



WFE – Water In Fuel Emulsion Unit

For the sake of the environment:
reduces NO_x / PM emissions.



The Water In Fuel Emulsion is a proven wet NO_x / PM reduction method. It creates stable Water-Fuel-Emulsion with HFO and MGO. This will lead to a reduction of NO_x / PM formation and will improve the atomization of the fuel. In result: a more complete combustion.

Features

- Stable Water-Fuel-Emulsion with HFO / MDO
- Improved combustion process
- Automatically controlled emulsification
- Compact and modular design
- Small footprint
- Adjustable water amount
- Combine with scrubber installation (scrubber SO_x reduction / WFE – Particle matter (PM) reduction)

Benefits

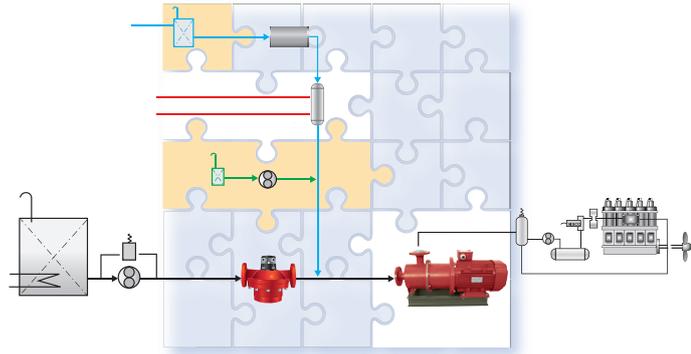
- Reduce NO_x / PM emissions
- Lower opacity of plume
- Reduced deposits in combustion chamber and exhaust gas system
- Economical solution for emissions reduction

Compact and modular design

Customized design for newbuildings and retrofits.

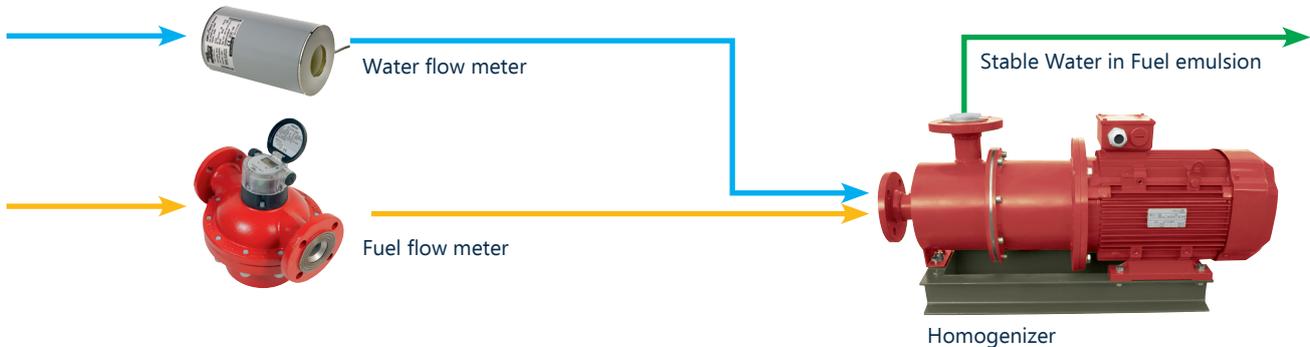
Description:

- **WSM:** Water Supply Module
- with or without water tank
- **WPM:** Water Preheating Module
- steam or electrical preheater
- **EM:** Emulsifier Dosing Module
- only for distillate fuel oils required
- **WFH:** Water-Fuel-Homogenizer
- homogenizing water in fuel
- **WFEC:** WFE Control Cabinet
- PLC/touch screen/monitoring system/data recording & transfer

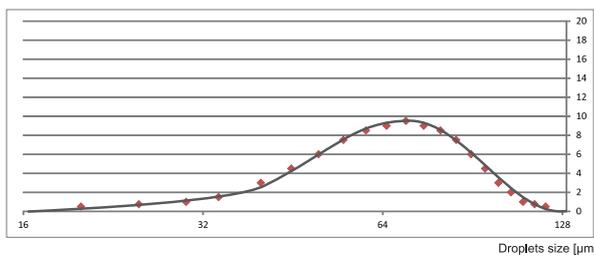


Operating principle

Water in Fuel Emulsion is a cost-effective and proven wet NO_x reduction method. The introduction of fuel with water in engine cylinders lowers the peak combustion temperature. Thus, **reduces the formation of NO_x / PM** emissions and improves atomization of the fuel, resulting in more complete combustion. Improved fuel atomization will result in less unburned fuel, therefore **less particulate matter**, while **improving overall fuel consumption**.

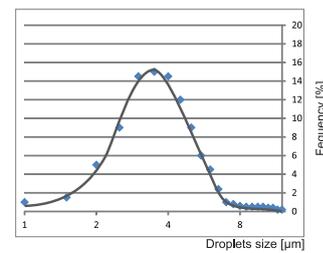


Water droplet size of non emulsified fuel oil



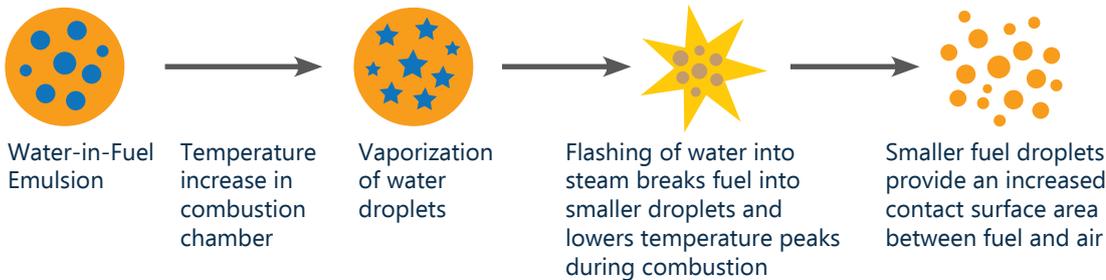
Frequency distribution droplets size non emulsified Fuel HFO

Water droplet size of emulsified fuel oil (<5 µm)



Frequency distribution droplets size

Second atomization



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