

HEAT

What is the proper gas pressure in and out of the gas valve

Propane fired systems should have an input pressure of 11.3 inches of water column (not psi) to a maximum of 14 inches. Several factors can affect the pressure coming in such as whether the system is a one or two regulator system, pipe size supplying the device, and even outside temperature can be a factor, and how full is the tank? You can check with the local propane supplier to check on proper pipe size and eliminate that issue quickly. When checking the incoming pressure be sure to have everything that uses propane on and running on high fire. Proper gas pressure out should be; LOW FIRE 6.7" w.c. to 7.3" w.c. and HIGH FIRE 9.7" w.c. to 10.3" w.c..

Natural Gas; The input pressure should be approximately 5.5" w.c. to a max of 10.5" w.c.. Again this should be measured only after all other gas appliances on that supply are brought on and running on high fire. On two stage equipment typically high fire is set to 3.5" w.c. and low fire is 2.0" w.c.. Be sure to check on that unit's exact specifications because some vary slightly on output requirements. Set high fire output first then go back and set low fire. There are ports on the gas valves the manufacturer has provided to help with these measurements. Some ports are threaded ports and require a barbed insert to be installed to use them and some have molded tubes made right into the valve with a small set-screw in the center. This set-screw does not have to be removed from the tube, just loosened a turn to do the measurement.

Please use a good manometer to do the measurements. There are some really good electronic manometers out there that can read positive and negative pressures and really help you out in other aspects of diagnosis such as negative pressure switch diagnostics and determining the systems total static pressure on the blower. The life of the heat exchanger is directly dependant on getting the output right.

Another method of setting the gas output is known as “clocking the meter”. This is achieved by doing the following; first make sure the unit you are setting is the only unit using gas during the test and while on the test that it’s on high fire. Now a fact you need to know is that ONG provides natural gas that contains 1000 BTU’s per cubic foot on average (close enough for our purposes here). Now let’s watch the gas meter on the one foot dial and see how many feet it records in one minute as close as possible. Okay so we measured 2-1/2 cubic feet in that minute. Let’s do the math. 2.5 Cubic Feet x 1000 BTU’s per foot equals 2500 BTU’s in one minute. Multiply that by 60 (for a one hour figure) and we get 150,000. What is the furnace rated for? If it’s a 150,000 input furnace then you are right on! If it’s a 120,000 furnace then it is over-fired. If it’s a 200,000 then it’s under-fired. Make your gas valve adjustment and check it again. This method works great if you can’t find your manometer or it’s broken or you don’t have one yet.

When you are done adjusting check everything for leaks and be safe!