

1550 SERIES LUMIFLAME® ULTRA³ LOW NO_xTM HOT OR COLD AIR BURNER

CAPABILITIES

- High heat release rates with moderate air pressure
- Good turndown characteristics
- Stable operation from cold start up through normal operating temperature
- Stable operation with high excess air through ratio firing
- Low NO_x operation regardless of furnace temperature
- Luminous, well formed and directed flame



FEATURES

- Rugged fabricated construction
- Refractory baffle insures stable operation, shields burner internals from radiation, is self supporting and adds support for the nozzle
- Heat resistant alloy, air cooled and insulated nozzle used for hot air
- Suitable for furnace temperatures up to 2600°F (1427°C)
- Provisions for UV monitoring

NO_x CONTROL METHODS

- Baffle Design
- Nozzle Configuration
- Port Geometry
- Adjustable Air Staging
- No requirement for external exhaust gas recirculation

APPLICATIONS

- Continuous Reheat Furnaces
- Aluminum Melters and Holders
- Glass Melters
- Forge Furnaces
- Car Type Heat Treating Furnaces
- Ladle Heaters
- Many Others

EMISSIONS

- Lowest NO_x emissions and no need for external exhaust gas recirculation
- Low CO emissions which are often undetectable
- Low hydrogen concentrations

FUEL CAPABILITIES

- Natural Gas
- Commercial Gases
- Many By-product Gases
- Most Fuel Oils including #6 Oil

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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Unique Features

Bloom's 1550 Series of burners is designed for hot or cold air use. NO_x emission levels from these burners are as much as 70% lower than other low NO_x burners. The stability of this burner allows it to operate at normal air/fuel ratios from start-up through furnace operating temperature. Because Bloom's low NO_x baffle is used at all points in the cycle, the burner has outstanding NO_x capabilities from start-up through maximum operating temperature.

Burner Operation and Stability

This burner uses Bloom's renowned baffle concept to achieve stabilization and low NO_x even in cold furnaces. The baffle design incorporates adjustable air staging for NO_x reduction. When starting up, a portion of the combustion air is used for first stage combustion. The remaining air passes through the low NO_x outer baffle. After a suitable furnace temperature is reached, the inner burner may be shut off with only nozzle cooling air passing down the center of the burner. All fuel is introduced through a single center nozzle.

CO and Hydrogen Emissions

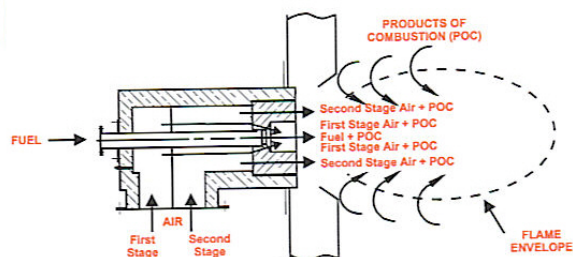
Because Bloom has maintained its baffle design with all of the gas introduced through a center gas tube, exceptionally low carbon monoxide emissions are achieved. Carbon monoxide will be below 50 ppm and is often virtually undetectable at normal operating conditions. Hydrogen concentrations are approximately the same as CO. The low carbon monoxide and hydrogen emissions protect the product from tight scale of hydrogen absorption.

Flame Characteristics

The low NO_x baffle and port geometry cause large volumes of furnace gases to mix with the flame which is the primary mechanism for retarding NO_x production. The effect is to utilize flameless oxidation techniques. Bloom's unique design, however, maintains a luminous flame. Flame geometry and direction is excellent throughout its operating range.

Mechanical Features

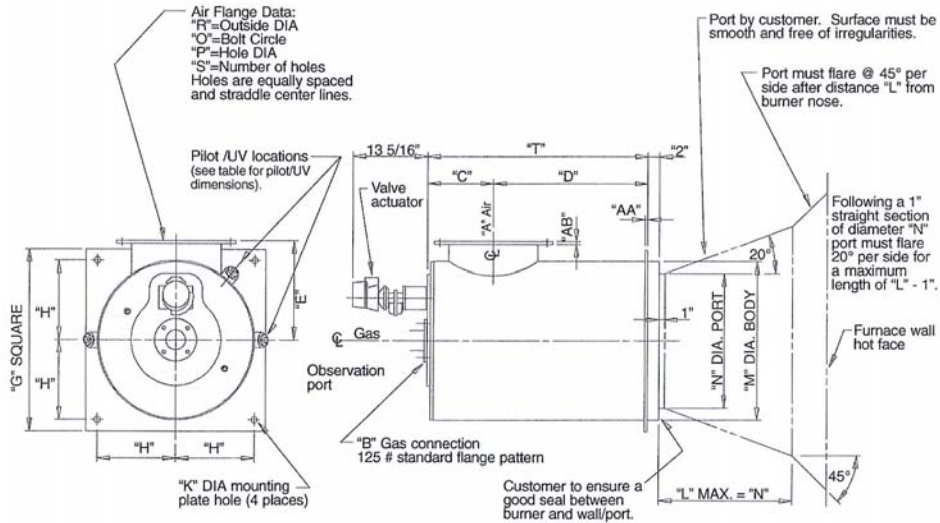
This burner retains all of the baffle advantages for which Bloom has become famous. The baffle is a radiation shield between the furnace and the burner internals. It insures exceedingly stable operation with low maintenance cost characteristics and it provides a support for the nozzle. Rugged, low maintenance construction is used throughout.



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GENERAL DIMENSIONS



Catalog No. 1550-	General Dimensions (inches/mm)																
	A	B	C	D	E	G	H	K	M	N	O	P	R	S	T	AA	AB
012	8	1.5	6.75	19.25	10.38	20	8	1.13	16	12	10	.63	10.81	8	26	.38	.5
	DN200	38	171	489	264	508	203	29	406	305	254	16	275	203	660	10	13
014	10	1.5	7.75	20.75	11.5	22	9	1.13	18	14	12.25	.75	14.06	12	28.5	.5	.5
	DN250	38	197	527	292	559	229	29	457	356	311	19	357	305	724	13	13
016	12	2	8.75	22.25	12.5	24	10	1.13	20	16	14.25	.75	16.06	12	31	.5	.5
	DN300	51	222	565	318	610	254	29	508	406	362	19	408	305	787	13	13
018	14	2.5	9.38	24.13	13.5	26	11	1.13	22	18	16.25	.75	18.06	12	33.5	.5	.5
	DN350	64	238	613	343	660	279	29	559	457	413	19	459	305	851	13	13
020	14	2.5	9.38	26.63	14.5	28	12	1.13	24	20	16.25	.75	18.06	12	36	.5	.5
	DN350	64	238	676	368	711	305	29	610	508	413	19	459	305	914	13	13
022	16	3	10.38	28.13	15.5	30	13	1.13	26	22	19.25	.75	21.25	16	38.5	.5	.5
	DN400	76	264	715	394	762	330	29	660	559	489	19	540	406	978	13	13
024	18	3	11.38	29.63	16.5	32	14	1.38	28	24	21.25	.75	23.25	16	41	.63	.5
	DN350	76	289	753	419	813	356	35	711	610	540	19	591	406	1041	16	13
026	20	4	12.38	31.13	17.75	35	15	1.38	30	26	23.13	.75	25.25	20	43.5	.63	.5
	DN500	102	314	791	451	889	381	35	762	660	588	19	641	508	1105	16	13
028	22	4	13.38	32.63	18.75	37	16	1.38	32	28	26	.75	28.25	20	46	.63	.5
	DN600	102	340	829	476	940	406	35	813	711	660	19	718	508	1168	16	13

Pilot / UV Connection Dimensions		
Catalog No. 1550-	Pilot Coupling (npt)	UV Coupling (npt)
012-020	1 ¼"	2"
022-028	1 ½"	2"

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