

Pre-Mix (Glory Hole)

Overview and Relevant Components



Wet Dog Glass Glory Holes most often use a proportional mixer in tandem with a variable speed blower and temperature controller. The user assigns a set point temperature, and the controller will ramp the blower up and down to achieve that temperature. The user has two adjustment points to balance the gas and air: FRG (Zero Governor) and the Needle Valve.

FRG: Primarily changes the amount of gas in the low-fire and mid-fire range. Remove the small black cap and adjust with flathead screwdriver. Clockwise allows more gas through, counter-clockwise allows less.

Needle Valve: This valve is usually built onto the mixer, and limits the maximum amount of gas at high-fire. Remove the acorn cap to find a flathead screw and lock nut. Clockwise decrease gas, counter-clockwise increases gas (Opposite of FRG)

Turn On



Start with the FRG at about half (Factory setting), and the needle valve open just a few turns. Air will need to be bled from the lines the first time, and the equipment will need to run through its startup sequence several times to do so. Set the Watlow controller to manual and set to 70%.

The blower will run for a 30 second purge, then the DSSOV(Dual Safety Shut-off Valves) will click open. KDI Valves have indicators that turn red when the valves open. Kromschroder valves have blue lights that indicate open. When the valves open, use a MAP gas torch or similar inserted into the lighting hole below the burner to light the burners. If the system does not start within the allotted time the valves close and an error is displayed on the MPA. Press reset on the MPA itself, or if the MPA is inside the control panel, the green button will reset it.

Once the Glory Hole is lit, set the % on the controller down to 10%. Leave the doors open. The glory Hole will slowly heat up. The temperature will likely stall out at some point. Close the doors, and it will continue to heat up. Increase the % by 10% every time the glory hole stalls, until you reach 2000. Proceed to tuning.

Tuning



Once at temperature, adjust the needle valve to achieve a good neutral flame. Change the blower speed on the Watlow Controller up by 10% increments until you reach 100%, adjusting the needle valve as needed to maintain a good flame. When at 100%, the needle valve controls the maximum amount of gas. Once set for a good flame at 100% the needle valve likely won't need adjusted again. Decrease blower speed to 50% and adjust the FRG as needed. Decrease blower speed to 0% and adjust FRG as needed. If the glory hole goes out or back burns at 0% try decreasing the gas at the FRG.

Turn the glory hole off by pressing the red "Off" Button. To start again, press the "On" Button. Glory hole controller can often be left at working temp, it does not need to be ramped up or down every time.

Two Burner glory holes need to be lit at 70-100% blower speed. The first burner lights the second burner and needs to be at high fire for this to happen within the allowed time frame.