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The following is an “ASHREA” standard design assessment. Properly filled out, sizing, cost of operation, and recovery time are predictable. If you choose to heat any body of water without a cover you should expect approximately double the operational cost.

<p>Information required for Pool Heater sizing:</p> <p>Length* = Width* = Depth* = Start Temperature = Desired Temperature = Covered Y or N Screen Enclosure Y or N Salt Pool Y or N Voltage 110 or 230</p>	
<p>*If pool shape is irregular use the average measurement.</p>	

Calculations to Size Pool Heater:

- Determine how many gallons of water the pool contains.
 $(L \times W \times D) \times 7.48 =$ gallons per cubic ft.
- Determine Delta T (Temperature Rise)
 Desired Temperature - Start Temperature = Delta T
- Determine the Btu's per hour required.
 $\text{Gallons per cubic ft.} \times 8.34 \times \text{Delta T} / \text{hours to heat pool} = \text{Btuh}$

Calculations to Maintain Pool Heat:

Temperature Difference (°F)	10°	15°	20°	25°	30°
Btuh / sq. ft.	105	158	210	263	368

To maintain desired temperature assume loss with no cover while in use.

Example: 20 x 30 pool = 600 sq. ft.

Air Temp = 70°F Desired Pool Temp = 80°F, $80^\circ - 70^\circ = 10^\circ$ Temp Difference
 $600 \text{ sq. ft.} \times 105 \text{ Btuh / sq. ft.} = 63,000 \text{ Btuh}$ to maintain desired pool temperature without a cover or while in use.