

Ultra-Low NO_x Pre-Mix Burner

APPLICATIONS:

- Low/moderate temperature heat treat
- Titanium heat treat
- Air heaters/dryers
- Food service
- Other specialized applications

FEATURES:

- Rugged fabricated construction-ideal for heavy duty industrial use
- Short, compact flame
- Moderate nominal velocity of approximately 350 ft/s
- Standard design suitable for operation up to 2,600°F chamber temperature

CAPABILITIES:

- Extremely low NO_x and CO emissions without FGR
- 20% to 60% excess air through burner, additional excess air may be introduced downstream of burner port
- Nominal capacities are available ranging from 0.25 - 1.0 MMBtu/hr. with ability to push to 1.5 MMBtu/hr.
- 5:1 turndown with standard design

NOTE: Due to continual developments in the Bloom Laboratory and results from field research, the applicability of different fuels and other options listed above are constantly being updated. Please consult a Bloom Representative to inquire about the availability of any guidelines/options that are not shown above.



FUEL CAPABILITIES*

Natural Gas \ Other High Btu Gaseous Fuels

*Please Consult a Bloom Representative for availability of other fuel types



BURNER IGNITION

Pilot (recommended) \ Direct Spark \ Manual



CONTROLS

Volumetric Fuel/Air Ratio (recommended) \
Electronically Linked Valves



FLAME MONITORING

UV Detector



OPTIONS

Custom Engineered Designs for Special Applications \
Gas Lance

1230S Series

Ultra-Low NOX Pre-Mix Burner

TABLE 1 - Performance and Selection Chart at Nominal Capacity with 50% Excess Air and 100°F Air Temperature

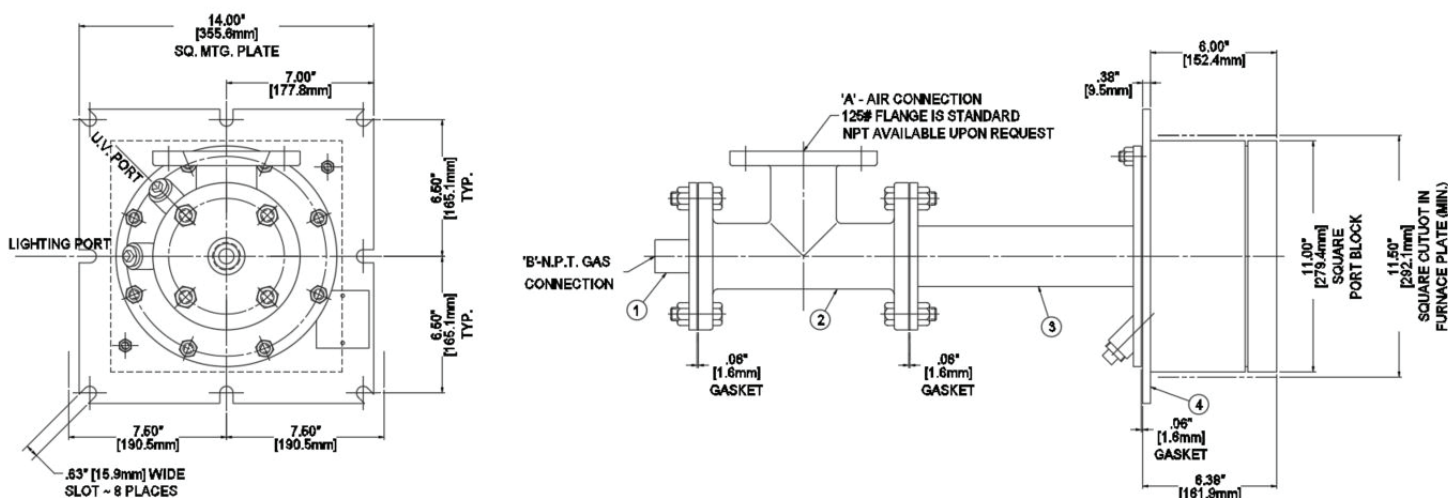
| Burner Designation ¹ 1230S - ____ | Nominal Natural Gas Capacity at 2.5 psig (172 mbar) Fuel Pressure | | Air Capacity at 16.4" w.c. (41 mbar) Air Pressure | | Flame Length ² | | Flame Diameter ² | | Pilot Part Number | Direct Spark Igniter Part Number |
|---|---|---------------------|---|---------------------|---------------------------|----|-----------------------------|----|-------------------|----------------------------------|
| | scfh | Nm ³ /hr | scfh | Nm ³ /hr | inches | cm | inches | cm | | |
| -250 | 250 | 6.7 | 3,750 | 100.5 | 18 | 46 | 3 | 8 | 3001-030 | 3500-123-AA |
| -333 | 333 | 8.9 | 4,995 | 133.9 | 25 | 64 | 3.5 | 9 | 3001-030 | 3500-123-AA |
| -500 | 500 | 13.4 | 7,500 | 201.1 | 30 | 76 | 4 | 10 | 3001-030 | 3500-123-AA |
| -750 | 750 | 20.1 | 11,250 | 301.6 | 34 | 86 | 5 | 13 | 3001-030 | 3500-123-AA |
| -999 | 999 | 26.8 | 14,985 | 401.7 | 36 | 91 | 6 | 15 | 3001-030 | 3500-123-AA |

¹ Burner designation corresponds to the nominal rated capacity in 1,000 Btu/hr. (e.g. 1230S-250 --> 250,000 Btu/hr)

² Flame lengths and diameters are approximate with 50% excess air firing on natural gas

NOTE: Custom designs are available upon request. Please consult a Bloom Representative for more information.

TABLE 2 - Burner Dimensions for Burner Sizes 1230S-250 Through 1230S-999



| General Dimensions (in inches) | | |
|--------------------------------|-------|-----|
| Burner Designation | 'A' | 'B' |
| 1230S-250 | 2 | 1/2 |
| 1230S-333 | 2 | 1/2 |
| 1230S-500 | 2 | 3/4 |
| 1230S-750 | 2 1/2 | 1 |
| 1230S-999 | 2 1/2 | 1 |

| General Dimensions (in millimeters) | | |
|-------------------------------------|-----|-----|
| Burner Designation | 'A' | 'B' |
| 1230S-250 | 50 | 15 |
| 1230S-333 | 50 | 15 |
| 1230S-500 | 50 | 20 |
| 1230S-750 | 65 | 25 |
| 1230S-999 | 65 | 25 |

| Pilot/UV Connection Size | | |
|--------------------------|-------------|-------------|
| Burner Designation | Pilot | UV |
| 1230S-250 | 3/4" N.P.T. | 3/4" N.P.T. |
| 1230S-333 | 3/4" N.P.T. | 3/4" N.P.T. |
| 1230S-500 | 3/4" N.P.T. | 3/4" N.P.T. |
| 1230S-750 | 3/4" N.P.T. | 3/4" N.P.T. |
| 1230S-999 | 3/4" N.P.T. | 3/4" N.P.T. |

CAUTION: The improper use of combustion equipment can result in a condition hazardous to people and property. Users are urged to comply with National Safety Standards and/or Insurance Underwriters recommendations

1230S Series

Ultra-Low NOX Pre-Mix Burner

To REQUEST A QUOTE: Please Contact your local representative at www.bloomeng.com/contact and provide the following information:

| INFORMATION | UNITS |
|--|---|
| General Information: | |
| Application | |
| Burner Input | (MMBtu/hr; kcal/hr; kW) in (HHV or LHV) |
| Quantity of Burners | |
| Ignition Type and Fuel | |
| Main Fuel Information: | |
| Fuel (s) and Heating Value (s) | (Btu/ft3; kcal/Nm3; MJ/Nm3) in (HHV or LHV) |
| Fuel Flow | (scfh; Nm3/hr) |
| Available Fuel Pressure | ("w.c.; psi; mbar; kPa) |
| Fuel Constituents | |
| Combustion Air Information: | |
| Combustion Air Temperature | (°F; °C) |
| Combustion Air Pressure Available | ("w.c.; psi; osi; mbar; kPa) |
| Minimum / Maximum Excess Air Required | (%) |
| Flame Information: | |
| Desired Flame Length | (feet; inches; m; mm) |
| Desired Flame Diameter | (feet; inches; m; mm) |
| Furnace / Combustion Chamber Information: | |
| Wall Thickness | (feet; inches; m; mm) |
| Burner Assembly / Connection Requirements | |
| Furnace / Chamber Dimensions or Drawings for Emissions estimate | |
| POC (Products of Combustion) / Furnace Temperature | (°F; °C) |
| Other Information: | |
| Operational / Control Requirements (i.e. Turndown, Control Type) | |
| Emissions Requirements (NOx, CO) | |
| Chamber Backpressure | |
| Oil / Atomizing Agent Details | |
| Any other special requirements | |

*** NOTE:** Information required to process a quote includes, but may not be limited to, the information specified above. Additional details may ALSO be required to quote a combustion control system.

CAUTION: The improper use of combustion equipment can result in a condition hazardous to people and property. Users are urged to comply with National Safety Standards and/or Insurance Underwriters recommendations

Extend the life of your burners and valves with Bloom Engineering's Aftermarket Repair and Rebuild Service Program

Our aftermarket Repair and Rebuild Service Program delivers the same high-quality Bloom Engineering products at a significant fraction of the cost of new equipment. All of our repairs and rebuilds include an additional one year of warranty coverage. Simply follow the steps below to get started.

1

CONTACT BLOOM ENGINEERING

Email orders@bloomeng.com for your Return Material Authorization (RMA) number. Please provide a brief item description, the part number, quantity, and/or the original order number(s) of the items being returned.

2

RETURN YOUR PRODUCT

After an RMA number has been provided, please ship items **PREPAID** to:

Bloom Engineering Company, Inc.

100 Vista Drive

Charleroi, PA 15022

Attention: REPAIR PROGRAM

MK: RMA# _____ (see step 1 above)

**TO AVOID DELAYS IN PROCESSING YOUR
RETURN, YOU MUST INCLUDE YOUR
RMA NUMBER WHEN YOU SHIP!**

SHIPPING NOTES:

- To ensure the safety of our material handler, please be sure items are securely packaged on a pallet using metal bands.
- Any products unable to be safely unloaded will be returned to the sender.
- Bloom Engineering's receiving hours are M-F 7am-3pm.
- All valves must be cleaned of debris before shipment.
- Removing refractory from burners before shipment to Bloom Engineering will reduce freight costs.
- **Please provide tracking information once available.**

3

INSPECTION AND ASSESSMENT

Once your items have been received, a shop inspection will be scheduled and performed by a Bloom Engineering Technician. Once the assessment is complete, the results of the assessment will be provided to you by your Bloom Engineering contact to determine next steps.

A repair or rebuild estimate will be prepared based on the results of the inspection and the proposal will be sent to the original requester. The price for a new product will also be provided as a comparison to the Repair/Rebuild price. Bloom Engineering will proceed with the Repair/Rebuild based on customer's approval by confirming change order or purchase order.

QUESTIONS?

Please contact orders@bloomeng.com and reference **"REPAIR PROGRAM"** in your email subject line.

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