

## 1500 SERIES SMALL CAPACITY ULTRA<sup>2</sup> LOW NO<sub>x</sub><sup>TM</sup> BURNER

### CAPABILITIES

- Similar design for hot or cold air
- Good turndown with flame characteristics and direction maintained
- Multiple gaseous fuel capabilities including commercial and many by-product fuels



### FEATURES

- Rugged cast unlined construction suitable for air temperature up to 800°F (427°C)
- Ultra<sup>2</sup> Low NO<sub>x</sub><sup>TM</sup> cast metal nozzle that provides outstanding flame stability
- Suitable for operation at furnace temperatures up to 2600°F (1427°C)
- Gas fired pilots or direct spark ignition available

### CONTROL

- Metered flow recommended
- Pressure balanced system is possible

### FLAME MONITORING

- U.V. detector recommended

### APPLICATIONS

- Anneal and pickle line furnaces
- Car type heat treat furnaces
- Forge furnaces
- Plate heat treat furnaces
- Roller hearth furnaces
- Ceramic kilns
- Continuous strip lines
- Tundish and ladle preheat and drying stations
- Tangentially fired batch annealing furnaces

### BURNER IGNITION

- Pilot
- Direct Spark

### OPTION

- Body insulation available

Bloom Engineering's 1500 Series Ultra Low NO<sub>x</sub> air staged burners have specific designs that can be used to operate with hot or cold air. The burner uses a refractory baffle, and the small capacity burner uses a metallic nozzle in addition to air staging to obtain low NO<sub>x</sub> along with burner stability. The baffle provides a stabilization point in the furnace proper, preventing combustion inside the burner body, and serves to shield the burner parts from furnace radiation.

Manufactured under U.S. Patent 6,685,463

**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

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### Air Flow at 20 inches (50 mBar) Water Column

Catalog No. 1500-	Air Flow at 100°F/38°C		Air Flow at 800°F/427°C		Pilot Size	Flame Size length x diameter	
	SCFH	Nm <sup>3</sup> /hr	SCFH	Nm <sup>3</sup> /hr		inches	mm
015	2,789	75	1,859	50	3001-009	33 x 6	800 x 150
020	4,648	125	3,099	83	3001-009	41 x 6	1000 x 150
025	6,973	187	4,649	125	3001-009	44 x 6	1100 x 150
030A	9,297	249	6,178	166	3001-020	51 x 8	1250 x 200
030B	10,782	289	7,188	193	3001-020	53 x 8	1300 x 200
030C	11,832	317	7,888	211	3001-020	54 x 10	1350 x 250
030D	13,945	374	9,297	249	3001-020	54 x 10	1350 x 250
040A	18,593	498	12,395	332	3001-020	60 x 11	1500 x 250
040B	23,242	623	15,495	415	3001-030	68 x 12	1700 x 300
060A	27,890	748	18,593	498	3001-030	95 x 15	2350 x 3750
060B	37,187	997	24,791	665	3001-030	100 x 15	2500 x 3750

The Bloom small capacity 1500 Series burner is designed for gaseous fuels and is suitable for gases having a heating value of approximately 500 Btu per cubic foot (4700 Kcal/m<sup>3</sup>) or greater on all. For designs using a lower heating value, contact your local representative or Bloom Pittsburgh.

The burner is designed for excess air levels in the range of five percent. Nominal capacity ranges from approximately 300,000 to 4 million Btu per hour. For larger inputs use the large capacity 1500 series design. For cold air the burner uses a design air pressure of 20 inches (50 mbar) air and is limited to 20 inches (50 mbar) water column for hot air.

Gas Press Requirement – Natural Gas

Preheated Air – 1.2 psig (80mbar)

Ambient Air – 1.8 psig (120 mbar)

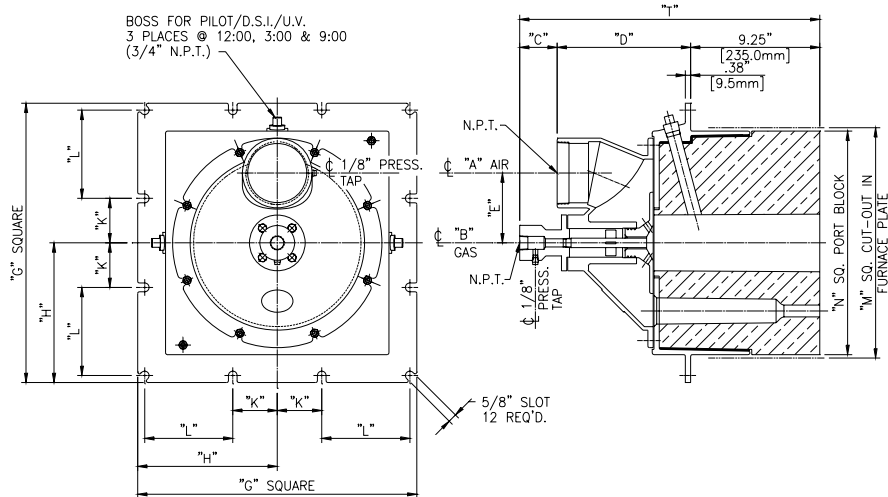
Catalog No. 1500-	Pilot	Optional Direct Spark Igniter*
015-025	3001-009	3500-150-AA
030-040A	3001-020	3500-150-AA
040B-060B	3001-030	3500-150-AA

\*"AA" is air assisted

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## GENERAL DIMENSIONS



Catalog No. 1500-	A	B	C	D	E	G	H	K	L	M	N
015	1 1/2 38	1/2 13	3.44 87	8.19 208	4.0 102	16.0 406	8.0 203	2.50 64	5.0 127	12.50 318	12.0 305
020	2 51	1/2 13	3.75 87	8.19 208	4.0 102	16.0 406	8.0 203	2.50 64	5.0 127	12.50 318	12.0 305
025	2 1/2 64	1/2 13	3.44 87	8.19 208	4.0 102	16.0 406	8.0 203	2.50 64	5.0 127	12.50 318	12.0 305
030A	3 76	3/4 19	3.56 90	8.69 221	4.50 114	18.0 457	9.0 229	2.88 73	5.63 143	14.50 368	14.0 356
030B	3 76	3/4 19	3.56 90	8.69 221	4.50 114	18.0 457	9.0 229	2.88 73	5.63 143	14.50 368	14.0 356
030C	3 76	3/4 19	3.56 90	8.69 221	4.50 114	18.0 457	9.0 229	2.88 73	5.63 143	14.50 368	14.0 356
030D	3 76	3/4 19	3.56 90	8.69 221	4.50 114	18.0 457	9.0 229	2.88 73	5.63 143	14.50 368	14.0 356
040A	4 102	1 25	3.44 87	9.56 243	5.0 127	20.0 508	10.0 254	3.19 81	6.31 160	16.50 419	16.0 406
040B	4 102	1 25	3.44 87	9.56 243	5.0 127	20.0 508	10.0 254	3.19 81	6.31 160	16.50 419	16.0 406

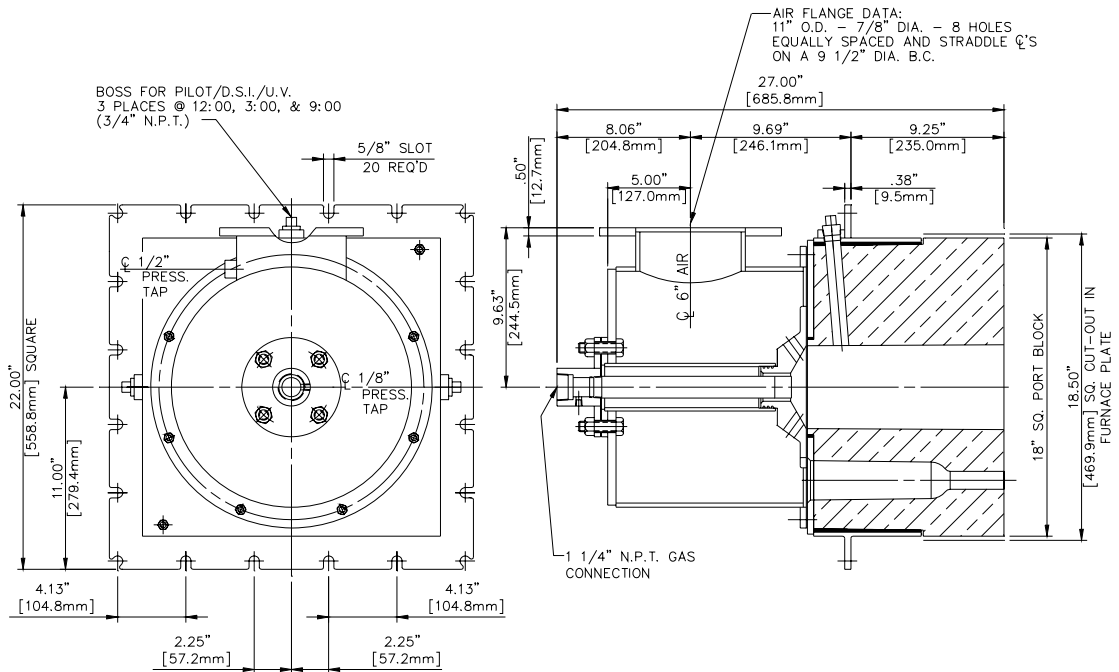
Manufactured under U.S. Patent 6,685,463

**NOTE: GENERAL DIMENSION INFORMATION. SEE BLOOM REPRESENTATIVE FOR CERTIFIED DIMENSIONS FOR CONSTRUCTION.**

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## 1500-060 DIMENSIONS

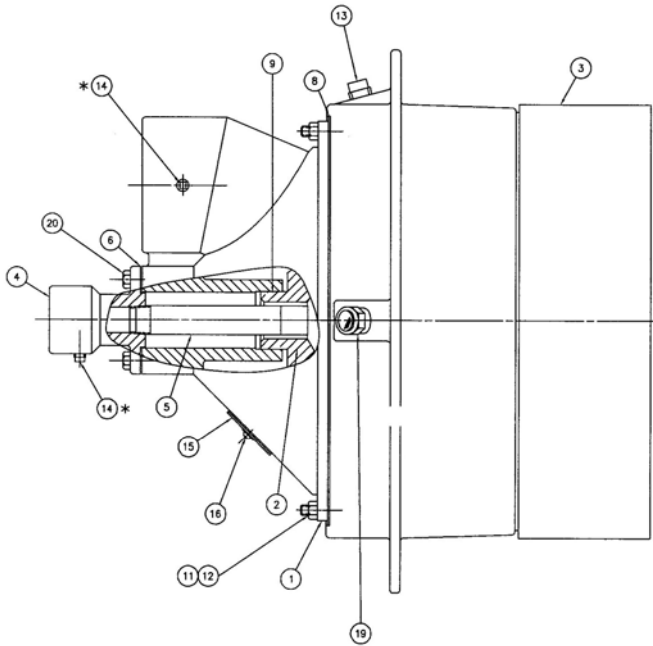


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### PARTS LIST



Number	No. Required	Description
1	1	Burner Body
2	1	Air Nozzle
3	1	Mounting Plate and Block Assembly
4	1	Gas Tee
5	1	Gas Lance
6	1	Gas Tee Gasket
7	1	Nozzle Gasket
8	1	Burner Body Gasket
9	-	Permatex Ultra Copper Sealant
10	6	1/2"-13 unc Hex Nut
11	8	3/8"-16 unc Hex Nut
12	8	3/8" S.A.E. Washer
13	2	3/4" Pipe Plug
14	2	1/8" Pipe Plug
15	1	Nameplate - 2.00" dia.
16	1	#2 x .25" Long Round Head Drive Screw - Type "U"
19	1	3/4" #9653-006 Observation Port
20	4	3/8"-16 unc x 1.00" Long Hex Head Capscrew

Part number must be preceded by catalog number.

*Example:*

To order Part 02 – Air Nozzle

Specify –

1500-020 - 02

(catalog number) (part number)

### APPROXIMATE BURNER WEIGHTS

Catalog No. 1500-	lbs	kg
015	195	88.5
020	195	88.5
025	195	88.5
030	241	109.3
040	360	163.3
060	415	188.2

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