

# MISSION™ WHR-GT



*"QUEEN MARY II" equipped with two MISSION™ WHR-GT*



MISSION™ WHR-GT is a new waste heat recovery steam generator/economizer developed by Aalborg Industries and designed for installation after a gas turbine.

The thermal energy in the waste heat from the gas turbine exhaust gas is recovered to generate saturated or superheated steam.

Gas turbine output: 10 - 35 MW<sub>e</sub>  
Steam capacity: 10 - 50 t/h  
Design pressure: 10 - 35 bar(g)

## MISSION™ WHR-GT Economizer after gas turbine

### The economizer

The thermal energy in waste heat from the gas turbine exhaust gas is used for generating saturated or superheated steam.

The waste heat recovery economizer is of the forced circulation type. The boiler is fully constructed of high temperature resistant Chrome Molybdenum steel.

### The gas turbine

Traditionally, diesel engines supply power to an electricity generator which supplies electricity to the external pods (encapsulated electric engines on which the propellers are located). Lately, development goes towards using gas turbines instead of diesel engines.

When using gas turbines instead of diesel engines, the following advantages are achieved:

- Compact engine room
- Less maintenance
- Better operating economy
- Competitive installation prices
- Less pollution (green ship), reduced vibration and less noise



### Technical data:

- Gas turbine output: 10 – 35 MW<sub>e</sub>
- Gas turbine fuel type: Natural gas, light oil
- Exhaust gas flow: 40 – 120 kg/s
- Exhaust gas temperature: <570°C
- Steam capacity: 10 – 50 t/h
- Operating steam pressure: 10 – 35 bar(g)
- Steam temperature: Saturated – 450°C



*The economizer's heating surface consists of serrated spiral wound fin tubes which provide a very compact and effective design.*

### Boiler characteristics

- Standard Heat Recovery Steam Generation (HRSG) for gas turbines in COGEN and COGES marine installations.  
COGEN: co-generation (combined heat and power)  
COGES: Combined Gas Turbine and Steam Turbine Integrated Electric Drive System
- Vertical water tube economizer with forced circulation
- Sturdy design
- Compact design (small footprint)
- Easy service and inspection
- Fully drainable
- Fast response to load change
- Fast start-up time
- Dry running at full load on gas turbine

