

## Intelligent, Innovative Retrofit of Distribution Vehicles and City Fleets

### E-SCR™: Catalyst-Upgrade for Lowest Emissions in Urban Traffic

**Increased pressure from Brussels: Since 2010, with the further increased ambient air quality standard the governments of city and regional exceeding the limits have to implement air quality plans to become compliant. The urban traffic in general and the city-owned and operated fleets in particular will have to contribute to improve the air quality in the large cities and densely populated areas. New passenger cars and light or heavy duty trucks meeting the current EU5/V emission standard, or in the near future already the upcoming EU 6/VI standard, already emit significantly lower NO<sub>x</sub>. However, the currently existing fleets will contribute to air pollution with higher emissions in urban and distribution traffic to a larger degree for many years to come. A cost-effective alternative to exchanging the existing fleets with new vehicles and buying new distribution vans is retrofitting the current vehicles with innovative E-SCR by Emitec, making it the most economic and ecologically most efficient solution.**

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The challenge: urban traffic is characterized by short distance driving and generally low power requirement on the engine. Consequently, the engine is operating mainly in low load, the exhaust gas temperatures are low as well, and hence the reduction of nitrogen oxide emissions with standard SCR-systems is very much limited. The E-SCR-system offered by Emitec solves this problem: equipped with an electrically heated catalyst, which on-demand automatically provides supplementary heat to the extent required, the SCR catalyst at quickly at light-off temperature and can efficiently work in the optimum catalytic temperature window, even at low engine load. Nitrogen oxide emissions are significantly reduced with the injected urea reducing agent (AdBlue) – e.g. 70 per cent NO<sub>x</sub>-reduction below current EU standard was measured on-board during inner-city driving in Berlin.

This makes the E-SCR emission control technology of the automotive specialists from Lohmar, Germany the ideal solution for city-owned fleets and distribution vans operating in the large cities, those vehicles, that, due to the cold exhaust temperatures, can't get that catalytic "comfort-feeling" with standard emission control systems.

### **System for Euro-V-Trucks**

"With this intelligent way of retrofitting cities and densely populated areas will play an important role in improving the ambient air quality", says Wolfgang Maus, CEO of Emitec. "The currently existing vehicles equipped with E-SCR-retrofit systems emit significantly below the maximum allowed limits: This brings cities and communities on the safe side in view of the EU legislation."

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The modular SCR-System adapts well to light duty trucks and buses with EU 5/V emission standard. The diesel particulate filter which typically already present remains unchanged. The SCR system consists of an AdBlue<sup>®</sup>-Tank, a dosing unit for urea injection and the catalysts for NO<sub>x</sub> Reduction.

### Background

Modern engine technology faces the target conflict to reduce both fuel consumption *and* nitrogen oxide emissions, further and further. Highly efficient engines operate with high combustion temperatures and consequently produce more nitrogen oxides NO<sub>x</sub>. Nitrogen dioxide (NO<sub>2</sub>), which eventually forms from NO<sub>x</sub> in the atmosphere, contributes to formation of ozone, and higher concentrations are aggressive to the lungs of human beings. In addition, NO<sub>2</sub> is a precursor of nitric acid and acid rain.



Electrically heated catalyst



MB Sprinter with E-SCR  
in urban traffic

Press enquiries:

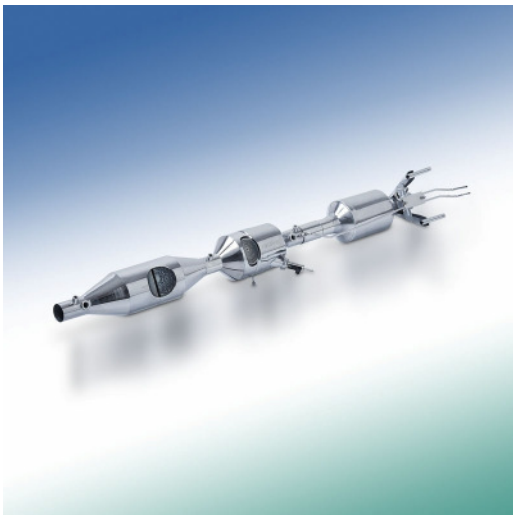
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AdBlue Dosing systems, right hand side “air-assisted”, left hand side „air-less“ units



Exhaust gas system for MB Sprinter with E-SCR

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