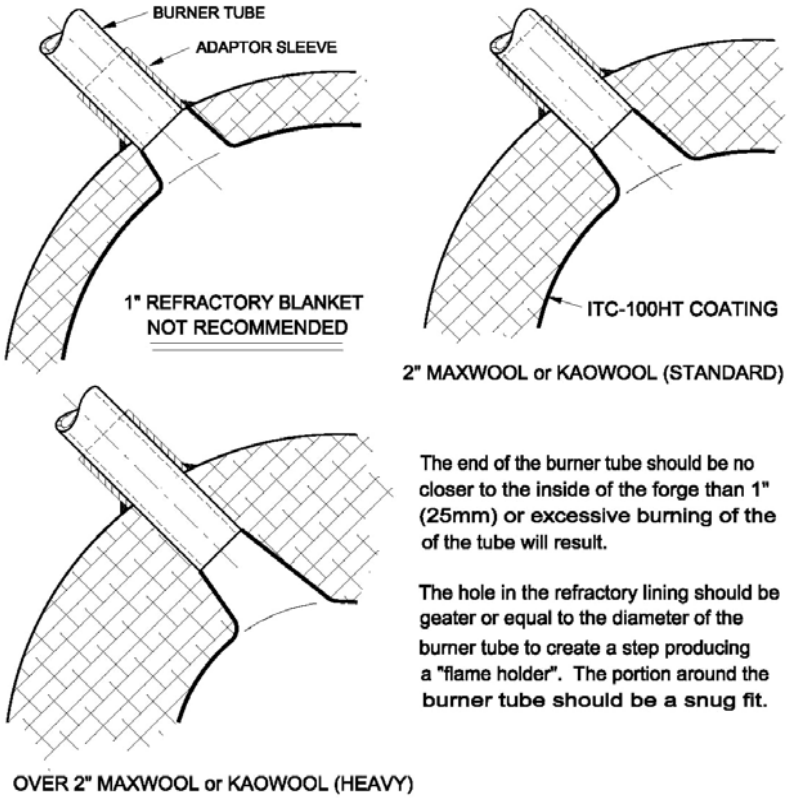

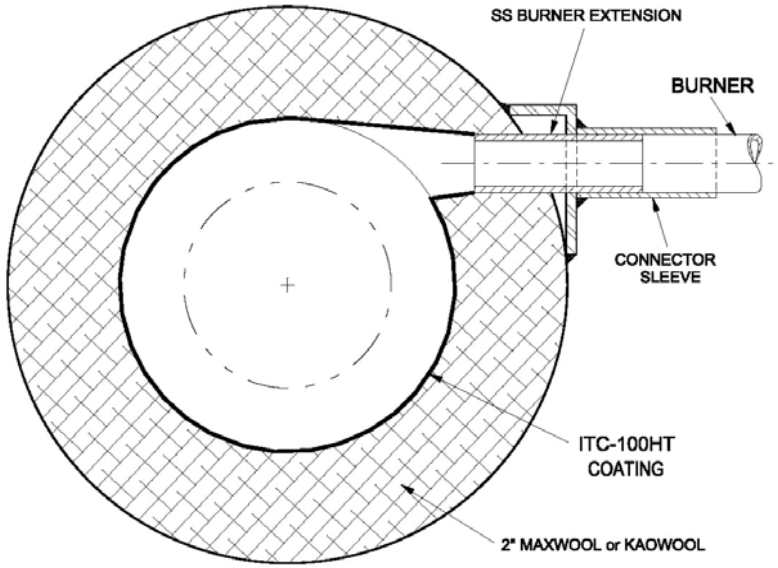

VERTICAL CYLINDER FORGE OR CRUCIBLE FURNACE

anvilfire Black Beauty

P-75

Forge Burner

Made in USA by DEMPSEYS FORGE
4714 Granite Trail, Boonville, NC 27011

anvilfire Black Beauty P-75 Gas Burner Instructions

This burner is designed for use in DIY blacksmith forges, small foundries and burnout furnaces. We do not support other applications.

The P-75 burner is designed to burn propane (LPG) gas with air. Operating pressure is 3 to 25 PSI depending on the application. Operating ambient air temperature is 40 to 100F (4 to 38 Celsius).

The P-75 will fire a forge volume of roughly 300 to 500 cubic inches (5000 to 8200 cm^3) at maximum temperature. Lower temperature furnaces such as burn out ovens can use higher burner to volume ratios. Forges and furnaces work better with doors but must ALWAYS have a vent. Each burner needs a vent area of no less than 3.7 sqin (24 cm^2).

The burner end should be installed with no less than 1" (25mm) of refractory beyond. If the refractory lining is over 2" (50mm) then the burner may extend farther into the refractory.

The hole in the refractory should be no smaller than the outside diameter of the burner and taper outward into the forge/furnace approximately 12° included (total angle).

There are numerous ways to mount the burner. Tabs may be welded to it, a mounting tube with set screws (grub screws) may be used or a piece of angle iron welded to the forge body and a hose clamp holding the burner in the V of the angle. Drawings available on burner sales page.

The fuel connection is a standard 1/4-18 NPT thread. While we all love Teflon® sealing tape it is not recommended for gas lines. It can extrude out the threads and create loose strings of tape in the plumbing that can clog orifices and cause problems. Use it at your own discretion.

We do not provide a flare with our burners. Our burners are not a hand held torch, they go into a stationary device where a flare is not needed (the refractory lining creating the flare/flame holder).

WARNING! Never leave a gas appliance running unattended. Always use your forge/furnace in a well ventilated area. If there is any question about ventilation use a CO (carbon monoxide) detector. DO NOT put your face in front of forge opening when lighting!

BURNER ISSUES:

Most burner issues are installation design errors or operator error. The most common is flash back or fire in the burner. This is usually indicated by a low whistling or roaring noise. Turn the fuel supply off immediately if there is fire in the burner.

Fire in the burner is usually the result of too little fuel flow resulting in the fuel-air mix traveling at less than the flame front velocity. Increase the fuel pressure and relight the furnace. If the problem persists check for obstructions in the furnace and sufficient open vent.

A high pitched fluttering whistle in the burner is some type of debris, usually a string of sealing tape in the orifice.

FORGE TEMPERATURE: Propane burns at approximately 2980 F in air. The slightly pressurized conditions in the forge increase this temperature as does the radiant heat from the forge lining. Gas forges run from 2400 F to 3000 F depending on the forge construction and operation.

WARRANTY: Materials and Construction, 1 Year. Not warranted against burn out due to improper mounting, lack of forge lining maintenance or flash back (burning in mixing tube due to improper operating parameters or installation).