

11/16/2009		Oil Performance Data																					
PT-100-O 2009		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%	
1	Heat input	MMBtu/hr	8.5	13.6	18.7	23.7	28.8	33.9	38.9	44.0	49.1	54.1	59.2	64.3	69.4	74.4	79.5	84.6	89.6	94.7	99.8	104.8	109.9
2	Oil Flow	GPM	1	1.6	2.2	2.8	3.4	4.0	4.6	5.2	5.8	6.4	7.0	7.5	8.1	8.7	9.3	9.9	10.5	11.1	11.7	12.3	12.9
3	Oil Control Valve Position		0.0	2.5	3.0	3.5	3.8	4.0	4.5	4.8	5.0	5.1	5.3	5.5	5.6	5.8	6.0	6.3	6.8	7.1	8.0	9.2	10.7
4	Oil Pressure at Train Inlet	PSI	122	122	121	120	120	118	117	115	114	112	112	111	109	108	106	104	102	100	97	94	96
5	Oil Pressure at Nozzle	PSI	24	26	28	30	33	34	38	40	43	44	46	47	50	51	52	54	56	58	60	62	62
6	Compressed air Pressure	PSI	71	71	71	71	71	72	71	71	72	72	72	72	72	72	72	72	68	73	74	75	75
7	Blower Output	%	0.0	5.0	10.5	14.5	18.0	23.0	27.0	31.0	35.0	39.0	43.0	47.0	51.0	55.0	59.0	64.0	67.0	72.0	77.0	81.0	87.0
8	Blower Speed	Hz	8.3	10.5	13.0	14.7	16.3	18.6	20.4	22.1	23.9	25.7	27.5	29.3	31.1	32.9	34.7	36.9	38.2	40.5	42.7	44.5	47.2
9	Blower Power	HP	0.7	1.0	1.5	2.0	2.5	3.5	4.5	5.6	7.3	8.6	10.7	12.8	15.0	18.0	21.0	26.0	28.0	34.0	40.0	46.0	54.0
10	Blower Current	A	22.2	21.5	21.5	21.8	22.4	23.8	25.4	27.0	29.2	32.2	35.1	38.1	41.3	45.5	49.5	54.0	57.65	63.5	69.5	74.5	81.5
11	Blower Body Pressure	i.w.c.	0.24	0.37	0.63	0.80	1.00	1.35	1.60	1.90	2.23	2.50	2.95	3.40	3.70	4.20	4.60	5.35	5.65	6.50	7.22	7.80	8.80
12	Main Air Flow	SCFH	242,000	297,485	352,970	408,455	463,940	519,425	574,910	630,395	685,880	741,365	796,850	852,335	907,820	963,305	1,018,790	1,074,275	1,129,760	1,185,245	1,240,730	1,296,215	1,351,700
13	Flame Diameter	Feet	2.5	2.5	3	3	4	4.5	5	5	6	6	6	6	6.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
14	Flame Length	Feet	5.0	5.0	6.0	6.0	6.0	6.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
15	Excess air (Calculated)	%	198%	130%	98%	81%	69%	61%	55%	50%	47%	44%	41%	39%	37%	36%	34%	33%	32%	31%	30%	30%	29%

Combustion Air VFD Setup			Limit Switch Setup			Required Oil Properties				Burner Fuel / Air Profile Setup
Min Ref	Hz	8.3	Blower Proof of Running	-0.2	in H ₂ O	Viscosity	90 SSU @220 F	SSU	Max	Match oil flow rate (GPM) with blower body pressure. The chart below shows this graphically. To use it, find the fuel flow on the horizontal axis, then move vertically to the curve and then horizontally to the left to find the required blower body pressure. Increase or decrease the fan speed or the fuel flow as needed to match the values. The low fire position for oil should be 0 and the high fire position should be 100. Every other oil position will have to be determined by reading the fuel flow meter. All "light off" positions must be 0. Fine tuning must be done using a flue gas analyzer.
Max Ref	Hz	53	Blower Proof of High Fire	6.92	in H ₂ O	Particulate	0.04	in	Max	
Ramp Up Time	Sec	40	Blower Proof of Low Fire	0.55	in H ₂ O	Sulfur Content	0.5	% (Mass)	Max	
Ramp Down Time	Sec	40	Low Oil Pressure	60	PSI	H2SO4	0	PPM	Max	
Nominal Motor Speed	rpm	1780	High Oil Pressure	150	PSI	H2O	5	% (Mass)	Max	
Motor Current	A	83.4	Pilot Low Fuel Pressure	N/A	PSI	All data collected as the burner firing rate was decreasing.				
Motor Frequency	Hz	60	Oil Valve Hauck GL-1-29							
Motor Voltage	V	460								
Motor Power	kW	55								

