

VARIABLE FLAME GAS BURNERS

MODEL : **VFG**

BULLETIN: 104

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FEATURES

- **1 to 10 milion Kcal/hr**
- **For furnaces, boilers, process heaters, dryers, etc.**
- **Up to 1100 °C**
- **Low NO_x emissivity**
- **Fits the flame to the combustion chamber**
- **Distributes the heat where it's needed**
- **High turndown ratio**
- **By customers request this model can also be desigend in dual fuel.**

Internal parts of **VFG** burner consists of a front refractory ring, a steel alloy as flame stabilizer, and a stainless steel nozzle.

This burner use gas pressure to create a flame shape and heat pattern that is most advantageous for the installation they are firing. A controlled flame shape is desirable in almost any application that is essential in many to realize optimum furnace performance.

VFG burners are used with ambient temperature combustion air on a wide variety of furnaces operating up to 1100 °C. User can manually select optimum flame shape with the flame adjustment, which is an integral part of the gas/oil connection.



Burner Model	Kcal/hr (at 15mbar of Air)	Short Flame (cm)	Long Flame (cm)	Flame diameter (cm)
1,000 VFG	1,000,000	120	420	60
3,000 VFG	3,000,000	180	540	75
6,000 VFG	6,000,000	300	900	90
10,000 VFG	10,000,000	380	1200	100

SHOLEH SANAT ENG. & MFG. CO.

MANUFACTURER OF BURNERS FOR FURNACES

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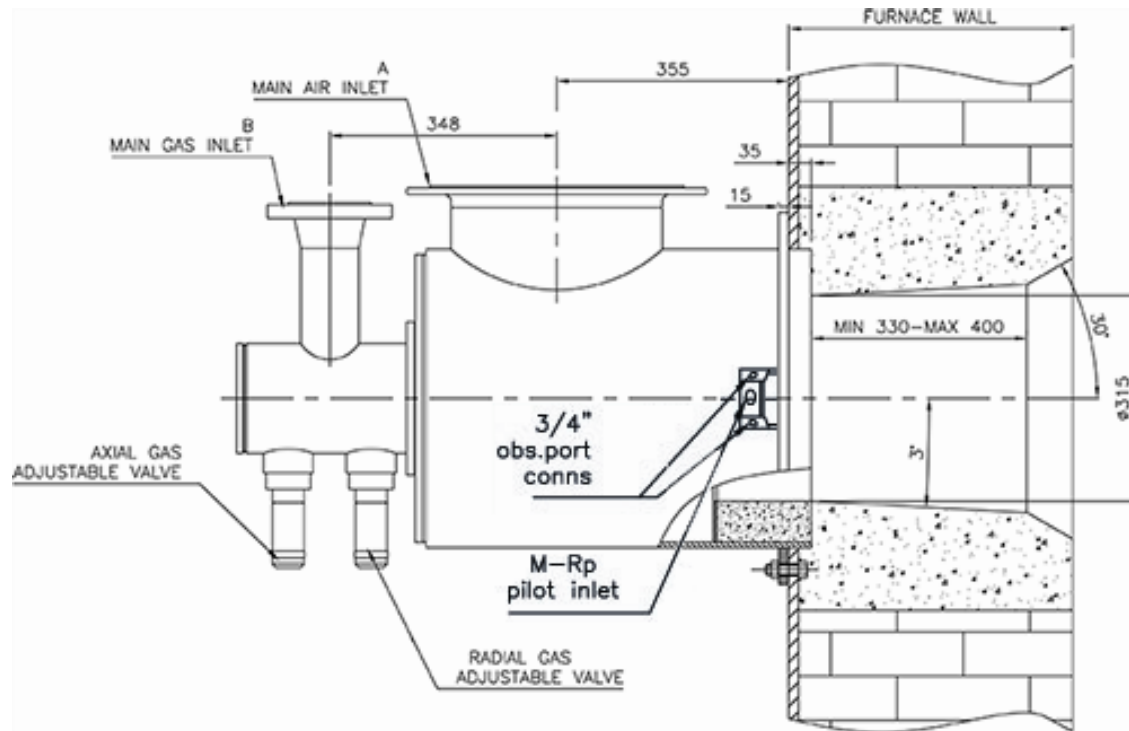
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Burner type Dimension	1000 VFG	3000 VFG	6000 VFG	10000 VFG
A (in)	6	12	12	20
B (in)	2	3	3	4
M (in)	3/4	2	2	2
*Other dimensions in the depiction are only true for 3000 VFG. For detailed dimensions contact Sholeh Sanat.				

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OPERATION

These burners are designed for 15mbar, maximum recommended air pressure. Operation is quiet and the burner is stable over a wide range of air/fuel ratios ranging from 30% fuel rich to 100% excess air at 15mbar. Stoichiometric turndown is 10:1 with 15mbar main air pressure. For multiple burner installations requiring high turndown capability, air adjustable valve should be considered to ensure adequate header pressure for uniform air distribution at low inputs.

PILOT AND FLAME SUPERVISION

Burners are ignited with a nozzle mix pilot. Pilot air pressure must be 16mbar. If flame supervision is used, pilot must be of the interrupted type. UV flame detection is recommended.

Low NOx

The **VFG** Burner is an inherently Low NOx burner in conjunction with other NOx reducing features, it is capable of meeting emission limitations.

BURNER TILE CONSTRUCTION

VFG Burners do not include a tile. Tunnel shapes and recommended installation shown on Dimensions & Installation VFG.

OTHER FUELS

For other gaseous fuels and oils, contact Sholeh Sanat, Sales Engineer.

BURNER ADJUSTMENTS

1. The flame length adjusters are located on the side of the gas inlet connection. Initially set both the short and the long flame adjustment screws equally open.
2. Establish pilot flame.
3. Establish main flame. If main flame can not be established, axial & radial flame adjustment valves should be set on equal positions until a flame is established.
4. With an established flame, drive the system to high fire. Set air/fuel ratio. You may use flame adjustment valves to make the desired flame length. If high fire gas flow can not be reached, open the flame length adjustment valves equally until the proper gas flow is obtained. Correct air/fuel ratio as required.
5. Drive the system to low fire. Set air/fuel ratio.
6. Drive the system to high fire and verify flame length and air/fuel ratio.



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