

THEME: EURO 6 NORMS

THE EFFECT ON ENGINE PERFORMANCE

i BACKGROUND

Euro 6 is the sixth incarnation of the European Union directive to reduce harmful pollutants from vehicle exhausts. The Euro 6 standard was introduced in January 2013 for trucks. The aim of Euro 6 is to reduce levels of harmful exhaust emissions.

This includes nitrogen oxide (NOx), carbon monoxide (CO), hydrocarbons (THC and NMHC) and particulate matter (PM), which is basically soot from diesel. The knock-on effect of reducing these pollutants can also mean improved fuel economy and lower CO2 emissions.

For trucks, the NOx emission requirements have intensified from 2 g/kWh in Euro 5 to 0.2 g/kWh in Euro 6.

i RESPONSE FROM MANUFACTURES

To cope with the intensified exhaust regulations, most truck manufactures have introduced re-circulation of the exhaust gasses (EGR), aftertreatment of exhaust gasses (SCR), as well as high-pressure fuel injection, which became a standard with the introduction of Euro 5.

The use of these had to be refined and balanced even better as manufactures had to achieve both less environmental impact, due to Euro 6, as well as fulfilling demands of higher fuel efficiency.

+ CONSEQUENCE FOR ENGINE AND CHARGE AIR COOLING

The introduction of the Euro 6 standards requires increased cooling performance of the engine. In some cases the increase exceeds 25 percent compared to the engines based on the Euro 5 standards.

In addition, there is also a higher operating strength as both temperatures and pressure cycles increase in intensity and frequency.

Charging air cooling also requires improvement as the charge pressure and turbo output temperature increase.

HOW DOES NISSENS TAKE EURO 6 STANDARDS INTO ACCOUNT IN THE MANUFACTURING PROCESS?

Thermal Resistance

Reinforced plastic tanks enriched by fibreglass (PA66-GF30) and produced with no recycled plastics.

Supreme Durability and Thermal Performance

Cores equipped with double-folded fins, reinforcing the fins against mechanical damages as well as increasing the total heat exchanging surface.

Perfect Fitting

Perfect finish in every detail such as water tanks, connections, threads, bolts, gaskets, mounting brackets, etc. This enables a quick and trouble-free installation.

Highest Quality Raw Materials and Modern Technologies

Sturdy, durable and highly performing core construction produced with advanced aluminium brazing technology – controlled atmosphere brazing (CAB).

Top quality raw materials. Truck radiators aluminium sourced solely from European suppliers.

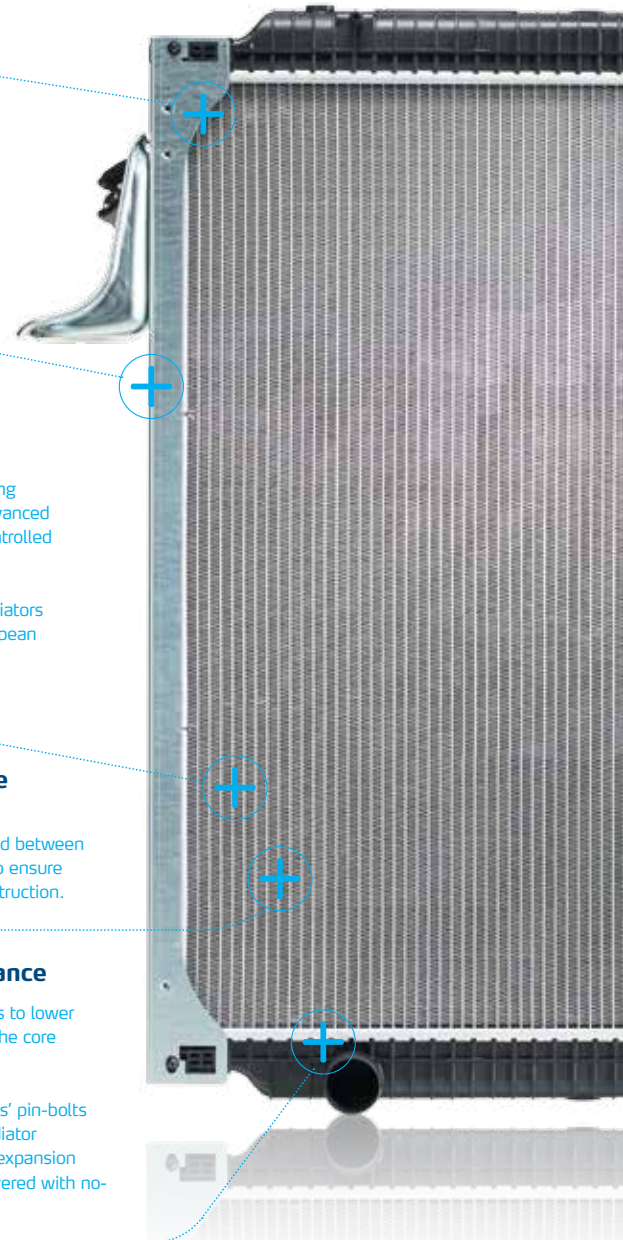
Enhanced Pressure Impulse Stress Resistance

Specially designed metal profile installed between mounting frame and the radiator core to ensure enhanced durability of the radiator construction.

Thermal Expansion Resistance

Specially designed side panels with cuts to lower the influence of thermal expansion on the core construction.

Improved design of frame bolts. Nissens' pin-bolts ensure much higher flexibility to the radiator construction when exposed to thermal expansion effects. Nissens' pin-bolts are also delivered with no-frame radiators for selected models.



THE S.L. TRUCK RACING EXPERIENCE

Nissens is technical partner, and supplier of engine cooling components, to FIA Truck Racing Rookie of the Year, Sascha Lenz.

"We tested the Nissens system during our race at Hungaroring. With a 38C° air temperature, the Nissens cooler kept the temperature at 90C° while the OE cooler reached 113C°. The performance of Nissens components gives us an competitive advantage" - **Sascha Lenz, FIA Truck Racing Rookie of the Year.**

