

Mobile and Power-Gen Filtration

Si4100 Super Impactor
For Diesel Engine

Market Application Publication

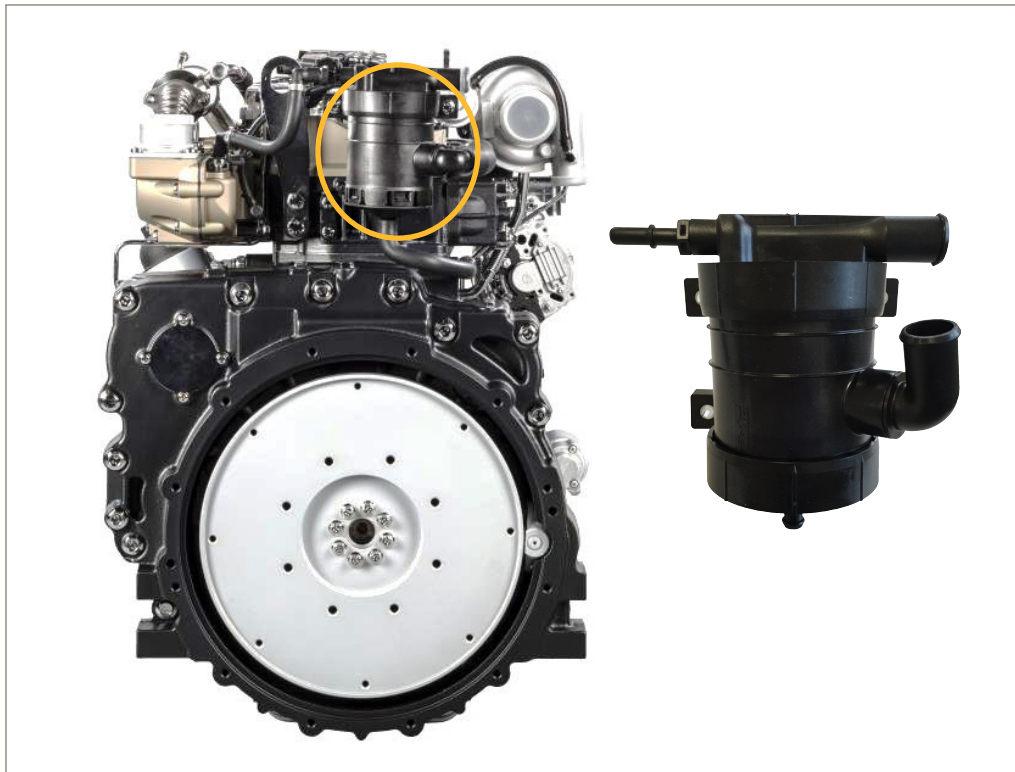


The Challenge

The customer builds the diesel KDI 3404TCR & SCR engines for the off-highway market and are used in many demanding construction applications such as the JCB 409 Wheel Loader. This electronic common rail diesel engine is their most powerful engine and one of the most compact in its range. The customer needed a compact, highly efficient crankcase ventilation system to meet environmental requirements. To qualify as a Euro VI and Tier 4 engine, a specific particulate and NOx count must be reached as an emission standard.

The Solution

The Racor CCV Super Impactor Si4100 must handle and remove roughly 25% of the crankcase emissions to help qualify the engine as compliant. Crankcase blow-by is produced when combustion gases under high pressure are blown past the piston rings into the crankcase. As these blow-by gases pass through the crankcase, they become contaminated. Racor's crankcase ventilation system removes the contamination. The exhaust can then be allowed to vent to the atmosphere.



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Why Racor was Chosen as the Solution

The customer required a crankcase filtration system that could perform at high efficiencies with a very low pressure drop. The system had been able to perform from idle to rated speed and everything in-between. A "fit for life" type of system was also a major requirement. The Racor Super Impactor (Si) was the answer; by using boosted pressure from the turbo system, the crankcase fumes are drawn into the Si inlet from a venture effect created by the jet pump on

top of the assembly. Then the aerosols are pulled through a series of variable geometry openings inside the crankcase filtration system separating out the oil. A diaphragm raises and lowers over the openings allowing for maximum efficiency and regulating the pressures inside the crankcase. This patented technology allows Parker Racor to offer this new concept to all engine manufacturers to meet environmental regulations.



ENGINEERING YOUR SUCCESS.

Specifications	Si4100	Si4200
Maximum Flow Rate	100LPM	200LPM
Port sizes		
Inlet (Hose connection)	26 mm	26 mm
Outlet (Hose connection)	26 mm	26 mm
Turbo boost inlet (SAE J2044)	13 mm	13 mm
Weight in Grams (Without check valve)	697g	697g
Crankcase pressure regulation	+10 / -15 mBar	
Max operating temperature	-40°C to +180°C	

Key Features

