

# HeatSponge High Performance Boiler Economizers

## Soak Up Wasted Energy With A HeatSponge Economizer

### Engineering Information On Heatsponge Economizer

Heatsponge manufactures four types of rectangular units: the **BOSS** Base-Line Recovery Unit, **MAGNUM** Mid-Range Recovery Unit, the **SUPER** High Recovery Unit, and the **TITAN** for very large boiler applications. These units feature identical construction with the only difference being the arrangement of the tubes inside of the unit. The **BOSS** unit features a longer effective length tube circuit with fewer rows in depth. The **SUPER** Recovery unit features a shorter effective length and increased tube depth. This requires more tubes in unit width to maintain the same gas side pressure drop across the bundle. The end result is more tubes, therefore more heating surface in the **SUPER** unit. The **MAGNUM** fits in between the **BOSS** and **SUPER** providing better energy recovery at mid level pricing. The **TITAN** utilizes a double-tube element per circuit to accommodate large gas and water flow rates without excessive pressure loss and is primarily used on larger firetube and watertube boilers.

All Heatsponge **BOSS**, **MAGNUM**, **SUPER**, and **TITAN** Economizers Feature As A Standard:

- Computerized rating performance
- ASME Section VIII Construction Standard (Section I available contact us)
- 600 psig design pressure at 700 deg F design temperature  
- 600 psig design pressure at 600 deg F design temperature for duplex applications
- One-piece casing construction provides strength and easy installation
- Integral inlet and outlet transition pieces
- Integrated stack adapter flanges included as a standard
- Individually removable finned tube elements
  - Unit utilizes a true square-pitch tube arrangement and not a triangular, staggered, or coiled arrangement
  - SA-178-A/SA-214 carbon steel tube with carbon steel fin for deaerated water application
  - Type 304 Stainless steel tubes with stainless steel fins for cold water or non-deaerated water applications  
- We reserve the right to upgrade to 316 stainless steel tubes at no change in price based on material availability
  - Type 2205 Duplex stainless with stainless steel fins for cold water or non-deaerated water applications
  - All units feature 0.75" OD tubing, 0.060 min wall for carbon steel, 0.049 ave wall for stainless
  - Fin pitch either 2, 3, 4, 5, or 6 per inch, 0.040" thick, 0.500" tall  
- 6 fins for gas only firing - 5 fins for gas firing with #2 oil firing less than one week per year  
- 4 fins for consistent #2 oil firing - 3 fins for #6 oil firing - 2 fins for wood or other solid fuel firing
  - All units utilize compression fittings to connect tubes to headers
  - The fittings are threaded into the headers so there are NO ASME PRESSURE PART WELDS in our system
- Insulated, bolted removable rear door  
- Simply unbolt the rear door with the boiler offline and use a hose for quick and easy periodic cleaning
- Outer casing fully insulated with 2 inches mineral wool insulation
- Units provided with outer lagging factory installed
- Headers factory threaded or flanged per proposal
- Unit is 100% drainable by gravity in either vertical or horizontal installation
- Supply of an ASME Safety Relief Valve set at 250 psig as standard (other pressures may incur price change)

For smaller boilers around 300 HP or smaller HeatSponge offers the very high quality **SHORTY** coiled-tube economizer. This unit utilizes a stainless steel tube in a stainless steel casing.

The Heatsponge **SHORTY** Model Economizers Feature As A Standard:

- Computerized rating performance
- ASME Section VIII Construction Standard (Section I available contact us)
- All units utilize compression fittings to connect tubes to headers - this is an industry leading repairable coiled design
- 450 psig design pressure at 600 deg F design temperature
- One-piece casing construction provides strength and easy installation
- Integral inlet and outlet transition pieces
- Integrated stack adapter flanges included as a standard
- Individually removable coiled finned tube elements
  - Base: Type 304 Stainless steel tubes with stainless steel fins for cold water or non-deaerated water applications  
- We reserve the right to upgrade to 316 stainless steel tubes at no change in price based on material availability
  - Type 2205 Duplex stainless with stainless steel fins for cold water or non-deaerated water applications
  - All units feature 0.75" OD tubing 0.049 ave wall

- Fin pitch either 4, 5, or 6 per inch, 0.040" thick, 0.500" tall
  - 6 fins for gas only firing - 5 fins for gas firing with #2 oil firing less than one week per year
  - 4 fins for consistent #2 oil firing
- Insulated, bolted removable rear door
  - Simply unbolt the rear door with the boiler offline and use a hose for quick and easy periodic cleaning
- Outer casing fully insulated with 2 inch mineral wool insulation
- Units provided with outer lagging factory installed
- Unit is 100% drainable by gravity in vertical installation
- Supply of an ASME Safety Relief Valve set at 250 psig as standard (other pressures may incur price change)

The Heatsponge **SIDEKICK** Model Economizers Feature As A Standard:

- Computerized rating performance
- ASME Section VIII Construction
- Full stainless steel internal construction
- Lower stainless steel sump to collect condensation
- Staggered tube pitch for maximum effectiveness in condensing applications
- 450 psig design pressure at 600 deg F design temperature
- One-piece casing construction provides strength and easy installation
- Integral inlet and outlet transition pieces
- Integrated stack adapter flanges included as a standard
- Type 304 Stainless steel tube with stainless steel fins
  - We reserve the right to upgrade to 316 stainless steel tubes at no change in price based on material availability
  - 0.75" OD tubing, 0.049 ave wall
  - Fin pitch of 6 per inch, 0.040" thick, 0.500" tall
- Insulated, bolted upper and lower access panels
  - Simply unbolt with the boiler offline and use a hose for quick and easy periodic cleaning
- Outer casing fully insulated with 2 inch mineral wool insulation
- Units provided with outer lagging factory installed
- Headers factory threaded or flanged per proposal
- Unit is 100% drainable by gravity in vertical installation
- Supply of an ASME Safety Relief Valve set at 250 psig as standard (other pressures may incur price change)