



**Waterloo  
Manufacturing**  
Company Limited

# Boiler News

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## NEW INNOVATIONS AND PROVEN TECHNOLOGY

Cleaver-Brooks continues to evolve, using proven boiler room technology and taking it to the next level. In this newsletter we will offer a quick overview of deaerators and economizers which are currently available as well as the benefits to your operation.

**DEAERATORS** – Designed for a steam plant, the deaerator offers protection for your boiler plant by removing oxygen from your system. The effect of this is a great reduction of corrosion in your boiler – reducing downtime and possible repairs. This also reduces your need for extra chemicals in your system further reducing your costs. Add into the equation the fuel you will save down the road by recovering heat from flash and exhaust steam to raise and maintain feedwater temperatures. A Cleaver-Brooks deaerator will normally save 1% of your fuel cost for every 10 degrees F rise in your feedwater temperature. The results are quick payback and long term savings as well as less potential downtime. We can provide an analysis of your steam system for actual numbers.

Rule of thumb for a steam system is when make-up in the boiler feedwater supply reaches 10–15% it is imperative that the oxygen and carbon dioxide be removed to tolerable levels to prevent corrosion of boiler surfaces, steam supply piping and the condensate return lines.

Cleaver-Brooks offers 3 deaerator styles designed to meet the various requirements of your steam plants. The Spraymaster Deaerator – also known as the **Signature deaerator** is available for sizes from 7,000–280,000 lbs/hr offering a version for low head room applications.

The **Boilermate Deaerator** is designed for applications with 1,500–135,000 lbs/hr of steam utilizing a column design. The

**Traymaster Deaerator** is a tray style deaerator and is offered for sizes ranging from 30,000 to 500,000 lbs/hr of steam.

There are also a number of accessories which can be added onto your steam system resulting in further fuel savings and efficiencies. These include feedwater systems, blowdown separators, and blowdown heat recovery systems. If you would like additional information on any of the products listed above call our sales team.



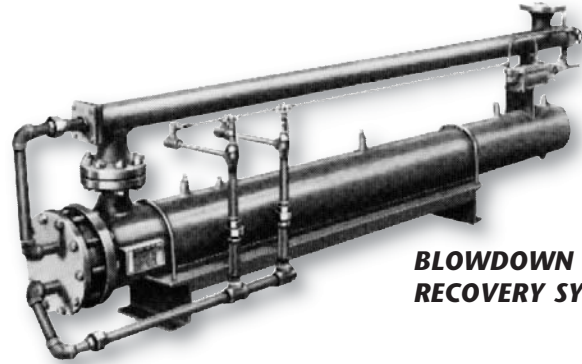
**SPRAYMASTER  
DEAERATOR**

# Economizers – saving you money and reducing your environmental impact.

**TRAYMASTER  
DEAERATOR**



Economizers utilize heat from the gases going up the stack and put that heat back into your boiler system. That's money in your pocket and less environmental damage – a win-win for everyone. The heat can be used to pre-heat the boiler feedwater – as well in some applications it can preheat any cool liquid stream (make-up water, wash water, hot water pre-heating etc.).



**BLOWDOWN HEAT  
RECOVERY SYSTEM**



**BLOWDOWN  
SEPARATOR**

There is the traditional economizer as well as the newest Stack condensing economizer which offers up to 95% efficiency. The economizers offer quick payback, typically less than a year. Ask us about Optimized Boiler Packages on firetube boilers which can deliver over 90% fuel to steam efficiencies.



**STACK ECONOMIZER**

For information on products and services please contact us at:

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