



PURitech has an effective emission control solution for virtually every diesel engine. For the most demanding situations, PURitech has developed the PURImax system. PURImax reduces emissions of gaseous pollutants (CO: -96%, HC -92%, NO_x: -30%) purely by using a catalytic coating without the addition of a reducing agent or substance. Particulate filtration of >99% is delivered by a ceramic wall-flow filter.

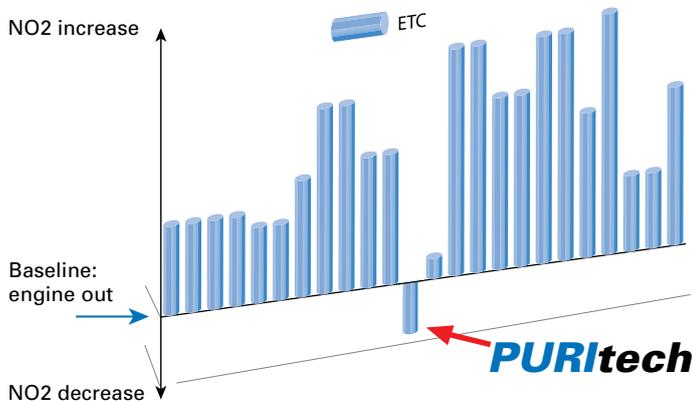
PURImax gives outstanding performance.

PURImax ensures high NO_x (NO and NO₂) reduction during diesel engines during idling, hence high nitrogen oxide reduction during 'stop-go / city driving' (SCR systems on EURO V & EURO VI vehicles are unable to deliver this). In particular, high NO₂ reduction (TUV test for the ETC cycle resulted in a reduction of 67% NO₂), which is independent of low exhaust gas temperature, has been proven. All regulated exhaust pollutants are reduced to such an extent that is possible to reach the next level of the EURO standards (EURO III to EURO IV).

By injecting hydro-carbon over a catalyst, automatic filter regeneration is achieved with low exhaust gas temperatures (stop-and-go / city driving), in diesel engines with high exhaust gas opacity levels or in older diesel engines with high raw emissions.

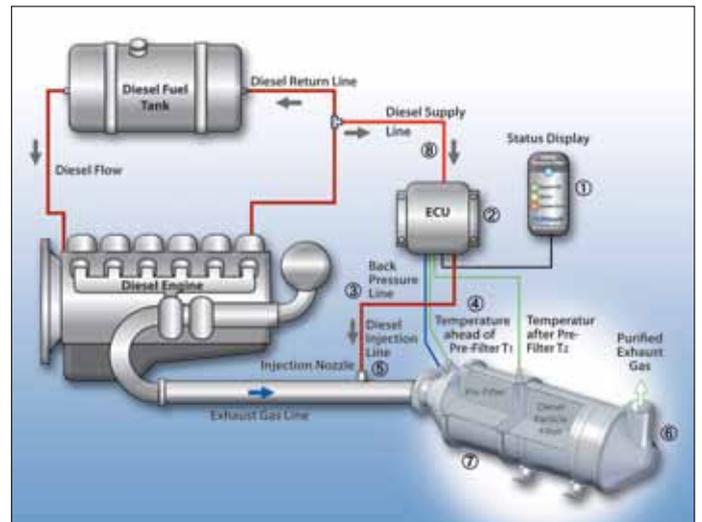
PURImax – DPF systems with NO₂ / NO_x reduction

The graph shows the changing of the NO₂ emissions of particulate reduction systems (PMS) providers, which have an ABE obtained according to the „Appendix XXVII“. This clearly shows that other providers of DPF, increased the harmful NO₂ between 100% and 1000%! The PURImax system from PURitech reduced NO₂ by a considerable amount. From 2015 we all must adhere to, in cities within the EU, NO₂ annual mean of 40µg / m³. This will affect vehicles with an increased rate of NO₂ emissions in important European city centres (environmental zones).



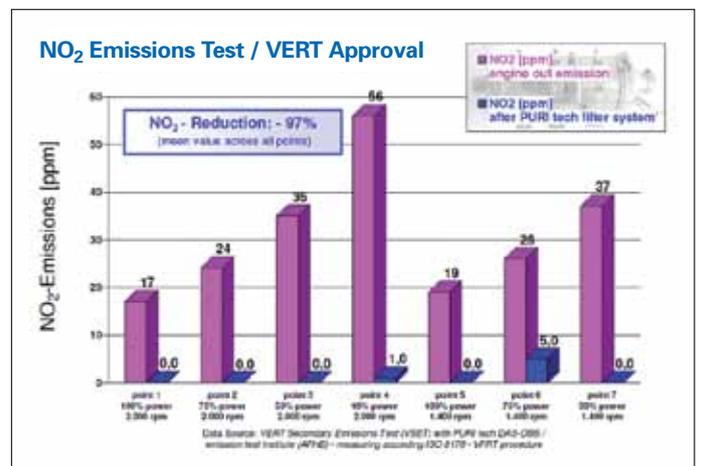
PURImax-System with NO₂ and NO_x reduction

KBA-Data / Measurement of NO₂ Emission / all DPF approved by „Appendix XXVII“



Functional schematic:

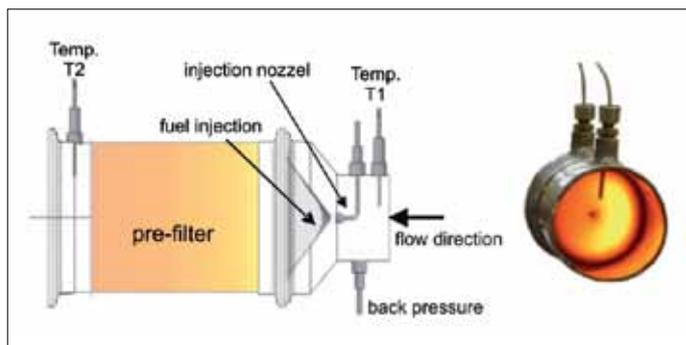
- ① Buzzer + LED display (functional monitoring)
- ② Central processing unit: ECU, injection pump, system monitoring, datalogger, CAN-port
- ③ Backpressure measuring line
- ④ Temperature sensor 1+2
- ⑤ Injection nozzle
- ⑥ Diesel particle filter
- ⑦ Pre-filter
- ⑧ Fuel line





Applicable for:	Severe duty cycle (low load) / Stop-and-go operation
Regeneration Type:	Combined Regeneration: Active + Passive
Regeneration Temp.:	from 230°C exhaust temp. > 15% of operation time
Regeneration Time:	Permanent self-cleaning during operation
Emission Reduction:	Particle mass -95% / Carbonmonoxide (CO) -95% Nanoparticles -99% / Hydrocarbons (HC) -99% NOx -30% / NO2 -67% to -97%
Installation:	Filter installation in place of silencer

PURltech optimises the design of its emission control systems in every way. Thus a PURltech filter typically has a larger filter volume and a better aspect ratio (diameter to length) and a greater cell density than the filter models of much of the competition. This results in several advantages: there will be a better catalytic effect and thus it is more likely passive soot burning will take place. As a direct result of this, money can be saved because a lower average exhaust back pressure is achieved, which results in reduced fuel consumption. In addition, due to longer maintenance intervals – a PURltech filter need only be cleaned every 150,000 km, – therefore, the vehicle / machine will be able to stay longer in continuous use.



If the vehicle is operated at sufficient load (250-350°C), the filter system regenerates solely passively (catalytic filter coating); the injection of fuel is not necessary at this point. The filter will be charged with soot particles during lower load operation and the backpressure will increase. At a specific backpressure level (e.g. 80mbars/ freely-adjustable), the ECU automatically activates the fuel injection mode and initiates a filter regeneration. The pre-filter oxidizes the injected fuel catalytically and this reaction generates heat which raises the exhaust gas temperature up to 500°C.

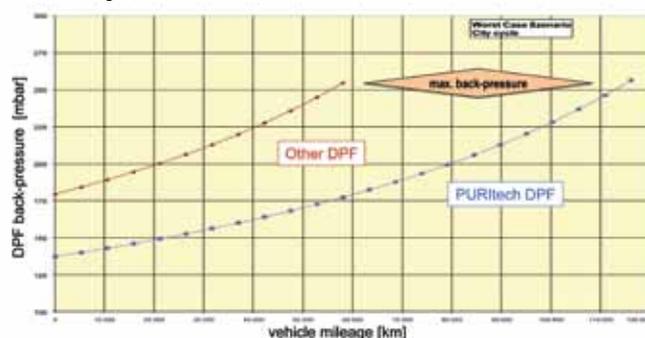
Your advantage:

- Permanent regeneration from 230°C (exhaust gas temperature).
- Low backpressure / no increase in fuel consumption.
- Perfect system for all low duty cycle operations.
- Automatic controlled regeneration during operation.

Cost benefits of optimally filter design

Maintaining the cleaning interval (service interval) clearly decreases the total cleaning cost. Negative consequences can include an increase in fuel consumption due to increase in backpressure. Total savings with PURltech DPF and PURlclean filter cleaning: up to £6700 (8000 €) per 250,000 km compared to the competition.

DPF back-pressure increase due to ash load in filter vs. vehicle mileage [km] / DPF service interval



For further questions please contact: