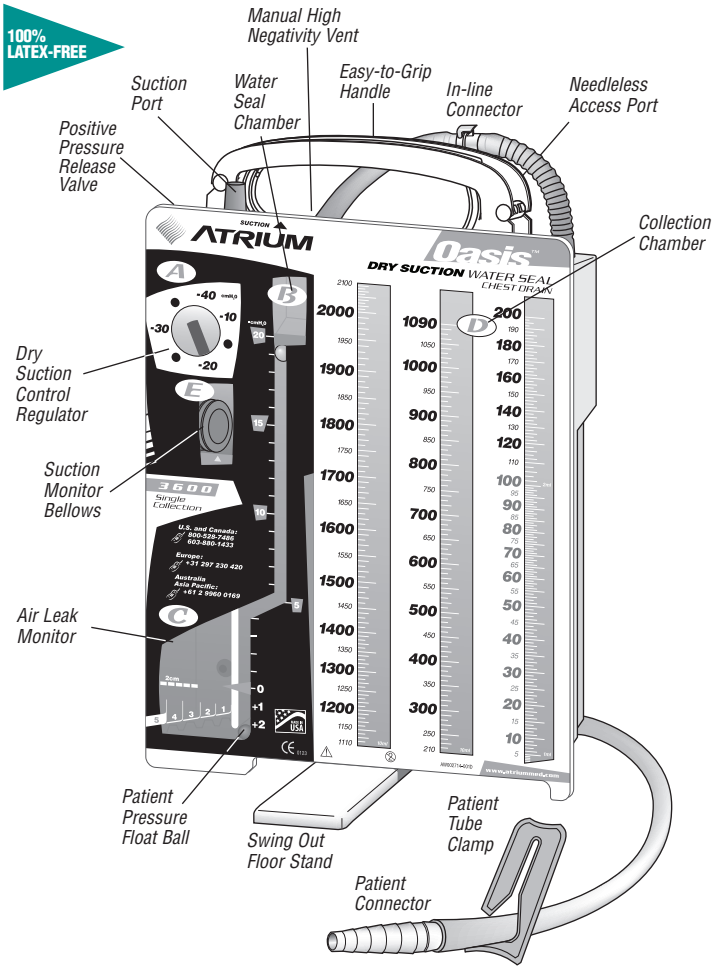
100% LATEX-FREE

Oasis™

DRY SUCTION WATER SEAL CHEST DRAIN



Set Up

Step 1. Fill Water Seal Ⓑ to 2cm Line - Add 45ml of sterile water or sterile saline via the blue suction port located on top of the drain. For models available with sterile fluid, twist top off bottle and insert tip into blue suction port. Squeeze contents into water seal until fluid reaches 2cm fill line.

Step 2. Connect Patient Tube to Patient - Connect chest drain to patient prior to initiating suction.

Step 3. Connect Suction to Chest Drain - Attach suction line to blue suction port on top of chest drain.

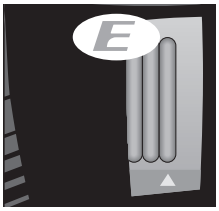
Step 4. Turn Suction Source On - Increase suction source vacuum to 80mmHg or higher. Suction regulator is preset to -20cmH_2O. Adjust as required.

Have a question or need help in a hurry? Call Atrium toll free at 1-800-528-7486.

What To Check During System Operation

Verifying Suction Operation Via The Suction Monitor Bellows

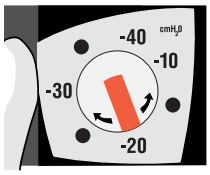
The bellows located in the suction monitor will expand only when suction is operating. The monitor bellows will not expand when suction is not operating or disconnected. The calibrated ▲ mark allows quick and easy confirmation of vacuum operation over a wide range of continuously adjustable suction control settings.



Bellows must be expanded to ▲ mark or beyond for a –20cmH_2O or higher regulator setting.

Changing Suction Pressures

Suction regulator is preset to -20cmH_2O and can be adjusted from -10cmH_2O to -40cmH_2O. To change suction setting, adjust rotary suction regulator dial located on the side of the drain. Dial down to lower suction pressure and dial up to increase suction pressure.



To lower regulator setting from a higher level (-40cmH_2O) to a lower level (-20cmH_2O), adjust regulator down to lower setting and then temporarily depress the manual high negativity vent located on top of the drain to reduce excess vacuum.

Placement Of Unit

Always place chest drain below the patient's chest in an upright position. To avoid accidental knockover hang the system bedside with the hangers provided.

Verifying Water Seal Operation

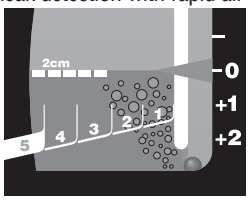
The water seal must be filled and maintained at the 2cm level to ensure proper operation and should be checked regularly when used for extended periods. As required, additional water may be added by a 20 gauge or smaller needle and syringe via the grommet located on the back. Fill to the 2cm line.

Recording Drainage Volume

The collection chamber incorporates a writing surface with easy-to-read fluid level graduations. Please refer to individual product inserts for specific model calibrations.

Observing Water Seal For Patient Air Leaks

Atrium offers superior air leak detection with rapid air leak assessment and improved visibility due to the tinted water. When air bubbles are observed going from *right to left* in the air leak monitor, this will confirm a patient air leak.



Continuous bubbling in the bottom of the water seal air leak monitor will confirm a persistent air leak.
Intermittent bubbling in the air leak monitor with float ball oscillation will confirm the presence of an intermittent air leak.
No bubbling with minimal float ball oscillation at bottom of the water seal will indicate no air leak is present.

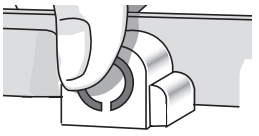
Graduated Air Leak Monitor

For those models with a graduated air leak monitor, air leak bubbling can range from 1 (low) to 5 (high). Air bubbles create an easy to follow air leak pattern for monitoring patient air leak trends.

Manual High Negativity Vent

To manually vent the system of high negative pressure, depress the filtered manual vent located on top of the drain until bubbling occurs in the air leak monitor.

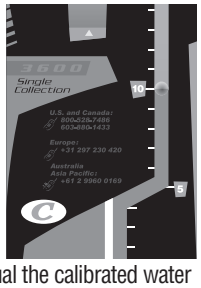
Do not use manual vent when suction is not operating or when the patient is on gravity drainage.



Do not use when suction is not operating.

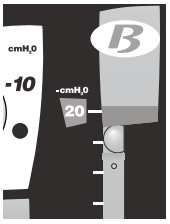
Observing Calibrated Water Seal Column For Changes In Patient Pressure

Patient pressure can be determined by observing the level of the blue water and small float ball in the calibrated water seal column. With suction operating, patient pressure will equal the suction control setting plus the calibrated water seal column level. For gravity drainage (no suction) patient pressure will equal the calibrated water seal column level only.



High Negativity Float Valve

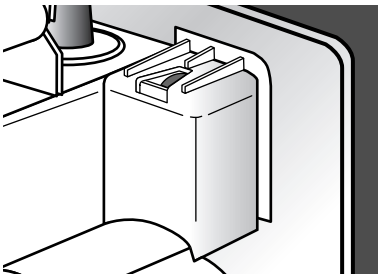
Atrium's high negativity float valve, with its controlled release action, enables any thoracic patient to draw as much intrathoracic pressure as is required during each respiratory cycle. During prolonged episodes of extreme negative pressure, Atrium's controlled release system will automatically relieve excess vacuum to a lower, more desirable pressure level.



What To Check During System Operation

■ Positive Pressure Protection

Atrium's positive pressure valve, located on top of drain, opens instantly to release accumulated positive pressure. ***Do not obstruct the positive pressure valve.***



■ Sampling Patient Drainage

Sampling of patient drainage must be in accordance with approved hospital infection control standards. Selected models include a needleless luer port on the patient tube connector for sampling patient drainage. Alcohol swab the luer port prior to syringe attachment (no needle). Fluid samples can also be taken directly from the patient tube by forming a temporary dependent loop and inserting a 20 gauge needle at an oblique angle. Alcohol swab the patient tube prior to inserting syringe at a shallow angle. **Do not puncture patient tube with an 18 gauge or larger needle.**

■ System Disconnection

For models equipped with an in-line connector, ***close the patient tube slide clamp prior to disconnecting*** the chest drain patient tube from patient. Clamp off all indwelling thoracic catheters prior to disconnecting chest drain from patient.

Troubleshooting

Q **How do I determine patient pressure with a dry suction chest drain?**

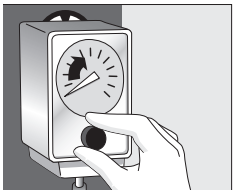
A Whether using a traditional wet or dry suction operating system, one cannot overemphasize the importance of the calibrated water seal column when it comes to diagnosing the patient's condition or monitoring normal system operation. Patient pressure can be determined by observing the level of the blue water and small float ball in the calibrated water seal column. With suction operating and the bellows expanded across the suction monitor window, patient pressure will equal the suction control setting (read directly from the regulator dial) plus the calibrated water seal column level. For example, when the suction monitor bellows is expanded to the ▲ mark or beyond to confirm a –20cmH_2O suction setting, and the calibrated water seal column reads –15cmH_2O, patient pressure is –35cmH_2O (–20cmH_2O + –15cmH_2O = –35cmH_2O). For gravity drainage (no suction) patient pressure will equal the calibrated water seal column only.

Q **What should I do when the suction monitor bellows is not expanded to the ▲ mark when the regulator is set at -20cmH_2O or higher?**

A The position of the bellows across the suction monitor window will alert the operator that the suction source has fallen below the minimum operating range for the prescribed suction control setting. Simply increase the vacuum source to –80mmHg or higher. The suction monitor bellows must expand to the ▲ mark or beyond for a –20cmH_2O or higher suction regulator setting.

Not enough vacuum for -20cmH_2O or higher suction control setting.

Normal suction operation for -20cmH_2O or higher.



Increase suction source to -80mmHg or higher.

Q **What should I do when the bellows does not fully expand to the ▲ mark *after* I increase the suction source vacuum?**

A Dry suction chest drains require higher levels of vacuum pressure and air flow from the suction source to operate efficiently at each suction control setting as compared to traditional water controlled operating systems. The suction source should provide a minimum vacuum pressure of –80mmHg at 20 liters of air flow per minute for chest drain operating efficiency at a suction control setting of –20cmH_2O. The suction source should be greater than –80mmHg when multiple chest drains are connected to a single suction source. If the bellows does not fully expand to the ▲ mark, it may simply be that the suction source is not functioning to its full potential to provide the minimum vacuum pressure or air flow required to "drive" the suction control regulator. Additionally, conditions may exist that can reduce, or "restrict" air flow from the suction source. A restrictive clamp, connector, or kink in the suction line tubing can potentially "starve" the chest drain of air flow. A leak in a connection or wall canister, along with extensive lengths of suction tubing can also reduce air flow to the unit.

To troubleshoot this situation, first check to be sure that all connections are air-tight. Inspect the suction tubing and connections for possible cracks, leaks, kinks, or occlusion. You may need to simply bypass a "leaky" wall canister. Try connecting the chest drain to a different suction source or wall regulator. When multiple chest drains are "Y" connected to a single suction source, if possible, reconnect the drains to separate suction sources. Finally, replace the chest drain if you suspect the unit is cracked or damaged.

Q **Does the bellows need to expand beyond the ▲ mark for a –10cmH_2O regulator setting?**

A No. For a regulator setting less than –20cmH_2O suction (–10cmH_2O), **any** observed bellows expansion across the monitor window will confirm suction operation. The bellows need not be expanded to the ▲ mark for suction pressures less than –20cmH_2O, just visibly expanded to confirm suction operation.

Q **How do I confirm my patient has an air leak when there is:**

■ No bubbling in the water seal?

A *If there are no air bubbles observed going from right to left in the air leak monitor,* there is *no patient air leak.* In order to confirm that your patient's chest catheter is patent, temporarily turn suction off and check for oscillation of the patient pressure float ball in the water seal column coinciding with patient respiration.

■ Bubbling present in the water seal?

A Whenever *constant or intermittent bubbling* is present in the water seal air leak monitor, this will *confirm an air leak is present.* Oscillation of the patient pressure float ball at the bottom of the water seal *without bubbling will indicate no apparent air leak.* Bubbling from right to left must be present to confirm an air leak. To determine the source of the air leak (patient or catheter connection), **momentarily** clamp the patient tube close to the chest drain and observe the water seal. If bubbling stops, the air leak may be from the catheter connections or the patient's chest. Check the catheter connectors and patient dressing for a partially withdrawn catheter. If bubbling continues after temporarily clamping the patient tube, this will indicate a system air leak requiring system replacement.

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