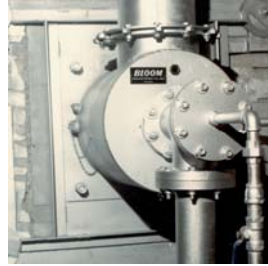


1500 SERIES LARGE CAPACITY ULTRA² LOW NO_xTM BURNER

CAPABILITIES

- High release rates with moderate air pressure
- Good turndown with flame characteristics and direction maintained
- Stable flames can range from highly oxidizing for tempered flame operation to stoichiometric ratio
- Multiple fuel capabilities: most gases and many oils
- Low NO_xTM



FEATURES

- Rugged fabricated construction
- Ultra² Low NO_xTM refractory baffle promotes stabilization point for flame self-supporting stable structure
- Suitable for operation at furnace temperatures up to 2600°F (1427°C)
- Suitable for air temperature up to 1200°F (649°C).
- Dual Fuel

CONTROL

- Volumetric fuel/air ratio control recommended

FLAME MONITORING

- U.V. Detector recommended

APPLICATIONS

- Slab reheating furnaces
- Aluminum melting and holding furnaces
- Ladle dryers
- Billet reheating furnaces
- Ingot heaters
- Air heaters
- Hot metal mixer
- Boilers
- Copper melting and holding furnaces
- Many other applications

BURNER IGNITION

- Pilot
- Direct Spark

Bloom Engineering's 1500 Series Ultra Low NO_x air staged burners have specific designs that can be used to operate with hot or cold air. The large capacity burner has been specifically designed to reduce NO_x emissions. Air and fuel velocities through the baffle have been optimized to create a jet effect at the baffle face that induces furnace gases into the combustion process. By combining the recirculation and air staging approach, the chemical environment in the flame is controlled to reduce peak flame temperatures. This suppresses NO_x formation while maintaining excellent mixing characteristics resulting in exceptionally low carbon monoxide levels and uniform heat release patterns.

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

1500 SERIES LARGE CAPACITY ULTRA² LOW NO_xTM BURNER

HOT AIR

COLD AIR

Hot Air Burners at 800°F / 425°C

Burner Size	Baffle Option	Air Flow at 12" (30 mbar) Inches water Column	
		SCFH	Nm ³ /hr
1500-080	A	56,490	1,514
	B	48,195	1,292
	C	36,540	980
	D	32,655	875
1500-100	A	79,170	2,123
	B	67,830	1,818
1500-120	A	103,950	2,787
	B	90,405	2,424
1500-140	A	133,350	3,575
	B	122,115	3,274
1500-14X	A	167,265	4,484
	B	158,235	4,242
1500-160	A	206,850	5,546
	B	183,750	4,926
1500-180	A	248,640	6,666
	B	226,065	6,061
1500-200	A	293,895	7,879
	B	271,215	7,271
1500-220	A	339,045	9,090
	B	316,470	8,484

Cold Air Burners at 100°F / 37.8°C

Burner Size	Baffle Option	Air Flow at 12" (30 mbar) water Column	
		SCFH	Nm ³ /hr
1500-080	A	64,785	1,737
	B	55,230	1,481
	C	41,790	1,120
	D	37,380	1,002
1500-100	A	90,615	2,429
	B	77,700	2,083
1500-120	A	119,175	3,195
	B	105,000	2,815
1500-140	A	152,775	4,096
	B	139,860	3,750
1500-14X	A	191,625	5,137
	B	173,250	4,645
1500-160	A	236,985	6,353
	B	210,000	5,630
1500-180	A	284,865	7,637
	B	258,930	6,942
1500-200	A	336,630	9,025
	B	310,800	8,332
1500-220	A	388,500	10,416
	B	362,565	9,720

STANDARD

- Suitable up to 1200°F (649°C)
- Open ended gas nozzle, less than 2 w.c. back pressure
- Designed for 5% excess air operation
- Requires 50% excess air for cold start operation up to 1600°F (871°C) furnace temperature

STANDARD

- High pressure gas lance
- High pressure gas nozzle
- Requires 5 psi (345 mbar) gas pressure for burner and separate gas lance (jet)
- Lance gas required is approximately 5% nominal gas flow
- Designed to 5% excess air operation

OPTIONS

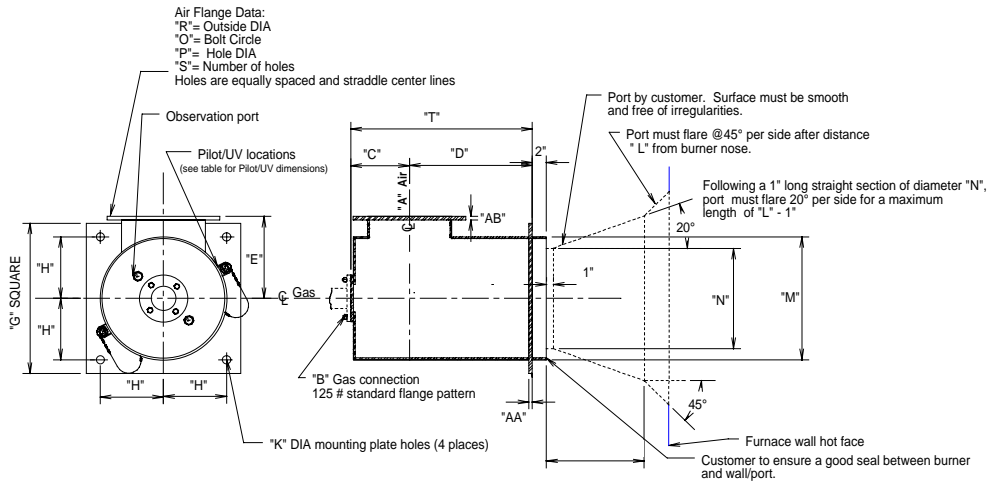
- Clean-outs Doors or Couplings
- Lance for turn down
- Angled air riser
- Angled mounting flange

The hot air Bloom 1500 Series refractory baffle burner is designed for gaseous and liquid fuels and is suitable, without change, for any gas having a heating value of approximately 500 Btu per cubic foot (4700 Kcal/m³) or greater. For designs using a lower heating value, contact your local representative or Bloom Pittsburgh. The Bloom baffle burner will operate equally as well on many oils. For distillate oils, the hot air burner is available with 1800 FET Series atomizer. The 1800 FET series atomizer can be supplied with a retractable design, which permits operation on gas with oil burner in place or retracted.

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1500 SERIES LARGE CAPACITY ULTRA² LOW NO_xTM BURNER

HOT AIR • GENERAL DIMENSIONS



Catalog Number	A	B	C	D	E	G	H	K	M	N	O	P	R	S	T	AA	AB
1500-080	8	1 1/2	6.38 162	11.50 292	10.38 264	20 508	8 203	1.12 28	16 406	12 305	11.75 298	0.88 22	13.50 343	8	17.88 454	0.38 10	0.50 13
1500-100	10	2	7.38 187	13.50 343	11.50 292	22 559	9 229	1.12 28	18 457	14 356	14.25 362	1 25	16 406	12	20.88 530	0.50 13	0.50 13
1500-120	12	2 1/2	8.38 213	15.50 394	12.50 318	24 610	10 254	1.12 28	20 508	16 406	17 432	1 25	19 483	12	23.88 607	0.50 13	0.50 13
1500-140	14	2 1/2	9.38 238	17.50 445	13.50 343	26 660	11 279	1.12 28	22 559	18 457	18.75 476	1.13 29	21 533	12	26.88 683	0.50 13	0.50 13
1500-14X	14	3	9.38 238	18.50 470	14.50 368	28 711	12 305	1.12 28	24 610	20 508	18.75 476	1.13 29	21 533	12	27.88 708	0.50 13	0.50 13
1500-160	16	4	10.38 264	20.50 521	15.50 394	30 762	13 330	1.12 28	26 660	22 559	21.25 540	1.13 29	23.50 597	16	30.88 784	0.50 13	0.50 13
1500-180	18	4	11.38 289	22.50 572	16.50 419	32 813	14 356	1.38 35	28 711	23.76 604	22.75 578	1.25 32	25 635	16	33.88 861	0.62 16	0.50 13
1500-200	20	4	12.38 314	24.50 622	17.76 451	35 889	15 381	1.38 35	30 762	26 660	25 635	1.25 32	27.50 699	20	36.88 937	0.62 16	0.50 13
1500-220	22	4	13.38 340	26.50 673	18.76 477	37 940	16 406	1.50 38	32 813	28 711	27.25 692	1.38 35	29.50 749	20	39.88 1013	0.62 16	0.50 13

Inches in Black and mm in Blue

Pilot / UV Connection Dimensions

1500-	Pilot Coupling	UV Coupling
080-14X	1 1/4" NPT R 1 1/4"	3/4" NPT R 3/4"
160-220	1 1/2" NPT R 1 1/2"	3/4" NPT R 3/4"

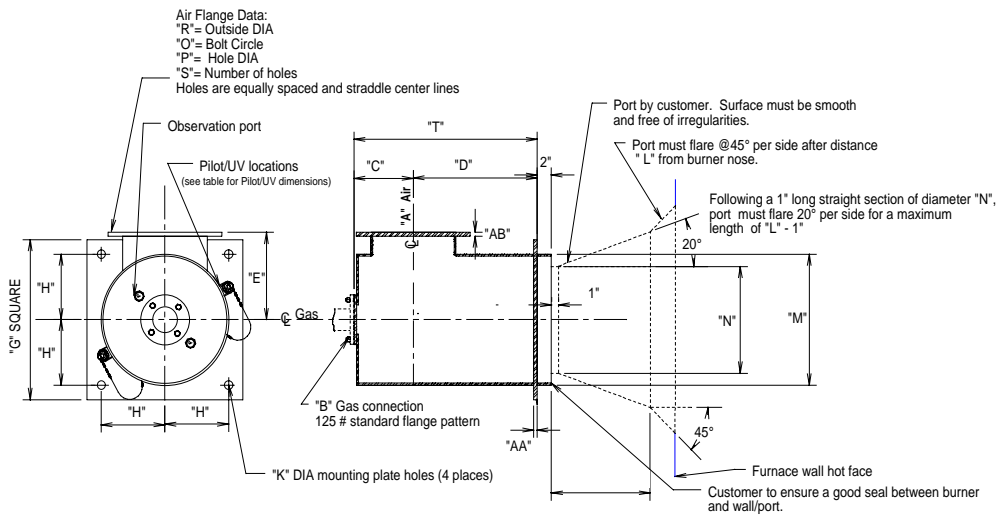
Pilot and UV are in a "piggyback" configuration. The pilot is located in front of the UV with respect to the nose of the burner.

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

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1500 SERIES LARGE CAPACITY ULTRA² LOW NO_xTM BURNER

COLD AIR • GENERAL DIMENSIONS



Catalog Number	A	B	C	D	E	G	H	K	M	N	O	P	R	S	T	AA	AB
1500-080	8	1 1/2	6.38 162	12.88 327	10.38 264	20.00 508	8.00 203	1.12 28	16.00 406	12.00 305	11.75 298	0.88 22	13.50 343	8	19.25 489	0.38 10	0.50 13
1500-100	10	2	7.38 187	15.13 384	11.50 292	22.00 559	9.00 229	1.12 28	18.00 457	14.00 356	14.25 362	1 25	16.00 406	12	22.50 572	0.50 13	0.50 13
1500-120	12	2 1/2	8.38 213	17.38 441	12.50 318	24.00 610	10.00 254	1.12 28	20.00 508	16.00 406	17.00 432	1 25	19.00 483	12	25.75 654	0.50 13	0.50 13
1500-140	14	2 1/2	9.38 238	19.50 495	13.50 343	26.00 660	11.00 279	1.12 28	22.00 559	18.00 457	18.75 476	1.13 29	21.00 533	12	28.88 733	0.50 13	0.50 13
1500-14X	14	3	9.38 238	20.75 527	14.50 368	28.00 711	12.00 305	1.12 28	24.00 610	20.00 508	18.75 476	1.13 29	21.00 533	12	30.13 765	0.50 13	0.50 13
1500-160	16	4	10.38 264	23.00 584	15.50 394	30.00 762	13.00 330	1.12 28	26.00 660	22.00 559	21.25 540	1.13 29	23.50 597	16	33.38 848	0.50 13	0.50 13
1500-180	18	4	11.38 289	25.25 641	16.50 419	32.00 813	14.00 356	1.38 35	28.00 711	23.76 604	22.75 578	1.25 32	25.00 635	16	36.63 930	0.62 16	0.50 13
1500-200	20	4	12.38 314	27.38 695	17.76 451	35.00 889	15.00 381	1.38 35	30.00 762	26.00 660	25.00 635	1.25 32	27.50 699	20	39.75 1010	0.62 16	0.50 13
1500-220	22	4	13.38 340	29.63 752	18.76 477	37.00 940	16.00 406	1.50 38	32.00 813	28.00 711	27.25 692	1.38 35	29.50 749	20	43.00 1092	0.62 16	0.50 13

Inches in Black and mm in Blue

Pilot / UV Connection Dimensions

1500-	Pilot Coupling	UV Coupling
080-14X	1 1/4" NPT R 1 1/4"	3/4" NPT R 3/4"
160-220	1 1/2" NPT R 1 1/2"	3/4" NPT R 3/4"

Pilot and UV are in a "piggyback" configuration. The pilot is located in front of the UV with respect to the nose of the burner.

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

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1500 SERIES LARGE CAPACITY ULTRA² LOW NO_xTM BURNER

FLAME GEOMETRIES

Air Pressure – 12" (30 mBar) water column					
Capacity		Flame Length		Flame Diameter	
MM BTU/hr	MM Kcal/hr	feet	m	feet	m
4	1.0	6.0	1.8	2.0	0.6
6	1.5	8.0	2.4	2.5	0.8
8	2.0	10.0	3.0	2.5	0.8
10	2.5	12.0	3.7	3.0	0.9
12	3.0	13.5	4.1	3.0	0.9
14	3.5	15.0	4.6	3.0	0.9
16	4.0	16.0	4.9	3.0	0.9
18	4.5	17.0	5.2	3.5	1.1
20	5.0	18.0	5.5	3.5	1.1
24	6.0	20.0	6.1	4.0	1.2
28	7.1	22.0	6.7	4.0	1.2
32	8.1	23.5	7.2	4.0	1.2

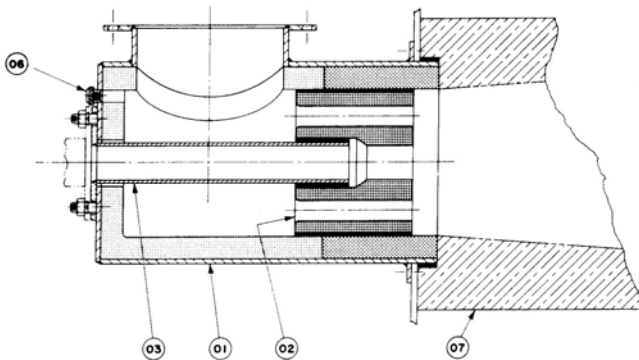
Catalog No. 1500-	Pilot	Optional Direct Spark Igniter*
080-14X	3001-100	3500-150-AA
160-220	3001-150	3500-150-AA

**AA" is air assisted

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1500 SERIES LARGE CAPACITY ULTRA² LOW NO_xTM BURNER

PARTS LIST



Part Number	Description
01	Body
02	Baffle
03	Nozzle Assembly
06	Observation Port
07	Port Block

Part number must be preceded by catalog number.

Example:

To order Part 02 – Baffle

Specify –

1500-080 - 02

(catalog number) (part number)

APPROXIMATE BURNER WEIGHTS

Catalog No. 1500-	lbs	kg
080	265	120.2
100	364	165.1
120	480	217.7
140	680	308.4
14x	720	326.6
160	780	401.4
180	885	555.7
200	1490	675.9
220	1755	796.0

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