

# HMB LOW NO<sub>x</sub> HIGH VELOCITY BURNERS

MODEL: 3710

Revision: 0

BULLETIN  
3710

## DESCRIPTION

Pyronics High-Momentum Burners (HMB) are designed for process temperatures up to 2700°F. The burners are equipped with advanced silicon carbide firing tubes and incorporate 2-stage combustion. HMB Burners are available in two nominal capacity sizes: 350,000 BTU/hr and 650,000 BTU/hr.

Specially designed nozzles provide cool NO<sub>x</sub>-inhibiting first stage combustion. Final combustion occurs in the second stage area where combustion products exit at velocities of over 400 fps.

This high velocity drives heat into dense loads and agitates the furnace atmosphere for thorough heat distribution assuring faster through-put.

HMB Burners function well with either cold or preheated combustion air to temperatures of 1000° F.

Light weight SiC firing tubes are self-supporting, eliminating the need for costly and difficult-to-maintain in-furnace support systems. The burners are ideal for installation in either brick or fiber wall furnaces. The burners are easily mounted to the furnace with only four bolts.

The HMB Burner will work with either Ultraviolet or Flame Rod flame detectors. The need to air purge ultraviolet detectors is greatly reduced because the detector is not directly connected to the combustion chamber where condensation can fog the detector's lens.

Direct spark ignition eliminates the need for high maintenance pilots and allows flexibility in designing the control system. Full Modulation, Gas Only Modulation, High-Low, On-Off and Pulse-Firing are all possible with the HMB.

An inlet air orifice can be sized to compensate for preheated combustion air. The HMB will operate at its nominal rating at 20" W. C. whether the combustion air temperature is 60°F or 1000°F by adjusting the size of the inlet air orifice.

The HMB will operate extremely well on most gaseous fuels including Natural Gas, LP Gases, and Clean Manufactured Gases.



## BENEFITS

- Low NO<sub>x</sub> Formation
- High Velocity Flame
- Preheated Air Temperature to 1000°F
- Self-Supporting SiC Burner Tubes
- Direct Spark Ignition
- Flame Rod or Ultra Violet Flame Detection
- Specifically Engineered Air Inlet Orifice

## APPLICATIONS

- Bell or Rectangular Cover Annealing Furnaces
- Sintering Furnaces
- Slot and Box Type Forge Furnaces
- Nonferrous Melting Furnaces

CAUTION: Operation of combustion equipment can be hazardous resulting in bodily injury or equipment damage. Each burner should be supervised by a combustion safeguard and only qualified personnel should install, make system adjustments and perform any required service.



**PYRONICS**  
A Selas Heat Technology Brand

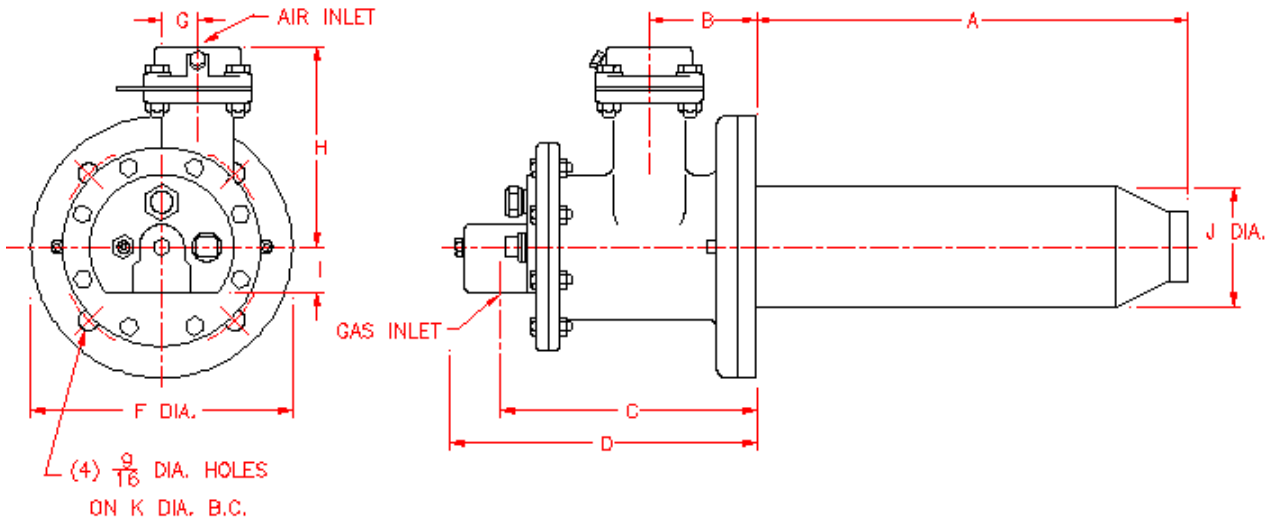
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NOTICE: Pyronics practices a policy of continuous improvement in the design of its products. It reserves the right to change the specifications at any time without prior notice.

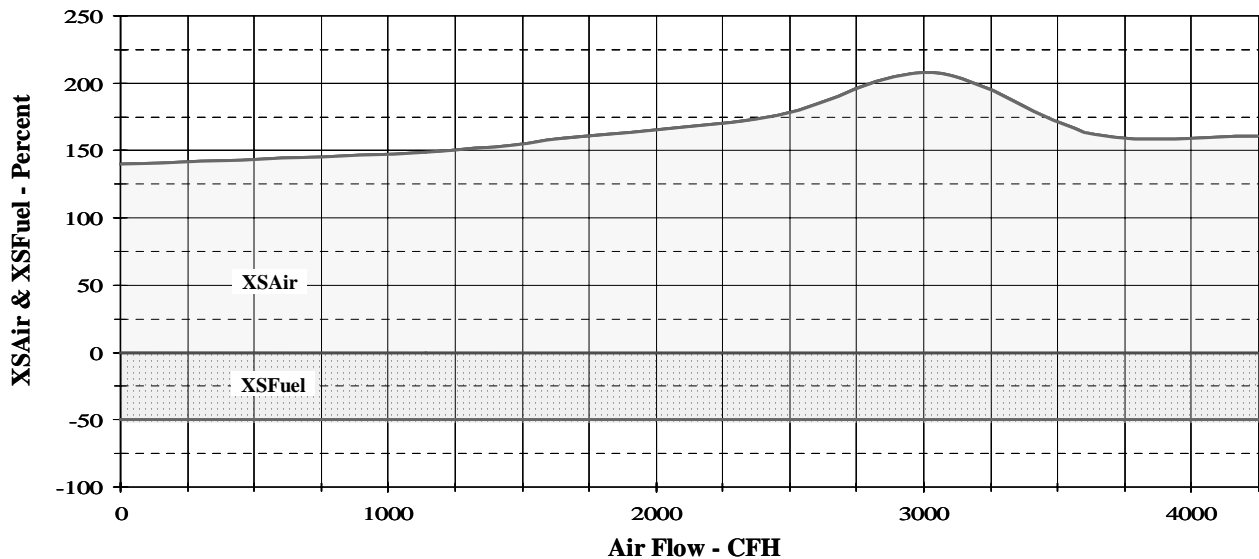
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DIMENSIONS - INCHES & MILLIMETERS														Weight Lbs/Kg
HMB Model	Air Inlet	Gas Inlet	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"	
350	1-1/2	1/2	12	3	7-1/8	8-1/2	3-5/8	7-1/4	1	5-1/2	1-1/4	3-1/4	5-3/4	26
650	2	3/4	12	3-3/8	7-5/8	9	4-1/4	8-1/2	1-1/2	5-5/8	1-1/4	4-1/2	7	34
350	40	12	305	76	181	216	92	184	25	140	32	83	146	12
650	50	20	305	88	194	229	108	216	38	143	32	108	178	15

**350HMB Window of Operation - XSAir and XSFuel Vs. Air Flow  
Cold Air Firing**

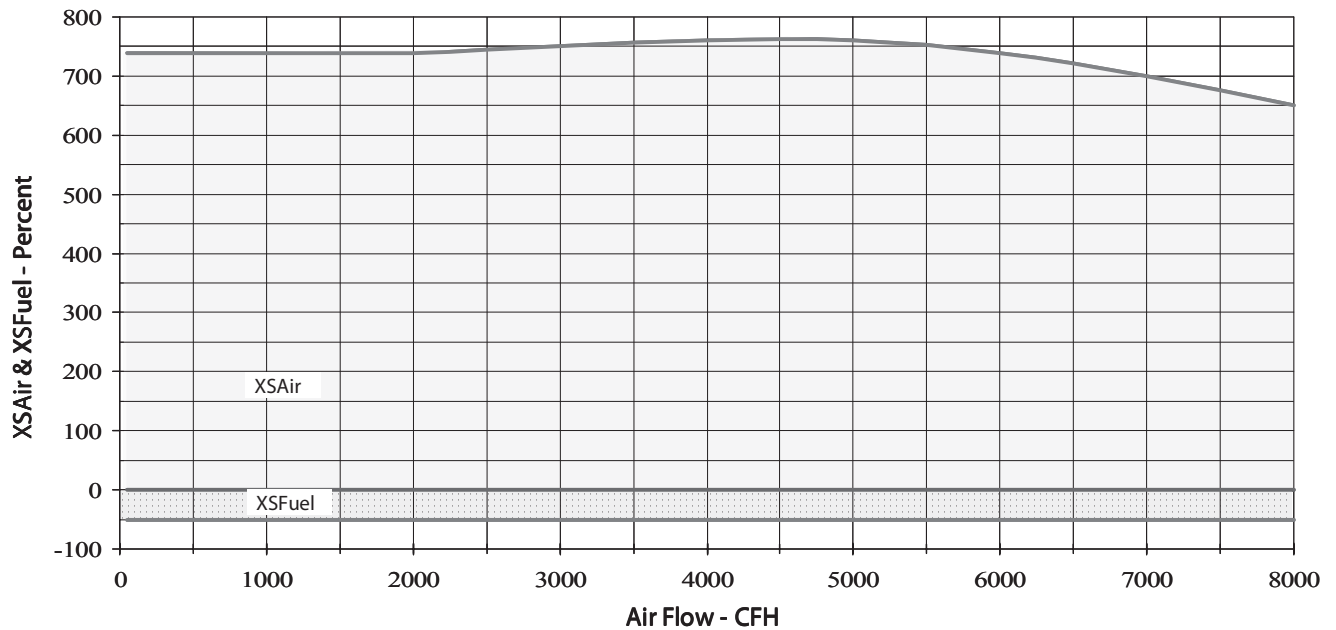


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# HMB LOW NO<sub>x</sub> HIGH VELOCITY BURNERS

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650HMB Window of Operation - XSAir and XSFuel Vs. Air Flow  
Cold Air Firing



## INSTALLATION

See Installation Instruction Bulletin 3711 for detailed mounting instructions for HMB series burners.

## ORDERING INFORMATION

The HMB series burners come complete with the direct spark igniter, peep sight and mounting gasket.

1. Select the model and quantity.
2. Indicate on your purchase order the expected preheated air temperature for proper sized air inlet orifice. If no temperature is indicated, the burner will come with the orifice sized for 60°F air.
3. Indicate if flame rods or ultra violet flame detectors are to be used. Flame rods and UV detectors are not included and must be purchased separately.

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