EXHAUST GAS PURIFICATION
YACHT ENGINES

nauticlean™
In order to combine emission reduction with noise reduction, an optimal solution has been successfully developed by Hug Engineering and its partners Lürssen and Niessing. The newly developed variNOx system offers a compact system with dosing technology, minimized mixing section, and SCR module in combination with the SCR- and Oxidation System.

CHARACTERISTICS:
- Direct replacement into existing muffler space
- Customized solution; highly compact integration or muffler adaption
- Vertical or horizontal integration
- High insertion loss at ignition frequencies
- Negligible pressure drop with special resonators
- Compact system with dosing technology, minimized mixing section, and SCR module

QUALITY
Nauticlean™ products are designed to ensure low maintenance cost and high durability. Its mechanical parts are robust, vibration and shock resistant.

SERVICE
Worldwide spare parts supply and service are provided by Hug Engineering’s dedicated service teams.

CERTIFICATIONS
nauticlean™ systems of Hug Engineering AG correspond to all current maritime normative rules, certificates and specifications (Lloyd’s Register, DNV GL, RINA etc.). Several engine groups have already been IMO Tier III certified with nauticlean systems.

GO CLEAN - WITHOUT SOOT ON DECK

SOOT PARTICULATE FILTER
The nauticlean™ filter system is based on a ceramic honeycomb structure. The exhaust gases flow through the porous honeycomb walls so that particulates are retained.

SOOT REGENERATION
Due to the sophisticated catalytic coating of the filters, soot will be continuously burned off. The coating will not be affected by sulfur. For limiting the maximum ash load, sulfur content of the fuel should be below 5000 ppm (0.5%).

EXHAUST GAS PURIFICATION FOR ENGINES UP TO 2500 KW
The exhaust gas purification system nauticlean™ not only removes soot, it also efficiently eliminates dangerous and malicious pollutants, such as nitrogen oxides and hydrocarbons. The modularly designed nauticlean™ exhaust gas purification system can be combined out of:
- PARTICULATE FILTER
- SOOT REGENERATION
- SCR- AND OXIDATION SYSTEM
- SILENCER

SCR PLUS INTEGRATED MUFFLER - „ALL-IN-ONE SOLUTION“

In order to combine emission reduction with noise reduction, an optimal solution has been successfully developed by Hug Engineering and its partners Lürssen and Niessing.

The housings of the filter and DeNOx-Oxidation cartridges are made of high-grade stainless steel and allow easy access for smooth installation and exchange of the filter cartridges during maintenance intervals.

As one of very few manufacturers worldwide, Hug Engineering AG offers a complete supply of key components for exhaust gas purification that are developed, designed and produced in Switzerland. The variety covers the control systems to the soot filters and catalytic honeycombs. This assures the perfect fit and functionality in Swiss quality.

The soot filter can be enhanced by the installation of further exhaust gas purification stages. By the installation of an SCR catalyst, the nitrogen oxides can be further reduced to required limits. Oxidizing elements reduce poisonous carbon monoxide and hydrocarbons. All components can be combined within one single housing.

In combination with the newly developed variNOx system, the injection system can be dimensioned shorter which is making the entire system more compact. The control unit of the variNOx system measures the pollutant concentration within the exhaust gas and automatically regulates the dosing and injection of an appropriate quantity of reactant (e.g. AdBlue).

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WHY NAUTICLEAN™?

- Reduces black carbon emissions up to 99%
- Clean decks, furniture and clothes
- Reduction of HC and NOx emissions
- Minimum space requirements - partial replacement of silencer or silencer integration
- Low operating costs
- Complies with all international current normative rules and specifications (Lloyd’s, DNV GL, ABS)
- Qualifies the engine for IMO Tier III
- Easy access DPF and SCR service
- Bypass for emergency
- Reliable complete system from one supplier
- For newbuilds or retrofit

NUMEROUS INSTALLATIONS HAVE PROVEN THE EFFICIENCY AND RELIABILITY OF THE NAUTICLEAN™ EXHAUST GAS PURIFICATION SYSTEM. CONTACT US.

Figure: Filter and Regeneration System combined with SCR

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