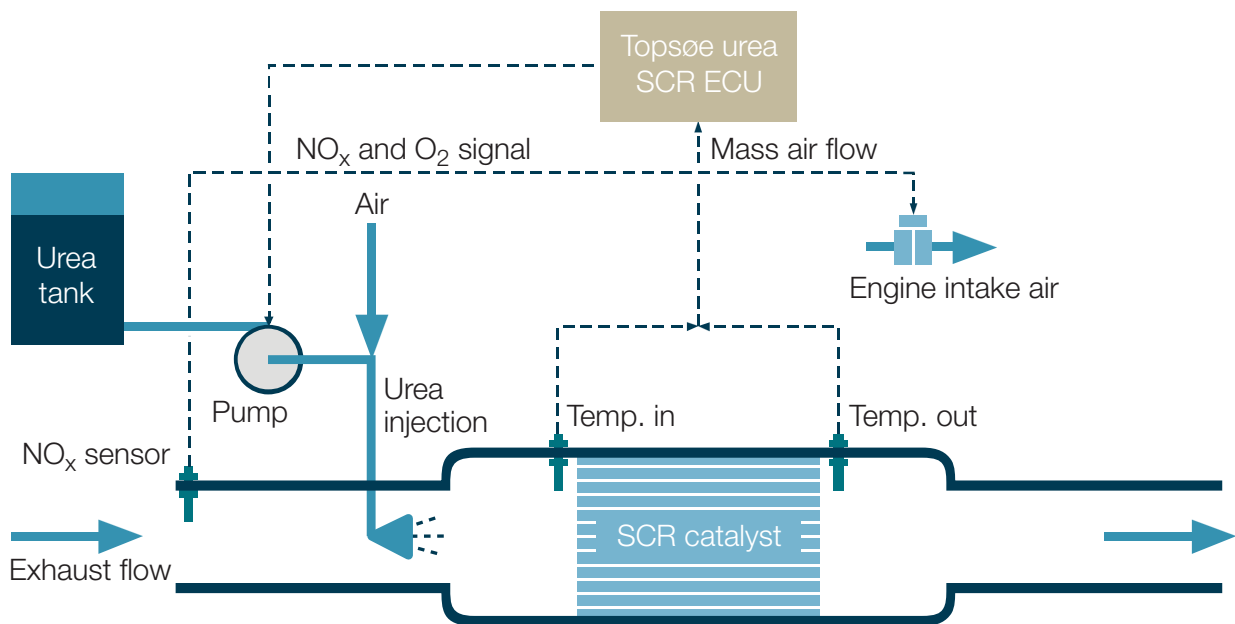


Topsøe retrofit SCR system

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Haldor Topsøe has developed a sensor-based urea SCR system that can be retrofitted on all types of diesel engine applications to remove NOx emissions. The retrofit SCR system offers great flexibility since installation and operation do not require any modification to the engine itself, nor is any kind of mapping of the engine required.

Technology

The retrofit SCR system uses a total of four sensors to measure the actual NOx emission, exhaust flow and temperature of the catalyst. Topsøe's advanced real-time control algorithms continuously calculate the optimum amount of urea solution to inject into the exhaust. This is based on the actual emissions of the engine, ensuring optimum operation of the SCR system.

The retrofit SCR system can thus yield high NOx conversions and at the same time keep the NH₃ emissions to a minimum for all operational conditions.

A digital dosing pump doses the desired amount of urea solution that is mixed with pressurised air. If the dosing system is air assisted, the urea/air mixture is atomised and then injected into the exhaust stream by means of an injection nozzle. The complete fluid system operation, valve system and injection nozzle have been carefully designed to avoid problems with urea crystallisation and nozzle clogging, ensuring high reliability and trouble-free operation.

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High conversion

The retrofit SCR system yields a very high NO_x conversion in the range of 70-90% during real-life operation. Also, unburned hydrocarbons from the engine are reduced by around 80-90% giving a clean exhaust without the typical unpleasant exhaust smell. Also particulate mass is reduced by around 20-40%, removing the significant ultra fine particles that are deemed to be the most hazardous to our health.

Full range experience

Topsøe has a vast experience in the demonstration of retrofit diesel engine vehicles, ranging from off-road heavy machinery, on-road trucks, urban buses and trains to marine applications.

The retrofit SCR system uses an aqueous solution of urea, AdBlue quality that is an odourless, colourless and completely non-toxic chemical.

The retrofitted vehicle will carry an on-board urea tank that needs refilling roughly only once or twice a week, depending on the application. The urea consumption of the system is around 3-5% of the fuel consumption, again depending on the application.

Contact us to help you find one of our suppliers.