



PREPARED FOR IMO TIER III

THE POWER OF INNOVATION

The Damen marine NOx reduction system is the result of three years in-depth innovation and close cooperation with Emigreen BV. Joining 20 years of knowledge, R&D and experience of after treatment systems with 90 years of experience with designing and building tugs.



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MARINE NOx REDUCTION SYSTEM

READY FOR IMO TIER III EMISSION REGULATIONS



DAMEN

Facing a sustainable future with confidence. Damen is preparing the new generation tugs for upcoming IMO Tier III regulations with the introduction of the Damen marine NOx reduction system. Enabling our customer to stay competitive and flexible whatever the future brings, on every sea on the world.



FOR THE SAKE OF OUR ENVIRONMENT

The NOx emission limits for marine diesel engines >130kW has become more stringent for vessels operating within NOx emissions control areas. The development of the Damen marine NOx reduction system gives the possibility to easily upgrade the tug from IMO Tier II to IMO Tier III NOx emission limits, simply by installing additional equipment.



IMO TIER II ENGINE

Every Damen tug is equipped with an IMO Tier II engine meeting the global minimal NOx emission requirements.

PREPARED SILENCER

The 45 dB(A) exhaust silencer is prepared for an easy extension with the Damen marine NOx reduction system.

OPTIONAL IMO TIER III EQUIPMENT

If NOx emission reduction is required, the optional equipment is added. The choice is for the customer, Damen tugs are prepared.

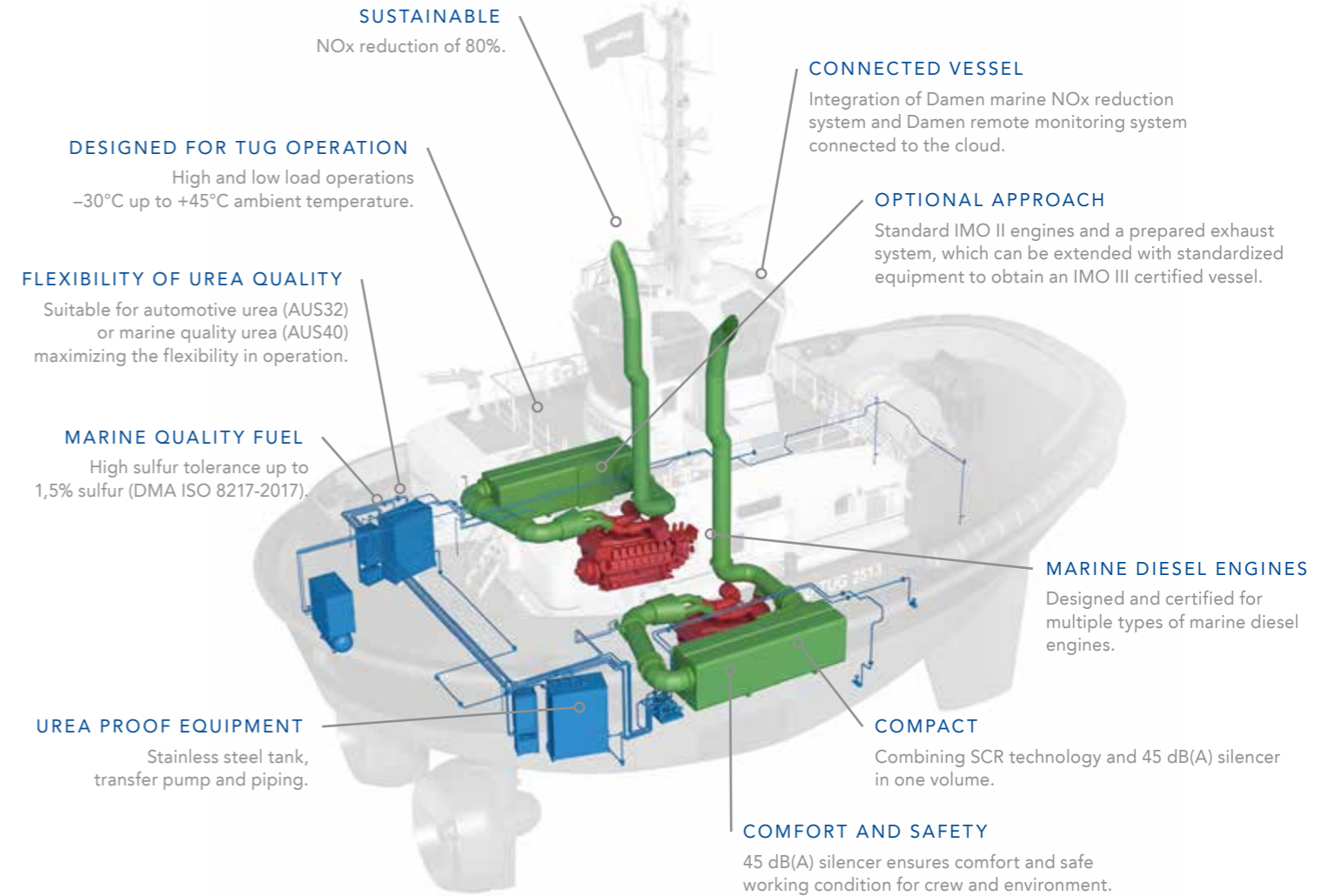
A DAMEN STANDARD SOLUTION

- Preparing your vessel for future legislation with a standard optional solution.
- Operational flexibility for tug operators.
- Higher re-sale value.



- In-house designed, developed and tested. Maintained and serviced by Damen.
- A standard, reliable, compact and robust product, easy to retrofit.
- Suitable for multiple types of marine diesel engines.

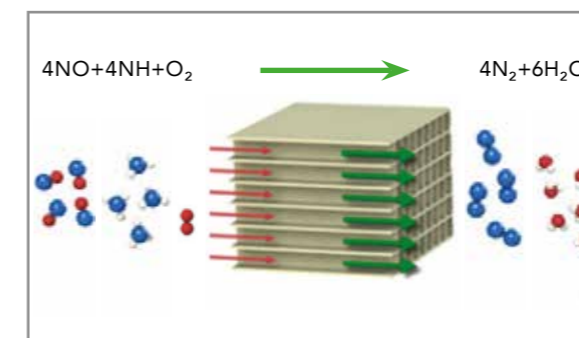
- NOx reduction of 80% compared to IMO Tier II.
- IMO Tier III certified solution.



MARINE NOx REDUCTION SYSTEM

RELIABLE, SUSTAINABLE, EFFICIENT

The Damen marine NOx reduction system is an advanced active emissions control system using SCR technology for NOx reductions up to emission standards according to IMO Tier III, suitable for marine diesel engines and fuels. Limiting the emissions of NOx and noise contributes to a healthier and more sustainable environment.



MEETING NOx REGULATION

SCR technology uses a catalyst to react with injected urea to chemically reduce NOx emission. SCR technology is an effective and robust NOx abatement technique.



REMOTE MONITORING SYSTEM

Continuous monitoring to control and optimize the cleaning efficiency of the catalyst, control ammonia slip and provide data for emission reporting, including the possibility to connect to the cloud.