



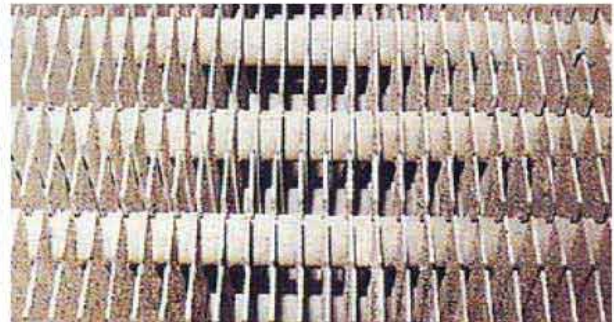
ECONOMISERS

FOR UTILITY & INDUSTRIAL BOILERS





Helical finned tube after 4,000 hours operation



Steel 'H' after 70,000 hours operation

Recovering waste heat from boiler and flue gas streams



Since the early 1960's, Clyde Bergemann Senior Thermal Pty Ltd have built a reputation as experienced thermal engineers in the field of heat recovery. Senior Steel 'H' and Double 'H' economisers have been adapted to a wide variety of technologies. Applications include heat recovery as feed water and steam reheaters in coal-fired supercritical boilers, industrial steam raising plants, chemical processes, marine and land cogeneration plant and many other fouling flue gas streams.

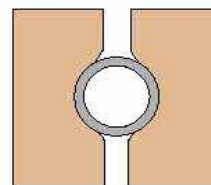
Reliable and proven economiser designs

Clyde Bergemann Senior Thermal provides waste heat recovery solutions with extended surface Steel 'H' and Double 'H' economisers. Senior economisers are operating efficiently on many modern supercritical boilers throughout the world. Efficient heat recovery from flue gas streams on boilers fired with PF, coal and biomass fuels is maintained with online cleaning by correctly designed sootblowing equipment thereby avoiding costly forced outages for boiler cleaning. Senior Double 'H' economiser surface is a robust surface adaptable to cost effective waste heat recovery in natural gas-fired steam raising cogeneration plant.

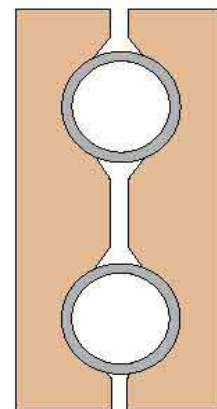
Steel 'H' / Double 'H' Designs

The Steel 'H' economiser has a unique combination of features providing a compact, low cost design. Steel 'H' fins are resistance welded with precise indexing over the entire length of the tube surface.

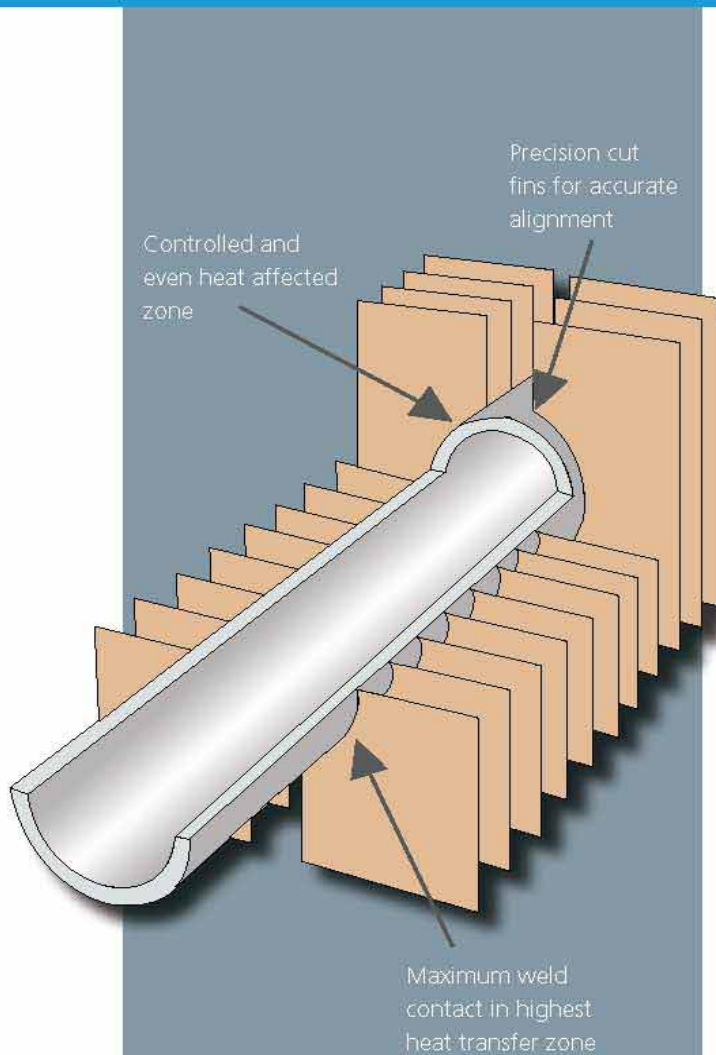
Double 'H' economiser tubes are produced using the same resistance welded technology. Steel fins are welded onto two tubes instead of one thereby producing an economiser tube with greater rigidity, reduced number of supports and therefore further reducing cost.



Steel 'H'



Double 'H'



Advantages of Senior Steel 'H' / Double 'H' economisers

- **Compact size** - 50% less space required for the economiser therefore potential savings in boiler costs.
- **Straight gas passages** provide direct route for the flue gases reducing fouling to a minimum. Any occurrence of fouling can be cleaned on-line.
- **Bends are isolated** from the flue gas stream to avoid gas by-passing and excessive corrosion. Baffle plates direct flue gas flow over the economiser matrix to maximise heating surface performance.
- The **flexible design** allows provision of a customised economiser suitable for many types of plant.
- A smaller and lighter economiser (up to 40% less weight) means **savings in steel work and installation.**
- **Power savings** - a substantial reduction in pressure losses results in reduced parasitic loads and running costs thereby enhancing power production and increasing revenue streams.



Our Customers

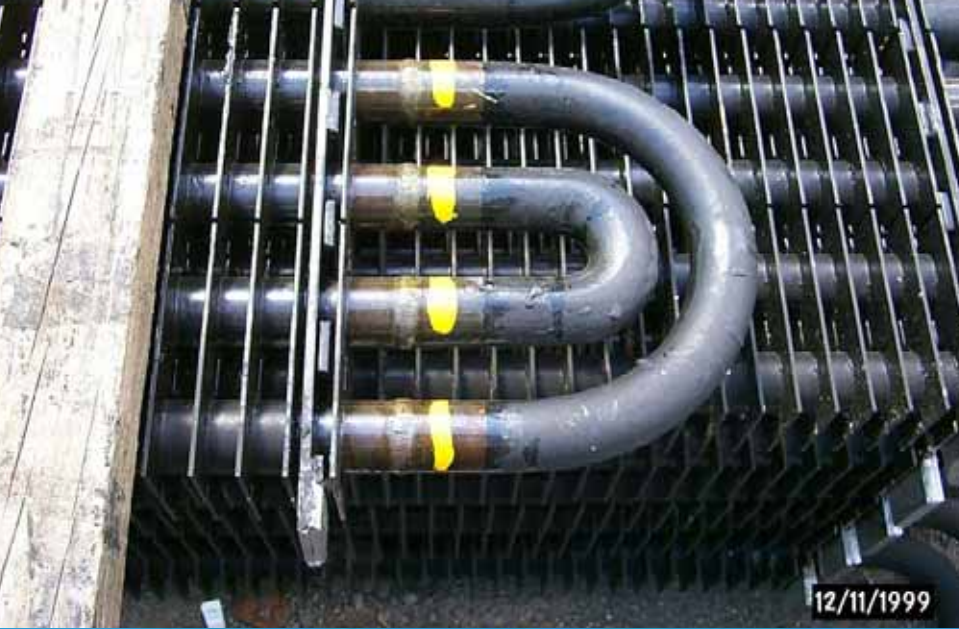
- Ishikawajima-Harima Heavy Ind. Co
- Babcock-Hitachi KK
- International Combustion Australia
- Transfield Power Technologies
- Austrian Energy
- Alstom Power
- CS Energy
- Delta Electricity
- CSR Sugar
- Bundaberg Sugar
- Verve Energy
- Tarong Energy
- Stanwell Corporation





Specialist Resistance Welding finning machines





Quality Control

- ISO 9001 Accreditation
- EN Accreditation
- ASME Accreditation
- A Certificate - China



benchmark
IN QUALITY
AS/NZS ISO 9001





- Clyde Bergemann Companies
- Clyde Bergemann Associates



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