

C&H SERVICES SBU



Boost overall boiler thermal efficiency

■ What is Economizer?

Economizers are basically tubular heat transfer surfaces used to preheat boiler feed water before it enters the steam drum. By recovering the energy from the flue gas before it is exhausted to the atmosphere this performs a key function in providing high overall boiler thermal efficiency. It is available with IBR certification for all requirements within India & recognized agencies for exports market.

Energy Saving - Waste Heat Recovery System

Flue gases from boilers are typically in the range of 230 - 345°C depending upon boiler pressure. Stack Economizers recover some of this heat for pre-heating water. The water is most often used as boiler make-up water or some other need that coincides with boiler operation. Stack Economizers should be considered as an efficiency measure when large amounts of make-up water are used, i.e. when there is no / low condensate return or there is a simultaneous need for large quantities of hot water for some process requirement.

The savings potential is based on the existing stack temperature, the volume of make-up water needed, and the hours of operation. Economizers are available in a wide range of sizes, from small coil-like units to very large waste heat recovery boilers.

How They Work?

Boiler stack economizers are simply heat exchangers with hot flue gas on shell side and water on tube side with extended heating surface like Fins or Gills. Economizers must be sized for the volume of flue gas, its temperature, the maximum pressure drop allowed through the stack, what kind of fuel is used in the boiler, and how much energy needs to be recovered.

Types of Economizer

- a) CI Gilled Economizer (for Heavy Oil)
- b) MS Finned Economizer (for Light Oil / Gas)

Compact design with the use of CI Gills / MS Fins increases the extended heating surface. The unique design and special shrink fitting process of CI Gills / M S Fins on the tube are tested. Casting on bends takes total care of protecting bends from erosion and puncturing.

CI gills are used to protect the metal tubes from effect of sulfuric acid condensation if any. As the flue gases are produced will have soot particle, it tends to deposit on heat transfer surface. This is proven technology mainly used to recover heat from HFO exhaust gases, thus higher optimum efficiency can be ensured.

Features & Benefits

- 1) Attractive payback due to Fuel savings up to 5%
- 2) Perfect solution for heat transfer in corrosion / non corrosive environment.
- 3) Minimum maintenance, easy to operate.
- 4) Robust construction for long life.
- 5) Proven technology used to recover heat from the exhaust gas of FO fired systems.
- 6) Equipped with all operational safeties.

We can also offer **Non-IBR Economizer** for boiler capacity up to 5 TPH. For more details please contact HO.



For more information, please get in touch with your nearest Thermax representative. You can also mail us at info.c&hservices@thermaxindia.com or visit us at : www.thermaxindia.com

In view of our constant endeavour to improve the quality of our products, we reserve the right to alter or change specifications without prior notice. All photographs shown in this publication are representative in purpose, and to be used for reference only. For actual details and specifications, please refer to Thermax offer document.



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Sustainable Solutions in
Energy & Environment

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