

Pressure Regulator Purge Instructions

When using a high pressure gas cylinder, it is best to purge the regulator anytime it is placed in service. The exception would be if the cylinder is full of air. When a regulator is attached to a cylinder, a small amount of air is trapped in the regulator. This air is a contaminant and will cause errors in many applications. Unless the regulator is properly bled, the effects of this trapped air will continue for hours. This problem is caused by the compression of the air and partial pressure effects.

Consider this problem to be analogous to the following.

You have a large bucket with soap inside and a water hose with a slow water flow. You need a bucket full of clean water (no soap). There are two ways of solving this problem. You can allow the water to flow into the bucket and overflow at the top. All the soap will be washed out, but it might take hours to get the bucket clean enough. The other method is to fill the bucket with water, and dump it out several times. This method requires more effort but will yield better results faster.

To bleed the system it is best to have a shut off valve on the outlet of the regulator.

- Close the outlet valve and open the tank valve. This will pressurize the primary and secondary side of the regulator (two stage regulator). Adjust the regulation pressure to approximately 20% of range.
- Close the tank valve and crack the valve on the regulator outlet. Allow the gas to discharge until both the primary and secondary regulator pressure gages approach zero. Close the outlet valve prior to releasing the last bit of gas pressure.
- Repeat this process at least 4 times. For the best results, discharge the regulator as much as possible without releasing all of the pressure on each purge cycle.
- It may be convenient to purge the sample lines up to the analyzer at the same time. To do this you will have to disconnect the gas line at the analyzer because of the high gas flow rates.
- After the purge cycles, open the tank valve, and set the regulator to the proper operating pressure.
- Crack the outlet valve slightly, and reattached the gas line at the analyzer.
- Open the outlet valve fully.

The cylinder is now properly installed and ready for service.