OBJECTIVES

- Ventilator circuit set-up and placement
- Circuit Calibration
- Oxygen Calibration
- Examples of settings
- Alarms
- Locate Measureable Values
- More Button
- Additional Information
- References
CIRCUIT SET-UP

Bacterial/Viral Filter

Flow Sensor

HME Filter (Heat Moist Exchanger)

Ventilator Circuit

Bacterial/Viral Filter
CIRCUIT PLACED ON THE HT-70

- Bacterial/Viral Filter
- Ventilator Circuit
- Proximal Line (Blue Filter)
- Flow Sensor
- Exhalation Valve
Touch the Circuit Check button at the top of the touchscreen and follow the on-screen instructions.

Step 1: Occlude the patient connection end of the circuit. (Do not use a test lung.)

Step 2: Press the Accept button to confirm to procedure the Circuit Check.

Step 3: Proceed to open the patient connection end of the patient circuit.

Step 4: Press the Accept button to continue the Circuit Check.

Step 5: If the test passes, a message “Circuit Check PASSED Press Accept to Confirm” will be displayed.

Step 6: When the Circuit Check is completed, patient settings as needed. Touch the Start Ventilation button when you are ready to begin ventilation.

Step 7: To cancel the Circuit Check and return to the Startup Screen. Press the Cancel button.
CIRCUIT CHECK TROUBLESHOOTING

- If the Circuit Check fails:
  1. Circuit Check FAILED, Press Accept to Continue will be displayed.
  2. Next press the Accept button to return to Startup Screen.
  3. Ensure breathing circuit connections are properly connected and leak free.
  4. Ensure the Air Oxygen Entrainment Mixer is not attached to the Fresh Gas Intake port.
  5. Next touch the Circuit Check button to redo the test.
  6. If Circuit Check fails repeatedly, try another circuit.
OXYGEN CALIBRATION

- Press more settings
- Press Calibrate O2 Monitor
- Allows the user to calibrate the internal oxygen sensor.
- Either a single point or a two point calibration can be done. This can be done while on a patient if they can tolerate the desired calibration point (room air or 100% oxygen). Touch this button to go to the Calibrate O2 Mon screen.
- O2 Cal, 21% O2. Touch this button and follow the onscreen directions to calibrate at room air. Ensure that no oxygen device is connected to the air intake port on the right side of the ventilator.
- O2 Cal, 100% O2. Touch this button and follow the onscreen directions to calibrate at 100% oxygen. Ensure that 100% oxygen is being delivered to the air intake port on the right side of the ventilator.
- Newport suggests using the Low Flow Oxygen Reservoir with 10 L/min. of medical grade 100% oxygen connected to it.
Female 5’7”

- Mode: A/CMV Volume
- Tidal Volume (Vt) 370 ml 0.37 liter
  - 6 ml/Predicted Body Weight from ARDS Network
- Respiratory Rate (RR) 22
- I-Time 1.2
- PEEP 10
- P\(_{\text{trig}}\) 3
- Flow\(_{\text{trig}}\) 4
Example Settings on HT-70

Male 5’8”

• Mode: A/CMV Volume
• Tidal Volume (Vt) 410 ml 0.41 liter
  • 6 ml/Predicted Body Weight from ARDS Network
• Respiratory Rate (RR) 22
• I-Time 1.2
• PEEP 10
• P_{trig} 3
• Flow_{trig} 4
Note: You cannot complete Alarm Quickset in Standby mode. Ventilator must be on a patient and operating.

Touch Alarms button, then touch Alarm Quickset.

During Ventilating condition, when there are no active alarms violations, Alarm Quickset will automatically set the alarm limits. Touch this button to enter the Alarm Quickset screen, then press Accept to activate or Cancel to return to the Alarms screen.

When activated, Alarm Quickset monitors settings for 30 seconds and then sets the alarms. If an alarm occurs during the monitoring period, Quickset is canceled. During the 30 second period the touch screen will not respond unless an alarm occurs or the Cancel button is pressed.
Press Alarms for the Alarm Screen

Press Alarm Quickset, will take 30 seconds and will adjust alarm settings
HOW TO SEE MEASURABLE VALUES

Press on any measureable reading to pull up others measureable values
MORE BUTTON

Ramp Flow: Descending or Square

Slope Rise: One is slowest, used for Pressure Control and Pressure Support breath 3-4

Calibrate O2 Monitor: Calibration internal oxygen sensor (section 4-17)

O2 Cylinder Data Screen: Used to set up oxygen cylinder content tracking (section 4-16)

Events: New events occurs, parameter change, alarms, calibration (section 4-13)

Trends: Display the trended data for monitored parameters (section 4-14)

Waves: Pressure, Volume and Flow (section 4-15)

Utility Settings: Custom Settings, BUV Settings, Back-up ventilation when patient is in spont. mode. (section 4-18)
Patients Population
  - ≥ 5kg (Operators Manual Section 1-4)

Battery Life
  - 10 hours fully charged
  - Back-up Battery Low Alarm (Operators Manual section 6-11)
    - Minimum of 15 minutes left on the back-up battery.
    - Find alternate power source immediately.

Oxygen Source (Operators Manual Section 3-14)
  - 50 psi off of wall
  - Oxygen tank
REFERENCES

- HT-70 Operator Manual

- ARDS Network Management of Ventilator

- ARDS Network PBW & Tidal Volume