



Pirelli & C. Eco Technology S.p.A.

THE PIRELLI FEELPURE™ DOWNOX™ TRAP TECHNOLOGY

The combination of the market leading FEELPURE™ AR, the optimal DPF solution for urban applications characterized by especially low temperature exhaust gases, and of DownOx™, proven catalyzing technology that reduces one of the major pollutants in the air, Nitrogen Oxides (NOx), led to the ultimate Pirelli technology for retrofit of Buses and Trucks, Pirelli FEELPURE™ DownOx™ TRAP, that allows Euro II-III-IV vehicles to meet Euro V for NOx/CO/HC emission level and Euro VI for Particulate emission level.

The unique Pirelli solution places the catalyzing unit in front of the DPF with both exclusive advantages:

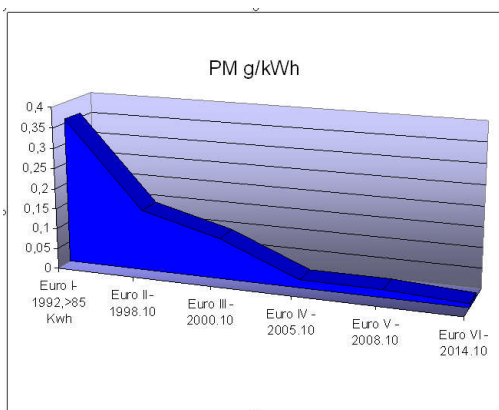
- **HIGHER NO_x REDUCTION** thanks to the higher temperature of the exhaust gases;
- **LONGER LIFE OF THE CATALIZER** set before the DPF/regeneration process and being protected from temperature stress.

FEELPURE™ DownOx™ TRAP guarantees the removal up to 99,8% of Pn (Particles Number), hydrocarbons (HC) and carbon monoxide (CO) plus the reduction of over 85% of nitrogen oxides (NOx).

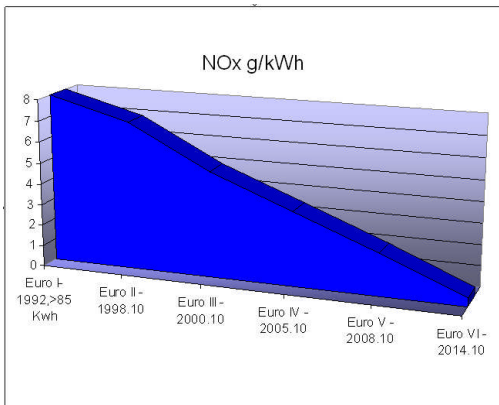
Pirelli FEELPURE™ DownOx™ TRAP is composed by close coupled and compact substitutive mufflers, drawn for an effective space saving and achieving over 85% NOx reduction also for old vehicles still circulating on road.

A wide range of vehicles can be retrofitted to reach the latest standards of emission control and even more, being NOx reduction an avant-garde for Europe (European Standards will be set with EURO VI introduction).

European Legislation Trends



Pirelli FEELPURE™ DownOx™ TRAP allows Euro II-III-IV vehicles to meet Euro VI for Particulate emission level.



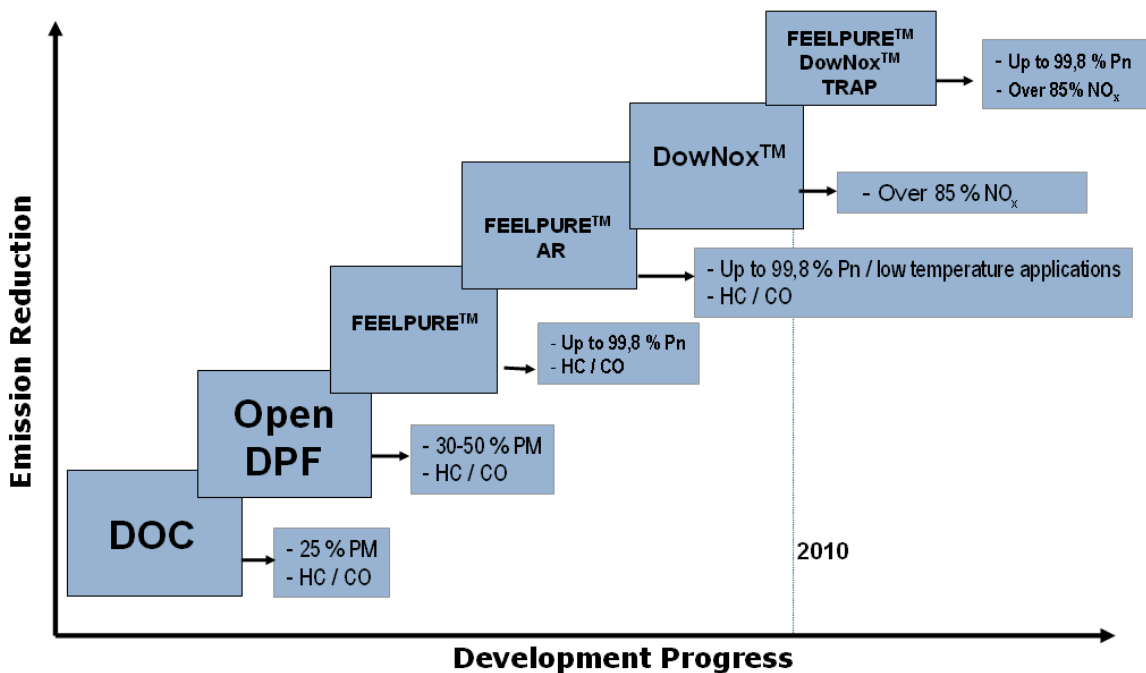
Pirelli FEELPURE™ DownNox™ TRAP allows Euro II-III-IV vehicles to meet Euro V for NOx emission level

PIRELLI SOLUTIONS FOR EMISSION CONTROL

Since 2004, Pirelli Eco Technology develops and produces technologies for a sustainable transport. The Headquarter is based in Milan, Italy. Pirelli has a presence in major international markets.

The main products are Diesel particulate filters for OEM and aftermarket use.

All over the last decade Pirelli provided new technologies to answer to the market needs and requirements.

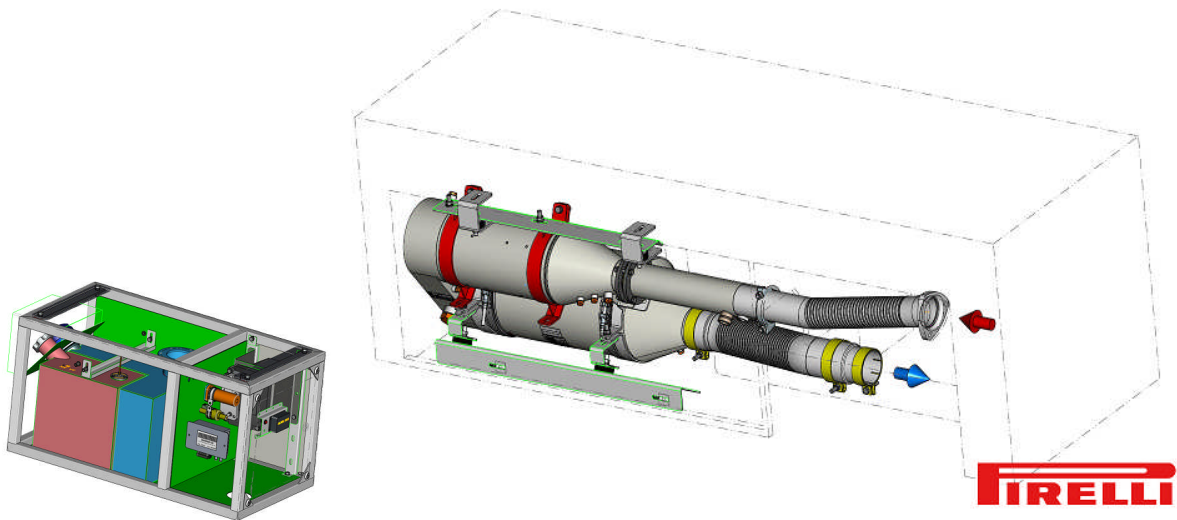




THE PIRELLI FEELPURE™ DOWNOX™ TRAP TECHNOLOGY

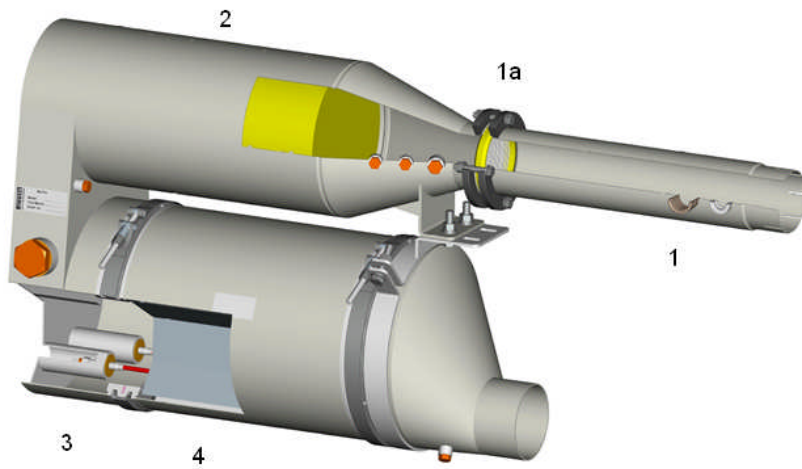
FEELPURE™ DOWNOX™ TRAP is a system that reduces both Nitrogen Oxides (NO_x) and Particles Number (Pn). The system is composed by:

- a dosing unit (composed by: UREA tank, liquid catalizer tank, ECU for dosing and controlling system) that can be managed from the external side of the bus/truck, as a normal refill of diesel fuel;
- a catalizer;
- a DPF system (FEELPURE™ AR: working from 160°C exhaust gases temperature).



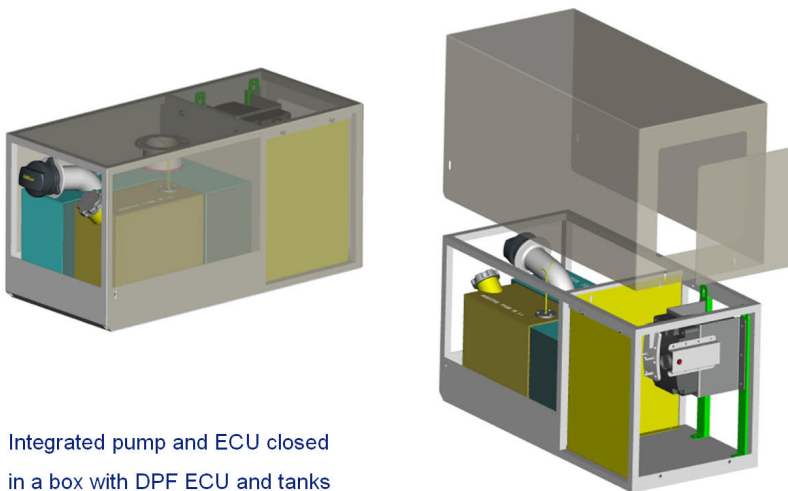
HOW DOES IT WORK

The exhaust gases pass through the exhaust line. The UREA is dosed (1) and mixed (1a). The chemical reaction in the catalizer (2) transforms NO_x into harmless emissions plus water. The gases turn to the DPF system (3,4) that is going to reduce Pn up to 99,8% with both active (AR, 3) or passive (4) system.

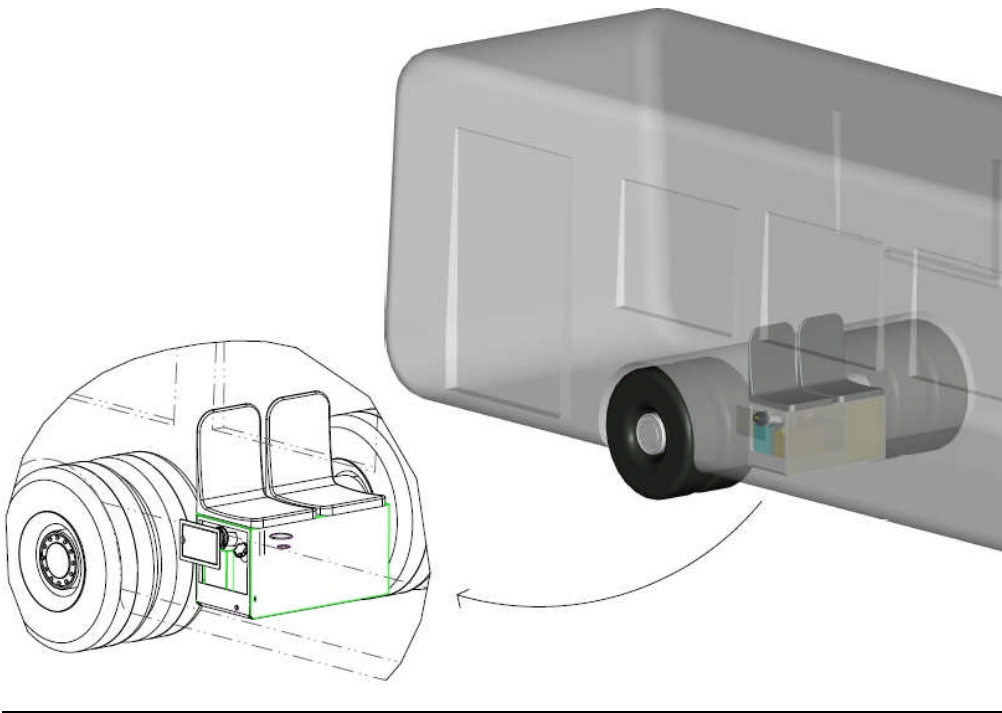


Dosing and ECU unit

The UREA tank and the liquid catalizer tank, with the ECU, are displaced in an apposite unit studied for an effective space saving.



Integrated pump and ECU closed
in a box with DPF ECU and tanks



MAINTENANCE

The PIRELLI FEELPURE™ DOWNOX™ TRAP system requires periodic maintenance that consists in:

- Removing the ash that accumulates as a residue of everything that has not been burnt and is emitted by the engine.
- Refill the UREA and LIQUID CATHALIZER tanks.

MAINTENANCE FREQUENCY: one check per year is the reasonable maintenance interval that can be assumed.

For further information: it.ecotechnology@pirelli.com