

## **Reductions in emissions when using The Burner Booster**

(Producing the same heat while using 23% to 33% less oil)

### **Percentage Reductions in emissions and CFM**

(+ is reduction, - is increase)

Site	CO	CO2	SO2	SO	NOx	O2	EA	CFM
Corona Films	97%	-17%	-45%	94%	9%	25%	27%	52%
Paint Project	84%	-15%	68%	87%	16%	30%	32%	64%
Paint Project	98%	-18%	95%	91%	5%	36%	40%	67%
Brooks	89%	-22%	-16%	67%	-46%	19%	23%	46%
Brooks	93%	-16%	-21%	80%	-89%	34%	30%	46%
Roberts	72%	-12%	93%	91%	-13%	18%	17%	25%
Roberts	61%	-14%	84%	95%	-26%	29%	31%	23%
McColl	92%	-13%	57%	92%	17%	21%	30%	21%
Needham	93%	-38%	39%	91%	-30%	40%	42%	52%
MCI - 1	79%	-22%	62%	73%	11%	8%	14%	41%
MCI - 2a	81%	-4%	16%	58%	-10%	22%	15%	29%
MCI - 2b	63%	-10%	63%	75%	-24%	31%	32%	41%
NH	81%	-14%	-150%	92%	-65%	25%	42%	65%
School	72%	-17%	-110%	89%	9%	35%	41%	67%
School	91%	-14%	-30%	94%	21%	24%	38%	66%
MCI - Youth	100%	-30%	-78%	100%	-62%	56%	56%	66%
Easter Seals	84%	-11%	73%	97%	23%	11%	13%	65%
Average	84%	-17%	12%	86%	-15%	27%	31%	49%

### **Reduction in emissions after applying reductions in CFM**

Site	CO	CO2	SO2	SO	NOx	O2	EA
Corona Films	99%	39%	25%	97%	53%	61%	62%
Paint Project	90%	27%	79%	92%	46%	55%	57%
Paint Project	99%	20%	96%	94%	36%	57%	60%
Brooks	95%	44%	46%	85%	33%	63%	65%
Brooks	97%	46%	44%	91%	12%	70%	68%
Roberts	93%	72%	98%	98%	72%	79%	79%
Roberts	91%	74%	96%	99%	71%	84%	84%
McColl	98%	76%	91%	98%	82%	83%	85%
Needham	96%	28%	68%	95%	32%	69%	70%
MCI - 1	91%	50%	84%	89%	63%	62%	64%
MCI - 2a	95%	70%	75%	88%	68%	77%	75%
MCI - 2b	85%	55%	85%	90%	50%	72%	72%
NH	88%	26%	-63%	94%	-8%	51%	62%
School	81%	21%	-41%	92%	39%	56%	60%
School	94%	25%	15%	96%	48%	50%	59%
MCI - Youth	100%	14%	-17%	100%	-7%	71%	71%
Easter Seals	90%	28%	82%	98%	50%	42%	43%
Average	93%	42%	51%	94%	44%	65%	67%

4-09 to- 2-13\*\*\*\*\* Demo Sites\*\*\*\*\*  
 these sites were developed over a 3 yr. period  
 these sites are more thoroughly monitored\*\*\*

		CO	CO <sub>2</sub>	SO <sub>2</sub>	SO	NOx	CFM	Fuel used gal/day	Fuel savings	Stack temp.	Actual firing rate gph	% more run time
		PPM	%	PPM	PPM	PPM						
<b>Corona Films</b>												
2009- 2014	Orig	38	11.6	47	340	90	790	17.8		460	4.17	
	BB	1	13.6	68	21	82	380	12.6	29.21%	325	2.42	
Raw % reduction of emissions		97%	-17%	-45%	94%	9%	52%					
% reduction applying CFM reduction		99%	39%	25%	97%	53%			21.20%			23%
<b>Total % reduction/day /same BTU output</b>		<b>81%</b>	<b>29%</b>	<b>19%</b>	<b>73%</b>	<b>40%</b>						
<b>Paint Project (season1)</b>												
2009-2014	Orig	51	10.9	37	107	57	580	16.5		590	1.25	
	BB w/#4	8	12.5	12	14	48	210	12.8	22.42%	420	0.94	
Raw % reduction of emissions		84%	-15%	68%	87%	16%	64%					
% reduction applying CFM reduction		90%	27%	79%	92%	46%			22.40%			1.5
<b>Total % reduction/day/same BTU output</b>		<b>87%</b>	<b>26%</b>	<b>77%</b>	<b>88%</b>	<b>43%</b>						
2009-2014	Orig	51	10.9	37	107	57	580	16.5		590	1.25	
	BB w/#3	1	12.9	2	10	54	190	10.9	33.94%	445	0.82	
Raw % reduction of emissions		98%	-18%	95%	91%	5%	67%					
% reduction applying CFM reduction		99%	20%	96%	94%	3%			28.70%			0.13
<b>Total % reduction/day/ same BTU output</b>		<b>90%</b>	<b>20%</b>	<b>96%</b>	<b>94%</b>	<b>36%</b>						
<b>Brooks Home-season 1,2.</b>												
2009 -2014	Orig	28	10.6	19	106	57	540	8.4		400	1.35	
	BB (a)	3	12.9	22	35	83	290	5.8	31%	325	1.15	
Raw % reduction of emissions		89%	-22%	-16%	67%	-46%	46%					
% reduction applying CFM reduction		95%	44%	46%	85%	33%			31%			-10%
<b>Total % reduction/ day/same BTU output</b>		<b>97%</b>	<b>45%</b>	<b>47%</b>	<b>88%</b>	<b>38%</b>						
2009-2014	Orig	28	10.6	19	106	57	540	8.4		400	1.35	
	BB (b)	2	12.3	23	21	108	290	5.6		322	1.08	
Raw % reduction of emissions		93%	-16%	-21%	80%	-89%	46%					
% reduction applying CFM reduction		97%	46%	44%	91%	12%			28.50%			10%
<b>Total % reduction/ day/same BTU output</b>		<b>91%</b>	<b>47%</b>	<b>48%</b>	<b>93%</b>	<b>14%</b>						
<b>Town of Needham, MA</b>												
2009-2014	Orig	85	7.9	41	265	67	990	42.8		655	4.97	
	BB	6	10.9	25	23	87	475	28.18	34.16%	322	3.86	
Raw % reduction of emissions		93%	-38%	39%	91%	-30%	52%					
% reduction applying CFM reduction		96%	28%	68%	95%	32%			32.10%			-2%
<b>Total % reduction/day/ same BTU output</b>		<b>91%</b>	<b>30%</b>	<b>70%</b>	<b>96%</b>	<b>35%</b>						
<b>Mass. MCI - Prison - Boiler 1</b>												
2009-2014	Orig	32	11	45	153	86	875	20.6		575	2.18	
	BB	6	12.4	38	65	95	620	13.7	33.50%	438	1.43	
Raw % reduction of emissions		81%	-13%	16%	58%	-10%	29%					
% reduction applying CFM reduction		95%	23%	75%	88%	68%			28.70%			3%
<b>Total % reduction/day/same BTU output</b>		<b>94%</b>	<b>21%</b>	<b>73%</b>	<b>86%</b>	<b>64%</b>						
<b>NH - Wastewater treatment plant</b>												
2009-2014	Orig	48	9.8	26	650	46	1690	55.6		470	4.1	
	BB	9	11.2	35	55	76	590	35.8	35.61%	320	2.67	
Raw % reduction of emissions		81%	-14%	-35%	92%	-65%	65%					
% reduction applying CFM reduction		88%	21%	12%	94%	-8%			31.70%			2%
<b>Total % reduction/day/same BTU output</b>		<b>87%</b>	<b>20%</b>	<b>37%</b>	<b>93%</b>	<b>-7%</b>						
<b>NH. Villa Augustina School</b>												
2010-2013 No. 4 oil	Orig	89	10.9	189	499	175	9600	185		628	14.5	
	BB (b)	8	12.7	185	28	163	3280	139	31%	565	9.5	
Raw % reduction of emissions		91%	-17%	2%	94%	7%	66%					
% reduction applying CFM reduction		94%	23%	36%	96%	39%			31%			24%
<b>Total % reduction/day / BTU outputf</b>		<b>78%</b>	<b>21%</b>	<b>13%</b>	<b>91%</b>	<b>41%</b>						
<b>Easter Seals</b>												
2009-2014	Orig	32	10.5	22	187	110	2,750	62		516	7.8	
	BB	5	11.7	6	5	85	970	48.3	28.70%	284	5.3	
Raw % reduction of emissions		84%	-11%	73%	97%	23%	65%					
% reduction applying CFM reduction		90%	28%	82%	98%	50%			26.70%			2%
<b>Total % reduction/day / BTU outputf</b>		<b>88%</b>	<b>27%</b>	<b>81%</b>	<b>96%</b>	<b>48%</b>						
<b>TOTAL- AVERAGE Reductions-Demo sites.</b>												
		<b>77%</b>	<b>21%</b>	<b>58%</b>	<b>89%</b>	<b>35%</b>			<b>25.20%</b>			
<b>Jan 17-18 2012 testing</b>												
<b>CK Lab results of EPA Total Reductions</b>												
NO.2 fuel oil		65%	15%	36%	18%				28.00%	23%		
NO. 4 fuel oil/ BRB-57		65%	11%	28%	16%				30.00%	32%		
B-100 100% bio fuel		60%	9%	35%	5%				26%	21%		

Boiler sooted up above normal levels, sulfur soot being burned as well.

% reduction of gases and fuel /degree day tested/agreement of parties

Total % reductions in lbs/day(CFD) of flue gasses.taken at base of stack; before regulator.

Total % reductions in lbs/day EPA test of flue gasses.taken after air regulator.40%air dilution.

\* All sites have had a repeated testing on a regular basis to evaluate consistent value.

\*\* All site have a wide range of boiler size, methods of heating, that represent real life conditions.

\*\*\* Instrumentation used were EPA rated and non-EPA rated, some sites by 3ed party with simular results.