

Flame Control

Gas Control Components



Pressure Regulator

Used to reduce and maintain stable pressure at a level that is safe for the operation of components downstream such as safety shutoff valves and proportionating regulators. We do not provide these unless requested. The customer's gas fitter/company often provides them.

Proportionator - Used for Nozzle Mix Burners (Usually Furnaces)

Also known as a ratio regulator, this device uses an air impulse line to maintain an appropriate gas/air ratio over the operational range of the combustion system. It is used to adjust the ratio of air to gas throughout the whole range. This is often the same component, installed differently, as the zero governor.

Zero Governor - Used for Pre-mix burners (Usually Glory Holes)

Also known as a Balance Zero Regulator (BZR), this device adjusts gas pressure downstream to atmospheric pressure so that a vacuum from a mixer installed downstream can pull the volume of gas required for efficient combustion. The Zero Governor should not have an air impulse line. It is used to adjust the ratio of air to gas throughout the whole range. This is often the same component, installed differently, as the proportionator.

ALO/AOGC (Adjustable Limiting Orifice/Adjustable Orifice Gas Cock) - High Fire Gas Adjustment

This valve is used to limit the maximum amount of gas allowed into the burner at high fire. It allows far finer control than a ball valve.

Low Fire Bypass Fitting, attached to the Proportionator.

This valve is used to fine tune the gas flow at Low fire. It allows gas to bypass the proportionator, letting a minimum amount to always reach the burner.

Air Control Components



Variable Speed Blower (VSB)

Most combustion equipment from Wet Dog Glass, LLC is supplied with a variable speed blower which receives a 0-10VDC input signal from the temperature controller. The blower speeds up when the set point temperature is above the actual temperature and slows down when the set point temperature is below the actual temperature.

Variable Frequency Drive (VFD)

For blowers that do not have built in variable speed control, a VFD is used to adjust the speed of the blower. This is typically used on larger combustion equipment only, such as a GH30 custom built furnace.

Manual Butterfly Valve

This valve is used to regulate the volume and pressure of the combustion air flowing to the burner. The wider open this valve is, the higher volume of air will flow, but the pressure upstream of the valve will drop. Generally larger equipment will be set $\frac{1}{2}$ to $\frac{3}{4}$ open, while smaller equipment will be set $\frac{1}{4}$ to $\frac{1}{2}$ open.