

Therma-Stor Heat Reclaim Water Heating System Return On Investment Calculation Form

When you know the refrigerant tonnage and water rate, use the Therma-Stor Water Heating Chart below to calculate your Therma-Stor R.O.I. (See other side for example).



- 6. \$ ______ hourly savings x ______ hrs. compressor run time/day = \$ ______ daily savings from Therma-Stor.
- 7. \$ ______ daily savings x ______ workdays/year = \$ ______ yearly savings from Therma-Stor.
- 8. \$ ______ yearly savings ÷ \$ ______ installed cost = \$ _____ % R.O.I. (simple pretax).

Therma-Stor is eligible for energy credit, investment credit, and capital equipment depreciation.

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Therma-Stor Heat Reclaim Water Heating System Return On Investment Calculation Form EXAMPLE

A restaurant has an average hourly hot water usage of 80 gallons per hour, has 3 tons of refrigeration and uses natural gas to heat water at a rate of .98¢ per therm.

Under these conditions, the incoming water temperature would be raised 40F. This is equivalent to saving .444 therms of natural gas per hour. If the compressors operate 16 hours per day, while the hot water is 80 gallons/hour, the daily savings would be \$7.04. If the restaurant were open 360 days per year, the savings would be \$2534.40. Based on an installed cost of \$4800.00, the return on investment would be 52.8%.



- 1. Calculate tonnage + draw horizontal line.
- 2. Calculate gallons/hr + draw vertical line.
- 3. Calculate degrees F rise from intersecting point.
- 4. _____ gals./hr. x 8.33 lbs./gal. x _____ °F rise (from chart) = $\frac{26,656}{8}$ BTU's/hr. recovered
- 5. a. Natural Gas: (<u>26,656</u> BTU's recovered ÷ 60,000 (effective BTU's/therm when adjusted for 60% water heater efficiency) = <u>.444</u> equivalent natural gas therms saved/hr. x \$ <u>.98</u> (cost/therm) = \$ <u>.444</u>
 - b. **Fuel Oil:** (______ BTU's recovered ÷ 72,000 (effective BTU's/therm when adjusted for 50% water heater efficiency) = ______ equivalent gallons of fuel saved/hr. x \$ ______ (cost/gallon) = \$ _____ hourly savings.
 - c. LP: (_____ BTU's recovered ÷ 55,000 (effective BTU's/therm when adjusted for 60% water heater efficiency) = _____ equivalent gallons of LP gas saved/hr. x \$ _____ (cost/gallon) = \$ _____ hourly savings.
 - d. Electric: (_____ BTU's recovered ÷ 3,072 (effective BTU's/therm when adjusted for 90% water heater efficiency) = _____ equivalent kWh saved/hr. x \$ _____ (cost/kWh) = \$ _____ hourly savings.
- 6. 44 hourly savings x <u>16</u> hrs. compressor run time/day = <u>7.04</u> daily savings from Therma-Stor.
- 7. \$ 7.04 daily savings x 360 workdays/year = \$ 2534.40 yearly savings from Therma-Stor.
- 8. 2534.40 yearly savings \div 4800.00 installed cost = 52.8 % R.O.I. (simple pretax).

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