



What is a BTU?

British thermal unit (BTU or Btu)

The **British thermal unit** (BTU or Btu) is a traditional unit of energy equal to about 1 055.05585 joules. It is approximately the amount of energy needed to heat 1 pound (0.454 kg) of water 1 °F (0.556 °C).

It is used in the power, steam generation, heating and air conditioning industries. In scientific contexts the BTU has largely been replaced by the SI unit of energy, the joule, although it may be used as a measure of agricultural energy production (BTU/kg).

All gas & oil swimming pool boilers tend to be sized in BTU's. Below you will see a typical scale of BTU's expressed in units of thousands used in the pool boiler industry and the equivalent Kilo Watt conversion;

$$1 \text{ watt} = 3.41214 \text{ BTU/h} - 1 \text{ kilo watt} = 3412 \text{ BTU/h} - 1000 \text{ BTU/h} = 293 \text{ watt's}$$

Typical Boiler Sizes as indicated for input power:

55,000 btu = 16 Kilo Watts

105,000 btu = 30 Kilo Watts

125,000 btu = 36 Kilo Watts

155,000 btu = 45 Kilo Watts

175,000 btu = 51 Kilo Watts

185,000 btu = 54 Kilo Watts

250,000 btu = 73 Kilo Watts

265,000 btu = 77 Kilo Watts

325,000 btu = 95 Kilo Watts

400,000 btu = 117 Kilo Watts

Depending on the efficiency rating of the boiler greatly effects its final performance. Traditional boilers tend to be 80% efficient, so 20% is lost in the process of combustion etc, condensing boilers tend to be closer to 95% efficient so only 5% or so is lost from the input power rating. For comparison purposes, a traditional pool boiler of 125,000 BTU will generate 100,000 BTU's of heat per hour, whereas a Genie 36kw (123,000 BTU) boiler will generate 118,000 BTU's of heat per hour, almost 20% more per hour than the traditional style boiler.