

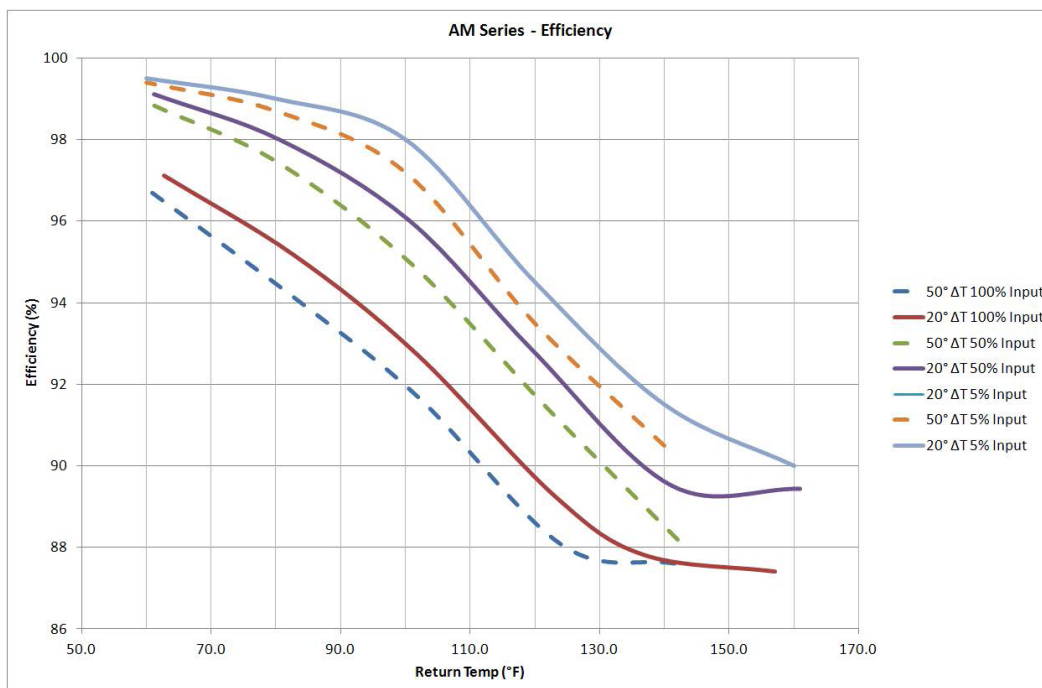
Technologies

# Seasonal Performance In Commercial Condensing Boilers

## What Do We Mean by Seasonal Efficiency?

Heating plant size is dictated by the total capacity needed to fully heat a building on the very coldest day or night in a given climate zone. However, such extreme weather is rarely experienced throughout the year. While a few winter days may come close to “design conditions” with boilers firing nonstop at 100% capacity, during warmer fall and spring days, far less demand is placed on the boiler plant to maintain building heat. To accurately predict the efficiency and operating cost of your system, it is critical to consider how frequently you experience the part-load days and how your boilers perform under these conditions.

The coldest days typically contribute the least cost to the overall total heating bill. More money is spent during “mild” weather. The modulating design of AERCO equipment results in increased efficiency under part-load conditions. As the example illustrates, this leads to greater overall savings than are possible with conventional equipment whose performance is maximized only at full fire and whose efficiency suffers from cycling losses in part-load conditions.



## Where Would You Rather Cut Costs by 10%?

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- Assume 2,000 MBH load at 10°F: 2,000 MBH x 25 hours = 50,000,000 BTU 500 therms @ \$0.50/therm = \$250 cost.
- Assume 800 MBH load at 45°F: 800 MBH x 636 hours = 508.8 M BTU 5088 therms @ \$0.50/therm = \$2,544 cost.

