PARAT MCS Combined

Exhaust Gas / Fuel-Fired / Electrical Boiler

NEW!

3-in-1 Boiler

Now with up to 600kW Electrical Elements for Steam production from Shore Power

PARAT®

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PARAT MCS: Combined Exhaust Gas / Fuel-Fired / Electrical Boiler

Technical data

- Compact, three-in-one solution
- Now with up to 600kW Electrical Elements
- Use Shore Power for Steam production
- Emission Reduction at harbour
- Electrical Backup during operation
- Vertical or horizontal design
- Easy maintenance
- Smoke tube type
- Approved: DNV, LRS, BV, ABS, RMRS etc.
- Capacity 3.5 t/h Exhaust Gas,
  7.5 t/h Fuel-Fired, 0.9 t/h Electrical
- Capable of burning fish oil
- Available with oil, gas or dual fire burner and 400V / 440V / 690V connection

NEW! PARAT Halvorsen AS has now added up to 600kW Electrical Elements to our popular Combined Boiler. This will give the vessel the option to run the boiler for steam production from Shore Power, reducing emissions and shutting down fossil fuel burner while at harbour. Can also be used as a backup solution during operation, help keep the power generators at optimized load and reduce fuel consumption. The electrical connection can be delivered for 400V, 440V or 690V to suit the power distribution system in the Vessel.

OPTIONAL ADD-ON FOR EXISTING BOILERS

Vessels with a Combined boiler or other boilers installed, can upgrade their system with our **PARAT ECS Electrical Circulation boiler** to get the same features. We take care of the retrofit upgrade, installation and optimizing the boiler system.

The boiler is a vertical design with smoke tubes through the boiler and steam evaporation at the upper section. The combination of a fuel-fired section, electrical and exhaust gas section in the same boiler leads to a simpler and more economical steam system on board. A three-in-one system is less expensive to install than separate boilers and gives the steam production flexibility. A combined system is easy to service and maintain, thus providing cost savings during the lifetime of the ship. Capacity of the exhaust gas section will depend on the exhaust gas quantity and temperature.

The principle of the boiler is based on a common water and steam space and separate sections for fuel-firing, electrical and exhaust gas. If several engines are utilized, the boiler can be delivered with several separate exhaust gas sections. The boiler comprises smoke tubes both for the fuel-fired and the exhaust gas section. From the top of the boiler there is good access to the tubes which make service and maintenance easy.

A main feature of the boiler is its automatic mode. When this mode is activated, the exhaust gas section becomes the main heating source. If the capacity is too small and the steam pressure drops, the fuel burner automatically ensures correct pressure. There will also be a shore power mode when using electricity at harbour for steam production. The control system is designed to enable an unmanned engine room. The system is fully automatic and operates with electronic controllers and electric/pneumatic actuators. The panel is mounted on the boiler side. Operation of the boiler control panel is done from the local touch screen. Boiler PLC can be connected to the main control system by standard ethernet/profibus/modbus communication.

The illustration shows the MCS boiler with electrical elements, but will also be delivered as standard Fuel-Fired and Exhaust Gas boiler.

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