

Tokyo Motor Show 2007

DENSO Diesel Development

Diesel-powered vehicles offer excellent fuel economy and power, and their popularity is especially high in Europe. The percentage of diesel-powered car sales in Western-Europe has nearly doubled to more than 50 percent over the last ten years. DENSO continues to develop diesel engine management systems and components for injection control and after-treatment. This supports vehicle manufacturers to expand the market for clean diesel vehicles.

With regards to injection control, late 1995 DENSO launched the world's first innovative diesel common rail system. 2002 saw the introduction of 180 MPa (1800 bar) systems with five-time multiple injections, achieving the highest injection pressure in the world at that time. The state-of-the art system is produced in Japan as well as Hungary and Thailand. The production of the system is also scheduled to start in China in 2009.

DENSO has now developed a new diesel common rail system featuring 200 MPa (2000 bar) injection pressure and up to nine injections per combustion stroke, again achieving the highest injection pressure in the world. This new diesel common rail system improves performance and drivability while reducing fuel consumption and emissions such as nitrogen oxide (NOx) and particulate matter (PM). It also helps make after-treatment systems more effective. DENSO plans to introduce its 200 MPa diesel common rail system next year.

For after-treatment, DENSO has been producing and supplying its high performance and cost effective diesel particulate filters (DPFs) made of cordierite since 2003. Compared to other materials, cordierite DPFs are light-weight and provide lower back pressure of exhaust gas, delivering better engine performance and more efficient purification of PM in emissions.

This June, DENSO established a joint venture with Bosch in Wroclaw, Poland, to produce cordierite DPFs. As a result of the Euro 5 emission standard for cars, DPFs are expected to become standard equipment for all new diesel-powered cars in Europe, rapidly expanding the market for particulate filters.