

The information contained herein is intended as a guide only. Lattner is not responsible for sizing any steam boiler as Lattner normally has no access to the unique physical characteristics, design requirements, or other factors that may affect boiler horsepower requirements.

If you know the required pounds of steam per hour...

Step 1: Determine the BTUs per pound of steam from the table below according to the feedwater temperature and operating pressure of your application.

		Operating Pressure (PSIG)											
		5	10	15	20	25	30	40	50	60	80	100	120
Feedwater Temperature (°F)	50	1138	1142	1145	1148	1152	1154	1158	1161	1164	1168	1172	1175
	60	1128	1132	1135	1138	1142	1144	1148	1151	1154	1158	1162	1165
	70	1118	1122	1125	1128	1132	1134	1138	1141	1144	1148	1152	1155
	80	1108	1112	1115	1118	1122	1124	1128	1131	1134	1138	1142	1145
	90	1098	1102	1105	1108	1112	1114	1118	1121	1124	1128	1132	1135
	100	1088	1092	1095	1098	1102	1104	1108	1111	1114	1118	1122	1125
	120	1068	1072	1075	1078	1082	1084	1088	1091	1094	1098	1102	1105
	140	1048	1052	1055	1058	1062	1064	1068	1071	1074	1078	1082	1085
	160	1028	1032	1035	1038	1042	1044	1048	1051	1054	1058	1062	1065
	180	1008	1012	1015	1018	1022	1024	1028	1031	1034	1038	1042	1045
	200	988	992	995	998	1002	1004	1008	1011	1014	1018	1022	1025
	220	968	972	975	978	982	984	988	991	994	998	1002	1005

Step 2: Determine the Kilowatts (KW) required by inserting the BTUs per pound of steam from the table above into the following formula:

$$KW = \frac{\text{BTUs per pound of steam} \times \text{pounds of steam per hour required}}{3413}$$

Step 3: Determine the boiler horsepower (HP) by calculating:

$$HP = \frac{KW}{9.809}$$

Note: This will render the horsepower required for your application. However, this assumes your boiler is operating efficiently, your burner is tuned correctly, you have adequate gas pressure and volume, you have adequate air for combustion (“make-up air”), you have adequate exhaust, and you blow your boiler down on a daily basis. Lattner is not responsible for boiler performance if it is not properly cared for and maintained. For further information, please see Lattner Warranty and Standard Terms & Conditions documents included with manual provided with boiler.



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If you know the horsepower of an existing boiler...

Step 1: Calculate the number of BTUs per hour your boiler requires (at high fire):

$$\text{BTUs} = \text{Boiler Horsepower} \times 33,480$$

Step 2: Divide the answer above by the BTUs per pound of steam from the table above.

$$\text{Ex. } 15 \text{ (HP)} \times 33,480 = 502,200 \text{ BTUs}$$

$$\frac{502,200 \text{ BTUs}}{1162 \text{ BTUs per pound of steam}} = 432.19 \text{ pounds of steam}$$

Interpreting this answer, a 15 horsepower boiler with a feedwater temperature of 60° F and an operating pressure of 100 PSIG will produce approximately 432.19 pounds of steam (per hour).



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