

1150 SERIES ULTRA³ LOW NO_xTM LUMIFLAME REGENERATIVE BURNER



APPLICATIONS

- Continuous and batch reheating furnaces
- Non-ferrous melting and holding furnaces
- Aluminum melters and holders
- Forge furnaces
- Glass melters
- Heat treating furnaces
- Ladle heaters
- Many others

CAPABILITIES

- World leading low NO_x technology
- Reduced carbon monoxide and carbon dioxide emissions
- Increased production from existing furnaces
- Excellent turndown
- Custom engineered for the application
- High heat release rates with moderate air pressure
- Stable operation with high excess air through ratio firing
- Stable operation in regenerative mode at any operating temperature
- Low NO_x operation regardless of furnace temperature
- Luminous, well formed and directed flame

The 1150 Series LumiFlame Regenerative Burner is the most advanced development in low NO_x combustion technology and fuel efficiency. High fuel efficiency is achieved through regeneration using a pair of burners which cycle to alternately heat the combustion air or recover and store the heat from the furnace exhaust gases. When one burner is firing, the other is exhausting the furnace gases. Exhaust gases pass through the burner body and into a media case, which contains refractory material. The refractory media is heated by the exhaust gases, thus recovering and storing energy from the flue products. When the media bed is fully heated, the burner currently firing is turned off and begins to exhaust the flue products. The burner with the hot media bed begins firing. Combustion air passes through the media bed and is heated by the hot refractory. Air preheat temperatures within 300°F (149°C) of the products of combustion are achieved resulting in exceptionally high thermal efficiency.

MANUFACTURED UNDER U.S. PATENT NO. 5,180,300

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

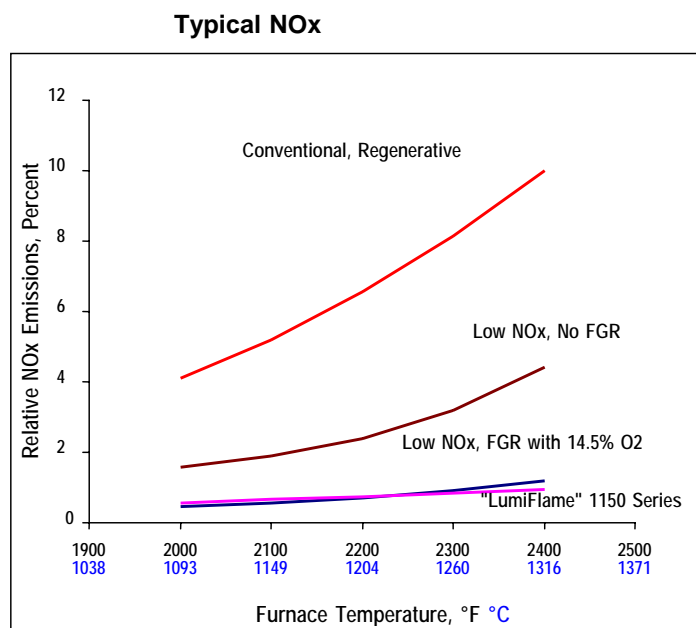
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FEATURES

- Burner design is the most reliable available
- Utilizes patented environmental control technology
- Rugged fabricated construction
- Patented refractory baffle insures stable operation, shields burner internals from radiation, is self supporting and adds support for the nozzle
- Air cooled and insulated nozzle
- Suitable for furnace temperatures up to 2600°F (1427°C)
- Provisions for UV monitoring
- Reliability of cycling components
- Extended periods between bed cleanings
- Flame luminosity while incorporating the NO_x reducing principles
- Excellent flame formation and direction
- Cold start-up stability
- No exhaust gas recirculation requirement
- Multiple fuels including natural, coke oven and LP gas, most liquid fuel including #6 oil
- Quick change option
- Quick opening door option

UNIQUE FEATURES

Bloom's 1150 Series burners is designed for regenerative use. NO_x emissions levels from these burners with no external gas recirculation (FGR) are the equivalent of other low NO_x regenerative burners using FGR at dilution levels of 14.5% O₂ as shown in the following graph.

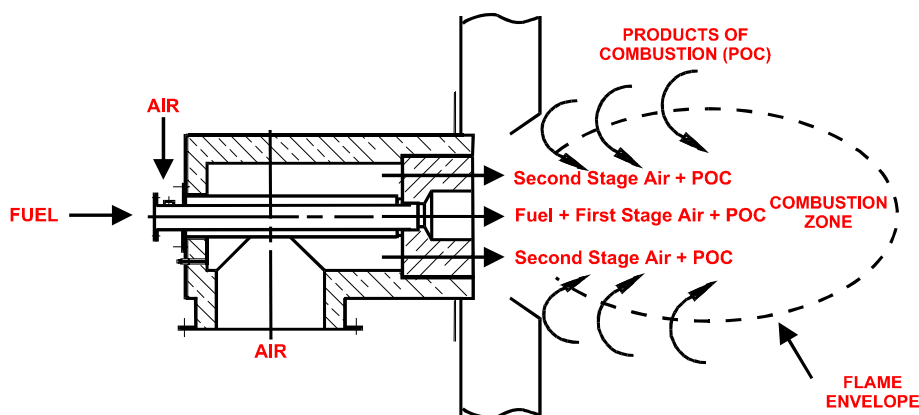


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BLOOM'S LUMIFLAME BURNER FEATURES

A unique two-stage air design combined with baffle and port geometry optimization produce these features. First stage air adjustability provides cold stability while allowing second stage airflow to be optimized at higher temperatures. LumiFlame utilizes Bloom's renowned baffle approach to air/fuel mixing.



FLAME INFORMATION

The flame envelope must be free from obstructions in order to achieve the low NO_x benefits of the burner. Additionally, any modifications to the burner intended to shorten the envelope will increase the predicted NO_x.

Flame Dimensions for Nominal Capacities 20.9% Oxygen in Combustion Air 10% Excess Air								
Catalog No. 1150-	Nominal Capacities		Standard Port ID		Expected Flame Length		Expected Flame Diameter	
	SCFH	Nm ³ /hr	inches	mm	feet	m	feet	m
025	27,500	737	11.5	292	6.5	1.98	2.0	0.61
050	55,000	1,475	16.0	406	8.5	2.59	2.5	0.76
075	82,500	2,212	20.0	508	10.0	3.05	3.0	0.93
100	110,000	2,949	22.5	572	11.5	3.51	4.0	1.22
150	165,000	4,424	27.5	699	14.0	4.27	4.5	1.37
200	220,000	5,898	32.0	813	16.0	4.88	5.0	1.52
250	275,000	7,373	35.5	902	17.5	5.33	6.0	1.83

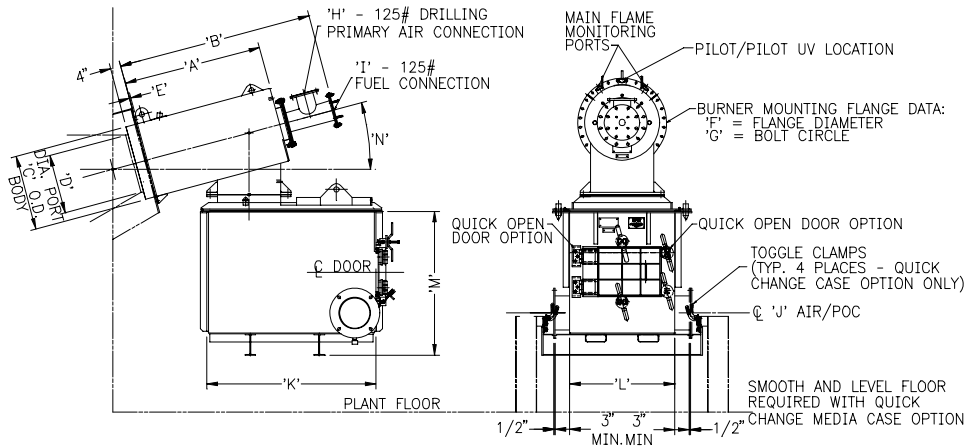
COMPRESSED AIR CONSUMPTION

025 to 150 = 1 cfm/actuator design

200 to 250 = 2.5 cfm/actuator design

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***Aluminum standard 10° down**

Burner Size 1150-	Maximum Burner Capacity		Burner Dimensions (Inches, mm)																	
	SCFH	Nm ³ /hr	A		B		C		D		E		F		G		H		I	
	025	41,250	1106	35.00	889	45.00	1143	17.50	445	11.50	292	0.38	10	22.50	572	20.75	527	2.50	64	1.50
050	82,500	2212	38.00	965	54.00	1372	22.00	559	16.00	406	0.38	10	27.00	686	25.25	641	3.00	76	2.00	51
075	123,750	3138	38.00	965	58.00	1473	26.00	660	20.00	508	0.50	13	31.25	794	29.50	749	6.00	152	2.50	64
100	165,000	4424	55.00	1397	74.00	1880	28.50	724	22.50	572	0.50	13	33.75	857	32.00	813	6.00	152	3.00	76
150	247,500	6635	54.00	1372	75.00	1905	33.50	851	27.50	699	0.50	13	39.50	1003	37.38	949	6.00	152	4.00	102
200	330,000	8847	56.00	1422	78.00	1981	38.00	965	32.00	813	0.50	13	44.00	1118	41.88	1064	8.00	203	4.00	102
250	412,500	11059	57.00	1448	78.00	1981	41.50	1054	35.50	902	0.50	13	47.50	1207	45.38	1153	8.00	203	4.00	102

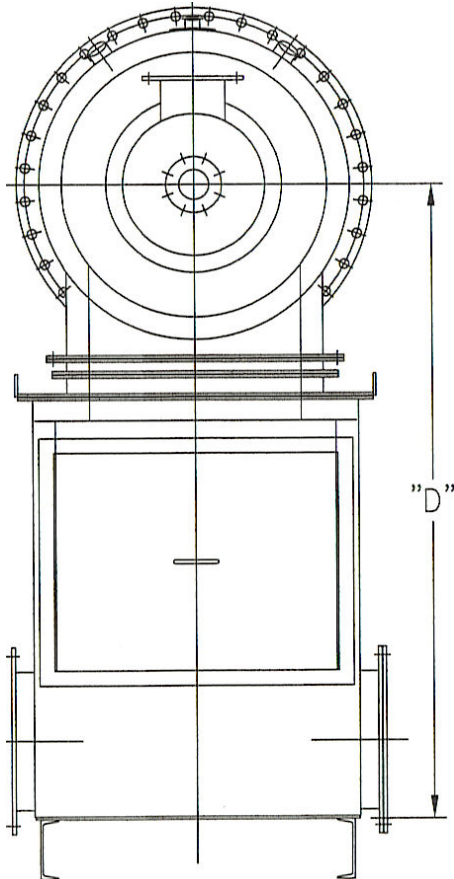
Media Case Size	Maximum Case Capacity		Media Case Dimensions (Inches, mm)							
	SCFH	Nm ³ /hr	J		K		L		M	
	025	27,500	737	6.0	152	31.0	787	21.0	533	40.0
050	55,000	1,475	8.0	203	34.0	864	30.0	762	46.0	1168
075	82,500	2,212	8.0	203	48.0	1219	30.0	762	47.0	1194
100	11,000	2,949	10.0	254	54.0	1372	34.0	864	54.0	1372
150	165,000	4,424	12.0	305	64.0	1626	40.0	1016	57.0	1448
200	220,000	5,898	14.0	356	76.0	1930	45.0	1143	58.0	1473
250	275,000	3,737	16.0	406	81.0	2057	52.0	1321	64.0	1626

MANUFACTURED UNDER U.S. PATENT NO. 5,180,300

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

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Dimension from centerline of burner to bottom of case.
Not including support structure as shown on drawing.

Catalog No. 1150-	"D"	
	inches	m
025	48.13	1.22
050	53.88	1.37
075	60.00	1.52
100	64.88	1.65
150	72.13	1.83
200	78.88	2.00
250	85.00	2.16

APPROXIMATE BURNER WEIGHTS

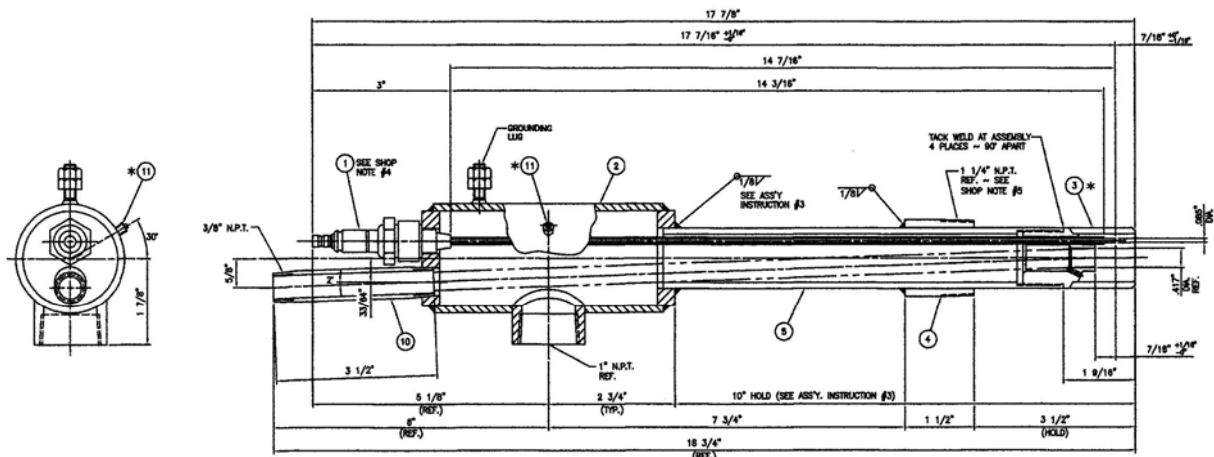
Catalog No. 1150-	Total Weight		Burner Head		Media Case w/ Media		Media	
	lbs	kg	lbs	kg	lbs	kg	lbs	kg
025	2110	957	620	281	1490	676	440	200
050	3600	1633	1295	587	2305	1046	880	399
075	4830	2191	1400	635	3430	1556	1265	574
100	6410	2908	2225	1009	4185	1898	1760	798
150	9815	4452	3150	1429	6665	3023	2475	1123
200	11805	5355	3695	1676	8110	3679	3740	1696
250	13980	6341	4575	2075	9405	4266	4785	2170

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MODEL #3001-050 LANCE PILOT WITH OFFSET IGNITOR FOR 1150-025 TO 1150-075



Number	No. Required	Description
1	1	Auburn 1-33 Ignitor Rod Assembly (spec length)
2	1	Ignitor Tee
3	1	3001-050 Pilot Assembly
4	1	Special Bushing
5	1	Ignitor Tube
10	1	3/8" Sch. 40 Pipe (.675" o.d. x .493" u.d.) x 3 1/2" lg
11	1	1/8" Pipe Plug
		~Items Not Shown~
21	-	High Temp Thread Lubricant
		Approximate Weight: 6 lbs (2.72 kg) Connection: 1 1/4" (31.75 mm)

Part number must be preceded by catalog number

Example:

To order Part 01 – Auburn 1-33 Ignitor Rod Assembly

Specify –

3001-050 - 01

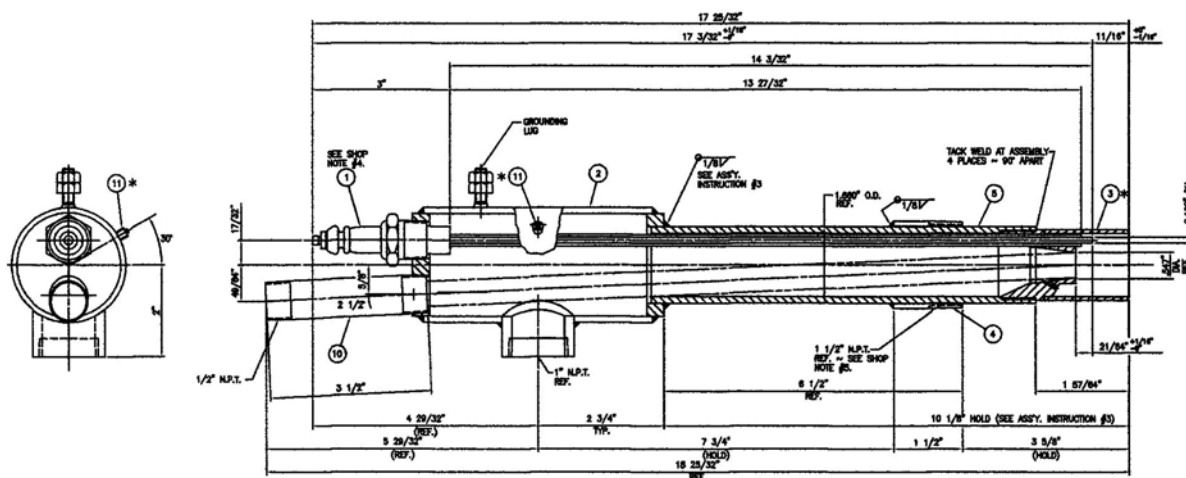
(catalog number) (part number)

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MODEL #3001-100 LANCE PILOT WITH OFFSET IGNITOR FOR 1150-100 TO 1150-250



Number	No. Required	Description
1	1	Auburn 1-6 Ignitor Rod Assembly (spec length)
2	1	Ignitor Tee
3	1	3001-100 Pilot Assembly
4	1	Special Bushing
5	1	Ignitor Tube
10	1	1/2" Pipe Nipple x 3 1-2" lg
11	1	1/8" Pipe Plug
		~Items Not Shown~
21	-	High Temp Thread Lubricant
		Approximate Weight: 7 lbs (3.18 kg) Connection: 1 1/2" (38.10 mm)

Part number must be preceded by catalog number

Example:

To order Part 01 – Auburn 1-6 Ignitor Rod Assembly

Specify –

3001-100 - 01

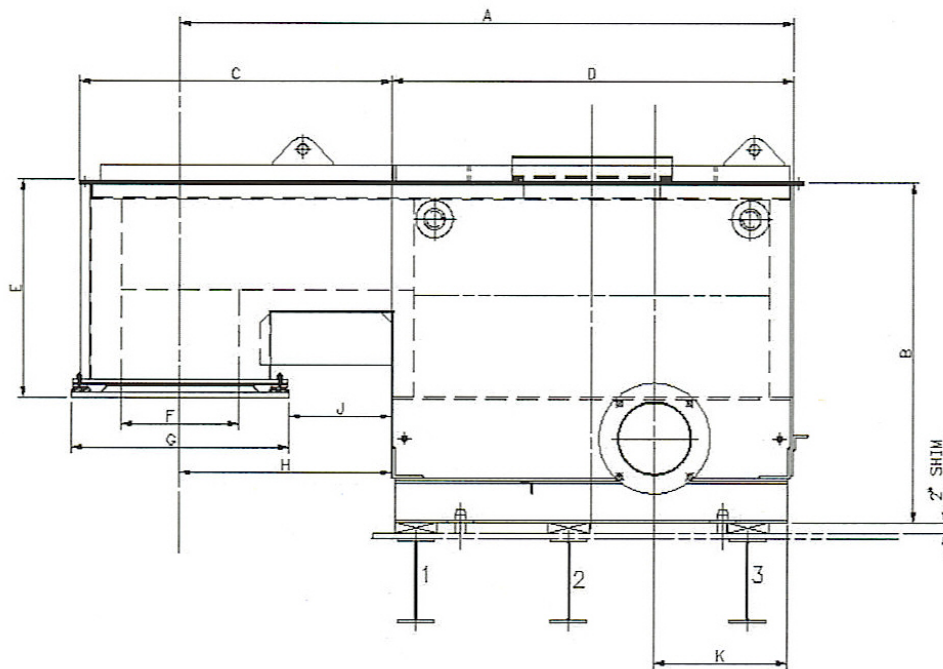
(catalog number) (part number)

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ROOF MOUNTED MEDIA CASE



Catalog No. 1100- 1150-	Dimensions (inches/mm)										Approximate Weight	
	A	B	C	D	E	F	G	H	J	K	lbs	kg
025	59.75	47.0	38.5	33.75	31.0	9.0	28.0	26.0	12.0	11.0	3180	1442
	1518	1194	978	857	787	229	711	660	305	279		
050	64.25	55.0	42.13	36.5	34.0	12.63	31.63	27.75	12.0	12.0	4160	1887
	1632	1397	1070	927	864	321	803	705	305	305		
075	80.0	54.5	45.0	50.75	36.0	15.5	34.5	29.25	12.0	12.0	5180	2350
	2032	1384	1143	1289	914	394	876	743	305	305		
100	86.75	62.5	47.5	56.25	38.0	18.0	37.0	30.5	12.0	14.0	6350	2880
	2203	1588	1207	1429	965	457	940	775	305	357		
150	102.0	66.0	54.5	66.5	41.0	22.0	41.0	35.5	12.0	14.0	8090	3670
	2591	1676	1384	1689	1041	559	1041	902	305	357		

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