

# USER MANUAL

## MS Pigsleeper



**MS Schippers**  
Passion for farming

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## **1      PREFACE**

General information: This user manual is intended to support the use and maintenance of the MS Pigsleeper. Do not use the MS Pigsleeper until you have read and understood the entire user manual. Please contact the experts at MS Schippers if you have any questions about this manual, its use and/or the maintenance procedures. The following notes and explanations are absolutely necessary for the use of the unit.

## 2 SAFETY REGULATIONS

General safety and operating instructions: The owner of the MS Pigsleeper must ensure that this user manual is always available to the operating personnel. Work on electrical components may only be carried out by a suitably qualified and MS Schippers certified installer. The electrical unit must be checked regularly (after two years at the latest). Keep the unit out of reach of children and unauthorized persons. NEVER leave the treatment unit unattended when it is switched on or in operation. The MS Pigsleeper was developed for piglets up to 7 days old. NEVER use the unit for heavier piglets, other animals or for other purposes. Anesthetics other than isoflurane are prohibited. Always use the MS Pigsleeper on a flat, stable surface and make sure it cannot move or fall over. Ensure that there is an escape route in the room that it is free and unobstructed. Before using the MS Pigsleeper, make sure that the room is well ventilated (min. 4 air exchanges/hour). Clean the MS Pigsleeper thoroughly before and after each use. In case of malfunctions, decommission the unit immediately. Malfunctions may only be corrected by authorized experts or by MS Schippers.

No changes, additions or modifications may be made to the unit without the prior written consent of MS Schippers. In case of non-compliance, the unit loses its EC conformity. The manufacturer of the unit is no longer responsible for warranty coverage.

Danger of anesthesia due to escaping anesthetic gas. Please read the complete user manual carefully. If you have any questions, please contact your veterinarian, or contact the manufacturer directly. In case of gas odor (isoflurane has a “punging/biting” smell) leave the room immediately, ventilate well and investigate the malfunction. Only operate the unit if the room is sufficiently ventilated (min. 4 air exchanges/hour).

We recommend the use of protective gloves. The castration knives are extremely sharp. When castrating, the greatest possible hygiene must be ensured (we recommend one blade per castration). Do not wear rings, necklaces, or other jewelry. Hearing protection is recommended.

In addition to these operating instructions, general, legal, and other binding regulations for accident prevention, animal protection and environmental protection of the country of use must be observed.

Pay particular attention to text in this user manual marked with the following symbols.

	<p style="text-align: center;"><b><u>TIP:</u></b></p> <p style="text-align: center;"><b>Suggestions and tips to make work processes easier.</b></p>
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	<p style="text-align: center;"><b><u>ATTENTION:</u></b></p> <p style="text-align: center;"><b>Note with additional information regarding potential causes for problems.</b></p>
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	<p style="text-align: center;"><b><u>CAUTION:</u></b></p> <p style="text-align: center;"><b>The machine can be damaged if the work sequence is not executed carefully.</b></p>
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	<p style="text-align: center;"><b><u>WARNING DANGER:</u></b></p> <p style="text-align: center;"><b>There is danger if the work process is not carried out carefully.</b></p>
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### 3 TECHNICAL SPECIFICATIONS

	<b>Flexy</b>	<b>Compact</b>	<b>Premium BIZA</b>
Length (cm)	150	105	150
Width (cm)	45	45	45
Hight (cm)	120*	145*	145*
Working height (cm)	115-122	100	100
Weight (kg)	3F: 93,5 4F: 95,1	3F: 87,5 kg 4F: 89,1 kg	3F 115 kg*
Additional equipment	Cable reel, Waste bucket, toothed holder with rubber bands		
Options	MS Smart Taildoker		Needleless injection system, MS Smart Taildoker, Oral Dispenser, Tagmatic
Operating voltage Power	230 Volt, 50 Hertz with residual current circuit breaker Ca. 0,5 Kwatt (with the compressor switched on).		
Control unit:	24 Volt Low voltage		
Evaporator volume	350ml		
Operating temperature range:	+16 to +35°C		
Storage operating range:	+ 5°C to +35°C		

\* without options and further modules.

## 4 INSTALLATION

To install the MS Pigsleeper please follow the instructions below:

### 4.1.1 Assembling the unit. Model Flexy

Please assemble the following 6 modules one after the other.

- 1) **Complete treatment trolley set** (if you already have one, simply use your existing treatment trolley).



#### 1) Suction unit

The suction unit incl. activated carbon filter.

#### 2) Castration holder

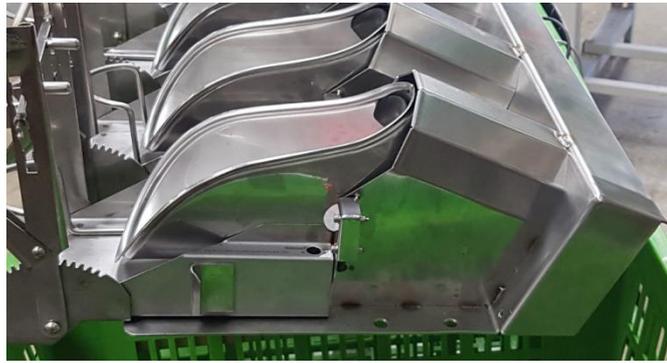
Up to 4 piglets can be anaesthetized at the same time.



#### 3) Control unit including evaporator

Hang the electrical unit on the trolley. Easy to disassemble for cleaning or service. Always store vertically.

The bracket is adjustable  
in both height and length via  
two screws located  
under the bracket.



#### 4.1.2 Installation: Connecting the air hoses. Model Flexy

There are 5 connectors on the left side of the control unit.

- 1.) Isoflurane/atmospheric air for the castration holder.
- 2.) Sensors/light barrier on the castration holders (to detect if there is a piglet in the holder).
- 3.) Power supply (grey connection).
- 4.) Fan (connect the cable of the fan to the electrical cabinet using the blue connector).

The connections are all different. It is not possible to mix up the connections. Please check if all connections are snapped in properly. When connecting isoflurane/atmospheric air to the castration holder, a locking device with a lock nut is used. Please tighten it by hand (do not use tools).

**Light barrier plug connection**



**Plug connection for hoses  
(isoflurane/fresh air) with locking nut**

**Evaporator**

	<p style="text-align: center;"><b>ATTENTION</b></p> <p style="text-align: center;">Check the sealing rings, cables, hoses, couplings and the reducing valve for cracks and wear.</p>
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### 4.1.3 Assembling the unit. Model Compact

Control unit, including evaporator

The suction unit:

The suction unit including 2 activated carbon filters.

Castration holder.

Up to 4 piglets can be anesthetized at the same time.

Treatment trolley model compact complete set (if you already have this just use the existing treatment wagon).





With the Compact version it is possible to rotate the PigSleeper modules. You can choose to turn on the left, right or in front.

The pigsleeper is locked in the three positions. With a little force you can rotate it.

The module is also adjustable in length.

The compressor is in the chassis. Here there is also the preparation for a cable reel

#### **4.1.4 Assembling the unit. Model Premium Biza**

The Pigsleeper module is identical to the compact version. There is a separate operating manual for the Premium / BIZA chassis.

Module Pigleeper Compact/  
Premium



Chassis Premium/ BIZA

## 4.2 Setting the number of piglet places

Click on “Settings” (Figure 1), then on the two arrows at the bottom right of the menu (Figure 2) and then on the number of stations (Figure 3). Here you can choose between 3 or 4 stations.

Fig-

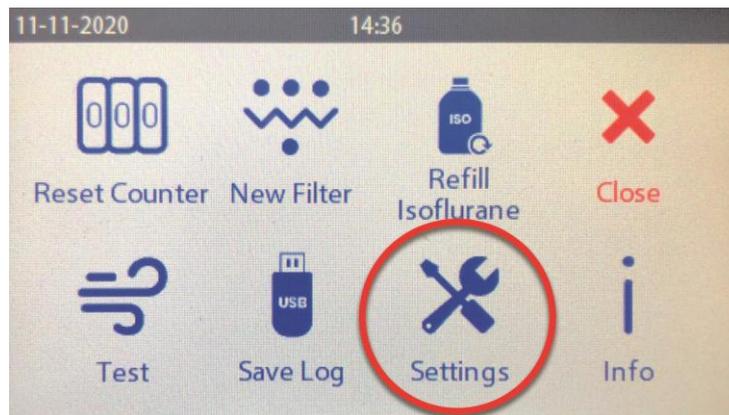


Fig-

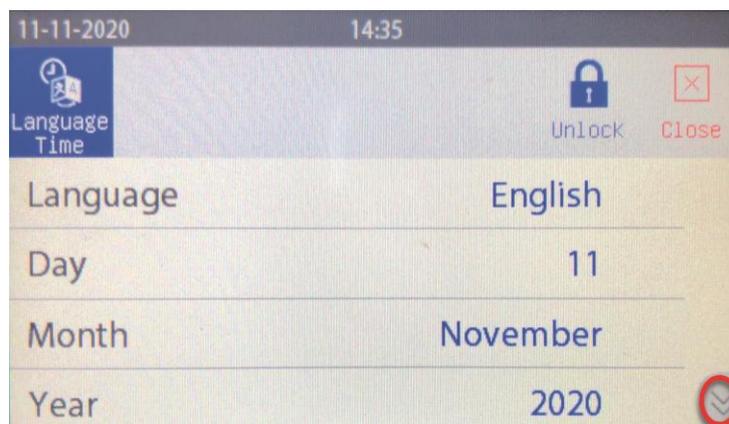
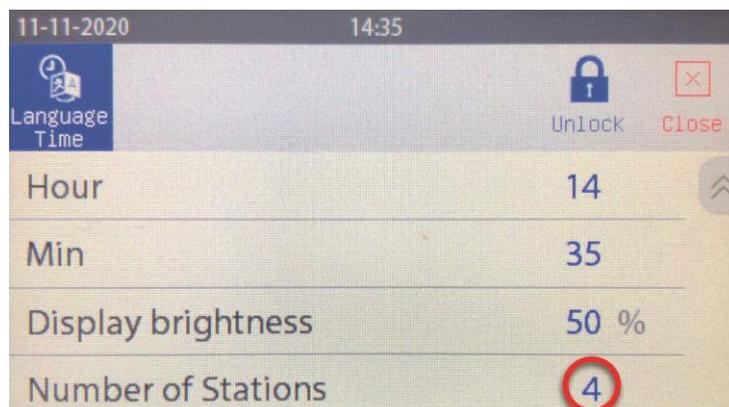


Fig-



### 4.3 Preparation for start of work

After installing the system, the following steps must be followed:

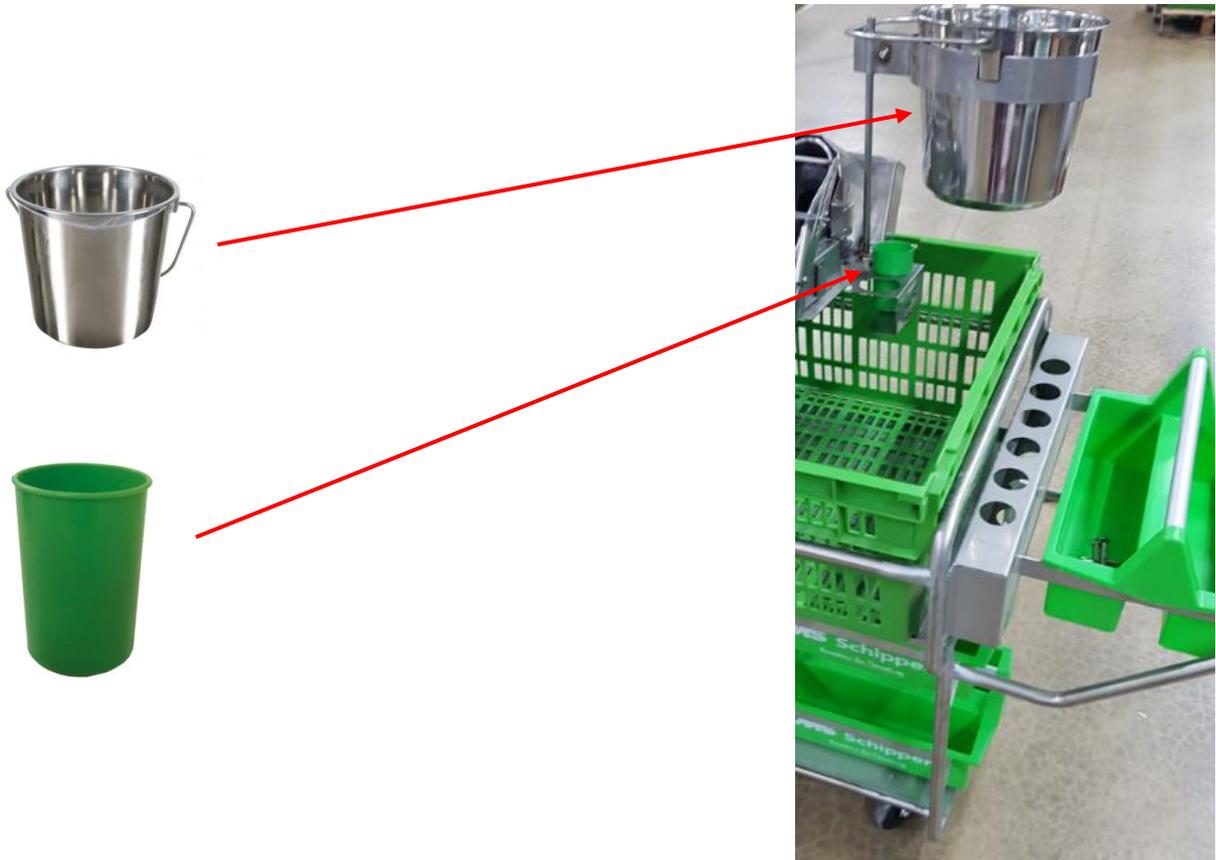
- 1.) Check the unit for damage or wear.
- 2.) Model Flexy: Adjust the castration holder to an ergonomic height. The longitudinal direction can also be adjusted if desired. Lock both adjustments by using the star knobs.
- 3.) Connect the unit to a 230 VAC socket.

	<b>ATTENTION</b> Only use sockets that are equipped with a 30 mA residual current circuit breaker.
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- 4.) Switch on the main switch. After switching on, the unit performs an automatic self-test of the control system.
- 5.) The suction unit is switched on automatically. The gases pass through the activated carbon filter before they reach the atmosphere. Ensure that the filter is seated and connected correctly. Check if there is negative pressure/suction.

	<b>ATTENTION</b> An empty activated carbon filter weighs about 900 grams. A full liter weighs about 1,300 grams. If in doubt, weigh the filter.
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- 6.) Connect the suction hose to the activated carbon filter
- 7.) Check the breathing masks for correct fit, damage, and leakage.
- 8.) Fill the cups for the neutering knives with a disinfectant after consultation/prescription by your veterinarian.
- 9.) A stainless-steel bucket is optionally available to collect castration waste.
- 10.) Checking/filling the evaporator: See Chapter 5 Filling and emptying the evaporator



When changing the active charcoal filter, the new filter must be labeled with the total count of anesthetic procedures at the time of replacement. The full filter must also be labeled with the total counter reading.

Only use activated charcoal filters which are approved by the manufacturer MS Schippers.

## 5 FILLING AND EMPTYING THE EVAPORATOR

	<p><b>ATTENTION</b></p> <p>Only use the MS Pigsleeper in combination with isoflurane (in the evaporator).</p> <p>Always store upright and at room temperature (min. 16 °C, max. 35 °C).</p> <p>Only fill and empty the unit when there is <b>no piglet</b> in the castration holder.</p> <p>Preferably fill and empty the unit outdoors, at least in a very well-ventilated room. Outside of rooms where animals are present. A supervisor is recommended for the filling process.</p>
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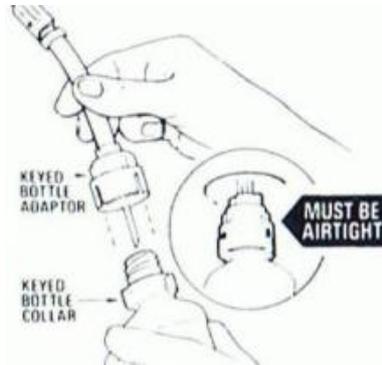
The evaporator must be filled with isoflurane before each anesthetic procedure. It must be ensured before each use that there is enough isoflurane in the unit.

Always observe the sight glass (lower mark minimum/upper mark maximum). The evaporator is equipped with a safety filling device (key filter).

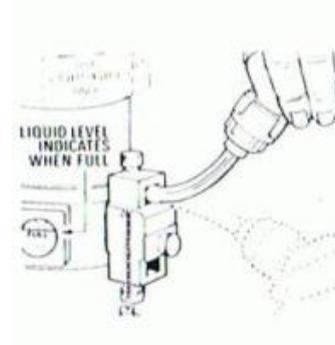


## 5.1 Filling the evaporator

1. The filler neck is screwed onto the isoflurane bottle.

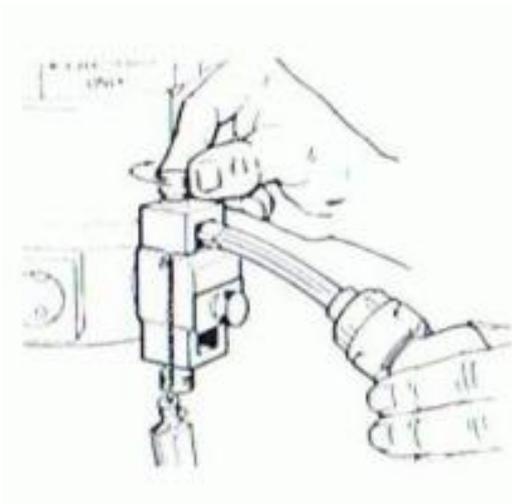


4. Lift the isoflurane bottle and fill the evaporator until the upper mark on the sight glass (maximum) is reached.

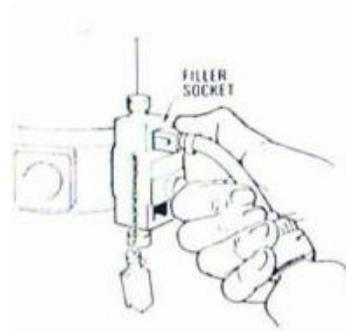


2. For the upper filling channel on the evaporator, the locking screw must be loosened, and the safety lock must be removed.

3. Insert the filler neck into the filling channel and attach it with the locking screw. Pay attention to the correct position of the filler neck – do not use force. The neck only fits into the filling channel in one direction.



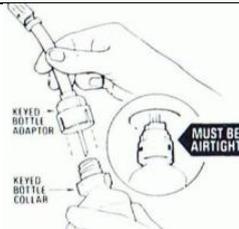
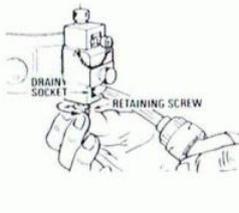
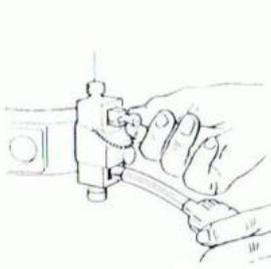
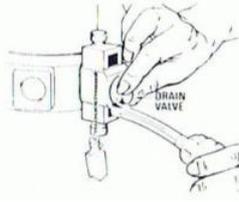
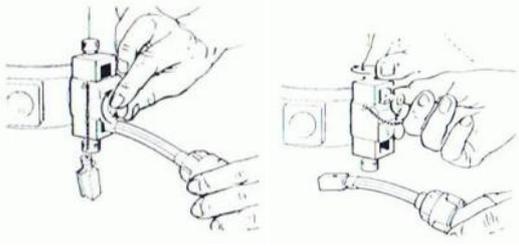
5. When the evaporator is full, the bottle must be turned down again, so the filler neck empties back into the bottle.



6. Loosen the locking screw and remove the filler neck. Replace the safety cap and tighten the locking screw.



## 5.2 Emptying the evaporator

<p>1. Screw the filler neck onto the isoflurane bottle.</p>	
<p>2. Loosen the set screw at the bottom of the safety lock.</p>	
<p>3. Insert the filler neck into the evaporator and attach it with the locking screw. Hold the bottle upside down.</p>	
<p>4. Open the evaporator with the screw in the middle of the filling device. Now the remaining isoflurane flows back into the bottle.</p>	
<p>5. After completely emptying the unit, remove the filler neck and close the screw on the evaporator.</p>	

### 5.3 Filter monitoring

The filter must be checked at regular intervals by verifying its weight. This is done with the kitchen scales supplied with the unit. The kitchen scales must be replaced regularly according to the instructions in the enclosed user manual.

A new, empty filter weighs 900 g, a used, full filter weighs 1300 g. The absorption capacity of the isoflurane filter is therefore 400 g.

The filter must be used according to the following regulations:

CONTRAfluran™		
 <p>Der CONTRAfluran - MS Narkosegasfilter adsorbiert volatile Anästhetika. Bei fachgerechtem Einsatz schützt er den Patienten und das Personal im Behandlungsraum.</p> <p><b>Bitte beachten:</b></p> <ol style="list-style-type: none"><li>1. Gebrauchsanleitung lesen.</li><li>2. Nur einen Narkosegastyp je Filter einsetzen (Gastyp bitte auf dem Etikett vermerken)</li><li>3. Lagertemperatur: -5 °C bis + 35 °C</li><li>4. Lagerung in trockenen, staubfreien Räumen Relative Luftfeuchte: max. 70%</li></ol>	 <p><b>Schippers GmbH</b> Kölner Straße 62 47647 Kerken (D) Tel: 02833-92360</p>  <p>3200136</p> <p>Artikelnummer: 3200136 Medizinprodukt: Klasse I Made by ZeoSys Medical GmbH</p>	 <p>The CONTRAfluran Anaesthetic Gas filter adsorbs volatile anaesthetics. Its use protects staff and patients.</p> <p><b>Please take note of:</b></p> <ol style="list-style-type: none"><li>1. Read the manual before use.</li><li>2. Use only one type of anaesthetic gas per filter. (select the type of gas at the cap label)</li><li>3. Storage temperature: -5°C to + 35°C</li><li>4. Storage rel. humidity: max. 70%</li></ol>
 <p>www.schippers.eu</p>	 <p>www.schippers.eu</p>	 <p>www.schippers.eu</p>

## 6 PERFORMING ANESTHESIA AND CASTRATION

The piglet is placed in the unit lying on its back with the head facing forward. **The head of the piglet must fit in the mask securely.**

By attaching a clamp in the direction of the head of the piglet, the hind paws are fixed, and the lower half of the body is clamped. The clamp is adjustable to the size of the piglet.

A second and possibly third piglet can be inserted in parallel.

The sensor recognizes the piglet and starts the cycle.

A counter on the display indicates how long the piglet is anaesthetized, counting from 70 seconds down to 0.

The red light is on during this cycle (keep piglet clamped!).



Depending on your needs (test of sufficient anesthesia, e.g. test of intermediate claw reflexes), you can add more isoflurane by pressing the respective ISO button again. Each push of the button adds 10 seconds until a maximum of 120 seconds has been reached.

After 70 seconds, the minimum anesthetic time is reached, and the green lamp lights up. From this moment on the piglet is also supplied with fresh air. After checking for sufficient anesthesia (e.g. test of intermediate claw reflexes), the castration can be

started. The green indicator light remains on for 40 seconds. After this time, the anesthesia is no longer sufficient.

If the anesthesia is not sufficient, a new cycle must be started. A new anesthesia may be given after one hour at the earliest in consultation with your veterinarian.

After the castration, the piglet must be removed immediately. The unit is ready for the next anesthesia.

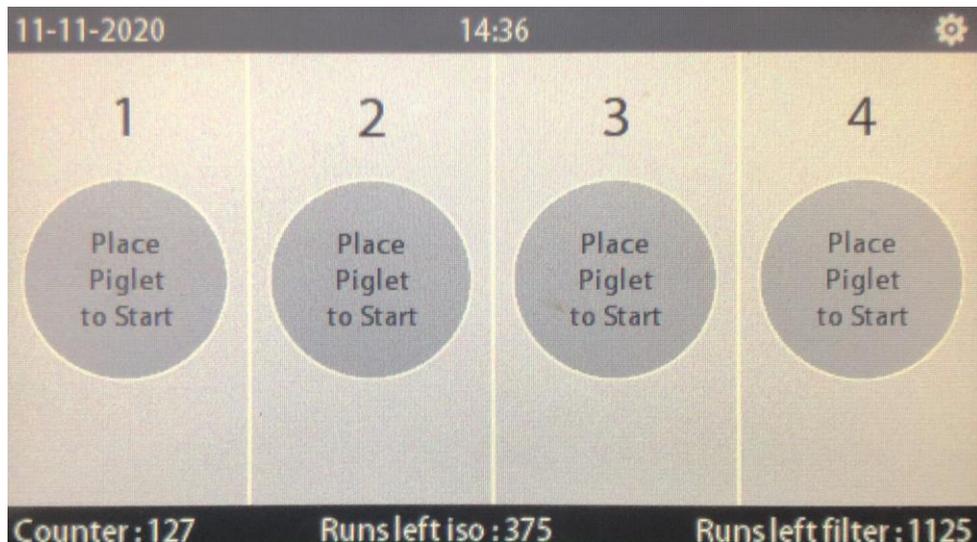
	<p><b>WARNING DANGER</b></p> <p>Never switch off the system during operation!</p> <p>Regularly monitor the isoflurane level of the evaporator.</p>
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**It is possible to end the anesthesia process.**

- Remove the piglet immediately.
- In the event of an emergency, unplug the unit or set the main switch to OFF. Attention: From this moment on, no fresh air flows into the masks! Remove the piglets immediately.

## 7 DISPLAY

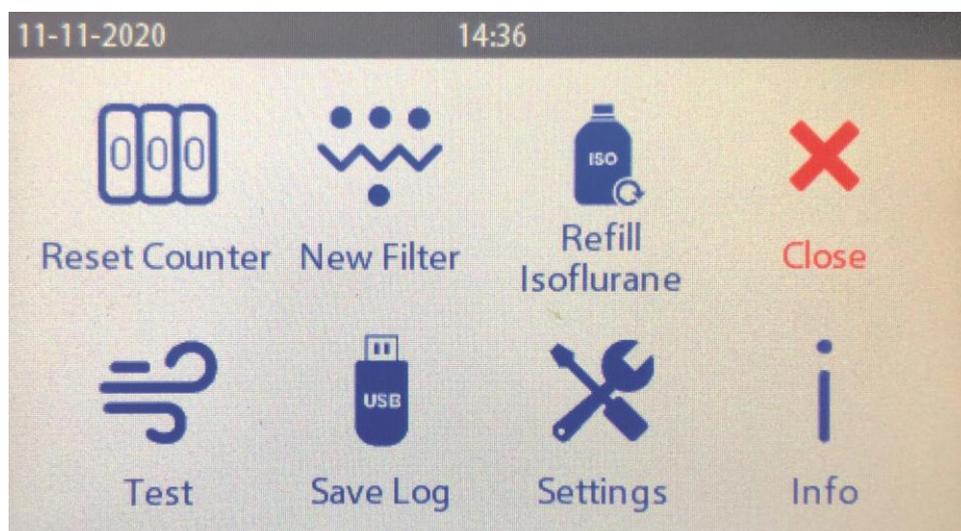
As soon as the unit is supplied with power, the following display appears. If no error message is displayed, the unit is ready for operation.



**Reset daily counter:** Press “Reset counter” in the Settings menu.

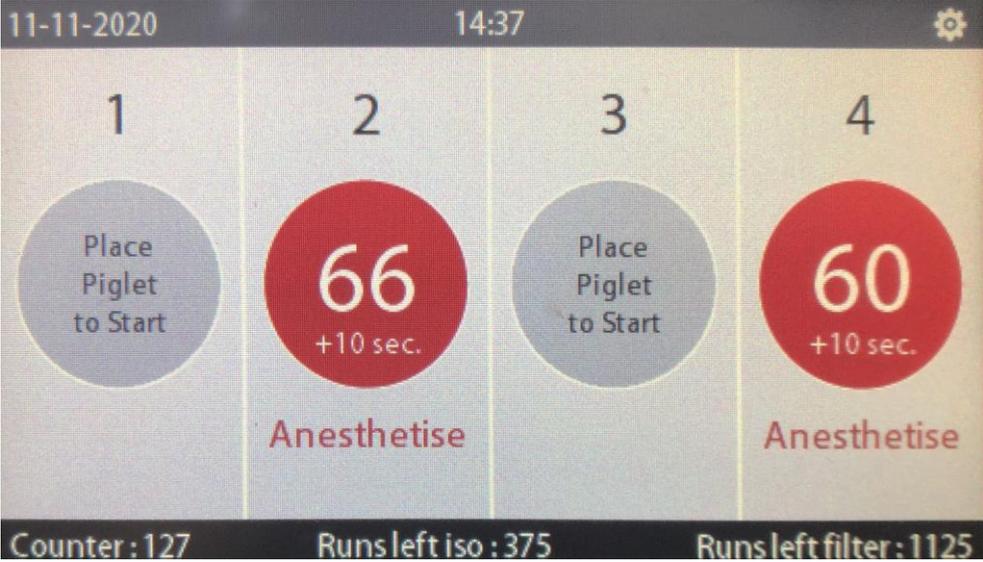
**Reset filter counter:** In the Settings menu, press “New filter” to confirm that a new activated carbon filter has been placed on the suction unit.

**Reset isoflurane:** Press “Refill isoflurane” in the Settings menu to confirm that there is enough isoflurane in the evaporator again.



After clamping the piglet: The sensor recognizes the piglet and starts the cycle.

A counter on the display indicates how long the piglet is anaesthetized, counting from 70 seconds down to 0. The red light is on during this cycle.



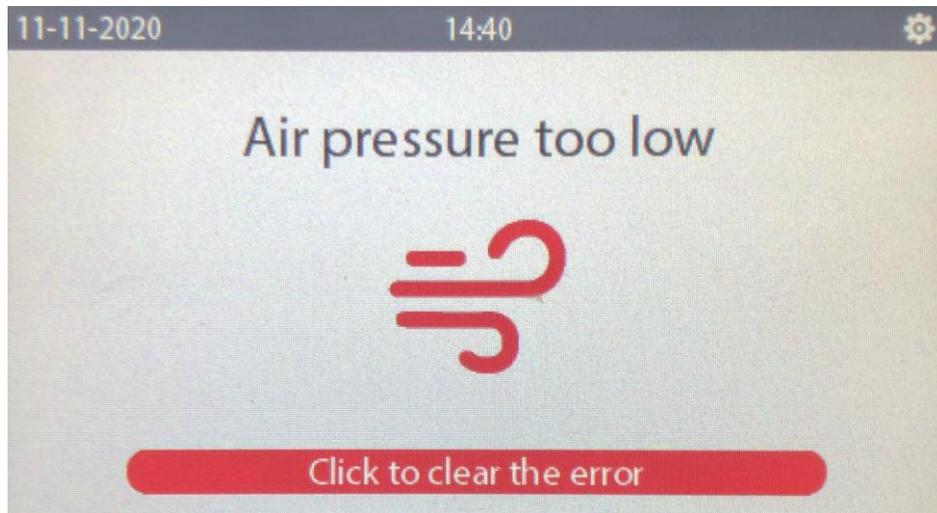
When the counter has reached zero and the green light is on, the castration process can be started. From this moment on the piglet is also supplied with fresh air. The display shows "Castration".



After a further 30 seconds, you can remove the piglets and then continue with new piglets.



Error messages such as “Air pressure too low”:



- Filter → Replace filter
- Isoflurane → Refill Isoflurane
- Fan power failure → Connect or check fan
- Air pressure too low → Connect compressor or check air supply

## 8 AFTER USING THE MS PIGSLEEPER

- 1.) Turn main switch off
- 2.) Unplug unit from power supply
- 3.) Empty evaporator
- 4.) Cleaning
- 5.) Storage

### 8.1 Cleaning

**After using the MS Pigsleeper, the unit should be cleaned as follows:**

- 1.) Switch off the unit using the on/off switch and unplug the power plug from the power supply.
- 2.) Remove all quick couplings before disconnecting the electrical cabinet from the trolley.\*
- 3.) Remove cable glands and sensors (hoses & cables).\*
- 4.) Remove suction unit and compressor. They can be cleaned with air or a damp cloth.\*
- 5.) Remove collars from castration holders and clean with warm water and foam.
- 6.) Apply MS Topfoam to trolleys, boxes, and castration holders, clean with high pressure and disinfect with MS Megades Novo.
- 7.) Let everything dry and then reassemble the unit.
- 8.) Cover the MS Pigsleeper and store it at room temperature. Do not store the unit directly in the stable or in a room with ammonia in the atmosphere.

2) 3) 4)\* Only for model Flexy

	<p><b>ATTENTION</b></p> <p>Avoid contact of electronics with water.</p> <p>Always store the electrical cabinet upright and at room temperature. Do not store the unit directly in the stable or in a room with ammonia in the atmosphere.</p>
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## 9 MALFUNCTIONS

The following malfunctions can occur with the MS Pigsleeper. Below you will find information how these can be resolved. If a possible malfunction is not listed, please contact the MS Schippers customer service.

Malfunction	Cause	Solution
Display without indication	No power supply	<ul style="list-style-type: none"> <li>✓ Establish power supply</li> <li>✓ Check sockets</li> </ul>
	Display defective	<ul style="list-style-type: none"> <li>✓ Call customer service</li> </ul>
Residual current circuit breaker (FI) activated	Short circuit	<ul style="list-style-type: none"> <li>✓ Check power connection</li> </ul>
<b>Error messages on the display:</b>		
No air pressure	No air supply	<ul style="list-style-type: none"> <li>✓ Check compressor power supply</li> <li>✓ Check if compressor is switched on</li> <li>✓ Check pressure on pressure gauge: must be approx. 6 bar</li> <li>✓ Check if air hose is defective or kinked, replace if necessary</li> <li>✓ Replace compressor</li> </ul>
ISO empty	Evaporator empty	<ul style="list-style-type: none"> <li>✓ Refill evaporator (<i>see 5.1 Filling the evaporator</i>)</li> </ul>
Filter full	Filter in use for too long	<ul style="list-style-type: none"> <li>✓ Replace Filter</li> </ul>

Malfunction	Cause	Solution
<b>Other possible malfunctions:</b>		
Isoflurane smell in ambient air	Leaks in anesthesia masks or hoses	✓ Seal and/or replace
	Piglet not placed in mask correctly	✓ Clamp piglets correctly (see 6 Performing anesthesia and castration)
	Suction does not work	✓ Check and correct if necessary
	Filter saturated	✓ Weigh and/or replace filter
	Hose not attached correctly to filter connection	✓ Check and correct if necessary
Piglets are not sufficiently anesthetized  (intermediate claw reflex)	Evaporator empty	✓ Refill evaporator
	Evaporator defective	✓ Call customer service
	Air hoses not connected correctly, defective or kinked	✓ Check and/or replace
	Piglet not placed in mask correctly	✓ Clamp piglets correctly (see 6 Performing anesthesia and castration)

## 10 MAINTENANCE

	<p><b>ATTENTION</b></p> <p>Carry out the required maintenance activities such as cleaning, inspection, and service when due.</p> <p>Always disconnect the power supply during maintenance work. Disconnect the power plug from the mains.</p>
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### 10.1 Daily maintenance:

- Always check the power cable before use. The cable must not be damaged. In case of damage, replace the cable immediately according to the MS Schippers specifications.
- Always check the rubber masks and hoses for cracks or damage and for correct fit before use. If any of these parts are cracked or damaged, they must be replaced according to the MS Schippers specifications.
- Check the correct installation of the activated carbon filter and the weight of the filter.

Make sure that you work ergonomically according to the instructions of the professional association for lifting objects. Only use original spare parts. The electronic control unit may only be repaired by MS Schippers or an authorized service center. In case of a malfunction please contact our customer service at:

**Customer service**

**MS Schippers**

**Phone: +49-(0)2833-923630**

**[kundenservice@schippers.eu](mailto:kundenservice@schippers.eu)**

The purchase of spare parts for the MS Pigsleeper is not necessary. Please contact us if you want to set up a spare parts depot nonetheless. We will be happy to advise you.

Please have the following information ready when ordering spare parts:

- Machine type
- Year of manufacture
- Order number and designation of spare parts
- Desired quantity
- Shipping address

## **10.2 Manufacturer maintenance intervals**

- ✓ The unit must be inspected and serviced by the manufacturer at intervals no longer than 2 years.
- ✓ After 25,000 anesthesia procedures are performed, the unit must be checked and maintained by the manufacturer.

## **11 ENVIRONMENT**

The activated carbon filter must be disposed of in accordance with the manufacturer's guidelines. Empty isoflurane bottles must be disposed of in accordance with the manufacturer's guidelines. Full bottles must be stored in accordance with the manufacturer's guidelines. Cleaning agents and auxiliary materials used to clean the unit must be disposed of in accordance with local regulations and the manufacturer's guidelines. Dispose of the unit in an environmentally friendly manner separated by materials.

## **12 WARRANTY**

The warranty on the entire unit is 12 months.

Excluded from the warranty are:

- Damage due to improper transport
- Damage due to poor maintenance or overloading of the machine
- Damage due to not following the instructions or incorrect handling
- Natural wear and tear of consumable parts
- Manipulation of the unit

**The warranty includes:**

- Free repair of the unit by MS Schippers or an authorized service center in case of product or material defects. If necessary, MS Schippers can replace the unit.
- Repairs are generally carried out within a few working days.

**Conclusion:**

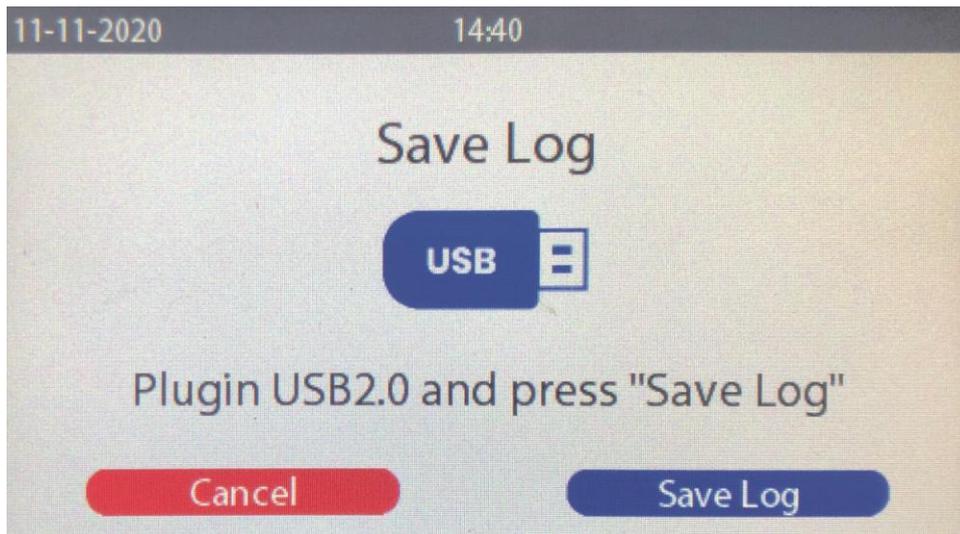
- In order to ensure a warranty case and receive appropriate service, a comprehensive description and explanation of the facts of the case should be available to enable us to understand the case.
- If the repair is not under warranty, MS Schippers reserves the right to charge the customer for repair and shipping costs.
- Repairs carried out by MS Schippers or its service center are guaranteed for 3 months.
- MS Schippers does not guarantee repairs that have not been carried out by MS Schippers or our service center.

- The replacement of spare parts during the warranty period does not result in an extension of the warranty.

**The warranty expires if the seal of the electronic control unit is removed.**

### 13 EXPORT DATA STORAGE

The recorded castration data can be downloaded and exported as a CSV/Excel file. This can be done by pressing "Save log" in the menu, inserting a USB flash drive into the appropriate interface on the control unit and pressing "Log". The data will then be automatically transferred to the USB flash drive.



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