Combustion Air FAQs

What air inlet duct size do I need?

A vertical or horizontal remote air inlet system can be connected to most products without modification. The maximum length of field supplied single wall pipe, such as galvanized ventilation pipe, is shown in the Combustion and Ventilation Air sections of all fuel-fired Installation & Maintenance manuals. Charts to determine the equivalent length of duct fittings are also included to determine the maximum length of your remote air inlet system.

What types of vent material can be used to supply intake air to PVI units?

A vertical or horizontal remote air inlet system can be connected to most units without modification. The maximum length of field supplied single wall pipe, such as galvanized ventilation pipe, is shown in the Combustion and Ventilation Air section of the product's I & M manual. Use metal tape or RTV sealant to seal each pipe joint to ensure that combustion air is taken from the desired location.

Can direct air intakes be commonly piped to supply multiple units?

Each water heater MUST have separate intake piping, unless the air inlet piping, exhaust duct and other system considerations have been fully evaluated and a combined duct system is designed by one of the duct design firms identified at www.pvi.com/vent-design.html. Before operation of a combined remote air ducting system, all of the duct design firm's system installation and operation requirements must be in place, their instructions followed and the system must be properly maintained.

What are the advantages and disadvantages of direct venting?

Direct venting allows the combustion air to drawn from a specific area instead of from the general atmosphere in the equipment room. A direct vent system can prevent airborne contaminants in an equipment room from being drawn into the combustion process. This reduces the need for louvers into the equipment room and prevents freezing of pipes in cold winter months.

How does a room that is under a negative pressure affect combustion air?

When an equipment room is under a negative pressure it means that more air is being drawn out of the room than is being drawn into the room. This starves the gas combustion process for the air need for complete combustion and the air movement needed to vent flue products to the atmosphere. Negative pressure in the equipment room can result in incomplete combustion, high combustion chamber temperatures, thermal fatigue of heat exchanger surfaces, nuisance operational problems and possible dangerous spillage of flue products into an occupied living space.

If my filter gets dirty, will that adversely affect the amount of combustion air supply to my unit?

A dirty combustion air filter will reduce the available volume of combustion air supplied to the burners. A dirty filter will effectively derate the burner input until the low air switch shuts down operation. All filters in the combustion air inlet must be placed on a regular maintenance schedule and changed with a new filter every thirty days or more often if the unit is installed in a dirty environment.

Do I need to insulate my combustion air inlet pipe?

A unit installed in a cold winter climate area should have either a Type "B" air inlet pipe or an insulted air inlet pipe. This helps to control the condensing of airborne moisture in the combustion air as it enters the relatively warm equipment room.

PVI®
A WATTS Brand
T: (817) 335-9531 | Toll Free: (800) 784-8326 | PVI.com

PV 6699E 12-2019