Kohler Engines Extends Bharat Stage V Certification for KDI Engine Family

[Bangalore, India – Dec. 12, 2023] – Kohler Engines announces a significant expansion in its KDI engine family product offerings, marked by the attainment of Bharat Stage V certification. Compliant with the stringent Bharat Stage Emission Standards (BSES), Kohler Engines has secured CEV Stage-V certification for Construction Equipment Vehicles and Trem Stage-V certification for Agricultural Tractors and other Equipment.

This achievement encompasses three models within the KDI engine family: the KDI-TC 1903 model in the 19 – 37 kW range, and the KDI-TCR 1903 and KDI-TCR 2504 models spanning the 37-56 kW range. Notably, the KDI lineup has now secured dual certification for EU Stage V and Bharat Stage V. OEMs can now streamline their assembly line operations by managing only one engine model for both domestic and export markets. Moreover, the KDI engine family boasts certifications for major global emission standards, including US Tier 4 Final, China Stage IV and Korea Stage V.

In the dynamic realm of India's emissions regulations, the advent of Stage V standards has presented a multifaceted challenge for engine manufacturers, that lies in the seamless integration of aftertreatment systems into existing engines, ensuring compliance without compromising performance under diverse operating conditions and duty cycles. With its extensive experience, Kohler has successfully met this challenge, offering a truly integrated solution in its modern and advanced KDI engines.

The Bharat Stage V development follows a philosophy centered on delivering compact engineering, eliminating the need for extensive OEM machinery re-engineering. Kohler's DPF technology reduces downtime, positively impacting fuel consumption and oil cleanliness for enhanced engine performance and efficiency. This comprehensive engine platform ensures cost competitiveness and superior performance, making an impact across diverse regions.

To facilitate a seamless transition to Bharat Stage V, KDI engines are now in series production and readily available to OEM customers for the development of new machines that meet the new regulations.

KDI Engine Range: A Legacy of Success Continues

Since its introduction in 2012, the KDI range has achieved remarkable success, establishing a robust presence in over 500 applications worldwide across diverse industries such as material handling, construction, agriculture, and power generation. With a production exceeding 350,000 engines thus far, the KDI series has

made its mark in North America, Europe, and Asia, particularly dominating the construction and agriculture markets and accumulating an impressive total of 1 billion operational hours in the field.
This series has emerged as the preferred choice for manufacturers and end-users seeking a versatile engine platform. Offering the highest power and torque density within a compact design, these engines facilitate enhanced performance and increased productivity. Kohler's cutting-edge emission control solution, KOHLER Flex™, has been meticulously designed to ensure that each configuration of the KDI platform consistently meets the different emission standards globally, from the least regulated to the most stringent.

KOHLER Flex™: Redefining Emission Control

KOHLER Flex™ represents Kohler's comprehensive technology tailored to support OEMs globally, providing a standardized machine platform worldwide. By leveraging a consistent engine base architecture, OEMs gain access to a diverse and cost-effective range of aftertreatment system configurations tailored to specific global market demands.
In regions with stringent emission norms like the EU and Bharat Stage V, Kohler offers a combined diesel oxidation catalyst (DOC) and diesel particulate filter (DPF) solution. This advanced system efficiently eliminates pollutants from the exhaust, preventing the release of particulate matter (PM) into the atmosphere in terms of both mass and particle count. For North America, a DOC-only solution is available. In less regulated countries, OEMs receive a KDI engine with no aftertreatment system. This strategy allows OEMs to address diverse global markets with a single, versatile investment.
Kohler's overarching strategy aims to enhance end-users' uptime and overall fuel efficiency while providing a compact, global solution. In North America, where DPF is not mandatory, Kohler has innovatively developed a maintenance-free DOC to reduce fuel consumption.
For markets where a diesel particulate filter becomes imperative, Kohler transforms the challenge of maintenance into an opportunity to deliver added benefits to OEMs. The KDI's clean combustion enables smart DPF regeneration management, seamlessly transparent to end-users. This design ensures optimal machine operation, even at low loads and temperatures, preventing downtime.
The DPF features a lifelong maintenance interval for ash cleaning, enhancing emission control and operational efficiency. The system is engineered for temperature control during regeneration, preventing overheating and ensuring system sealing and durability.
Moreover, the KDI provides flexibility for OEMs to install the aftertreatment system on the engine or separately. With 360-degree rotation of inlet/outlet pipes, seamless integration is achievable across a wide range of machines.

"Best Fit" Philosophy

The KDI's technological prowess lies in its advanced common-rail system and twin-vortex combustion chamber, promoting clean combustion and minimizing aftertreatment system dimension and management. This design, tailored for robust construction, industrial, and agricultural heavy-duty applications, ensures exceptional durability and longevity.

Kohler provides the most compact and user-friendly solutions to OEMs. The KDI's compactness not only enhances machine attributes but also yields specific advantages. For instance, zero-turn excavators enjoy a minimized engine compartment. The KDI engine family offers four power take-offs (PTOs), providing 100 percent torque from the flywheel and front PTO, with two additional side auxiliary PTOs delivering up to 110 Nm, reducing installation costs.

The "Best Fit" philosophy underlines the development of the KDI engine family. With performance comparable to larger engines, high low-end torque, and best-in-class torque and power density, the KDI ensures immediate engine response to load even at low speeds, maximizing productivity.

World Class Total Cost of Ownership

In terms of total cost of ownership (TCO), the KDI sets an efficiency benchmark with the lowest fuel consumption in its segment at 210 g/kWh. Extended maintenance service intervals, up to 1000 hours for filters and oil changes, and a 2000-hour interval for cooling-fan and alternator poly-V belt replacement, highlight its economic advantages. Hydraulic lash adjusters (HLA) eliminate the need for valve lash adjustments.

The "Best Fit" philosophy translates into operational and functional benefits for end-users and OEMs, ensuring maximum efficiency and longevity across diverse applications.

Redefining customer service standards

To provide OEMs with robust control over engine parameters, Kohler presents an array of remote diagnostic tools.

Kohler Integrated Remote Analytics (KIRA) allows real-time engine performance monitoring, connecting directly to the system for diagnosis, flashing, and access to technical documentation.

Additionally, the user-friendly KOHLER® CheckApp, designed for smartphones, streamlines maintenance with a personalized program based on usage patterns and direct spare parts purchasing.

About Kohler Engines

Kohler has been manufacturing engines for more than a century and has continued to grow its product portfolio ever since its inception to increasingly bring ease and convenience to the lives of end users worldwide. The company offers a comprehensive range of diesel, petrol and gas engines up to 140 hp of power – adopted globally by machine and equipment manufacturers in the most important sectors of industry (construction, earth-moving, agriculture, generators and gardening). For more details, please visit kohlerengines.com.

About Kohler Energy

Kohler Energy, a global leader in energy resilience solutions, brings bold design and powerful impact to the energy systems that sustain people and communities everywhere around the world. It is an integral part of Kohler Co., with solutions across Home Energy, Industrial Power Systems, and Powertrain Technologies. Leveraging the strength of its portfolio of brands – Power Systems, Home Generators, Kohler Uninterruptible Power, Clarke Energy, Heila Technologies, Curtis Instruments, and Engines. With more than a century of industry leadership, Kohler Energy builds resilience and goes beyond functional, individual recovery to create better lives and communities. For more details, please visit kohler.com/energy.

About Kohler Co.

For 150 years, Kohler Co. has been a global leader in design and innovation, dedicated to providing gracious living through kitchen and bath products; luxury cabinetry, tile and lighting; distributed energy solutions – home energy, industrial power systems, and powertrain technologies – and luxury hospitality experiences and major championship golf. Privately held Kohler Co. was founded in 1873 and is headquartered in Kohler, Wisconsin. The company also develops solutions to address pressing issues, such as clean water and sanitation, for underserved communities around the world to enhance the quality of life for current and future generations.

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