HELPFUL BOILER HINTS

Boiler Horsepower

1 Boiler H.P.  34 ½ pounds of water converted to steam per hour (15.65 KG)
1 Boiler H.P.  45 cu. Ft. gas consumed per hour (1.27 Cu. Meter)
1 Boiler H.P.  33,475 B.T.U. per hour

Low Pressure Boiler - - - 15 psi or under pressure
High Pressure Boiler - - - over 15 Psi pressure

How to Size a Boiler

Requirements:
Rolling - - - - - corn or milo   hourly capacity x 10 to 13%=H.P. 34.5
Oats or barley        hourly capacity x 3 to 5%=H.P. 34.5
Pelleting - - - - -   hourly capacity x 4 to 6%=H.P. 34.5
Heating Liquids – Molasses - - 1 Boiler H.P. will heat 34 ½ (130.6 liter) gallons molasses per hour
Fats - - - 1 Boiler H.P. will heat 69 (261 liter) gallons fat per hour
Heating - - - - - - 1 Boiler H.P. produces 33,475 BTU per hour

High Moisture Steam Caused by:

1. Water level in boiler too high.
2. Too many additives or improper water treatment of boiler.
3. Boiler overloaded or being worked too hard.
4. Dirty Boiler – should be blown down according to boiler manufacturers recommendations and according to water hardness.
5. Long distance of steam travel through an uninsulated pipe.
6. A high steam pressure does not mean less moisture in the steam but does produce higher temperatures.
<table>
<thead>
<tr>
<th>Boiler Pressure</th>
<th>Temperature</th>
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<tbody>
<tr>
<td>10 psi</td>
<td>239 °F / 115 °C</td>
</tr>
<tr>
<td>15 psi</td>
<td>250 °F / 121 °C</td>
</tr>
<tr>
<td>20 psi</td>
<td>259 °F / 126 °C</td>
</tr>
<tr>
<td>30 psi</td>
<td>274 °F / 134 °C</td>
</tr>
<tr>
<td>40 psi</td>
<td>286 °F / 141 °C</td>
</tr>
<tr>
<td>100 psi</td>
<td>338 °F / 170 °C</td>
</tr>
<tr>
<td>125 psi</td>
<td>353 °F / 178 °C</td>
</tr>
<tr>
<td>150 psi</td>
<td>366 °F / 186 °C</td>
</tr>
<tr>
<td>200 psi</td>
<td>388 °F / 198 °C</td>
</tr>
</tbody>
</table>

Water requirements for boilers

4 gallons (15.2 liter) of feed water per boiler H.P. per hour

Ideal water hardness for best boiler operation is 3-4 grains of hardness

These figures are general rule of thumb and may vary with atmospheric temperature change.

Compliments of:
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