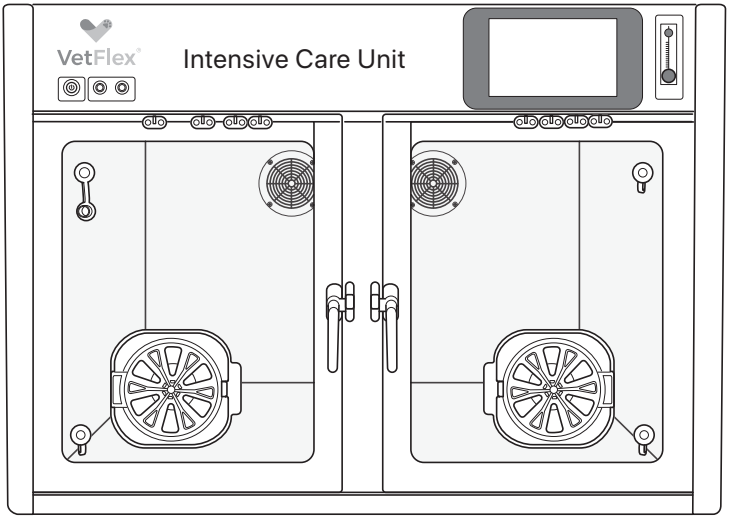
VetFlex®

User Instruction Manual

VETFLEX INTENSIVE CARE UNIT



Please contact VetFlex ICU for any sales or service related questions at 619-359-2970 extension 3

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1. Introduction

Welcome to the **VetFlex ICU**, the most advanced veterinary intensive care unit designed to provide exceptional support for animals in critical condition. This user guide will help you understand the ICU's innovative features and guide you through its setup, operation, and maintenance, ensuring optimal performance for your patients.

The VetFlex ICU sets a new standard in veterinary care with its **soda lime-free operation**, eliminating consumables and simplifying the care process. Built with **medical-grade stainless steel**, it is engineered for durability, hygiene, and reliability in demanding clinical environments.

Key features include an intuitive **10-inch LCD display**, precise control over **temperature, oxygen concentration, and ventilation settings**, and advanced technologies like **built-in oxygen and CO2 monitoring** and **advanced ion sterilization**. These features ensure a safe, efficient, and comfortable environment for animals, whether they are recovering from surgery, receiving respiratory support, or requiring specialized care.

Designed with veterinary professionals in mind, the VetFlex ICU is both user-friendly and easy to maintain. Its modular construction allows for quick cleaning, upgrades, and component replacements, offering a cost-effective and eco-friendly solution for veterinary practices.

This manual will guide you through everything you need to know about your VetFlex ICU, from installation to advanced troubleshooting. With VetFlex, you can provide unparalleled care to your patients while maximizing efficiency and minimizing operational challenges.

2. Safety Information

Ensuring safe operation of the VetFlex ICU is critical for both the health of your patients and the longevity of the unit. Please read this section carefully before installing or using the device.

2.1 General Warnings

- **Electrical Safety:**
  - The VetFlex ICU only requires a standard 15A outlet to power the unit.
  - Ensure the power cord is undamaged and securely connected. If the cord is damaged, discontinue use immediately and contact VetFlex support.
  - Avoid exposing electrical components to water or cleaning solutions.

- **Ventilation Requirements:**
  - Ensure adequate clearance around the unit to allow proper airflow and prevent overheating. Refer to the installation section for required operating space.
  - Do not block the exhaust vents of the air conditioning system.

- **Patient Safety:**
  - Always confirm that temperature, oxygen concentration, and ventilation settings are appropriate for the patient's species and condition.
  - Monitor animals regularly while they are inside the ICU to ensure their safety and comfort.

2.2 Intended Use

The VetFlex ICU is designed exclusively for veterinary use in clinical settings. It is intended for providing controlled environments for small to medium animals, exotic species, and neonates requiring:

- Post-surgical recovery
- Respiratory support
- Intensive monitoring of oxygen and CO2 levels

Do not use the ICU for any purposes outside of its intended design.

2.3 Precautions During Operation

- **Avoid Overloading:** The ICU is designed for one patient per compartment. If using the removable divider, ensure both sections are properly secured and do not overcrowd the unit.
- **Door Use:** Use the FlexFeed access port to minimize opening the ICU door fully, reducing the risk of patient escape or environmental disruption.

2.4 Cleaning and Sterilization Safety

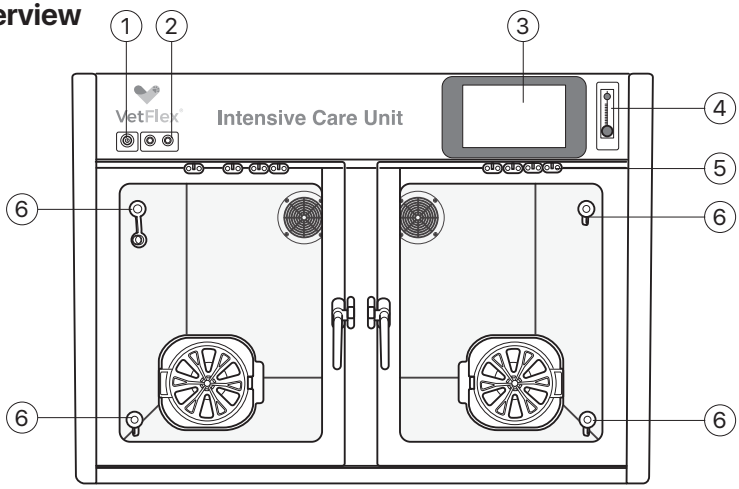
- Use only non-abrasive cleaning agents recommended in the Cleaning and Maintenance section to avoid damaging components.

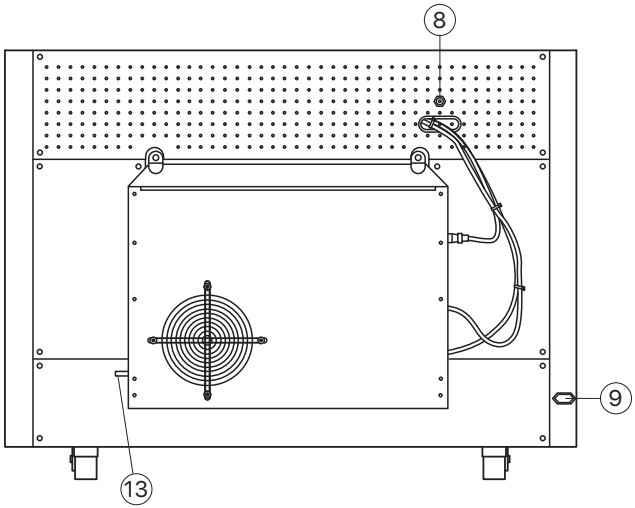
2.5 Emergency Precautions

- In the event of a power outage, the ICU's 30-minute backup battery will activate automatically. Ensure you have a contingency plan to relocate critical patients if the power outage exceeds this timeframe.
- Contact VetFlex support immediately if you encounter alarms or unexpected malfunctions that cannot be resolved using the troubleshooting guide.

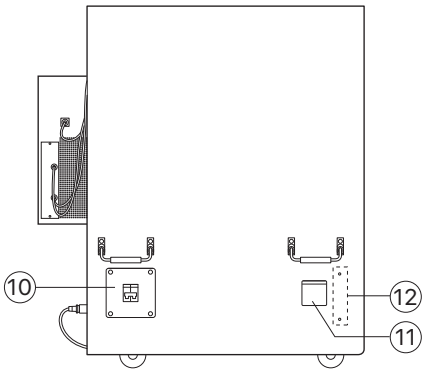
3. Product Overview

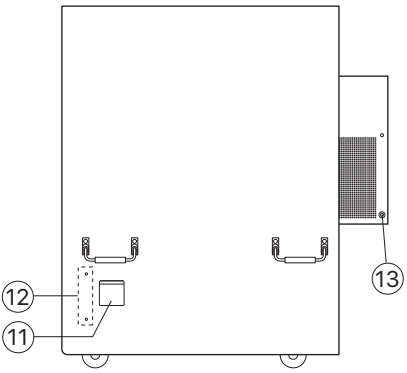
3.1 Components Overview



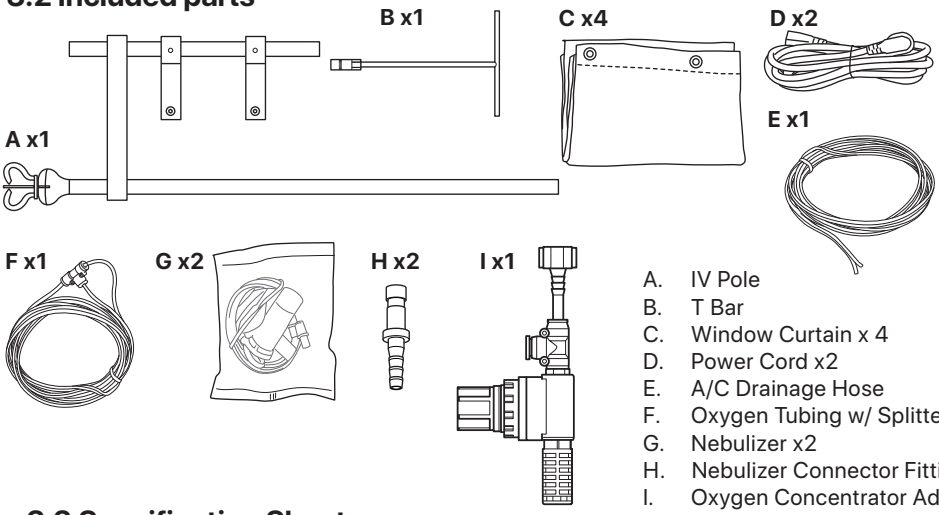


1. Power On/Off Button
2. Nebulizer Ports
3. 10″ LCD Control Panel
4. Oxygen Flowmeter
5. Curtain Hooks
6. IV/ Nebulizer Access Ports
7. FlexFeed Feeding/ Ventilation Access Port
8. Oxygen Inlet Port
9. Power Inlet
10. Integrated Circuit Breaker
11. Utility Power Outlet
12. IV Pole Mounting Points
13. A/C Drainage Port





3.2 Included parts



A. IV Pole
B. T Bar
C. Window Curtain x 4
D. Power Cord x2
E. A/C Drainage Hose
F. Oxygen Tubing w/ Splitter
G. Nebulizer x2
H. Nebulizer Connector Fitting x2
I. Oxygen Concentrator Adapter

3.3 Specification Sheet

Items	Parameters
Operating Environmentz	-14°F to 104°F (-10°C to 40° C)
Display	10-inch LCD Touch Screen
Temperature Control	Integrated Air-Conditioning System for Heating And Cooling
Temperature Control Range	59° to 96°F (15°C to 36°C)
Humidity Control Range	55-75%RH
Oxygen Concentration Control Range	21-80%
CO2 Concentration Monitoring Range	400-2000PPM, ± 10PPM
Medical Nebulizer	**Timer Range:** 1~60min(adjustable) **Mist particles:** 0.5 to 2 μm **Maximum atomization rate:** 0.2 ml/min **Noise Level:** ≤40 dB(A)
LED Indoor Lamp	**Timer Range:** 1~60min(adjustable) **Brightness levels:** 3 levels available
Examination lamp	**Timer Range:** 1~60min(adjustable) **Brightness levels:** 3 levels available
Blue Light Therapy lamp	**Wavelength:** 415 nm (penetrates hair follicles and sebaceous glands) **Benefits:** • Inhibits bacterial growth • Reduces skin inflammation • Treats jaundice **Timer Range:** 60 to 600 minutes (adjustable) **Brightness levels:** 3 levels available
Backup battery	6000mAH
External Power Outlet	600W
Power Supply Voltage	AC 100~120V / 220~240V, 50/60Hz
Main Material	Main Material
Sensor calibration function	Automatic or manual sensor calibration to ensure accurate parameters

3.4 Key Features

The VetFlex ICU is engineered with advanced features to deliver superior care for animals in critical condition while streamlining workflows for veterinary professionals. Its innovative design combines reliability, ease of use, and cutting-edge technology to provide unparalleled functionality in intensive care settings.

Soda Lime-Free Operation

- The VetFlex ICU eliminates the need for soda lime, reducing consumable costs and simplifying operation.
- This system ensures consistent performance without the risk of soda lime depletion, common in traditional units.

Medical-Grade Stainless Steel Construction

- Built with durable stainless steel for exceptional longevity and hygiene.
- Resistant to wear, corrosion, and frequent cleaning, making it ideal for busy clinics.

Integrated Oxygen and CO2 Monitoring

- Features built-in sensors to monitor and regulate oxygen and CO2 levels in real-time.
- Ensures precise environmental control tailored to the patient's needs, reducing reliance on external devices.

FlexFeed Access Port

- Each door is equipped with a specialized feeding/ventilation access port.
- Allows adjustments or feeding without fully opening the door, reducing the risk of patient escape or disrupting the controlled environment.

Advanced Ion Sterilization System

- Actively neutralizes airborne and surface contaminants using ionized hydroperoxides.
- Provides continuous sterilization to maintain a clean and safe environment, eliminating bacteria, viruses, and odors.

10-Inch LCD Display

- Intuitive touchscreen interface for easy management of temperature, oxygen concentration, and ventilation settings.
- Provides real-time status updates and alerts for patient safety and system performance.

Emergency Backup Battery

- A 30-minute battery backup ensures uninterrupted operation during power outages, giving you time to implement contingency plans.

Energy Efficiency

- Operates on a standard 15A outlet, allowing up to two units per outlet.
- Energy-efficient design minimizes power consumption compared to competitor models requiring dedicated 20A outlets.

User-Friendly Cleaning and Maintenance

- Features a built-in trough design to simplify cleaning of excrement and spills.
- The modular design allows quick access to components for routine maintenance or replacements.

Removable Divider

- Intuitive one-hand operation allows the divider to be easily inserted or removed.
- Provides flexibility for housing one or two patients as needed, maximizing space efficiency.

4. Installation and Setup

VetFlex ICU Placement and Installation Guide

Proper placement of your VetFlex ICU is crucial for optimal performance and safety. Please read the following Placement Guidelines carefully before unpacking or assembling your unit.

Placement Guidelines

1. Operating Space Requirements

- **Single-Stack ICU:**
  - Length: ≥ 53.1″ (≥ 1350 mm) – Leave space for power socket access on both sides.
  - Width: > 37.0″ (> 940 mm) – Leave space for exhaust from the condenser.
  - Height: ≥ 38.2″ (≥ 970 mm).
- **Double-Stacked ICU:**
  - Length: ≥ 53.1″ (≥ 1350 mm) – Leave space for power socket access on both sides.
  - Width: > 37.0″ (> 940 mm) – Leave space for exhaust from the condenser.
  - Height: ≥ 75.2″ (≥ 1910 mm).

2. Distance from the Wall

Maintain at **least 10 cm** (approximately 4 inches) of space between the back of the ICU and the wall to ensure proper airflow and ventilation.

3. Surrounding Space

- **Open Area Requirement:** Keep the area around the ICU open to allow proper ventilation and prevent heat buildup.
- **Enclosed Installations:** If installed in an enclosed area, ensure at least one side or the top remains open.

4. Electrical Considerations

- The ICU operates on a standard 15A outlet.
- **Double Units per Outlet:** Two units can safely share one outlet.

Steps for Unpacking and Installing the VetFlex ICU

1. Unpacking the Crate(s)

- **Single-Stack ICU:**
  - The ICU will arrive in a single palletized wooden crate.
- **Double-Stack or Hybrid-Stack Unit:**
  - The ICU will arrive in two palletized wooden crates of differing sizes:
    - **Double-Stack Unit:**
      - The larger crate contains the bottom unit (with wheels).
      - The smaller crate contains the top unit.
    - **Hybrid-Stack Unit:**
      - The larger crate contains the top ICU unit.
      - The smaller crate contains the stainless steel cage (to be placed on the bottom).
- Use a drill or impact driver with a Phillips head bit to remove the screws securing the wooden crates.

2. Removing Protective Materials

- Carefully disassemble the wooden crate(s) and remove all protective foam and wrapping from the ICU and its components.
- Locate the parts box, which will be placed inside the ICU chamber. Set it aside for later assembly.

3. Assembling the ICU

- If applicable, stack the top unit onto:

- The bottom unit (Double-Stack Unit).
- The stainless steel cage (Hybrid-Stack Unit).

4. Securing the Bottom Unit or Cage

- Before attempting to stack the top unit, lock the wheels of the bottom unit or stainless steel cage to prevent movement during assembly.
    - Locate the wheel locks on the bottom unit or cage.
    - Engage the locks by pressing down on the locking mechanisms.
    - Ensure the unit is stable and immobile before proceeding.

5. Lifting and Placement

- Use the handles located on the sides of the ICU to lift the units.• Ensure four people are available to lift the top unit, as it is extremely heavy.
- Carefully align the top unit with the four mounting posts on the bottom unit or cage.
- Gently lower the top unit, ensuring it is seated securely and properly on the posts.

6. Positioning the Unit

- If the ICU is not already in its designated operating location:
    - Carefully unlock the wheels and roll the fully assembled unit to its intended location.
    - Before locking the wheels again:
        - Plug in the oxygen tubing(s) to the appropriate ports.
        - Connect the power cable(s) to a standard 15A outlet (two units can safely share one outlet).
        - Attach the drain hose to the designated drainage port.
- Once all connections are secured, lock the wheels to prevent movement.

7. Final Steps

- Verify that all connections (oxygen tubing, power cables, and drain hose) are secure.
- Ensure the ICU is level, locked in place, and in compliance with the placement guidelines.
- Proceed with connecting any additional accessories or components as instructed in the user manual.

Note: Handle all components with care to prevent damage during assembly or movement. Contact VetFlex Support if you encounter any issues during the unpacking, assembly, or placement process.

4.1 Connecting the Oxygen Supply

1. Ensure Proper Equipment:

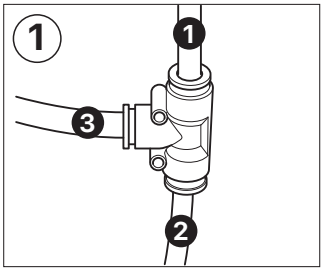
- The VetFlex ICU is compatible with all common oxygen adapters, allowing seamless integration with your facility's oxygen outlet system.
- It is also fully compatible with oxygen concentrators for flexible oxygen delivery in various settings.

2. Inspect the Connections:

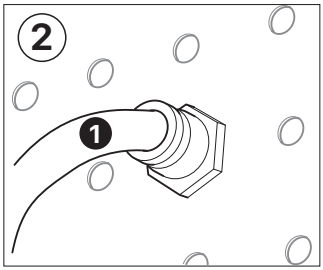
- Before connecting, check the oxygen adapter and tubing for any damage or debris. Clean if necessary to ensure a secure and airtight connection.

3. Secure the Oxygen Connection:

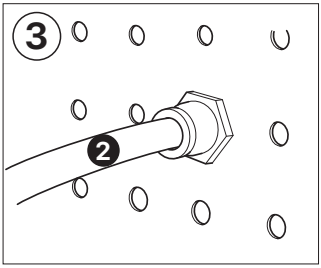
- Attach the oxygen tubing or adapter to the oxygen inlet on the VetFlex ICU.
- Ensure all connections are snug to prevent leaks.



Attach the oxygen tube to the T-joint as shown in the diagram.

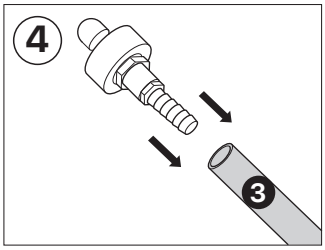


Connect the oxygen tube labeled "1" to the oxygen inlet port on the upper ICU cage.

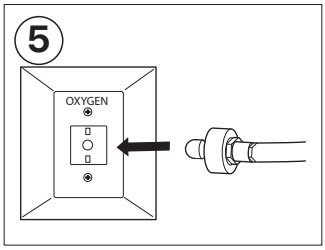


Connect the oxygen tube labeled "2" to the oxygen inlet port on the lower ICU cage.

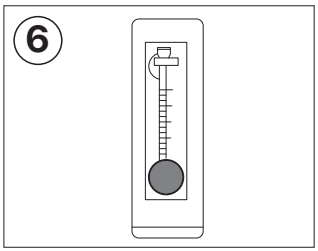
If using central oxygen supply



Connect the oxygen tube labeled "3" to the adapter of your choice (1/4" Ohmeda Quick Connect Pictured)



Connect the adapter to the Oxygen Wall outlet



Once the active therapy startup procedure is completed and therapy settings are configured (Refer to Section 5), use the Oxygen Flowmeter on the front panel to adjust the oxygen flow rate to the desired level.

If using oxygen concentrator

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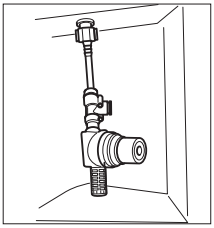

Attach the oxygen concentrator adapter by aligning the green head of the adapter with the outlet port of the concentrator. Firmly screw on the adapter clockwise until securely attached.

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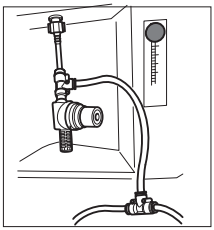


Connect the oxygen tubing to the adapter's outlet, ensuring a secure fit with no gaps of kinks to allow for efficient oxygen flow.

Once the active therapy startup procedure is completed and therapy settings are configured (refer to section 5), turn on the oxygen concentrator and adjust its flowrate to at least 10L/min, but ensuring it does NOT exceed the safety red line.

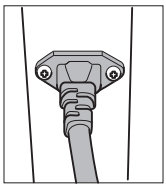
Then use the Oxygen Flowmeter on the front panel of the ICU to adjust the oxygen flow rate to the desired level.

4. Activate Oxygen Flow:

- Turn on the oxygen source (outlet or concentrator) and adjust the flow rate as required. Use the ICU's built-in oxygen monitoring system to confirm proper flow and concentration levels.

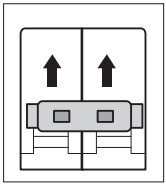
4.2 Connecting to Power

1 Plug the power cord into a compatible electrical socket that meets the ICU's electrical requirements and includes a ground wire.



2 Turn on the overload protection switch located on the power panel.

Note: Always ensure the ICU is connected to a stable power source to prevent operational interruptions.



1. Check Electrical Requirements:

- The VetFlex ICU requires a standard 15A outlet. Ensure the outlet is grounded and in good condition.
- Power Strips: A high-quality, grounded power strip with surge protection may be used if necessary. Ensure it has sufficient capacity for the ICU and any other connected devices.

2. Position the ICU:

- Place the ICU in its designated location, ensuring proper clearance for ventilation (refer to Section 2 for ventilation guidelines).

3. Plug in the Power Cord:

- Connect the power cord to the ICU and then to the outlet or power strip. Ensure the cord is securely connected at both ends.

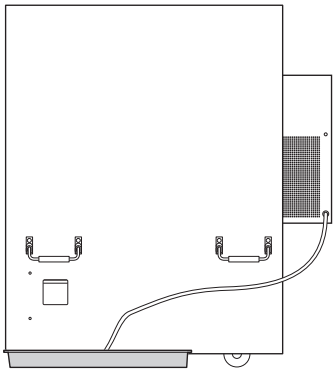
4. Turn on the Circuit Breaker:

- Connect the power cord to the ICU and then to the outlet or power strip. Ensure the cord is securely connected at both ends.

5. Power On the ICU:

- Press the Power Button on the ICU's control panel. The LCD screen will light up, and the system will perform a self-diagnostic check.

4.3 Connecting the A/C drainage hose



Follow these steps to attach the A/C drainage hose and ensure proper drainage of condensation:

1. Locate the A/C Drainage Port:

- Looking directly at the back of the unit, the **A/C drainage port** is located on the **lower left corner** of the A/C unit.
- The port is equipped with a **barbed connector** for securely attaching the hose.

2. Attach the Drainage Hose:

- Slide one end of the drainage hose over the barbed connector on the drainage port.
- Push firmly to ensure a tight and secure connection, preventing leaks.

3. Prepare a Liquid Collection Container:

- Choose a container or vessel capable of holding the expected volume of liquid.
- Ensure the container is sturdy and stable.

4. Position the Container:

- Place the container **below the level of the drainage port.** This allows gravity to assist in the drainage process.
- Ensure the container is on a flat, stable surface to avoid tipping over.

5. Insert the Free End of the Hose & Cut Excess Hose:

- Place the other end of the drainage hose into the container and cut any off any major excess. Ensure it is securely positioned and cannot accidentally slip out during operation.

6. Verify Setup:

- Check that the hose is securely attached to the port and properly inserted into the container.
- Inspect the hose for kinks or bends that could obstruct water flow.

7. Monitor and Maintain:

- Periodically check the container to ensure it does not overflow.
- Empty the container as needed to maintain proper drainage.

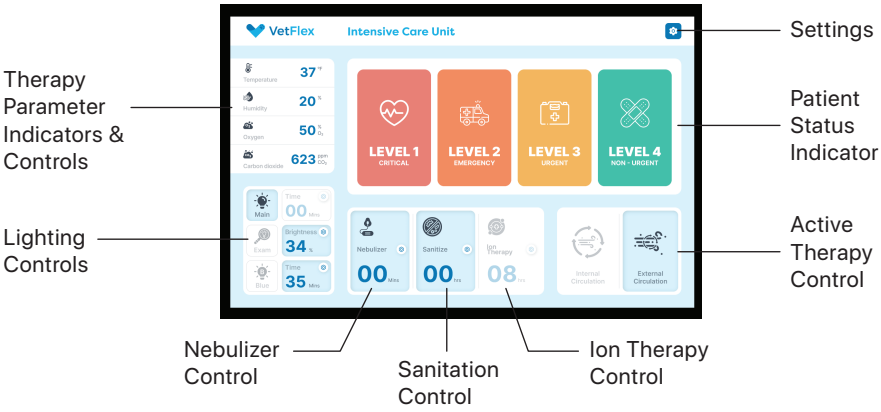
5. Operating the ICU

5.1 Power On

Press the On/Off button to power up the ICU machine.

Slide your finger from left to right across the screen to unlock and access the system interface.

5.2 User Interface Guide



Therapy Parameter Indicators & Controls

Temperature Control: Easily set and regulate the chamber's temperature, including both heating and cooling functions.

- To adjust: Click the numerical temperature, use the "+" or "-" buttons to modify the value, and press **Confirm** to apply the changes.

Humidity Indicator: Monitor the chamber's humidity levels.

- **To increase humidity:** Fill the nebulizer to the indicated mark with water and turn on the nebulizer setting.
- **To decrease humidity:** Lower the temperature setting.

Oxygen Control: The oxygen concentration is displayed as a numerical percentage. Set the chamber's target oxygen concentration with ease.

- **To adjust:** Click the displayed percentage, use the "+" or "-" buttons to modify the targe value, and press Confirm to apply the changes.
- **Before activation:** Ensure the oxygen flowmeter on the front of the ICU panel is open and oxygen is flowing. Also, verify that the vents on the FlexFeed Access Ports are securely closed.

CO2 Indicator: Displays the chamber's current CO2 levels

- For patient safety, If CO2 levels exceed 2000PPM, the system will automatically switch to external circulation to expel excess carbon dioxide. Please check that oxygen is properly flowing into the chamber.
- The system will revert to internal circulation (active therapy mode) when CO2 levels drop to 600PPM

Lighting Controls

The ICU is equipped with an advanced lighting system designed for inspection, therapeutic use, and patient comfort. Each light serves a specific purpose to enhance functionality and improve patient care.

Main Light

- The **Main Light** is a warm white LED light ideal for general use within the ICU.
- Use the **"Main"** and **"Time"** icons to control the light.
- Press **"Main"** to turn the light on or off. The light will automatically turn off after 20 minutes.
- Adjust brightness and duration by selecting **"Time"** and setting the desired parameters.

Exam Light

- The **Examination Light** provides bright white light, specifically designed for detailed patient examinations.
- Use the **"Exam"** and **"Brightness"** icons to control the lamp.
- Adjust brightness and duration as needed to ensure optimal lighting for examinations.

Blue Light Therapy Lamp

- The **Blue Light Therapy Lamp** is used for therapeutic purposes, promoting wound healing and offering anti-inflammatory benefits. Ensure proper exposure times are selected based on the patient's condition and therapeutic goals.
- Control the blue light using the corresponding icon on the interface.
- Adjust the duration (60 to 600 minutes) and brightness to suit treatment needs.

Precautions:

- **Avoid prolonged exposure:** Excessive blue light exposure can cause cellular stress or tissue overheating. Always follow recommended durations.
- **Protect sensitive areas:** Shield the eyes and any sensitive tissues that don't require treatment to prevent irritation or potential damage.
- **Monitor the patient:** Continuously observe the patient for signs of discomfort or adverse reactions, such as redness or increased sensitivity.
- **Use as directed:** Only use blue light therapy for its intended purpose as directed by the veterinarian.

Patient Status Indicator

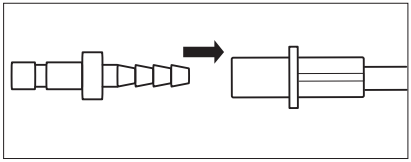
The Patient Status Indicator is a manually adjustable tool that helps veterinary staff maintain clear communication and consistency regarding a patient's condition. This feature categorizes the patient's status into four levels of severity:

- **Level 1 (Critical):** Requires immediate and intensive care to address life-threatening conditions.
- **Level 2 (Emergency):** Indicates a serious condition that needs urgent attention to stabilize the patient.
- **Level 3 (Urgent):** Represents a condition that needs timely care but is not immediately life-threatening.
- **Level 4 (Non-Urgent):** Identifies a stable condition requiring routine care or monitoring.

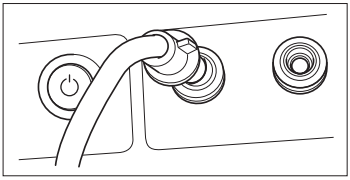
Nebulizer

Connecting the Nebulizer

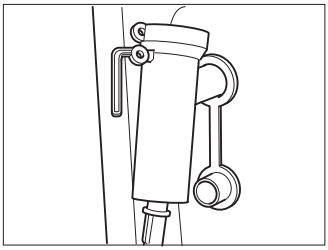
1. Open the **Nebulizer Accessory Kit** and connect the orange connector at the end of the nebulizer tube to the metal **Nebulizer Connector Fitting** provided in the parts box. Ensure the connection is secure and properly aligned (pay attention to the direction).



2. Insert the other end of the metal fitting into the **Nebulizer Port** located on the front panel of the ICU. At this point, your nebulizer should be fully assembled and connected to the ICU.



3. Fill the nebulizer cup according to the provided instructions, ensuring the liquid does not exceed the maximum fill line marked on the cup. Place the filled nebulizer cup into the soft **IV/Nebulizer Access Port** on the ICU.



• Tip: Ensure the soft silicone center cap is open so the nebulizer fits securely and remains stable in the port.

4. Set the atomization function and duration.

- Press the **"Nebulizer"** button to activate the atomization function. The icon will turn blue and shaded when the function is active. The default atomization time is set to 30 minutes.

- **To adjust the atomization time:**

1.Tap the time display (e.g., **00 min**) on the interface.

2. Use the "**+**" or "**-**" buttons to set the desired duration.

3.Press "**Confirm**" to save your settings.

Sanitize Function

The **Sanitize Function** utilizes advanced ionization sterilization to sanitize the chamber effectively. This process eliminates harmful pathogens such as bacteria, viruses, and mold within the environment, creating a clean and sterile space for the patient.

- **To Activate:** Press the "Sanitize" button. The icon will turn blue to indicate the function is active.

- **To Adjust Disinfection Time:**

1. Click the time display (e.g., **00 min**) to access the settings interface.
2. Use the "**+**" or "**-**" buttons to set the desired disinfection duration.
3. Press "**Confirm**" to save your settings. Alternatively, you may use the system's default disinfection time.

This feature ensures that the chamber remains safe and hygienic, protecting the patient from potential contamination during treatment.

Ion Therapy

The **Ion Therapy Function** uses advanced ionization sterilization to help disinfect surface wounds and aid in the healing process. By emitting ionized particles, this therapy reduces bacterial load on the wound site, promoting faster recovery and minimizing infection risks.

- **To Activate:** Press the "**Ion Therapy**" button. The icon will turn blue to indicate the function is active.

- **To Adjust Ion Therapy Time:**

1.Click the time display (e.g., **00 min**) to access the settings interface.
2. Use the "**+**" or "**-**" buttons to adjust the therapy duration based on the patient's needs.
3. Press "**Confirm**" to save your settings. Alternatively, the system's default ion therapy time can be used.

This feature is ideal for targeted wound care, helping disinfect and sterilize the affected areas while supporting tissue regeneration.

5.3 Active Oxygen Therapy

The VetFlex ICU operates with two distinct circulation modes to ensure optimal functionality and patient safety:

External Circulation Mode

- In this mode, the vents are opened, and there is no active oxygen being pumped into the chamber.
- The oxygen concentration inside the chamber is equal to the oxygen levels in the external environment.
- This mode is ideal for scenarios where oxygen therapy is not required.

Internal Circulation Mode

- Internal Circulation activates oxygen therapy, ensuring oxygen is actively supplied to the chamber.
- For safety, if the system detects insufficient oxygen flow or excess CO_2 (>2000ppm) in the chamber, it automatically switches to External Circulation Mode. This prevents improper circulation and maintains a safe environment for the patient.

5.4 Starting an Active Oxygen Therapy Session

Follow these steps to initiate active oxygen therapy in the ICU:

1. **Power On the Unit:** Ensure the ICU is turned on and operating.
2. **Ventilate the Chamber:** Open both ICU doors to allow fresh air to circulate and stabilize the chamber environment.
3. **Check Oxygen Concentration:** Wait 1–2 minutes and confirm that the oxygen concentration reads **21%** (acceptable range: **20%–22%**).

• If the reading falls outside this range, perform a minor recalibration (called a "tare calibration") to correct the oxygen sensor (Refer to Section 6 - Oxygen Sensor Calibration: Tare Calibration)

4. **Prepare for Therapy:** Close the ICU doors to seal the chamber. Ensure both **FlexFeed Access Ports** on the front of the ICU are securely closed. If using an **oxygen concentrator**, please also turn it on at this stage.

Oxygen Concentrator Guidelines

The following guidelines are for if you are using an oxygen concentrator (not a centralized oxygen source):

- Ensure each ICU unit receives a minimum of 5 LPM (liters per minute) of oxygen flow.
- If only one ICU unit is in use, set the oxygen flow to 10 LPM or higher.
- If both ICU units are in use, evenly distribute the oxygen flow to 5 LPM per space. **This is very important:** If you are using an oxygen concentrator with one unit and need to add a second unit, ensure the oxygen flowmeters for both units are adjusted together. Follow these steps to properly activate the second unit:

A. First, completely close the flowmeter dial on the first unit by turning it completely to the right.
B. Then, open the flowmeters on both units at the same time and adjust the flow for both spaces simultaneously.

This procedure ensures accurate oxygen delivery and prevents reading errors caused by gas pressure imbalances in the pipeline.

5. **Open the Oxygen Flowmeter:** Open the **Oxygen Flowmeter** on the ICU to the desired setting.

6. **Activate Internal Circulation:** Press the **"Internal Circulation"** button.

7. **Acknowledge Therapy Notification:** Confirm activation by clicking the **"Confirm"** button at the bottom of the **Active Therapy Notification.**

8. **Set Target Parameters:** Adjust the oxygen and/or temperature settings as needed by selecting their respective icons on the ICU interface. Adjust the oxygen flowmeter on the right side of the ICU panel if needed.

9. **Place the Patient in the Chamber:** Once the target parameters have been achieved, gently place the patient inside the chamber, ensuring they are positioned comfortably for the therapy session.

5.5 Ending Treatment and Powering Down

Follow this step-by-step process to safely conclude the treatment session and prepare the ICU for its next use:

1. **Adjust Temperature and Switch to External Circulation:**
• If temperature adjustments are necessary, make them before proceeding.
• Switch to **External Circulation Mode** to allow fresh air to replace the oxygen-enriched environment and prepare the chamber for safe access.

2. **Close the Oxygen Flowmeter:**
• Turn off the oxygen flow by closing the **Oxygen Flowmeter.**
• This allows the oxygen concentration in the chamber to decrease gradually, minimizing abrupt changes for the patient.

3. **Normalize Oxygen Levels:**
• Wait for **2–3 minutes** and confirm that the oxygen concentration in the chamber drops to a normal atmospheric level of approximately **21%.**
• This ensures the chamber is safe to open and reduces the risk of oxygen-related hazards.

4. **Remove the Patient:**
• Open the ICU doors gently and carefully remove the patient.
• Ensure the patient is stable and comfortable before transferring them to another location or proceeding with further care.

5. **Turn Off the Oxygen Concentrator and ICU Machine:**
- Deactivate the oxygen concentrator (or other oxygen source) to stop the oxygen supply completely.
- Power down the ICU machine to prepare it for cleaning, maintenance, or the next use.

5.6 Best Practices

Using the ICU effectively requires proper preparation to ensure a stable and safe environment for the patient. Just as you would wait for the water to warm up before stepping into a shower, it's essential to prepare the ICU environment before placing the patient inside. This preparation helps reduce stress, maintain safety, and optimize recovery outcomes.

Why Preparation Matters

The ICU's primary goal is to create a controlled and stable space for post-surgery or therapeutic care. Placing a patient into an unprepared environment can lead to unnecessary stress and complications. By taking a few extra minutes to stabilize temperature, oxygen levels, and circulation settings, you ensure the patient's comfort and safety from the very start.

Key Best Practices

• **Stabilize Before Entry:** Always prepare the ICU environment in advance by setting the appropriate temperature, oxygen concentration, and circulation mode. This ensures the chamber is ready to meet the patient's needs as soon as they are placed inside.
• **Think of the Patient's Comfort:** Just as you wouldn't step into a cold shower, don't place a patient in an ICU where the conditions are still adjusting. Let the environment "wait for the patient," not the other way around.
• **Avoid Abrupt Changes:** Gradually normalize the environment when ending treatment. Abruptly opening the ICU door or removing the patient without stabilizing the chamber can cause unnecessary stress.
• **Follow Protocols:** Use the ICU according to recommended procedures, ensuring that oxygen levels, flow rates, and circulation modes are set properly before and during treatment.

5.7 Proper Use of the ICU: Preparing the Environment for the Patient

To maximize the benefits of the ICU, always prioritize creating a stable and suitable environment for the patient. This involves following a key principle: **prepare the environment first, then introduce the patient.**

The key to effective ICU use is ensuring a stable and suitable environment is established before introducing the patient. Following this principle not only improves patient comfort but also optimizes recovery outcomes. Below is a chart comparing correct and incorrect ICU usage for post-surgery care:

	Correct Use	**Incorrect Use**
Pre-Surgery Preparation	- Turn on the ICU and leave the door open if the chamber is empty. - Wait 1–2 minutes and check oxygen levels (21%). - If needed, recalibrate the system.	- ICU preparation is skipped. - No pre-checks for oxygen or temperature stability.
Environmental Setup	- Turn on the oxygen concentrator or source. - Open the oxygen flow meter and set the proper flow rate. - Close the ICU door and select internal circulation. - Set the correct temperature and oxygen concentration.	- ICU settings (temperature and oxygen) are adjusted only after the patient is already inside.
Post-Surgery Action	- Place the patient into a fully prepared ICU where the environment has been stabilized.	- Immediately place the patient into the ICU without stabilizing the environment.
Ending ICU Treatment	- Adjust temperature (if needed) and switch to external circulation. - Close the oxygen flow meter. - Allow oxygen levels to decrease gradually. - After 2–3 minutes, confirm oxygen levels are at 21%. - Open the door and remove the patient. - Turn off the oxygen source and ICU machine.	- Open the ICU door and remove the patient abruptly. - Shut down the ICU without adjusting or monitoring oxygen levels.

Following the recommended approach ensures the ICU is fully prepared to provide the best care for the patient. Incorrect practices, such as placing the patient in an unprepared environment, can lead to unnecessary stress and hinder recovery. Always prioritize setting up the environment **before** introducing the patient.

6. Cleaning & Maintenance Instructions

Proper cleaning and maintenance of the ICU ensure its longevity, efficiency, and safety for each patient. Follow these steps for optimal care:

1. Routine Cleaning After Each Treatment:

- Promptly clean the ICU chamber after every treatment session.
- Use a wipe moistened with a stainless steel and animal safe sanitizing cleaner to wipe away dirt and debris. We recommend VetFlex brand ICU wipes for the best results.
- Important: Avoid using high-pressure water, flames, or any other methods that could damage the ICU's electronic components.

2. Optional Disinfection:

- After routine cleaning, activate the Sanitize Function (refer to Section 5.4) to help further sterilize the chamber.
- This step helps maintain a clean, safe environment for the next patient.

3. Air Conditioner Condensate Maintenance:

- Regularly inspect and empty the air conditioner's drainage container every 2–3 days, depending on usage.
- **IMPORTANT:** If no water is found in the container, this may indicate a blockage in the air conditioner drainage hose. Inspect the drainage hose and clear any blockages immediately to prevent water buildup and potential damage to the machine. Damage as a result of negligence will not be covered under warranty!

4. Battery Maintenance (For Long-Term Unused Units)

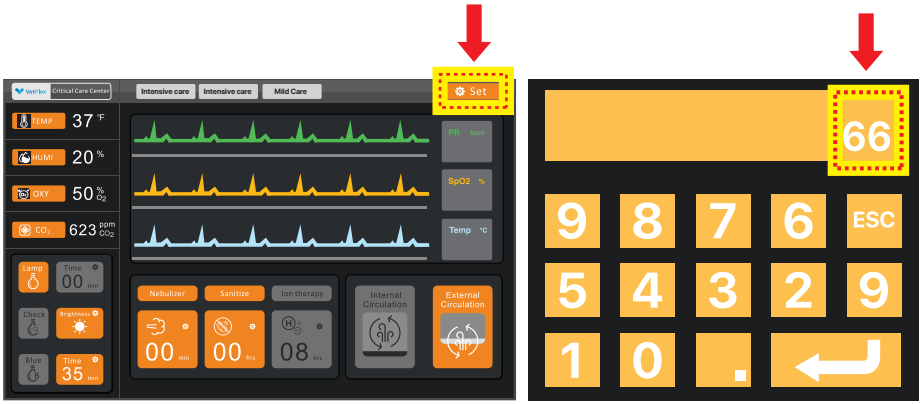
- If the ICU will not be in use for an extended period:
  - Turn it on periodically to ensure the backup battery remains charged.
- **Low Battery Warning:** If the ICU screen flickers, this may indicate a low battery.
  - Regular charging prevents battery damage, as the backup battery can degrade if left uncharged for long periods.

5. Oxygen Sensor Care After Use:

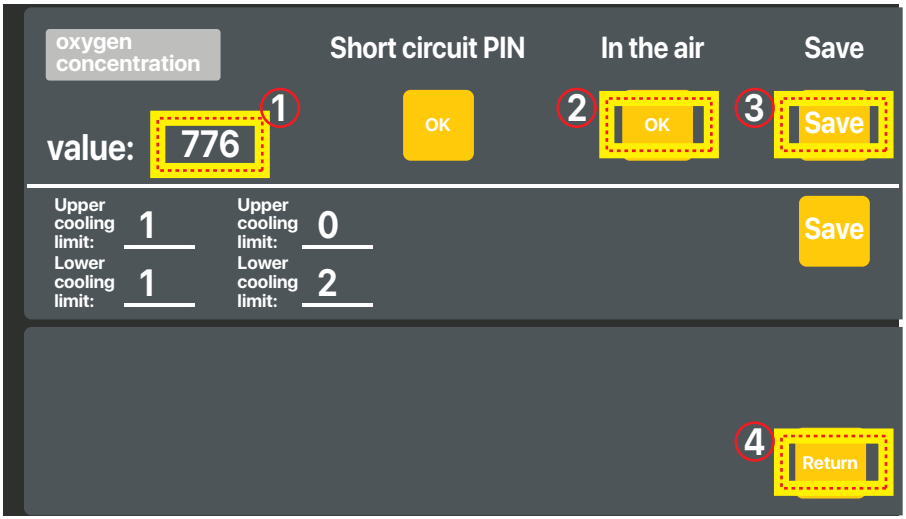
- After each use, follow these steps to protect the oxygen sensor:
  1. Turn off the oxygen concentrator.
  2. Switch to **External Circulation Mode** and open the ICU door to allow the oxygen concentration to stabilize at approximately **20–21%.**
  3. Once stabilized, power off the ICU machine.
- **Tip:** Properly airing out the ICU after each use helps extend the lifespan of the oxygen sensor.

6.1 Oxygen Sensor Calibration Instructions

1. Keep the ICU door open to allow air into the chamber. Ensure the oxygen supply is turned off.
2. Access the calibration interface by pressing the “SET” button on the control panel. Enter the password "66" and press “Enter” to access the calibration settings.



3. Allow the oxygen concentration to stabilize within the chamber. Wait until the displayed value no longer fluctuates significantly (within a range of 1%).
4. Once stable, press the “OK” button under "In the air," then save the settings by pressing “Save.” Exit the calibration interface by pressing “Return.”



5. After calibration, the oxygen concentration should return to 20-21%. The machine is now ready for use.

Issue: Oxygen Concentration Cannot Reach the Set Value

Possible Causes and Solutions:

1. **Calibration Error:** Ensure the oxygen concentration is normal (20-21%) before turning on the oxygen supply. If the concentration is below 20%, recalibrate the sensor using the steps outlined in Section 5.1.
2. **Incorrect Circulation Mode:** Check if the ICU is in internal circulation mode and if the door is properly closed. Switch to internal circulation if needed.
3. **Oxygen Supply Issues:** Verify that the oxygen concentrator is functioning correctly and that the flow meter settings are appropriate. Also, ensure that all oxygen connection pipes are securely connected.

If the problem persists, contact VetFlex support for further assistance.

Issue: Abnormal Alarm Activation

Possible Causes and Solutions:

1. **Overheating or Overcooling:** Ensure the temperature settings are within the acceptable range. Adjust as necessary to prevent temperature fluctuations.
2. **Humidity Levels:** Check that the humidity control settings are within the specified range. Adjust as needed.
3. **Gas Levels:** Verify that oxygen and CO2 levels are within normal limits. Adjust the circulation settings if necessary.

For unresolved issues, contact VetFlex support for troubleshooting and maintenance.

8. Accessories and Spare Parts

9. Warranty

The VetFlex ICU machine is covered by a two-year manufacturer warranty. This warranty includes:

- Coverage: Repair or replacement of defective parts, as determined by VetFlex, at no additional cost to the buyer.
- Exclusions: The warranty does not cover damages caused by misuse, unauthorized modifications, improper maintenance, or natural disasters.
- Warranty Period: The warranty is valid for one year from the date of delivery.
- Service: During the warranty period, contact VetFlex for any repairs or replacement needs. After the warranty period, VetFlex offers lifelong maintenance services at a reasonable cost.

Appendices

• A. Technical Specifications: Expanded details on electrical requirements, weight, and materials.
• B. Replacement Schedule: Recommended replacement timelines for sensors and sterilization components.
• C. Compliance Certifications: Documentation of safety standards and certifications.

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Please contact VetFlex ICU for any sales or service related questions at 619-359-2970 extension 3

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