Pneumatic System

	**⚠ CAUTION** **HIGH PRESSURE HAZARD.** **Bleed all pressure from pneumatic lines before performing maintenance on pneumatic components.** **Pressurized components may move suddenly or vent air to atmosphere, causing injury.**

The pneumatic system controls all of the components listed in Figure 7-14.

There are multiple pneumatic regulators on this system. The main filter/regulator manages incoming air from the air source, keeping it at the pressure needed for the most demanding pneumatic components in the system. It is the only regulator that needs to be connected to an air source. Some components have their own regulator to further reduce the pressure. See Figure 7-14 for the optimum pressure settings for each.

Table 7-14: Overview of Pneumatic Components

Component	Description	PSI
Main Regulator		90
Face Printer	Changes the vertical position of the printer based on board height.	40*
Squeezer	Holds the board flush against the fenceline as it enters the saw chamber.	40*
Counter Balance	Assists with saw blade stabilization.	40*

*Note that these pressures may need to be slightly adjusted for proper operation. 40 PSI is the recommended starting point.

PSI Recommendations for Face Printer, Squeezer, and Counter Balance

40 PSI is the recommended starting point for the face printer, squeezer, and counter balance regulators. Adjust in small increments if needed.

- Adjust the Counter Balance (C) pressure until the holdback arm is retracted and the face printer is lifted.
- Adjust the Squeezer Arm (S) pressure until the holdback arm fully clamps.
- Adjust the Printer (P) pressure until the face printer assembly lowers completely and smoothly.

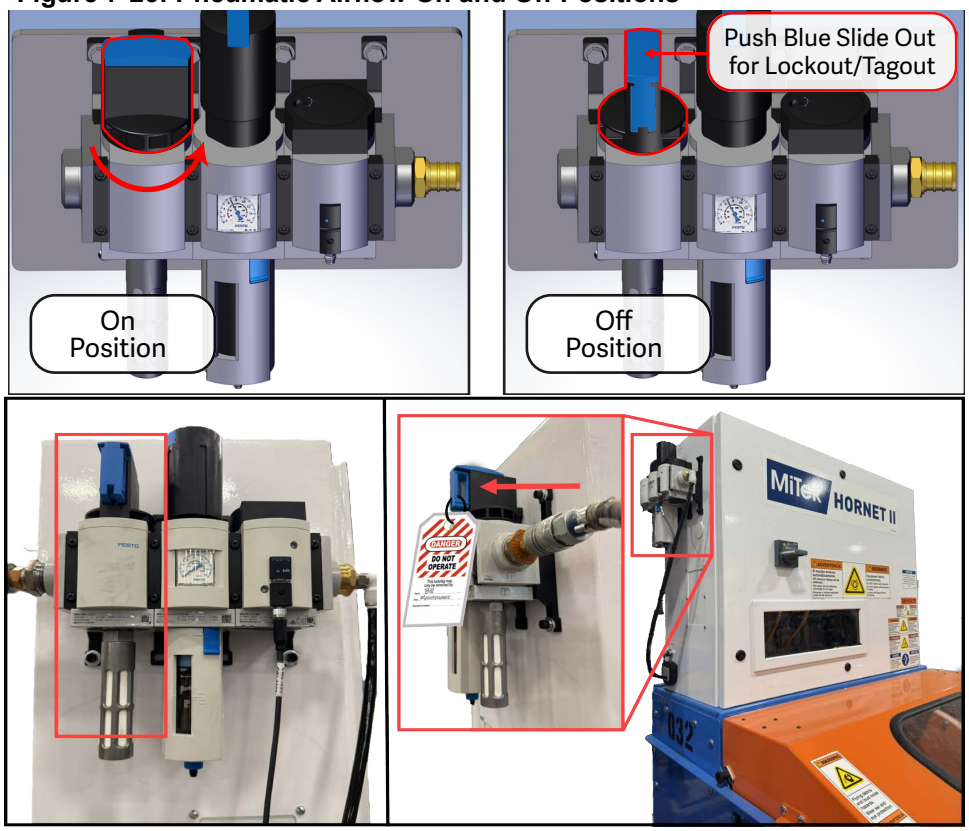
See Adjusting the Pressure on Additional Regulators on page 144 for more information.

Removing Pressure from the Pneumatic System

Most procedures involving the pneumatic system require the removal of pressure. Use the following procedure to remove pressure from the system.

1. Turn the main shut-off valve to the OFF position and push the blue slide outward so the lockout/tagout hole is visible.

Figure 7-26: Pneumatic Airflow On and Off Positions



2. Lockout/tagout through the hole on the slide. See Figure 1-5 on page 10 for an example.

Maintaining the Filter / Regulator

Purchasing a Filter / Regulator

The filter/regulator can be purchased directly from MiTek. Refer to the Ordering Parts on page 194 for instructions on ordering parts.

Adjusting the Pressure on the Filter / Regulator

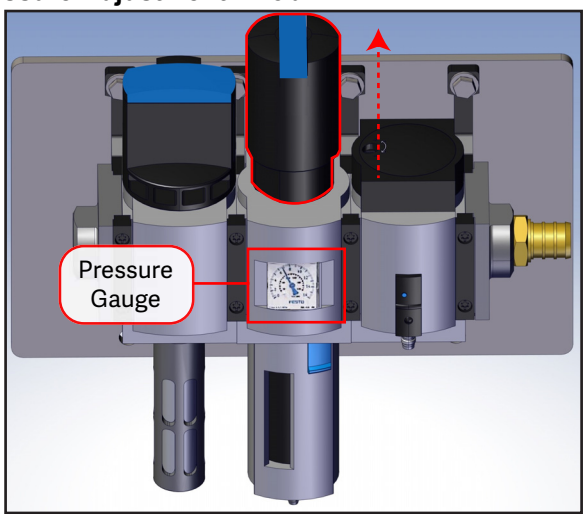
The pressure adjustment knob on the filter / regulator controls the operating pressure for the entire pneumatic system. The operating pressure for the

pneumatic system should be set at 90 psi. Use the following procedure to adjust operating pressure.

The system pressure should be set to 90 psi. If the system pressure drops below a certain psi, the machine software will display an error and the machine will cease operation.

1. If the blue slide on the pressure adjustment knob is pulled out, push it back until it is flush with the knob.
2. Pull upward on the knob to release it. (see Figure 7-27).

Figure 7-27: Pressure Adjustment Knob



3. Turn the knob to adjust the pressure.
   - Turning the knob clockwise increases pressure.
   - Turning the knob counterclockwise decreases pressure.
4. Once the gauge reads 90, push the knob downward to lock it into place.

Replacing Filter Element on the Filter / Regulator

The regulator uses a filter that must be replaced every 6 months. This filter can be purchased through MiTek. Refer to the Ordering Parts on page 161 for instructions on ordering parts. Use the following procedure to replace a filter element.

1. Remove pressure from the lines by using the procedure in Removing Pressure from the Pneumatic System on page 141.
2. Pull downward on the blue tab on the bowl and twist to remove the bowl from the regulator.
   - The blue tab may be located on the back of the regulator bowl.

3. Unscrew the black plastic baffle holding the filter element and remove it from the regulator.

Figure 7-28: Filter Element with Bowl Removed

4. Replace the filter element. Screw the black plastic baffle back into place.
5. Place the bowl back onto the regulator body by pushing up and turning. Make sure bowl is secure and the blue tab is in the locked position before returning pressure to the lines.

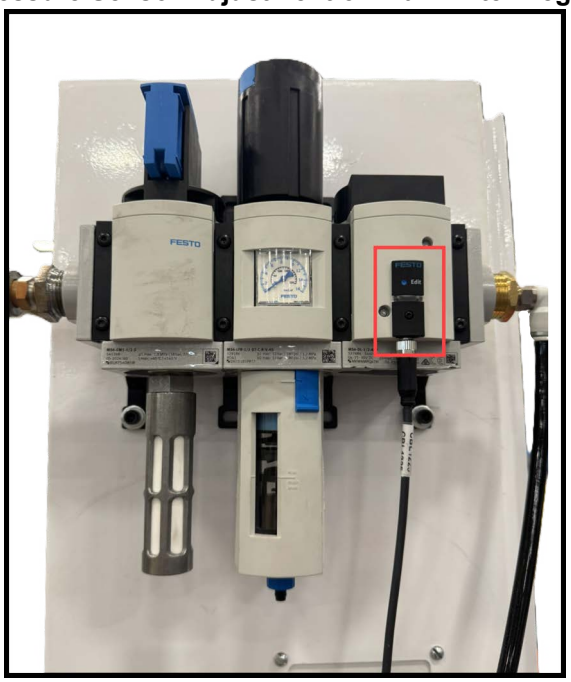
Adjusting the Main Pressure Sensor

The pressure sensor prevents the system from operating with inadequate air pressure. It sets the pressure at which the saw will no longer operate because it will not have enough pressure to perform its tasks. If the pressure drops below the minimum requirement, determine and fix the issue before attempting to cut boards.

The pressure sensor should not need to be adjusted under normal circumstances. However, knowing how to adjust this setting may assist in troubleshooting. Use the follow procedure to modify the pressure switch setting.

1. Set the main filter/regulator to the minimum operating pressure of 75 psi.
2. Hold the blue **Edit** button (see Figure 7-29) until it flashes.
3. Return the main filter/regulator to the standard system pressure of 80 psi.

Figure 7-29: Pressure Sensor Adjustment on Main Filter/Regulator Assembly



4. Replace the filter element. Screw the white plastic baffle back into place.
5. Place the bowl back onto the regulator body by pushing up and turning counterclockwise. Make sure it is secure before returning pressure to the lines.

Adjusting the Pressure on Additional Regulators

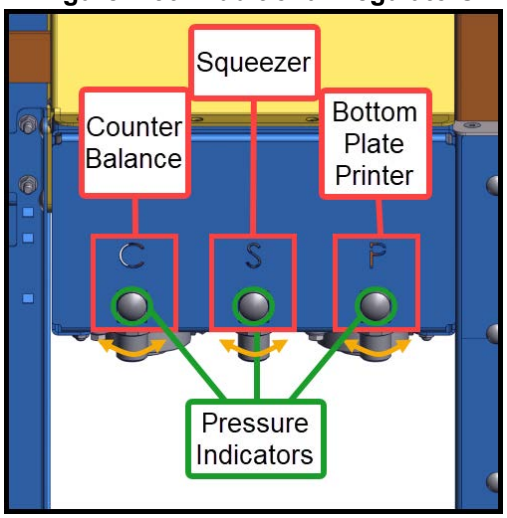
There are 3 additional regulators, located on the front of the gatekeep assembly as seen in Figure 7-30. They are labeled “C”, “S”, and “P.

- C - Counter Balance
- S - Squeezer
- P - Face Printer

Note that the additional regulators are installed inverted, so the directions for increasing and decreasing pressure are opposite from the main regulator. the pressure indicators also read inverted.

Use the following procedure to adjust the operating pressure on the additional regulators.

Figure 7-30: Additional Regulators



1. To adjust the regulator pressure, pull down on the black knob of the desired regulator and turn it either **CLOCKWISE** or **COUNTERCLOCKWISE**:
   - Turn the knob in a *clockwise* direction to **decrease** pressure
   - Turn the knob in a *counterclockwise* direction to **increase** pressure
2. Once the desired pressure has been reached, stop turning the knob, then push up to secure it in place and lock the pressure.

Saw Blade Flow Control Valve

There is a pneumatic flow control valve that controls the speed that the saw blade lowers into the saw chamber after making a cut. See Figure 7-31.

Figure 7-31: Saw Blade Flow Control Valve