

BOILER REQUIREMENTS

STEAM LB/HR	NAT. GAS (CFH)	#2 OIL LB/HR	#6 OIL LB/HR	COMBUSTION AIR LB/HR	SCFM	FLUE GAS LB/HR
5,000	6,006	309	327	5,110	1,109	5,353
10,000	12,012	617	654	10,221	2,218	10,705
20,000	24,025	1,235	1,308	20,443	4,435	21,411
30,000	36,037	1,852	1,962	30,664	6,653	32,116
40,000	48,049	2,470	2,615	40,886	8,871	42,821
50,000	60,061	3,087	3,269	51,107	11,088	53,527
75,000	90,092	4,631	4,904	76,661	16,633	80,290
100,000	120,123	6,175	6,539	102,214	22,177	107,053
150,000	180,184	9,262	9,808	153,322	33,265	160,580
200,000	240,246	12,350	13,077	204,429	44,353	214,106

Based on 125 PSIG saturated steam, 220 F feed water, 83% efficiency & 15% excess

BOILER RATING

LBS OF STEAM PER HR	KG OF STEAM PER HR	KW OUTPUT	BHP OUTPUT	THERM- HOUR OUTPUT	BTU PER HR INPUT
5,000	2,268	1,471	145	50	6,048,000
10,000	4,535	2,943	290	100	12,100,000
20,000	7,070	5,885	580	201	24,200,000
30,000	13,600	8,828	870	301	36,300,000
40,000	18,140	11,771	1,159	402	48,400,000
50,000	22,700	14,713	1,449	502	60,500,000
75,000	34,000	22,058	2,174	753	90,700,000
100,000	45,350	29,427	2,899	1,004	121,000,000
150,000	68,000	44,140	4,348	1,506	181,500,000
200,000	90,700	58,853	5,797	2,008	242,000,000

Based on 125 PSIG saturated steam, 220 F feed water & 83% efficiency.

CONVERSION CHART FOR NO_x, CO and SO₂ EMISSIONS

To convert from:	To: PPM corrected to 3% Oxygen (multiply by the following)		
	Gas (a)	Oil (b)	Coal (c)
lbs. NO _x / 10 ⁶ BTU	826	781	735
lbs. CO / 10 ⁶ BTU	1351	1282	1205
lbs. SO ₂ / 10 ⁶ BTU	592	735	592

a) Assumes dry flue gas at 3% excess oxygen and an EPA F factor of 8710.

b) Assumes dry flue gas at 3% excess oxygen and an EPA F factor of

To convert measured ppm to industry standard of 3% oxygen:

$$\text{ppm @ 3\% O}_2 = \text{ppm measured} \times \frac{17.96}{20.96 - \text{O}_2 \text{ measured}}$$

To convert measured excess

$$\% \text{ excess air} = \frac{20.96}{20.96 - \% \text{ O}_2} \times 100$$