High Efficiency Commercial Water Heating

Cyclone History

- Production began in 1996
- Originally 4 model sizes
- 300 added in 2003
- 400 added in 2004
- BTX-80 added in 2006
- 500 added in 2007
- Xi redesign
- BTH/SUF equal 24% of industry

X-treme Intelligence – The Think Tank

- With the extreme intelligent control system – the Cyclone Xi is the smartest water heater ever made
- The analytic capabilities set the new benchmark for performance and efficiency

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Superior Quality

- Best in Class Components
  - Pre-mixed burner
  - Quiet blower
  - Powered anodes

CYCLONE Xi

Powered Anodes

CYCLONE Xi

- Standard on all models
- Modern yet proven technology
- Control communicates with anodes
- Dual probes
- Superior tank protection
- No replacement or inspection
- No smelly water
- Low conductivity water

CYCLONE Xi™

Advanced Control System

- Exclusive A. O. Smith designed control
- Easy to read LCD display with plain English messages
- Precise temperature control
- Built-in diagnostics
- Run history information
- Detailed water heater status data

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Payback Calculator

- http://www.hotwater.com/products/payback.aspx

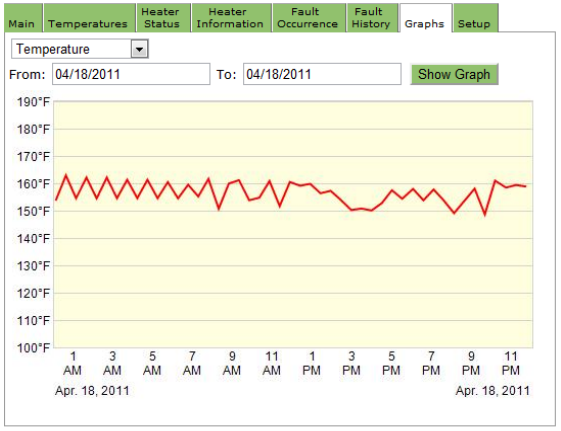
Restaurant Applications

Typical Install

Mt. Juliet TN.

Cranberry PA. BTH 300s

Cranberry Twp PA : 30
A. O. Smith Cyclone Xi © (BTH)



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Cranberry Twp PA : 30
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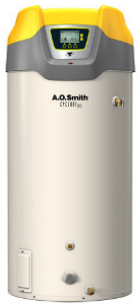

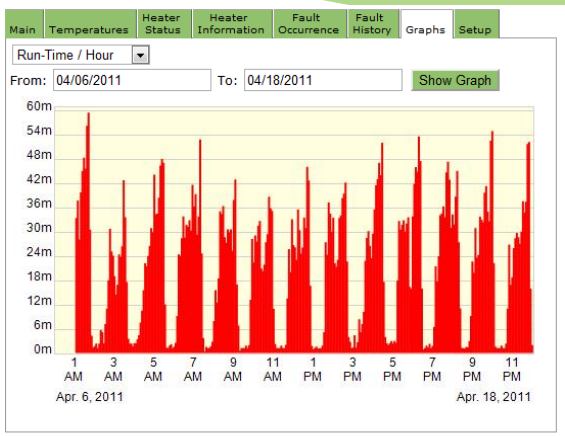

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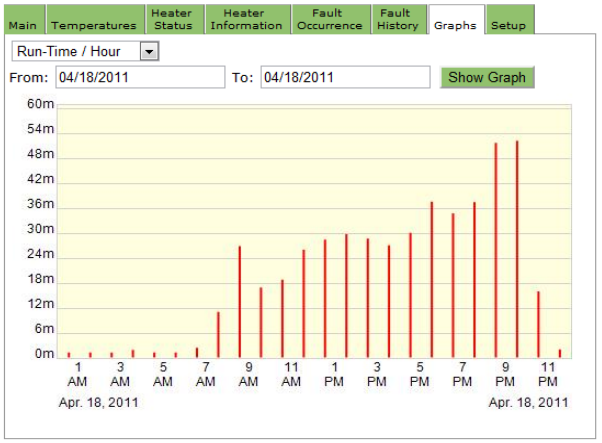
Here is a day in the operation of one of two BTH 300 units. April 18. (Upper right is a two week graph to show consistencies in day to day operation) Temperature fluctuates from about 150° to 162°F. Minimal run time at night and day saving gas and ware and tare on the heaters. Good Sizing.

Cranberry Twp PA : 30
A. O. Smith Cyclone Xi © (BTH)



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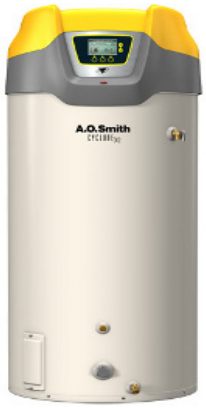
High set points are wasteful

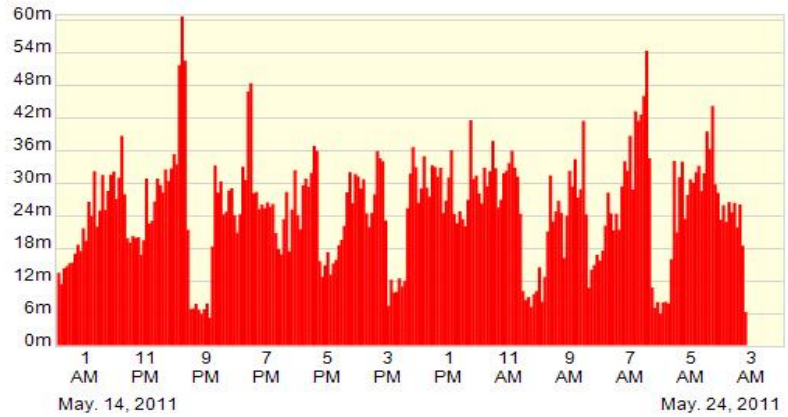
Tampa FL 31
A. O. Smith Cyclone
Xi © (BTH)



Main | Temperatures | Heater Status | Heater Information | Fault Occurrence | Fault History | Graphs | Setup

Run-Time / Hour

From: 05/14/2011 To: 05/24/2011 Show Graph



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Tampa's high set point causes it to run more cycles even at night to keep the tank at 180°. A lower set point would make the heater cycle less day and night which saves gas and components. One of two BTH 199's for a ten day period.

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What About Commercial Tankless?

Commercial Tankless

- Commercial is a different market and application need
- Tankless technology faces challenges in commercial applications
- High efficiency tank type is well established in the commercial market
- Unlike residential, we all make more money selling BTH/SUF vs. tankless
- We ensure repeat customers by selling them the best option
- Rinnai, Noritz, Navien and Eternal would welcome us promoting commercial tankless
- The evidence shows BTH/SUF is the best solution

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Understanding the Facts

Commercial Tankless Myths and Challenges

- Efficiency comparison
- Myth of commercial tank type standby loss
- Commercial tankless maintenance
- The impact of scale build-up
- Meeting peak demand
- Tankless water waste
- Commercial tankless actual space savings
- Parts availability and service expertise in the field
- What our customers are saying

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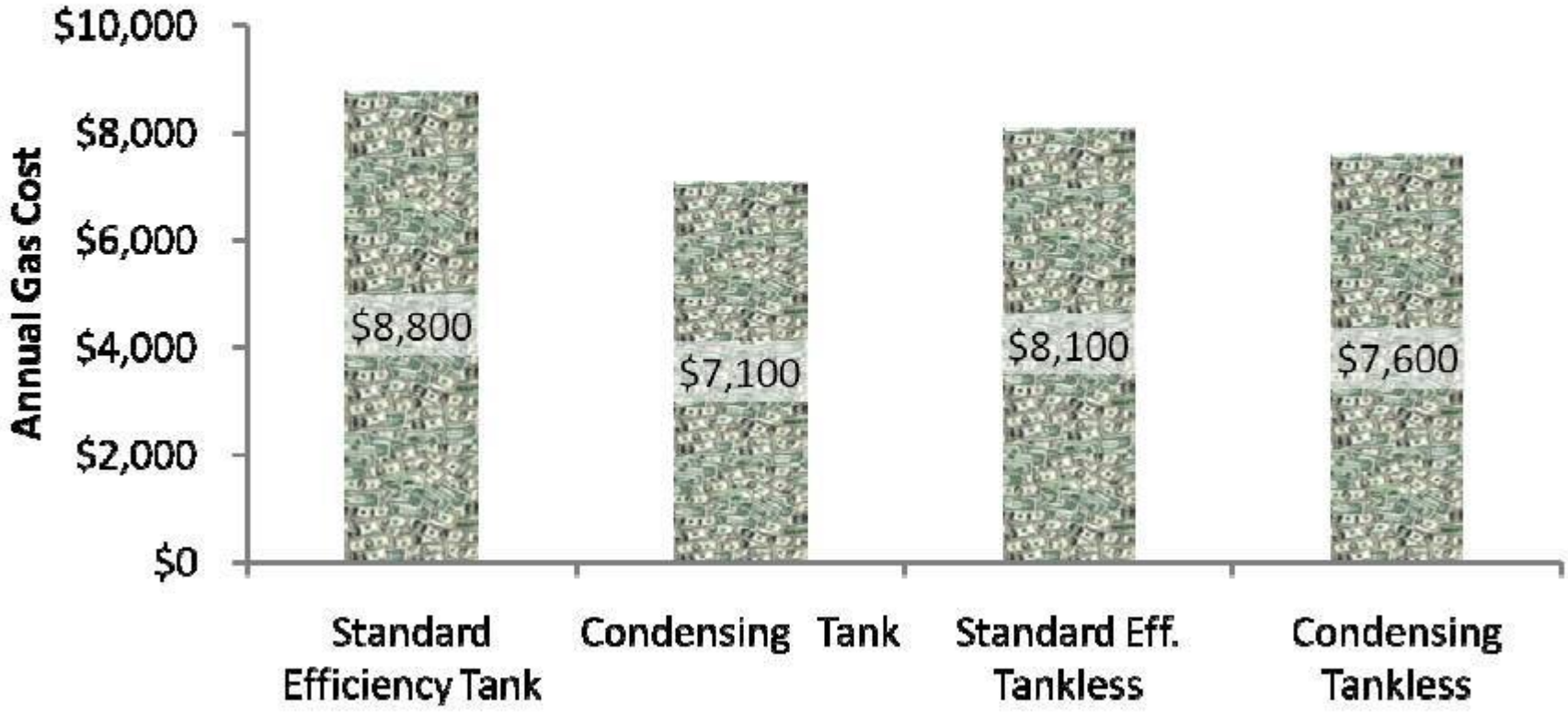
Efficiency Comparison

- Commercial tankless marketing never compares tankless efficiency to hi-eff tank type
- Field monitoring by FSTC shows water supplied by tankless is approx 10F below the temp supplied by tank type water heaters
- Testing proves high-eff tank type is highest efficiency option

Efficiency Comparison

A full-service restaurant @ 2500 gallons/day and $1.00/therm would save $1,700 annually



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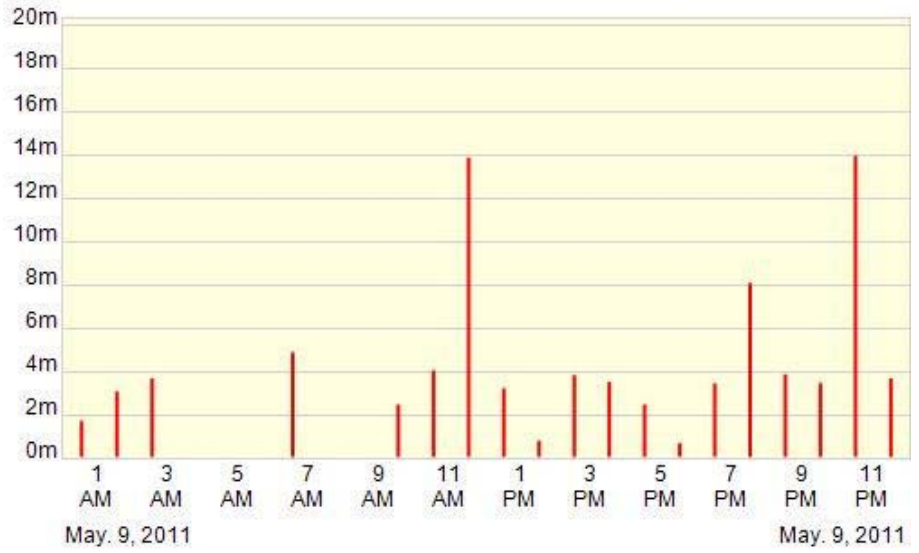
Commercial Tank Type Standby Loss

- Myth: Commercial tankless delivers huge savings related to avoiding standby loss
- BTH/SUF 199 has standby loss of 967 Btu/hr or 1.75%. This equals $0.24 a day at $1.05 per therm
- Standby loss savings in commercial is minimal
- iCOMM 24hr view of Arby's run time per hr.



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Commercial Tankless Maintenance

- Single largest complaint of facility managers
- Regular filter and heat exchanger maintenance
- Monthly, bi-annual or yearly depending on usage and water hardness
- Warranty void if not maintained
- Maintenance cost needs to be included in overall operational expense
- Regular maintenance on a commercial water heater is foreign to most facilities

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Impact of Scale Build-up

- Batelle report studied impact of scale build-up on efficiency in tankless water heaters

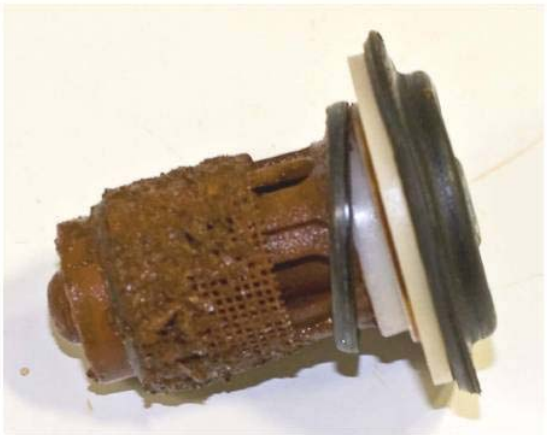


Figure 5-5. Clogging of the strainers from the disassembled pressure regulators of the instantaneous water heaters on unsoftened water.

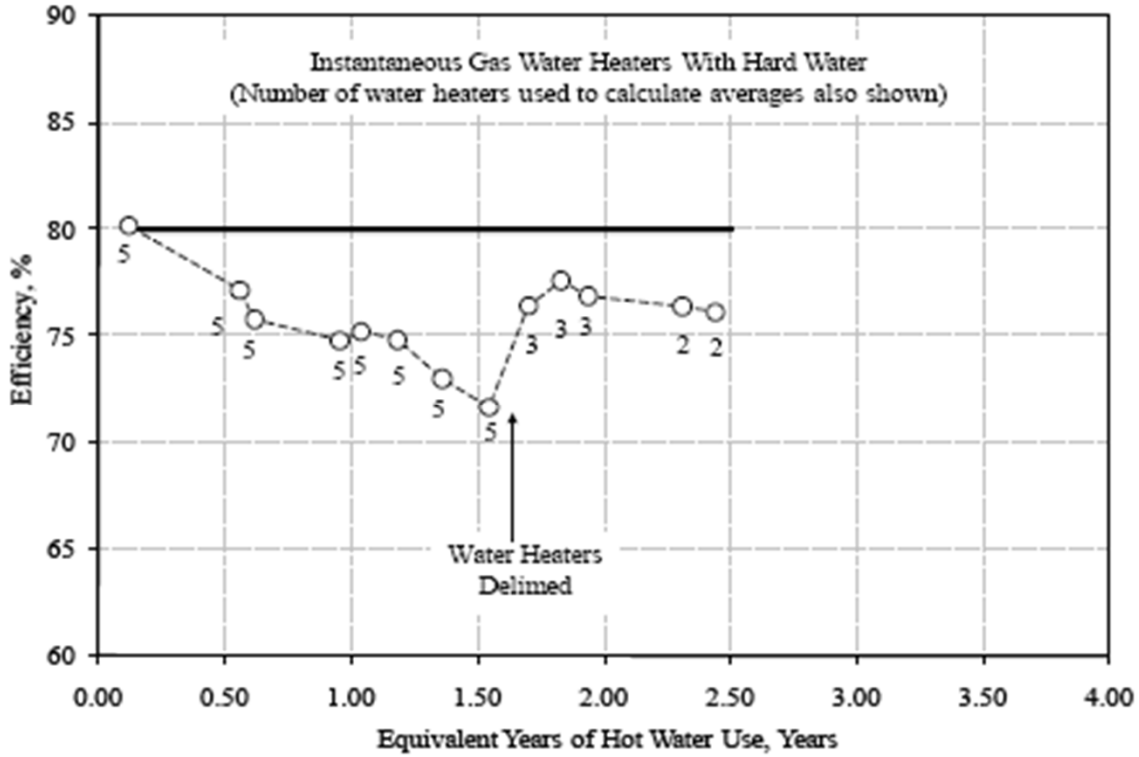


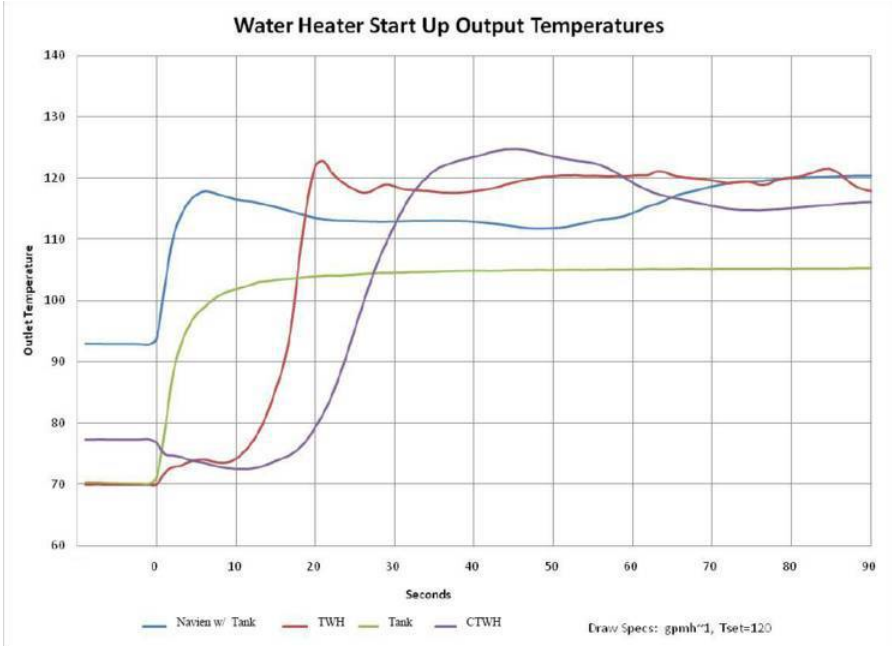
Figure 5-3. Efficiencies of the instantaneous gas water heaters using unsoftened water.

Meeting Peak Demand

- Fundamental advantage of storage design
- Commercial applications typically have high peak demand periods with large dump load
- Properly sized tankless jobs may have double the BTU input to cover peak demand
- Restricted water flow may not be acceptable in all commercial applications

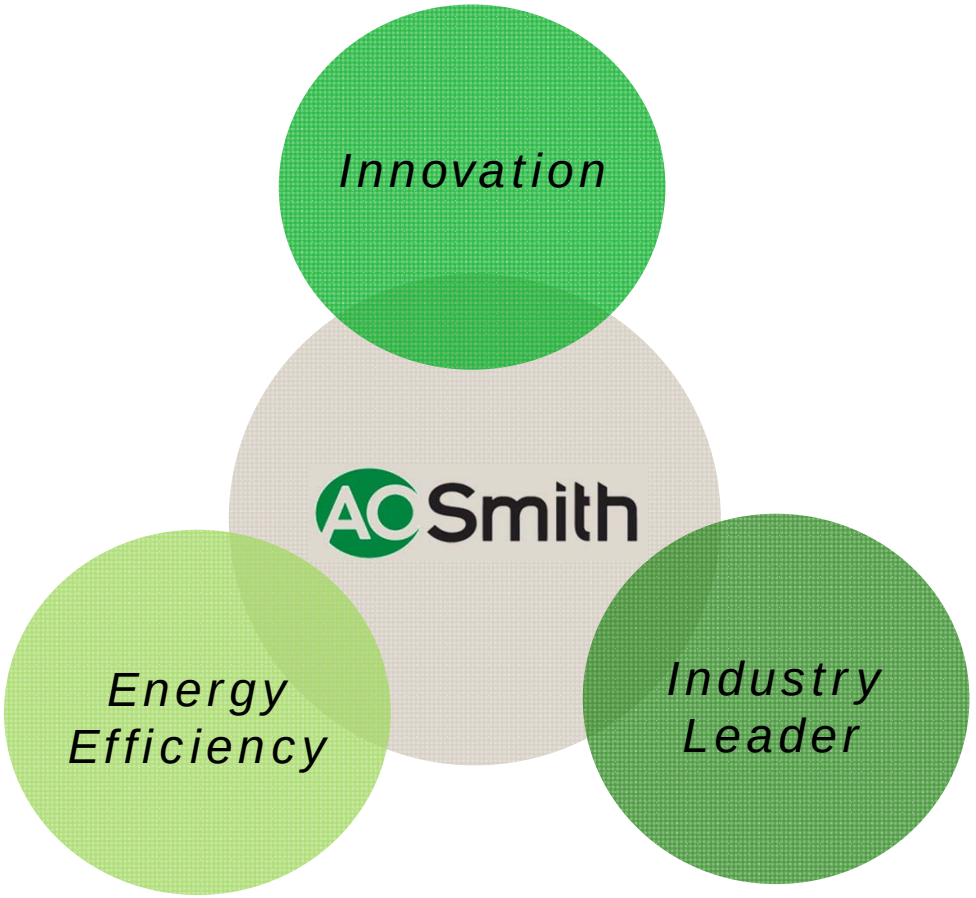
Tankless Water Waste

- Tankless units take avg 8 – 12 seconds longer to deliver hot water to fixtures
- Water waste increases water/sewer cost
- Bad for the environment



Tankless Space Savings

- With multiple units, complex piping and venting plus service/maintenance access how much actual space savings?



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