

Cummins provides power-generation solutions

With load shedding in South Africa and regular disruptions across the rest of the continent, reliable back-up power generation solutions are becoming increasingly important in ensuring the long-term sustainability of the rapidly developing African mining sector.



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An innovative range of fully integrated power generation solutions were displayed at the 2015 Mining Indaba by Cummins. This year's event was being hosted at the Cape Town International Convention Centre from 9-12 February. Cummins Power Generation Director Kenneth Gaynor highlights that Mining Indaba 2015 will assist in giving a better understanding of the solutions that Cummins can provide.

Mining Indaba 2015 hosted some of the world's largest mining companies, as well as world renowned macro-economists and industry experts. This serves as the ideal platform for companies to display unrivalled capabilities, while participating in discussions and sharing ideas which can help to improve and grow the mining industry in Africa.

Cummins PowerGen is a world leader in the design and manufacture of pre-integrated generator sets, ranging from 8 kVA to 3300 kVA. The division is able to meet all African mining projects' energy needs, including; continuous, prime, peaking, stand-by, cogeneration or a complete turnkey power plant. All major components including engine, alternator, transfer switches and control systems are designed and manufactured according to the highest standards of quality set by Cummins.

Gaynor says that mining operations across Africa can lower their fuel costs and minimise their impact on the environment with the new range of HHP QSK95 Series generator sets, which are Cummins PowerGen's most powerful diesel generator sets to date, offering up to 3.5 MW 60 Hz and 3.75 MVA 50 Hz. He added that they are engineered with the highest kilowatt per square foot ratio in their class, resulting in a smaller footprint that achieves a 20% improvement in power density.

The durable and robust QSK95 Series generator sets are ideally suited for mining, oil and gas, or any project where harsh conditions, challenging environments and the demand for reliable, continuous remote power exist. The QSK95 Series generator sets are also engineered to deliver reliable, mission critical power protection without interruption.

Fewer maintenance requirements, longer service intervals and 25,000 hours to major overhaul make these generator sets ideal for prime power applications. The generator sets accept 100% of rated load in a single step, and are ready to accept facility load in less than 10 seconds. With a smaller footprint, the QSK95 Series requires less space to install and, in multiple-generator set applications, fewer generators are required to achieve the necessary power output.

Official launch

Cummins' latest advancement in Nanonet technology is the Fleetguard FH239 Series Industrial Pro diesel fuel filtration system and all-in-one fuel/water separator, which was launched locally at the 2015 Mining Indaba, following successful trial runs at mine sites.

Cummins Africa Technology training manager Tim Haywood noted that the Fleetguard FH239 Series Industrial Pro has been proven to dramatically extend oil drain intervals, improve overall efficiency and decrease the total cost of ownership on a number of leading OEM machinery and equipment that operate in harsh South African mining conditions.

As of October 2014, independent laboratory tests on fuel analysis revealed that the FH239 filtration system meets internationally recognised ISO 4406 certification. Efficiency is measured in terms of a Beta (β) ratio. The Beta ratio for parts FS53014 and FS53015 is greater than $\beta_{1000} @ 7 \mu$ compared to the FH234 series with a Beta ratio of $\beta_{250} @ 7 \mu$.

During local testing, the tank level cleanliness started at 22/21/17 - measured at 4 μ , 6 μ and 14 μ , respectively. After installing the FH239, the fuel level cleanliness readings were 13/10/6. Following a second stage of filtration using the FF5782 system, the readings reached 10/9/5, which means considerably cleaner fuel, which, ultimately, results in a longer expected lifespan of the fuel injection system. The FH239 also provides easy maintenance with its self-priming pump.

By simply spinning off the cap, users can pour in fuel and restart the engine with clean, filtered fuel. The clear cover tells users when not to change their filter and offers a window into the system to see fuel condition and flow. This is patented 'Seeing is Believing' technology, which offers superior effectiveness in removing water and contaminants from the fuel system. Filters can be changed within a matter of minutes. Dry filter changes can be completed by simply draining fuel below the collar and replacing. The design also ensures that there are no hazardous fuel spills either.

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