



fabian™

System Functions and Displays

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# Overview

In this lesson you will become familiar with the system functions and displays of the fabian™ HFO.

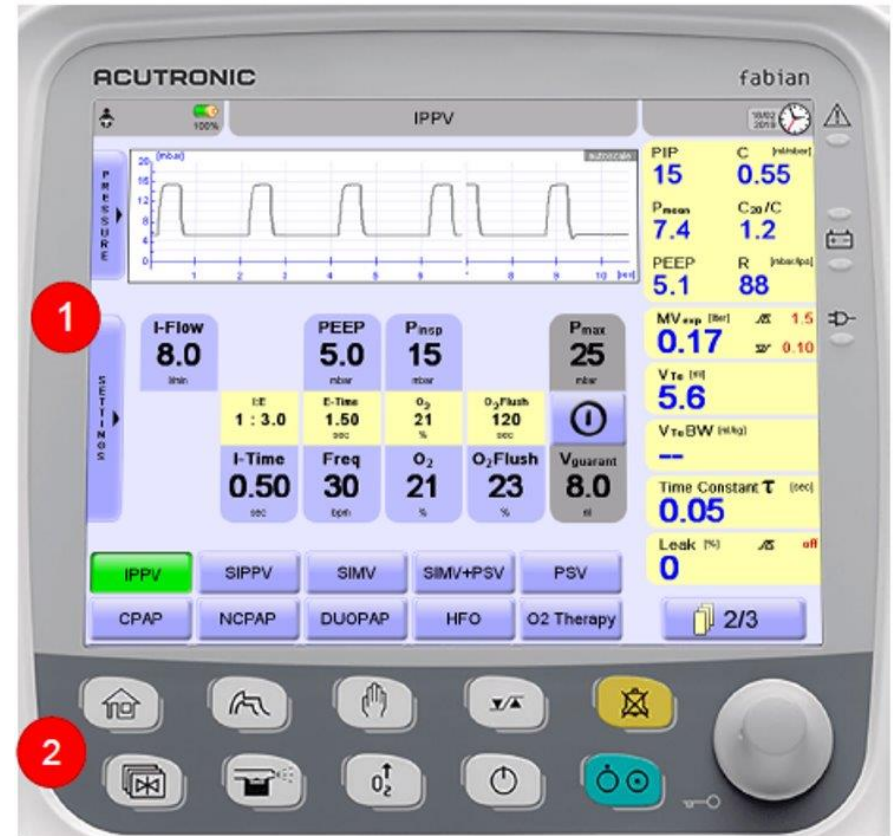


# Learning Objectives

- Understand the user interface layout
- Identify the critical information on the interface
- Understand the specific functions of the hardware access buttons and control knob
- Be able to interpret the ventilator menu
- Recognize the ventilation parameters dependency and the locking ventilator parameters
- Learn to navigate the interface of the graphic menu

# View - Front

- #1 - The 10.4" Touch screen allows direct control of the ventilator parameters by pressing defined buttons on the Graphic User Interface (GUI).
- Access to the Quick Launch settings is on the left side of the touch screen.
- #2 - The Key/Control Panel (with Rotary Pulse encoder (combines a key and a rotary encoder))



# The Key / Control Panel



- Home displays the Main Screen for selecting the ventilation mode



- Graphics switches to curve/loop display



- Manual Breath is used to apply a manual breath (Inspiration Hold). Available in all ventilation modes. In HFO mode, it can be disabled in the ventilation menu.



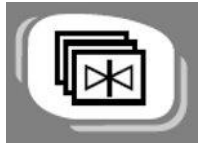
- Alarm Limits switches to the alarm limits configuration.



- Alarm Silence is for acknowledging and silencing alarms for 120 seconds. Subsequent alarms with higher priority are visually displayed during periods of alarm silence

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# The Key / Control Panel (continued)



- Menu/Calibration used to access the configuration and calibration menus
- Press once to open the calibration menu. Press twice to open the configuration menu



- Nebulizer. Obsolete function



- O<sub>2</sub> Flush. Used to start O<sub>2</sub> Flush. Flush concentration and time can be preset. It can be disabled



- Start/Stop used to temporarily stop or start ventilation. When activated in conventional ventilation and HFO modes, it acts as a two-minute cycle interruption. When activated in NIV modes (nCPAP, DUOPAP and O<sub>2</sub> Therapy) it acts as a standby mode



- On/Off. Used to switch the device on or off

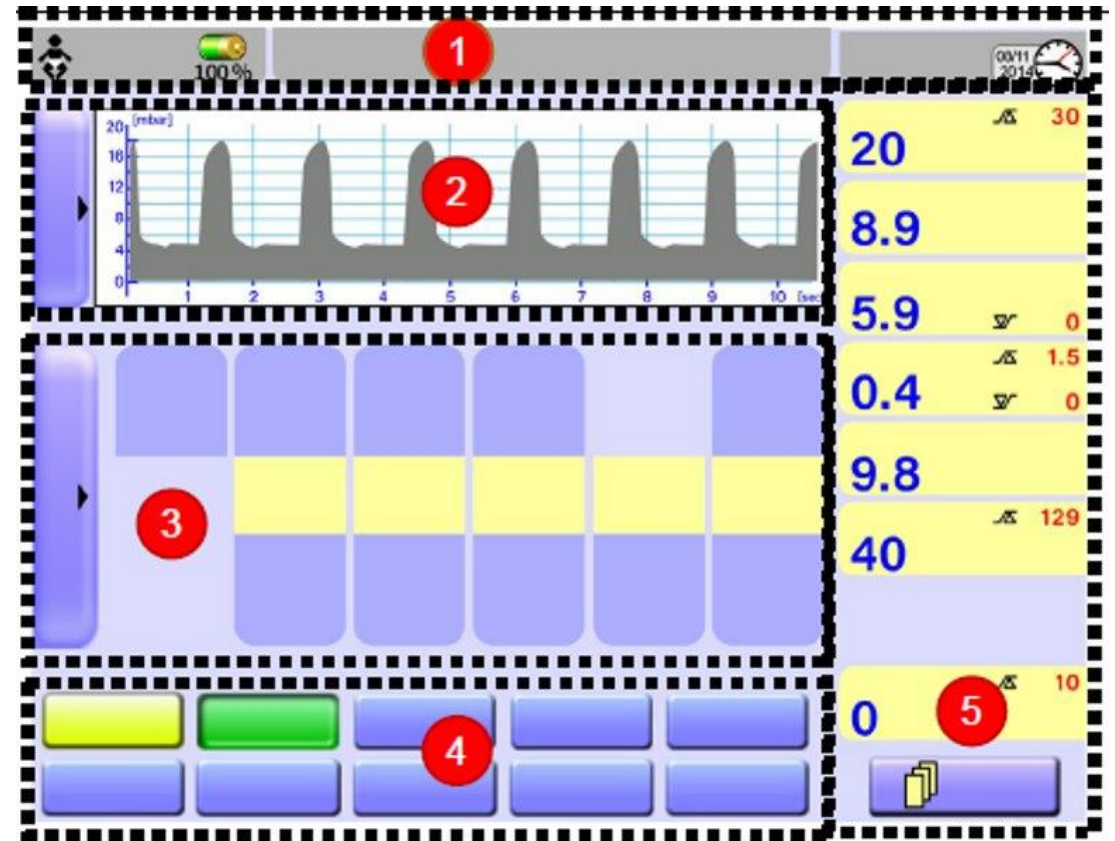
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# Home Screen



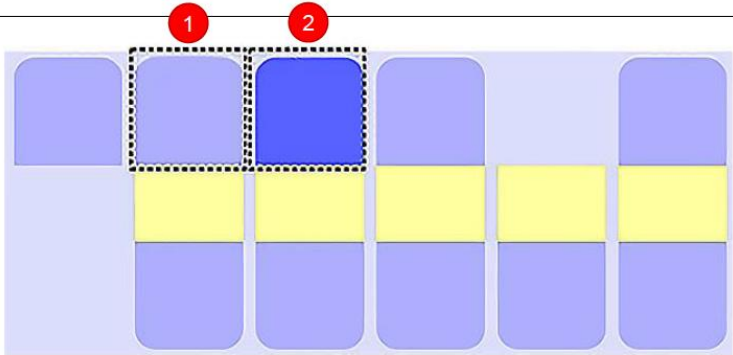
1. Status / Information bar
2. Graphic area (selection of curve)
3. Parameter Settings
4. Operating modes selection
5. Numeric area / Alarm limits



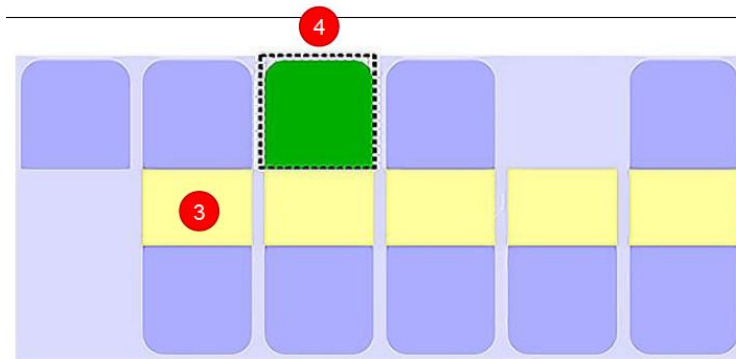
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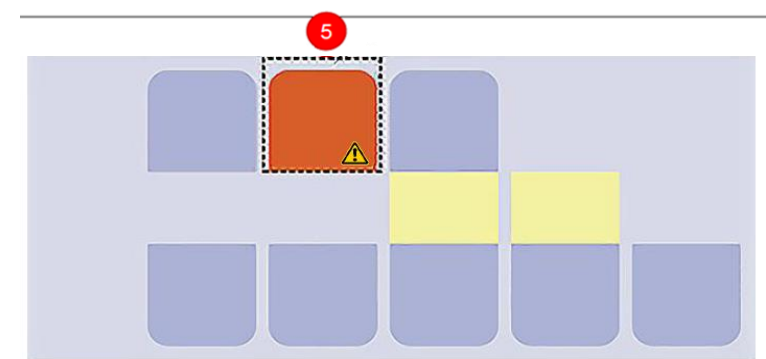
# Home Screen Color Coding



- Light Blue: push button
- Dark Blue: focused push button



- Yellow: (in function field) parameter value set automatically (patient delivered to patient)
- Green: selected push button features a parameter for setting a value, it can now be changed

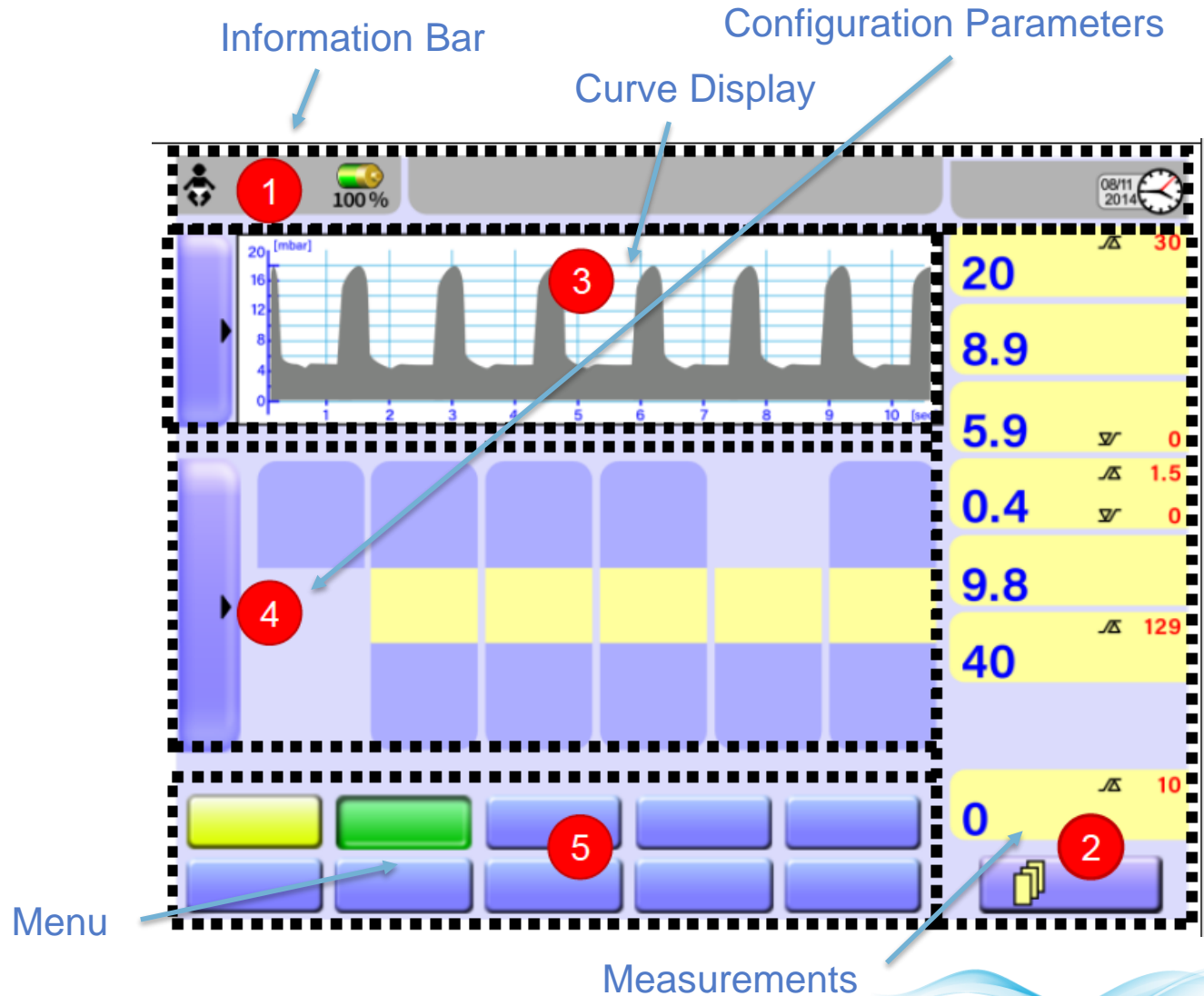


- Orange: parameter became a limit for other automatic parameter (VG, PSV Ti.)

# Home Screen (continued)



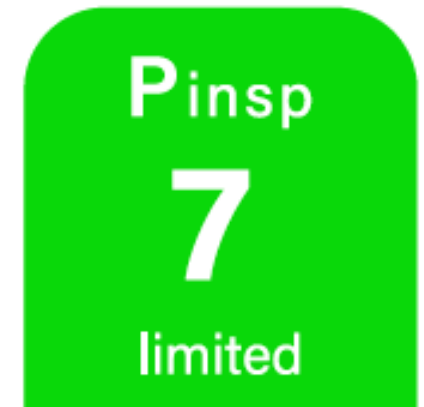
- Depending on the ventilation mode, the ventilation menu shows the configuration parameters and the measurements relevant for the mode used
- Using the push button, you can also switch between the pressure, volume, and flow curve
- The information bar shows current information
- The ventilation mode can be changed in the menu



# Home Screen Control Interaction



- Some parameters are mutually regulating or limit themselves during particular adjustments (pressure settings, et al.).
  - In those cases, an arrow will appear on the parameter's button requiring modification by suggesting the required direction
- In this example, P<sub>insp</sub> is being reduced but is not able to be reduced further as it is limited by the PEEP setting.
  - The limiting value is indicated by the arrow



# Home Screen Locked Parameters



- Some Ventilator parameters are "Locked" to prevent accidental high value settings
- When this value is reached, a key symbol appears and a "Notice Signal" will sound
- To adjust to higher values the rotary knob should be pressed again

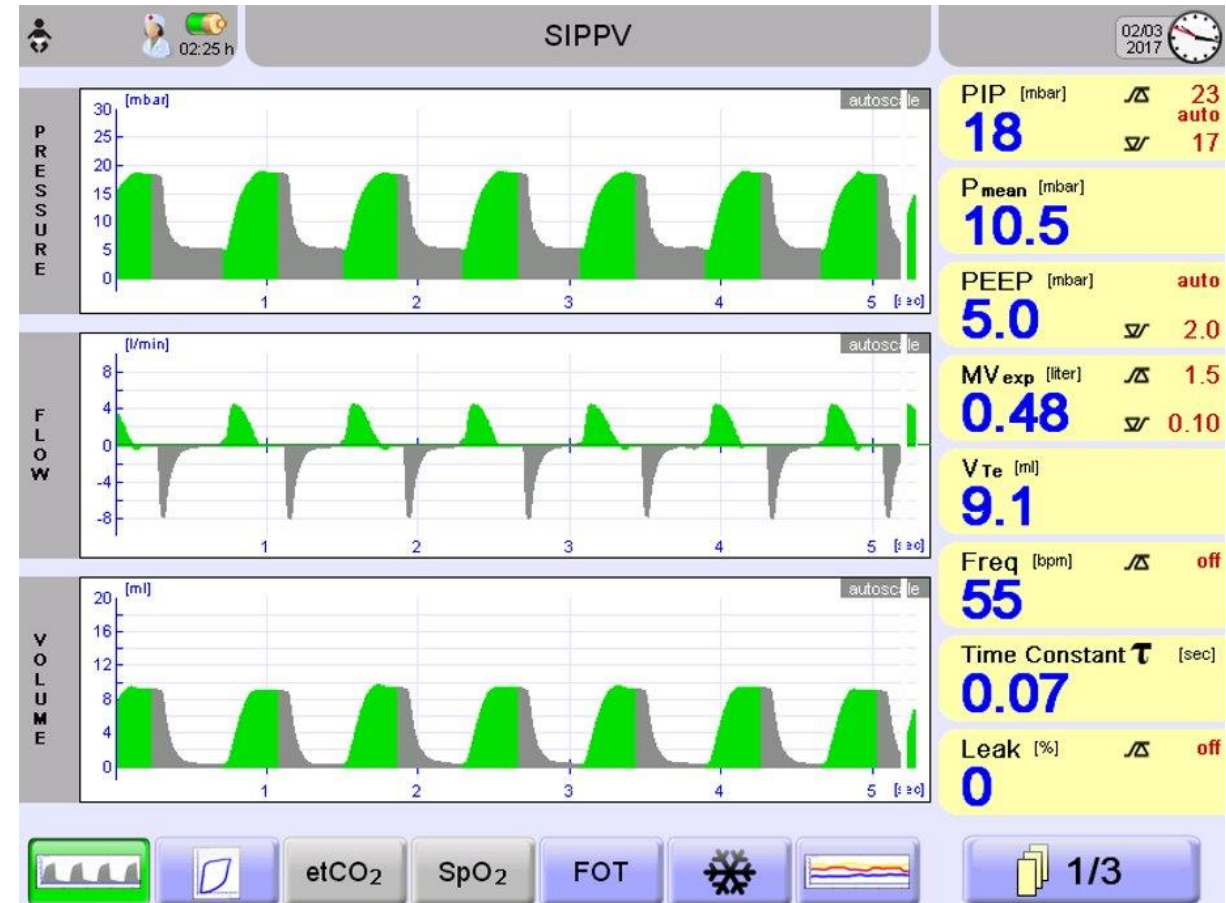


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# Graphics Display



- In the wave screen, 3 waves are displayed simultaneously
- Scale can be set manually or automatically
- Triggered supported breaths are displayed in a different color (triggered breaths are displayed in green)



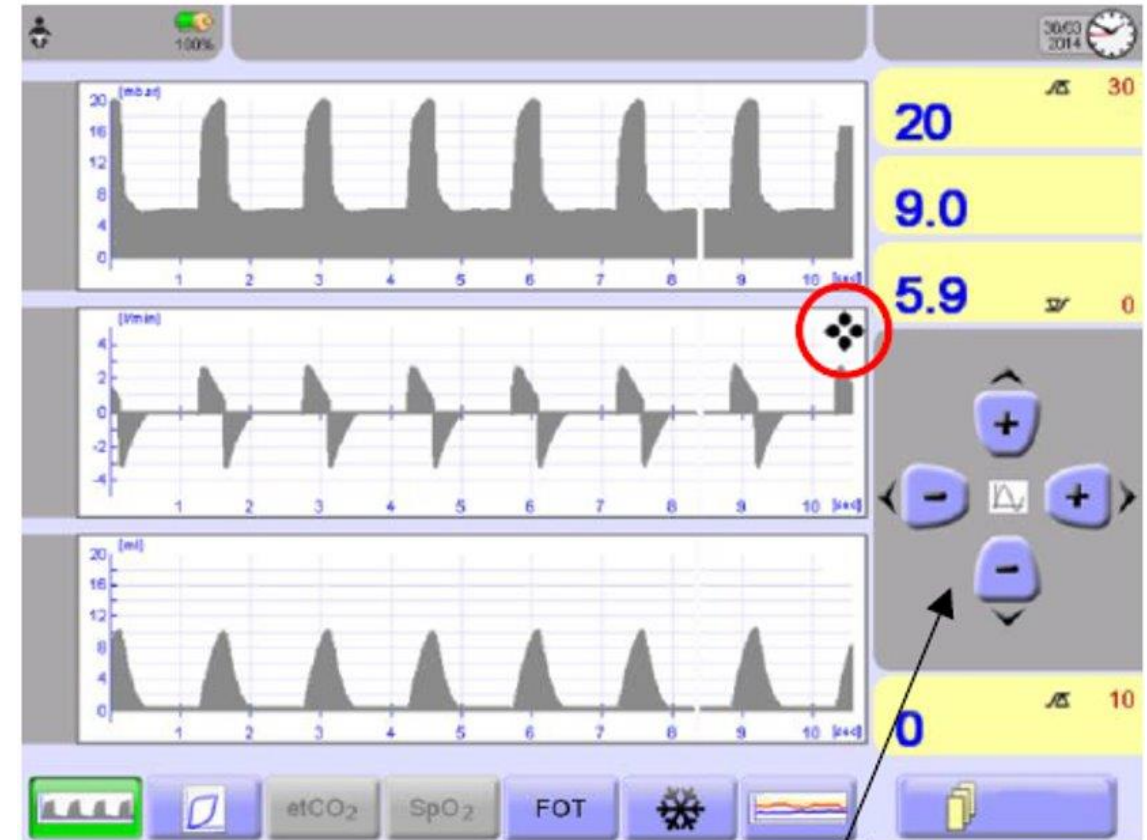
# Graphics Display Scaling



When auto-scaling of graphics is switched off, the graph can be adjusted manually:

1. Press the desired graph
2. The selected graph is marked with the "Cursor" symbol and the Scaling cursor is displayed
3. Use the cursor to scale the graph in the X and Y direction
  - The cursor disappears if not used within five seconds, or by tapping the selected graph again

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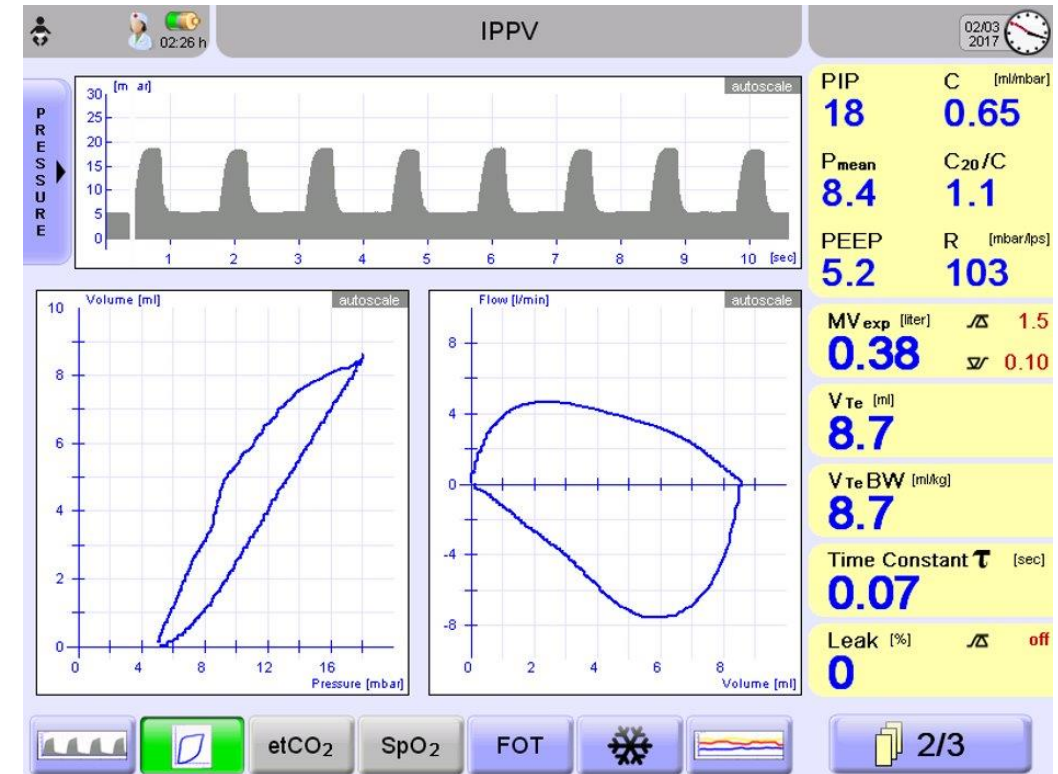


# Graphics Display Loops



The loops menu features the following loops:

- Pressure-Volume (P/V Loop)
- Flow- Volume (V/F Loop)
  - The loops are displayed in real time (Conventional Ventilation, HFOV)



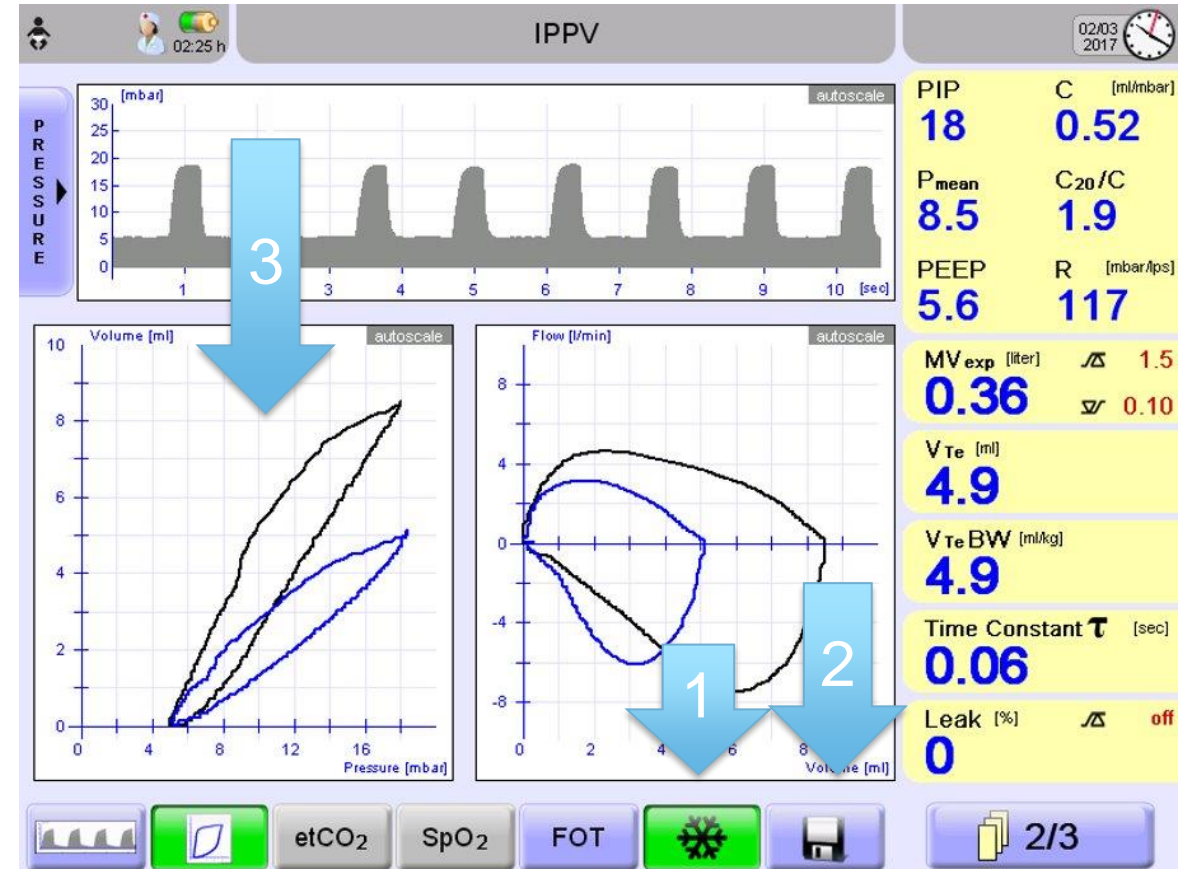


# Graphics Display Freeze



The Freeze Button is used to pause loop updating:

1. Touch the Freeze Button
2. Sends the loops to the memory
3. Reference loop (black), current loop (blue)

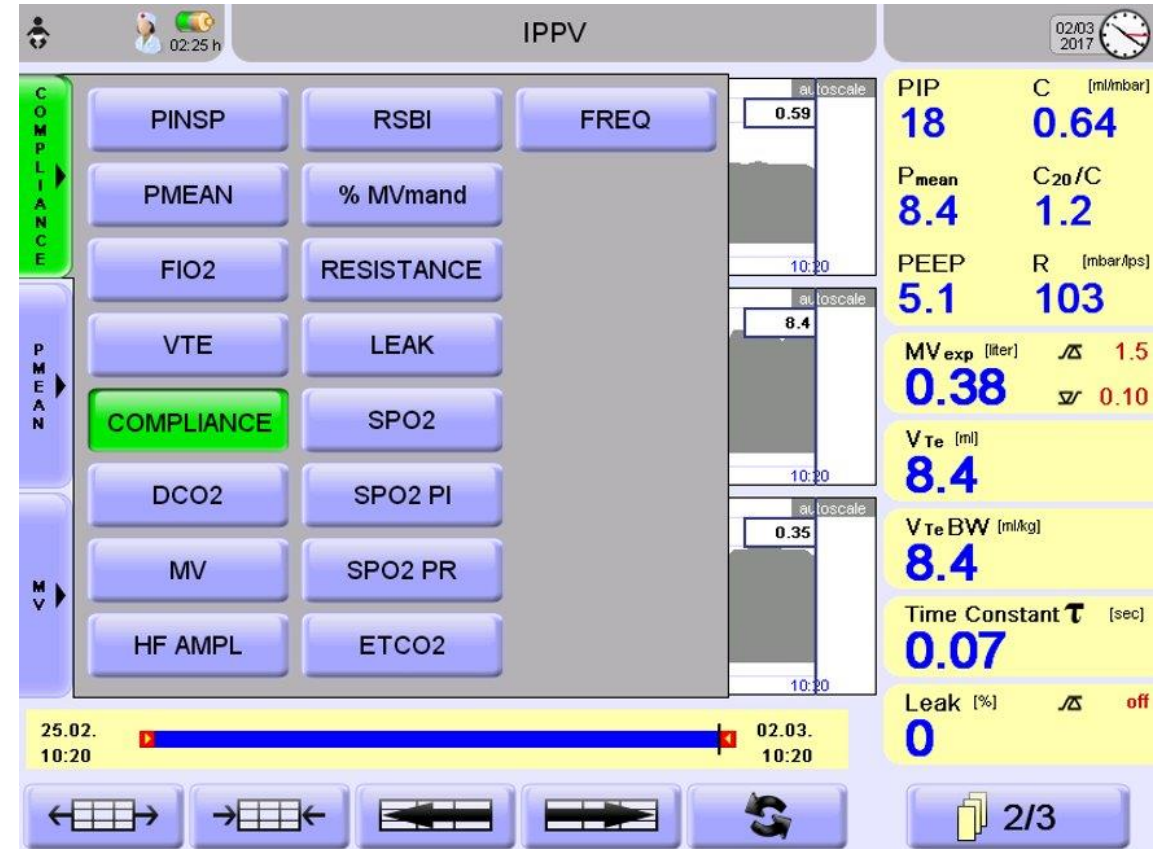


# Trends Screen



The trends screen menu:

- The trends menu features three simultaneous parameters as curves (all current parameters are recorded)
- The parameters can be modified by activating the select list on the left side
- The parameters trending depend on the used ventilation mode
- The trends are measured every 30 seconds, and can be exported to an external memory stick via USB (up to 5 days)

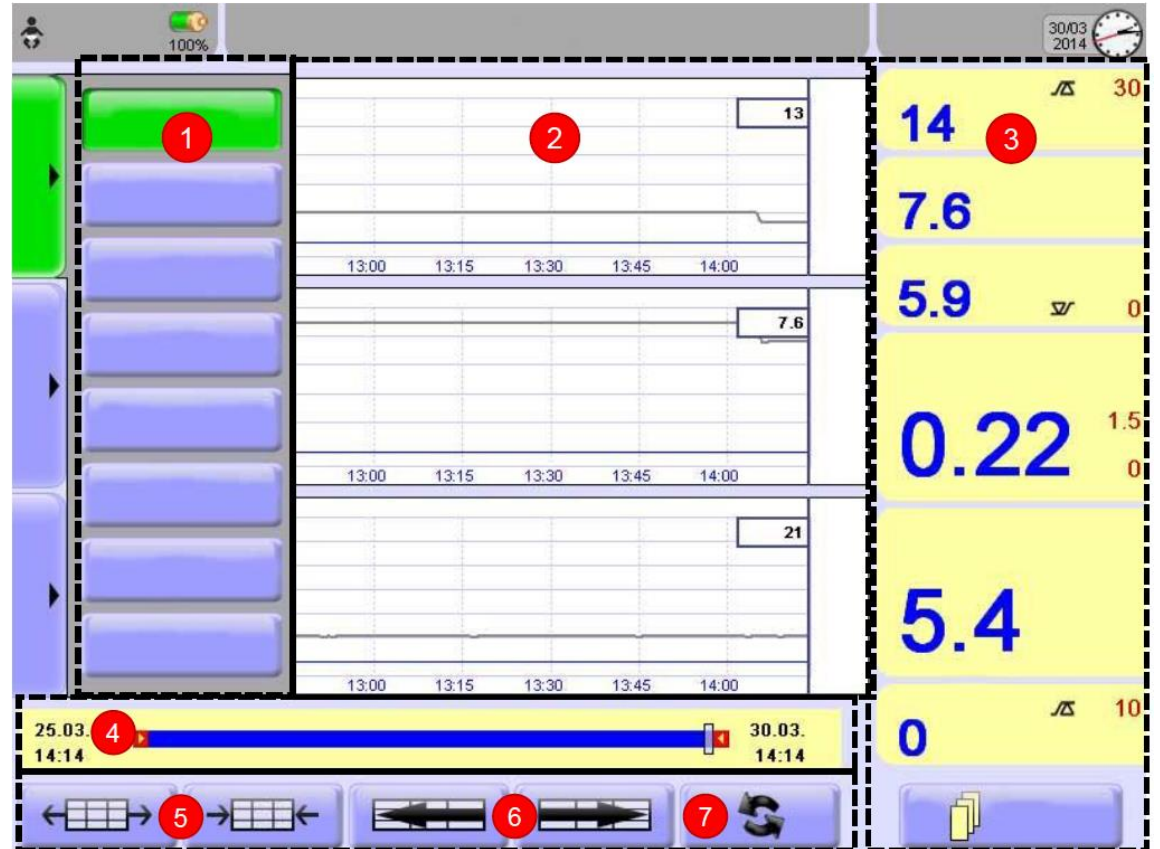


# Trends Screen (continued)



Trends screen menu:

1. Parameter selection
2. Graphics
3. Parameter values
4. Timeline
5. Adjust Timeline (minimum 30 minutes to a maximum of 5 days)
6. Shift timeline
7. Update data (refresh)



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# Manual Inspiration



- In virtually all ventilation modes, a manual breath can be triggered by pressing the Manual Inspiration Button
- The manual breath will continue as long as the manual breath key is pressed. The maximum duration of the manual breath can be set under the configurations menu
- Setting of the max breath will hold for 2 to 30 seconds, then a termination of the manual breath will be forced
- The next manual breath is only allowed after an inhibition period of 200 milliseconds
- Manual Breath is NOT available in O<sub>2</sub> Therapy mode.
  - In HFO mode, Manual Inspiration can be deactivated

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# Alarm Limits



- In the numeric area, all measured values are displayed together with the set limits relevant in the selected ventilation mode
- There can be multiple pages of numeric areas
- To go to the next page, press the button (1) below the numeric area
- Depending on the ventilation mode, the data is updated as average / minute or by breath



# Alarm Limits (continued)



- The upper and lower limits can be manually or automatically adjusted in the alarm limits menu
- Follow these steps to adjust the alarm limit manually:
  1. Press the Alarm Limits Button
  2. Select the parameter you wish to change
  3. The button turns from dark blue to green
  4. With the rotary control, change the value
  5. To confirm the setting, either touch the parameter button again or push the rotary knob again
    - To automatically set the alarm limits, select parameter and touch the AUTOSET Button.

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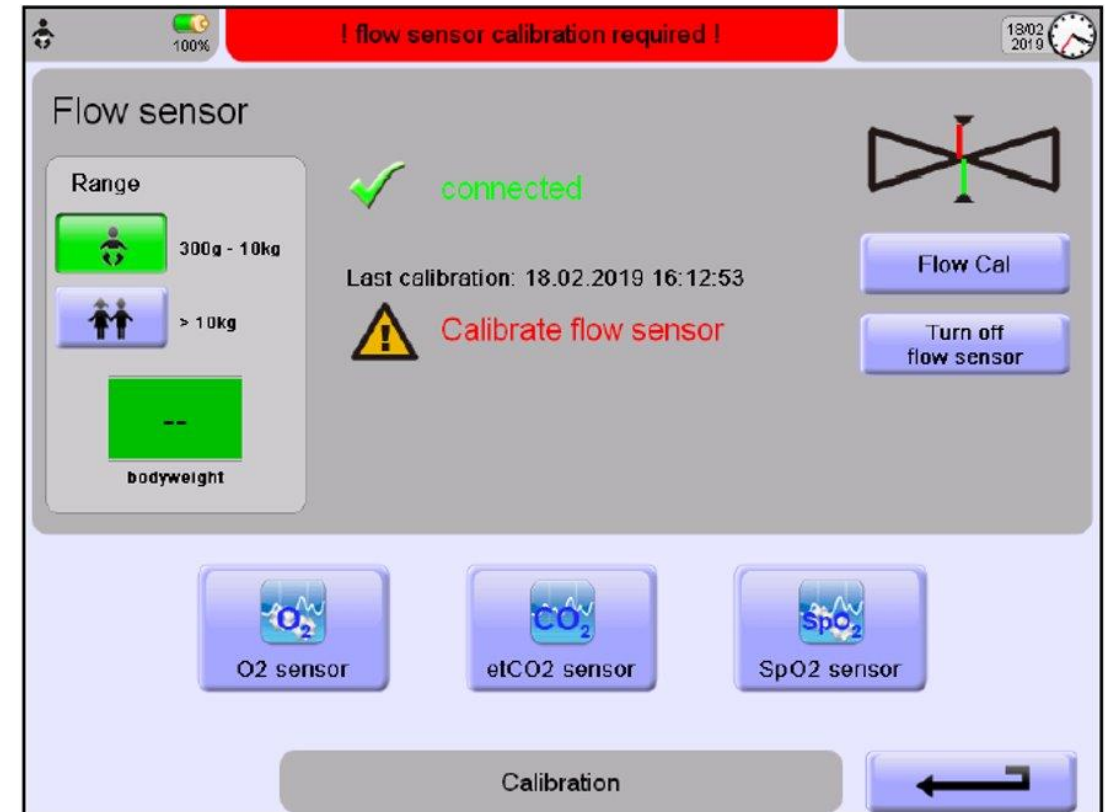
<b>0.40</b>		<b>1.5</b>		<b>0.40</b>		<b>1.5</b>	
<b>20</b>		<b>30</b>		<b>20</b>		<b>30</b>	
<b>5.9</b>		<b>0</b>		<b>5.9</b>		<b>0</b>	
<b>40</b>		<b>129</b>		<b>40</b>		<b>129</b>	
<b>0</b>		<b>10</b>		<b>0</b>		<b>10</b>	



# System Operation/ Configuration Menu



- Upon ventilator start up or upon pressing the calibration button, you will be directed to the calibration menu
- The user can perform the flow sensor calibration or turn off the sensor if required
- etCO2 and SpO2 modules can be switched on or off here



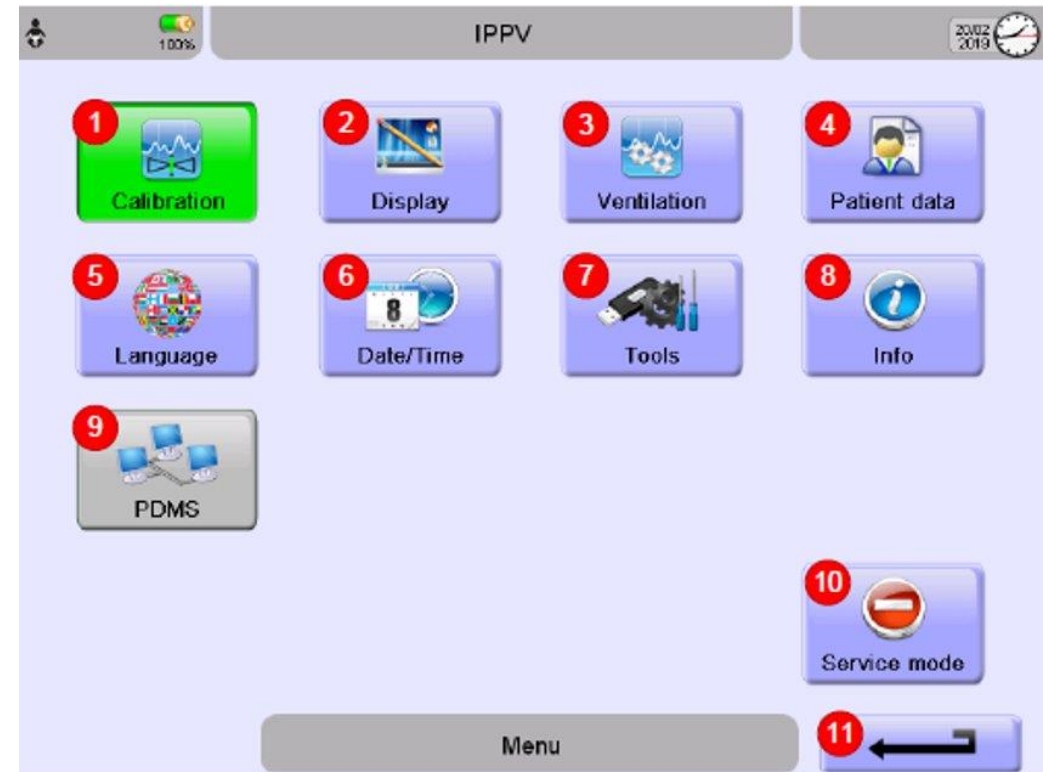


# System Operation/ Configuration Menu (continued)



The configuration menu can be accessed by pressing the Menu/Calibration button twice.

1. Calibration
2. Display
3. Ventilation
4. Patient Data
5. Language
6. Date/Time
7. Tools
8. Information
9. PDMS (optional)
10. Service mode
11. Close menu (return to previous menu)



# Oxygen Flush



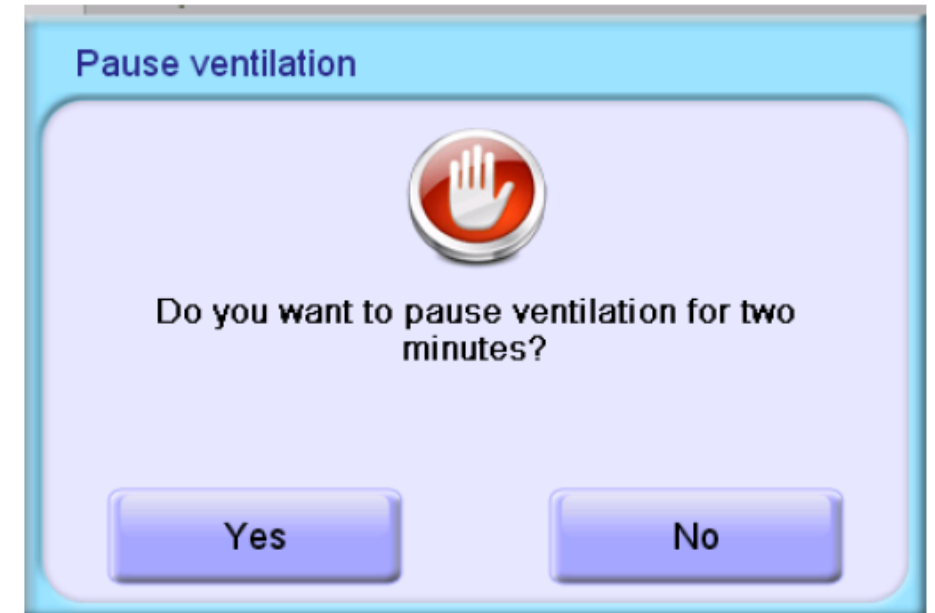
- Press the O<sub>2</sub> Flush button to trigger an O<sub>2</sub> flush
- Short-term Oxygen Flush with an increased O<sub>2</sub> concentration is possible in all ventilation modes. This will automatically end after a maximum of 2 minutes
- The Flush O<sub>2</sub> Concentration can be set regardless of the main O<sub>2</sub> setting, and can be programmed in any FiO<sub>2</sub> range (from to 2 points over the main blender setting, up to 100%)
- Pressing the O<sub>2</sub> Flush button again will end the O<sub>2</sub> Flush immediately

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# Stand By Button

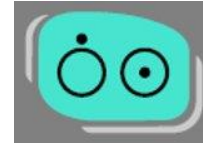


- The Start / Stop Button can be used to interrupt mechanical ventilation for two minutes
- In nCPAP, DUOPAP and O<sub>2</sub> Therapy mode, ventilation could be interrupted indefinitely
  - In both cases the built-in gas mixer delivers a minimal flow to prevent heat build-up inside the Ventilatory Gas Humidifier
  - Ventilation resumes following the two-minute pause, or when the button is pressed again



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# System Start Up / On-Off Button



- Use the On / Off Button on the device to power on the equipment
- When the device is powered on, the start-up screen will appear, and the equipment will perform a “self-test”
- The software revision, the check sums and the status of the interfaces will be checked
- After a successful power on, the device will prompt the user to perform the acoustic audio alarm test.
  - In order to proceed, you must acknowledge that the alarm is audible, continue using the ventilator without audio alarm or shut down the ventilator

# System Start Up / On-Off Button (continued)



Follow these steps to cause a system shutdown:

1. Press and hold the On / Off Button for 6 seconds
2. After 6 seconds, a menu will appear on the screen stating, "Do you want to shut down the device?"
3. Press Yes to power off the device
4. The information bar displays "Switch off ventilator" in the shut down process
5. After the device has powered off, a notice will sound
6. Press the Alarm Silence Button to confirm system switch off
7. Hold the button for at least three seconds until the warning LED and audio alarm stops

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# System Start Up / On-Off Button (continued)

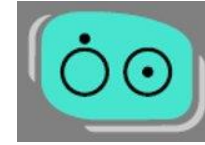


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# Summary

- There are several ways to customize and configure the user interface
- Specific functions are accessed using buttons and the control knob
- Color coding is used to identify key display functions
- Specific parameters have dependency on others parameters
- The ventilator has multiple graphic and trending display capabilities

# Knowledge Check

- In the Home button screen you can find:
  - A. Operating modes selection
  - B. Parameter Settings
  - C. Numeric area / Alarm limits
  - D. All of the above

# Knowledge Check

- If a Ventilator parameter is "locked" you must confirm the high value by pressing the rotary knob
  - A. True
  - B. False

# Knowledge Check

- In the System operation/Configuration menu (Calibration menu) you can :
  - A. Set the alarms limits
  - B. See the ventilation loops
  - C. See the parameters Trends
  - D. Turn ON the SpO<sub>2</sub> module

# Knowledge Check

- In the Graphics Display menu you can find:
  - A. Trends
  - B. FOT
  - C. PRICO
  - D. All of the above

# Knowledge Check

- Some of the Ventilation parameters on the Fabian mutually regulate or limit themselves.
  - A. True
  - B. False

# Video Training



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