



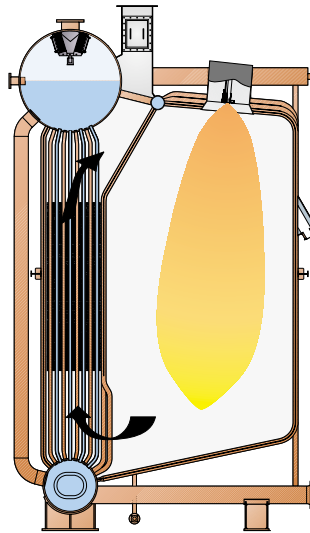
The large capacity  
boiler plant

# MISSION™ D-type

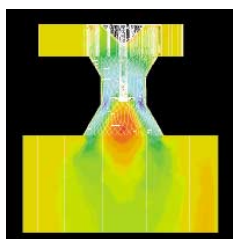


MISSION™ D-type is a high performance oil-fired marine boiler with a steam capacity range up to 110 t/h. MISSION™ D-type is of the well proven top-fired two-drum D-type design. The boiler is built for lifelong reliability and low maintenance costs.

# MISSION™ D-type boiler



The convective section of the MISSION™ D-type boiler is arranged between the drums. The heating surface in the centre of the convective section has been extended with pins, enhancing heat transfer and creating a unique lengthwise flue gas flow. The result: a compact, highly effective heat transfer surface. The 45 t/h MISSION™ D-type boiler is available in bare tube design.



The efficient burner is the product of extensive R&D. Thorough analysis with the CFD (Computational Fluid Dynamics) program enables a unique flame structure and geometrically optimum wind box and register design. This ensures even air distribution, minimum pressure loss and a large turndown ratio.

Reliability, high performance and low maintenance costs are the main characteristics of Aalborg Industries' MISSION™ boiler concept.

The D-type boiler is no exception; designed especially for tanker operation, it is the perfect choice for production of steam for:

- Cargo pump turbines
- Heating
- Tank cleaning

as well as production of inert gas.

## Design

The MISSION™ D-type boiler is of the well proven two-drum D-type design and is made in standard sizes up to 110 t/h of steam.

The MISSION™ D-type boiler consists of a steam and water drum connected by a generating tube bank. The furnace is made of membrane walls forming a fully water-cooled gas-tight furnace. Large unheated external downcomers welded to the drums secure natural water circulation – with a large circulation ratio.

## Burner

The MISSION™ D-type boiler comes with the advanced KBSD steam atomising burner. This burner has been designed to fit large capacity MISSION™ boilers, including the MISSION™ D-type boiler. The KBSD burner provides excellent performance and significant benefits such as:

- Optimal combustion – even with low-quality heavy fuel oil – thanks to optimised furnace geometry
- High turndown ratio
- Inert gas production – even at low loads
- Low NO<sub>x</sub> and particulate emission rates
- Reliable ignition system.

## Control system

The microprocessor based control system can be operated from either the local control panel placed on top of the boiler or from the PC that comes with the boiler plant. The power section with motor starters etc. can be placed anywhere in the engine room.

# Customer benefits for shipyards and owners



## Compact and sturdy design

The slim top-fired design makes the MISSION™ D-type a perfect choice for use in tankers. The highly effective pin tubes make up a compact and efficient convective section, resulting in low weight and minimal deck space requirements.

## Low fuel consumption

The MISSION™ D-type boiler is designed to operate at maximum efficiency to ensure very low fuel consumption. The boiler features a thermal efficiency of 84% at 100% MCR, increasing during part load operation to as high as 89% at 30% MCR.

## Low maintenance costs

Maintenance costs are minimal thanks to a user-friendly design. High flue gas velocity in the convection tube bank causes a self-cleaning effect on the heat transfer surface, and soot blowing equipment is supplied with the boiler in standard deliveries. Control and monitoring of water level is based

on an electrode measuring system that requires virtually no maintenance.

## Minimum refractory

The MISSION™ D-type boiler offers minimum refractory – limited to a protective layer on the deflected tubes around the inspection and access door and around the burner opening.

## Easy operation and inspection

The MISSION™ D-type design is unrivalled in terms of daily operation and supervision. All units such as burner, control panel, valves and water level controls can be conveniently operated from the platform on top of the boiler. Water washing of the heating surface can be done from the top of the tube bank.

*The MISSION™ D-type boiler can be supplied as a single boiler or as a master/slave combination depending on steam demand and operating philosophy.*

*The D-type boiler also operates in conjunction with an exhaust gas or a composite boiler.*



### **Global experience and know-how**

Aalborg Industries' marine activities date back to the early years of the twentieth century. 38,000 marine and industrial boilers designed, manufactured and installed all over the world since 1840 are your guarantee for reliability. Skilled employees, a global network and innovative thinking ensure that global synergies are translated into customer benefits. We strive to provide still better solutions to our customers – in terms of reliability, high performance and cost-efficiency. In other words, our products are a lifelong commitment to us.



Aalborg Industries is an international group of companies within boiler and combustion technologies.

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