

PLEUR-EVAC®



Pleur-evac®
Cactus Series Chest
Drainage System
Dry Suction, Wet Seal

Teleflex®

Pleur-evac® Cactus Series

Setup Instructions

Setup instructions may differ among devices, refer to **Instructions for Use** for each unit.

If suction is prescribed, follow steps 1 through 5. If suction is not required, follow steps 1 and 2 only.

1. Fill Water Seal Chamber

- A sterile water bottle is provided to facilitate filling. To open, twist and break the bottle seal
- Attach the exposed tip to the connector on the suction port (**FIGURE K**)
- Squeeze the bottle. The bottle contains enough water to fill the water seal chamber. Fill to the “fill line”
- Once filled, the water will turn blue

2. Connect Patient Tube

Connect long patient tube (**FIGURE H**) from the collection chamber to the patient’s thoracic catheter. Patient is now protected from atmosphere.

3. Connect to Suction Source

Connect the suction source to the suction port. (**FIGURE K**)

4. Suction Control

Suction control dial is preset at -20 cm H₂O (**FIGURE 1**). To adjust the suction control setting, rotate the dial until the red stripe appears in the semi-circular window at the prescribed suction level line and clicks into place. Suction can be set at -10, -15, -20, -30 and -40 cm H₂O.



FIGURE 1

5. Suction Source

Turn on and increase the suction source until the orange float appears in the suction indicator window. The position of the suction control dial determines the approximate amount of suction imposed regardless of the amount of source suction — as long as the orange float appears in the indicator window. **FIGURE 1** shows the suction control dial set at -20 cm of water and the float in the indicator window.

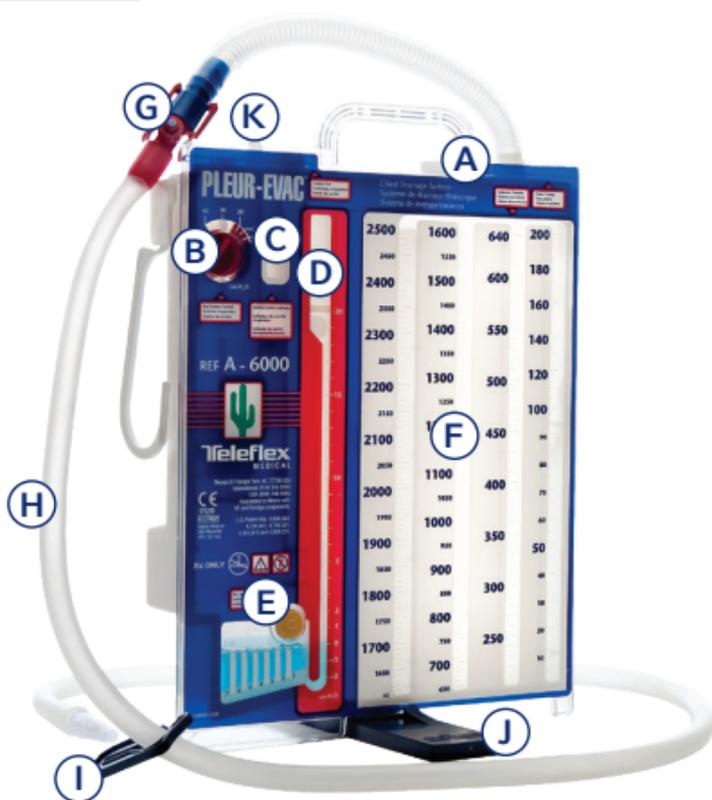
NOTE: Source suction must be capable of delivering a minimum of 16 liters per minute (LPM) air flow.

CAUTION: Keep Pleur-evac unit below patient's chest level at all times.

AVOID: Dependent loops in patient tubing.

DO NOT: Clamp patient tubing during transport (patient is protected by water seal).

Overview



Pleur-evac® A-6000-08LF

- (A) Filtered High Negativity Relief Valve:** Provided to vent excessive negativity. Depress the button to relieve negativity. Filtered air will enter the unit and the water level in water seal will drop. Release the button when desired level of negativity, as indicated by water level in Water Seal Pressure Scale, has been attained.

- B Dry Suction Control Dial:** Suction level determined by position of edge of red stripe. Rotate and click to prescribed setting.
- C Suction Control Indicator:** When suction is applied and the orange float appears in the suction indicator window, the approximate suction imposed is determined by the dial setting (red stripe). As long as the float appears in the window, the unit is operating at the suction setting that appears in the suction control window.
- D High Negativity Float Valve:** Water floats the valve up into the closed position when excessive negativity occurs; valve opens upon decrease in negativity.
- E Patient Air Leak Meter:** Quantifies the size (1) low to (7) high and progress of air leak. The higher the numbered column through which the bubbling occurs, the greater the degree of air leak.
- F Collection Chamber:** Marking surfaces are for making notations. Use pen or pencil.
- G Quick Disconnect with Needleless Sample Port:** Locking connectors (red and blue) are provided in the patient tube for quick connection to a new chest drainage system. Use only a standard luer lock syringe to withdraw samples from the connector.
- H Patient Tubing:** Not made with natural rubber latex.
- I Patient Tube Clamp:** Clamp on patient tube should be placed away from patient, avoiding accidental closure.
- J Floor Stand:** Helps prevent tipover. Swings out for stability in use. The floor stand contains an automatic locking mechanism that locks the floor stand in the open position. To close, press locking tab to retract floor stand.
- K Suction Port:** Use to fill Water Seal Chamber to establish patient protection. If suction is prescribed, connect to suction source. If gravity drainage is prescribed, the port should remain UNCAPPED and free of obstructions.

Nursing Considerations and Troubleshooting

Collection Chamber

Measurement of Drainage

When reading collection chamber calibrations, please note there may be a decrease in original volume of first section after fluids spill over into the next. (This may be attributed to surface tension “build-up”.) The actual volume of the previous section(s) should therefore be checked if accuracy of the total reading is critical. “Spillover” from one section to the next should also be noted after the Pleur-evac unit has been moved or handled.

Full Collection Chamber

When drainage reaches 2500cc, the unit is filled to capacity. Replace unit. Prepare new unit prior to changing current unit.

WARNING:

- The collected contents of the Pleur-evac unit should not be used for reinfusion
- Chest tubes should not be clamped except when changing the Pleur-evac unit. In the event of a patient air leak, clamping the chest tubes could lead to a tension pneumothorax
- Stripping the patient drainage tube must be done with the patient tubing clamp OPEN. Stripping with the clamps closed can result in the build-up of excessive positive pressure

Disposal: The Pleur-evac unit should be handled and disposed of in accordance with all applicable regulations including, without limitation, those pertaining to human health and safety and the environment.

Changes in Drainage

Immediately contact the doctor if any of the following are observed:

- Changes in drainage color
- Rate of drainage suddenly increases or decreases
- Drainage stops suddenly

Water Seal Chamber

Water Seal Chamber

The water level should be at 2 cm. Sterile water or saline may need to be added due to evaporation. Fluid may need to be withdrawn if the chamber is overfilled. To adjust water seal level, use a syringe with an 18 gauge (1.27 mm) or smaller needle. Angle the needle downward to withdraw fluid.

Determining Patient Negativity:

WITHOUT SUCTION, the pressure in the chest cavity is read directly by the fluid level in the calibrated water seal pressure scale.

WITH SUCTION, add the reading from the suction dial setting to the reading of the water seal pressure scale. (Example: -20 suction plus -10 water seal = -30 cm H₂O patient negativity.) The orange float must appear in the suction indicator window, indicating suction is operative, in order to determine the negative pressure in the chest cavity.

CAUTION: Upon tipover, when suction is ON, one-way valve protects patient from atmospheric air in any orientation.

When suction is OFF, patient is at risk of exposure to atmospheric air. If tipped, replace unit immediately.

Air Leak Meter

Water Rising in Small Arm of the Water Seal / Air Leak Meter?

If water has risen to an undesired level of negativity, the manual High Negativity Relief Valve may be used. Filtered air will enter the unit. Release the button when desired level of negativity, as indicated by water level in Water Seal Pressure Scale, has been attained. Depress the manual high negativity relief valve until the water level reaches the desired negativity.

CAUTION: If suction is not operative, or if operating on gravity drainage, depressing the High Negativity Relief Valve can reduce negative pressure within the collection chamber to zero (atmosphere) with the resulting possibility of a pneumothorax.

Is There Bubbling?

Identify the source of the air leak:

- Check and tighten connections
- Check the tubing for leaks using progressive clamping method with booted (or padded) chest tube clamp
- If leak is in the tubing, replace the unit
- If the leak is determined to originate from the patient, contact the patient's physician

Is the Bubbling Continuous or Intermittent?

Note the pattern of the bubbling. If it fluctuates with respiration (i.e., occurs on exhalation in a patient breathing spontaneously), the most likely source is the pleural cavity.

Document the magnitude of a patient air leak using the air leak meter. The higher the numbered column through which the bubbling occurs, the greater the degree of air leak.

Notify physician of any new, increased, or unexpected air leaks that are not corrected by the above actions.

Dry Suction Control Chamber

Is the Orange Float in the Indicator Window?

The orange float indicates that the desired suction level has been achieved. The suction source must be capable of delivering a minimum of 16 liters per minute (LPM) airflow. If the orange float falls due to changes in the wall suction source, you may adjust the wall suction setting until the float rises back up in the window. Increasing wall suction causes increased air flow through the unit. This will not increase patient negativity beyond the prescribed (dialed) setting.

Does the Water Rise in the Small Arm of the Air Leak Meter When the Dry Suction Setting is Lowered?

The water rising in the small arm is normal and simply reflects the previous higher setting. If the patient does not have an air leak, vent the excess negativity by depressing the manual high negativity relief valve: filtered air will enter the unit and water level in water seal will drop. Release button when desired level of negativity, as indicated by water level in water seal pressure scale, has been attained.

CAUTION: If suction is not operative, or if operating on gravity drainage, depressing the high negativity relief valve can reduce negative pressure within the collection chamber to zero (atmosphere) with the resulting possibility of a pneumothorax.

NOTE: This is a troubleshooting guide only. Please refer to the Instructions For Use for full operating and set-up instructions.

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