



## Burner Capacity Information, BBC 1118/2118

NATURAL GAS, AMBIENT COMBUSTION AIR OPERATION, LOW PRESSURE ATOMIZATION

SPECIFICATIONS		OPERATIONAL INFORMATION				
<b>Capacity</b> (at 10% Excess Air)	(BTU/hr)	<b>8,160,000</b>	<b>33,830,000</b>	<b>47,290,000</b>	<b>57,470,000</b>	<b>66,160,000</b>
	(kW)	<b>2,160</b>	<b>8,950</b>	<b>12,510</b>	<b>15,200</b>	<b>17,500</b>
Secondary Air Capacity	(scfh)	69,000	335,000	474,500	580,000	670,000
	(nm <sup>3</sup> /hr)	1,848	8,974	12,711	15,537	17,948
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	3.3	6.5	9.6	12.7
	(mbar)	0.2	8.2	16.2	23.9	31.6
Flame Length (at 10% Excess Air)	(in)	96	156	168	180	216
	(mm)	2440	3960	4270	4570	5490
Flame Diameter (at 10% Excess Air)	(in)	36	48	54	60	66
	(mm)	910	1220	1370	1520	1680
Maximum Operating Excess	(Air)	250%	400%	500%	600%	600%
	(Fuel)	30%	30%	30%	30%	30%

## Burner Capacity Information, BBC 3118

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>5,620,000</b>	<b>21,510,000</b>	<b>29,850,000</b>	<b>36,150,000</b>	<b>41,530,000</b>
	(kW)	<b>1,490</b>	<b>5,690</b>	<b>7,900</b>	<b>9,560</b>	<b>10,980</b>
Secondary Air Capacity	(scfh)	42,717	207,392	293,753	359,066	414,784
	(nm <sup>3</sup> /hr)	1,144	5,556	7,869	9,619	11,111
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	4.9	7.3	9.6
	(mbar)	0.2	6.2	12.3	18.1	24.0
Flame Length (at 10% Excess Air)	(in)	72	117	126	135	162
	(mm)	1830	2970	3200	3430	4110
Flame Diameter (at 10% Excess Air)	(in)	32	43	49	54	59
	(mm)	820	1100	1230	1370	1510
Maximum Operating Excess	(Air)	200%	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 IPG5413 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 1118/2118

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

SPECIFICATIONS		OPERATIONAL INFORMATION				
<b>Capacity</b> (at 20% Excess Air)	(BTU/hr)	<b>8,330,000</b>	<b>30,500,000</b>	<b>42,130,000</b>	<b>50,920,000</b>	<b>58,420,000</b>
	(kW)	<b>2,200</b>	<b>8,070</b>	<b>11,140</b>	<b>13,470</b>	<b>15,450</b>
Secondary Air Capacity	(scfh)	69,000	335,000	474,500	580,000	670,000
	(nm <sup>3</sup> /hr)	1,848	8,974	12,711	15,537	17,948
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
Fuel Oil Flow(at 20% Excess Air)	(gph)	60	221	305	369	423
	(lph)	228.6	837	1,155	1,397	1,602
Flame Length (at 20% Excess Air)	(in)	60	156	216	240	252
	(mm)	1520	3960	5490	6100	6400
Flame Diameter (at 20% Excess Air)	(in)	24	42	48	48	54
	(mm)	610	1070	1220	1220	1370
Maximum Operating Excess	(Air)	100%	300%	400%	500%	500%
	(Fuel)	30%	30%	30%	30%	30%

## Burner Capacity Information, BBC 3118

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>6,140,000</b>	<b>19,870,000</b>	<b>27,060,000</b>	<b>32,510,000</b>	<b>37,150,000</b>
	(kW)	<b>1,620</b>	<b>5,260</b>	<b>7,160</b>	<b>8,600</b>	<b>9,830</b>
Secondary Air Capacity	(scfh)	42,717	207,392	293,753	359,066	414,784
	(nm <sup>3</sup> /hr)	1,144	5,556	7,869	9,619	11,111
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
Fuel Oil Flow(at 20% Excess Air)	(gph)	45	144	196	236	269
	(lph)	168.5	545	742	892	1,019
Flame Length(at 20% Excess Air)	(in)	45	117	162	180	189
	(mm)	1140	2970	4110	4570	4800
Flame Diameter(at 20% Excess Air)	(in)	22	38	43	43	49
	(mm)	550	960	1100	1100	1230
Maximum Operating Excess	(Air)	80%	240%	320%	400%	400%
	(Fuel)	30%	30%	30%	30%	30%

### NOTES:

1. 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.
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 IPG5413 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 1118/2118

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

SPECIFICATIONS		OPERATIONAL INFORMATION				
<b>Capacity</b> (at 20% Excess Air)	(BTU/hr)	<b>8,970,000</b>	<b>32,830,000</b>	<b>45,350,000</b>	<b>54,810,000</b>	<b>62,880,000</b>
	(kW)	<b>2,370</b>	<b>8,680</b>	<b>12,000</b>	<b>14,500</b>	<b>16,630</b>
Secondary Air Capacity	(scfh)	69,000	335,000	474,500	580,000	670,000
	(nm <sup>3</sup> /hr)	1,848	8,974	12,711	15,537	17,948
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)	98	359	496	599	687
	(lph)	371.1	1,358	1,876	2,267	2,601
Liquid Propane Inlet Pressure	(psig)	3	43	81	119	157
	(bar)	0.2	2.9	5.6	8.2	10.8
Flame Length (at 20% Excess Air)	(in)	60	144	156	216	240
	(mm)	1520	3660	3960	5490	6100
Flame Diameter(at 20% Excess Air)	(in)	24	42	48	54	60
	(mm)	610	1070	1220	1370	1520
Maximum Operating Excess	(Air)	100%	300%	400%	500%	500%
	(Fuel)	30%	30%	30%	30%	30%

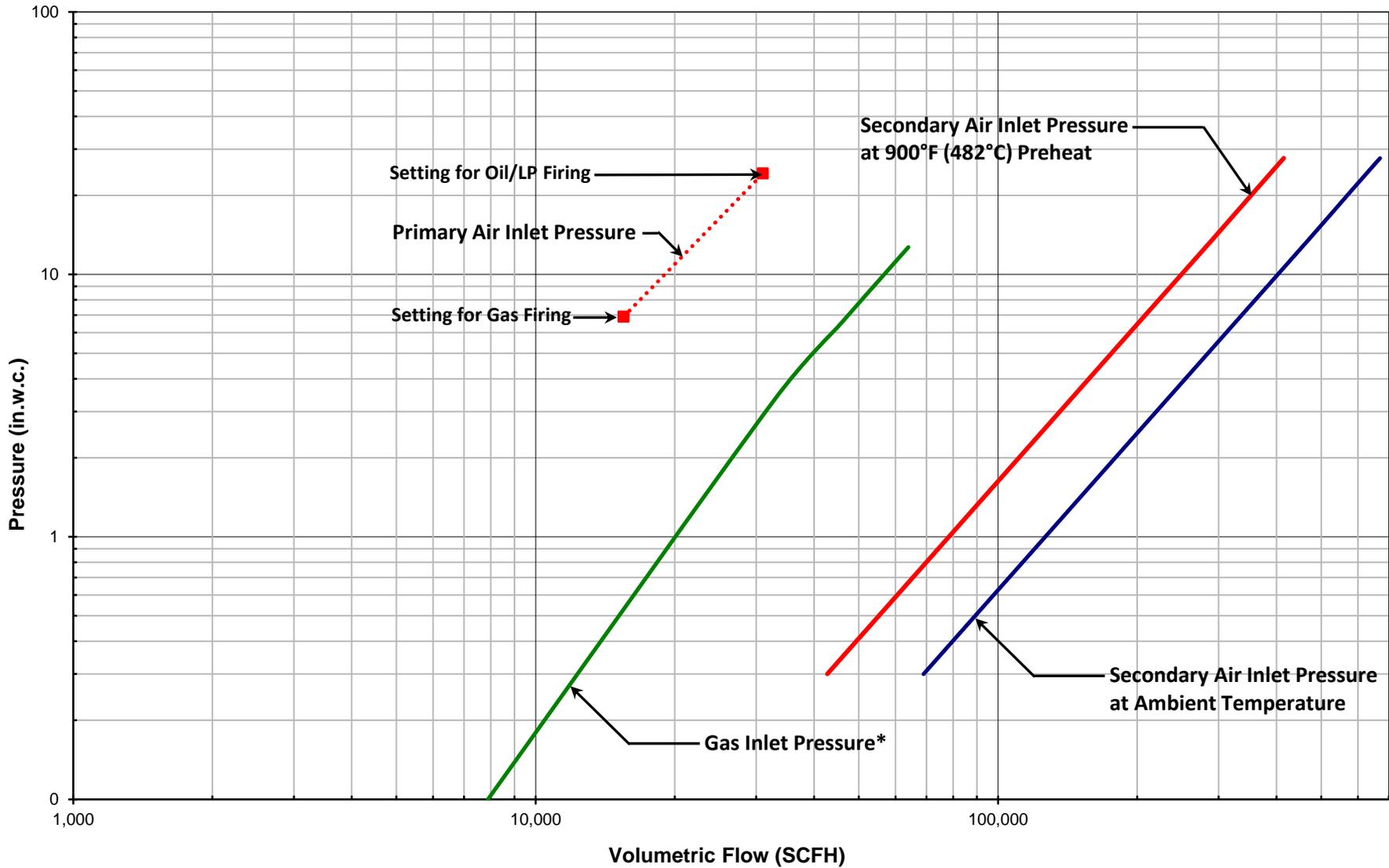
### NO. 6 FUEL OIL, AMBIENT COMBUSTION AIR OPERATION, HIGH PRESSURE ATOMIZATION

SPECIFICATIONS		OPERATIONAL INFORMATION				
<b>Capacity</b> (at 20% Excess Air)	(BTU/hr)	<b>8,730,000</b>	<b>31,470,000</b>	<b>43,420,000</b>	<b>52,430,000</b>	<b>60,120,000</b>
	(kW)	<b>2,310</b>	<b>8,320</b>	<b>11,480</b>	<b>13,870</b>	<b>15,900</b>
Secondary Air Capacity	(scfh)	69,000	335,000	474,500	580,000	670,000
	(nm <sup>3</sup> /hr)	1,848	8,974	12,711	15,537	17,948
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.)	6.0	6.0	6.0	6.0	6.0
	(mbar)	14.9	14.9	14.9	14.9	14.9
Atomizing Air Capacity	(scfh)	2,280	2,880	3,360	3,450	3,600
	(nm <sup>3</sup> /hr)	61	77	90	92	96
Atomizing Air Inlet Pressure	(psig)	18	44	64	74	84
	(bar)	1.2	3.0	4.4	5.1	5.8
Fuel Oil Flow	(gph)	58	210	289	350	401
	(lph)	220	795	1,094	1,325	1,518
Fuel Oil Inlet Pressure	(psig)	20	47	66	77	88
	(bar)	1.4	3.2	4.6	5.3	6.1
Flame Length(at 20% Excess Air)	(in)	84	144	168	192	216
	(mm)	2130	3660	4270	4880	5490
Flame Diameter(at 20% Excess Air)	(in)	24	36	36	42	48
	(mm)	610	910	910	1070	1220
Maximum Operating Excess	(Air)	200%	300%	300%	300%	300%
	(Fuel)	30%	30%	30%	30%	30%

**NOTES:**

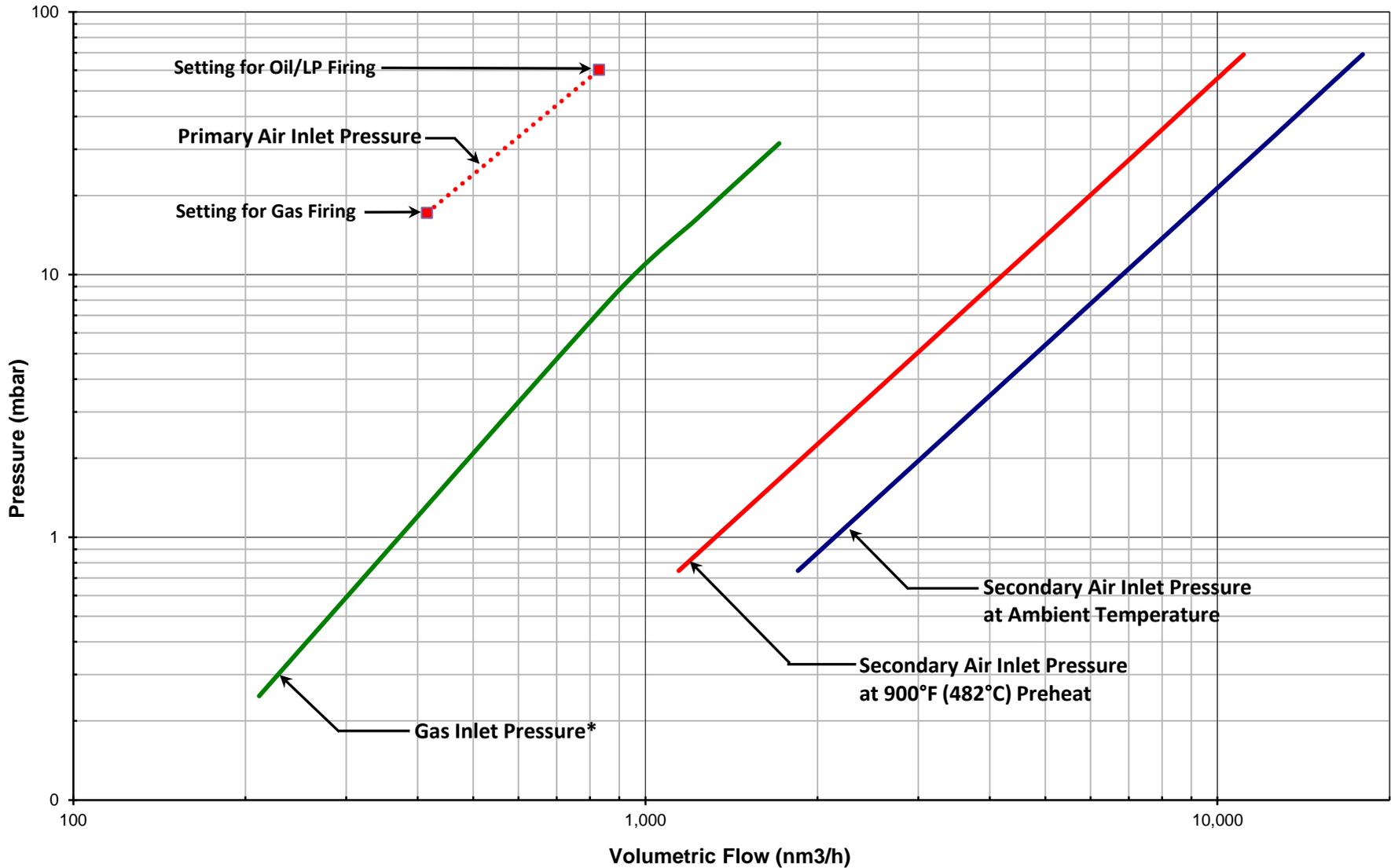
- Capacities based on 1) Liquid Propane with HHV of 91,500 BTU/gal (Standard) / LHV of 6.5 kWh/liter (Metric), 0.51 S.G., and a stoichiometric ratio of 850:1 at 20% excess air, or 2) No. 6 Fuel Oil with HHV of 150,000 BTU/USgal (Standard) / LHV of 11.2 kWh/liter (Metric), 1.02 S.G., and a stoichiometric 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 IPG5413 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 1118/2118/3118 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**



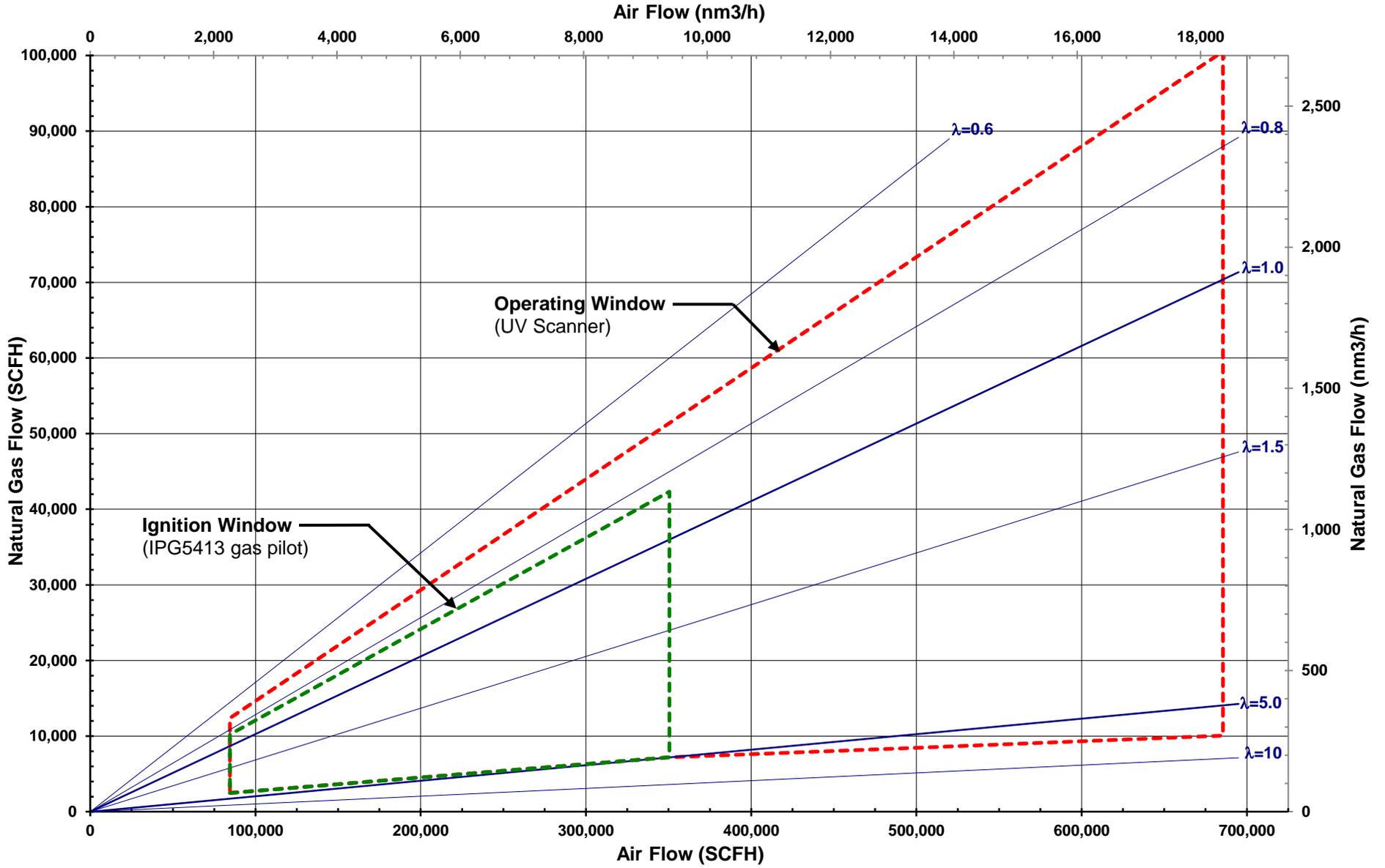
\*Note: Gas Inlet Pressure for BBC burner is not suitable for fuel flow measurement and is given for component sizing and reference only

**BBC 1118/2118/3118 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 1118/2118/3118 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**

