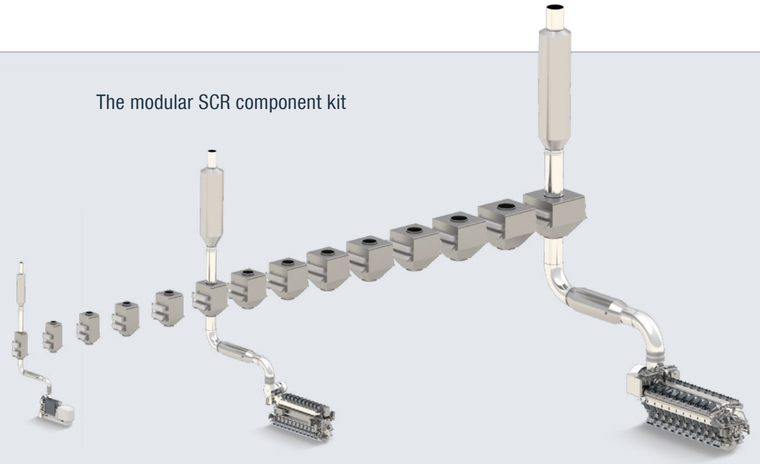
Our SCR System Portfolio
Tailored to the engine

The modular SCR component kit



Catalytic after-treatment

Selective Catalytic Reduction (SCR) is the most tested and approved system for achieving NO_X reduction rates up of to 90%. By inducing chemical reactions in the engine's exhaust gases, harmful substances are transformed into ecologically benign constituents.

The MAN Diesel & Turbo SCR system standard is available in fourteen different sizes. In this way, it fully covers the entire portfolio of MAN Diesel & Turbo four-stroke medium speed engines. Furthermore, customized SCR systems can be offered on demand.

Main components of the SCR system:

- SCR reactor
- Catalyst elements
- Soot blowing system
- Dosing unit
- Mixing device
- Urea injection lance
- Control unit
- Compressed air reservoir module

Optionally, an NO_X measuring system can be included for closed loop control of urea injection.

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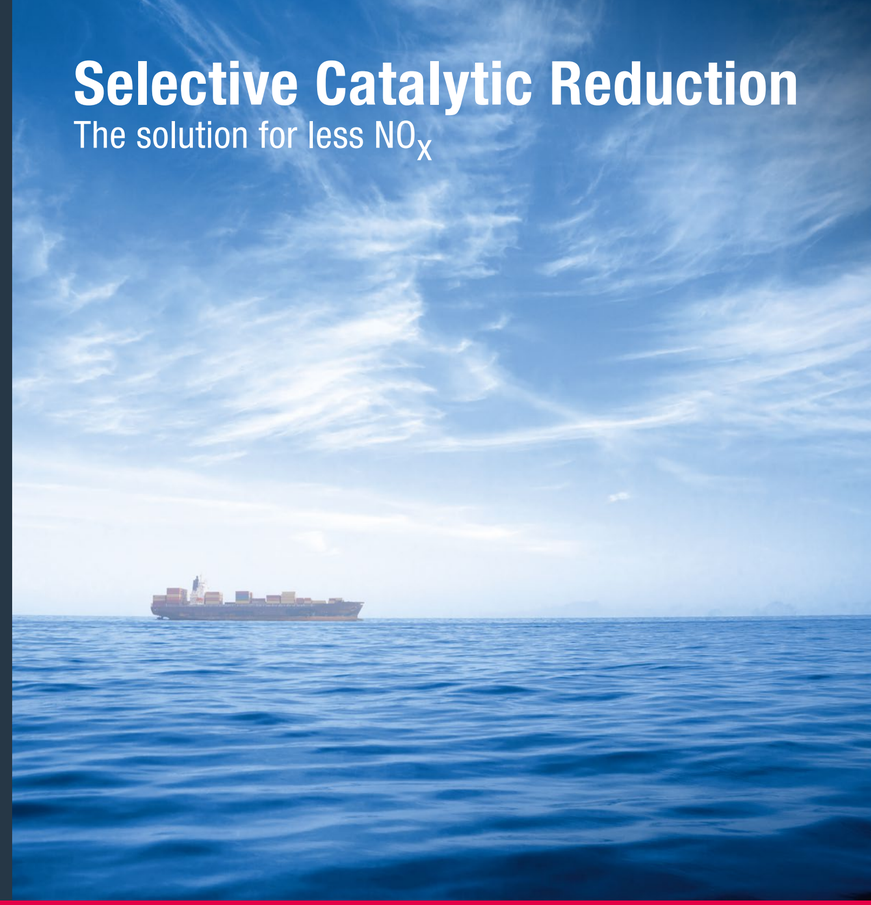
BLUECOMPETENCE Alliance Member
Partner of the Engineering Industry Sustainability Initiative

Selective Catalytic Reduction
The solution for less NO_X



Engineering the Future – since 1758.
MAN Diesel & Turbo

A Strong Partner at Your Side

Equipped for tomorrow’s emissions regulations

With MAN Diesel & Turbo at your side, you’ve got the best long-term partner to guarantee secure emission solutions for the future. Our technology already complies with the stricter future limits prescribed in the International Maritime Organisation’s IMO Revised MARPOL 73/78 Annex VI. Currently this means complying with IMO Tier II and IMO Tier III, second and third stages of regulations governing emissions of NO_X.

Benefit from our total system competence

As the leading engine builder in the marine sector, we have unrestricted access to the know-how needed to design and implement highly efficient Selective Catalytic Reduction Systems (SCR) for both new engines and retrofit applications on engines already in the field. Furthermore, we’re a global leader in the design and manufacture of exhaust gas turbochargers and fuel injection systems for large engines. Both are striking achievements and value-adding for our customers.

Already complies with IMO Tier III Regulations

Driving this early response is the prospect of individual countries and regions designating so-called Emission Control Areas (ECAs) in advance of the IMO Tier III starting date. As discussed and adopted at the 66th meeting of the Marine Environment Protection Committee (MEPC), the first NO_X ECA will be implemented for the U.S. and Caribbean Sea on Jan. 1, 2016. Further NO_X ECAs may follow until 2021.

Modular Selective Catalytic Reduction

Our SCR system provides an integrated and intelligent solution for our entire portfolio of medium speed engines. With the highest performance and reliable operation, it serves as a standard solution to meet the upcoming IMO Tier III emission limits. Our SCR technology exploits synergies and competences within the entire MAN Group, such as the AdBlue Technology of MAN Truck & Bus, and has proven its performance in the automotive field millions of times.

All core technologies from a single source

For the design and development of the optimized SCR system, MAN Diesel & Turbo brought together a diverse range of its outstanding competencies:

- Integration of the SCR control system into the overall engine control system
- Adaptation of injection control from MAN with electronic fuel injection, e.g. Common Rail
- Reliability of whole system
- Efficient design of the turbocharger bypass system

Peace of mind

To ensure the long-term usefulness of your emission solution, MAN Diesel & Turbo combines the best of two worlds. As the leading engine builder in the marine sector, we offer excellent products, after-treatment and system competence. Together with our PrimeServ after-sales organization, we are ideally positioned to supply and service the optimum SCR system for your engine over its entire lifetime.

Strengths of the Integrated Solution

Our core competence in engines and SCR

Engine and SCR set as core competence

- Quick response time for changes in boundary conditions
- Up to 2.5 g/kWh of fuel oil consumption savings during SCR operation by integrated and optimized control strategies “Engine + SCR” (compared to SCR system by third party supplier)
- Exhaust gas temperature control to optimize fuel efficiency
- Turbocharger layout
- Fuel injection optimization
- Closed loop control: urea consumption is adjusted automatically to the engine operation mode
- Modular system of components

IMO TIER III compliance guaranteed

- 12,000 running hours without loss of emission compliance
- MAN Diesel & Turbo takes care of certification
- Online condition monitoring

Proven SCR and catalyst know-how

- Long-term experience from the automotive industry
- Reliable and cost-effective component design
- Standardized supply chain with premium availability
- Approved quality standards throughout the design and production process
- Reliable state-of-the-art solutions

Worldwide service network

- Support for engine and SCR from a single source
- Synchronized service intervals for engine and SCR
- Short reaction times to customer requests

Single point of contact

- No additional supplier interfaces
- Auxiliary system engineering by MAN experts