

# Diesel Emission Control Has Never Been Easier!

Diesel engines are a reliable and efficient power source; however, their emissions require advanced control solutions to meet increasingly stringent environmental regulations.

The BlueMAX™ PLUS 100 is a customizable emissions control system combining Selective Catalytic Reduction (SCR) and a passive Diesel Particulate Filter (DPF) to reduce both nitrogen oxides (NO<sub>x</sub>) and particulate matter (PM) from medium- to heavy-duty diesel engines in off-road applications. The system is designed for reliable performance under a wide range of operating conditions and is suitable for both original equipment manufacturer (OEM) and retrofit installations.

The DPF captures particulate matter using a wall-flow filter substrate coated with a proprietary catalyst. This catalyst lowers the soot oxidation temperature, enabling passive regeneration during normal engine operation. For proper regeneration, the system requires Ultra-Low Sulfur Diesel (ULSD) fuel and exhaust temperatures above 325°C (617°F) for at least 25% of the duty cycle.

Downstream, the SCR system reduces NO<sub>x</sub> using Diesel Exhaust Fluid (DEF), a urea-based solution. The integrated Electronic Control Unit (ECU) continuously monitors NO<sub>x</sub> concentration, exhaust temperature, and engine air flow to precisely control DEF injection. A NO<sub>x</sub> sensor-based control strategy ensures accurate dosing without the need for engine recalibration, allowing installation across a wide range of diesel engines.

With advanced catalyst design, optimized washcoat formulation, and precise dosing control, the BlueMAX™ PLUS 100 delivers high-efficiency emissions reduction across multiple pollutants. The system is capable of achieving up to 99% reduction in nitrogen oxides (NO<sub>x</sub>), up to 98% reduction in particulate matter (PM), up to 97% reduction in carbon monoxide (CO), and up to 95% reduction in hydrocarbons (HC), resulting in corresponding reductions in volatile organic compounds (VOCs) and hazardous air pollutants (HAPs).\*\*

The system is verified by the United States Environmental Protection Agency (EPA) and is designed to deliver consistent performance under real-world operating conditions.

## BlueMAX™ PLUS 100

SCR and passive DPF system



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Sold and supported globally, Nett Technologies Inc., develops and manufactures proprietary catalytic solutions that use the latest in diesel oxidation catalyst (DOC), diesel particulate filter (DPF), selective catalytic reduction (SCR), engine electronics, stationary engine silencer, exhaust system and exhaust gas dilution technologies. Our reliable and real-world emission solutions will extend the usable life of existing equipment while allowing you to avoid costly future replacements. We manufacture emission control solutions that are California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (EPA) verified. As the emission control authority, we are here to help you navigate through the hassles and complexities of emission control compliance.

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## BlueMAX™ PLUS 100 PRODUCT OVERVIEW

### How does the BlueMAX™ PLUS 100 system work?

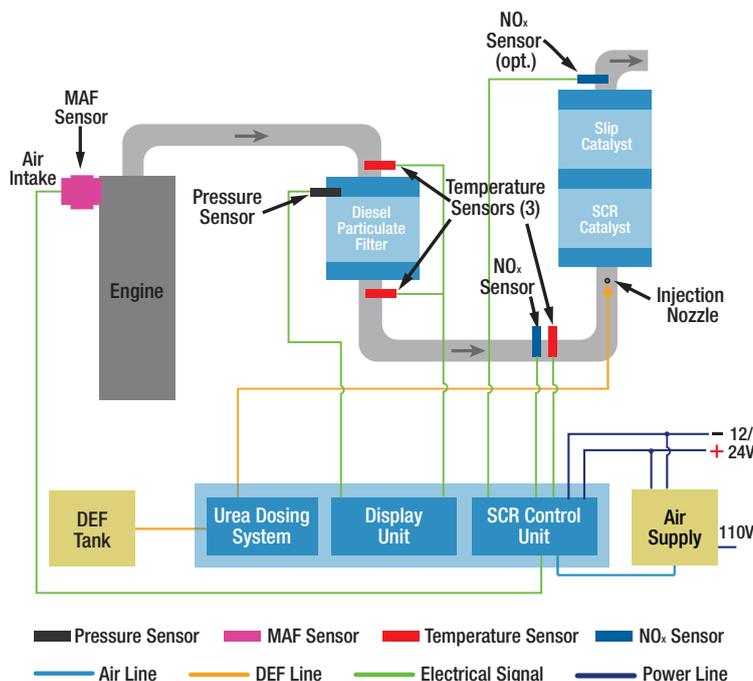
In the BlueMAX™ PLUS 100 system, the Diesel Particulate Filter (DPF) utilizes wall-flow monoliths to trap the soot produced by diesel engines. A proprietary catalyst is coated onto the inside surface of the filter monolith. The catalyst lowers the soot combustion temperature allowing the filter to regenerate by oxidizing the accumulated soot inside the filter during regular operation of the engine. The system requires Ultra-Low Sulfur Diesel (ULSD) fuel and exhaust gas temperature above 325°C (617°F) for at least 25% of the normal duty cycle to ensure proper filter regeneration.

NO<sub>x</sub> is reduced over the Selective Catalytic Reduction (SCR) catalyst through a chemical reaction with urea agent which is also commonly referred to as Diesel Exhaust Fluid (DEF). The urea control strategy relies on NO<sub>x</sub> concentration measurements by a sensor positioned upstream of the SCR catalyst. Based on the NO<sub>x</sub> sensor signal, in combination with the engine Mass Air Flow (MAF) and temperature sensors, the Electronic Control Unit (ECU) calculates the amount of urea that needs to be injected for optimal NO<sub>x</sub> reductions.

The NO<sub>x</sub> sensor-based control strategy makes the system very suitable for all type of 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 is used to atomize the urea for optimum dispersion, to maximize the NO<sub>x</sub> reductions and minimize the amount of urea required. The on-board diagnostic unit monitors all system parameters in real time and will inform the operator of system status and potential issues via the dashboard display.

### BlueMAX™ PLUS 100 System Schematic Drawing



## PRODUCT FEATURES

- SCR and passive DPF system
- Engineered to install into tight engine compartment
- Durable design with quiet operation
- Internally insulated
- Computerized controller with 3 customizable alarms
- System maintenance intervals of 2000 to 5000 hours
- Data logging capabilities
- Colour display informing of system status and operational conditions

## EMISSIONS REDUCTION PERFORMANCE

### Typical BlueMAX™ PLUS 100 Emissions Reduction Performance\*\*



\*\*Actual emission reduction may vary with engine, load, and operating conditions. Properly engineered catalyst systems are capable of achieving higher conversion efficiencies than EPA verification values when optimized for a specific application.



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