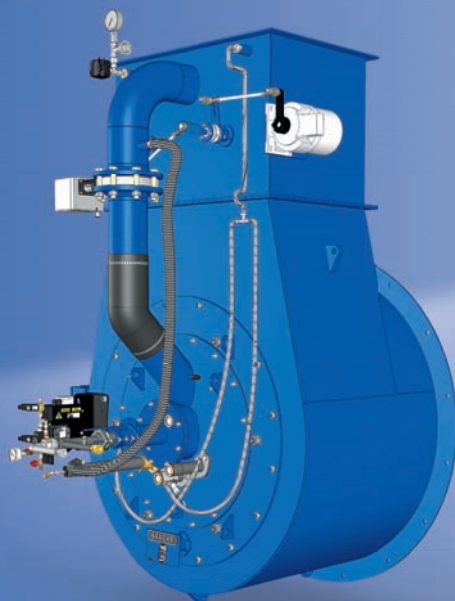




Low fuel consumption and minimal emissions

Large control range and fuel staging enable extremely low values

Technical data

Capacity range	8.5 – 37 MW*
Fuels	Heavy Fuel Oil up to 15 cSt / 120°C Marine Diesel Oil (MDO) Low-sulfur Marine Gas Oil (MGO) Gaseous fuels on request
Control range	1:15 for burners from 20 MW and up

* other sizes on request

Ships emit more than a billion tons of CO₂ worldwide every year. Their emissions also include other pollutants, first and foremost NO_x and CO.

To reduce these emissions, SAACKE GmbH developed the DDZ-M steam pressure atomizer series. It is specially designed for medium and large water tube boilers used in maritime shipping, such as auxiliary and drive boilers for tankers, LNG carriers and FPSO applications.

The heart of this series is a unique nozzle system that enables internal fuel staging and is based on the tried and tested principle of steam pressure atomization. Thus, especially NO_x and CO emissions are reduced.

By specifically directing the combustion air and the steam-fuel mix, a large control range, optimal combustion and low emission values can be reached, even in the low load range. At the same time the flame remains very stable over the entire capacity range.

At a system capacity from 20 MW and up the control range is 1:15. Even at a lower capacity a control range of 1:10 is still available.

In this way downtimes and the related energy losses are minimized. The resulting fuel savings also lead to generally lower CO₂ emissions. Thanks to the variable flame geometry, the DDZ-M is suitable for use on boilers fired from the side or from above.

The fuel-air ratio is controlled via electronic compound regulation in combination with a PLC controller. On request the burners of this series are available with a mechanical compound regulator instead. For application on FPSOs and tankers the burner can be supplied as a combined oil-gas burner (type DDZG-EN).

The high energy efficiency and low maintenance costs are the result of continuous further development over decades.

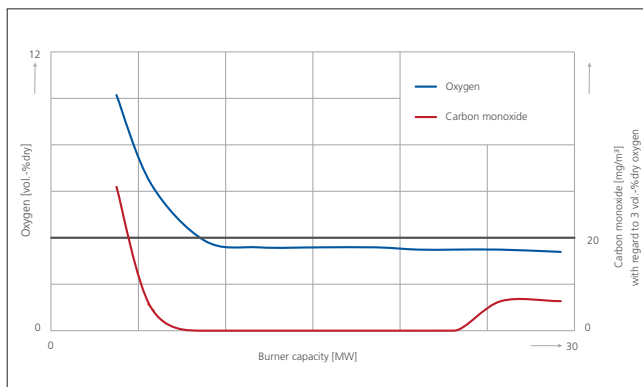
With all its flexibility, the DDZ-M is uncompromising in just two attributes: high quality and extremely long service life.

DDZ-M highlights

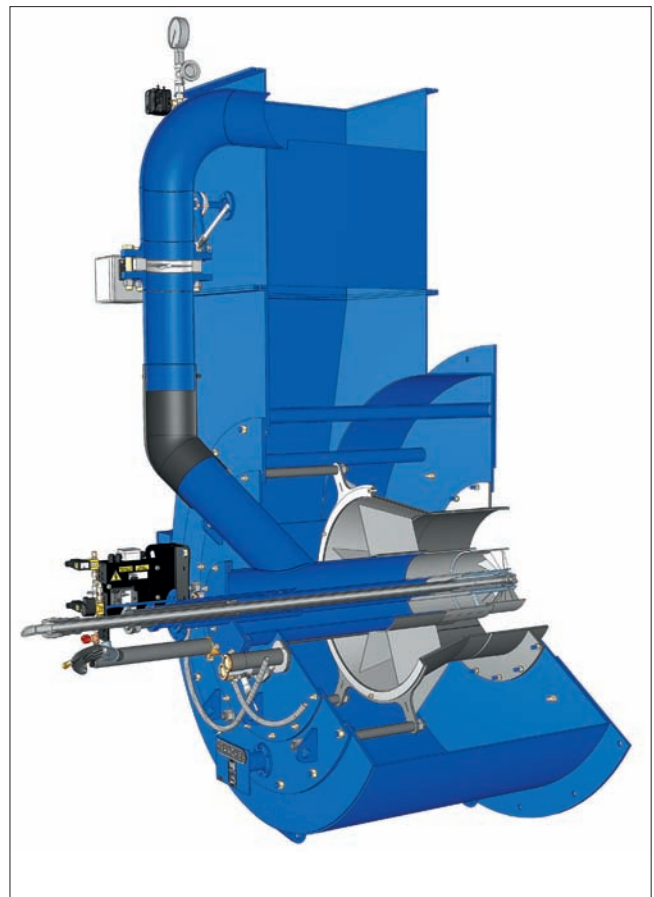
- New steam pressure atomizer generation
- Flexible burner concept
- Ideal for water tube boilers having different geometries
- Large control range
- Low operating costs thanks to highly efficient combustion technology and minimal auxiliary energy needs
- Extremely low emissions
- Short planning phase thanks to modular concepts
- Numerous solutions planned ahead as basis for individual engineering
- Complies with requirements of all ship classification societies



The DDZ-M in operation, here on a 12 t/h boiler



Low emissions, large control range



Schematic diagram of DDZ-M (cutaway view)



Typical DDZ-M heavy fuel oil flame

Additional technical details

Applications	Water tube boilers, auxiliary and drive boilers for tankers and FPSOs
Fuels	Heavy Fuel Oil up to 15 cSt / 120°C Marine Diesel Oil (MDO) Low-sulfur Marine Gas Oil (MGO) gaseous fuels on request
Emission values	CO: < 20 mg/m³
Control range	1:7 for burners up to 13.5 MW 1:10 for burners from 13.5 – 20 MW 1:15 for burners from 20 MW and up

For further information, please visit: www.saacke.com