



Understanding Snowmelters - Know Your BTU's

The importance of understanding how snowmelters are rated and the role of BTU's will help you determine true snowmelting expectations, regardless of the manufacturer. Currently NO standard has been set in the Snow Industry on how snowmelters should be rated in terms of tons/hour. ***What this means to you? Different manufacturers rate their equipment based on different equations and variables, resulting in confusion when trying to compare snowmelters.*** With that being said, compare snowmelters by their BTU rating – the common denominator with all melters!

Melting snow is nothing more than the transition of one mass to another, turning ice/snow into water. Each specific mass has an exact point at which the amount of energy required for this transition will occur (latent heat of fusion). Since there is no specific mass of snow due to variance of density and water content, the Latent Heat of Ice (144 BTU) is used.

***You Have
A Right
To Know!***

Latent Heat of Fusion			
Substance	Btu per Pound	Substance	Btu per Pound
Paraffine.....	63.27	Sulphur.....	16.86
Phosphorus.....	9.06	Tin.....	25.65
Lead.....	10.00	Zinc.....	50.63
Silver.....	39.92	Ice.....	144.00

Table shown in Machinery's Handbook 22nd Edition, page 2308.

***Ask How
Snowmelt
Ratings Are
Calculated!***

To date, Snow Dragon is the only manufacturer that publishes their rating information. As shown above, 144 BTU is required to convert 1 pound of ice into water. In order to calculate the ratings, the equation is simple:

$$\text{Tons/hr} = \text{BTU per hour available} / 144 \text{ (Latent Heat of Ice)} / 2000 \text{ pounds}$$

If you knew you wanted to melt a specific ton/hr of snow, to determine the amount of BTU's required is simply stated as:

$$\text{BTU's Required} = 2000 \text{ pounds} \times 144 \text{ (Latent Heat of Ice)} \times \text{Tons/hr to melt}$$

Don't get confused by Smoke & Mirrors! Since each manufacturer bases their ratings on different variables, compare snowmelters by their BTU ratings. Call Snow Dragon today for a detailed review of your Snowmelting Expectations and a full copy of our engineering report.