



## FBL INDUSTRIAL SERVICES

A Company of FBL Group

### FBL Industrial Services

#### Offers

### Chinese Manufacturing Brand “Economizer”

#### Purpose:

Economizer is used to utilize the fuel economically or make the boiler economical. Hot exhaust flue gases from boiler which would have gone to atmosphere, is used to increase the efficiency of boiler. This is heat exchanger in which flue gases flow in shell arranged with water tube. Heat of flue gas is utilized to increase the temperature of feed water so as to increase the sensible heat of water. It is found by decreasing the exhaust flue gas temperature by 16°C, boiler efficiency increase by 1%. Also by increasing the feed water temperature by 6°C, boiler efficiency increase by 1%. The temperature drop is permissible to such an extent so that the flue gas temperature does not come down below the dew point.



FBL has successfully completed hundreds of projects for retrofit improvements to existing FBL and non-FBL utility and industrial boilers.

Many of these major projects required innovative material or product solutions that significantly enhanced equipment performance and reliability. Advanced materials, improved designs and application specific pressure part arrangements are a few ways that older boilers benefit from upgrade projects.

Economizer offer by FBL is excellent for Coal Fired boiler, Oil Heaters & other heat recovery system.



## FBL Industrial Services

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#### Material Composition:

##### Casted Iron Finned-Tube

It is primarily composed of iron (Fe), carbon (C) and silicon (Si), but may also contain traces of Sulphur (S), manganese (Mn) and phosphorus (P). It has a relatively high carbon content of 2% to 5%. It is good composition for heat transfer & strength.

#### Material Thermal Properties:

- Cast iron that has high thermal conductivity will increase in temperature over a large area in relatively little time. The thermal conductivity of cast iron is 27 to 46 British thermal units (or BTUs) per hour-foot-degrees Fahrenheit. It is good for heat transfer.
- Cast iron's high heat capacity means that it can maintain a relatively high heat, evenly and steadily over time. Cast iron's specific heat capacity is 0.110 Btu/lb-°F
- Cast iron have wear & abrasion resistance.
- Its high melting point makes it useful for more extreme industrial conditions. The melting point of cast iron averages 2,150 to 2,360 degrees Fahrenheit.

#### Special Features:

- Fins in economizer increase the heat transfer rate.
- Chinese made Economizer tubes ID, OD & spacing between tubes is very good for gas velocities & heat transfer.
- After boiler exhaust gas have low temperature as compare to combustion chamber that's why there is no problem of ash deposit.
- Fins are thicker, thicker tube increase the heat transfer.
- Higher fins density increase Heat transfer.