

Saturated Steam Table

Gage Pressure PSIG	Temperature °F	Heat in BTU/lb			Specific Volume Cu. ft/lb
		Sensible	Latent	Total	
0	212	180	970	1150	26.8
5	227	195	960	1155	20.1
10	239	207	953	1160	16.5
20	259	227	939	1166	11.9
30	274	243	929	1172	9.46
40	286	256	920	1176	7.82
50	298	267	912	1176	6.68
60	307	277	906	1183	5.84
70	316	286	898	1184	5.18
80	324	294	891	1185	4.67
90	331	302	886	1188	4.24
100	338	309	880	1189	3.89
110	344	316	875	1191	3.59
120	350	322	871	1193	3.34
125	353	325	868	1193	3.23
130	356	328	866	1194	3.12
140	361	333	861	1194	2.92
150	366	339	857	1196	2.74
155	368	341	855	1196	2.68
175	377	351	847	1198	2.41
200	388	362	837	1199	2.14
225	397	372	828	1200	1.92
250	406	382	820	1202	1.75

Boiler Energy Tables

Fuel & Emissions Equivalents for One Boiler Horsepower

Fuel	Quantity/BHP	CO ₂ /BHP
Natural Gas @ 1000 BTU/CF	42 CF	3.92 lbs.
No.2 Oil @140,000 BTU/G	0.29 G	5.40 lbs.
Coal @ 12,500 BTU/lb	3.5 lbs.	7.20 lbs.

lb/hr Steam Carrying Capacity of sch. 80 Pipe with Minimum Pressure Drop

Pipe Dia.	Pressure PSIG				
	15	100	150	200	300
3"	1000	3500	4000	7000	8500
4"	2000	7000	8000	14000	17000
6"	5000	18500	22000	40000	48000
8"	10000	37500	44000	80000	96000
10"	17500	66000	78000	140000	169000
12"	27000	10200	121000	217000	261000

Kilowatt Produced per 1000lb/hr of Steam

D&S Steam Inlet Pressure	With Back Pressure Exhaust @ 15 PSIG	Condensing to 4.0 In. HGABS.
130 PSIG	19 KWH	50 KWH
175	22	53
225 °	24	57
275	27	59
325	29	61

Steam Leaks @ 100 PSIG

Hole Size	Steam Loss
1/8"	76 lbs/hr
1/4"	303 lbs/hr
3/8"	683 lbs/hr
1/2"	1,210 lbs/hr

Useful Conversions

<p>=33,745 BTU/hr</p> <p>1 Boiler Hp =34.5 lbs/hr steam (at 212°F)</p> <p>=SCFH Gas Consumption</p>	<p style="text-align: center;">Temperature:</p> <p>°F = 1.8 C + 32 °C = 0.56 x (F-32)</p>
1 GPM water = 500 lbs/hr steam	Natural Gas HHV = 1004 BTU/cubic ft
Evaporation Rate (GPM) = BHP x 0.069	1 PPM of hardness = 17.1 grains