

The ADNOX.System for NAVAL Vessels

Environment friendly and Energy Efficient Exhausts system

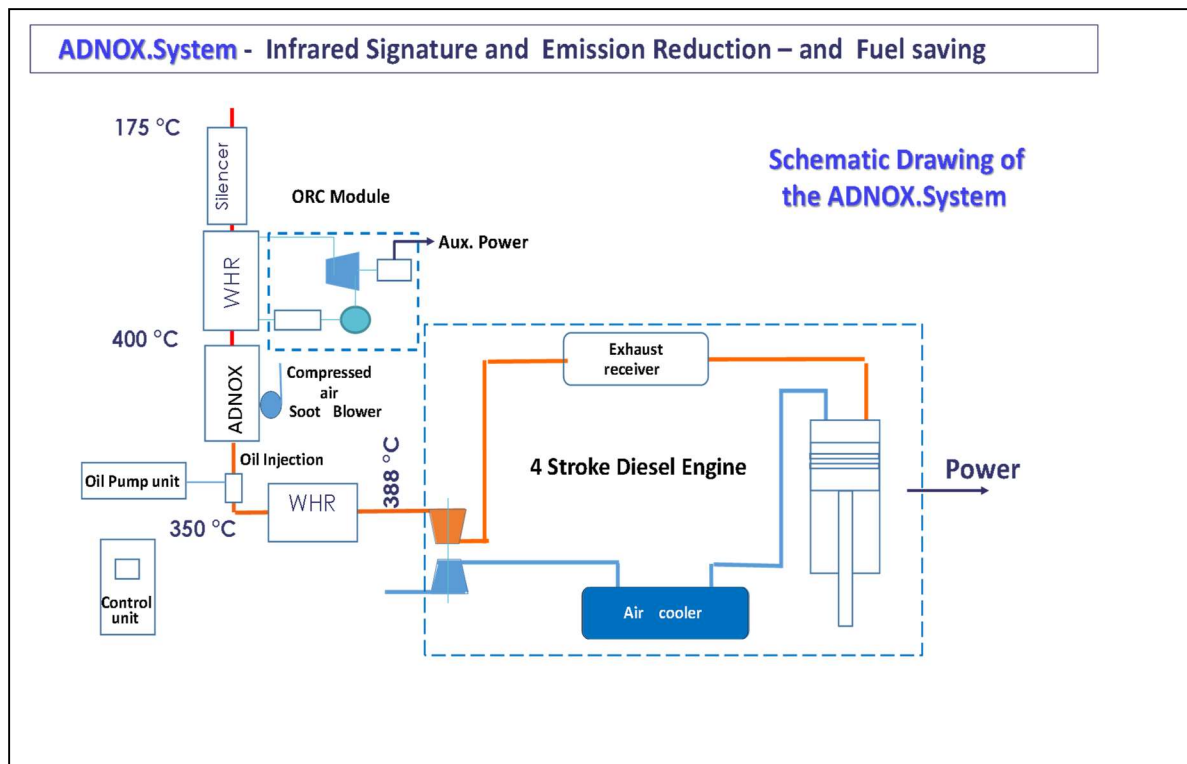


- Energy efficient reduction of Infrared signature
- Reduction of NO_x, VOC and Particulates emission
- NO_x reduction, diesel oil as reductant is converted to heat
- Exhaust-heat recovered is used for power production.
- Reduction of Fuel Consumption – Reduction of CO₂

ADNOX.System for protection of Personnel and Capacities

- Reduction of infrared signature
- Health protection - reducing NO_x, VOC and Particulates

The ADNOX.System is designed for energy efficient reduction of infrared signature. The Infrared signature is reduced by cooling of the exhaust gas temperature using heat exchangers, reduction of exhaust gas temperature from 550 °C down to 175 °C.



The heat recovered is used in an ORC plant for production of Power – hereby saving fuel and reducing the CO₂ emission.

Reduction of NO_x, VOC and Particulate emission improves the environment for the personnel on board.

ADNOX.System for optimizing of Energy and Environment

- Reduction of NO_x, 6% oil as reductant, converted to heat,
- Heat recovered converted to 9% extra Power.

The development of the unique NO_x reduction system forms the background for the development of the ADNOX.System



Extensive testing on the testplant in Hirtshals, Denmark

Typical operation level
150 kW Diesel generator

and in Cooperation with
Catalyst manufacturers globally

Forms the background for
The ADNOX.System

The exhaust-gas cooling ensures stable condition for exhaust gas up to 550 °C

The NO_x reduction system reduces NO_x according to IMO TIER III. Reductant is always onboard and no separate tank for reductant is required and no chance for crystallizing of reductant in cold waters.

Lower weight than urea-SCR due to lower catalyst amount.

The particulate emission is reduced due to high temperature in the center of the SCR catalyst – in combination with the oxidation catalyst.

The Heat recovered from the exhaust gas is converted to power in the ORC system – around 9% extra power is produced – whereby the fuel consumption is reduced accordingly and so is the CO₂ emission.

The ADNOX.System for NAVAL vessels

Proof of Concept plant in Frederikshavn, Denmark.

1000 kW diesel engine, NOx reduction, heat-recovery,

ORC plant for power production and Silencer.

**The Plant is established in close cooperation with Thales NL and
is installed at VMS Group's facilities.**

**ADNOX.System's are designed, procured and installed by
BWSC A/S, ADNOXred ApS and VMS Group A/S in cooperation.**

Besides 5 years of service contracts are offered,

Ensuring many years of steady operation.

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