

Instruction manual





Translation of the original German instruction manual



Mobile steam unit STEAMMOBIL MDZ 600

Documentation

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 +49.77 31.94 60-0
 +49.77 31.94 60-999
 www.hotmobil.de
 info@hotmobil.de

Read and observe the instruction manual.
Keep the instruction manual in the unit for future use.

Subject to technical modifications and amendments.

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1. PREFACE

1.1. Target group of the instruction manual

This instruction manual is intended both for the operator and the persons entrusted by the operator to handle the unit.

In this document, attention is paid to a neutral gender form.

Where this is not possible, the original grammatical gender is used in order to facilitate legibility.

Here, we expressly point out that in such cases the other sex is also addressed.

Drawings and visualizations in this document are used to explain the unit. To simplify the perception of the contents for the reader, some components are highlighted in color, displaced or hidden. Details and coloring may fundamentally differ from the components installed.

An overview of the qualifications required for handling the unit can be found in **chapter 3.3.8.**

All operators of this unit must be instructed in handling this unit.

For your safety:

Prior to start-up or mounting the unit, you must familiarize yourself with the contents of this instruction manual. Thus, you will achieve the optimum work results and work safely. This will allow you to:

- avoid accidents,
- observe the warranty regulations,
- always have a functioning unit in the operational condition.

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1.2. Instruction

You will receive an instruction by the unit manufacturer

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Mobile Energiezentralen

Industriepark 322

D-78244 Gottmadingen



+49.77 31.94 60-0



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in the operation of the unit.

Information for the employer:

The personnel must be instructed regularly, at least once a year, according to the regulations of the national organization for work safety.

Unqualified persons and persons not instructed according to the instruction manual are not allowed to use the unit.

It must be ensured that unauthorized persons do not have access to the unit.

As operator you are solely responsible for the safe operation and the safe maintenance of the unit.

Make sure that third parties that operate, maintain or work in the immediate vicinity of the unit are familiar with the operating and maintenance instructions, and the corresponding safety instructions of this instruction manual.

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2. Introduction

2.1. Documentation

This instruction manual is part of the unit documentation and an inherent part of the described mobile steam unit, hereafter referred to as MDZ.

The unit documentation must be permanently kept at the place of installation of the MDZ.

A document holder in the MDZ is provided for this. If the unit is sold, disposed, leased or rented, the instruction manual must be supplied with unit.

This instruction manual contains fundamental information. The instruction manuals listed in the chapter "Applicable documents" must also be complied with.

When operating the complete machine, you must comply with the relevant statutory regulations and legal requirements as well as with the operating instructions of the different components.

2.2. Technical product description

The technical product description can be found in the applicable document:
"UE General description of the machine"

2.3. Responsibility list


2.3.1. Manufacturer of the MDZ


Hotmobil Deutschland GmbH

Mobile Energiezentralen

Industriepark 322

D-78244 Gottmadingen

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 +49.77 31.94 60-999

2.3.2. Other manufacturers

Documentation of other manufacturers is enclosed with the unit documentation.
For required information, refer to the corresponding instruction manuals enclosed with the unit documentation.

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3. Safety regulations

Take note of the differences between rental units and units for sale!

3.1. Notes and explanations of terms



Danger!

For a hazard which can lead to severe bodily injuries or to death.
(Representation: bold)



For a situation which can lead to damages to the MDZ or an object in its environment.



For operating instructions and other useful information.



The wrench indicates information on mounting and adjustment work.

25 / [25]

The numbers on figures refer to the component in the table. The figures are located in the corresponding chapter.

Parts which are not specified later any more are assumed as known.



The bullet and the dash indicate lists.



This symbol is used to describe actions.

Orientation

The indications "on the left" and "on the right", and "at the front" and "at the back" refer to a person looking in the direction of motion.

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3.2. Symbols and warnings on the MDZ

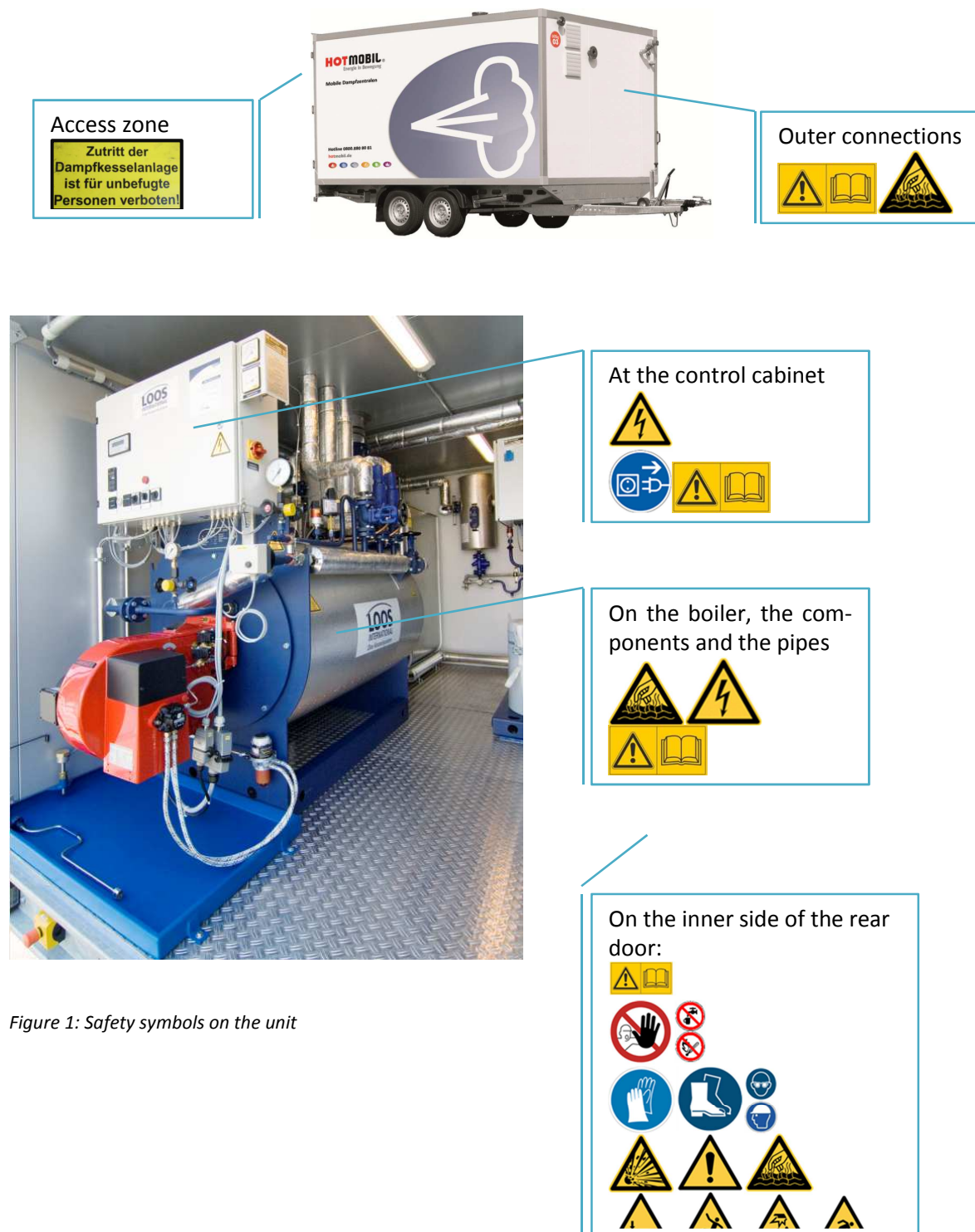


Figure 1: Safety symbols on the unit

The following safety symbols have been attached to the unit:



Prior to start-up, read the instruction manual and the safety notes, especially notes on the residual risks and observe them.



Heating room No fire, open light or smoking



Warning against electric current



Warning against a risk of stumbling



Warning against hot media



Warning against a risk of falling down



Warning against hot surfaces



Warning against explosion danger



Attention danger



Warning against concussion injuries

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Instruction: Prior to opening, pull the mains plug.



Instruction: Wear safety shoes.



Instruction: Wear a safety helmet.



Instruction: Wear eye protection.



Instruction: Wear gloves.



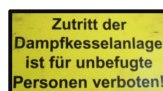
No entry for unauthorized persons.



Taking drinking water prohibited.



No fire, open light or smoking



No access to the vapor boiler unit for unauthorized persons.

3.3. Obligation, liability and dangers



Danger!

Severe injuries or death and destruction of the unit.

Observe the following points!

They are the basic prerequisite for a safe operation of the unit.



The manufacturer does not assume any responsibility or payment of damage claims if the unit has been handled improperly. In this case, the operator is solely liable for injuries or damage.

3.3.1. Observing the information in the instruction manual

Hotmobil is not liable for damage if:

- instruction was not carried out
- the unit was operated contrary to what is specified in this instruction manual

The instruction is documented using the form in the appendix.

See "Personnel instruction form".

The basic prerequisite of safe handling and faultless operation of this unit is the knowledge of the safety regulations.

This instruction manual contains the most important information on safe operation of the unit. This instruction manual, especially the safety regulations must be observed by all persons working on the unit.

Moreover, the rules and regulations for accident prevention applicable to the place of use must be observed as well as the manufacturer's instruction manual which is referred to.

3.3.2. General obligations

The operator is obliged to ensure that work on the unit is carried out only by persons who

- are not under the influence of drugs, alcohol or medicines
- are not under the influence of other intoxicating substances
- are mentally and physically capable of safe operation of the MDZ.

3.3.3. Obligation of the operator

The operator is obliged to ensure that work on the unit is carried out only by persons who

- are familiar with the basic work safety regulations and have been instructed in the handling of the unit,
- have read and understood the safety regulations and warnings in this instruction manual and have confirmed that by their signature.

It is necessary to check at regular intervals whether the personnel works according to the safety instructions.

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3.3.4. Obligation of the personnel

All persons entrusted with work on the unit are obliged:

- to observe the basic work safety and accident prevention regulations before carrying out work for the first time.
- to read the instruction manual, especially the safety regulations and to confirm by their signature that they have understood it before carrying out work for the first time.
- Any hazardous circumstance must be immediately told to the responsible supervisor as well as to Hotmobil Deutschland GmbH

3.3.5. Organizational measures

- All existing safety devices must be checked at regular intervals.
- During the operating phase, you must avoid any load fluctuations exceeding the power rating of the boiler. Make sure that the switching frequency of the burner in the substance does not exceed 10 starts an hour.

3.3.6. Protective devices

Before each start-up of the MDZ, all protective devices must be installed properly and be functional. Protective devices may be removed only after standstill **and** provided that the unit is secured against unintended start-up.

When individual components are delivered, the protective devices must be attached by the operator in accordance with regulations.

The unit must be integrated in the lightning protection system of the operator on-site in accordance with regulations. Therefore, we recommend to attach a suitable ground stake.

Work on the open unit must not be carried out during heavy rain etc.
Only in emergency cases (not for maintenance,...), work on the unit may be carried out during such weather! Protective measure must be taken by the operator (e.g. protective roof, awning,...)

In addition to this instruction manual, all other generally applicable and local regulations relevant for accident prevention and environmental protection must be provided and observed.

We would like to point out that the operator must ensure that the "Technical instructions on protection against noise" (TA-Lärm) are observed and applied.

Safety and warning signs on the unit must be legible.

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3.3.7. Training of the personnel

Only trained and instructed personnel who have completely read and understood the operating instructions may work on the unit.

The responsibilities of the personnel for the mounting, start-up, operation, setup, maintenance and repair must be clearly defined.

3.3.8. Required qualifications of operating personnel



Danger due to insufficiently instructed personnel!

Severe injuries and destruction of the unit.

Note: The unit must be operated by trained personnel only.

Prior to any work in and on the unit, the applicable sections in the instruction manual must be read again, observed and applied.

In addition to the information given here regarding the required qualifications of the operating personnel, please observe the information of following documentation:

- A002 – Basic safety instructions
- C001 – Quick steam generator

Phase of life	User group	Instructed personnel with corresponding technical training.	Skilled electrician	Supervisor with corresponding professional competence / expert knowledge, safety inspector	(*) For rental units ONLY Hotmobil Deutschland GmbH employee / skilled person
Transport		X*			X
Storage		X			
Assembly		X			
Start-up, mechanical		X			
Start-up, electrical			X		
Operation, normal operating conditions		X	X	X	
Maintenance, mechanical		X*			X
Maintenance, electrical			X*		X
Troubleshooting, mechanical		X			
Troubleshooting, electrical			X		
Repair, mechanical		X*			X
Repair, electrical			X*		X
Decommissioning, disassembly		X	X		
Packaging, subsequent transport		X*			X
Disposal		X		X	
Inspection, responsibility, observing the safety regulations				X	

Table 1: Qualifications of the operating personnel

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3.3.9. Safety measures during normal operation

The MDZ must be operated only outside closed rooms.

All safety devices must be fully functional.

Before operating the unit, make sure that nobody can be endangered by the starting unit.

The unit must be checked at least once a month and before each start-up for signs of visible damage and proper functioning of the safety devices.



Danger of death or severe injuries!

Hazard caused by flying parts, e. g. because of a deflagration or after not properly carried out maintenance or repair works on parts of the unit that are under pressure.

Protective measures:

- Always comply with the operating instructions when operating the boiler or the unit.
- Regularly monitor the boiler or the unit.
- Operate the boiler unit only with approved operating and auxiliary materials.
- In case of operating troubles, comply exactly with the relevant operating instructions.
- Always comply with the relevant safety requirements when carrying out maintenance or repair works on parts of the unit that are under pressure. Before working on parts of the unit that are under pressure, make them pressure-free and secure them.
- Allow only qualified personnel to carry out the maintenance, repair or servicing works.



Danger of death or severe injuries!

Hazard due to too important pressure. When the pressure is too important, it may lead to the destruction of the boiler and other components. All people in the environment of the MDZ have a great risk of fatal injury by emission of hot media (steam, hot water).

Protective measures:

- When the pressure becomes too important, the pressure controller must respond, shut the heating system down and lock it. If the pressure controller does not work, the safety valve responds and lets the too high pressure escape. If the safety valve does not work or if the pressure increases in spite of the escape, the heating system must immediately be shut down via the emergency stop.
- Do not put the MDZ in operation again until a qualified personnel eliminated the cause for the malfunction of the pressure controller and/or the safety valve and authorized after a corresponding test the heating system to be put in operation again.

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- Always comply with the operating instructions when operating the boiler or the unit.
- Regularly monitor the boiler or the unit.
- Operate the boiler unit only with approved operating and auxiliary materials.
- In case of operating troubles, comply exactly with the relevant operating instructions.
- Always comply with the relevant safety requirements when carrying out maintenance or repair works on parts of the unit that are under pressure. Before working on parts of the unit that are under pressure, make them pressure-free and secure them.
- Allow only qualified personnel to carry out the maintenance, repair or servicing works.



Danger of death or severe injuries!

Hazard because of water shortage or calcification of the heating coil. This hazard can cause severe damages to the boiler and other components. Moreover, all people in the environment of the MDZ have a great risk of fatal injury by emission of hot media (steam, hot water).

Protective measures:

- When there is not enough water and the heating coil consequently overheats, both temperature limiters – that also stand for the water shortage safety catch – must shut the heating system down and lock it. If the temperature limiters do not work, the heating system must immediately be shut down via the emergency stop.
- Don't put the MDZ in operation again until a qualified personnel eliminated the cause for the malfunction of the temperature controllers and authorized after a corresponding test the heating system to be put in operation again.
- Always comply with the operating instructions when operating the boiler or the unit.
- Regularly monitor the boiler or the unit.
- Operate the boiler unit only with approved operating and auxiliary materials.
- In case of operating troubles, comply exactly with the relevant operating instructions.
- Always comply with the relevant safety requirements when carrying out maintenance or repair works on parts of the unit that are under pressure. Before working on parts of the unit that are under pressure, make them pressure-free and secure them.
- Allow only qualified personnel to carry out the maintenance, repair or servicing works.

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3.3.10. Safety regulations for transport / installation



Danger of death or severe injuries!

Danger due to insufficient personnel qualification!

Activities specified in this chapter must be carried out only by the following persons:

- Skilled electrician,
- Qualified personnel with technical training.

Only qualified personnel must be entrusted with the transport of the unit. Crushing may result in serious injuries or death.

Carry out all activities in compliance with the "Safety regulations" specified in *chapter 3*.



Danger due to suspended load!

Never stay under suspended load. Means of transportation and lifting equipment are the source of danger! Do not use means of transportation (forklift trucks, ropes, chains, etc.) which are not designed for the load. The unit must be never filled during transportation. Observe the pick-up points for lifting arms. Use a crane or a forklift truck.



Danger of death! Danger caused by tilting unit components during transport!

Check before transportation whether all unit components are fastened and secured correctly. Do not transport any loose parts or components in the MDZ. Use only suitable and approved lifting gear for transport! Make sure that no supply lines are connected to the unit or are located in it.

The unit must be secured against rolling away! Apply the handbrake!

Do not install on sloping terrain.

Use chocks under tires to ensure stable position.



Danger of death! Danger due to transportation or driving with trailer supports not put up or not completely put up!

Before transportation, make sure that the trailer supports are completely put up and fixed using the corresponding fastening.



Danger of death! Danger due to incorrect handling of the trailer supports!

Prior to each handling of the trailer supports, make sure that you have understood how to handle the trailer supports.

Before the MDZ is supported by means of the trailer supports, ensure a correct support position. Before changing the position of a trailer support, hold it firmly with one hand. This will prevent accidents caused, for example by unintentional extending of the support initiated by its own weight.

Pay attention to the differences between crank supports and sliding supports!

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3.3.11. Safety regulations for operation



Danger of death or severe injuries!

Danger due to insufficient personnel qualification!

Activities specified in this chapter must be carried out only by instructed personnel with corresponding technical training.

Actions of third parties may lead to a setting error. Therefore, check all settings before each start-up.

3.3.12. Safety regulations for maintenance



Danger of death or severe injuries!

Danger due to insufficient personnel qualification!

Non-compliance can result in damage to the unit!

Activities specified in this chapter must be carried out only by the following persons:

- Qualified personnel with technical training.

There is an increased risk of injury during repair, maintenance and elimination of faults on the unit.

Non-compliance, especially in case of accidental start-up may result in damage to the unit or life-threatening injuries to persons.

- Do not carry out work under the unit without safe and suitable protection.
- Use only original spare parts of "Hotmobil Deutschland GmbH".
- Never work without protection devices.
- During a stay in the unit, the doors of the unit must be open.

3.3.13. Safety regulations for servicing



Danger of death or severe injuries!

Danger due to insufficient personnel qualification!

Non-compliance can result in damage to the unit.

Activities specified in this chapter must be carried out only by the following persons:

- Qualified personnel with corresponding technical training.

The unit must be always kept dry.

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3.3.14. Safety regulations for repair



Danger of death or severe injuries!

Danger due to insufficient personnel qualification!

Non-compliance can result in damage to the unit.

Activities specified in this chapter must be carried out only by the following persons:

- Qualified personnel with technical training.

There is an increased risk of injury during repair, maintenance and elimination of faults.

Non-compliance, especially in case of accidental start-up may result in damage to the unit or life-threatening injuries to persons.

- Carry out work on the unit only with safe and suitable protection.
- Use only original spare parts of "Hotmobil Deutschland GmbH".
- Never work without protection devices.
- During a stay in the unit, the doors of the unit must be open.

3.3.15. Safety regulations for disposal



Danger of death or severe injuries!

Danger due to insufficient personnel qualification!

3.3.16. Safety regulations for faults



Danger of death or severe injuries!

Danger due to insufficient personnel qualification!

Non-compliance can result in damage to the unit.

Activities specified in this chapter must be carried out only by the following persons:

- Qualified personnel with technical training.

There is an increased risk of injury during repair, maintenance and elimination of faults. Hence:

- **Stop the operation immediately.**
- **Eliminate the error before continuing the work.**

Non-compliance, especially in case of accidental start-up may result in damage to the unit or life-threatening injuries to persons.

This may result in serious and life-threatening injuries.

- Carry out work on the unit only with safe and suitable protection.

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3.3.17. Unit control

Never modify the software!

Only personnel instructed by "Hotmobil Deutschland GmbH" is allowed to operate the control.

The unit must not be operated when it is influenced by potential sources of electromagnetic interference (e.g. welding equipment, erosion machines, cell phones). The software of the unit is ready for operation.



Danger of death or severe injuries!

Modification is not allowed.

This may result in fatal injuries.

3.3.18. Power supply, operating media



Danger due to explosive media!

Personnel qualification!

The unit is connected to the local oil supply.

If the unit has been converted to gas operation by Hotmobil Deutschland GmbH, then it can be connected to the on-site gas supply.

If it is done improperly, there are risks of explosion and dangers due to leaking heating oil or natural gas.

This may result in serious and fatal injuries.

Only persons with corresponding training may connect the unit.

If required, the unit must be checked and approved according to the local regulations.

Risk of fatal electric shock!

The mains supply must be connected only by a skilled electrician.

Risk of falling!

There is a risk of falling while carrying out work on the roof of the MDZ.

Secure the work by taking appropriate measures.

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3.3.19. Maintenance, servicing, troubleshooting

Setting, maintenance and inspection work must be performed by the due date.
Inform operating personnel before starting maintenance and servicing work.
For all maintenance, inspection and repair work, disconnect the unit from the power supply and wait for the standstill of the unit.
Please read chapter "Maintenance and inspection work" to know the intervals.

Ensure that an unauthorized, erroneous or unexpected start is prevented. All unit parts connected up and downstream of the unit as well as operating media, such as compressed air must be secured against unintended starting.

Make sure that saved energies (e.g. media under pressure) pose no danger.

During all maintenance, inspection and repair work, the unit must be de-energized and the main switch must be protected against being switched on unexpectedly:

- Lock main switch and remove the key,
- attach a warning sign against restart.

If some work can be done only with power supply switched on, the corresponding substitute measures must be taken.

Check screw connections for tight seat and tighten loosened screw connections. After maintenance work is complete, check the function of all safety devices.

On the basis of the legal regulations, we point out that a DGUV V3 inspection must be carried out at regular intervals.

3.3.20. Modifications to the unit

Components which are not in perfect condition must be replaced immediately. Use only original spare parts and wearing parts.

It cannot be guaranteed that components supplied by third-parties are designed and manufactured such that they meet the stress and safety requirements.

The following applies only to rental units from the "Hotmobil Deutschland GmbH" unit park:

All modification measures require a written approval of the manufacturer.

The following applies to all "Hotmobil Deutschland GmbH" units:

Observe the "Warranty and liability" section in this instruction manual!

Danger due to modifications to the unit.

Do not carry out any modifications to the unit without previous written approval of "Hotmobil Deutschland GmbH".

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3.3.21. Operating materials

Additives in oils and lubricants may have adverse effects on health. Since labeling of dangerous substances according to the danger regulation is not required, please observe the following principles:

- Avoid any skin contact with these media. Protect your skin with skin protection creams or oil-resistant gloves.
- Contact with skin can lead to skin damage.
- Do not use oils for cleaning the unit.
- Never use oils and lubricants to clean hands!
- Oils can cause health damage.
- Chips and solid particles in these substances can also result in injuries.
- Change contaminated clothing.
- Change clothing heavily contaminated with oil as soon as possible.

NOTE:

- Used oils must be collected and disposed of according to regulations.
- If oils or lubricants cause skin damage, consult immediately a physician.

3.3.22. Cleaning and disposal of the unit

Used substances and materials must be properly handled and disposed of. For further information, please refer to **chapter 12**.

3.3.23. Unit noise emission

For the value of the sound pressure level, please refer to **chapter 2.2**.

Depending on the local conditions, a higher sound pressure level may occur. In this case, the operating personnel must be protected with corresponding protective equipment or protective measures.

We would like to point out that the operator must ensure that the "**Technical instructions on protection against noise**" (TA-Lärm) are observed and applied.

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3.3.24. Fire fighting



Notes on fire and claims.

Danger of death or severe injuries!

WARNING! If unsuitable fire extinguishing equipment is used:

- gases / vapors harmful to health may be produced.
- the electrical unit constitutes a hazard.

Danger of death due to electric shock!

Fight the unit fire only with fire extinguishers of the class ABC.

Inform yourself about the handling and location of the fire extinguishing equipment.
Consider the options of firefighting.

3.3.25. Warranty and liability

Warranty and liability claims for personal and material damage are void if they are due to one or several of the following causes:

- use of the unit contrary to its designated use:
- use of non-approved media in the heating circuit and in the hot water treatment system
- use of unsuitable fuels
- operation when sufficient stability is not provided
- improper mounting, start-up, operation and maintenance of the unit,
- operation of the unit with defective safety devices or if the safety and protective devices are attached incorrectly or not functioning properly,
- non-compliance with notes in the instruction manual regarding transport, storage, mounting, start-up, operation, maintenance and retrofitting of the unit,
- unauthorized modification of the unit,
- insufficient monitoring of parts which are subject to wear,
- repairs carried out improperly,
- disasters caused by foreign objects and force majeure.

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3.4. Risks in handling the unit



Danger of death or severe injuries!

Observe the following points. They are the basic prerequisite for a safe operation of the unit.

The unit has been built in accordance with the state-of-the-art standards and the recognized safety rules. Nevertheless, its use may constitute a risk to life and limb of the user or of third parties, or cause damage to the unit or to other material property. The unit is to be used only:

- for the designated use,
- in perfectly safe condition, especially faults affecting safety must be eliminated immediately after they have been detected or before the next start-up of the unit at the latest.

3.4.1. Dangers caused by electrical energy

Any work on the electrical power supply must be carried out only by a skilled electrician.

Regularly check the electrical equipment of the unit.

Immediately remove loose connections and scorched cables.

The switch cabinet must be kept locked at all times.

Access is only allowed for authorized personnel via a key or tool.

Necessary work on live parts must be carried out only in the presence of a second person who can switch off the main switch in case of emergency.

For EMC reasons, the unit must not be modified.

3.4.2. Particular hazardous areas

Particular hazards are present in the following areas:

- Electrical equipment, danger due to electric current,
- Piping, thermal hazards, risk of stumbling, danger of impact,
- Danger caused by pressure
- Roof, risk of stumbling and falling,
- Water supply, biological and microbiological hazards,
- Oil line connection,
- Transport,
- Operational environment, for example temperature, accumulation of water, scalding caused by escaping hot media.

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3.4.3. Hazardous areas



Figure 2: Hazardous areas

- | |
|--|
| 01 – Electrical equipment – danger due to electric current |
| 02 – Thermal hazards |
| 03 – Biological and microbiological hazards |
| 04 – Oil pipe connection |
| 05 – Roof – risk of stumbling and falling |



Hazards due to the pressure in the complete zone of the MDZ!

3.4.4. Residual risks



Danger of death or severe injuries!

The electrical equipment poses the risk of fatal injury. The equipment must be regularly checked for damage. Any work must be carried out only by skilled electricians.

In the piping area, there is a risk of injury caused by impact, stumbling and hot surfaces.

In the roof area, there is a risk of fatal injury caused by stumbling and falling.

In the piping area, there is a risk of fatal injury due to biological and microbiological hazards. Legionella bacteria poses a special risk.

During the transport of the MDZ, there is a risk of fatal injury in the entire interior and outer area.

The operating conditions of the MDZ pose a risk of injury, for example due to high temperatures or accumulation of water.

In the entire interior area of the MDZ, there is a risk of serious injury by scalding caused by escaping hot media.

It is not recommended to store objects on the unit.

In case of power failure and during darkness, particular care is required, and it is recommended to enter the unit only with sufficient light.

These hazardous areas pose permanent and unexpected risks. Any work in the hazardous area must be carried out with special care.

4. Product description

The mobile steam unit (STEAMMOBIL MDZ 600) is a mobile steam unit ready for immediate use. It is equipped with a exhaust gas heat exchanger and is mounted on a tandem trailer for mobile use and autonomous operating. The MDZ is a quick steam generator and is only intended for generation of saturated steam.

The heating coil of the steam boiler is filled with treated water that must comply with the requirements of the operating instructions "B002 Guidelines water quality standards". The MDZ, depending on the design, is operated with heating oil or natural gas.

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4.1. Entirety, designation of the subassemblies



Figure 3: Perspective of the unit (steam boiler)

01 – Control cabinet	02 – Steam boiler
03 – Oil burner	04 – Oil filter



Figure 4: Perspective of the unit (water treatment system)

01 – ABA control cabinet	02 – Cold water arrival
03 – Backwashing filter	04 – System separators
05 – Softening unit with salt container [05a]	06 – Analysis automat (Testomat)



You can find information about the dimensions of the connections in the following applicable document:

- UE General description of the machine MDZ xxx 600 kg

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Figure 5: Perspective of the unit (feed water)

01 – Control cabinet feed water	02 – Feed water container
03 – Pressure transmitter	04 – Pressure increase pump
05 – Feeding pump	06 – Cooler for water sample

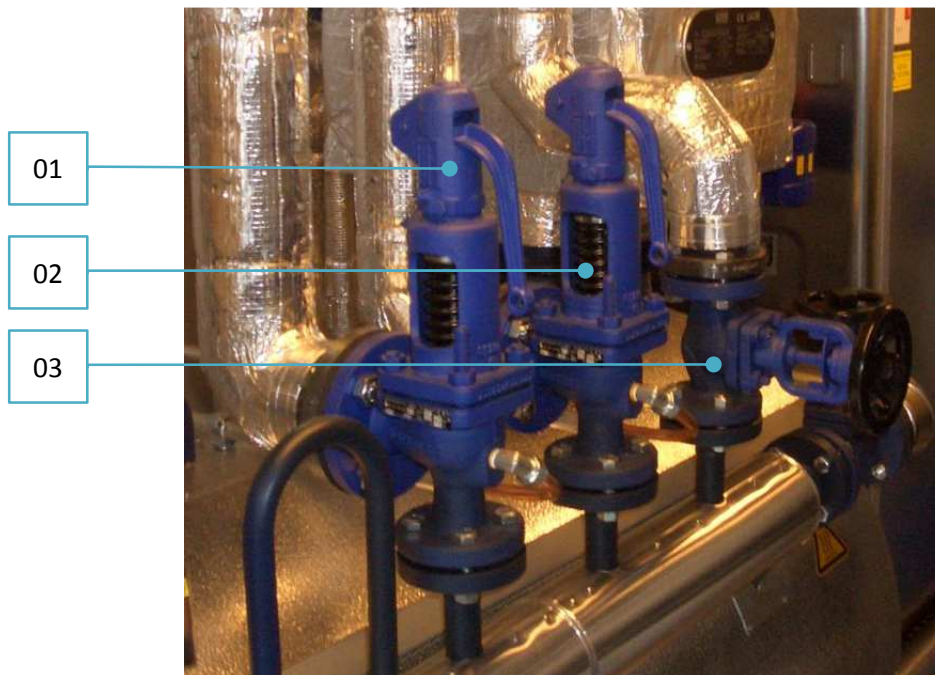


Figure 6: Safety devices - valves

01 – Safety valve	02 – Safety valve
03 – Steam exhaust valve	



Figure 7: Safety devices - sensor modules

01 – Pressure gauge	02 – Maximum pressure limiter
03 – Pressure sensor	



Figure 8: Steam repartition

01 – (M.) Heating shut-off fitting	02 – Heating steam pipe
03 – (M.) Steam sampling shut-off fitting	04 – Steam pipe
05 – (M.) Rinsing shut-off fitting	06 – Draining/rinsing pipe



Figure 9: Steam dryer

01 – Main steam pipe	02 – Water separator module (steam dryer)
03 – Steam consumer pipe	

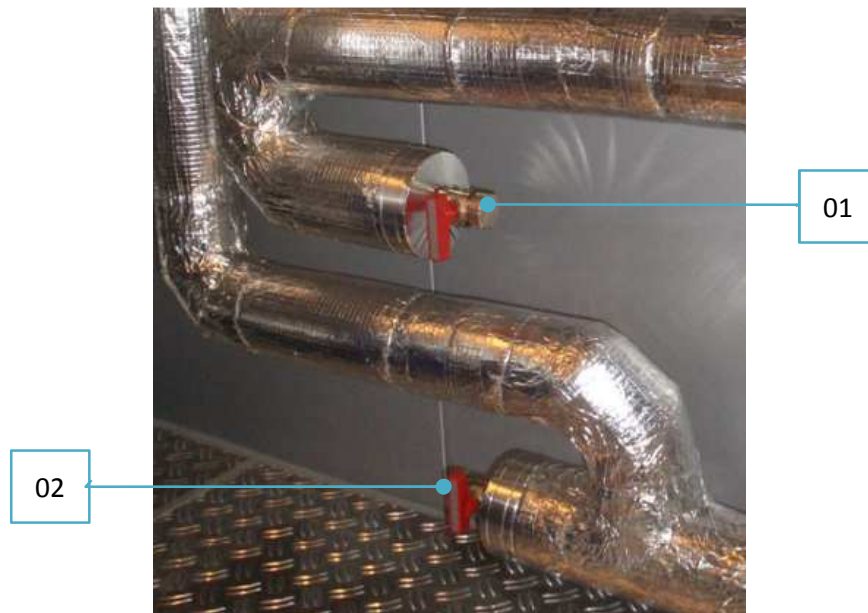


Figure 10: Emptying

01 – Heating pipe emptying

02 – Feed water pressure pipe emptying



Figure 11: Oil tank

01 – Oil sampling pipe

02 – Oil switch valve

03 – Content display

04 – Exhaust duct

05 – Filling pipe

06 – Oil tank

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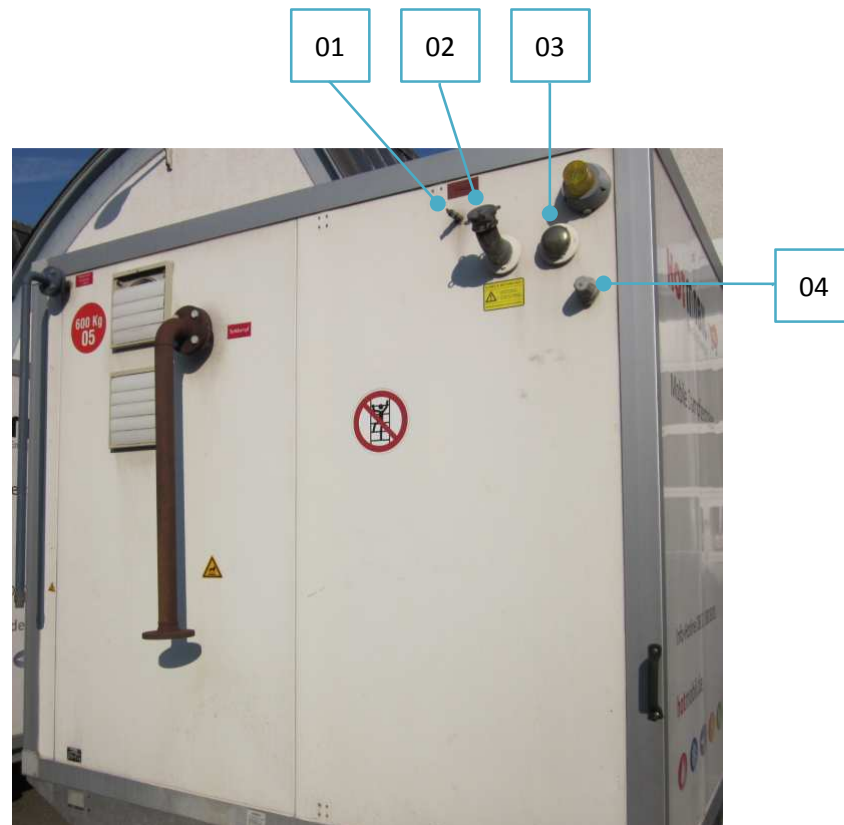


Figure 12: Oil supply connections

01 – External heating oil supply	02 – Heating oil filling pipe
03 – Heating oil venting	04 – Limit indicator

The MDZ is fueled via the connection of the **heating oil filling line** (02).

During fueling process, the **limit indicator** (04) gives a signal to the filling attendant when the maximum filling level in the heating oil tank is reached.

The heating oil tank is permanently vented via the **forced ventilation** (03).

As an alternative, the MDZ can be operated via an **external heating oil supply** (01).



Figure 13: Steam connection pipes

01 – Connection lead low pressure condensation water	02 – Connection lead saturated steam
03 – Flash lamp (signals a fault in the installation)	



You can find information about the dimensions of the connections in the following applicable document:

- UE General description of the machine MDZ xxx 600 kg



Figure 14: Emergency stop button

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If the **Emergency stop button** is pressed, the MDZ is shut down immediately - Current is still available, but the control is de-energized. After the mechanical releasing of the emergency stop, the releasing must be acknowledged at the fault signal of the control cabinet.



Figure 15: Media supply

01 – Power supply connection	02 – Raw water connection
03 – Wastewater connection	



You can find information about the dimensions of the connections in the following applicable document:

- UE General description of the machine MDZ xxx 600 kg

Under every media supply connection in the MDZ, there is a slot in the floor of the trailer so that the supply line can get through.

4.2. Description of the operating elements

To operate the MDZ, the operating personnel can use several operating panels at different zones in the MDZ.

Operating panel	Location
Control cabinet	Boiler front side
Control cabinet feed water	On the feed water container
ABA control cabinet	Over the water treatment system

4.2.1. Control cabinet



You must take into consideration the description of the actuators as well as, in the unit documentation, the operating Instructions of the different control and signal units and:

- A002 Basic safety instructions



Figure 16: Control cabinet (information)

01 – Fault display (fault indication device SA 10)	02 – Operating hours counter (small load)
03 – Operating hours counter (big load)	04 – Display "Low water protection device 1"
05 – Display "Exhaust gases temperature"	06 – Display „Fault on the boiler“



Figure 17: Control cabinet (operating)

01 – Power control (digital regulator KS 90)	02 – Operating selector
03 – Burner control	04 – Control switch low water protection
05 – Main switch	

4.2.2. Emergency stop and main switch



Danger!

The Emergency stop is not a switch for repairs; for this, the main switch must be switched off and secured. Otherwise dangerous situations may occur which can lead to serious bodily injuries or to death.

The Emergency stop is not intended for switching the unit off during normal operation.

The switches must be actuated to prevent danger.

Designation Operating element	Function What is triggered / displayed	Place / location
Emergency Stop	After the Emergency stop button has been pressed, the unit is de-energized. Emergency systems remain energized!	<i>Outside on the trail</i>
Main switch	Disconnects the entire unit from the power supply and switches the MDZ on or off.	<i>Laterally on the control cabinet</i>

Table 2: Emergency stop and main switch

4.2.2.1. Checking the Emergency stop

The function of the Emergency stop must be checked at least once a month as follows:

- Activate the Emergency stop.
- The unit will be de-energized. **With the exception of emergency systems!**
- Unlock and acknowledge the Emergency stop.

4.2.2.2. Resetting the Emergency stop



To put the unit into operation again after the Emergency stop has been activated, the Emergency stop must be manually unlocked and acknowledged at the control cabinet.

4.2.2.3. Starting the MDZ after the Emergency stop has been activated



Before the MDZ can be restarted after the Emergency stop has been activated, the cause for the emergency stop must be eliminated and the installation must be checked.

The MDZ can only be restarted when all causes have been safely eliminated.

Once the Emergency stop has been unlocked, the installation can be restarted in accordance with the procedure described in the chapter "Start the MDZ".

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4.3. Workplace

During operation, the operator must make settings on the MDZ.
The workplaces of the operator are shown on the following figure:

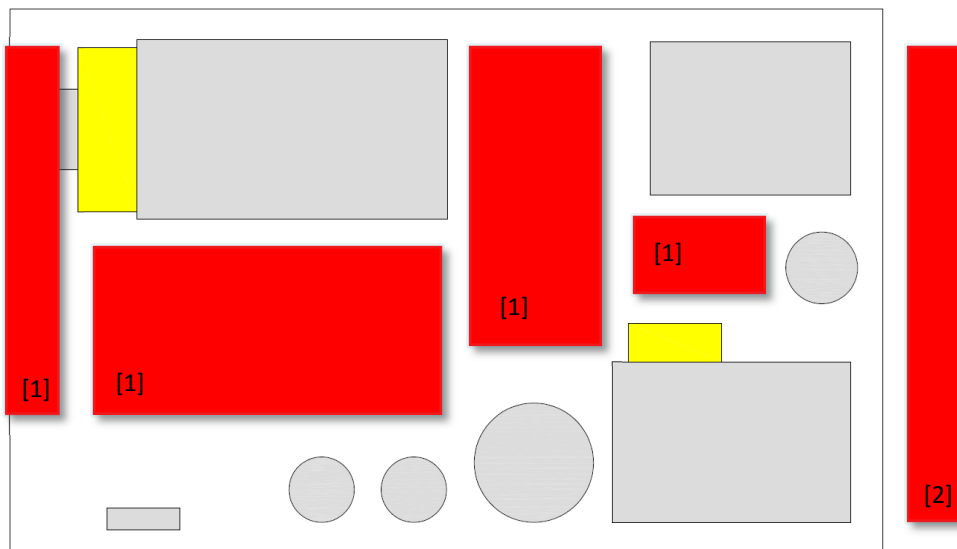


Figure 18: Workplaces

- | |
|---|
| [1] Setting work in the trailer |
| [2] Setting work outside of the trailer |

Workplaces for maintenance and servicing of the unit can also be at other places within and outside of the MDZ.

4.4. Intended use

The mobile steam unit (STEAMMOBIL MDZ 600) is a mobile steam unit ready for immediate use. It is equipped with a exhaust gas heat exchanger and is mounted on a tandem trailer for mobile use and autonomous operating. The MDZ is a quick steam generator and is only intended for generation of saturated steam.

The heating coil of the steam boiler is filled with treated water that must comply with the requirements of the operating instructions "B002 Guidelines water quality standards". The MDZ, depending on the design, is operated with heating oil or natural gas.

Designated use also includes:

- the use within the performance limits indicated in the technical data.
- observing the maintenance and repair work prescribed by the manufacturer.
- the use in the mode described in this instruction manual.
- Mode of function: heating/vaporization of feed water
- Operating states:
 - Setup
 - Normal operation
 - Maintenance

Using the unit for purposes other than those described above is considered contrary to its designated use.

The MDZ can be used in the following operating modes:

Operating mode
Manual mode
Automatic mode

Table 3: MDZ operating modes

4.5. Non-designated use

The following is considered as non-designated use in terms of foreseeable incorrect use:

- operation in closed rooms
- operation when sufficient stability is not provided
- use of unsuitable fuels
- use of non-approved media in the hydraulic system
- use of non-approved media in the water treatment system
- use of not suitable MDZ or connection to a consumer whose power requirements are not suitable for the MDZ

4.6. Service life

The unit is designed for a maximum service life of:

20 years in continuous operation.

Once the maximum service life is reached, the MDZ must be taken out of operation or a general overhaul must be carried out.

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4.7. Liability



Damage to the unit!

If used incorrectly, the MDZ and/or products in the vicinity of it can be damaged or destroyed. Persons in the danger zone may suffer bodily injuries which in extreme cases can lead to death.



If the unit is:

- used contrary to its designated use,
- maintained and repaired incorrectly,
- operated incorrectly,
- modified without permission,

the manufacturer does not assume any liability for any damage that occurs because of it.

Such use is at the sole risk of the unit operator.

4.8. Conformity

The unit complies with the following directives:

- Product Safety Regulation (ProdSG)
- Machinery Directive 2006/42/EC or 9. ProdSV
- Pressure Equipment Directive 2014/68/EU
- EMC Directive 2004/108/EC or EMC Act
- Directive on low voltage 2006/95/EC or 1. ProdSV

4.9. Labeling



Figure 19: Unit rating plate (example)

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5. Transport / installation

Objective:

To instruct the user and the authorized personnel in proper transport and installation.

5.1. Transport

5.1.1. Prerequisite



For the MDZ transport, ensure that:

- the MDZ has been completely emptied
- the chimney cover has been mounted
- the connection lines have been dismantled
- electrical connection lines have been dismantled
- the trailer supports have been put up and fixed
- the supporting wheel has been wound up
- the wheel chocks under the tires have been removed
- the chimney has been dismantled and secured for transport
- there are no loose objects in the trailer
- the trailer doors and side panels have been firmly closed
- you use a suitable tow vehicle
- the MDZ has been attached and connected to the tow vehicle according to chapter "Attaching to a tow vehicle"
- the illumination of the MDZ and the tow vehicle functions correctly

A special-purpose vehicle, a crane or a forklift truck, must be used for loading on a truck.

Observe the carrying capacity!

Use only suitable and approved lifting gear.

Dimensions and weights can be found in **chapter 2.2** "Technical product description".

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5.1.2. Attaching to a tow vehicle



To safely attach the MDZ to a suitable tow vehicle, we recommend to observe the following order:

- Apply the handbrake of the trailer
- Approach the trailer with the tow vehicle
- Lower supporting wheel until the coupling dog is located above the coupling ball
- Position the coupling ball under the coupling dog
- Switch off the motor and apply the handbrake
- Fix the breakaway cable to the coupling ball
- Wind up the supporting wheel until the coupling dog encloses the coupling ball
- Press the coupling dog on the coupling ball and simultaneously pull the coupling lever upward. The downward movement of the coupling lever indicates that the coupling has engaged correctly.
- Correctly connect the power cable of the trailer to the socket provided for this purpose on the tow vehicle
- Check whether the MDZ has been coupled to the tow vehicle correctly and safely

5.2. Installation at the place of use

The chapter covers the installation of the unit at the place of use

5.2.1. Prerequisite



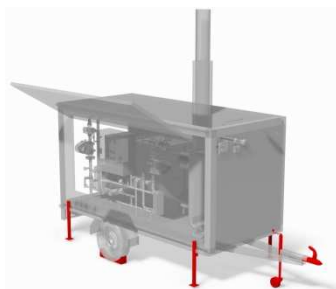
Install the unit according to the instructions in **chapter 2.2** and the safety regulations in **chapter 3.3.10**.

5.2.2. Installation



When installing the unit, ensure correct handling of the trailer components and accessories, and follow the instructions in **chapter 4**.

Level the unit using the corresponding auxiliary tools.



Before work on the trailer supports, make sure that the trailer has been coupled, the handbrake has been applied and the wheel chocks have been placed under the tires.

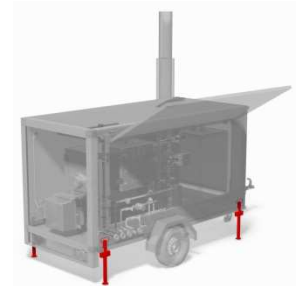
For soft ground, use suitable support plates (e.g. wooden plates) under the trailer supports to prevent sinking!

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5.2.2.1. Trailer with sliding supports

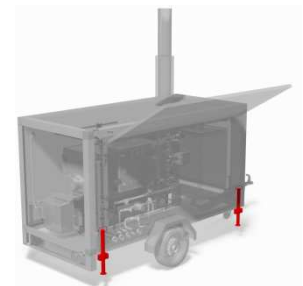
To **use the sliding supports**, proceed as follows:

- Firmly hold the sliding support at the handle
- Loosen the T-screw
- Lower the sliding support until it touches the ground
- Tighten the T-screw
- Check the T-screw for tightness



To **raise the sliding supports**, proceed as follows:

- Firmly hold the sliding support at the handle
- Loosen the T-screw
- Pull the sliding support completely upward
- Tighten the T-screw
- Check the T-screw for tightness before releasing the handle

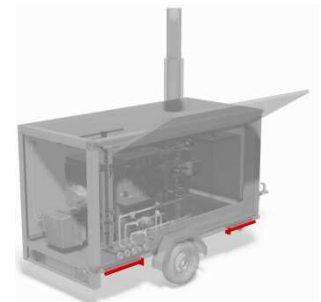


5.2.2.2. Trailer with crank supports

For transport, the crank supports are mounted horizontally, for supporting the trailer, they are turned by 90° downward via a safety bolt.

To use the **crank supports**, proceed as follows:

- Firmly hold the crank support
- Pull out the safety bolt
- Turn the support by 90° to a vertical position (support foot points downward)
- Insert the safety bolt again
- Insert the crank into the crank entry
- Lower the support to the ground using the crank



To **raise the crank supports**, proceed as follows:

- Insert the crank into the crank entry
- Lift the support upward to the stop using the crank
- Firmly hold the crank support
- Pull out the safety bolt
- Turn the support by 90° to a horizontal position (support foot points toward wheel axle)
- Insert the safety bolt again



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Cables and hoses connected to the unit must be installed such that stumbling / falling is avoided. Label the connecting lines or use ramps / hose bridges.

Observe the chapter "Handling the connecting lines"!

6. Handling the connecting lines

Always check on the connecting lines if the connection is correct and safe.

For connecting and handling the connecting lines and all types of hoses, refer to the instruction manual of the hose manufacturer.

When using hoses of Hotmobil Deutschland GmbH, refer to the instruction manual of the HOTFLEX MVL mobile connecting lines.

It is part of the unit documentation.

All operators must be instructed in handling the connecting lines.

If there is visible external damage to the hose, the hose and the unit must not be put into operation.

Check whether the hoses used have been properly installed.
There must be no risk to persons of stumbling or falling caused by installed hoses.

Hotmobil Deutschland GmbH recommends the use of hose bridges (HOTRAMP MÜR) and installation of suitable barriers (e.g. building site fence).

Hoses connected to the MDZ must NOT be insulated.

The instruction manual of the Hotflex MVL connecting lines of Hotmobil Deutschland GmbH must not be used for other connecting lines.

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7. Start-up / operation

Objective:

To instruct the user in operation of the unit. This includes:

- safe operation of the unit,
- use of all technical options of the unit,
- efficient operation of the unit.

7.1. Start-up



In addition to the following start-up steps, the start-up report must be observed. The start-up report is created according to the place of use by a customer service employee of "Hotmobil Deutschland GmbH".

It is handed over to the operator and is part of this documentation.

If the place of use is changed, contact the customer service of "Hotmobil Deutschland GmbH".

7.1.1. Preparation of start-up



Danger of death or severe injuries!

Safety regulations.

Danger due to insufficient personnel qualification!

Activities specified in this chapter must be carried out only by the following persons:

- Skilled electrician,
- Qualified personnel with technical training.

7.1.1.1. Mechanical check



The information in the operating instructions about the different modules and components must be taken into account.

Danger of death or severe injuries!

The mechanical control shall only be carried out in accordance with the information given in the operating instructions.

Observe chapter "Warranty and liability" too.

Observe the information given in the following documentation:

- A002 – Basic safety instructions
- C001 – Quick steam generator

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7.1.1.2. Electrical check

The information in the operating instructions about the different modules and components must be taken into account. The electrical control shall only be carried out by a trained and qualified electrician. It must be carried out in accordance with the local requirements and must be appropriate for humid rooms.



Danger of death or severe injuries!

The automatic control panel as well as other electronic components must not be opened. Repairs on these components must only be carried out by the manufacturer.

Observe chapter "Warranty and liability" too.

Observe the information given in the following documentation:

- A002 – Basic safety instructions
- C001 – Quick steam generator

7.1.1.3. Starting the MDZ

The information in the operating instructions about the different modules and components must be taken into account.



Danger of death or severe injuries!

An improper starting procedure can destroy the housing. The starting must be carried out in accordance with the operating instructions of the different components.

Observe chapter "Warranty and liability" too.

Observe the information given in the following documentation:

- A002 – Basic safety instructions
- C001 – Quick steam generator

7.1.2. Fueling the MDZ



Use only low-sulphur heating oil EL according to DIN 51603-1.

After the unit has been filled for the first time, wait at least half an hour before switching on the MDZ to allow turbidities to settle in the heating oil.

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7.2. Operation

The operating and indicating elements of the unit are described in **chapter 4.2**.

7.2.1. Prerequisites before operating



Danger of death or severe injuries!

The MDZ can be exposed to tough conditions caused by external influences.

- Make a visual check to control if the unit and especially the supply lines are damaged or if the settings have been changed.
- Make sure that supply lines located outside the unit have ramps or bridges for vehicles or similar.
- The trailer must be secured against rolling away.

Observe the information given in the following documentation:

- A002 – Basic safety instructions
- C001 – Quick steam generator

The operator must comply with the following requirements before the start-up

- Make sure that the fill-up water and the make-up water meet the values in the document "B002 - Guidelines water quality standards".
- No construction work or activities that may cause dust or moisture is allowed in the environment.
- Openings used to supply the MDZ with air or to guide the exhaust air out of it shall be big enough and functional. They shall not be closed or covered.
- The illumination of the MDZ shall be sufficient to allow reading all indicators.
- The escape routes must be kept clear.
- The doors of the trailer of the MDZ shall not be locked.
- The operator must attach a sign to prohibit any unauthorized person to access the installation.
- The operator must guarantee that a fire extinguisher also suitable for oil fires is available.
- The relevant electric regulations, especially the protective measures required by the local authorities, must be complied with.
- The chimney and the exhaust gas paths must be leak-tight.

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7.2.2. Put the MDZ into operation.



- The prerequisites from chapter "Prerequisites before start-up" must be complied with.



- **Use the hydraulic diagram for the overview.**
The details in square brackets [] are references to the hydraulic diagram.



1. Mount the connection lines

- Mount the on-site steam pipe, condensation line and drain pipe to the intended terminals of the MDZ.



2. Connect to the power supply

- After the electric control, connect the MDZ to the on-site power supply via the socket next to the burner. (400 VAC / 16 A)
- Switch on the MDZ with the main switch of the control cabinet.
 - If the display of the power controller at the control cabinet is active, then the rotating field is correctly set up.
 - If the display of the power controller at the control cabinet is not active, then reverse the rotating field by turning the socket over.



3. a) Set up the raw water connection (no on-site supply of soft water)

- Connect the on-site raw water connection to the raw water terminal [cold water inlet] of the MDZ. (Inlet pressure: >2.0 bar)
- Open the shut-off fitting of the soft water pipe [H-4].
- Vent the raw water pipe with the backwashing filter [F-4].
To do that, turn the rotary knob counterclockwise.
After venting, close the backwashing filter completely by turning the rotary knob clockwise.
- Vent the soft water pipe during about 30 seconds with the soft water purge fitting [H-5]. After venting, close the soft water purge fitting completely.



3. a) Set up the soft water connection (on-site supply of soft water)

- Connect the on-site soft water supply to the soft water pipe of the MDZ [pipe 05].
- Open the shut-off fitting of the soft water pipe [H-4].
- Vent the soft water pipe during about 30 seconds with the soft water purge fitting [H-5]. After venting, close the soft water purge fitting completely.

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4. a) Set up the water treatment system (no on-site supply of soft water)

- Make sure that the installation is supplied with power.
(on the right side next to the Testomat [LH-4])
- Switch on the Testomat via the ON/OFF switch (laterally).

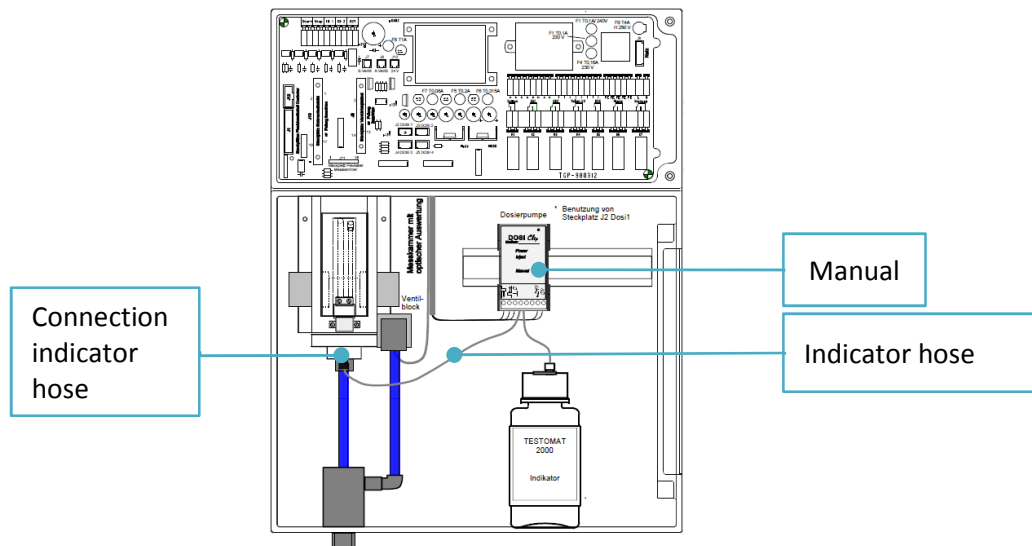


Figure 20: Inner structure of the Testomat

- Open the bottom cover of the Testomat.
- Rotate the indicator hose at its terminal and remove only this terminal side.
- Hold the "Manual"-button pushed long enough until the indicator tube is completely filled with indicator liquid.
- Rotate the indicator hose once again on at its terminal.
- Switch the Testomat off and again on.
After the measuring, the Testomat should display a hardness of 0.25° dH.
If you have a doubt, switch the Testomat once again off and again on.
- Close the bottom cover of the Testomat.



4. b) Set up the water treatment system (on-site supply of soft water)

- Make sure that the installation is no longer supplied with power.
(on the right side next to the Testomat [LH-4])



5. Prepare the feed water container

- Close both valves [H-3] under the feed water container.
- Switch on the text display at the feed water control cabinet (red button).
Display "Code 06" → level feed water container under 30%
Display "Code 10" → level feed water container over 30%
If the level of the feed water falls under 30%, a fault signal is generated that must be acknowledged at the main control cabinet at the fault signal.
The fault can't be acknowledged until the feed water level is over 30% again.
- The solenoid valve [V-14] at the feed water inlet opens automatically and the feed water container is filled up.
(The filling lasts about half an hour and switches automatically off)



6. Purge process

- When the feed water container is full, put the operating selector at the control cabinet to "Manual".
- Put the burner control switch at the control cabinet to "Purge".
The feed water pump switches on.
- Purge the steam container during ten to fifteen minutes.
- After the purge process, put the burner control switch at the main control cabinet to "Off".
- The burner of the MDZ is now ready to start.



7. Run the installation in manual mode

- Put the burner control switch at the control cabinet to "Small load".
The steam container installation shall be run in small load until the operating pressure reached **3.0 bar**.
Pay attention to the working pressure display of the power controller at the control cabinet.



Attention! Possibility of damaging the device!

If the MDZ is not first run on small load, there is a risk of increased wear in the container because of tensions due to temperature differences.

- Put the burner control switch at the control cabinet to "Big load".
- Set up the wished operating pressure **between 5.5 and 15 bar** via the power controller at the control cabinet. Now, the MDZ runs in manual mode.



Attention! Possibility of damaging the device!

If the MDZ is not operated via the burner control switch in accordance with the load requirements, there is a risk of damaging the installation and/or of increased wear in the container because a too frequent switching off of the burner.

Power requirement consumer	Position of the burner control switch
Until 50% of the maximal power	Small load
Over 50% of the maximal power	Big load

7.2.3. Switch MDZ to automatic mode



- Set the selector switch at the ABA control cabinet on "Automatic".
- Set the operating selector at the control cabinet on "Automatic".
- The MDZ now runs in automatic mode.

7.2.4. Prerequisites during the operation



➤ **Purge the installation twice a day**

The installation must be purged twice a day.

As described in the chapter "Put the MDZ into operation", follow the instructions of "6. Purge process".

To start the installation again after the purge process, please comply with the requirements described in "7. Run the installation in manual mode".



➤ **Check the filling level of the salt container**

The filling level in the salt container of the water treatment system must be checked **at least once a day**. The salt container must be filled to $\frac{3}{4}$.



➤ **Check the filling level of the chemical dosing unit**

The filling level of the chemical dosing unit [B-5] must be checked **at least once a day**.

Use only dosing medium "ST-DOS H-141".

The dosing medium must be mixed as 1 part medium with 1 part soft water.

To mix the medium with soft water, open the shut-off fitting [H-8] until the wanted quantity of soft water has flowed into the container with the chemical dosing unit.

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7.2.5. Decommissioning the MDZ

Objective:

- Proper preparation for storage.
- Maintaining the target state of the unit during storage.

Decommissioning is required every time the location is changed and every time the unit is stored. Please comply with the information given in the following documents:

- A002 – Basic safety instructions
- C001 – Quick steam generator



- Set the selector switch at the ABA control cabinet on "Manual".
- Set the operating selector at the control cabinet on "Manual".
- Put the burner control switch at the main control cabinet to "Purge".
Purge the steam container **during ten to fifteen minutes**.
- Put the burner control switch at the main control cabinet to "Off".
- Switch the MDZ off with the main switch of the main control cabinet.

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7.2.6. Emptying the MDZ

We point expressly out, that no wastewater or exhaust gas condensate shall be disposed of without checking first the values of the wastewater. If required. The water must be prepared (neutralized, cooled down, and so on) so that it complies with the local regulations about wastewater introduction.



Danger of death or severe injuries!

The water that shall be disposed of may still be hot some time after the decommissioning of the MDZ.

Make sure that no one is endangered by the water being drained.

- Make a visual check to control if the draining hoses are damaged.
- Check on the hose connections if the connection is correct and safe.
- Make sure that no one is standing next to the exit of the emptying hoses and that a ramp or a bridge for vehicles or similar is available.

Observe the information given in the following documentation:

- A002 – Basic safety instructions
- C001 – Quick steam generator



- Make sure that the on-site raw water supply is locked.
- Make sure that the on-site raw water supply is dismantled.
- Open both valves [H-3] under the feed water container **slowly and carefully.**
- Turn the rotary knob of the backwashing filter [F-4] counterclockwise.
- Open the soft water purge fitting [H-5].
- Mount suitable draining hoses on the drain valves of the feed water pressure pipe as well as on the heating pipe.
- Make sure that they are safely connected.
- Run the hoses appropriately to allow the possibly still hot residual water to be drained safely.
- Open the drain valve of the feed water pressure pipe and of the heating pipe.
- Wait until the unit is completely emptied.
- Make sure that the tank and the pipelines have been completely emptied.
- Once emptied, make sure that the following valves and fittings are completely closed:
 - Backwashing filter [F-4]
 - Shut-off fitting [H-4]
 - Soft water purge fitting [H-5]

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8. Maintenance

Objective:

- Maintaining the target state and the availability for use of the unit.
- Increasing the degree of utilization by avoiding unscheduled standstill times.
- Efficient planning of the maintenance work and maintenance material.

Observe the information given in the following documentation:

- A002 – Basic safety instructions
- C001 – Quick steam generator

8.1. Operating book

An operating book about the controls and the maintenance works must be kept and signed by the operating personnel.

Please use the operating book included in the unit documentation.

The supervisor of the operating staff must check at least once a month that the MDZ is correctly operated and serviced.

He must then write the date on the rear side of the form in the operating book and sign it.

Other maintenance and inspection works must be performed in accordance with the information in the documents of the different components.

8.2. Maintenance and inspection work

Maintenance and inspection works must be performed in accordance with the information in the documents of the different modules or components. Basically, these are:

- A002 – Basic safety instructions
- B008 – Periodic inspection quick steam generator
- B005 – Check list quick steam generator
- B010 – Check list boiler

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8.2.1. Lubricants



Use only lubricants recommended by the corresponding manufacturers.
Only they have been tested and guarantee safe operation.

8.3. Cleaning work

For cleaning works, the information in the operating instructions about the different modules or components must be taken into account.

Observe the information given in the following documentation:

- A002 – Basic safety instructions
- C001 – Quick steam generator



Do **not** clean the unit with:

- compressed air,
- a steam cleaner,
- a high-pressure cleaner,
- solvents, even in a low concentration.

Clean the unit according to the degree of soiling.

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8.4. Exhaust gas condensate

Arising exhaust gas condensate is guided from the chimney to the drain pipe of the MDZ via the output pipe.

Lock the exhaust gas condensate drain pipe is not permissible.

The information in the operating instructions about the different modules and components must be taken into account.



Danger of death or severe injuries!

Lock the exhaust gas condensate drain pipe can lead to an accumulation of corrosive medium.

Observe chapter "Warranty and liability" too.

Observe the information given in the following documentation:

- A002 – Basic safety instructions
- C001 – Quick steam generator

Caution!

Put on protective gloves before touching the condensate.

Dispose of the generated condensate according to the local standards and regulations. Wipe off dripped condensate on the floor using a cloth and thoroughly rinse it with running water.

8.5. Customer service information

Hotmobil Deutschland GmbH
Mobile Energiezentralen
Industriepark 322
D-78244 Gottmadingen



+49.77 31.94 60-0
+49.77 31.94 60-999
www.hotmobil.de
info@hotmobil.de

9. Faults

Objective:

- To detect and evaluate the cause of the fault.
- To initiate fault elimination.

Observe the information given in the following documentation:

- A002 – Basic safety instructions
- C001 – Quick steam generator

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10. Servicing/repair



Objective:

- To retain the target state according to the current laws, regulations and directives.

According to the directive 2009/104/EC concerning the minimum requirements for the use of work equipment, the operator in particular is responsible for procurement and use of work equipment which conforms to the regulations of all relevant directives.

It is the sole responsibility of the operator to monitor servicing measures. The "Hotmobil Deutschland GmbH" customer service will be pleased to help you with the fulfillment of this task.

- Tasks for restoring the target state.



All components of the unit listed in the "Unit documentation" must be replaced by qualified personnel only.
(see table "Qualification of the operating personnel")

During maintenance, servicing and repair works, you may have to replace seals. Please observe the information given in the following documentation:

- K021 - Flange seals
- K022 – Inspection openings
- K027 – Exhaust gas seal

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11. Storage

Objective:

- Proper preparation for storage.
- Make sure that the unit has been completely emptied.
- No liquid remains must remain in the unit as this can lead to frost damage to the unit.

11.1. Storage and packaging

Please comply with the information given in the following documents:

- A002 – Basic safety instructions
- C001 – Quick steam generator

11.2. Preparation for storage

Please comply with the information given in the following documents:

- A002 – Basic safety instructions
- C001 – Quick steam generator

11.3. Storage location



The storage location must comply with the specifications in **chapter 2.2**.
Observe chapter "Technical product description".

The storage location must be frost-free!

If frost-free storage is not possible, connect the MDZ to a corresponding power supply and operate only the fan heater.

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11.4. Temporary storage



If the unit must be stored temporarily, observe **chapter 11**.



Danger due to insufficient personnel qualification!

Non-compliance can result in damage to the unit or life-threatening injuries.

Activities specified in this chapter must be carried out only by the following persons:

- Qualified personnel with technical training

The following points always apply to the storage room:

Store the units only on suitable surfaces.



Observe chapter "Technical product description" and the table "Qualifications of the operating personnel".

12. Disposal

Objective:

Preparation for proper and environmentally sound disposal.

12.1. Disposal procedure



Pay attention to environmental safety, health risks, disposal regulations and your local options for disposal according to regulations, especially disposal of special waste according to regulations.



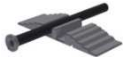

Disposal	Measures
Draining dry	Drain and dispose of lubricants. Drain oil, collect separately according to the type and dispose of.
Electronic waste	Divide electronic waste into main groups (PCBs, cables, ...) and dispose of according to the regional regulations.
Materials	Sort metals, non-metals, composite materials and auxiliary materials by type and dispose of in an environmentally-friendly manner.
Hazardous materials	For disposal of hazardous materials, observe the instructions of manufacturers of individual components

Table 4: Disposal procedure

13. Accessories

Our wide choice of accessories allows you to specify our standard products according to your requirements and tailor them specifically to your application case.

For our **mobile steam units** (STEAMMOBIL MDZ 600), we recommend the following accessories:

	Mobile tank systems (HOTTANK MHT) As backup supply tanks during extended periods of operation
	Mobile silencers (HOTSILENCE MSD) For reduction of sound emissions for example for residential areas, hotels, old people's homes, etc.
	Mobile ramps (HOTRAMP MÜR) For flexible cable routing
	Mobile fault indicators (HOTCHECK MSM) For remote monitoring of mobile power units

14. Return Material Authorization form

Our Internet presence allows you to register a warranty claim using an interactive RMA form. To do so, go to the service area at <http://www.hotmobil.de> and obtain the form under the DOWNLOADS category which will allow you to assert your claim. It can be sent directly if specific system conditions are provided. Further details can be found in the form.

15. Appendix

15.1. EC Declaration of Conformity



EG-Konformitätserklärung

nach Maschinenrichtlinie 2006/42/EG Anhang II 1.A

Der Hersteller
HOTMOBIL DEUTSCHLAND GMBH
Mobile Energiezentralen
Industriepark 322 / 205
D-78244 Gottmadingen

erklärt hiermit, dass folgendes Produkt

Produktbezeichnung: Mobile Dampfzentrale
Serien-Nummer: MDZ 001, MDZ 002, MDZ 003, MDZ 005, MDZ 006
Fabrikat: Hotmobil Deutschland GmbH

den Bestimmungen der (den) oben gekennzeichneten Richtlinie(n) - einschließlich deren zum Zeitpunkt der Erklärung geltenden Änderungen - entspricht.

Folgende weitere EU-Richtlinien wurden angewandt:
Druckgeräte-Richtlinie 2014/68/EU
Niederspannungsrichtlinie 2006/95/EG
EMV-Richtlinie 2004/108/EG

Für das Produkt wurden die technischen Unterlagen gemäß Anhang VII Teil A erstellt.
Auf begründetes Verlangen können diese Unterlagen einer einzelstaatlichen Stelle per Post oder E-Mail übermittelt werden.

Genehmigung des Qualitätssicherungssystems nach ISO 9001:2008:

TÜV SÜD Management Service GmbH
Bericht-Nr. 70757275

Für die Zusammenstellung der technischen Unterlagen zuständig:

Herr Thomas Herrmann
HOTMOBIL DEUTSCHLAND GMBH
Industriepark 322 / 205
D-78244 Gottmadingen

Ort: Gottmadingen
Datum: 30.10.2015


Christian Hahn
Geschäftsführer

Figure 21: EC Declaration of Conformity of the unit

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15.3. Spare parts list

For spare parts, refer to the symbol coding of the MDZ.
It is part of the unit documentation.

15.4. List of documents

Table 5: List of documents

No.	Designation	Media / number	Storage location:
1	Hotmobil unit folder	1 folder	Document holder

15.5. Applicable documents

The following list gives an overview of the documents that must be observed when working on the MDZ. You will find information in the operating instructions of the different components. In accordance with the kind of activity, you may have to observe several documents at a time as well as other documents.

- C001 – Quick steam generator
- D002 - Fueling plant
- E002 – Feeding pump module piston pump for quick steam generator
- E003 – Pressure increase suction pump
- E007 – Thermal feed water part degasification plant
- E010 - Water service module
- L011 – Operating book for the quick steam generator
- G002 – Power control
- G008 - Water quantity control
- G021 – Unit control LWC
- H006 – Fault indication device SA 10
- H008 – Digital controller KS 90
- H013 – Text display TD - 200
- I004 – Temperature limiter
- K002 – complete stroke safety valves
- K008 - Non-return valves
- K014 – Temperature controller and limiter
- K021 – Flange seals
- M001 – Flange seals
- Assembly and operating instructions Weishaupt oil burner
- Dosage stations DOSIN with metering pump DPI – instruction manual

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15.6. Personnel instruction form

Before starting work, a competent person (e.g. a supervisor, a safety inspector) has checked the knowledge and the ability of the personnel to properly handle the unit.

It is recommended to repeat the test every six months.

I hereby confirm that I have completely read and understood the instruction manual. Especially **chapter 3** "Safety regulations" must be read by every person working on the unit.

Additional declaration for personnel with no command or with only a restricted command of the English language:

"The instruction manual has been explained in detail to me. I have understood all parts of it.
I need no translation of the instruction manual."

Please send this form - before starting work on the unit - to:
support@hotmobil.de

Date	Last name, first name	Department	Signature
.....
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15.7. We kindly ask for your support

We are interested in constant quality improvement of our instruction manual, and we would be pleased if you would share your opinion with us. Please use the fax or letter form prepared for this purpose.

Address: **Hotmobil Deutschland GmbH**
Mobile Energiezentralen
Industriepark 322
D-78244 Gottmadingen

☎ +49.77 31.94 60-0

☎ +49.77 31.94 60-999

Please enter your own address if you wish:

Instruction manual for:

- | | | | |
|--------------------------------------|-----------------------------------|--------------------------------------|--|
| <input type="checkbox"/> Suggestions | <input type="checkbox"/> Critique | <input type="checkbox"/> Opinions | <input type="checkbox"/> Wishes |
| <input type="checkbox"/> Safety | <input type="checkbox"/> Errors | <input type="checkbox"/> Ambiguities | <input type="checkbox"/> Suggestions for improvement |

No.	Description	Page
General evaluation:		General comment:
<input type="checkbox"/> very good <input type="checkbox"/> good <input type="checkbox"/> satisfactory <input type="checkbox"/> sufficient <input type="checkbox"/> faulty <input type="checkbox"/> unsatisfactory <input type="checkbox"/>		