committed to life

Quick Guide

tecme

committed to life

This quick guide does not replace the instructions for use. The operation of the ventilator requires a complete analysis and understanding of the User's Manual.

Remember that the ventilator model may vary according to different markets. Some functions are optional and are not available in all markets.

Table of Contents

1   General Description

1.1   Front Panel

1   Touch screen.
2   Alarm signals.
3   Alarm Limits Configuration Key.
4   Paused Audio Key.
5   Menu Key.
6   Selection of Ventilation Mode Key.
7   Rotary Knob.
8   Esc Key.
9   Ctrl Key.
10   Manual Inspiratory/Expiratory Pause Key.
11   Manual Inspiration Key.
12   %O2 Suction Key.
13   Screen Lock Key.
14   Power Supply Indicators.

https://youtu.be/3OwbVjf5sY4
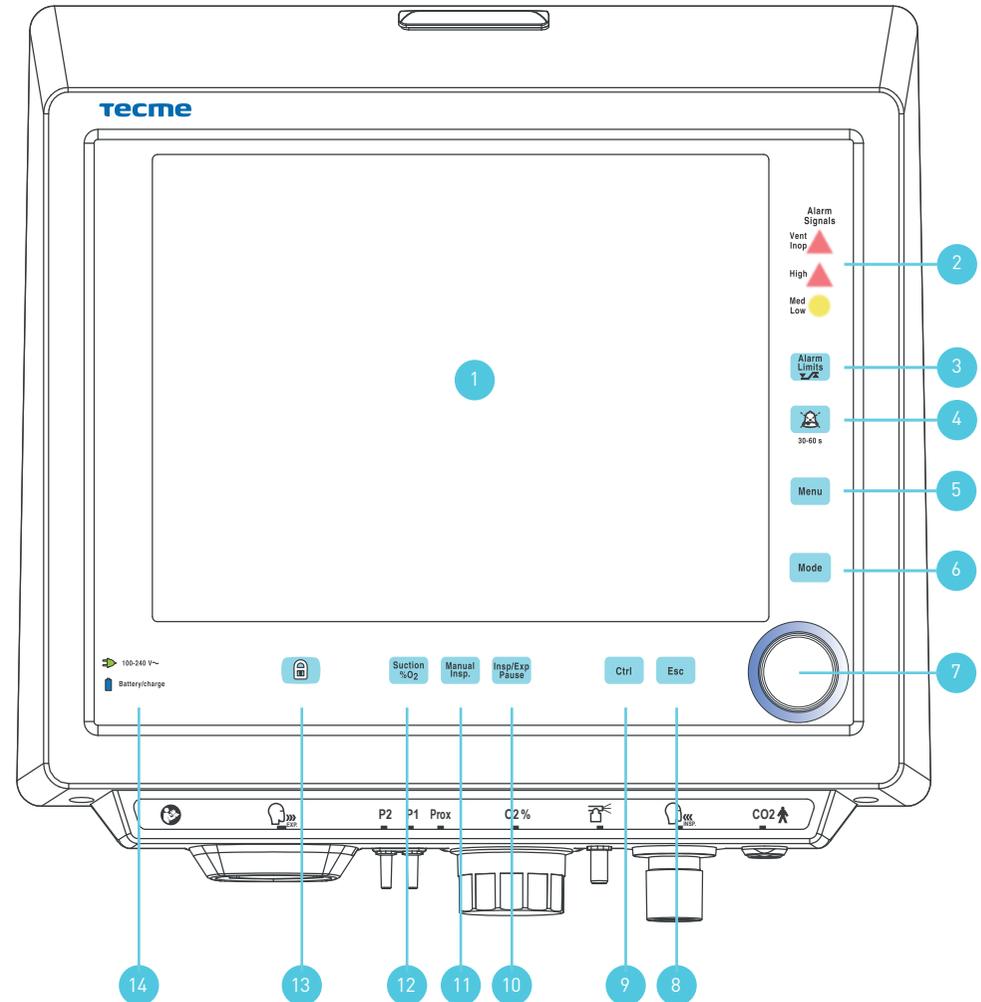
1 General Description

1.2 Lower Connection Block

1   Connection for the Expiratory Set.
2   Connection for the Expiratory Set Pneumotachograph Hoses.
3   O_2 Cell.
4   Connection for the nebulization hose.
5   To Patient Inspiratory Port.
6   CO_2 Port.
7   Connection for Proximal Pneumotachograph.

https://youtu.be/mvHCwxY2vn4
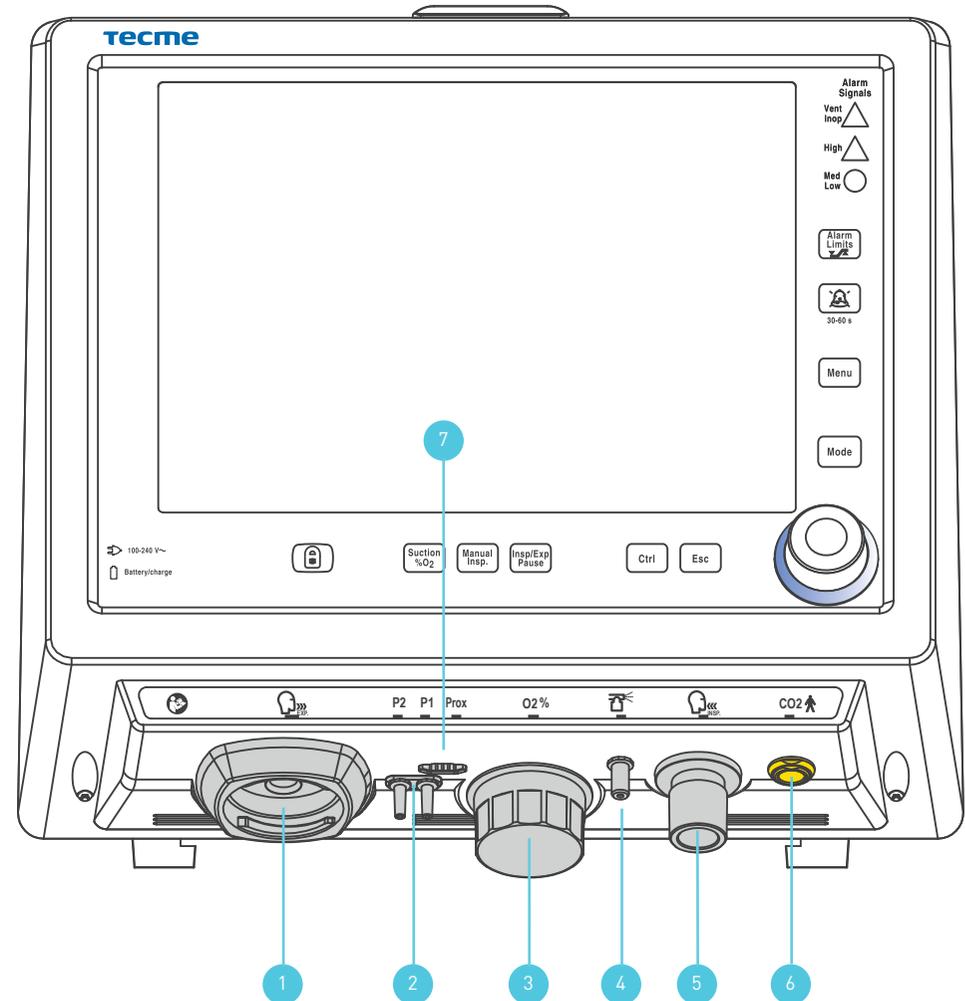
1   General Description

1.3   Rear Panel

1   Cooling Air Outlet.

2   Loudspeaker.

3   RS-232 Port.

4   VGA Port.

5   Power Switch.

6   Power Socket.

7   Air Inlet.

8   Oxygen Inlet.

https://youtu.be/502kJ9zbUNg

1.4   Main Display

1.4.1 Controls Settings

1   Alarm Limits of Monitored Variables.
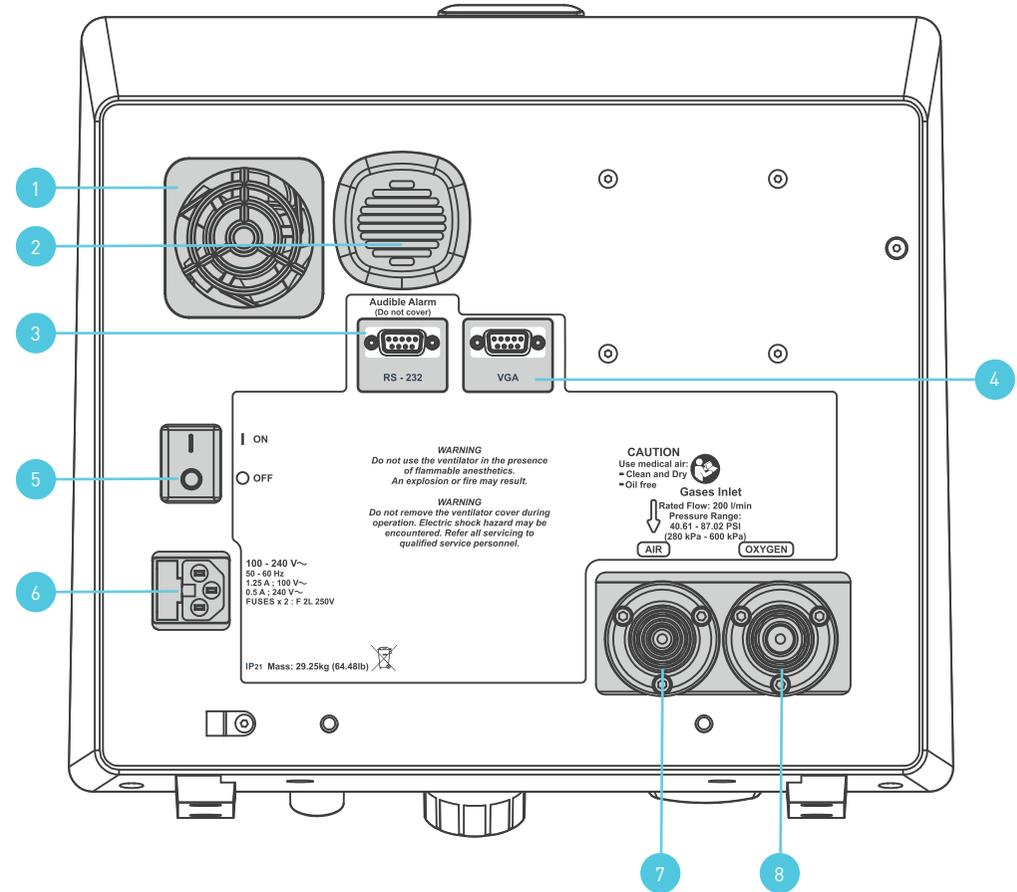2   Ventilatory Parameters Adjustable by the User.

https://youtu.be/hBlii2i3VXk

1.4 Main Display

1.4.2 Monitored Parameters

1. Inspiratory Peak Flow (L/min).
2. Inspiratory Time (s).
3. Expiratory Time (s).
4. I:E Ratio.
5. Total Rate (rpm).
6. Expiratory Tidal Volume
   (L for ADL/PED and mL for NEO-INF).
7. Expiratory Minute Volume (L/min).
8. Oxygen Monitor (%).
9. Battery Charge Indicator
10. Lung Icon.
11. Peak Pressure.
12. Tracheal Pressure.
13. Plateau Pressure.
14. Mean Pressure.
15. PEEP.

https://youtu.be/hBlii2i3VXk

1   General Description

1.4   Main Display

1.4.3 Touch Screen Buttons

1   Graphics.
2   Freeze.
3   Measurements.
4   Save Loop.
5   Nebulizer.
6   Help.
7   Standby.

https://youtu.be/hBlii2i3VXk
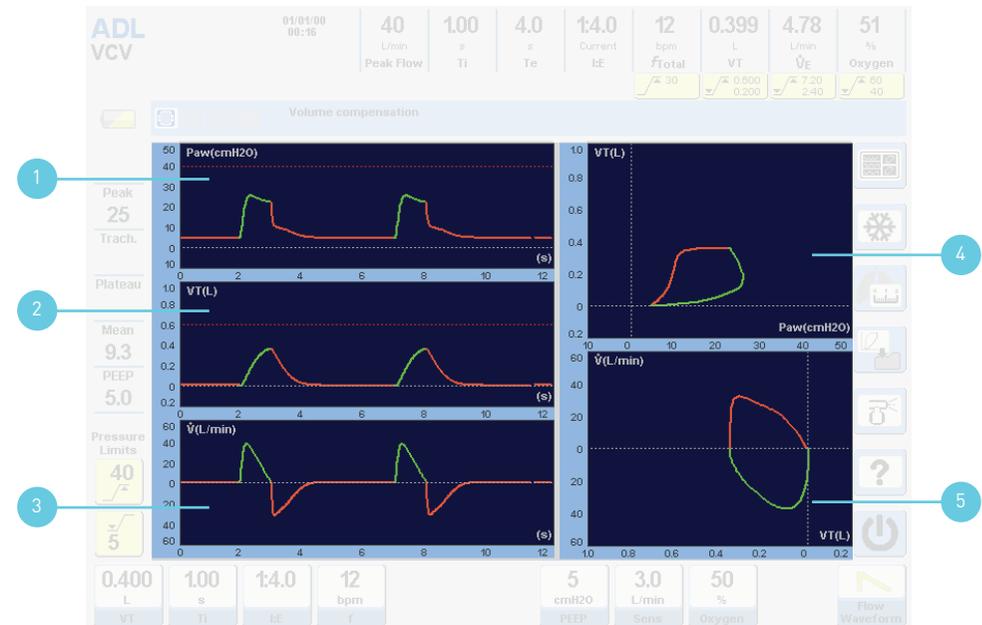
1 General Description

1.4 Main Display

1.4.4 Graphics

1   Pressure.
2   Volume.
3   Flow.
4   Pressure-Volume Loop.
5   Flow-Volume Loop.

https://youtu.be/hBlii2i3VXk

1   General Description

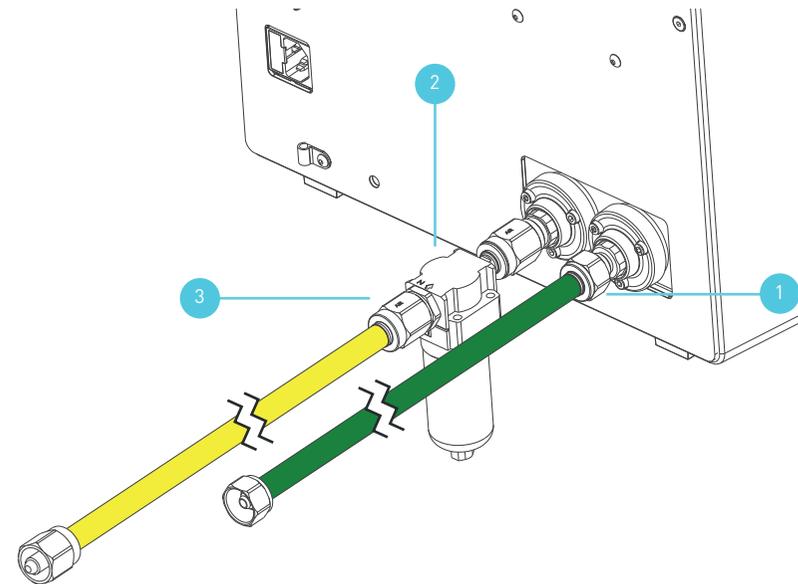## 1.5   Connection to the Gas Source

1   Connect the green high-pressure oxygen supply hose to the oxygen inlet.

2   Connect an air filter or water trap to the air inlet. This filter goes between the air inlet and the yellow high-pressure air hose.

3   Connect the yellow high-pressure air supply hose to the filter inlet.

⚠

Always use medical grade gases

https://youtu.be/502kJ9zbUNg
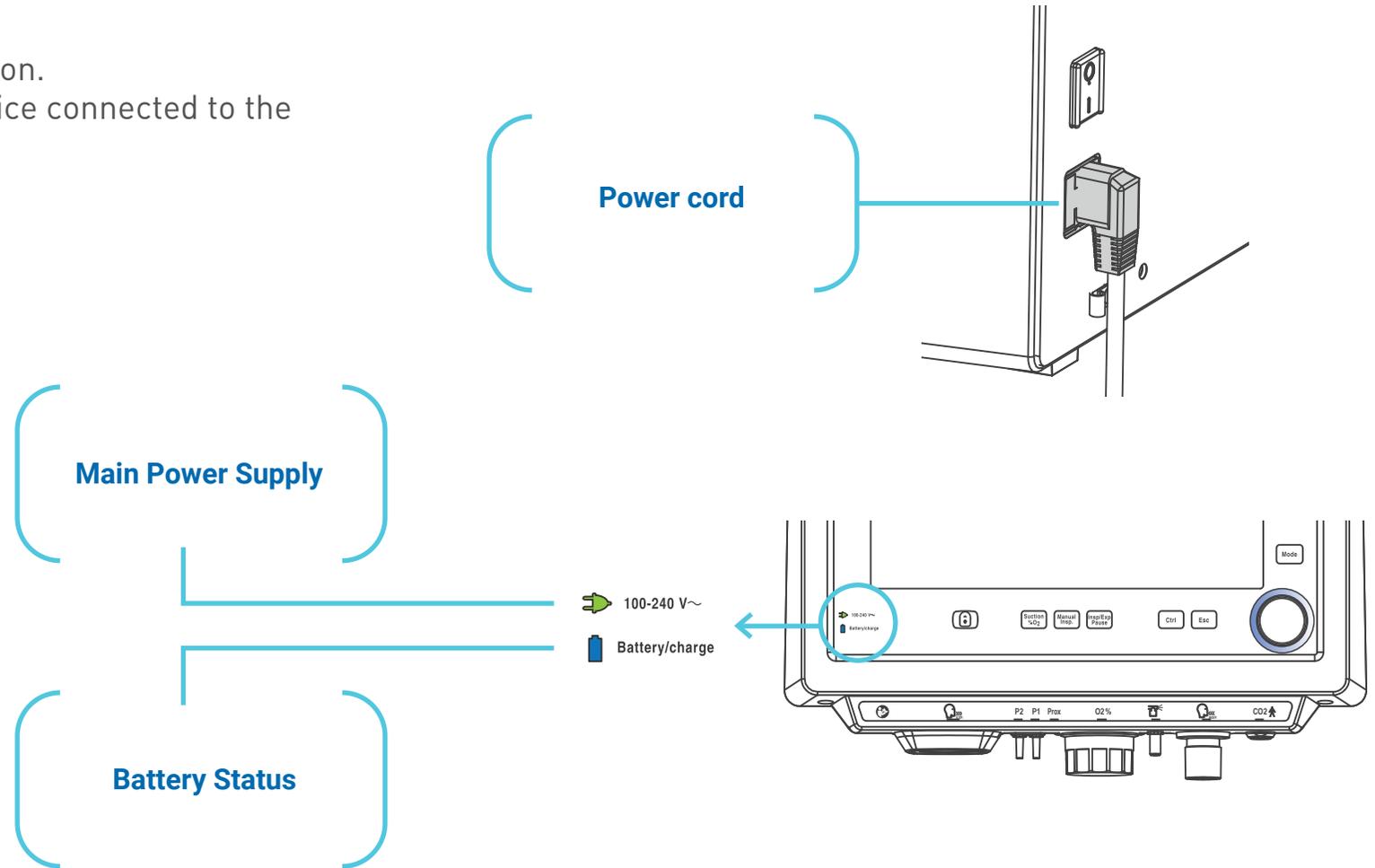
1.6 Connection to the Power Source

Power cord connection.
Always keep the device connected to the
main power supply.

Power cord

Main Power Supply

100-240 V∼

Battery/charge

Battery Status

2 Expiratory Set

2.1 Description of the Expiratory Set

Expiratory valve

Silicone diaphragm

Distal expiratory
pneumotachograph

Mylar

Base
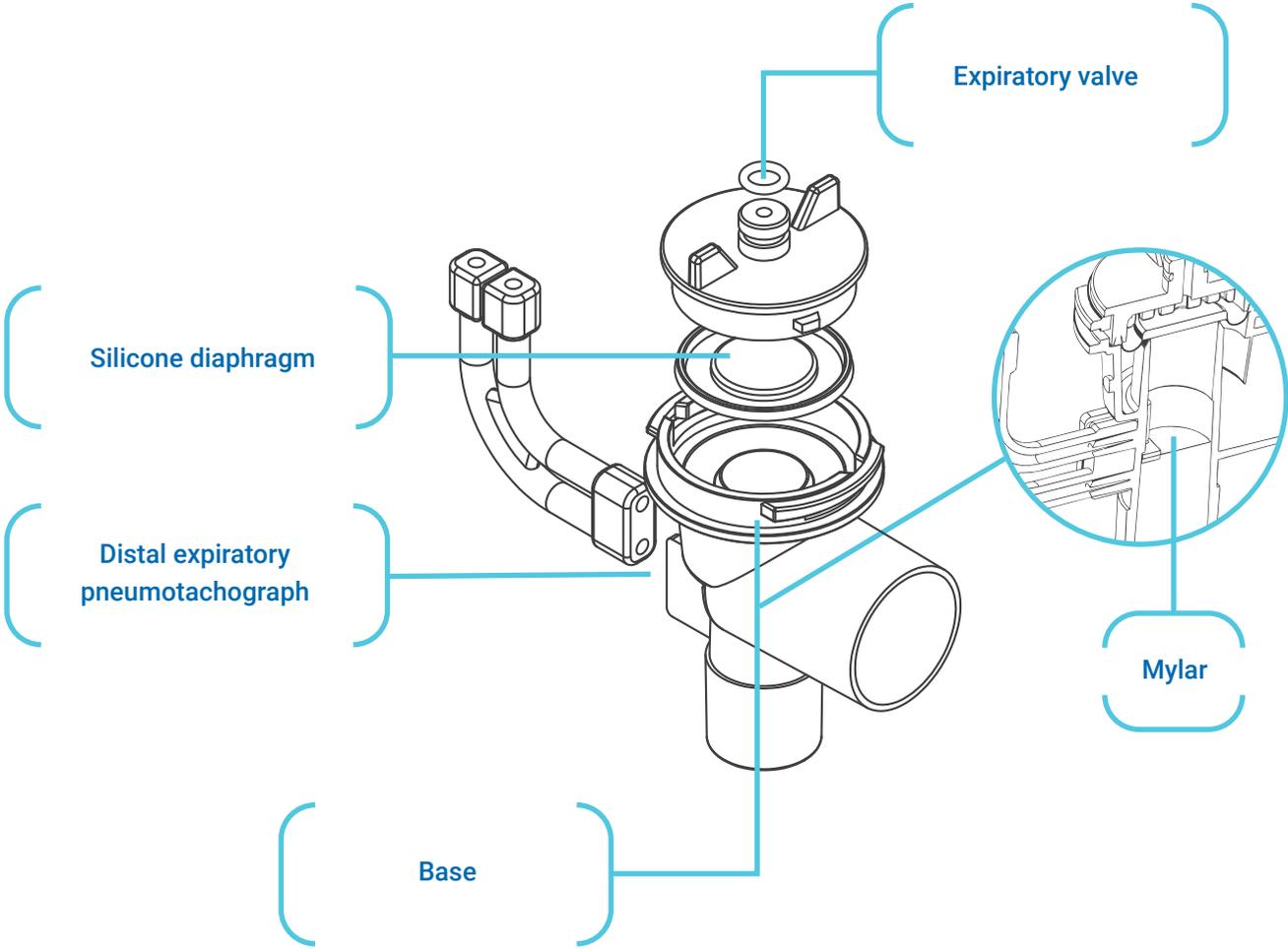
2 Expiratory Set

2.2 Assembly of the Expiratory Set

1   Locate the diaphragm in the cap of the set,
    taking into account that the annular recess
    located in the center of the diaphragm
    must be facing down. (B in A)

2   Then, place the cap on the body, so that the
    side tabs of the cap are located on the inner
    circumference of the body. (A + B in C)

3   Turn the cap clockwise until the side tabs
    stop.

https://youtu.be/Wf02t3D9Z5M
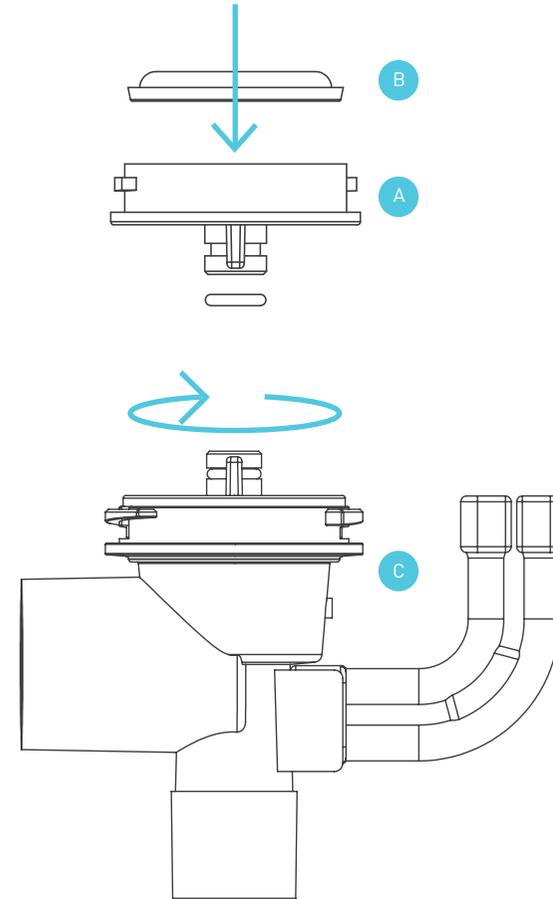
2   Expiratory Set

2.3   Installing the Expiratory Set
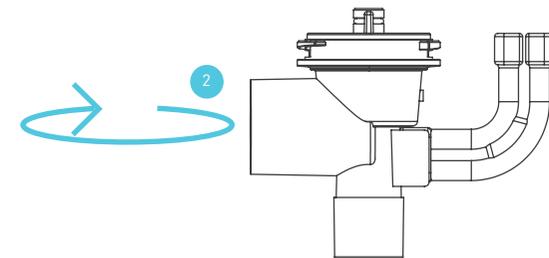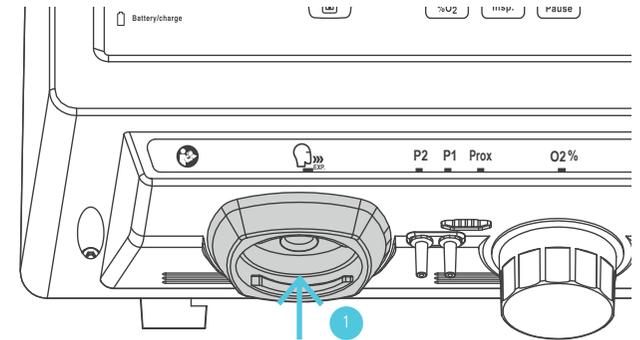
1   Introduce the expiratory set into the exhalation port at the lower block of connections, such that the connectors for the hoses that run toward P1 and P2 face to the front.

2   Make a quarter turn, so that the exhaled gases outlet faces towards the left.

3   Connect the upper silicone hose to P2 and the lower silicone hose to P1.

https://youtu.be/Wf02t3D9Z5M
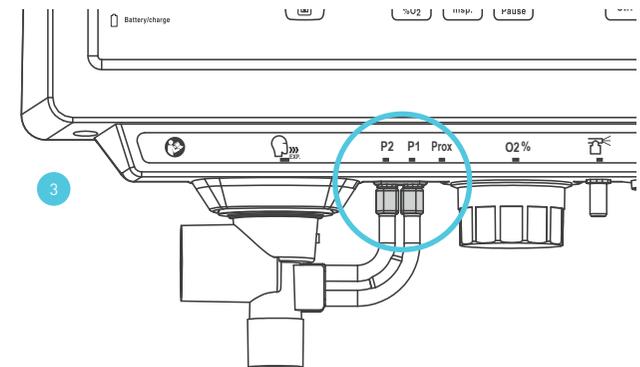
3   Connecting Accessories
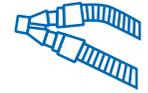
3.1   Assambly of the Expiratory Set

Connect the following accessories as indicated in the figure.

1   Expiratory Set together with the hoses of the distal pneumotachograph.

2   Connect a bacterial viral filter to the patient port of the ventilator.

3   Inspiratory limb of the patient circuit with water traps.

4   Expiratory limb of the patient circuit with the water traps.

5   Active humidifier. Use the short limb of the circuit to connect the "To Patient" port to the chamber.
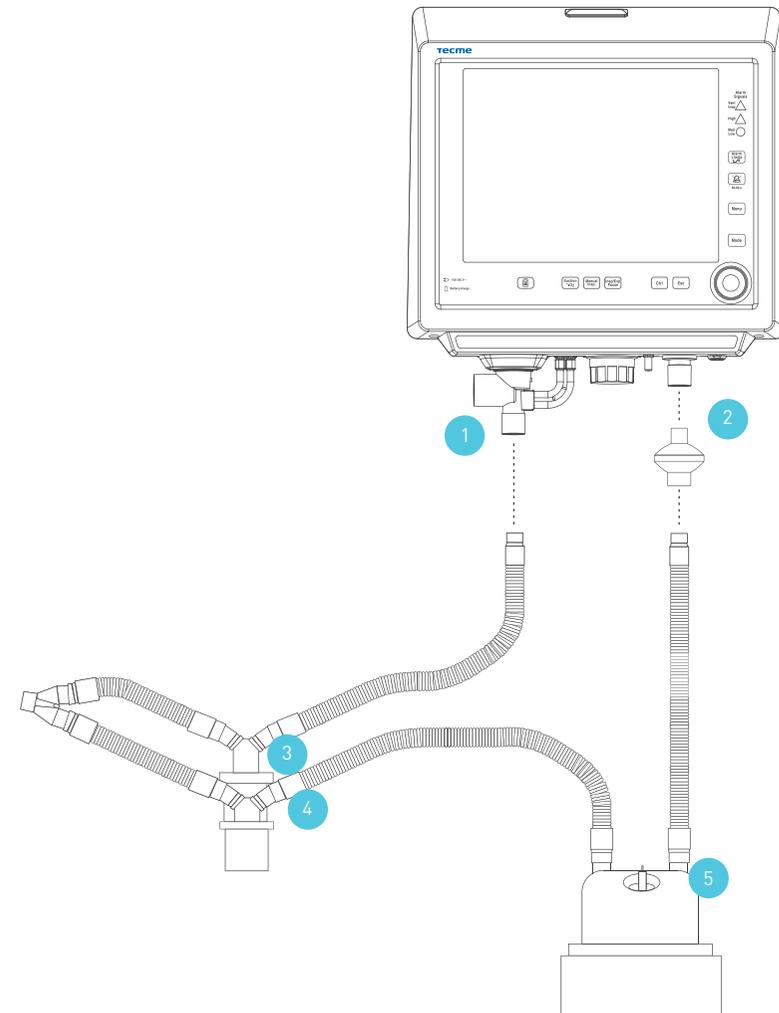
3   Connecting Accessories

3.2   Proximal Flow Sensor (*)
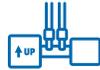
1   Connect the Proximal Flow Sensor to the Lower Terminal Block.

2   Position the sensor over the Y-connector so that the hoses are facing up, as indicated by the marking on the sensor.
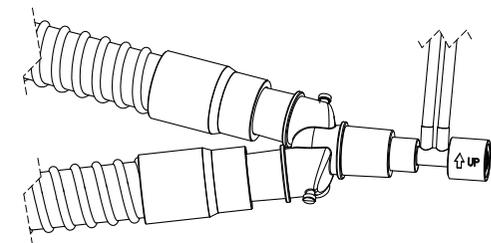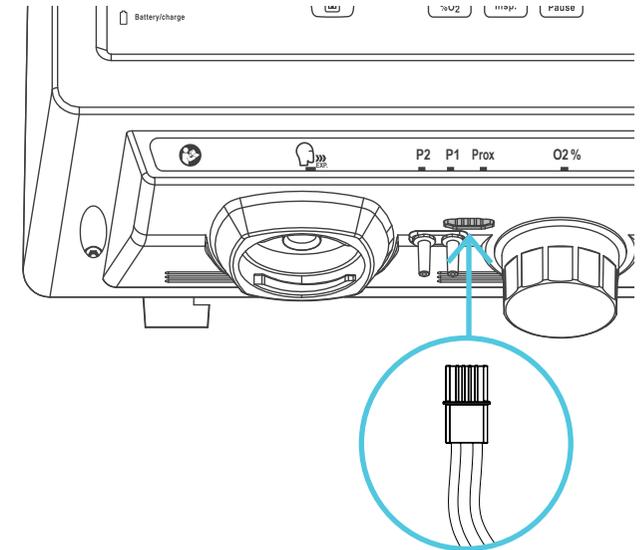
* Available only for the GraphNet advance and GraphNet neo.

https://youtu.be/KCh6YljBdxQ

3   Connecting Accessories
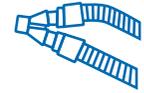
3.3   Capnograph

Assemble the Capnograph components as follows:

1   CO_2 Sensor.

2   Place the adapter on the sensor, connecting one of its ends to the Y-piece of the breathing circuit.

3   Connect the sensor cable to the CO_2 connection port.

* Available only for the GraphNet advance.

CO₂ Sensor
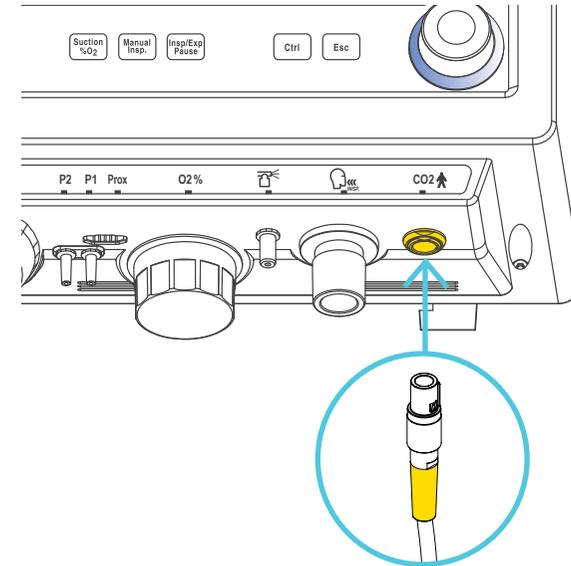
4   Setting Up the Ventilator

4.1   Start-Up

Turn on the ventilator by pressing the ON/OFF switch at "|"

ON/OFF
Turns the ventilator on and off.

Audible Alarm
(Do not cover)

RS - 232   VGA

| ON

○ OFF

WARNING
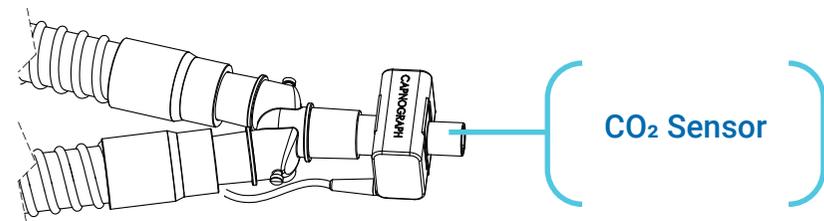*Do not use the ventilator in the presence of flammable anesthetics.
An explosion or fire may result.*

WARNING
Do not remove the ventilator cover during operation. Electric shock hazard may be encountered. Refer all servicing to qualified service personnel.

CAUTION
Use medical air:
■ Clean and Dry
■ Oil free
Gases Inlet
Rated Flow: 200 l/min
Pressure Range:
40.61 - 87.02 PSI
(280 kPa - 600 kPa)

AIR   OXYGEN

100 - 240 V∼
50 - 60 Hz
1.25 A ; 100 V∼
0.5 A ; 240 V∼
FUSES x 2 : F 2L 250V

IP21 Mass: 29.25kg (64.48lb)

4.2 Initial Configuration

The first screen that the ventilator will show will allow the Selection of the Patient Category and Tidal Volume (VT) based on Ideal Body Weight (IBW), for which the desired option must be selected and the corresponding parameters adjusted.
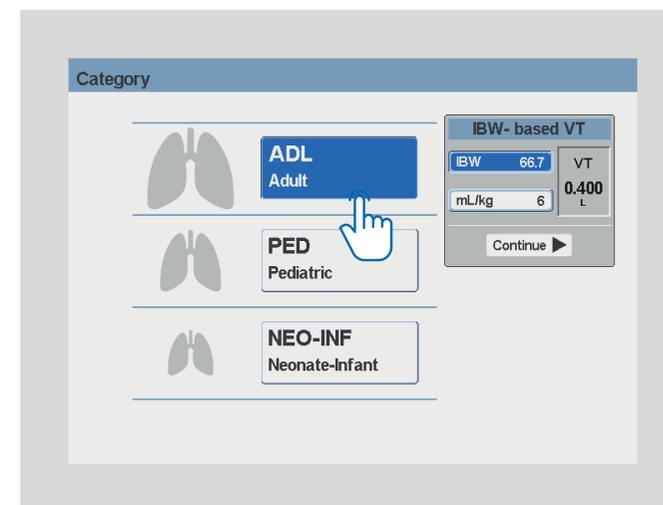
Select the humidification system to be used. The humidification system options are: Active or Passive.

Press on the screen the desired option.

https://youtu.be/Hcgbevjl1-c
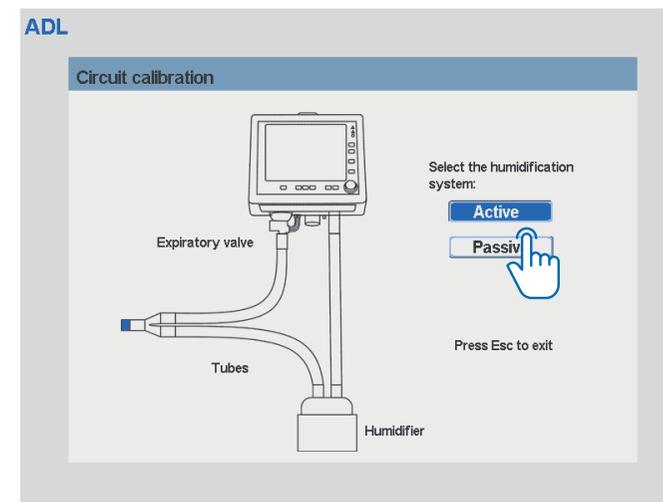
4   Setting Up the Ventilator

4.3   Initial Calibration

To correctly calibrate the ventilator it is necessary that all the elements are correctly connected: patient circuit, humidifier, filters.

1   Occlude the Y-connector.
2   Press the encoder knob.

This process takes 30 seconds. In the event that the calibration is unsuccessful, a message with an Error Code and descriptive information will appear on the screen.

Any breathing patient circuit may be used as long as it satisfies the characteristics pre-established by the respirator.
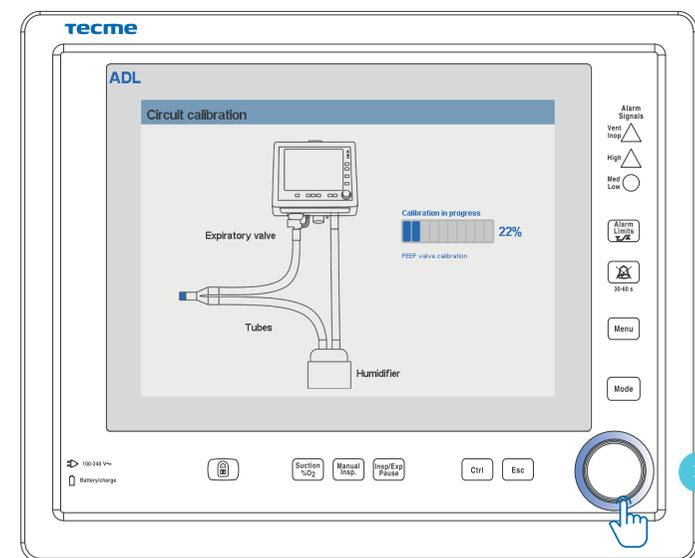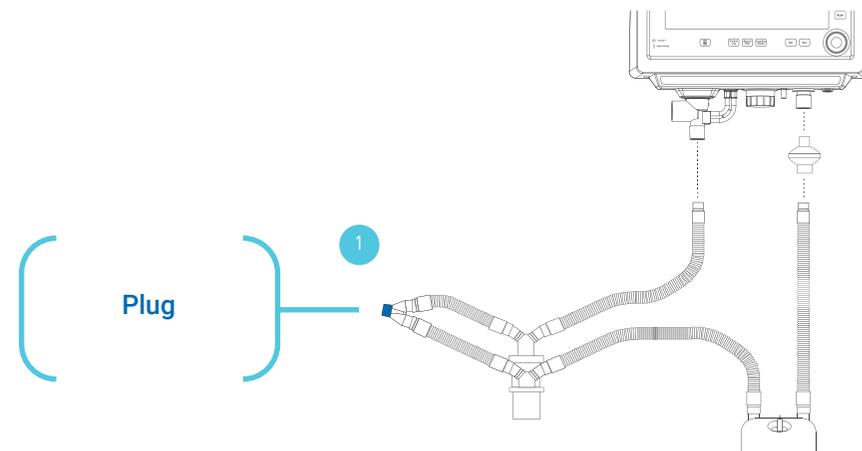
5   Basic Use of the Ventilator

5.1 Selecting the Ventilation Mode

Once the initial calibration has been carried out, the device will display the **Operative modes** menu on the screen.

To select the ventilation mode, the encoder knob can be used or it can be done directly through the touch screen.

Once the ventilation mode has been selected, the following information will appear on the screen:

- In the lower section the parameters of the ventilation mode to be configured.

- Quick access to alarms, located in the upper section and in the lower left section.
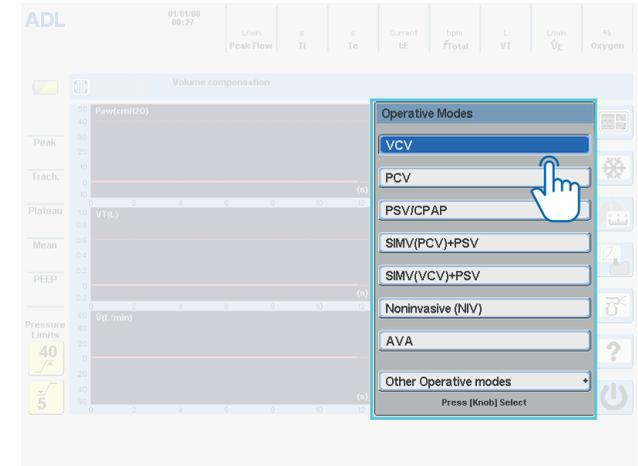
5 Basic Use of the Ventilator

5.1 Selecting the Ventilation Mode

The default values can be accepted by pressing the encoder knob and the ventilation begins, or these values and alarms can be modified by following these steps:

1   Press on the key to modify. The color of the selected field will change.

2   Rotate the encoder knob until the desired value is reached.

3   Press the encoder knob to confirm the desired value.

Once all the parameters have been set, press the knob to start ventilation.

https://youtu.be/EE7kAK9pwWQ
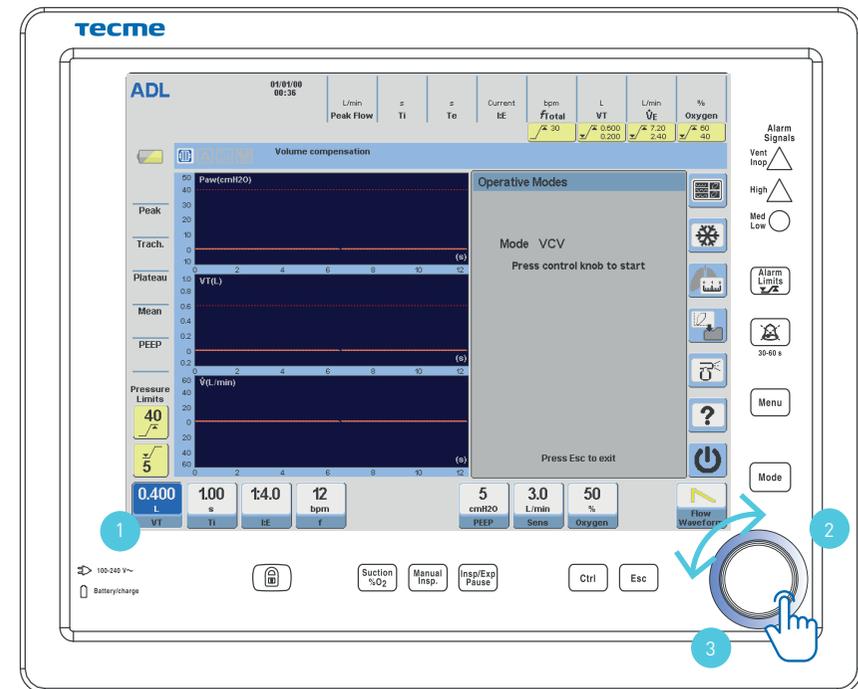
5.2   Access to the Ventilation Modes

To access the operating modes menu, the [Mode] key must be pressed. [Mode]

A menu with all the available ventilation modes will be displayed.

By turning the knob, the remaining modes can be viewed.
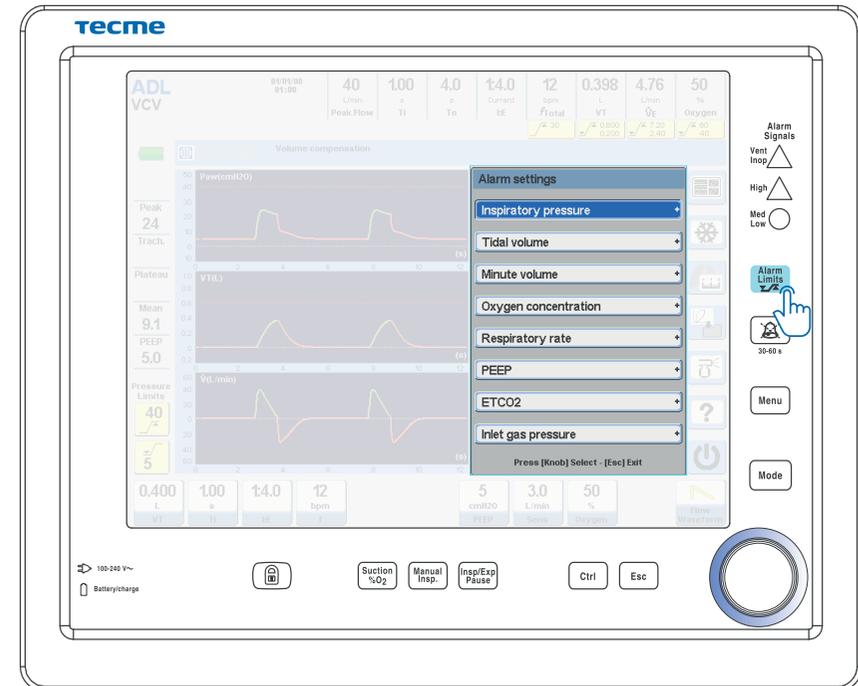

https://youtu.be/EE7kAK9pwWQ

5.3   Access to the Alarms Menu

To enter the full alarm menu, press the [Alarm Limits] key.

A menu will be displayed with all the alarms available to be configured, according to the selected ventilation mode.

5 Basic Use of the Ventilator

5.4 Alarms Configuration

In the presence of an alarm condition, corresponding signals will be generated, both auditory and visual on the screen, depending on the priority:

High

Medium

Low

At the top of the ventilator is the upper alarm LED indicator that provides a 360º view.

https://youtu.be/5brheSigcDo
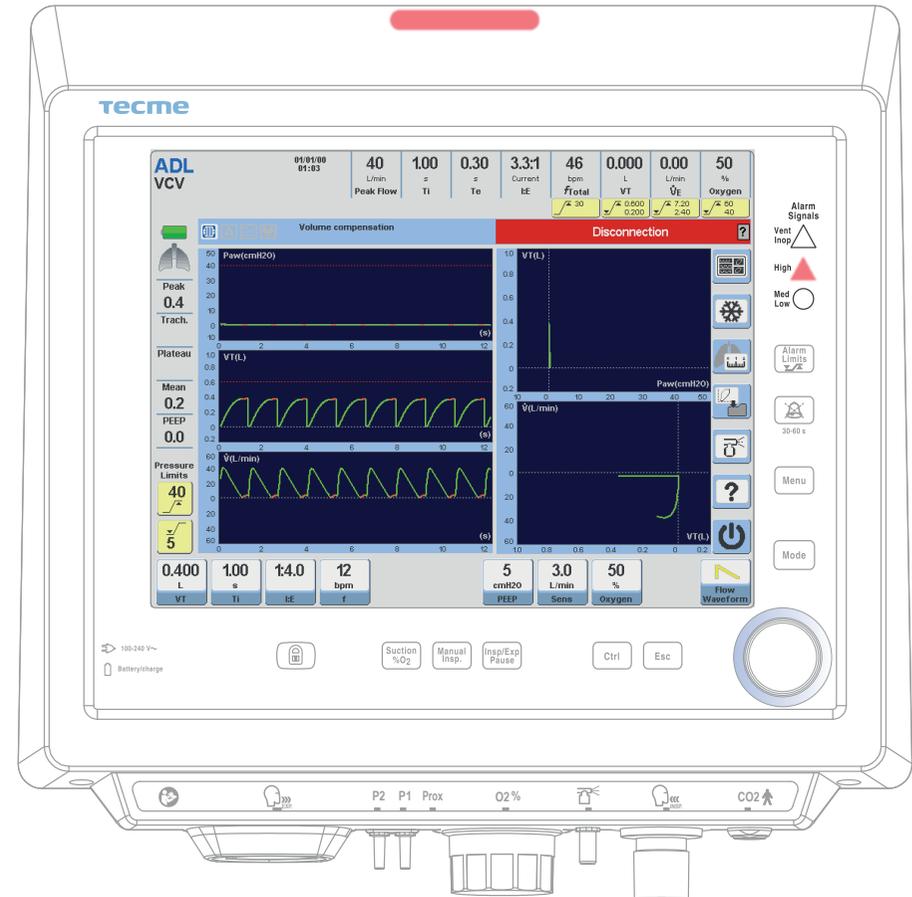
Upper alarm LED indicator

5.5   Standby

To set the ventilator in Standby mode, the corresponding key on the screen must be pressed, confirming this action by then pressing the encoder knob.

⚠️

During Standby mode, the ventilator does not provide ventilation, but when returning from it, it maintains the last configured parameters.
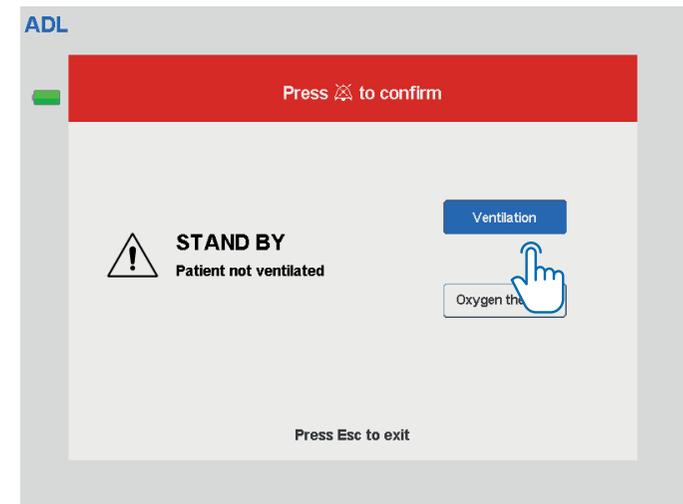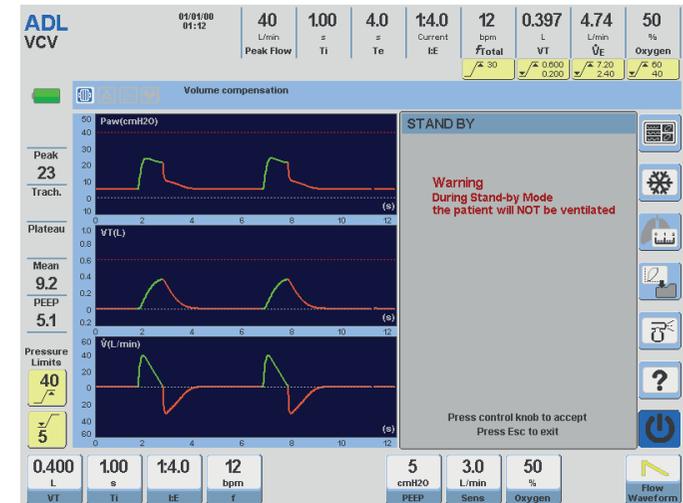
5.6   Oxygen Therapy Configuration

Set the ventilator in Standby mode, and press the Oxygen Therapy key on the screen.

⚠️

The ventilator will perform a shorten calibration to verify sensors and valves as well as a a CO₂ sensor calibration.

https://youtu.be/8ZHTse1Xelo

6   Cleaning and Maintenance

⚠️

It is recommended to carry out a cleaning and disinfection process after each patient, to preserve the good condition of the ventilation and avoid cross contamination.
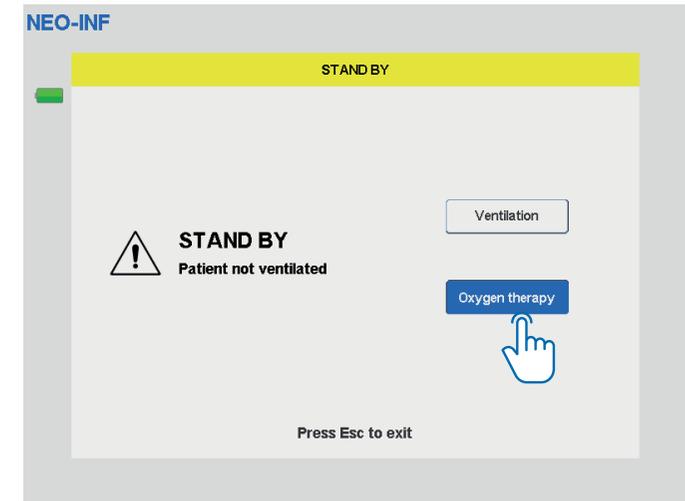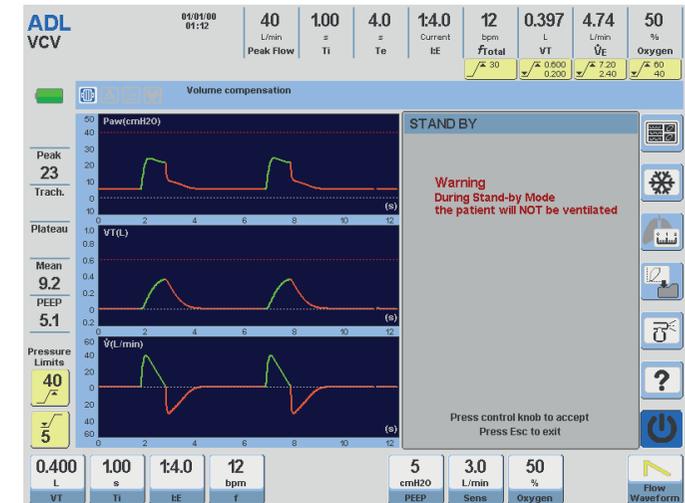
NO ✋

The product should never be sprayed directly onto any surface of the ventilator, as it could damage it.

It is important to bear in mind that the following products should not be used:

- Abrasive chemical solvents.
- Acidic or alkaline substances.
- Chlorinated solvents such as sodium hypochlorite.

YES 👍

The products to be used can be:

- Neutral enzymatic detergent.
- Hydroalcoholic solution.
- Neutral soap.
- High-level disinfectant for medical devices.

The steps to follow are:

1   Turn off and unplug the ventilator.
2   Use a soft cloth soaked in the chosen cleaning product.
3   Rub the cloth over the different sectors of the ventilator.

Appendix: Ventilation Modes*

Adult and Pediatric

- VCV – Volume Control (Assisted/Controlled).
- PCV – Pressure Control (Assisted/Controlled).
- PRVC – Pressure Regulated Volume Control.
- PSV – Pressure Support.
- VSV – Volume Support.
- CPAP – Continuous Positive Airway Pressure.
- SIMV (VCV) + PSV – Synchronized Intermittent Mandatory Ventilation.
- SIMV (PCV) + PSV – Synchronized Intermittent Mandatory Ventilation.
- SIMV (PRVC) + PSV – Synchronized Intermittent Mandatory Ventilation.
- MMV + PSV – Mandatory Minute Ventilation.
- PSV + Tidal Volume Assured.
- APRV – Airway Pressure Release Ventilation.
- NIV – Non-Invasive Ventilation.
- High Flow Oxygen Therapy.
- AVA – Adaptative Ventilatory Assistance.

*GraphNet advance

Appendix: Ventilation Modes*

Neonates-Infants

- VCV – Volume Control (Assisted/Controlled).
- PCV – Pressure Control (Assisted/Controlled).
- PSV – Pressure Support.
- VSV – Volume Support.
- CPAP – Continuous Positive Airway Pressure.
- PRVC – Pressure Regulated Volume Control.
- TCPL – Time Cycled Pressure Limited.
- SIMV(VCV) + PSV – Synchronized Intermittent Mandatory Ventilation.
- SIMV(PCV) + PSV – Synchronized Intermittent Mandatory Ventilation.
- SIMV(PRVC) + PSV – Synchronized Intermittent Mandatory Ventilation.
- SIMV(TCPL) + PSV – Synchronized Intermittent Mandatory Ventilation.
- CPAP with Continuous Flow (with leak compensation for NIV).
- APRV – Airway Pressure Release Ventilation.
- HFOT - High flow oxygen therapy.
- NIV – Non-Invasive Ventilation.

*GraphNet advance

Appendix: Alarms

Configurable Alarms

- Maximum and minimum inspiratory pressure.
- Maximum and minimum minute volume (exhaled).
- Maximum and minimum tidal volume.
- Maximum and minimum O_2 percentage concentration.
- Apnea.
- Maximum High rate.
- High and low PEEP.
- Maximum and minimum $ETCO_2$ (optional with capnography).

Non-configurable Alarms

- Low O_2 and air pressure.
- Power loss.
- Battery status.
- Continuous high pressure.
- Technical failure.
- Disconnection.
- Inadequate oxygen concentration.
- Non-compensable leak.
- Fan failure.