

Cummins introduces new technology NG generators

Cummins' debut of the HSK78G natural gas generator series during Middle East Electricity (MEE) 2019 at the Dubai World Trade Centre, represents a bold step into the gas arena for Cummins that pushes new levels of efficiency, transient performance and gas variation well beyond former natural gas generators.

Fuelling the next-generation power, Cummins' HSK78G natural gas (NG) generator series offers a total package of gas generator capabilities and innovative gas technology for prime and peaking power applications.

With a power density of up to 2.0 MW from a 78 l engine, the HSK78G generator series is designed to provide reliable power, regardless of the natural gas source or the climate, which includes extreme altitudes and heat of up to 55 °C.

"HSK78G generators are suitable for a diverse set of industries from mining and manufacturing to shopping malls and hospitals," says Craig Wilkins, director: prime power segment and global sales support, Cummins.

A high electrical efficiency of up to 44.2% (50 Hz) and 43.5% (60 Hz) is achieved on a wide range of pipeline natural gas – down to 70 methane number (MN) – without impacting power output and efficiency. The barrier-breaking fuel flexibility of the HSK78G enables the utilisation of low-cost, low-BTU and free fuel sources that would otherwise be considered waste products to deliver robust power, even with very aggressive fuels with minimal derating.

By eliminating the need and the space required for gas-cleaning systems, custom-



The new HSK78G genset series represents a bold step into the natural gas area for Cummins.

ers can optimise their capital (CapEx) and operational (OpEx) expenditures.

The efficiency of the HSK78G is maintained by automatic engine adjustments, which account for fuel quality changes and quick load-step performance without the need to calibrate or switch off the engine.

"It's possible to burn pipeline natural gas, flare gas and biogas with high efficiency and low emissions without compromising power output. New technology and electronic engine management systems allow the generator to automatically manage gas fuel quality fluctuations to ensure zero loss in performance via advanced on-board diagnostic control systems," adds Wilkins.

In the case of a grid failure, Wilkins notes, the HSK78G can also switch to island mode offering more reliability.

He says, "The models are designed to push boundaries and to achieve a 30% first load step at G1 with four steps to full load providing superior load pickup and transient load rejection capabilities, resulting in fewer voltage and frequency disturbances and faster recovery times. As a result, customers can expect

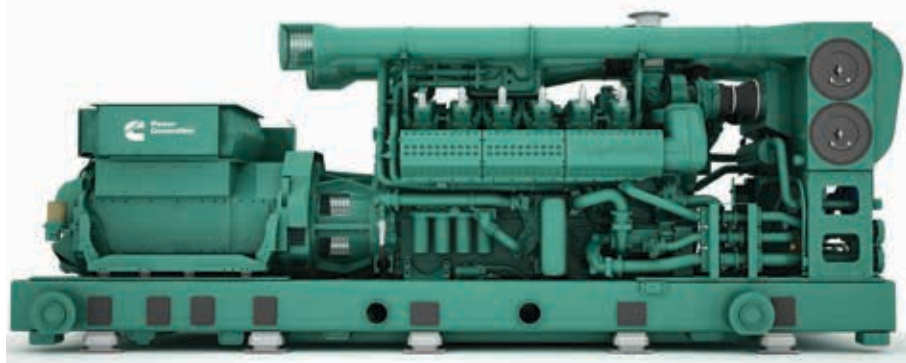
a more stable power supply, critical for island mode and emergency operations, greater uptime and lower fuel costs, all of which result in a lower total cost of ownership."

In addition to greater efficiency and lower cost of ownership, the HSK78G provides thermal efficiency at 47.1%, generating 2 110 kW of thermal output for heating, cooling and steam generation. As a result, the engine series offers significant environmental benefits by recovering CO₂. Its superior heat exchanger also takes up less space, offering greater design flexibility.

The models are capable of lowering nitrogen oxide emissions (NOx) down to 250 mg/Nm³ (0.5 g/hp-hr) offering compliance with global regulations without the need for selective catalytic reduction (SCR).

The new gas generator models have the industry's longest major overhaul service cycle of 80 000 hours and the most sophisticated predictive diagnostics in the industry. The technology is driven by innovative tools such as onboard spark plug sensors, NOx sensors, and real-time trend data collection. The full diagnostics package onboard the HSK78G minimises unscheduled downtime while enabling customers to accurately predict maintenance needs and optimise maintenance costs.

"Coupled with the product capabilities, Cummins offers customers unrivalled peace of mind when it comes to servicing and maintaining the HSK78G. Best in class aftermarket capabilities are provided through dedicated local contactors, who are supported by a global system of service technicians, engineers and part distributions centres, experienced in offering and servicing natural gas solutions to fit any power need," Wilkins concludes. □



Cummins launched its new HSK78G natural gas genset series during MEE 2019 in Dubai.