



## Burner Capacity Information, BBC 1124/2124

NATURAL GAS, AMBIENT COMBUSTION AIR OPERATION, LOW PRESSURE ATOMIZATION

SPECIFICATIONS		OPERATIONAL INFORMATION				
<b>Capacity</b> (at 10% Excess Air)	(BTU/hr)	<b>14,040,000</b>	<b>63,260,000</b>	<b>88,840,000</b>	<b>107,660,000</b>	<b>124,550,000</b>
	(kW)	<b>3,710</b>	<b>16,730</b>	<b>23,500</b>	<b>28,480</b>	<b>32,940</b>
Secondary Air Capacity	(scfh)	130,000	640,000	905,000	1,100,000	1,275,000
	(nm <sup>3</sup> /hr)	3,482	17,144	24,243	29,467	34,155
Secondary Air Inlet Pressure	(in.w.c.)	0.3	6.9	13.9	20.8	27.7
	(mbar)	0.7	17.2	34.5	51.7	68.9
Primary Air Capacity	(scfh)	15,500	15,500	15,500	15,500	15,500
	(nm <sup>3</sup> /hr)	415	415	415	415	415
Primary Air Inlet Pressure	(in.w.c.)	6.9	6.9	6.9	6.9	6.9
	(mbar)	17.2	17.2	17.2	17.2	17.2
Gas Inlet Pressure	(in.w.c.)	0.1	2.5	5.4	7.9	10.6
	(mbar)	0.2	6.2	13.4	19.7	26.4
Flame Length (at 10% Excess Air)	(in)	72	264	300	312	324
	(mm)	1830	6710	7620	7920	8230
Flame Diameter (at 10% Excess Air)	(in)	36	48	54	60	66
	(mm)	910	1220	1370	1520	1680
Maximum Operating Excess	(Air)	100%	400%	500%	600%	600%
	(Fuel)	30%	30%	30%	30%	30%

## Burner Capacity Information, BBC 3124

NATURAL GAS, 900°F/482°C PREHEATED SECONDARY AIR OPERATION, LOW PRESSURE ATOMIZATION

SPECIFICATIONS		OPERATIONAL INFORMATION				
<b>Capacity</b> (at 10% Excess Air)	(BTU/hr)	<b>9,260,000</b>	<b>39,730,000</b>	<b>55,570,000</b>	<b>67,220,000</b>	<b>77,670,000</b>
	(kW)	<b>2,450</b>	<b>10,510</b>	<b>14,700</b>	<b>17,780</b>	<b>20,540</b>
Secondary Air Capacity	(scfh)	80,480	396,211	560,267	680,988	789,327
	(nm <sup>3</sup> /hr)	2,156	10,614	15,008	18,242	21,144
Secondary Air Inlet Pressure	(in.w.c.)	0.3	6.9	13.9	20.8	27.7
	(mbar)	0.7	17.2	34.5	51.7	68.9
Primary Air Capacity	(scfh)	15,500	15,500	15,500	15,500	15,500
	(nm <sup>3</sup> /hr)	415	415	415	415	415
Primary Air Inlet Pressure	(in.w.c.)	6.9	6.9	6.9	6.9	6.9
	(mbar)	17.2	17.2	17.2	17.2	17.2
Gas Inlet Pressure	(in.w.c.)	0.1	1.9	4.1	6.0	8.0
	(mbar)	0.2	4.7	10.2	14.9	20.0
Flame Length (at 10% Excess Air)	(in)	54	198	225	234	243
	(mm)	1370	5030	5720	5940	6170
Flame Diameter (at 10% Excess Air)	(in)	32	43	49	54	59
	(mm)	820	1100	1230	1370	1510
Maximum Operating Excess	(Air)	80%	320%	400%	480%	480%
	(Fuel)	30%	30%	30%	30%	30%

### NOTES:

1. Capacities based on Natural Gas with HHV of 1034 BTU/ft<sup>3</sup> (Standard) / LHV of 10.21 kWh/nm<sup>3</sup> (Metric), 0.59 S.G., and a stoichiometric ratio of 9.74:1 at 10% excess air; with burner firing into chamber under no pressure.
2. Air and fuel flows based on STP operating conditions at sea level and industry standard air and gas piping practices.
3. Fuel inlet pressures given for reference only and should not be used for measuring fuel flow to the burner.
4. Flame lengths measured from end of the combustion tile.
5. Flame detection via UV scanner; for detection limits refer to the Burner Operating and Ignition Window.
6. Ignition via integral gas pilot; for ignition limits refer to the Burner Operating and Ignition Window.
7. Burner is suitable for use on gaseous and liquid fuels other than those listed, and with combustion air other than ambient temperature or that listed; for further information consult Hauck.



## Burner Capacity Information, BBC 1124/2124

NO. 2 FUEL OIL, AMBIENT COMBUSTION AIR OPERATION, LOW PRESSURE ATOMIZATION

SPECIFICATIONS		OPERATIONAL INFORMATION				
<b>Capacity</b> (at 20% Excess Air)	(BTU/hr)	<b>13,920,000</b>	<b>56,420,000</b>	<b>78,500,000</b>	<b>94,750,000</b>	<b>109,330,000</b>
	(kW)	<b>3,680</b>	<b>14,920</b>	<b>20,760</b>	<b>25,060</b>	<b>28,920</b>
Secondary Air Capacity	(scfh)	130,000	640,000	905,000	1,100,000	1,275,000
	(nm <sup>3</sup> /hr)	3,482	17,144	24,243	29,467	34,155
Secondary Air Inlet Pressure	(in.w.c.)	0.3	6.9	13.9	20.8	27.7
	(mbar)	0.7	17.2	34.5	51.7	68.9
Primary Air Capacity	(scfh)	37,000	37,000	37,000	37,000	37,000
	(nm <sup>3</sup> /hr)	991	991	991	991	991
Primary Air Inlet Pressure	(in.w.c.)	24.2	24.2	24.2	24.2	24.2
	(mbar)	60.2	60.2	60.2	60.2	60.2
Fuel Oil Flow(at 20% Excess Air)	(gph)	101	409	569	687	792
	(lph)	382	1,547	2,153	2,599	2,999
Flame Length (at 20% Excess Air)	(in)	108	168	216	240	252
	(mm)	2740	4270	5490	6100	6400
Flame Diameter (at 20% Excess Air)	(in)	24	56	60	66	66
	(mm)	610	1420	1520	1680	1680
Maximum Operating Excess	(Air)	200%	1000%	1000%	1000%	1000%
	(Fuel)	30%	30%	30%	30%	30%

## Burner Capacity Information, BBC 3124

NO. 2 FUEL OIL, 900°F/482°C PREHEATED SECONDARY AIR OPERATION, LOW PRESSURE ATOMIZATION

SPECIFICATIONS		OPERATIONAL INFORMATION				
<b>Capacity</b> (at 20% Excess Air)	(BTU/hr)	<b>9,790,000</b>	<b>36,100,000</b>	<b>49,770,000</b>	<b>59,830,000</b>	<b>68,860,000</b>
	(kW)	<b>2,590</b>	<b>9,550</b>	<b>13,160</b>	<b>15,830</b>	<b>18,210</b>
Secondary Air Capacity	(scfh)	80,480	396,211	560,267	680,988	789,327
	(nm <sup>3</sup> /hr)	2,156	10,614	15,008	18,242	21,144
Secondary Air Inlet Pressure	(in.w.c.)	0.3	6.9	13.9	20.8	27.7
	(mbar)	0.7	17.2	34.5	51.7	68.9
Primary Air Capacity	(scfh)	37,000	37,000	37,000	37,000	37,000
	(nm <sup>3</sup> /hr)	991	991	991	991	991
Primary Air Inlet Pressure	(in.w.c.)	24.2	24.2	24.2	24.2	24.2
	(mbar)	60.2	60.2	60.2	60.2	60.2
Fuel Oil Flow(at 20% Excess Air)	(gph)	71	262	361	434	499
	(lph)	269	990	1,365	1,641	1,889
Flame Length(at 20% Excess Air)	(in)	81	126	162	180	189
	(mm)	2060	3200	4110	4570	4800
Flame Diameter(at 20% Excess Air)	(in)	22	50	54	59	59
	(mm)	550	1280	1370	1510	1510
Maximum Operating Excess	(Air)	160%	800%	800%	800%	800%
	(Fuel)	30%	30%	30%	30%	30%

### NOTES:

- Capacities based on No. 2 Fuel Oil with HHV of 138,000 BTU/USgal (Standard) / LHV of 10.3 kWh/liter (Metric), 0.87 S.G., and a stoichiometric ratio of 1380:1 at 20% excess air; with burner firing into chamber under no pressure.
- Air and fuel flows based on STP operating conditions at sea level and industry standard air and gas piping practices.
- Fuel inlet pressures given for reference only and should not be used for measuring fuel flow to the burner.
- Flame lengths measured from end of the combustion tile.
- Flame detection via UV scanner; for detection limits refer to the Burner Operating and Ignition Window.
- Ignition via integral gas pilot; for ignition limits refer to the Burner Operating and Ignition Window.
- Burner is suitable for use on gaseous and liquid fuels other than those listed, and with combustion air other than ambient temperature or that listed; for further information consult Hauck.



## Burner Capacity Information, BBC 1124/2124

### LIQUID PROPANE, AMBIENT COMBUSTION AIR OPERATION, LIQUID PROPANE ATOMIZATION

SPECIFICATIONS		OPERATIONAL INFORMATION				
<b>Capacity</b> (at 20% Excess Air)	(BTU/hr)	<b>14,440,000</b>	<b>60,190,000</b>	<b>83,960,000</b>	<b>101,460,000</b>	<b>117,160,000</b>
	(kW)	<b>3,820</b>	<b>15,920</b>	<b>22,210</b>	<b>26,840</b>	<b>30,990</b>
Secondary Air Capacity	(scfh)	130,000	640,000	905,000	1,100,000	1,275,000
	(nm <sup>3</sup> /hr)	3,482	17,144	24,243	29,467	34,155
Secondary Air Inlet Pressure	(in.w.c.)	0.3	6.9	13.9	20.8	27.7
	(mbar)	0.7	17.2	34.5	51.7	68.9
Primary Air Capacity	(scfh)	31,000	31,000	31,000	31,000	31,000
	(nm <sup>3</sup> /hr)	830	830	830	830	830
Primary Air Inlet Pressure	(in.w.c.)	24.2	24.2	24.2	24.2	24.2
	(mbar)	60.2	60.2	60.2	60.2	60.2
Liquid Propane Flow	(gph)	158	658	918	1,109	1,280
	(lph)	597	2,490	3,473	4,197	4,846
Liquid Propane Inlet Pressure	(psig)	1	23	45	65	87
	(bar)	0.1	1.6	3.1	4.5	6.0
Flame Length (at 20% Excess Air)	(in)	72	228	252	276	300
	(mm)	1830	5790	6400	7010	7620
Flame Diameter(at 20% Excess Air)	(in)	24	48	54	60	66
	(mm)	610	1220	1370	1520	1680
Maximum Operating Excess	(Air)	100%	300%	400%	500%	500%
	(Fuel)	30%	30%	30%	30%	30%

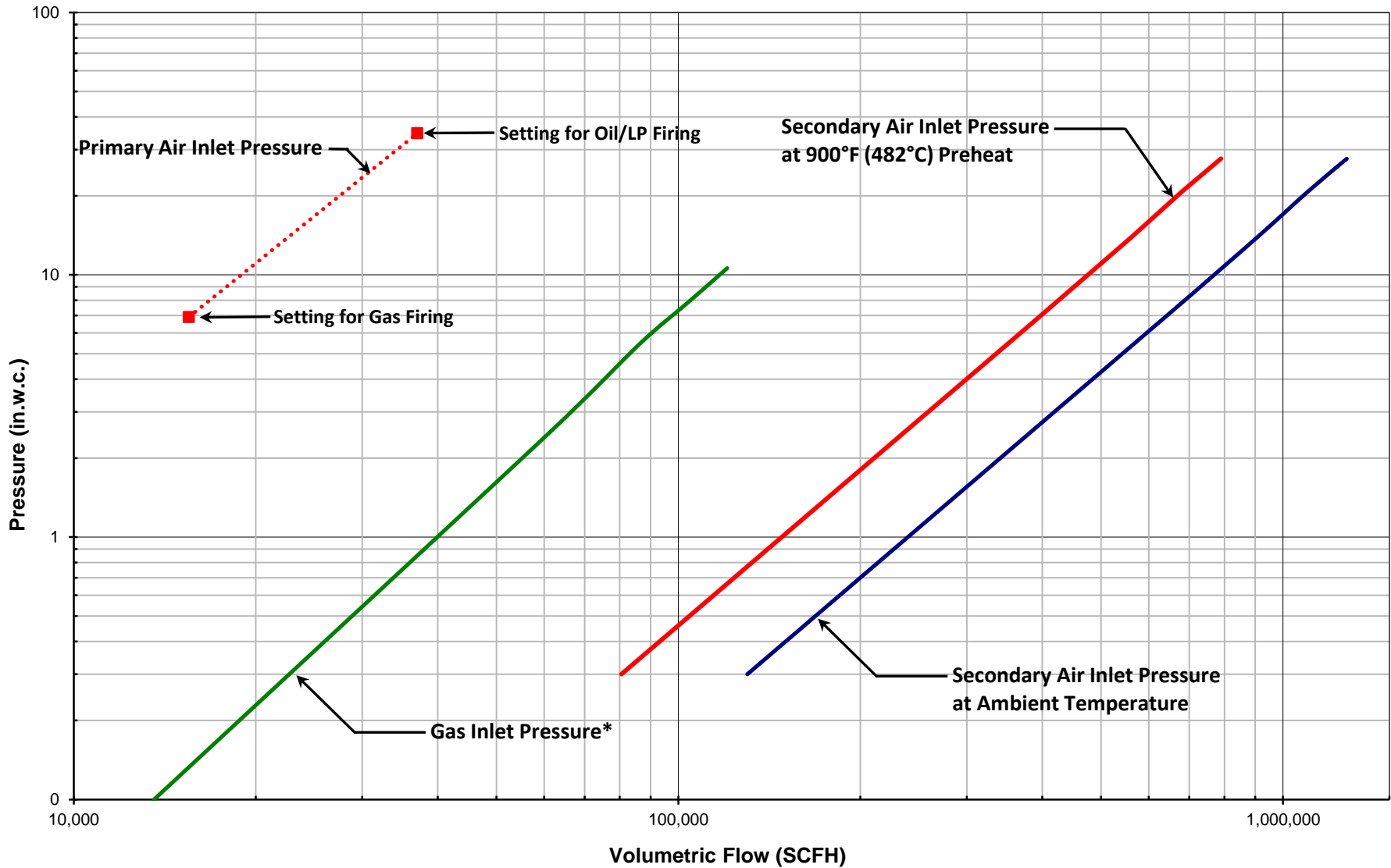
### NO. 6 FUEL OIL, AMBIENT COMBUSTION AIR OPERATION, HIGH PRESSURE ATOMIZATION

SPECIFICATIONS		OPERATIONAL INFORMATION				
<b>Capacity</b> (at 20% Excess Air)	(BTU/hr)	<b>12,430,000</b>	<b>55,960,000</b>	<b>78,580,000</b>	<b>95,230,000</b>	<b>110,160,000</b>
	(kW)	<b>3,290</b>	<b>14,800</b>	<b>20,780</b>	<b>25,190</b>	<b>29,140</b>
Secondary Air Capacity	(scfh)	130,000	640,000	905,000	1,100,000	1,275,000
	(nm <sup>3</sup> /hr)	3,482	17,144	24,243	29,467	34,155
Secondary Air Inlet Pressure	(in.w.c.)	0.3	6.9	13.9	20.8	27.7
	(mbar)	0.7	17.2	34.5	51.7	68.9
Primary Air Capacity	(scfh)	12,100	12,100	12,100	12,100	12,100
	(nm <sup>3</sup> /hr)	324	324	324	324	324
Primary Air Inlet Pressure	(in.w.c.)	4.0	4.0	4.0	4.0	4.0
	(mbar)	10.0	10.0	10.0	10.0	10.0
Atomizing Air Capacity	(scfh)	3,600	3,800	3,900	4,000	4,000
	(nm <sup>3</sup> /hr)	96	102	104	107	107
Atomizing Air Inlet Pressure	(psig)	16	42	46	50	55
	(bar)	1.1	2.9	3.2	3.4	3.8
Fuel Oil Flow	(gph)	83	373	524	635	734
	(lph)	314	1,412	1,983	2,403	2,778
Fuel Oil Inlet Pressure	(psig)	25	46	52	56	62
	(bar)	1.7	3.2	3.6	3.9	4.3
Flame Length(at 20% Excess Air)	(in)	96	180	192	204	216
	(mm)	2440	4570	4880	5180	5490
Flame Diameter(at 20% Excess Air)	(in)	24	36	42	48	48
	(mm)	610	910	1070	1220	1220
Maximum Operating Excess	(Air)	500%	600%	700%	700%	700%
	(Fuel)	30%	30%	30%	30%	30%

**NOTES:**

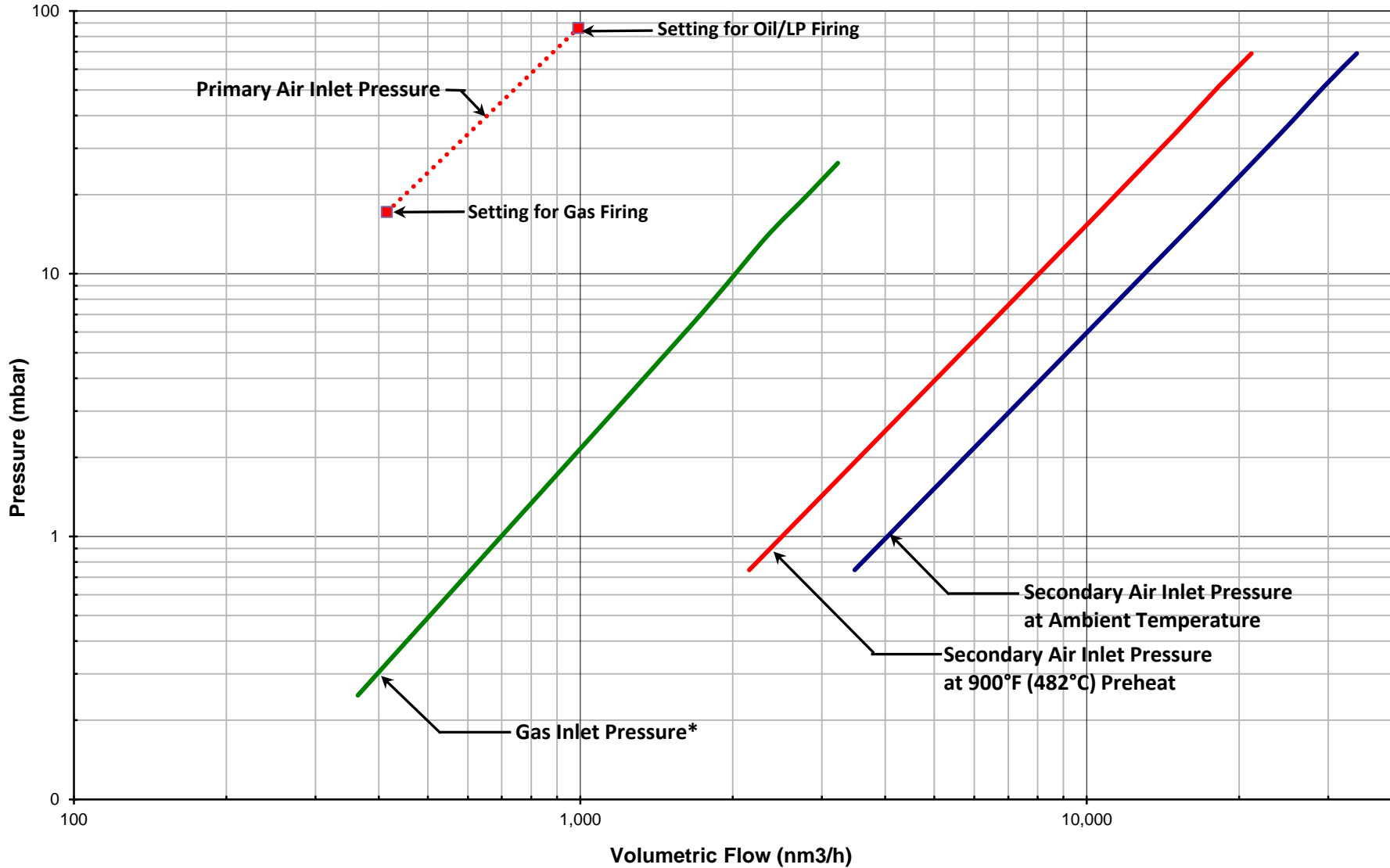
- Capacities based on 1) Liquid Propane with HHV of 91,500 BTU/gal (Standard) / LHV of 6.5 kWh/liter (Metric), 0.51 S.G., and a stoichiometric ratio of 850:1 at 20% excess air, or 2) No. 6 Fuel Oil with HHV of 150,000 BTU/USgal (Standard) / LHV of 11.2 kWh/liter (Metric), 1.02 S.G., and a stoichiometric ratio of 1465:1 at 20% excess air; all cases with burner firing into chamber under no pressure.
- Air and fuel flows based on STP operating conditions at sea level and industry standard air and gas piping practices.
- Fuel inlet pressures given for reference only and should not be used for measuring fuel flow to the burner.
- Flame lengths measured from end of the combustion tile.
- Flame detection via UV scanner; for detection limits refer to the Burner Operating and Ignition Window.
- Ignition via integral gas pilot; for ignition limits refer to the Burner Operating and Ignition Window.
- Burner is suitable for use on gaseous and liquid fuels other than those listed, and with combustion air other than ambient temperature or that listed; for further information consult Hauck.

**BBC 1124/2124/3124 Pressure Curves**  
 Natural Gas 1034 BTU/ft<sup>3</sup> (HHV Standard) / 10.21 kWh/nm<sup>3</sup> (LHV Metric), 0.59 S.G.  
 and Ambient and Preheated Combustion Air



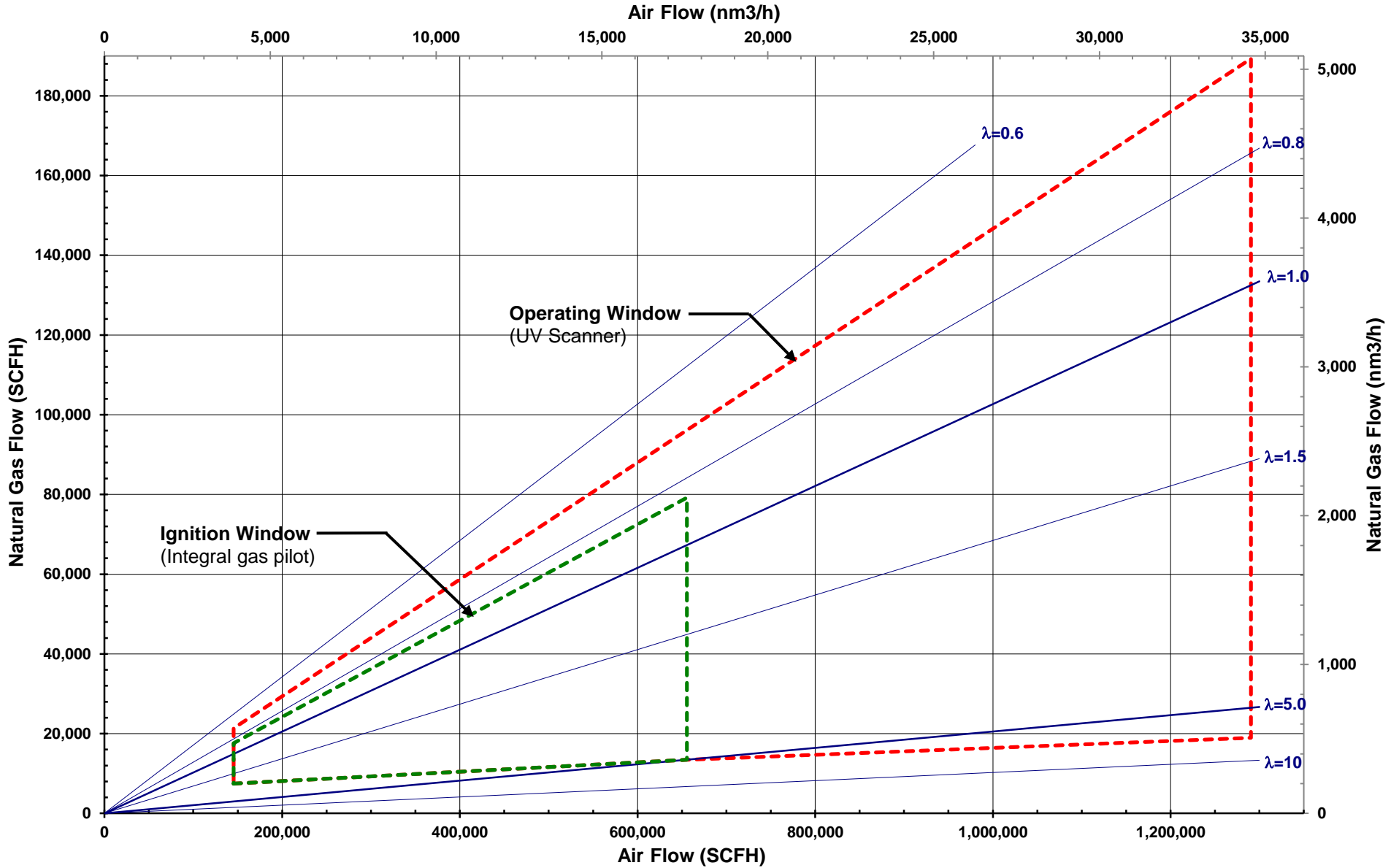
\*Note: Gas Inlet Pressure for BBC burner is not suitable for fuel flow measurement and is given for component sizing and reference only

**BBC 1124/2124/3124 Pressure Curves**  
Natural Gas 1034 BTU/ft<sup>3</sup> (HHV Standard) / 10.21 kWh/nm<sup>3</sup> (LHV Metric), 0.59 S.G.  
and Ambient and Preheated Combustion Air



\*Note: Gas Inlet Pressure for BBC burner is not suitable for fuel flow measurement and is given for component sizing and reference only

**BBC 1124/2124/3124 Operating and Ignition Window**  
 Natural Gas 1034 BTU/ft<sup>3</sup> (HHV Standard) / 10.21 kWh/nm<sup>3</sup> (LHV Metric), 0.59 S.G.  
 and Ambient Combustion Air



**BBC 1118/2118/3118 Operating and Ignition Window**  
**No. 2 Fuel Oil 138,000 BTU/gal (HHV Standard) / 10.3 kWh/liter (LHV Metric), 0.87 S.G.**  
**and Ambient Combustion Air**

