

Biomass & Gas Performance Data																						
PB-65-W-O-G (6-20-13 MSS)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
% Burner output		0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%	100%
Heat input	MMBtu/hr	6,500,000	9,425,000	12,350,000	15,275,000	18,200,000	21,125,000	24,050,000	26,975,000	29,900,000	32,825,000	35,750,000	38,675,000	41,600,000	44,525,000	47,450,000	50,375,000	53,300,000	56,225,000	59,150,000	62,075,000	65,000,000
Gas Flow	SCFH	6,500	6,500	6,500	6,500	6,500	6,500	6,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gas Mod. valve position	%	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gas Pressure at Train Inlet	PSI	4.0	4.0	4.0	4.0	4.0	4.0	4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gas Manifold Pressure	"w.c"	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dp at gas orifice	"w.c"	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Biomass Feed Rate	Lbs/hr	0.0	379.9	759.7	1,139.6	1,519.5	1,899.4	2,279.2	3,503.2	3,883.1	4,263.0	4,642.9	5,022.7	5,402.6	5,782.5	6,162.3	6,542.2	6,922.1	7,301.9	7,681.8	8,061.7	8,441.6
Biomass Feeder Speed	RPM	0.0	0.3	0.7	1.0	1.4	1.7	2.1	3.2	3.6	3.9	4.3	4.6	5.0	5.3	5.7	6.0	6.4	6.7	7.1	7.4	7.8
Biomass Feeder Motor Speed	Hz	0.0	1.5	2.9	4.4	5.9	7.3	8.8	13.5	15.0	16.4	17.9	19.4	20.8	22.3	23.8	25.2	26.7	28.2	29.6	31.1	32.6
Burner Blower	SCFH	170,000	200,933	231,867	262,800	293,734	324,667	355,601	386,534	417,468	448,401	479,335	510,268	541,201	572,135	603,068	634,002	664,935	695,869	726,802	757,736	788,669
Blower Output	%	0	5	10	14	18	23	28	33	38	43	48	53	58	63	68	73	78	83	88	94	100
Blower Body Pressure	i.w.c.	0.18	0.20	0.21	0.52	0.83	1.27	1.70	2.05	2.65	3.31	4.03	4.80	5.61	6.47	7.37	8.29	9.23	10.20	11.17	12.15	13.13
Blower Speed	Hz	8.3	8.65	9.0	5.35	1.7	12.85	24.0	25.5	29.1	32.6	36.0	39.3	42.5	45.6	48.4	51.1	53.7	56.1	58.5	60.9	63.3
Blower Power	HP	0.4	0.39	0.4	0.75	1.1	1.70	2.3	2.7	3.8	5.1	6.7	8.5	10.7	13.1	15.9	19.0	22.5	26.4	30.7	35.4	40.5
Blower Current	A	17.0	16.95	16.9	17.10	17.3	17.65	18.0	17.9	18.7	19.6	20.7	22.0	23.5	25.2	27.0	29.1	31.2	33.6	36.2	38.9	41.8
Mill Exhaust Fan Flow	SCFH	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000
Total Air	SCFH	350,000	380,933	411,867	442,800	473,734	504,667	535,601	566,534	597,468	628,401	659,335	690,268	721,201	752,135	783,068	814,002	844,935	875,869	906,802	937,736	968,669
Flame Diameter	Feet	1.7	2.1	2.6	2.6	2.6	2.7	2.9	4.0	5.1	4.7	4.3	4.2	4.0	3.7	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Flame Length	Feet	5.0	6.5	8.0	8.0	8.0	9.5	11.0	10.2	10.3	10.4	10.4	10.3	10.2	10.0	9.8	9.5	9.3	9.0	8.7	8.4	8.2
Excess air	%	435%	290%	217%	173%	144%	122%	107%	90%	81%	73%	67%	62%	57%	53%	49%	46%	44%	41%	39%	37%	35%

Solid Fuel Properties		
Solid Fuel Heating Value	BTU/lb	7700
Screw Loading	lb/rev	18.13

scf air / lb fuel	
coal	wood
132	85