



Air Tank Installation

The following air pressure graph illustrates plant air pressure from a load cycling air compressor. Maximum pressure is 116.6 PSI and minimum pressure is 105.8 PSI. The air compressor loads at the lower set points and unloads at the upper set point. If you observe the saw tooth, it would appear that the ramp up and ramp down are about equal. Thus the air compressor is loaded approximately 50% of the time. This system has an air storage tank installed with a common inlet/outlet pipe.

The air compressor is charging the tank while pressure is rising, and air is only drawn from the tank when pressure is falling. Since the up pressure and down pressure ramps are nearly equal, the tank is only beneficial about 50% of the time. If the air compressor happens to be loaded for perhaps 80% of the time the tank is only beneficial about 20% of the time. Air must change directions in the single air pipe to the tank, every time pressure goes up or down. If the tank were installed with a separate inlet pipe and separate outlet pipe, there would be flow through the tank, and the tank would be beneficial 100% of the time.

If you happen to have an air compressor that delivers fairly constant pressure, an air storage tank with a common inlet/outlet pipe may have static pressure, and provide little or no benefit to the system. Air receiver and storage tanks are always most beneficial when the installation allows air to flow through the tank.

