BLUEMAX

SYSTEM OVERVIEW

The Nett BlueMAX[™] urea-SCR system is designed to control the emissions of oxides of nitrogen (NO_x) from medium and heavy duty diesel engines in on-road, non-road and stationary applications. In Selective Catalytic Reduction (SCR) technology, NO_x is reduced over the SCR catalyst through chemical reaction with a reducing agent, either ammonia (NH₃) or urea. For safe and easy handling the BlueMAX[™] system uses urea.A Diesel Particulate Filter (DPF) can be fitted as an option for simultaneous reduction of particulate matter.

SCR System

The main components of the BlueMAX[™] system include the SCR catalytic converter, the computerized urea dosing system (UDS), and the urea tank (see diagram). The urea control strategy relies on NO_x concentration measurements by a sensor positioned upstream of the SCR catalyst. Based on the NO_x sensor signal in combination with an engine air mass flow sensor and temperature sensors, the computer calculates the amount of urea which needs to be injected for optimum NO_x reductions.



SYSTEM EFFICIENCY

The NO_x sensor-based control strategy makes the system very suitable for both original equipment and retrofit applications. System calibration (i.e. engine mapping) is not required and the system can be installed on a wide range of diesel engines, both mechanically and electronically controlled.

Urea (in the form of a 32.5% water-based solution) is metered by a computer controlled dosing pump into the exhaust pipe upstream of the SCR catalyst through an injection nozzle. Compressed air from the air brake line or a standalone air compressor is used to atomize the urea for optimum dispersion, to maximize the NO_x reductions and minimize the amount of urea required.



The Nett BlueMAX[™] system can optionally include either an active regeneration diesel particulate filter, or a passive catalyzed diesel particulate filter. Passive filters are generally used on engines run under heavy load, with active filters used on engines which have a lighter duty cycle.



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