Retrofit

NOxBUSTER® City DPF + SCR

World-leading retrofit technology

PROVENTIA

At Proventia, we have successfully used SCR technology in heavy OE applications; the same technology has also proven to be efficient and reliable in retrofitting buses and trucks. Our most effective retrofit system, Proventia NOxBUSTER® City DPF+SCR, upgrades the vehicles to the Euro 6 emission standard in a cost-efficient way.

Thanks to Proventia's specialty of urea mixing and dosing strategy, combined with advanced catalyst technology and optimised thermal management, the c. 99% NO_x and NO_2 reduction rates are evident also at low exhaust gas temperatures (<200 ˚C) in real city traffic. Developed in arctic conditions in Finland, NOxBUSTER® produces outstanding reduction rates also in cold weather conditions, including cold-start phases. NOxBUSTER® City does not require any maintenance, just regularly filling the Adblue® tank with standard commercial Adblue® is all it needs. NOxBUSTER® keeps your buses in traffic and not on the workshop.

Proventia Oy ■ Tietotie 1, 90460 Oulunsalo, Finland
Tel: +358 20 781 0200 ■ sales@proventia.com, info@proventia.com ■ proventia.com

Developed for urban driving and low exhaust temperatures

The urea system of NOxBUSTER® City rests on Proventia's 10-year-long research and development and patented mixing technology, which enables the injection of more urea even at low exhaust gas temperatures. NOxBUSTER® City includes advanced catalyst technology that we improve with a refined dosing strategy and pump adjustments. For the insulation of NOxBUSTER® City we use our own integrated multi-layer insulation technology, Proventia Thermal Components, comprised of a corrugated thin steel outer shell and fiber wool material. The optimised insulation improves the SCR performance by preventing the heat transfer outside the system and keeping the surface temperature of the system low.

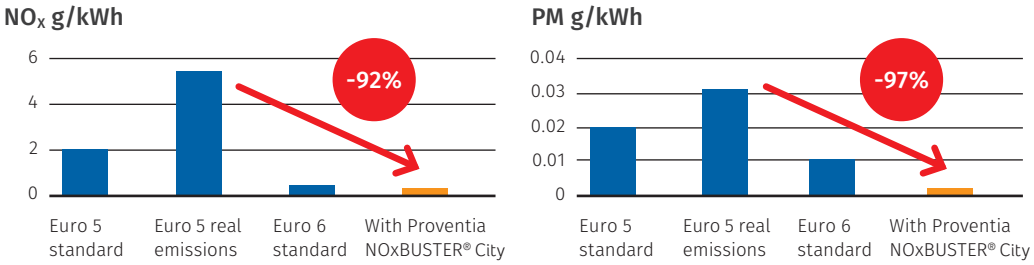
Proven results in real driving emission tests

NOxBUSTER® City reaches the emission limits of the EURO 6 engine using the World Harmonized Vehicle Cycle (WHVC). Emission tests with Portable Emissions Measurement Systems (PEMS) by several independent test companies have proven the laboratory tests correct. As a matter of fact, a Euro 5/EEV bus with Proventia NOxBUSTER® achieved the best results ever measured on a Euro 6 bus.

To verify the operation in real life, we offer the Proventia PROCARE™ Drive NO_x monitoring system as an option. PROCARE™ Drive is a web-based, real-time emissions tracking system that monitors online 24/7 the performance of the vehicles' exhaust aftertreatment system and the amount of NO_x emitted.

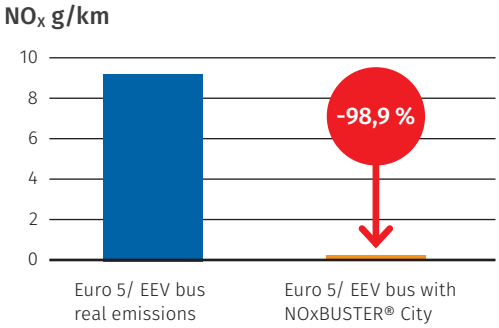
Euro 5 bus, impartial test laboratory, WHVC test procedure, incl. cold start

Test vehicle: Scania K230

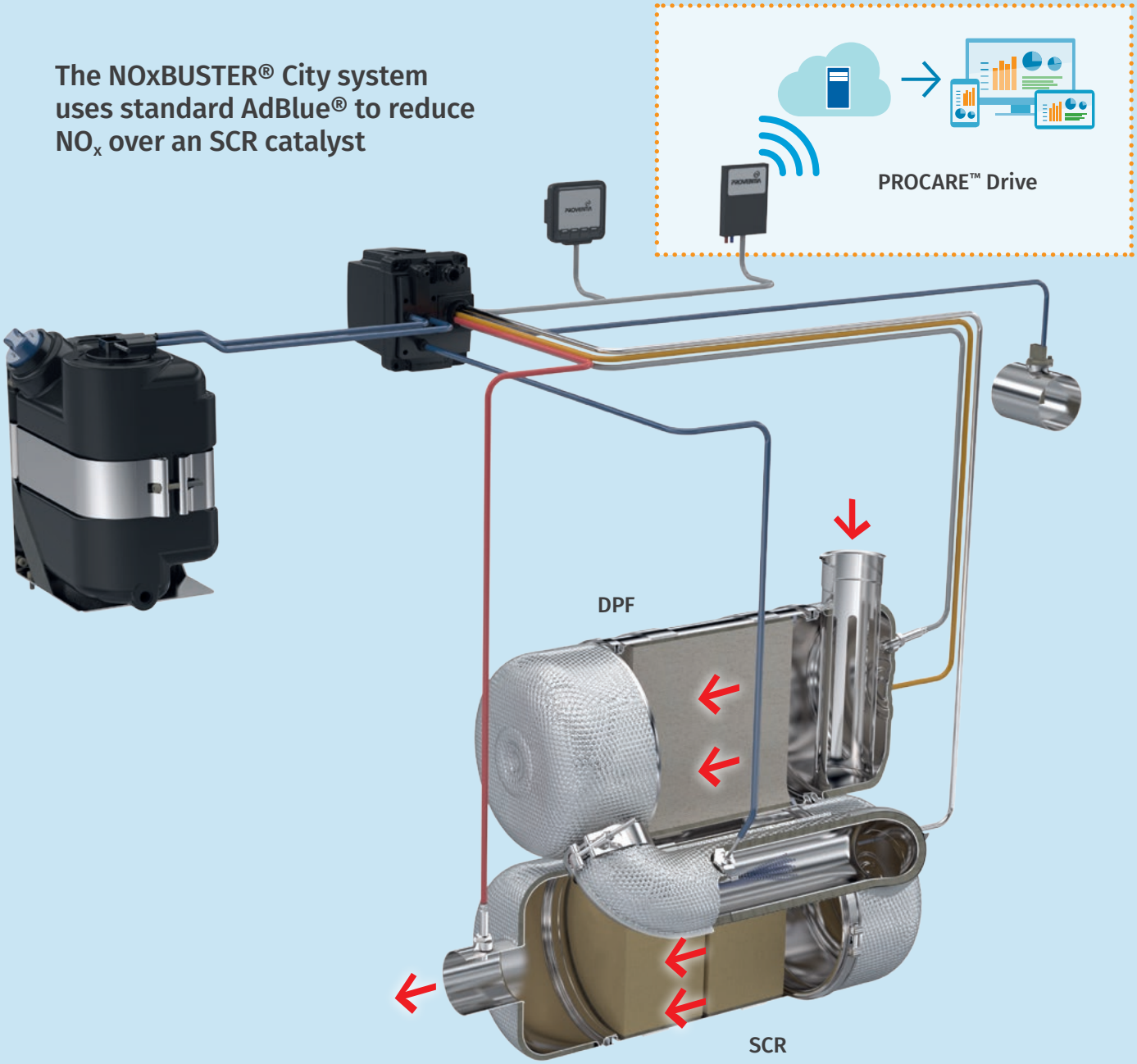


Euro 5/ EEV bus, impartial PEMS test, city bus test cycle

Test vehicle: MAN



The NOxBUSTER® City system uses standard AdBlue® to reduce NO_x over an SCR catalyst



Over 20 years of experience in retrofits

We have supplied retrofit devices for a number of air quality projects, including the California, Germany, Hong Kong, South Korea, Norway, Sweden and UK low emission and ultra low emission zones (LEZ and ULEZ). Our diesel retrofit technologies have proven their ability to significantly reduce unwanted emissions in the most cost-effective way.

Retrofit

Clean AIR

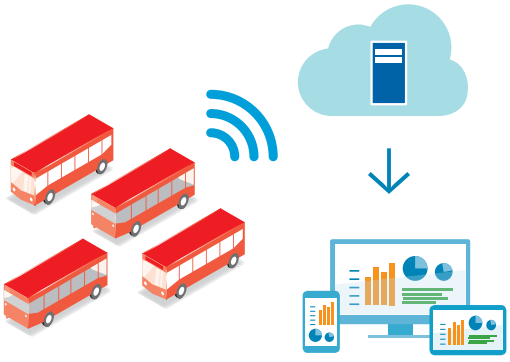
Specifications & Benefits of NOxBUSTER® City

- High NO_x reduction rates even at low exhaust temperatures (+150 – 200 °C)
- Proven results from PEMS tests from independent test laboratory
- Proven results of real urban driving conditions from independent test laboratory (WHVC cycle)
- Operates with standard AdBlue®, no additional devices needed
- Low surface temperature, no risk for other sensitive engine parts
- Easy installation and maintenance, no special devices needed
- Continuous NO_x monitoring with Proventia PROCARE™ Drive

Emission class upgrades	Proventia retrofit system
Euro 5/EEV → Euro 6	NOxBUSTER® City DPF + SCR
Euro 4 → Euro 6	NOxBUSTER® City DPF + SCR
Euro 4 → Euro 5	NOxBUSTER® SCR
Euro 3 → Euro 5	NOxBUSTER® DPF + SCR
Euro 2 → Euro 5	NOxBUSTER® DPF + SCR

Proventia PROCARE™ Drive NO_x monitoring system

The Proventia PROCARE™ Drive NO_x emissions monitoring system is a web-based solution that monitors the performance of the vehicle's exhaust aftertreatment device online 24/7 using GPS and 3G wireless technology. The Proventia PROCARE™ Drive provides a reliable method for fleet operators or authorities to monitor the amount of NO_x emitted and the functionality of the EAT system in real time.



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