



SINCE 1934
A HERITAGE OF STEAM INNOVATION

WHAT'S IN A DEGREE FOR WATER HEATING?

What does 5°F mean to you?

Consider...it takes 8.34 BTU to heat one gallon of water 1°F.

gas purchased, 857 thousand BTUs are transferred to the boiler. Most boilers operate in the range of 70% effectiveness in transferring BTUs to steam energy. This results in around 600,000 BTUs of steam heat energy available from each million BTU of natural gas or 60% of the natural gas energy content.

If your process heats 330 gallons per minute of water from 145°F to 190°F; approximately 206,415 natural gas BTUs are consumed each minute. Extrapolated, this is over 12.3 million BTU per hour – approximately \$60 at \$5/MMBTU. And this assumes you have a perfect steam system after the boiler. We all know that leaks, valves, condensate traps, etc. are common energy wasters.

What happens after a few years when your heater begins to wear and becomes unable to maintain accurate temperature control? In order to achieve 190°F, it is typical to adjust the set point higher – to say, 195°F.

Let's Do Some Math

Temperature rise: 50°F (195°F-145°F)

Required BTU per gallon: 418.7 btu/gal (8.34 lbs/gal x 50°F x 1.004 btu/lbs °F)

Gallons per minute: 330 gpm

Required BTU per minute: 138,160 (376.8 btu/gal x 330 gpm)

Required natural gas BTU per minute: 230,267 (138,160 btu/min/.6)

Natural gas used per hour at \$5.00/MMBTU: \$70

Wasted Energy Expense

\$10/hour in additional cost = \$240 per 24-hour day = \$1,680
per 7 day week = \$85,714 per 51 week year

What would it mean to you to have temperature control within 1°F?

It could mean thousands of dollars.

Compare this to having your EZ Heater® refreshed with new internal components and tuned for accuracy:

Spare heaters: The largest and most advanced spare heater will likely cost less than \$20,000*, saving you at least \$40,000 the first year. *Actual quotes by request.