



**IntensoVet**  
Veterinary Intensive Care Technology

## Instruction Manual

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# Intensobox O2 Intensive Care Unit

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Dear customer,

Thank you for choosing our Intensobox. Our team is working closely together with vets and specialists to provide high-quality products exclusively designed for use in veterinary medicine. With this manual we want to provide you a quick and clear introduction into the handling of the Intensobox. Please read this manual carefully before starting to use the Intensobox, and keep it for other users.

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# 1 General



Warnings and safety notices



Caution: Hot surfaces, do not touch



Read the instruction manual before use



Product must not be disposed of in household waste



Product meets the applicable European product-specific directives

## 1.1 Product description

The Intensobox is an oxygen cage for use in the Veterinary medicine. The cage registers and regulates temperature, humidity, CO<sub>2</sub> and oxygen levels. In addition, floor temperatures and lighting conditions can be adjusted. Treatments can be invoiced by measuring the duration of the treatment and the approximate use of oxygen.

## 1.2 Proper use

The Intensobox is designed

- as an oxygen intensive care unit for veterinary medicine
- for the treatment of animal patients (e.g. dogs or cats)
- in veterinary practices or veterinary clinics
- used only by veterinary professionals.

## 1.3 Safety notes



To ensure safe operation of the Intensobox, it is very important to read the following manual and safety notes completely and strictly follow the instructions. Not following the safety alerts can lead to property damage or severe injury or death of humans or animals.

- The system may only be used for its designated purpose. Other usage and modifications will immediately cancel all warranty and liability claims.
- Before commissioning, be sure to read the safety instructions in section 3.2.
- When used with patients, the Intensobox must always be switched on. Otherwise, oxygen and climate control and alarm systems will not work.

- Only use the Intensobox with a connected, functioning oxygen connection and not with any gas other than oxygen.
- Do not use any external heating systems or air conditioners together with the Intensobox, e.g. no thermal blankets/pads and no dehumidifiers or humidifier.
- Do not place “cold” objects in the cage, e.g. no metal cups or kidney dishes. This can adversely affect the temperature measurement of the floor heating system and harm the patients.
- There are magnetic fields around the Intensobox doors because of magnets. Note the dangers that can result from magnetic fields.
- The maintenance of the device at intervals according to the manufacturer’s instructions lies in the responsibility of the operator.
- Inspect the system periodically. If you see any damage or defects, immediately contact the customer service.
- Have the Intensobox repaired only by qualified personnel and only with original spare parts.
- Please note possible maintenance instructions.
- Do not allow the Intensobox to be used by persons who are not familiar with it or who have not read these instructions.
- Make sure that unauthorized persons and children do not have access to the Intensobox.
- Never pull on the leads, but always grasp the plug to pull it out of a socket.
- Do not use the Intensobox with a damaged power cord or plug or after the the unit has malfunctioned.
- Always switch off and unplug the unit before servicing or repairing it.
- Do not use the unit near strong electromagnetic fields.
- Use the unit only indoors and protect it from the elements such as wind, rain, humidity and moisture.
- Do not use the Intensobox in an explosive environment such as nearby flammable liquids, gas, or powder.
- Make sure that there is no fire or sparking in or near the Intensobox. Smoking near the Intensobox is strictly prohibited.
- Do not use oil or grease near the device as these substances in combination with oxygen and fire are dangerous.
- Do not leave the Intensobox unattended.
- Especially, do not leave the patient in the Intensobox, if there is no night shift.
- This system must not be used in human medicine.

- Take care of the Intensobox. Check that moving parts work and are not jammed, that parts are not broken or damaged in such a way that the function of the unit is impaired. Have damaged parts repaired before use.
- Do not disregard the safety rules, even after repeated use!
- Also read the instructions for cleaning (section 7.1).

## 2 The Intensobox

The Intensobox provides a safe and healthy environment for the patients by monitoring and controlling its climate conditions.

The oxygen level is measured by an oxygen sensor. The desired oxygen concentration can be adjusted on the touch screen on the front of the box. A computer inside the Intensobox calculates the deviation from the measured to the set oxygen level. Depending on the deviation, it controls the oxygen concentration. The amount of oxygen used is determined by the system and indicated on the touch screen. Moreover, the operating hours or treatment duration can be read.

In addition, the floor temperature in the cage can be controlled. The cage has two separately controlled floor heaters, so that two different floor temperatures can be set in the cage. The animal can decide which side of the cage is more comfortable. In addition to the oxygen control, temperature, humidity and CO<sub>2</sub> values in the cage are measured and influenced. While the temperature and humidity in the cage are controlled via a cooling plate at the back, the CO<sub>2</sub> is absorbed with soda lime. Also, the brightness and color of the light in the cage can be adjusted.

If the readings exceed critical values, an audible alarm will go off and a warning will appear on the touchscreen.

You will find a more detailed explanation for the functions in chapter 3.

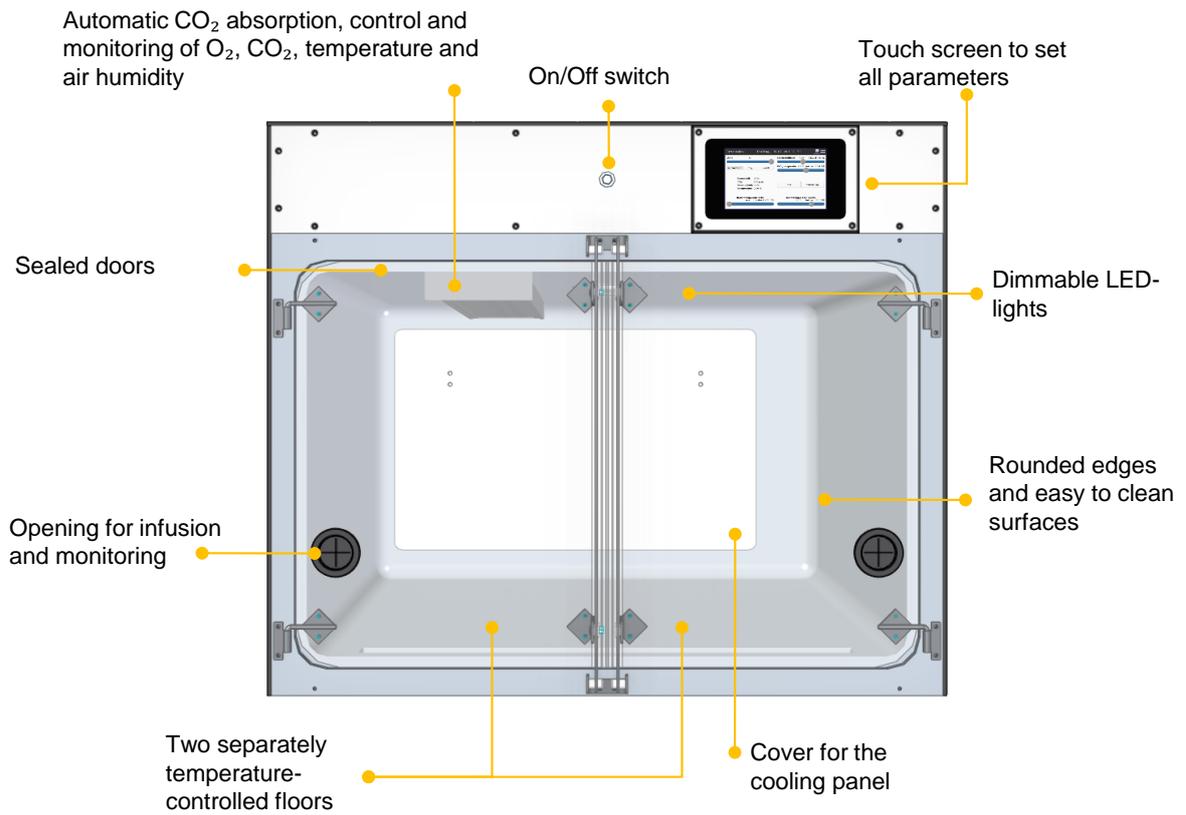


Figure 1: Front of the Intensobox

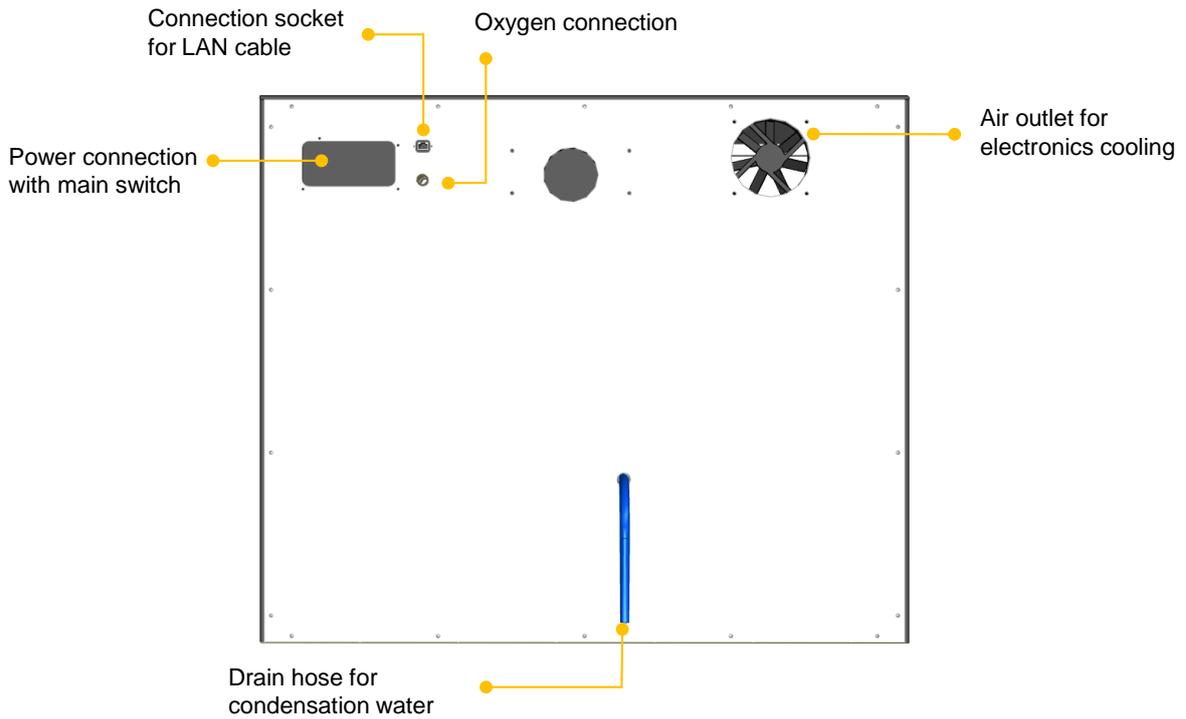


Figure 2: Backside of the Intensobox

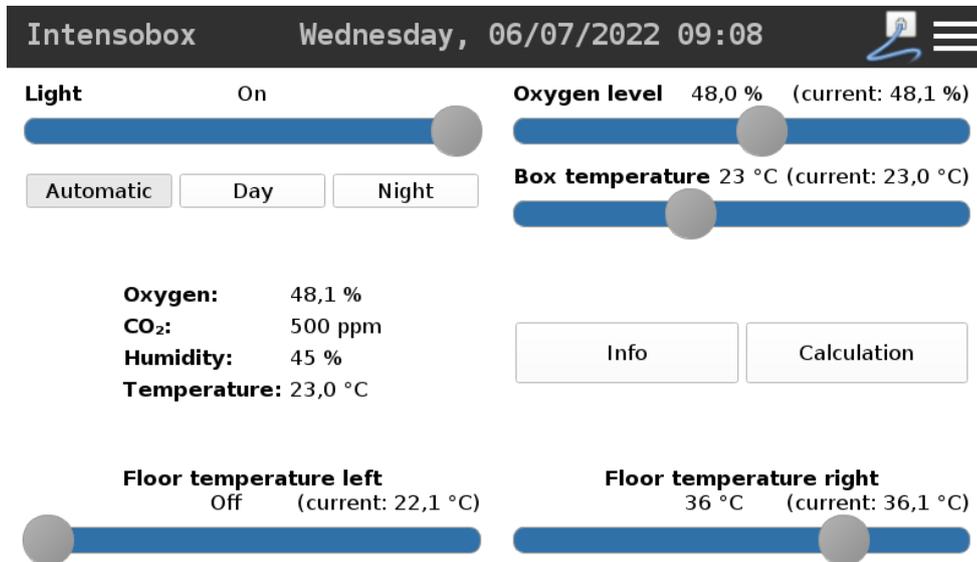


Figure 3: Touchscreen of the Intensobox

## 3 Commissioning and operation

### 3.1 Positioning and adjustment

The positioning and orientation of the Intensobox is important for temperature and oxygen control as well as for tightness.



Set up the Intensobox in a safe place where it cannot fall down, tip over or cause damage due to its high dead weight. A falling Intensobox can cause crushing, serious injury or death.

#### 3.1.1 Safe Positioning

The distance between the back of the Intensobox and the room wall must be **at least 8 cm**. Connection cables and hoses must not be kinked. If there is a **radiator** on the wall behind the Intensobox, the distance to it must be **at least 15 cm** (5.9 inches).

The free space behind the Intensobox must not be completely closed. An exchange with the room air must be possible. For built-in solutions, ventilation slots must be provided to allow air circulation.

#### 3.1.2 Horizontal adjustment

The Intensobox must also stand exactly **horizontal on the floor** so that the door sensors function properly, the doors close tightly and no oxygen can escape. Otherwise – especially for sizes L, XL and XXL – the function of the Intensobox may be impaired.

To check the alignment, place a spirit level on top lid of the Intensobox and measure along the edges of the lid (see figure). The air bubble of the spirit level must be centered between the marking lines.

1. For **Intensoboxes with feet**, black leveling feet that can be screwed by hand are provided for the alignment. These must be adjusted so that the box is completely horizontal.
2. **For built-in solutions** that stand directly on the floor, the alignment must be corrected before the joints are siliconed. This can be achieved by placing pieces of wood or wedges underneath.

## 3.2 Commissioning



Before commissioning, be sure to observe the following safety instructions. Failure to do so may result in serious injury or even death.

- Before commissioning, make sure that the available mains voltage corresponds to the nominal voltage on the type plate.
- Never connect the device with wet or damp hands.
- Make sure that you only plug the mains cable into a suitable mains socket with protective contact. The plug must not be modified. Do not use adapter plugs!
- Do not lead the power cord over sharp corners and edges or hot surfaces.

Please follow the steps below for commissioning:

1. Use only IEC power cable with safety plug (IEC-60320 C13). If necessary, a longer power cord can be supplied. Place the cables so that nobody can stumble or step on the cables.
2. Connect the oxygen line to the oxygen connection on the back of Intensobox (see section 3.3.3). The oxygen valve of the Intensobox is automatically closed when switched off, so no oxygen loss is possible. The oxygen hose may not be bent.
3. Route the condensate drain hose into a water drain or a drainable container (see also section 3.3.2).
4. Turn on the integrated power supply unit on the back of the Intensobox (see section 2). You can then start and power off the Intensobox by pressing the power button on the front panel. When the blue ring lights up on the button, the Intensobox starts operating.

## 3.3 Notes on use

Turn on the Intensobox a few minutes before use, so that it can start. If necessary, you can adjust the light conditions, the floor temperature, and the oxygen percentage in the cage. We recommend that you reset the oxygen meter before each treatment (see section 3.4.7) so that each animal's oxygen consumption can be billed individually. You can adjust these settings on the touchscreen after starting the system.

Do not place insulating materials, such as towels or blankets under the patient when the floor heating is activated. These materials can lead to reduced heat transfer. In addition, no cold items such as metal bowls with drinking water are placed on the cage floor. This can falsify the measurement of the floor temperature. This could overheat the patient. Instead please use plastic trays.



Patients may only be placed in the Intensobox when it is switched on. In addition, it must be supplied with oxygen, so that the animal does not suffocate in the airtight cage.

When opening the cage doors the oxygen level drops extremely quickly to normal ambient conditions. Therefore, the oxygen level should not be adjusted on the touchscreen until the patient is already in the cage.

### 3.3.1 Refill soda lime drawer

Make sure that there is fresh soda lime in the soda lime drawer so that it automatically lowers the CO<sub>2</sub> value in the cage as needed.



The soda lime drawer should be filled with soda lime up to a height of about 1.5 to 2 cm (approx. 0.7 inches).

### 3.3.2 Drainage for condensation water

Condensation forms in the cage on the metal plate installed at the back, which is collected in a drainage channel and drained off through a hose at the back of the Intensobox (see section 2, backside). You should guide the hose into a collection container that is emptied regularly. Depending on the size and use of the Intensobox, up to 100 ml can accumulate per day.

### 3.3.3 Oxygen connection

The Intensobox comes with an oxygen hose with a connector that varies according to local conditions. The unit can be connected both to a wall plug (central oxygen system) or to oxygen cylinders with pressure reducer.



The unit's pressure system is designed for an oxygen pressure of 4 to 6 bar. The connection should be made by qualified personnel, so that no leaks occur and no oxygen is lost unintentionally.

### 3.3.4 Minimize oxygen consumption

The Intensobox can be very efficient regarding the oxygen consumption but under certain circumstances it will need a lot of oxygen. To save oxygen read this section carefully.

When you open the doors the oxygen flows almost completely out of the box in only a few seconds. Note that it does not help to open the doors only for a very short time or just slightly.

As soon as you close the doors the box restores the preset oxygen level. If you open the box again after a minute about 60 liters of new oxygen flow out again (depending on the box size and preset oxygen level).

Here are a few tips on how to save oxygen:

1. When you need to open the doors multiple times in a row to operate on the patient you can adjust the oxygen level to 21 % and restore the setpoint later. This prevents that the oxygen is refilled and then lost when doors are opened again a minute later.
2. If your Intensobox has small operating windows in the doors („door in door“) you can use that windows to check on the patient. These operating windows are optionally available for all Intensobox sizes.

***NOTICE:*** Considerations on oxygen consumption should not stop you from checking on and caring for the patient.

### 3.3.5 Mount partition wall

On the back wall of the cage is a metal plate for cooling the cage. Since this plate can become very cold, the patient must not reach it. Therefore, during the treatment, the partition wall must be placed in its holder.

## 3.4 Usage

### 3.4.1 Switching the Intensobox on and off

First read the notes on commissioning (section 3.2). The Intensobox must first be connected to the power grid and the main switch on the power supply unit must be switched on.

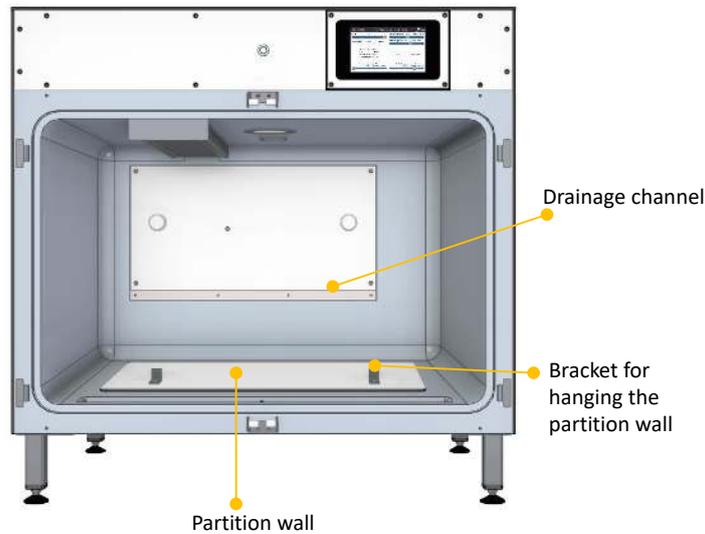


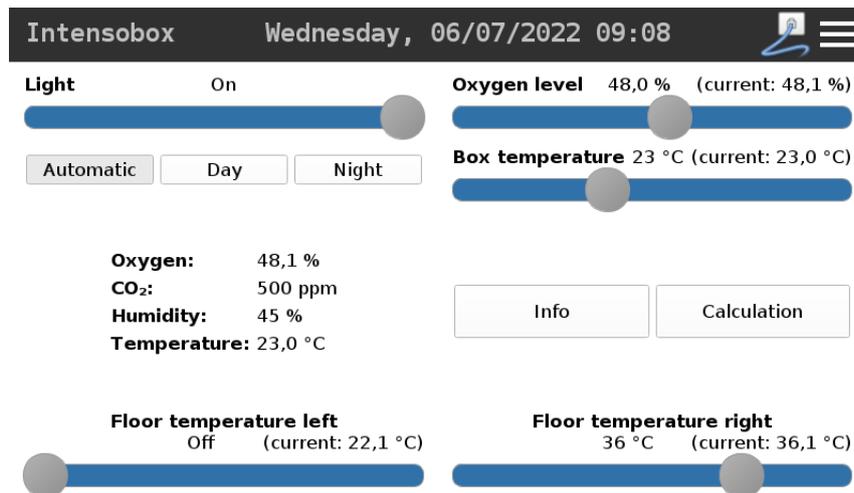
Figure 4: Interior of the Intensobox. The partition wall must be hung on the cooling rear wall during treatment.

You can start the Intensobox by briefly pressing and releasing the main switch on the front panel. The On/Off switch then lights up blue and the Intensobox starts. It may take about a minute for the Intensobox to start up to the normal user interface on the touch screen.

When the Intensobox is running you can turn it off by pressing the main switch again. The touchscreen turns black and the Intensobox shuts down. After about 30 seconds the blue light at the On/Off switch goes off; this is when the Intensobox is switched off.

### 3.4.2 Display of measured values

The Intensobox monitors various parameters in the cage during operation. These include the oxygen content, the air temperature, the CO<sub>2</sub> content, the humidity in the cage and the temperatures of the floor heating systems. All these values are displayed on the touch-screen:

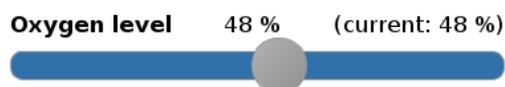


### 3.4.3 Adjusting the oxygen concentration

To set the oxygen concentration you have to drag the slider from left to right on the touchscreen. The desired oxygen level (setpoint) which should be set in the cage is displayed in the middle of the slider.

The normal oxygen content of the ambient air is 21 percent.

The current oxygen content in the cage is displayed to the right of the setpoint. This is the value currently measured in the cage.



Once the set oxygen level in the cage is reached it will stay constant. The oxygen control can not be turned off, otherwise the patient could suffocate when the oxygen is used up.

When opening the cage doors the oxygen level drops extremely quickly to normal ambient conditions. Therefore, the oxygen level should not be adjusted until the patient is already in the cage.

### 3.4.4 Setting the cage temperature

The temperature in the airtight cage may increase rapidly due to exposure to sunlight, ambient temperature and the patient's body temperature. Therefore, the cage has a built-in cooling that prevents it from getting too warm in the cage.

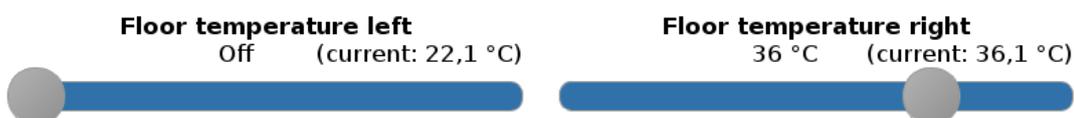
You can set this cage temperature on the touch screen by adjusting the slider to the desired temperature.

Note that this setting only controls cooling but no heating. To warm the patient, use the floor heating (see section 3.4.5). Cooling starts when the measured temperature goes above the set temperature and stops when the set temperature is reached.

### 3.4.5 Setting the floor temperature

The bottom of the cage is divided. The left and right sides can be heated independently.

To set the floor temperature you have to adjust the corresponding slider from left to right on the touchscreen. The set value is located in the middle above the slider. The current temperature of each side of the floor is shown in brackets on the right above the slider.



The heating of the cage floors can be switched off. To do this move the slider all the way to the left, so that instead of the temperature, the word *Off* appears above the slider.

### 3.4.6 Adjusting the light

The light can be dimmed in several stages. To do this, move the slider between *Off* (left) and *On* (right) to set the optimum lighting ratio.



You can also choose between white light (*Day*) and red light (*Night*). The red light is of lower energy and is less disturbing to patients. If you select *Automatic* the switch automatically takes place after sunrise and sunset.

### 3.4.7 Oxygen consumption and operating hours

For each treatment oxygen consumption and duration of the treatment can be calculated individually. Click on the button *Calculation*.

Here you get an overview of the approximately used oxygen and the duration of the treatment. It is recommended to reset the counter before each treatment. Touch the button *Reset*. The total operating hours will not be reset by this button.

**Total operating hours:** 2.662,37 h

**Operating hours:** 0,05 h

**Oxygen consumption:** 25,6 l

Reset

Close

### 3.4.8 Contact the manufacturer and technical information

Get in contact with the manufacturer and get technical information about your Intensobox via the button *Info*. When the button is selected, a window opens that displays the contact details of the manufacturer. On the second page of the window you will find technical information about the Intensobox and the network settings.

Contact Intensobox

Intensovet GmbH  
 Nüchternbrunnweg 20  
 83627 Warngau  
 Germany

Phone: +49 (0) 8024 4679190  
 E-mail: info@intensovet.de  
 Web: www.intensovet.de

Office Hours:  
 Monday to Friday  
 9:00am to 4:00pm  
 (not on German Holidays)

Close

Contact Intensobox

Name: intensobox1

Kernel: 4.14.71-v7+

Revision: 74011b1

Network: 127.0.0.1/8 lo  
 192.168.178.195/24 eth0

Close

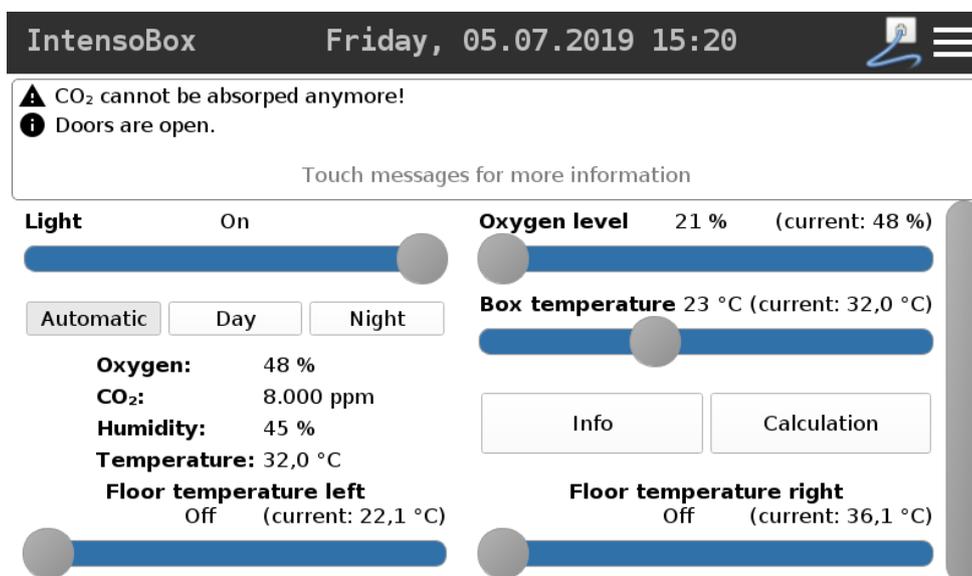
## 4 Messages, alarms and their resolution

Messages and alarms are displayed in the upper area of the touchscreen in the message area. This area is hidden if no messages are pending. If a critical problem occurs, an acoustic alarm is also triggered.



The messages range from information to critical error messages. Failure to heed messages can, under certain circumstances, cause harm to animals or humans. For example, if the message *Doors are open* is displayed, the animal could escape or not receive the desired oxygen treatment, since the control system only functions when the doors are closed. In the event of defective control of temperatures and other parameters, animals or technology may also be seriously harmed. Therefore, read the following messages carefully and pay attention to the messages on the IntensoBox screen.

The messages are displayed in brief in the message area near the top of the screen. Tap on a message to obtain additional information.



 Error message

 Warning message

 Information message

### 4.1 Messages

#### Doors are open.

Please close the doors to start or proceed the treatment.

- Check that the unit's doors are closed. For the system to detect the status the door lock must engage.

- If the message does not disappear even when the doors are firmly closed contact customer service.

Note: Adjusting the oxygen level is only possible if the door contacts function correctly.

### **▲ CO<sub>2</sub> cannot be absorbed anymore!**

Please open the drawer in the box and replace the soda lime.

- Check whether the soda lime has been used up and replace it if necessary.
- Check that the soda lime is evenly distributed in the drawer as described in the instructions (see section 3.3.1).

### **▲ The oxygen cylinder is empty or not connected.**

A high oxygen concentration over a long period of time can result in indications of oxygen intoxication.

- Check whether the Intensobox is connected to the oxygen cylinder or the oxygen system.
- Check whether the oxygen cylinder is open or the oxygen concentrator is switched on.
- If the oxygen connection itself works and other oxygen devices can be used normally, but the problem persists contact the customer service.

### **▲ Desired oxygen level cannot be reached.**

Desired oxygen level cannot be reached.

- Check what oxygen concentration is set. Higher concentrations can overload oxygen concentrators.
- Particularly with large cages or when several cages simultaneously adjust the oxygen level, it is possible that a central oxygen system does not supply sufficient oxygen. In this case the flooding of the Intensobox takes longer. However, the message should disappear after some time.
- Also check whether the Intensobox is connected to the oxygen system or to an oxygen cylinder as described under *Oxygen cylinder empty*.

### **▲ High oxygen concentration set.**

Rule of thumb: 60 percent oxygen over a period of 24 hours can result in indications of oxygen intoxication.

### **▲ Box temperature is too high!**

The cooling system is not sufficient to cool down the cage to the desired temperature. Please wait or open the cage door for air circulation.

- Check that the cage is not in the sun.
- If possible, switch off the floor heating.
- Ventilate the cage briefly.
- Check whether the metal plate on the back of the cage is cold. If this is not the case please contact customer service.

### ❗ **Humidity is too high!**

Please open the doors of the box for ventilation.

- Reduce any liquids in the cage that may be present, such as water, urine, blood, etc.
- Check that the rear metal plate (behind the partition) in the cage is cold and water is condensing on it. If this is not the case please contact customer service.

### ❗ **The oxygen level is too low!**

The oxygen level in the box is too low. Please open the doors of the box and check the oxygen connection.

The warning appears when the oxygen concentration has fallen below a value of 17 percent which is dangerous to the animal.

- First check whether the Intensobox is connected to the oxygen system or to an oxygen cylinder, as described under *Oxygen cylinder empty*.
- If the oxygen connection itself works or other oxygen devices can be used normally, but the problem persists please contact customer service.

### ⚠ **Built-in battery is empty.**

The built-in button cell is empty. This can cause problems because the clock has been reset. Please contact the manufacturer so that the battery can be changed as soon as possible.

## 4.2 General error messages

### ❗ **Fans are not working.**

This leads to inaccurate readings and affects the air conditioning (O<sub>2</sub>, CO<sub>2</sub>, temperature). Please check if the fan is running behind the soda lime drawer and contact the manufacturer.

### ⚠ **Compressor cooling defective.**

The cooling of the cage does not work anymore because there is no voltage on the compressor. Please contact the manufacturer.

#### ❗ **Floor heater control is defective.**

The floor heater controller does not work anymore. In the worst case this can lead to burns on the patient and fire damage to the cage. Switch off the cage, disconnect it from the mains, and inform the manufacturer.

### **4.3 System errors or other problems**

#### ❗ **System error!**

The box has a technical problem. Please try a restart.

- An error occurred during operation that could not be rectified by itself. Please restart the unit.
- Contact customer service. This will allow us to analyse the problem remotely.

If the error reoccurs more often, please contact the customer service department. Do not continue to use the Intensobox. Switch off the Intensobox as described in 4.4. Also switch off the main switch on the power supply unit on the back side (see section 2) and disconnect the device from the mains.

If one of the cases described below applies, or in all cases not further described, do not continue to use the Intensobox and contact customer service.

- The Intensobox or parts of the device are damaged.
- Unusual noises can be heard during operation.
- Smoke can be seen around or coming from the Intensobox.

### **4.4 Switch off in case of defect**

If the Intensobox does not react to pressing the On/Off switch, there are three ways to switch it off. Please try in this order:

1. Open the menu on the touch screen by touching the menu button in the upper right corner. If there is a system error, you should find the option *Switch off*.
2. Use the reset function. Press the On/Off switch for at least six seconds until the screen turns black and the blue light on the On/Off switch goes out.
3. If options 1. and 2. don't work, disconnect the Intensobox from the mains supply
  - by switching off the main switch on the power supply unit (back of the cage)

- or by pulling the power plug.

## 5 Maintenance

Each time you power on the Intensobox, check the measured values (see section 3.4.2) for plausibility. In addition, the soda lime must be changed at regular intervals and the cage cleaned and disinfected (see section 7.1).

In addition, we recommend a regular inspection of the individual components of the Intensobox by our customer service.

## 6 Remote maintenance and fault diagnosis

If problems occur during maintenance (see section 5) or if you want to have your system checked, Intensovet can access the Intensobox remotely.

Prerequisites for this are:

- The Intensobox must be connected to the Internet. This is possible via a network cable (recommended) or via WLAN.
- The router or WLAN hotspot that provides the Internet must assign an IP address to the Intensobox via the DHCP protocol. This is already configured by default for normal routers provided by Internet providers and for smartphones as WLAN hotspots.
- The in-house firewall must allow an SSH connection to the Intensovet server on a specific port for the Intensoboxes. In addition, the NTP and ICMP protocols should be allowed for the Intensobox.

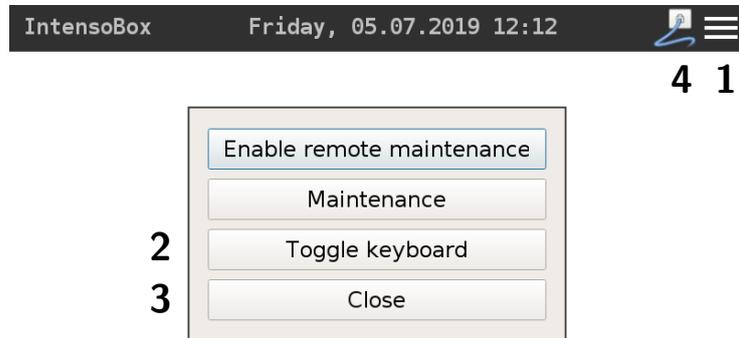
**NOTICE:** With a WLAN connection, the password (security key) is stored in the Intensobox and can be read out on the touch screen in a submenu of the network settings. Unauthorized persons can theoretically gain access to your network in this way.

### 6.1 Internet connection via LAN/network cable

Plug a network cable into the LAN network socket at the back (see section 2) and connect it to your router or house network.

## 6.2 Internet connection via Wireless LAN

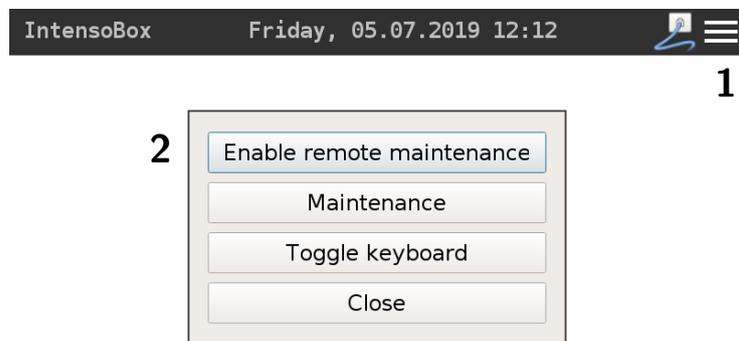
Select the menu and activate the on-screen keyboard (steps 1 to 3). You can then select your WLAN (step 4):



After you have connected to your WLAN, you can hide the keyboard again. In this case, follow steps 1, 2 and 3.

## 6.3 Activating and deactivating remote maintenance

Activate remote maintenance in the menu:



Deactivating the remote maintenance works in the same way with the button *Disable remote maintenance*.

**NOTICE:** If the remote maintenance is activated, employees of our customer service can connect to the IntensoBox. We are then in the computer network of the IntensoBoxes. If the remote maintenance is deactivated we have no possibilities to access the device or the network.

## 6.4 Diagnostic data for error analysis

When connected to the Internet, the Intensobox regularly sends diagnostic data to Intensovet for error analysis. This data includes error messages, sensor data and settings. No personal or patient-related data, or data on other network devices is collected or sent.

# 7 Cleaning, disinfection and storage

## 7.1 Cleaning and disinfection

When cleaning the outside of the cage, protect electrical components such as the touch screen, On/Off switch, and power connector from liquids and moisture. The touch screen and the On/Off switch can be carefully cleaned with a damp cloth. Make sure that no liquids get inside the device.

When cleaning the interior, the Intensobox should be powered on. This is because the oxygen sensor is more resistant against accidental contamination from detergents when it is operating. When cleaning, protect sensitive components on the cage ceiling from liquids and moisture. Sensors and fans, for example, are located on the cage ceiling, partly behind fan grilles.

**NOTICE: The cage must not be sprayed with a water hose or similar. Sensitive components (sensors, fans, ...) on the cage ceiling would be destroyed.**

You can clean the inside of the cage well with soapy water. If you use disinfecting cleaning agents (e.g. alcohol-based), it is absolutely necessary to ventilate the cage afterwards. Open the cage doors and leave them open for 20 minutes.



The oxygen sensor is hot when it is on so there is a risk of burns. The sensor is located on the ceiling behind the perforated plate. Do not clean the unit with flammable or easily flammable liquids. There is a risk of explosion due to the increased oxygen concentration in the cage.

The following cleaning procedures and cleaning agents must not be used as they may cause damage to the cage and system:

Unsuitable cleaning procedures and cleaning utensils:

- Water hose
- High pressure cleaners, steam jets etc.
- Heavy scrubbing
- Hard brushes

- Sponges that scratch the surface

Unsuitable cleaning agents:

- Abrasive powders, pastes and liquids that scratch the surface.
- Self-made cleaning agents

Unsuitable organic chemicals:

- Solvents such as acetone, dimethylformamide (DMF), furanes (e.g. 2,5-dimethylfuran (DMF)-mixtures), aldehydes, ketones (e.g. Methyl ethyl ketone (MEK), cyclohexanone), ethers, esters, white spirit/washing petroleum/terpentine substitutes, hydrocarbons, petrol, diesel, kerosene, turpentine, oil, toluene, benzene, trichloroethylene, perchloroethylene, cationic surfactants.

Unsuitable inorganic chemicals:

- Strongly acidic or alkaline products such as ammonia, nitric acid, sulphuric acid, acetic acid, hydrochloric acid, sodium hydroxide solution, caustic soda, soda ash, ...
- Strong oxidants such as bleaching agents (based on sodium hypochlorite, hydrogen peroxide, chlorine dioxide, sodium dithionite, ...)

The combined use of detergents may lead to negative results, even if each detergent is harmless by itself.

## 7.2 Storage

Switch off the cage and disconnect it from the mains. The cage must be disconnected from the oxygen supply during storage. Only store the cage upright. The soda lime must be completely empty as it decomposes and crumbles into the cage. In addition, the soda lime could fall into the fan or sensor channel during transport, which could lead to damage.

## 8 Technical data

### General specification

Nominal voltage range EU	190 V - 240 V AC
Nominal voltage range non-EU	100 V - 240 V AC
Max. current range	8 - 4 A
Nominal frequency range	50 - 60 Hz
No-load power consumption	< 5 W
Operating temperature range	+10 °C to +35 °C
Storage temperature range	0 °C to +50 °C
Air humidity	30 % to 80 % (non condensing)
Power cord included	3 m
Pressure range oxygen	4 - 6 bar; 400 - 600 kPa; 58 - 87 psi
Display resolution CO <sub>2</sub>	±70 ppm
Display resolution Humidity	±2 %
Display resolution O <sub>2</sub>	±0,1 %
Display resolution Temperature	±0,1 °C

### Model specification for Intensobox S

Nom. power consumption	250 W
Weight	50 kg
Dimensions (W × H × D)	642×801×732 mm <sup>3</sup>

### Model specification for Intensobox M

Nom. power consumption	250 W
Weight	60 kg
Dimensions (W × H × D)	942×801×732 mm <sup>3</sup>

### Model specification for Intensobox L

Nom. power consumption	400 W
Weight	70 kg
Dimensions (W × H × D)	1244×801×732 mm <sup>3</sup>

## Model specification for Intensobox XL

Nom. power consumption	500 W
Weight	80 kg
Dimensions (W × H × D)	1244×1001×732 mm <sup>3</sup>

## Model specification for Intensobox XXL

Nom. power consumption	500 W
Weight	90 kg
Dimensions (W × H × D)	1544×1001×732 mm <sup>3</sup>

## 9 Disposal note



Devices marked with this symbol must not be disposed of with household waste. As a manufacturer, we ensure the environmentally sound treatment and utilization of old equipment within the scope of product responsibility. For further information on collection and disposal, please contact your local authority or your specialist dealer. Already during the development of new products, we pay attention to the high recyclability of the materials. Through the return system, high recycling rates of the materials are achieved in order to relieve landfills and the environment. Together we make an important contribution to environmental protection. *Note: This device contains a battery (button cell CR 1220).*

## 10 Warranty

These conditions of guarantee regulate additional guarantees from us towards the end customer. They supplement the statutory warranty claims of the customer. The statutory warranty claims against the other contractual partners are not affected. These warranty conditions apply only to devices which are purchased as new devices by the end customer in the Federal Republic of Germany. A guarantee contract does not come into effect, as far as the final customer purchases a used device or a new device on its part from another end customer.

### 10.1 Scope of warranty

The warranty is provided if a manufacturing and/or material defect occurs within the warranty period on our equipment. However, the warranty does not cover equipment for which defects, damage or defects occur due to chemical or electrochemical effects, incorrect installation as well as improper operation or improper use. It is also excluded

from the services due to deficient or omitted maintenance, weather effects or other natural phenomena. The warranty is void if repairs, modifications or alterations have been carried out by persons not authorized by us. The guarantee covers the careful examination of the device, whereby it is first determined whether a guarantee claim exists. In a warranty case, the manufacturer alone decides in which way the fault is remedied. We are free to choose if we repair the device or commission a partner to repair it. The manufacturer assumes all material and repair costs for the duration and scope of the warranty. If the customer has received warranty from another contracting partner due to statutory warranty claims, no liability is assumed by us. In addition to the above-mentioned guarantees, the end customer cannot assert any claim for indirect damage or consequential damage caused by the device, in particular damages arising out of the device. Legal claims of the customer against us or against third parties remain unaffected.

## 10.2 Warranty period

For appliances used in private households, the warranty period is 24 months; otherwise (e.g. when the equipment is used in clinics or practices), the warranty period is 12 months. The warranty period begins for each device with the transfer of the device to the customer who is using the device for the first time. Guarantee claims do not lead to an extension of the warranty period. This applies to all warranty services provided, in particular for any built-in spare parts or for the replacement delivery of a new device.

## 10.3 Claim of warranty

Warranty claims must be reported to us before expiry of the warranty period, within two weeks after the defect has been detected. Information about the fault, the device and the time of the determination must be made. The invoice or any other dated proof of purchase must be attached as proof of guarantee. If the above information or documents are missing, there is no warranty claim.

**Warranty for devices purchased in Germany but not used in Germany:** The manufacturer is not obliged to provide guarantees outside the Federal Republic of Germany. In the case of faults in a device used abroad, this must be sent to the customer service in Germany at the risk and expense of the customer. The return is also at the risk and expense of the customer. Any legal claims of the customer against us or against third parties also remain unaffected in this case.

**Devices purchased outside Germany:** This warranty does not apply to devices purchased outside Germany. The respective legal regulations and, if applicable, the delivery conditions of the local company or importer apply.



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