

## 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	$\frac{\text{hourly capacity} \times 10 \text{ to } 13\%}{34.5} = \text{H.P.}$
Oats or barley	$\frac{\text{hourly capacity} \times 3 \text{ to } 5\%}{34.5} = \text{H.P.}$
Pelleting - - - - -	$\frac{\text{hourly capacity} \times 4 \text{ to } 6\%}{34.5} = \text{H.P.}$
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.

Boiler Pressure

Temperature

10 psi	239 °F / 115 °C
15 psi	250 °F / 121 °C
20 psi	259 °F / 126 °C
30 psi	274 °F / 134 °C
40 psi	286 °F / 141 °C
100 psi	338 °F / 170 °C
125 psi	353 °F / 178 °C
150 psi	366 °F / 186 °C
200 psi	388 °F / 198 °C

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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