



For retrofit and new installations



Waste heat recovery economizer after auxiliary engines

In the coming years, the marine industry and shipowners face big challenges as new environmental legislations have special focus on the reduction of emissions from fossil fuels. Therefore Aalborg Industries has developed an efficient exhaust gas economizer utilizing the heat in the exhaust gas from the auxiliary engines during port stays, which will significantly reduce the oil consumption for the oil-fired boiler.





In respect of environmental and operational enhancement products, Aalborg Industries has recently introduced a new range of waste heat recovery (WHR) boilers mainly directed at the retrofitting market (as also well suited for the newbuilding market). This new product range will provide operational savings while improving the environmental profile of the ship and company.

Waste heat recovery concept after auxiliary engines based on a new design of high-efficient exhaust gas boiler

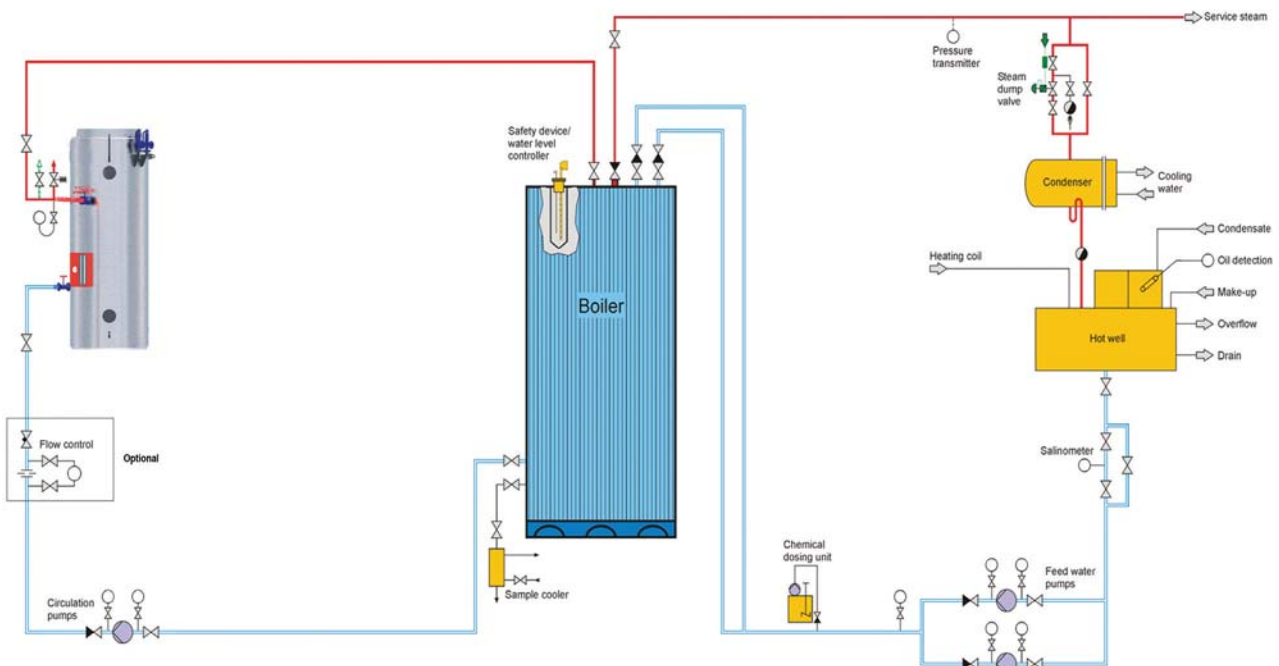
For several decades, we have installed WHR systems after the ship's main engines and these units are to a large extent able to meet the vessels steam requirement during seagoing operation and for some installations also able to assist with the generation of electrical power.

The waste heat from the auxiliary engines has not been considered in the past, but it actually contains a large energy amount which can be utilized to assist with the steam requirements mainly during port stays, but for some vessels also during seagoing operation.

The WHR concept has been specially developed as a customized solution with special focus on energy generation compared to return of investment and pay-

back time can be reduced to 7 months for a complete WHR boiler system, accessories and installation onboard the ship. The normal payback time will be approximately 1 to 1½ year depending on the number of days, the produced steam can be utilized (offset against of the steam requirement from the oil fired boiler) and the redundancy requirements.

We offer a concept based on well-proven and innovative solutions to ensure the best operation conditions and optimal return of investment. The design of the heating surface of the WHR boiler is the result of an enhancement of our well-proven technologies with a small footprint and the lowest possible weight to output ration.



Why install an economizer after auxiliary engine(s)?



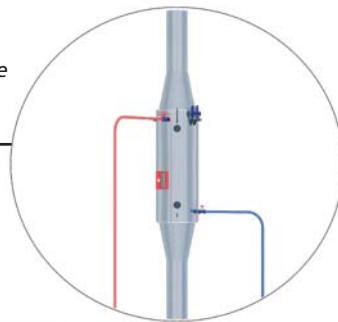
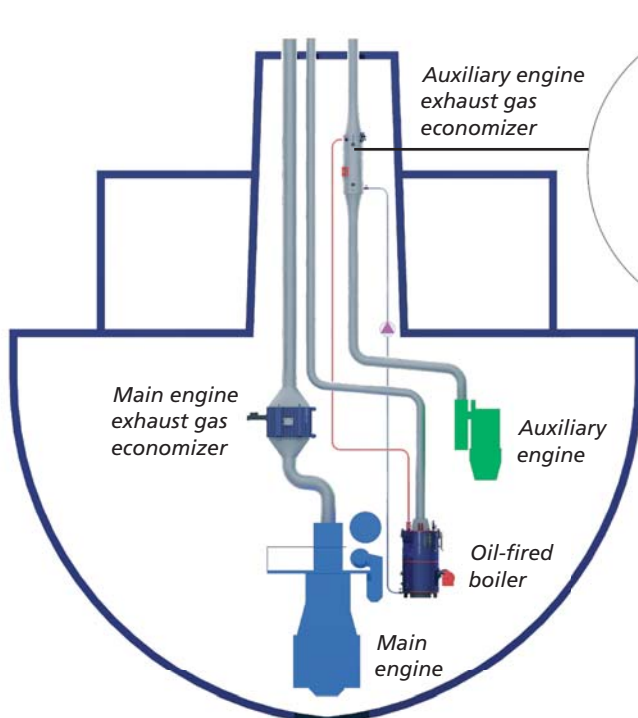
To ensure the most advantageous design, the WHR boiler concept will be specially tailored to the individual ship and engine design with due consideration of existing uptake back pressure etc.

The concept comes in two designs;

- One that requires a steam space in another boiler (e.g. in an existing auxiliary boiler) and
- One that has its own steam space.

- Able to supply or support the steam demand during port stay
- Cost of steam production (energy) is nearly free
- Financially sound investment with very short payback time
- Adds a "green" profile to the ship
- Lower emission tax when finally agreed
- Less maintenance and lower operating costs for the oil-fired boiler

In Aalborg Industries we are always committed to support all our products for their entire service life and takes pride in designing and supplying solutions that contribute to safe and reliable operations, low life cycle costs and environmentally friendly operation. Therefore we have also developed solutions to assist reducing the costs for spare parts required for the boiler and burner plant.



Auxiliary engine exhaust gas economizer



Green Technology

As market leading manufacturer of highly efficient and environmentally friendly equipment for the maritime market such as marine boilers and heat exchangers, thermal fluid systems and inert gas systems, the Aalborg Industries Group develops new green solutions to support our customers in building and operating their commercial fleet to the highest standard for low environmental impact.



Please do not hesitate to contact us concerning the improvement solutions for more detailed proposals

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