERVICE

- Fuel filter for the diesel burner Tigerloop filter should be replaced as needed or annually. The yellow filter can be seen through the transparent plastic cup.
- Fuel filter Hatz "FUEL FILTER" for the diesel engine gives a warning after 500 hours. It must be replaced.
- Air filter for Hatz "ENGINE AIR FILTER" diesel engine gives a warning after 500 hours. Check it. Under normal use, the air filter can be blown clean with compressed air or replaced after 500 hours.
- Engine oil Hatz "ENGINE OIL" has an interval of 250 hours. (The generator holds 2.5 liters of 5W-40 oil).
- Clean the glycol system filters once a year or as needed.
- "Once a year, or as needed, the chimney can be removed to inspect the amount of soot in the boiler. Two additional inspection doors are located on the front of the boiler, behind the protective cover. Clean and vacuum as needed."

When resetting the oil change and service intervals on the display, do the following:

- 1 Press the button in the middle. 
- 2 Step down with  To "SYSTEM SETTINGS" and press 
- 3 Enter code "3482" and press 
- 4 Step down with  to "SERVICE REMINDERS" and press 
- 5 In the menu, you will find "FUEL FILTER," "ENGINE AIR FILTER," and "ENGINE OIL" when scrolling with 
- 6 Step down in the selected menu with  to "RESET" and press  to reset the service.

12. TECHNICAL DATA

12.1 TECHNICAL DATA FLEXI HEATER MIDI 400/600

Specification	MIDI 400	MIDI 600
• Height	2050 mm	2050 mm
• Width	1990 mm	1990 mm
• Length	3340 mm	3610 mm
• Total weight	1500 kg	1800 kg
• Heat medium	Propylenglykol	Propylenglykol
• Expansion tank	20 liter	20 liter
• Pump capacity	100 liter/min	100 liter/min
• Oil-hydraulic winch	30 bar	30 bar
• Heating capacity	35 kW	70 kW
• Hose length (meters)	400 m	600 m
• Hose circuits	2 (200 m per circuit)	3 (200 m per krets)
• Diesel tank	290 liter	290 liter
• Generator output	4,2 kW	4,2 kW
• Mains power consumption	230 V 10A / 1100W	230 V 10A / 1100W

12.2 TECHNICAL DATA FLEXI HEATER ELEKTRISK

Specification	MIDI 450E
• Height	2050 mm
• Width	1990 mm
• Length	3340 mm
• Total weight	1000 kg
• Heat medium	Propylenglykol
• Expansion tank	20 liter
• Pump capacity	100 liter/min
• Oil-hydraulic winch	30 bar
• Heating capacity	35 kW
• Hose length (meters)	450m
• Hose circuits	2 pcs per 200m, 1 pc 50m.
• Mains power consumption	230 V 10A / 1100W 400 V 16A / 8kW 400 V 32A / 17 kW (2x16A) 400 V 63A / 35 kW (2x32A)

12.3 TECHNICAL DATA FLEXI HEATER MIDI 400/600 HYBRID

Specification	MIDI 400 Hybrid	MIDI 600 Hybrid
• Height	2050 mm	2050 mm
• Width	1990 mm	1990 mm
• Length	3340 mm	3610 mm
• Total weight	1500 kg	1800 kg
• Heat medium	Propylenglykol	Propylenglykol
• Expansion tank	20 liter	20 liter
• Pump capacity	100 liter/min	100 liter/min
• Oil-hydraulic winch	30 bar	30 bar
• Heating capacity	35 kW / 70 kW	70 kW / 105 kW
• Hose length (meters)	400	600 m
• Hose circuits	2 (200 m per circuit)	3 (200 m per circuit)
• Diesel tank	290 liter	290 liter
• Generator output	4,2 kW	4,2 kW
• Mains power consumption	230 V 10A / 1100W 400 V 16A / 8kW 400 V 32A / 17 kW (2x16A) 400 V 63A / 35 kW (2x32A)	230 V 10A / 1100W 400 V 16A / 8kW 400 V 32A / 17 kW (2x16A) 400 V 63A / 35 kW (2x32A)

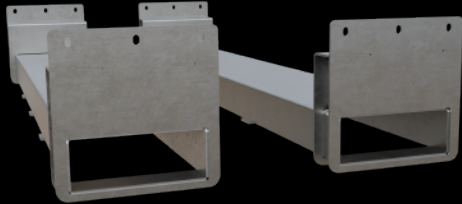
12.4 TECHNICAL DATA FLEXI HEATER MAXI 450

Specification	MAXI 450
• Height	1750 mm
• Width	1550 mm
• Length	2000 mm
• Total weight	750 kg
• Heat medium	Propylenglykol
• Expansion tank	20 liter
• Pump capacity	100 liter/min
• Oil-hydraulic winch	30 bar
• Heating capacity	35 kW
• Hose length (meters)	450m
• Hose circuits	2 pcs per 200m, 1 pc 50m.
• Mains power consumption	230 V 10A / 1100W 400 V 16A / 8kW 400 V 32A / 17 kW (2x16A) 400 V 63A / 35 kW (2x32A)

13. ACCESSORIES.

You can easily order your accessories on our website:

www.flexiheater.se/tillbehör



Fork pockets

Fork pockets that facilitate the movement of the MIDI models. Can be easily retrofitted.



Lifting eyes.

Lifting eyes that facilitate the movement of the MIDI models. Can be easily retrofitted.



Indicator light.

Indicator light with magnetic base that shows when the machine is in operation. Fits MIDI models manufactured from 2024/25..



Air heater

The air heater has three different speeds, and the output is approximately 35-40 kilowatts.



Glycol fluid

The glycol fluid that we sell is specially adapted for our machines.



Insulation mats.

Heat-reflective insulation mats with high quality and durability.

Contact information

Sales

For matters regarding all types of sales of machines and accessories.

Monday - Friday 08:00-16:00

Tel.: **0941-56722**



Support

Contact our support for all support inquiries.

Monday - Friday 08:00-16:00

Tel.: **0941-56725**



On-call number

For emergency support, we are here to help you 24/7, every day.

Every day, 24/7.

Tel.: **0941-56726**



At Flexi Heater AB, we are well aware of the challenges that winter in Sweden presents to the construction and building industry, with frost, ice, and snow in large quantities.

To make work easier in our harsh climate, we have focused on creating user-friendly, efficient, and mobile heating units that eliminate frost, ice, and snow from the equation.

Our major strength is that we own the entire chain, from the smallest metal piece to the finished product, which gives us a significant advantage in terms of efficiency, innovation, and quality.

info@flexiheater.se
Tel: +4694156711
Kuttervägen 12
919 32 Åsele

Explore our machines, accessories, and
get to know us better at www.flexiheater.se

