# Operating Manual

## Mobile speciality pump Mini-WOODY

**SHG SPECHTENHAUSER HOCHWASSER- UND GEWÄSSERSCHUTZ**
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# 1 General Information

Dear Customer,
Thank you for your decision to purchase and install this top quality product. Please follow these operating instructions, especially those concerning safety: They are there for your safety, will save you trouble and guard from loss of guarantee.

One important point first:
If the failure of this submersible pump (power failure, technical defect) can lead to major material or non-material damage, you may have to take precautions by installing a second pump with dual pump control, alarm systems (independent of the mains), emergency generators and other equipment. For information please contact our customer service department.

## *1.1 Versions*

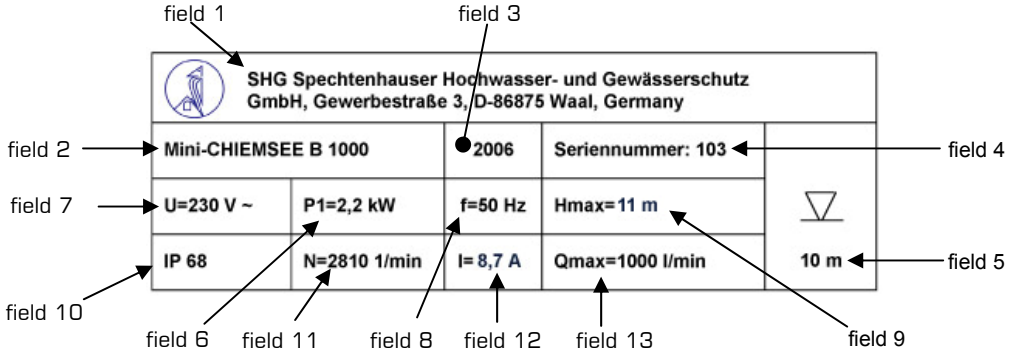
The following versions of Mini-WOODY pumps are available:

- Mini-WOODY C 700: Pump including carrying frame, 2,2 kW alternating current motor, motor protection switch including shock-proof plug with bayonet fixing and protective cap, 20 m heavy-duty power cable, C-Storz coupling on inlet and outlet side, intake socket made of PE with C-Storz coupling and coupling wrench
- Mini-WOODY B 1000: Like Mini-WOODY C 700, but with B-Storz coupling on inlet and outlet side and intake socket made of PE with B-Storz coupling
- Mini-WOODY B 1200: Like Mini-WOODY B 1000, but with 2,5 kW alternating current motor
- Mini-WOODY B 1400: Like Mini-WOODY B 1200, but with 2,7 kW alternating current motor
- Mini-WOODY B 1400 D: Like Mini-WOODY B 1400, but with 400 V three-phase motor

## *1.2 Marking of the pumps*

Each Mini-WOODY pump is marked by a nameplate.

The nameplate gives information about:




Field 1: Manufacturer
Field 2: Type designation
Field 3: Year of manufacture
Field 4: Serial number
Field 5: Max immersion depth
Field 6: Electrical input
Field 7: Operating voltage
Field 8: Frequency
Field 9: Max. delivery height
Field 10: Protection class
Field 11: Nominal rotation speed
Field 12: Rated current consumption
Field 13: Max. delivery rate

## *1.3 Application*

The submersible pump Mini-WOODY is designed for strongly soiled waste water or sewage including solids or long fibres in case of flood control, flooding, pipe bursts or water level reduction. It is blockage-free for solids up to 55 mm in size. The pumps are designed for mobile use. For permanent fixed installation the use of sewage pumps made of cast iron is recommended.

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# 2 Safety instructions

(General safety instructions as per VDMA 24292)
This operation manual gives basic instructions that should be followed carefully during installation, operation and maintenance. It is essential that this manual is carefully read by the responsible personnel/operator before assembly and commissioning. It is always to be kept available at the installation/usage site of the pump.

## *2.1 Markings and symbols in this operating instructions*

Safety instructions given in the operating manual, the non-observance of which could cause danger to life have been specifically highlighted with the general danger symbol.

The presence of dangerous voltage is identified with the safety symbol.

Other safety points in these instructions, the non-observance of which may endanger machinery or its operation, are marked as follows.

Symbols directly on the pump itself, e.g.

- Direction of rotation
- Type plate

must be carefully observed and must be maintained in a legible condition.

## *2.2 Qualifications of personnel*

An authorized (certified) electrician and mechanic shall carry out all work. Scope of responsibility and supervision of the personnel must be exactly defined by the operator. If the staff does not have the necessary knowledge, they must be trained and instructed, which may be performed by the manufacturer or supplier on behalf of the operator, moreover, the operator is to make sure that the contents of the operating manual are fully understood by the personnel.

## *2.3 Hazards in the event of non-compliance with the safety instructions*

Non-compliance with the safety instructions may produce a risk to the personnel as well as to the environment and the machine and results in a loss of any right to claim damages or compensation. For example, non-compliance may involve the following hazards:

- Failure of important functions of the pump
- Failure of specified procedures of maintenance and repair
- Exposure of people to electrical, mechanical and chemical hazards
- Endangering the environment owing to hazardous substances being released

## *2.4 Safety regulations for owner/operator*

All safety instructions contained in this manual, all relevant national and local health and safety codes and any other service and safety instructions issued by the owner shall be complied with.

## *2.5 Safety instructions relevant for operation*

Always follow these safety instructions before using the pump:

**Danger of electric shock:**

- Protect plug-and-socket connections against moisture and increasing water levels in flood areas.
- When using the pump in swimming pools or ponds and the surrounding area DIN/VDE 0100 must be complied with.
- Hazards resulting from electricity are to be prevented (see for example, the national-specifications or the regulations of your local electricity supply company)

**General danger**

- If hot or cold machine components involve hazards, they must be guarded against accidental contact.
- Guards for moving parts (e.g. couplings, nozzles) must not be removed from the machine while in operation.
- Any leakage of hazardous (e.g. explosive, toxic, hot) fluids (e.g. from the shaft seal) must be drained away so as to prevent any risk to persons or the environment. Statutory regulations are to be complied with.

**Damage of the pump due to inappropriate use:**

- Store the pump in dry rooms only. If kept dry and clean the pump can be stored down to a minimum temperature of –20°C. The flooded pump must not freeze.
- Always use the carrying handles to transport the pump.
- Never lift or lower the pump by the power cable or connected hoses. Always use chains or suitable ropes.

## *2.6 Safety instructions relevant for maintenance, inspection and assembly work*

It shall be the user's responsibility to ensure that all maintenance, inspection and assembly work is performed by authorized and qualified personnel who have adequately familiarized themselves with the subject matter by studying this manual in detail.

Any work on the machine shall only be performed when it is at stand-still, it is being imperative that the procedure for shutting down the machine described in this manual be followed (see chapter 6). Pumps and pump units which convey hazardous media must be decontaminated. All waste emissions such as used oil must be appropriately disposed of, oil spills must be cleaned up and emissions to the environment must be reported. On completion of work all safety and protective facilities must be reinstalled and made operative again.

## *2.7 Unauthorized modifications and manufacturing of spare parts*

Any modification may be made to the pump only after consultation with the manufacturer. Using spare parts and accessories authorised by the manufacturer is in interest of safety. Use of other parts may exempt the manufacturer from any warranty or compensation claims.

## *2.8 Unauthorised modes of operation*

The reliability of the pump delivered will be only guaranteed if it is used in the manner intended, in accordance with this manual. The limit values specified in the data sheet must under no circumstances be exceeded. These installation and operation instructions do not supersede or exclude generally valid regulation and standards.

# 3 Technical data

## 3.1 Equipment and weight

| **Mini-WOODY** | **C 700** | **B 1000** | **B 1200** | **B 1400 (D)** |
|---|---|---|---|---|
| Inlet/Outlet: | C-Storz | B-Storz | | |
| Max. solid passage [mm]: | ∅ 40/50 | ∅ 55 | | |
| Fluid temperature [C]: | 0° - 40° | | | |
| Weight [kg]: | 29 | | | |
| Cable length [m]: | 20 | | | |
| Cable type: | H07BQ-F | | | |

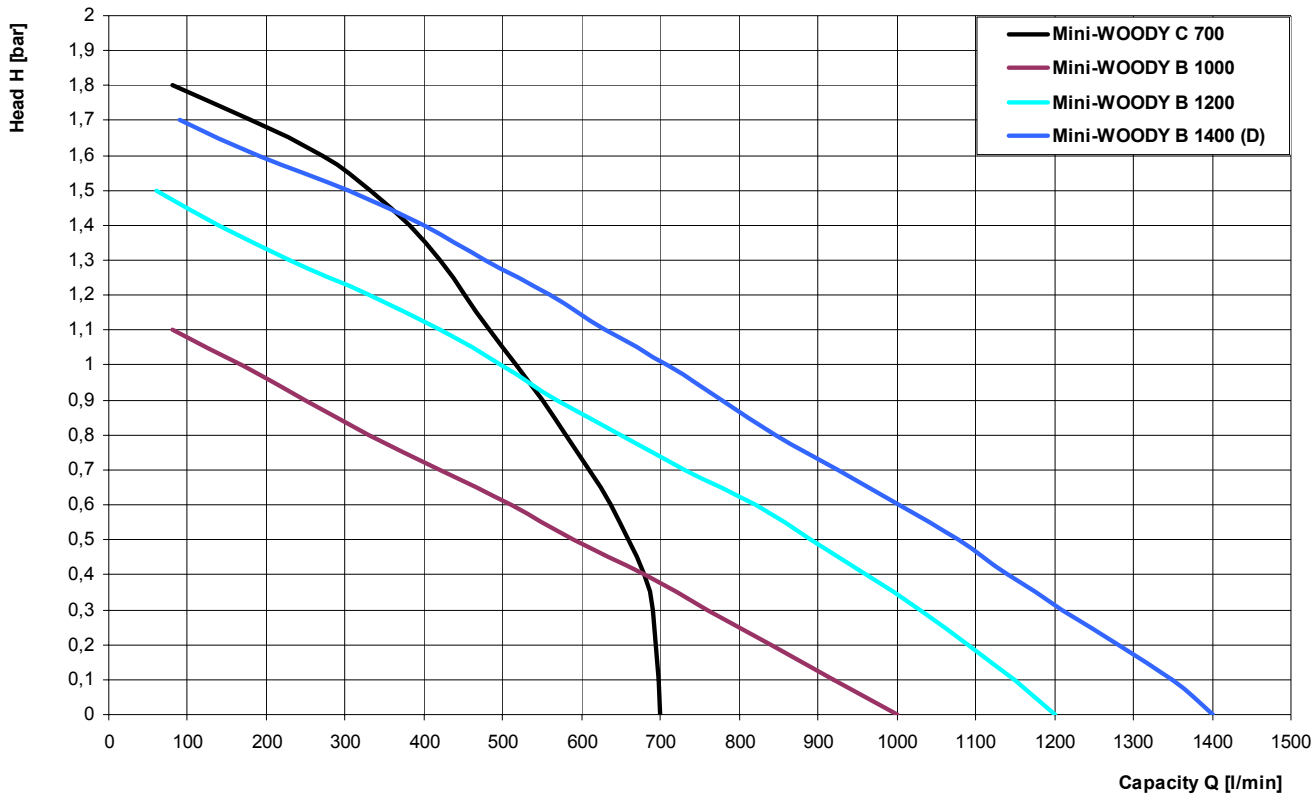
## 3.2 Electrical data

| **Mini-WOODY** | **C 700** | **B 1000** | **B 1200** | **B 1400** | **B 1400 D** |
|---|---|---|---|---|---|
| Operating voltage [V]: | 230 | | | | 400 |
| Frequency [Hz]: | 50 | | | | |
| Protection class: | IP 68 | | | | |
| Nominal current [A]: | 11,7 | 8,7 | 12,4 | 15,1 | 5,2 |
| Electrical power input P1 [kW]: | 2,2 | 2,2 | 2,5 | 2,7 | 2,7 |

## 3.3 Performance

| **Head H [bar]** | **0** | **0,3** | **0,6** | **0,9** | **1,2** | **1,5** | **1,8** |
|---|---|---|---|---|---|---|---|
| **Mini-WOODY C 700 [l/min]** | 700 | 690 | 637 | 550 | 452 | 332 | 60 |
| **Mini-WOODY B 1000 [l/min]** | 1000 | 760 | 510 | 250 | | | |
| **Mini-WOODY B 1200 [l/min]** | 1200 | 1030 | 820 | 570 | 330 | 60 | |
| **Mini-WOODY B 1400 (D) [l/min]** | 1400 | 1210 | 1002 | 778 | 560 | 305 | |

## 3.4 Capacity-head table

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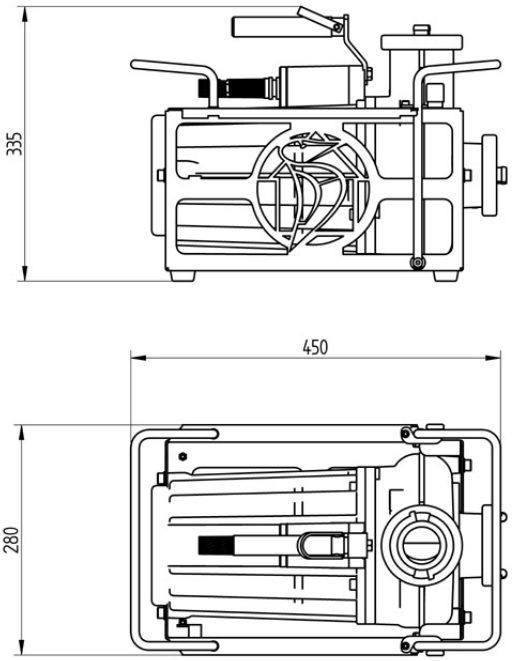
## *3.5 Construction and materials*

- All housing parts made of light metal
- All screw connections made of stainless steel
- Impeller made of wear-resistant and self-cleaning aluminium bronze
- Endurance run suitable double mechanical seals made of SiC/SiC and SiC/carbon
- Carrying frame made of stainless steel
- Intake nozzle made of PE

## *3.6 Dimensions*

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# 4 Operating the pump

**Caution:**
The pump may only be operated in compliance with the instructions and information of this operating manual.

**Caution:**
All 230 V versions of the Mini-WOODY are fitted with a thermal protection switch. Once the maximum operating temperature is exceeded, the thermal protection switch automatically shuts down the pumps. If the temperature falls below the maximum operating temperature again, the pumps start up again immediately. For this reason, work is only to be carried out on the pump when the pump is switched off at the network plug by pressing the green rocker switch and the network plug is unplugged. In addition, appropriate measures are to be taken to secure the pump against accidental restart.

**Note:**
Under no circumstances should the pump be lowered to the mains cable or the connected hoses.

**Note:**
If kept dry the pump can be stored down to a minimum temperature of –20°C. The flooded pump must not freeze.

**Note:**
Before starting the pump, check that the supplied voltage and frequency matches the information on the nameplate.

**Danger from electric shock:**
Bring electrical plug connections to a flood-proof area to protect them from water. Watch out for rising water levels in flood areas!

**Danger from electric shock:**
No-one should be present inside the pumping medium when the pump is in operation. The pump may only be operated over FI-secured (residual current circuit breaker) safety sockets (alternate current version) or CEE sockets (rotary current version).

**Caution:**
For outdoor use, the provisions of EN 60 335-2-41 must be observed.

## *4.1 Explanation of the standard motor protection switch*

### 4.1.1 Alternate current version

With the exception of pumps with the optional integrated float switches, all alternate current versions of the Mini-WOODY are fitted with the standard motor protection switch (see Image 1.1). Point 4.7 of this user manual is to be observed with pumps which are fitted with float switches. Before the network plug for pump operation is inserted into an FI-secured (residual current circuit breaker) safety socket, it is to be ensured that the green rocker switch on the motor protection switch is pressed at position 0, in order to rule out accidental starting of the pump. To start the pump, the green rocker switch is to be set to position 1.

Image 1.1: 230 V Standard motor protection switch

### 4.1.2 Rotary current version

With the exception of pumps with the optional integrated float switches, all rotary current versions of the Mini-WOODY are fitted with the standard motor protection switch (see Image 1.2). Point 4.7 of this operating manual is to be observed with pumps which are fitted with float switches.


Image 1.2: 400 V Standard motor protection plug

Before the standard motor protection plug is inserted into an FI-secured safety socket for operation of the pump, it is to be ensured that the red push-button on the motor protection plug is pressed, in order to rule out accidental starting of the pump.

Red control lamp
If the red control lamp "Falsche Phasenlage" (wrong phase position) lights up when inserting the motor protection plug, the rotating field has to be changed. Remove the plug from the socket and turn the reversing contact on the motor protection switch using an appropriate screwdriver. Never modify the socket for this purpose! Insert the motor protection plug into the socket again. The red light "wrong phase position" should no longer be lit.

Green push-button
To start the pump, the green push-button on the motor protection switch is to be pressed.

Red push-button
To switch off the pump, the red push-button on the motor protection plug is to be pressed.

## *4.2 Operating the pump*

For safe working on and with the pump, the wearing of safety shoes and safety gloves is recommended, in order to prevent injury from crushing or cutting.

Each time when using the pump, also ensure the following points:

1. Transport the pump to the place of use.

**Caution:**
Always transport the pump with the handles provided for this purpose only.

Image 2

2. Mount the intake nozzle (handle protection) with the opening upwards on the coupling on the inlet side of the pump (see Image 2). This avoids the suction of stones or other hard objects from the ground. On the other hand, a sufficient water level remains in this way, in order to carry out low-level pumping after shutting off the pump without additional filling of the pump.

**Danger:**
The PE intake nozzles on the inlet side are used to protect the impeller from contact. The pumps themselves may not be operated without the appropriate contact protection.

3. Mount a dimensionally stable spiral pressure hose with matching coupling (C-or B-Storz) to the outlet side of the pump. A suitable fire hose can now be connected to this spiral hose. Lay this at a suitable drain or collection tank. The end of the pressure hose must be adequately secured against impact. The fire hose should be laid without kinks where possible to achieve an optimum pumping power. It is strongly recommended that you use the optional dimensionally stable spiral pressure hose for the first 3 m.

**Danger:**
Ensure that the pressure hose end is adequately secured and fixed. Otherwise, there is the risk of the hose end being hit when switching on the pump.

4. If the pump is to be lowered into a shaft, attach a suitable length of rope to the eyelet provided for this purpose on the middle carry handle.

**Caution:**
To lower the pump only the designated abseiling eyelet is used. Under no circumstances should the pump be lowered to the mains cable or the connected hoses.

5. Lower the pump on this rope into the liquid.

**Danger from suspended loads:**
When lowering the pump, ensure that no-one is under the pump in the shaft.

6. Make sure that the pump is standing safely.

7. Ensure that the pump is switched off. To do this, the green rocker switch on the motor protection switch has to be pressed to position 0 (alternate current version) and/or the red push-button on the motor protection switch pressed (rotary current version). Insert the network plug into an FI-secured protection socket (alternate current) or CEE socket (rotary current version).

**400 V version:**
Now check the phase position. If the red light "phase control" on the motor protection switch is lit, the rotating field has to be changed. Remove the plug from the socket and turn the reversing contact on the motor protection switch using an appropriate screwdriver. Never modify the socket for this purpose! Insert the motor protection plug into the socket again. The red light "wrong phase position" should no longer be lit.

**Danger from electrical shock:**
Ensure that the network socket at the network socket connection is dry. Never carry out changes on the plug! The plug must be FI-secured (residual current circuit breaker).

8. Switch the pump on by pressing the green rocker switch to position 1 (alternate current) and/or by pressing the green power button on the motor protection plug (rotary version). The pump should now pump with the defined pumping performance.

9. Switch the pump off again by pressing the green rocker switch to position 0 (alternate current) and/or by pressing the red button (rotary current ver-

sion), as soon as the water level has sunk so far that the pump is taking in air.

10. Clean the pump with clear water after each use, particularly after using it with muddy liquid. In addition, let the pump run for about 10 minutes in a basin with clean water. The pump is to then be completely emptied.

## *4.3 Series connection of Mini-WOODY pumps*

To achieve pumping heights of over 15 m, series connection of Mini-WOODY pumps is possible. With this, the pressure side of the first Mini-WOODY is connected to the next Mini-WOODY over a dimensionally flexible hose.

## *4.4 Low-level pumping*

In normal operation, the liquid is pumped to the top of the intake nozzle. The pump then intakes air and the pumping flow breaks off. To pump fluids up to a residual water level of a few millimetres, the intake nozzle has to be mounted with the opening facing downwards to the suction-side fixed coupling (see Image 3).

Image 3

If low-level pumping is to be carried out, the following points are to be observed:

1. Pump the medium according to section 4.2 of this user manual with the intake nozzle facing upwards until the pump intakes air.

2. Now switch the pump off and remove the network plug. Secure the pump against restarting.

**Danger from electric shock:**
Only carry out work on the pump when the pump is disconnected from the network by removing the network plug from the power supply. Prevent accidental restart of the pump by taking appropriate measures.

3. Now mount the intake nozzle with the opening downwards to the suction-side fixed coupling.

4. Bring the pump into the low-level pumping position. To do this, open the locks of the folding bar of the carrying basket (see Image 4) and rotate the folding bar under the pump (see Image 5)

Image 4

5. Ensure that no stones or other hard objects, such as pond foils, can be taken in!

6. Now plug the network plug into the socket again and switch the pump on again.

7. If the intake nozzle gets stuck on solids, first turn off the pump, then pull the power plug and remove the solids from the intake nozzle.

Image 5

8. Pump the liquid until the pump intakes air. Switch the pump off again.

As the intake nozzle reach until about 1 cm above the ground, it is possible that there are still floating solids in this gap. For this reason, only use the low-level pumping device of the pump for draining residual water.

## *4.5 Low-level pumping at low water level*

With help of the glove trick, the pump can also be started at a low water level (< 15 cm). For this pull a disposable glove (AIDS glove, latex glove) over the intake nozzle of the pump and bring the pump into the low-level pumping position, as described under 4.4 Fill the pump with water. The disposable glove is used as a "flap valve" and keeps the water in the pump. When starting the pump, the disposable glove tears and the pump starts its low-level pumping operation.

## *4.6 Suction operation of the pump*

By using the non-return valve, which is available as a Spechtenhauser accessory, with a transparent hose (length up to 5 m) suction operation of the pump is also possible. All couplings used on the suction side must be clean and leak-proof. As soon as air is able to enter the system on the suction side, pumping is no longer possible.

If the pump is to be used in suction mode, the following points are to be observed:

1. Mount the non-return flap to the transparent suction hose.

**Caution:**
Only the non-return flap from Spechtenhauser is to be used. Suction operation with ball flap valves is not possible. Only use a transparent suction hose as a suction hose.

2. Connect the suction hose to the suction side of the pump.

3. Fasten a spiral hose to the outlet side of the pump.

4. Pour water into this pressure hose only until the suction hose, the pump and the pressure hose are filled with water. If necessary, the flap of the non-return flap valve will also have to be opened for ventilation.

5. Lay the suction hose in the medium to be pumped. Ensure that the flap valve is not on the ground, but is about 20 cm above the ground. This prevents stones from being pumped.

6. Lay the pressure hose properly (see section 4.2).

7. Switch on the pump.

## *4.7 Use of the pump with float switches*

Pumps which are fitted with the optional float switch also have another motor protection switch.

### 4.7.1 Alternate current version

Before the network plug of the motor protection switch (see Image 6.1) for pump operation is inserted into an FI-secured safety socket, it is to be ensured that the rocker switch on the motor protection switch is set to 0 = OFF, in order to rule out acci-

Image 6.1 230V Float switch
Motor protection switch

dental starting of the pump. To be able to operate the pump with float switches, the rocker switch is to be set to position "II = AUTO". If the pump is to be operated without float switches, the rocker switches are to be pressed to positions "I = MANUAL".
To bring the pump into operation again after triggering the motor protection, the black reset button above the rockers switch has to be pressed. If the pump does not start after pressing the reset button, please note section 7 in the operating manual and contact Spechtenhauser Customer Service if necessary.

## 4.7.2 Rotary current version

To set the pump to float switch operation, the switch is to be set to position ❶. If the pump is to be operated in normal, manual setting, the switch must first be set to position ❷.

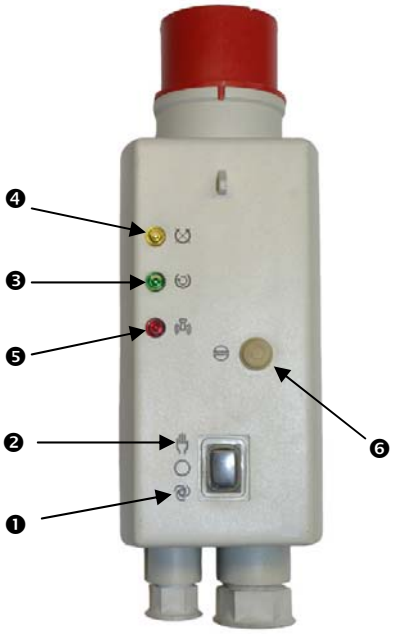


Image 6.2 400V Float switch
Motor protection switch

❸ Green control lamp (rotating field correct)
Lighting of the green control lamp ❸ during operation of the pump indicates correct running of the pump.

❹ Yellow control lamp (rotating field wrong)
When the yellow lamp ❹ lights up, the rotary field has to be changed. Remove the plug from the socket and turn the reversing contact on the motor protection switch using an appropriate screwdriver. Never modify the socket for this purpose!!! Insert the motor protection plug into the socket again. The yellow control lamp ❹ should no longer be lit.

❺ Red control lamp
If the red control lamp ❺ on the network plug lights up, then the motor protection switched has tripped and the pump is switched off. To bring the pump back into operation, press the reset button ❻ on the network plug with a screwdriver or similar object. The red light ❺ should go out and the pumps start operating again. If the motor protection trips again after pressing the reset function, please note point 7 in the operating manual.

## 4.7.3 Operation with float switch

When operating the pump with float switches, also note points listed under section 4.2. The following is also to be observed:

1. Mount the float switch on the cable lug in such a way that it cannot be sucked by the pump.

2. The float switch must only hang in the medium to the extent that it switches off shortly before the pump sucks air at the latest.

3. The position of the float weight on the network cable of the float switch may not be changed.

### 4.7.4 Operation with pluggable float switch

Image 6.3 Intermateable Float Circuit

Pluggable float switches can be delivered as both rotary current and alternate current versions. To operate the pump with a pluggable float circuit (see Figure 6.3), first insert the pluggable circuit into an FI-secured socket and then connect the motor protection plug to the intermateable float circuit. When operating the pump with pluggable float circuits, also note the points listed under section "4.2 "Use of the Pump" and point 4.7.3 “Operation with float switch”.

## *4.8 Operation with emergency power generator*

All Mini-WOODY pumps can be operated with generators. The Mini-WOODY B 1000 can be operated with 3 kVA power generators; all other models can be operated with 5 kVA emergency power generators. When used with 5 kVA power generators, additional lighting of two times 1000 W is even possible. In cases of emergency, the use of an extension cable with a 5 kVA emergency power generator is possible without any problem. With generators with higher power, extension cables can be used without restriction. The used extension cable must have a wire cross-section of at least 2.5 $mm^2$ or larger to keep the voltage drop in the cable as low as possible.

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# 5 Accessory

The following accessories are available for the mobile sewage pump Mini-WOODY:

- PVC-spiral hose
- Motor protection plug with float switch
- 5 kVA emergency power generator
- Non-return flap wit 5m transparent PVC-spiral hose
- PRCD Portable Residual Current Device 230V/16A, 30mA, protection class IP 54, installed in the power cable of the pump
- Accessory packs

In case of further questions please contact your local retailer.

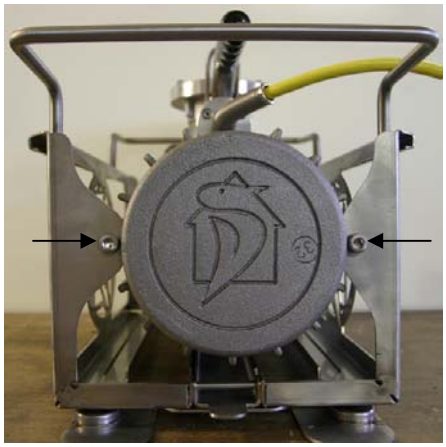
# 6 Service and Maintenance

It shall be the user's responsibility to ensure that all maintenance, inspection and assembly work is performed by authorized and qualified personnel who have adequately familiarized themselves with the subject matter by studying this manual in detail.
Any work on the machine shall only be performed when it is at stand-still, it is being imperative that the procedure for shutting down the machine described in this manual is be followed.
Pumps and pump units which convey hazardous media must be decontaminated. All waste emissions such as used oil must be appropriately disposed of, oil spills must be cleaned up and emissions to the environment must be reported. On completion of work all safety and protective facilities must be reinstalled and made operative again.

## *6.1 Dismantling the impeller*

If stubborn blockages form in the spiral housing, the spiral housing and the impeller can be dismantled via the following steps:

1. Unscrew the four cylindrical screws with hexagon sockets (M8), with which the pump is mounted in the basket. Now remove the pump from the basket.



2. Remove the four cylindrical screws with the hexagon sockets (M8) from the spiral housing.

3. Remove the spiral housing. With stubborn blockages, it may be necessary to remove the spiral housing with the help of two screwdrivers. To do so, place the screwdriver on the two designated slots on the spiral housing and lift the spiral housing out.

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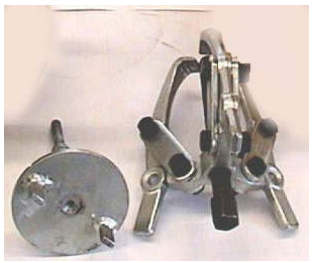
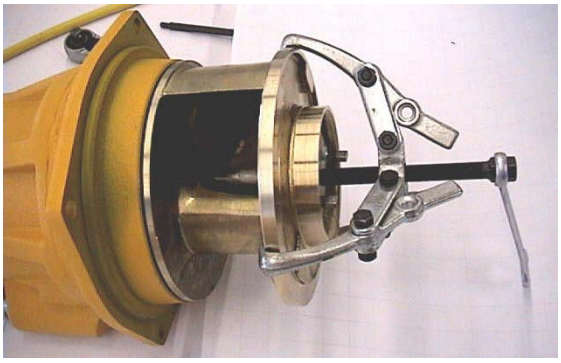
4. Remove the countersunk screw with Torx (M6) from the impeller.

5. Remove the impeller. For this, use the extraction tool, which is available as a special accessory, to remove the impeller from the shaft. If the impeller is pulled from the shaft, the tolerance ring used in assembly has to be replaced by a new one.





6. Remove the pulled impeller.

## *6.2 Assembling the impeller*

When assembling the impeller, the following steps are to be taken:

1. Ensure that the polygon connection (impeller and shaft) have been cleaned.

2. Evenly place the impeller on the motor shaft and push it down until it stops.

3. The impeller has to be pressed until it stops.

4. Screw the impeller with the motor shaft using the screw with Torx (M6). To fasten the screws, medium-strength screw locking (Loctite) is to be used. Please refer to Table 6.2.1 Screw tightening torque for the correct screw tightening torque.

5. Attach the O-ring which is available as a spare part to the motor flange.

6. Place the spiral housing over the impeller mounted on the motor flange.

7. Screw the spiral housing to the motor using four cylindrical screws with hexagon sockets (M8). To fasten the screws, medium-strength screw locking (Loctite) is to be used. Please refer to Table 6.2.1 Screw tightening torque for the correct screw tightening torque.

8. Place the pump in the basket and screw it in the basket using the four cylindrical screws with hexagon sockets (M8). To fasten the screws, medium-strength screw locking (Loctite) is to be used. Please refer to table 6.2.1 Screw tightening torque for the correct screw tightening torque.

### 6.2.1 Screw tightening torques

| Screw | Screw connection | Tightening torque |
|---|---|---|
| M8 | Motor / spiral housing | 20 Nm |
| M8 | Pump / carrying basket | 20 Nm |

## *6.3 Network cable*

In the event of a cable defect, the damaged cable can be replaced by a Spechtenhauser network cable in a few steps.

### 6.3.1 Dismantling of network cable

1. Remove the three cylindrical screws with the hexagon sockets (M5) from the housing.

2. Unplug the cable screw and plugs and the coupling from the housing. Open the connection cable plug and unplug the cable from the coupling.

### 6.3.2 Assembling the network cable

Assembly of the network cable is carried out in the reverse order of disassembly.

## *6.4 Motor*

With all pumps, opening of the engine is not permitted. Repairs and maintenance on the motor may only be carried out by Spechtenhauser Customer Service or at the plant. In case of infringement, all claims for warranty and damages are lost.

# 7 Malfunctions; causes and rectification

| Problem | Cause | Remedy |
|---|---|---|
| Motor does not run | No power supply | Check the fuses, replace if necessary. |
| | | Check the power cable for damage. |
| | Blown fuses | Replace fuses and locate the reason for their failure |
| Pump runs but gives no water | Pump blocked by impurities | Clean the pump |
| | Pressure line blocked | Clean the pressure line |
| | Air in the pump | Vent the pump and the pressure line.<br>Vent the suction hose and the non-return flap if a non-return flap is used. |
| | No tolerance ring installed | Check if a tolerance ring is installed |
| Pump gives insufficient water | Pump partly blocked by impurities | Clean the pump. |
| | Pump head or pressure loss in the system too high. | Use a wider line or a more powerful pump. |
| | Viscosity of the pumped medium too high | Use a more powerful pump, if necessary |
| | Pressure line blocked | Clean the pressure line |
| | 400 V-version<br>Incorrect direction of rotation | Reverse the direction of rotation (see chapter 0) |
| Motor protection trips out | Power input too high | Check motor protection switch is correctly adjusted (check against type plate). |
| | Pumped medium too dense | Dilute medium if possible, otherwise cease operation and use another pump |
| | Viscosity of pumped medium too high | Lower viscosity of medium by heating if possible, otherwise cease operation and use another pump |
| | 400 v-version:<br>Motor running on two phases | Replace defective fuse, or have motor repaired if coil defective |
| | Pump blocked by impurities | Clean the pump |
| | Leaky motor | The motor has to be checked by the Spechtenhauser service. |

**In all further questions, please contact our customer service department.**

## EG-Konformitätserklärung
## Declaration of EC-Conformity
## Attestation de Conformité CE

Hiermit erklären wir, dass alle Exemplare unserer Geräte
Herewith we declare that all our devices
Nous attestons par la présente, que tous nos produits

**Mini-CHIEM**SEE

den wesentlichen Schutzanforderungen folgender EG-Richtlinien entsprechen:
comply with the following provisions applying to:
correspondent aux principales directives CE suivantes:

| | |
|---|---|
| **EG-Maschinenrichtlinie** | **2006/42/EG** |
| **EG-Niederspannunugs-Richtlinie** | **2006/95/EG** |

Angewandte harmonisierte Normen, insbesondere:
Applied harmonized standards in particular:
Principales normes harmonisées:

| **2006/42/EG** | **2006/95/EG** |
|---|---|
| EN 13857 | EN 60034-1/5 |
| EN 809 | EN 60335-1 |
| EN 12100-1/2-A1 | EN 60335-2-41 |

Bei einer nicht mit uns abgestimmten Änderung des Gerätes verliert diese Erklärung ihre Gültigkeit.
By altering the device without approval the declaration would invalidate.
Toute modification de la machine, effectuée sans notre accord, annule la validité de la présente déclaration.

86875 Waal, 20.03.2012

**SHG Spechtenhauser Hochwasser- und Gewässerschutz GmbH**

Jochen Wagner
Geschäftsführer

**Name des Bevollmächtigten der technischen Unterlagen nach MRL 2006/42/EG:**
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