Aquilex® Fluid Control System

Set-up & Troubleshooting Guide



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Technical Support



For Hologic Technical Support,
please call (800) 442-9892

Hologic Representative: _____

Cell Phone: _____

Email: _____

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Set-up

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STEP 1



Connect the color-coded vacuum tubing from the high (green) and low (white) pump vacuum ports to the vacuum ports on the back canisters.

Do not discard vacuum tubes after the procedure, they are reusable.

STEP 2



Tandem connect the front canister to the back canisters using the tandem ports.

Place a tissue trap in the front high vacuum canisters if the MyoSure® Tissue Removal Device is utilized.

STEP 3



Connect the white Y outflow tubing connector to the patient port on the front low vacuum canister.

STEP 4



Connect the yellow Y outflow tubing connector to the underbuttocks drape. Ensure the drape port is open so fluid can return to the canisters.

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STEP 5



Twist the yellow luer-lock onto the scope outflow channel.

STEP 6



Twist the blue inflow luer-lock onto the scope inflow channel.

STEP 7



Turn on the Aquilex system before any tubing is connected to the roller wheel.

The system will perform a self-diagnostic test.

STEP 8



When prompted insert the inflow tubing around and past the roller wheel to secure into place.

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STEP 9



Hang and spike fluid bags. Up to two fluid bags can be hung.

Additional fluid bags should be readily available.

STEP 10



To prime the system check that the inflow stopcock is completely open and your fluid bag is unclamped.

Press the “Prime” button. During the Prime Cycle the system will purge air from the system and perform an automatic lumen calibration.

Once the prime is complete, the system will beep once and switch to system operating mode. Close the inflow stopcock.

STEP 11



Set an intrauterine pressure.

Aquilex will automatically adjust its flow rate (capable of 800 ml/min) to maintain the set intrauterine pressure.

The intrauterine pressure is adjustable from 40 to 150 mmHg.

STEP 12



Set a fluid deficit.

The deficit is adjustable from 700 to 2,500 ml.

STEP 13



Press and hold the “Zero” button to 0 the fluid deficit.

Notes

Settings

Settings

FLUID DEFICIT:

Solution Type	Examples	Deficit Limits*
Hypotonic	Glycine, Sorbitol, Mannitol	1,000 ml
Isotonic	Normal Saline or Lactated Ringers	2,500 ml

Intrauterine Pressure: the intrauterine pressure should be at the lowest pressure necessary to distend the uterine cavity and maintain visualization

* Remember to always follow hospital policies. For further guidance please refer to: AAGL's Practice Guidelines for the Management of Hysteroscopic Distending Media, March/April 2013, Vol. 20, No 2, The Journal of the American Association of Gynecological Laparoscopists.



Notes

User Tips



User Tips

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Changing Canisters

1. Press the “Pause/Resume” button.
2. Change the canister and then press “Pause/Resume” once the change is complete and you are ready to continue the procedure.



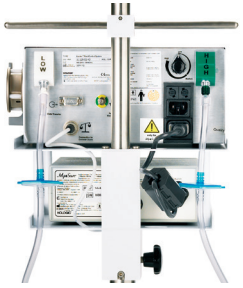
How to Display the Total Volume

Hold down both the up and down arrows on the deficit limit display to show the total fluid volume.



Changing Bags

The Aquilex system does not need to be paused for bag changes.



How to Check the Vacuum

Test vacuum by placing a finger over the gold exhaust valves on the back of the Aquilex pump. If air is felt then the vacuum pumps are operating.

User Tips

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How to RePrime

1. Press “Pause”
2. Press and hold the “Prime” button for 3 seconds
3. Press the “Prime” button again to begin the Prime Cycle
4. Once complete the pump will switch to operating mode

Prime Complete Sequence

- The system will beep once
- The interface will say “Prime Successful”
- The system will then automatically switch to operating mode







Error Codes

Error Codes

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START-UP SEQUENCE MESSAGES

Pump Display Message and Audible Tone	Cause	Instructions
System Check Running	Normal start up sequence.	Wait for “System OK” message.
System OK **1 beep**	Normal start up sequence.	System is ready for operation.
Insert Tube Set	Tube set not inserted or transponder defective.	Insert tube set.
Press Prime Button	Normal start up sequence.	Press “Prime” button.
Prime Successful **Close Stopcock** **1 beep**	Normal start up sequence.	Close inflow stopcock on hysteroscope.
Pump Operating	Normal start up sequence.	The surgeon may start the procedure.
Calibration Running	Normal start up sequence.	Automatic Lumen Calibration takes ~10 seconds to purge air from tubing and 10 seconds to calibrate hysteroscope.

Error Codes

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OPERATIONAL MESSAGES

Pump Display Message and Audible Tone	Cause	Instructions
Pump Paused Container Change 3 beeps	System in Pause mode during canister change. Roller wheel and vacuum pumps stopped. Deficit value locked.	Insert empty canister and hit "Pause/Resume" button.
Check Tube Set Installation 1 beep	Tube set installed or inserted incorrectly.	Remove and re-insert tube set. If message recurs, switch to a new tube set.
Tube Set Over Usage Limits 1 beep	Tube set recognition function indicates tube set has been used already.	Insert new tube set.
Check Flow Path Stopcock, Clamps 1 beep	Flow path is blocked. Check that bag clamps & hysteroscope stopcock are open.	Check that tube set is free of obstructions.
Incorrect Tube Set 1 beep	Tube set does not match type necessary for Aquilex System.	Replace tube set.
Pause Pump For Container Change	Removal of canister without first pressing "Pause/Resume" button.	Press "Pause/Resume" to restart system.
Overpressure Check Stopcock 5 beeps, repeated	Intrauterine pressure has exceeded 200mmHg.	Open hysteroscope stopcock or remove other source(s) of blockage from inflow tube set to relieve pressure.
Overpressure Open Stopcock 3 beeps	Intrauterine pressure is 10mmHg over the pressure setting.	Open hysteroscope stopcock or other occlusion to relieve pressure.
Maximum Pressure	Intrauterine pressure exceeds 150 mmHg.	The maximum permissible pressure has been reached.

Error Codes

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OPERATIONAL MESSAGES *(continued)*

Pump Display Message and Audible Tone	Cause	Instructions
Deficit Limit Reached **1 beep**	Fluid deficit equals deficit limit set by user	Physician must respond appropriately. Conduct manual deficit assessment, if necessary.
Deficit Limit Exceeded **3 beeps**	Alarm every 100ml above deficit limit	Physician must respond appropriately. Conduct manual deficit assessment, if necessary.
Pressure Threshold **3 beeps**	Pressures exceeding 100 mmHg are not usually required for hysteroscopy.	Diligent monitoring of fluid deficit is recommended.
Check Scale Connection **3 beeps**	Incorrect scale values or communication error with scale operation interrupted	Check scale connection. Reconnect scale and restart system. If message recurs, contact Hologic Technical Support.
Remove Tube Set for System Check **1 beep**	System check must be performed with tube set removed from pump head	Remove tube set and wait for audible signal and display to indicate “Insert Tube Set.”
Prime Fail -Open Stopcock, Clamps **3 beeps**	Lumen calibration failed	Check bag clamp(s) and hysteroscope inflow stopcock are open. Press “Prime” button to restart.
High Fluid Loss Check Leakage **3 beeps**	Deficit change > 150ml for > 30 seconds	Physician must respond appropriately. Conduct manual deficit assessment, if necessary.
Scale Overloaded Check Scale **3 beeps**	Weight on scale exceeds 65 lbs	Weight on scale must be reduced. System function will resume once excess weight is removed.

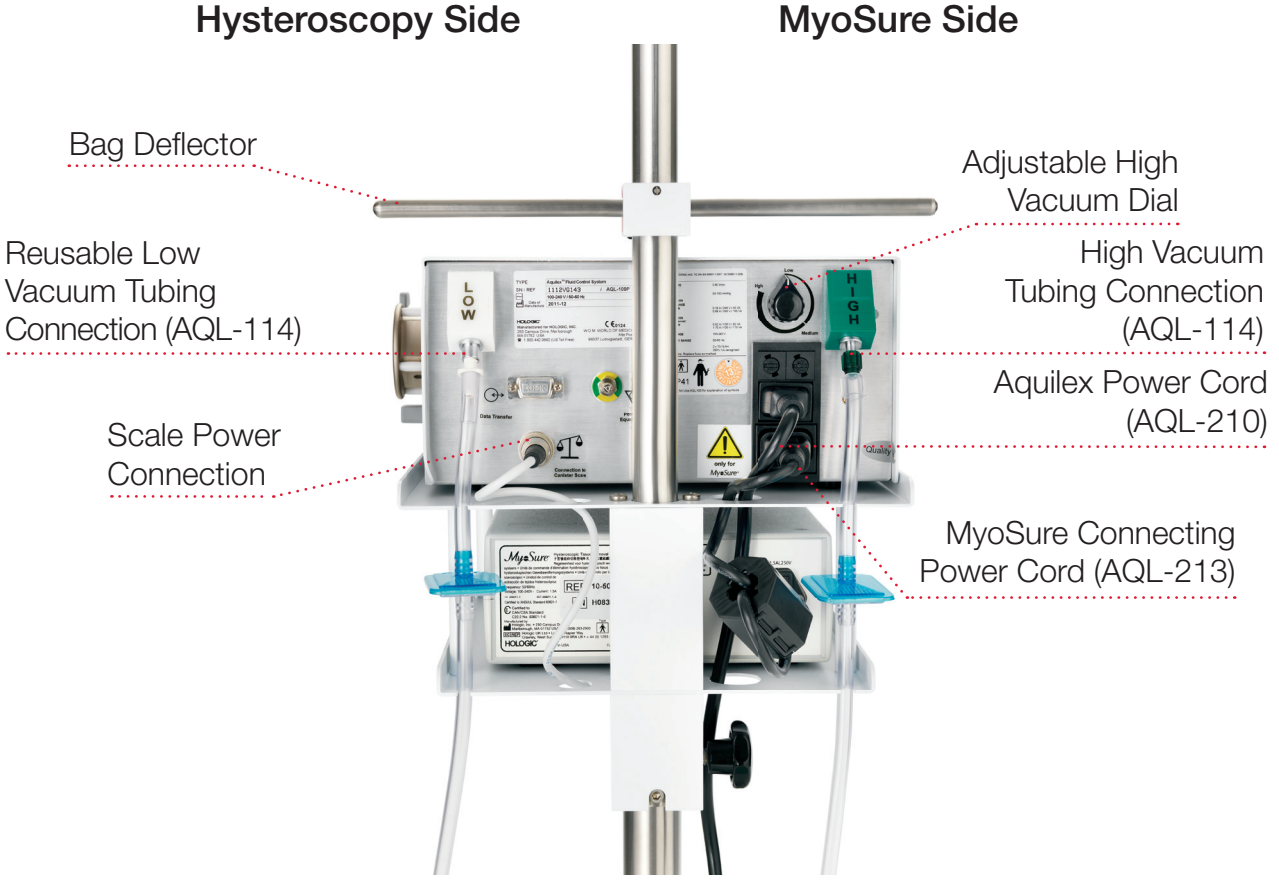
Error Codes

OPERATIONAL MESSAGES *(continued)*

Pump Display Message and Audible Tone	Cause	Instructions
Communication Error **5 beeps**	Communication error between modules	Contact Hologic Technical Support.
Calibration Error **5 beeps**	Software has detected a sensor problem	Contact Hologic Technical Support.
Sensor Error **5 beeps**	No transponder signal and presure sensor offset simultaneously	Contact Hologic Technical Support.
Motor Error **5 beeps**	Motor defective	Contact Hologic Technical Support.
Low Vac Failed **Use Alternative** **3 beeps**	Vacuum sensor or vacuum pump defective	A substitute low pressure vacuum source is necessary to continue procedure. Contact Hologic Technical Support.
High Vac Failed **Use Alternative** **3 beeps**	Vacuum sensor or vacuum pump defective	A substitute high pressure vacuum source is necessary to continue procedure. Contact Hologic Technical Support.
Vac Systems Out **Use Alternative** **3 beeps**	Vacuum sensor or vacuum pump defective	Substitute vacuum sources are necessary to continue the procedure. Contact Hologic Technical Support.

Configuration Images

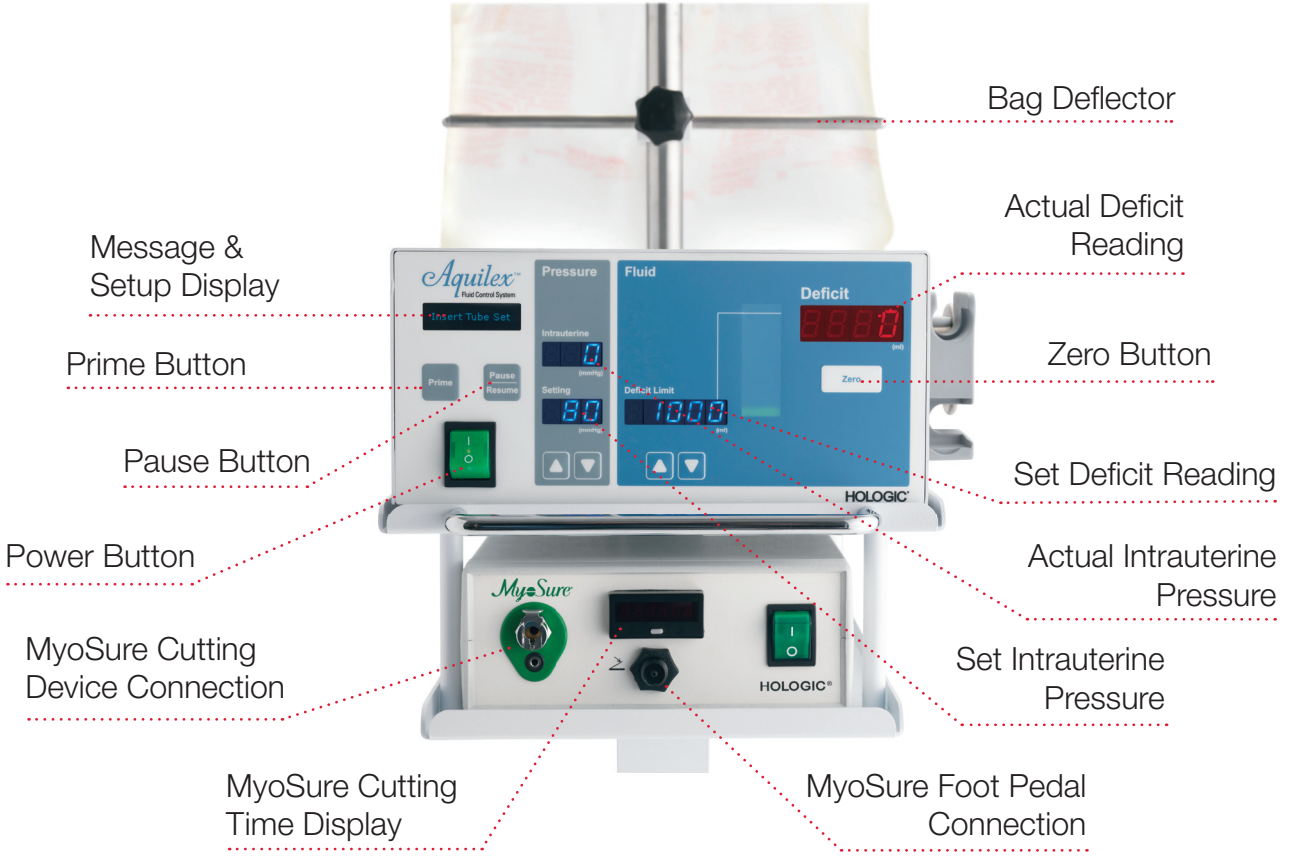
Configuration Images



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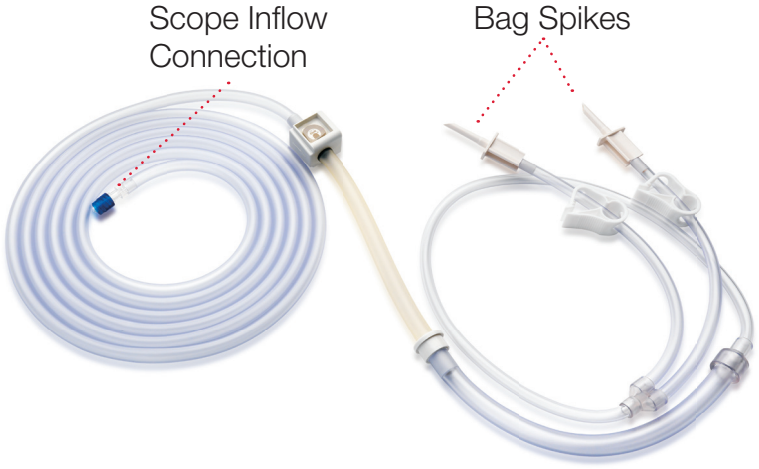
MyoSure Side **Hysteroscopy Side**



Configuration Images

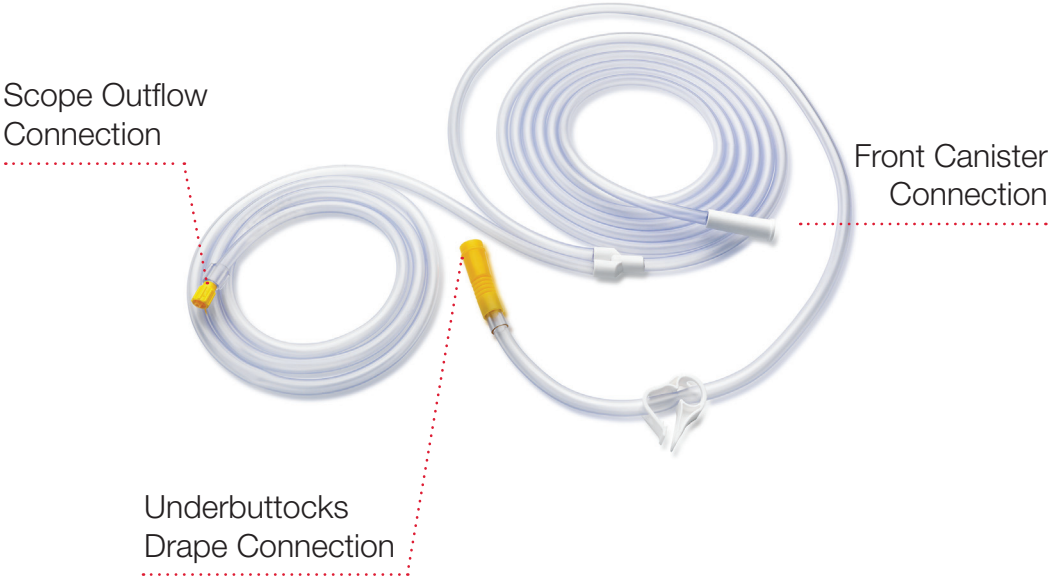
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Inflow Tubing (AQL-110)



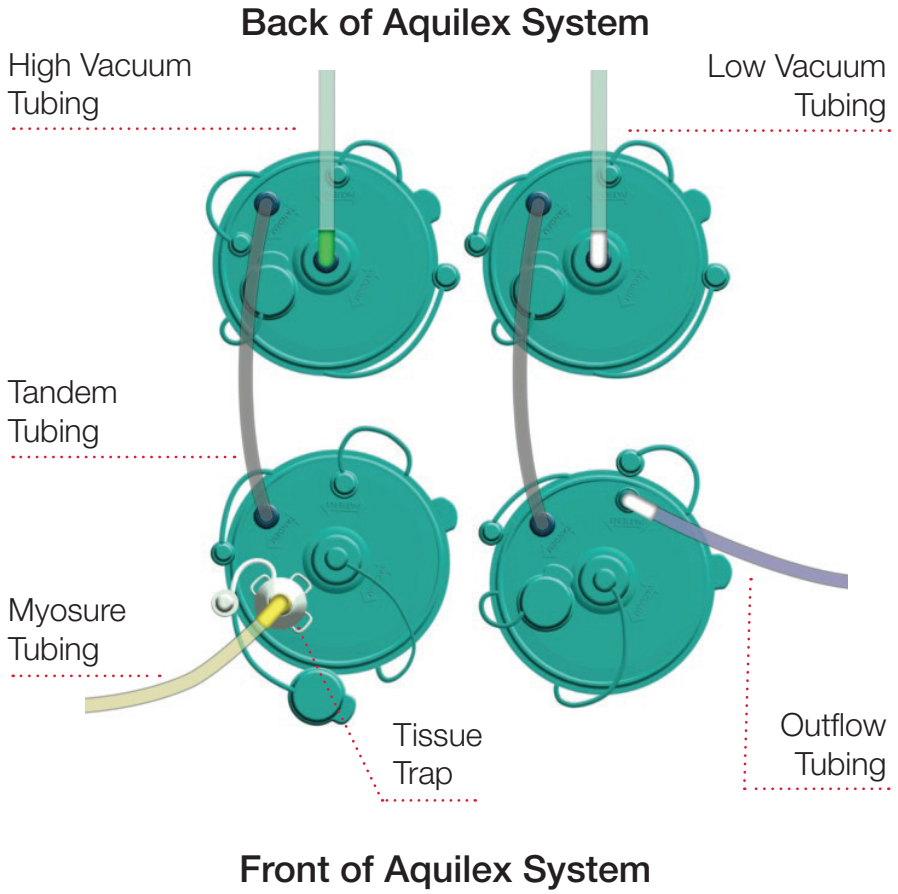
Reminder: Tube sets are single use. Do not turn off the machine once the tube set has been inserted.

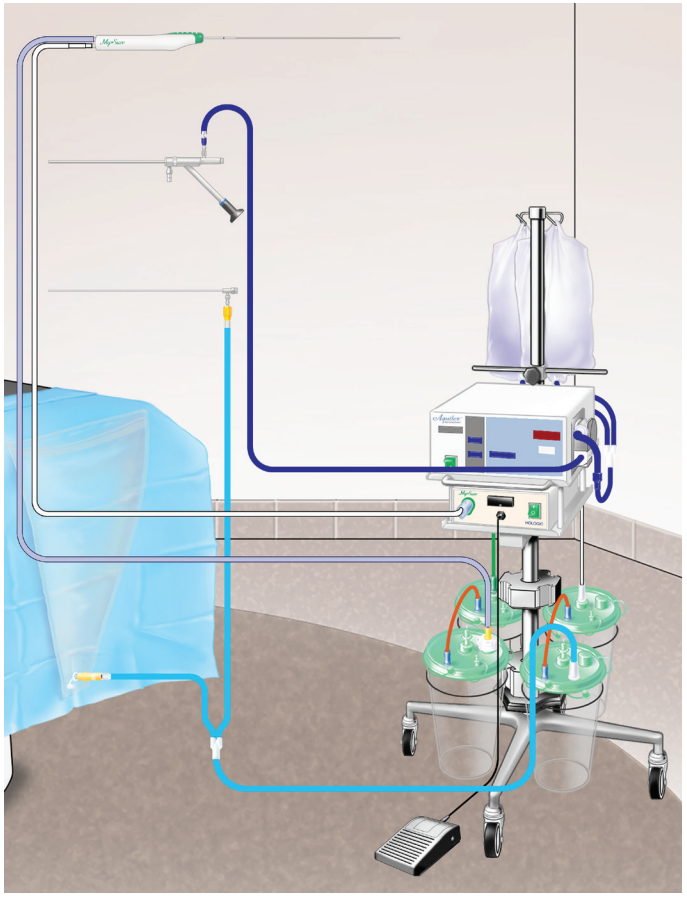
Y Outflow Tubing (AQL-111)



Configuration Images

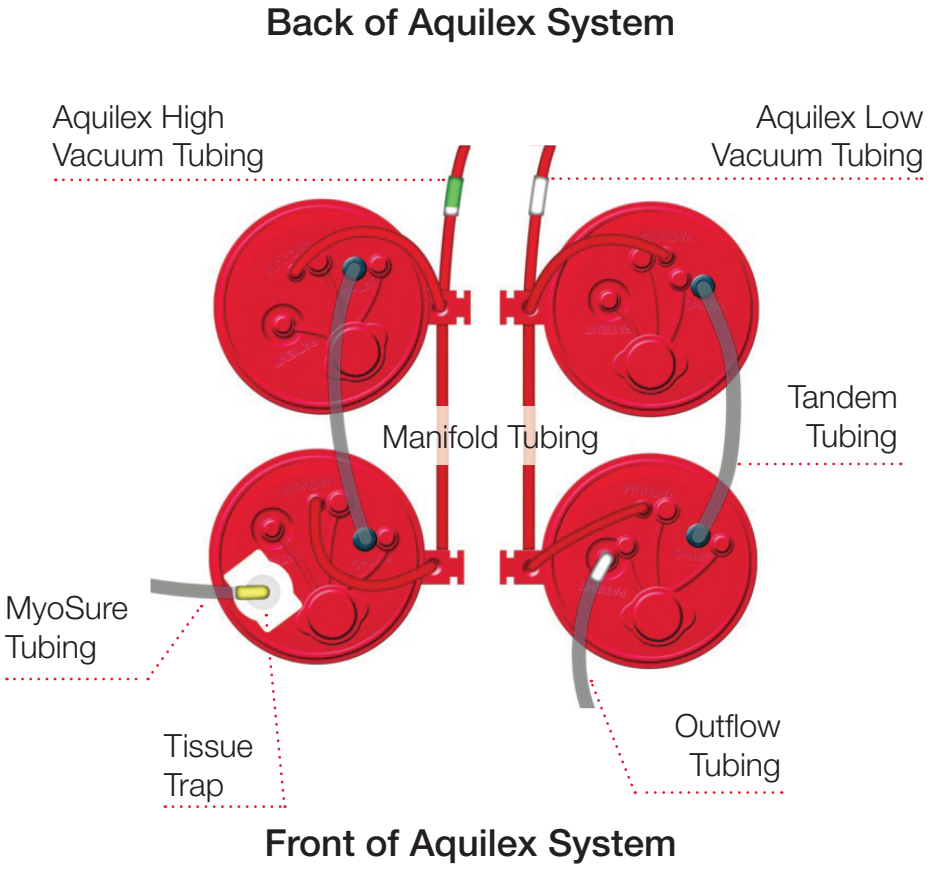
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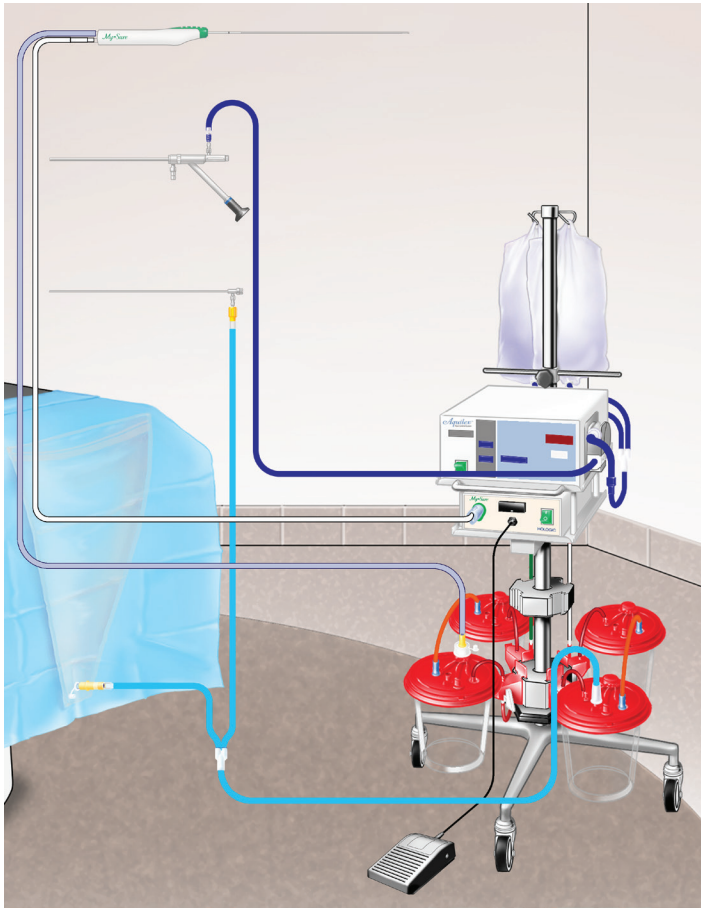




Configuration Images

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Notes

Troubleshooting

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Managing Vacuum

- Confirm the pump is not in pause mode, vacuum pumps do not run when the system is paused.
- Confirm there are no cracks in the canister and that the lids are properly sealed.
- To increase suction to the underbuttocks drape close the outflow channel.
- To increase suction to the outflow channel clamp off the underbuttocks drape.

Managing High or Rapidly Increasing Fluid Deficits

Check that no fluid is pooling on the floor or under the patient. If fluid is collecting in the under-buttocks drape, check that the drape port is open and the tubing is unclamped. To increase vacuum to the underbuttocks drape close the outflow stopcock.

Managing Distention and Visualization

- **Aquilex**
  - o Verify the saline bag clamps are open
  - o Confirm the canister lids and unused ports are sealed
  - o Increase fluid pump pressure
- **Hysteroscope**
  - o Confirm inflow tubing is connected to the inflow port
  - o Review tubing to confirm it is not pinched or occluded
  - o Lower suction/ vacuum level
- **MyoSure Tissue Removal Device**
  - o The field of view may clear in a couple of seconds if the device is left in the cavity

Notes

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Skeletal Health Solutions
Women's Health Solutions

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