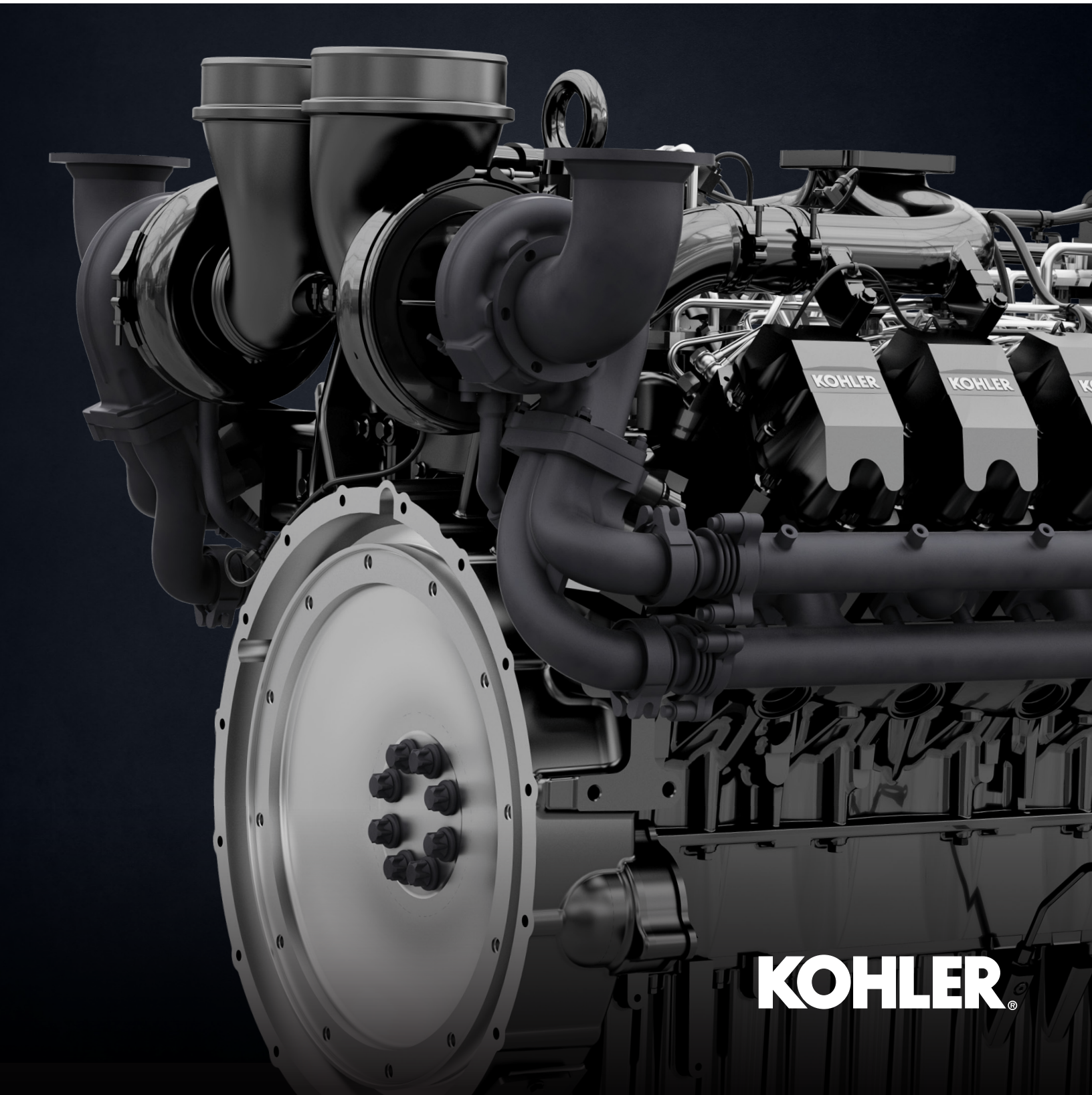
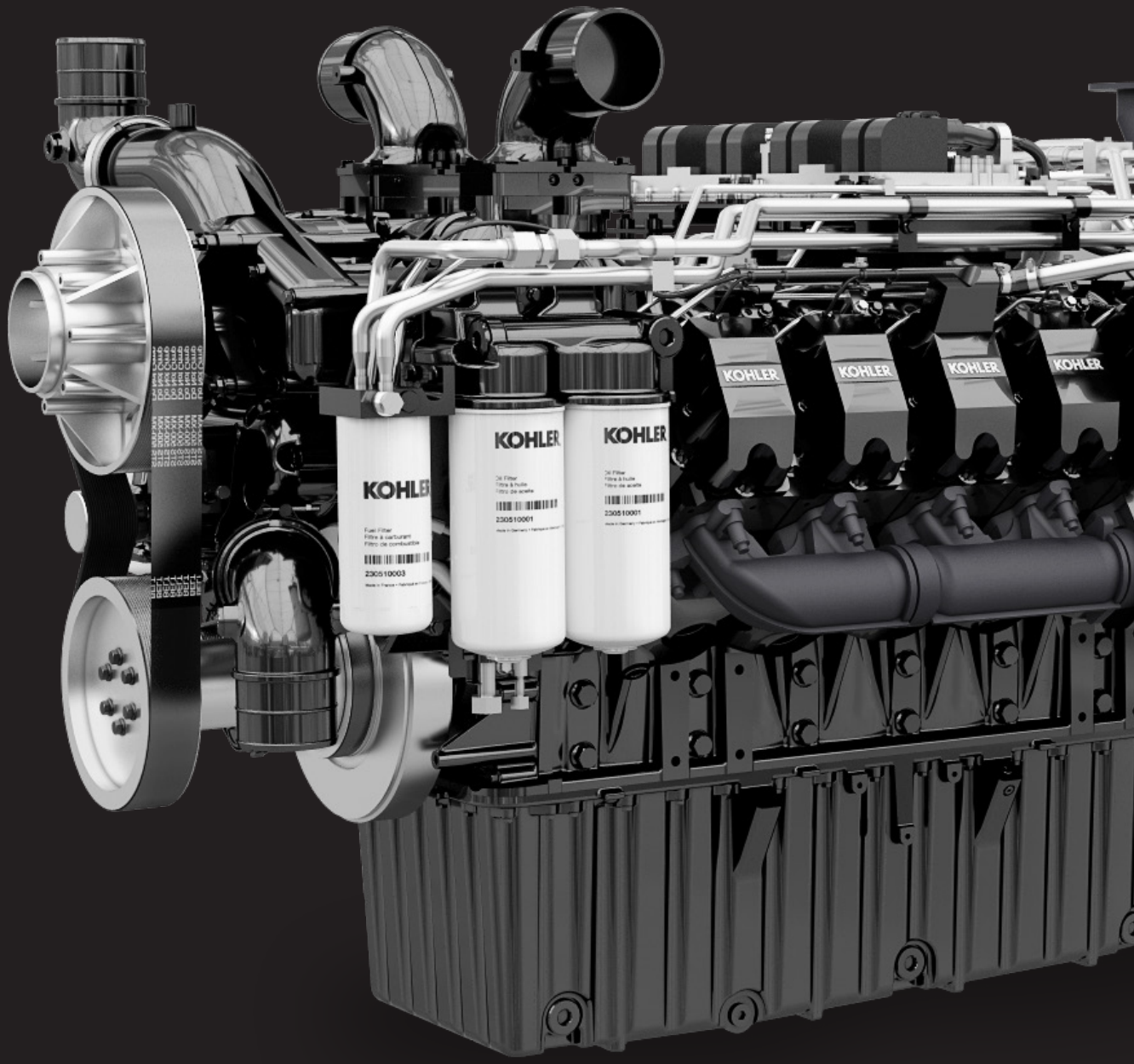
KD SERIES™ ENGINES

for Industrial Power Systems



KOHLER®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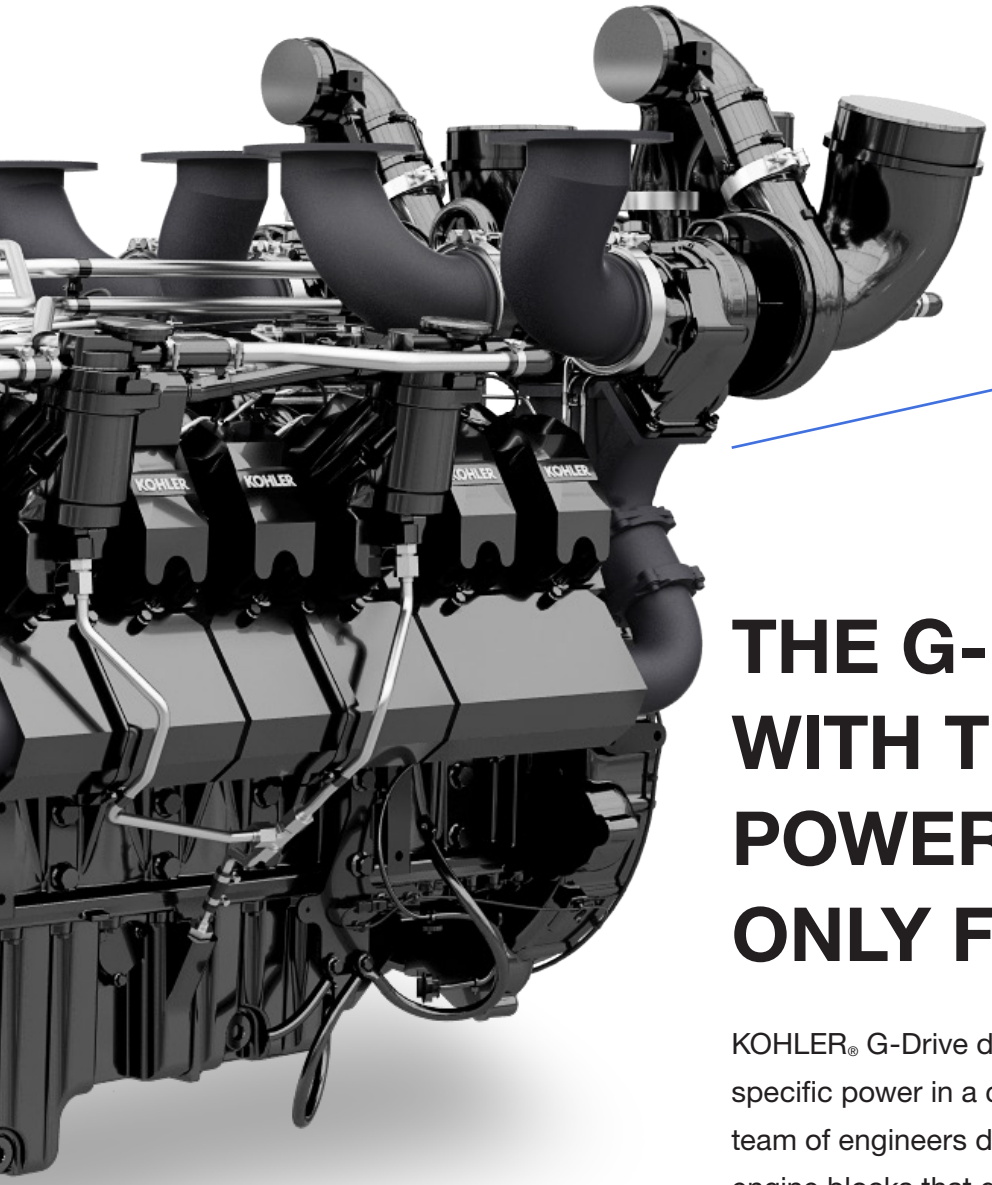


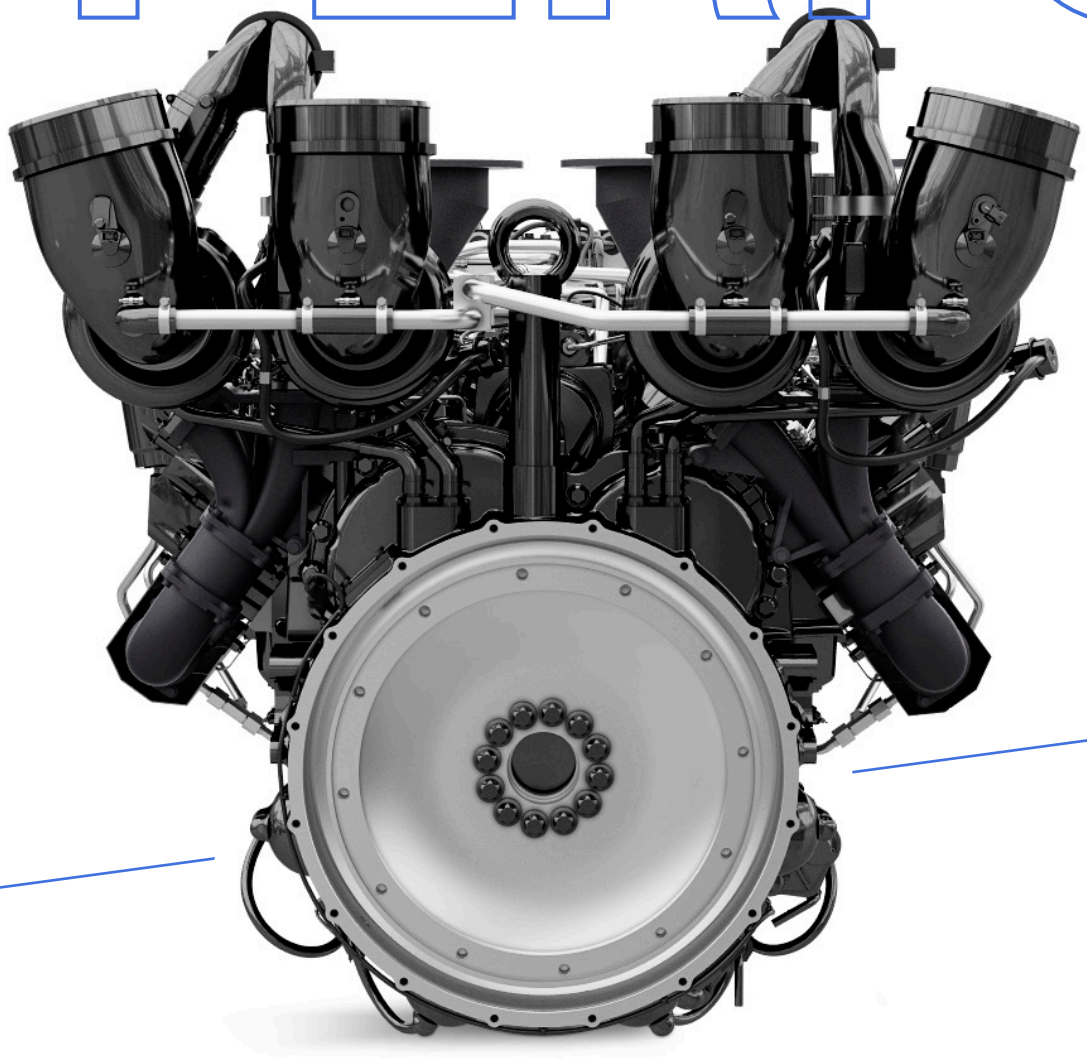
THE G-DRIVE ENGINE WITH THE HIGHEST POWER DENSITY.* ONLY FROM KOHLER.

KOHLER® G-Drive diesel engines offer outstanding specific power in a clean, modular design. Our global team of engineers developed three sophisticated engine blocks that deliver a broad range of power from 785 to 4290 kWm.

Created specifically for generator applications, these engines combine greater power with superior efficiency. Reaching up to 41.7 kW/liter, KOHLER G-Drive engines pair a compact form factor with unrivaled kilowatt displacement—delivering the highest power density on the market.* Not to mention, these engines are approved for hydrotreated vegetable oil (HVO). It is a renewable energy that is up to 90% carbon neutral.

*Higher power density at more nodes than any competitor between 700 and 4000 kW.

PERFOR



CONCENTRATED POWER

The KOHLER® G-Drive diesel engine range produces industry-leading kilowatts displacement in a package that enables a smaller generator footprint while delivering the best fuel consumption at more nodes than any competitor between 700 and 4000 kW. That means higher performance at reduced operating cost. The engine architecture, injection system, and engine management of KOHLER G-Drive engines have been designed to achieve optimal generator set performance while meeting all worldwide emission requirements.

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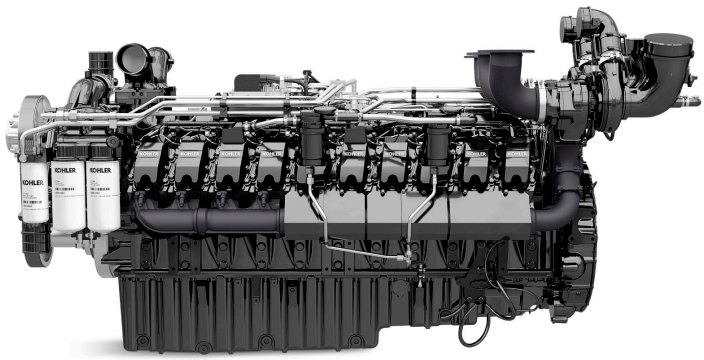
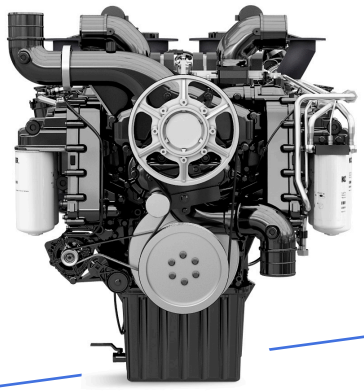




Robust and Reliable

With over a century of engineering know-how behind it, our G-Drive engine has been purposefully designed for long-life performance inside your KOHLER® power systems that are backed by a three-year emergency standby power (ESP) warranty. We design, test, and fit every component. Our computer-aided quality-management system oversees every step of development, from the first stage of production through the engine's entire life cycle, to ensure the highest level of quality.

Modular Design

All models within the KD Series™ are designed to share common components including engine control units, connecting rods and pistons, fuel system components, cylinder heads, and more. This sophisticated, modular design means more efficient servicing of the engine, reduced spare parts inventory, and more streamlined technician training.

Smooth-Running

Our G-Drive engine runs smoothly, quietly, and with low vibration—even under extreme operating conditions. Vibration is minimized through low-noise combustion and optimized combustion pressure. The rigid design of the engine block, crankcase, oil sump, valve cover, and subframe also helps reduce vibration.

Unlike engines with standard crankshaft support-bearing configurations, the KOHLER G-Drive offers an optimized bearing arrangement, creating a more stable engine with less vibration.

Low Operating and Maintenance Costs

Costs to operate and maintain a KOHLER G-Drive engine are reduced through low fuel consumption, increased power density, reduced acquisition costs, and diagnostics that help prevent issues. The cylinder head design and crankcase ventilation mean extended service intervals and a longer lifetime.

INNOVATION

1 Matched Turbochargers

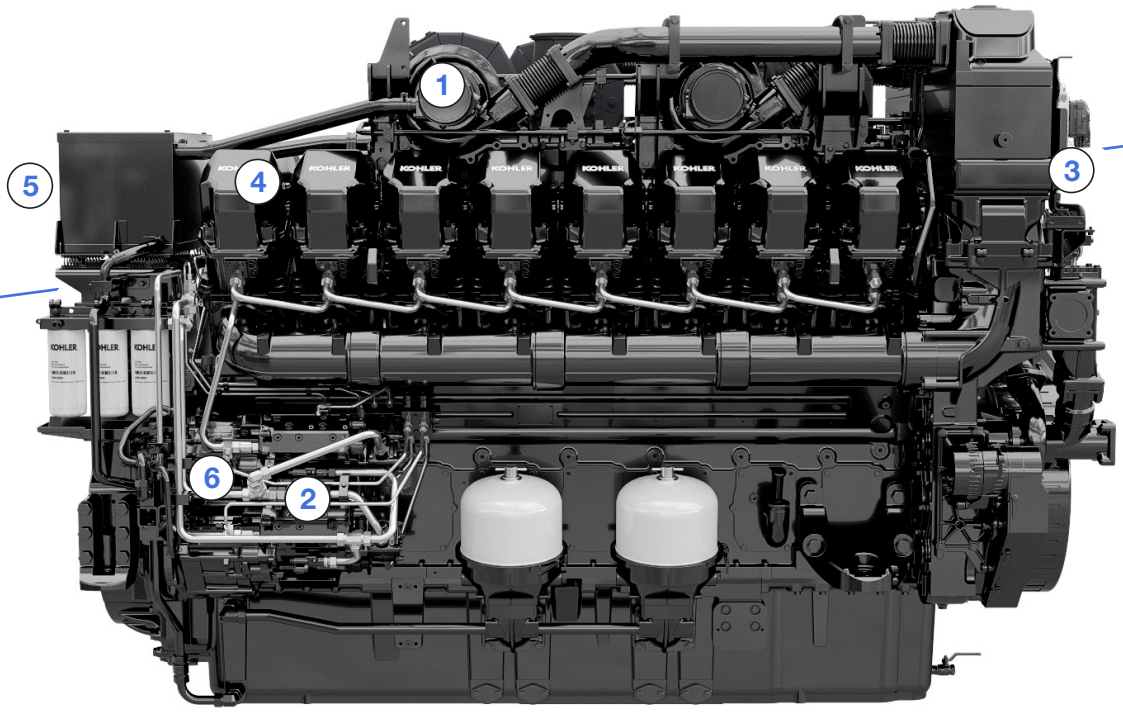
Turbochargers have been designed for maximum power and optimal combustion using the right amount of intake air. They are specifically matched to each engine and engineered to provide the required amount of air at all times, which reduces fuel consumption and enables operation at high altitudes.

2 Fuel System

The common rail fuel system generates up to 2200-bar injection pressures for maximum efficiency, optimizing the combustion pressure curve through multiple injections. An ideal injection point and extremely uniform injection quantity create exceptionally low noise and deliver very stable power. Engineers specifically designed the remarkable high lift fuel system to work optimally for KOHLER® G-Drive engines.

3 Intuitive Engine Control Unit (ECU)

The ECU includes a number of physical parameters for optimal control of the injection system and long-life service. It is designed to work seamlessly within the generator and to communicate with KODIA, our intuitive diagnostic software, to allow monitoring of the engine performance.



KD83V16

Designed and developed specifically for this engine series, each ECU works with the generator controller–receiving important engine operating data and allowing the generator controller to manage the entire system.

4 Innovative Cylinder Head Design

Featuring a crossflow design and new valve orientation, our innovative cylinder head design includes more efficient fuel delivery, minimal low temperature fuel return, combustion and exhaust gas flow, materials chosen for better performance, and a strengthened structure.

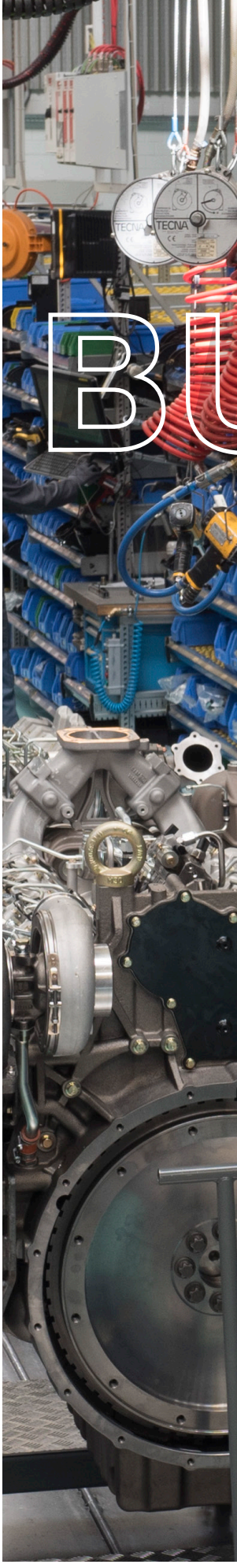
5 Crankcase Ventilation

Our standard closed crankcase ventilation filters to 95% efficiency, removing debris from entering into the atmosphere. This closed-loop regeneration system increases filtration efficiency and results in a more environmentally friendly engine.

6 HVO-Ready

HVO provides a cleaner and more sustainable alternative to conventional diesel and biofuels. No adaptation is needed and both HVO and diesel can be mixed together. HVO is also highly stable, with no sensitivity to oxidation, so it can be stored long-term. It is also up to 90% carbon neutral and sourced entirely from waste products.

BUILT TO PERFORM,



Rigid Engine Design

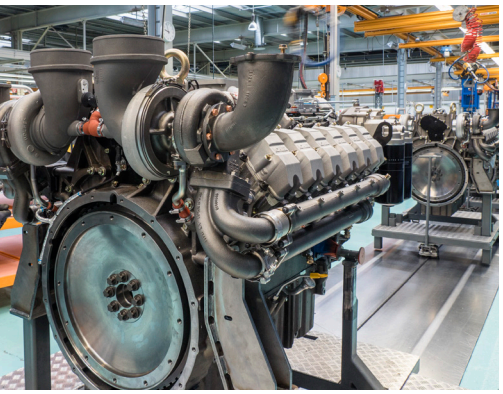
Optimized to reduce noise and oscillation levels, our diesel engines feature an extremely stiff engine block, crankcase, oil sump, valve cover, and subframe design.

Internal Component Design

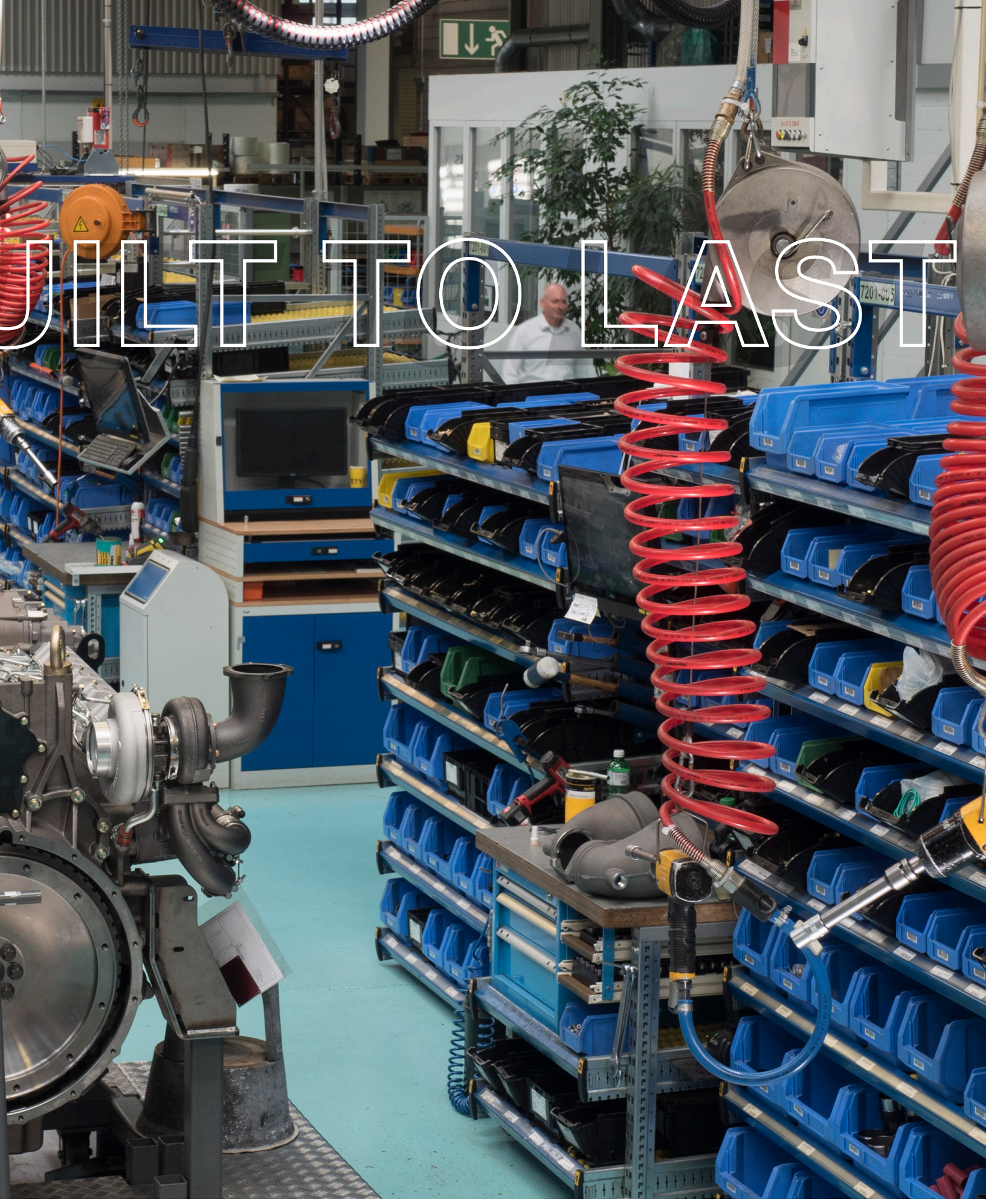
Featuring one-piece steel pistons, our engines allow high ignition pressures with a long service life and deliver maximum strength even under high thermal load. All components, optimized with the finite element analysis, demonstrate ideal load distribution and optimal material utilization.

High-Quality, Long-Lasting Materials

Along with a variety of safety factors, our engines are equipped with the highest-quality materials. For example, composite bearing shells ensure the longevity of crankshaft bearings under increasing loads.



Optimized gear pairing facilitates low-noise transmission.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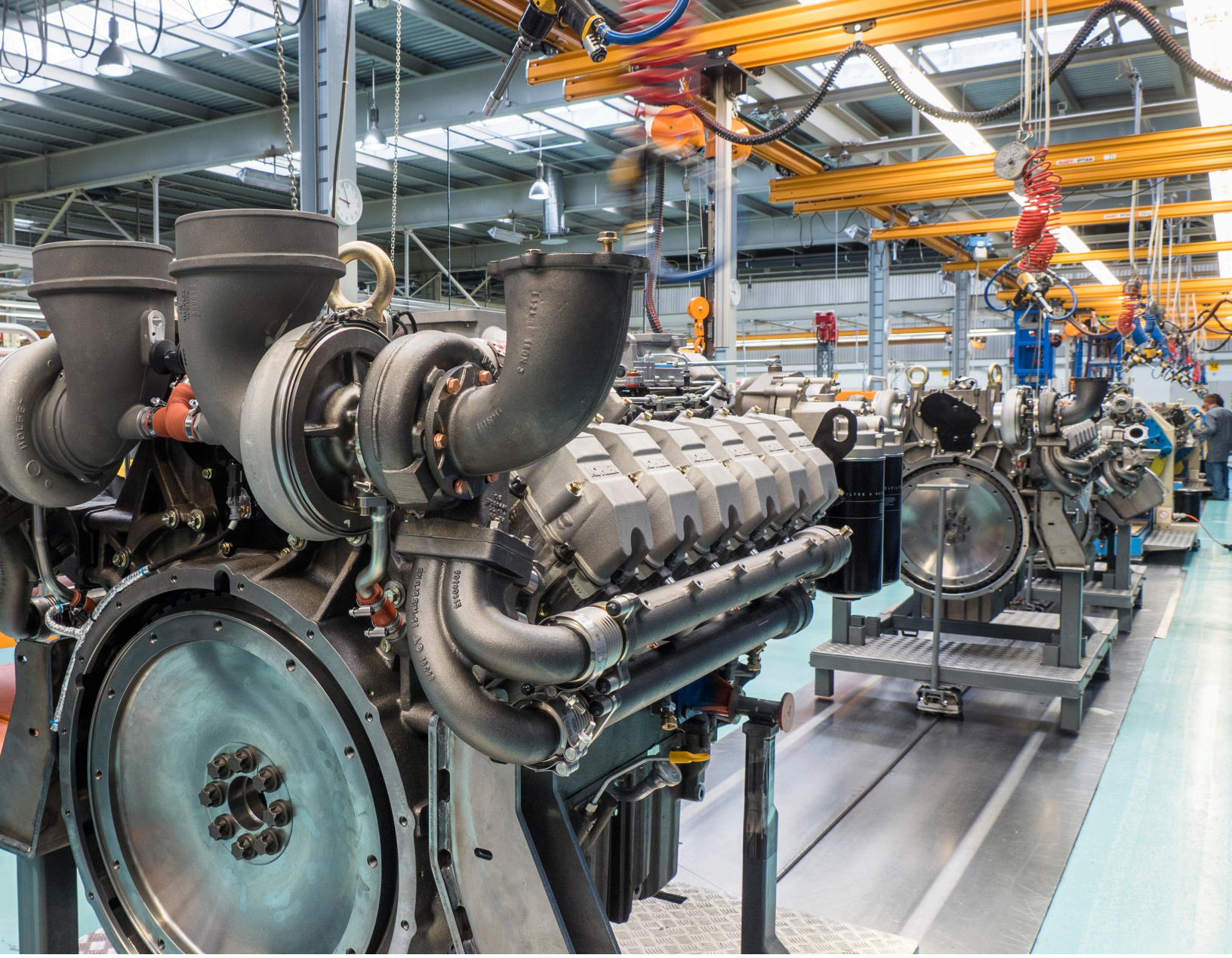


STATE-OF-THE-ART MANUFACTURING AND DEVELOPMENT

Every KOHLER® G-Drive diesel engine is manufactured under stringent quality control standards in both French and Swiss factories. Nothing is left to chance when it comes to the production and performance of these engines. They have proven their uncompromising reliability through nearly 100,000 hours of tests—both in the lab and the field. This is why KOHLER G-Drive diesel engines are perfect for a wide range of crucial and essential applications, including data centers, hospitals, power plants, and mining sites.

Highest Standards of Quality

To safeguard quality, the production plants use a contemporary computer-assisted quality (CAQ) management system that is implemented early in the production creation process and throughout the entire product life cycle. Statistical assessments, failure mode and effects analysis (FMEA), continual improvement process (CIP), lean management, and the 8D method are implemented to ensure consistent manufacturing processes.

Every engine part—and every engine—is tested under rigorous operating conditions before leaving the factory. DIN EN ISO 9001/2008 standard requirements are followed in France and Switzerland engine manufacturing plants. Consistent quality assurance and process monitoring lead to our engines high level of reliability.

Finite Element Analysis

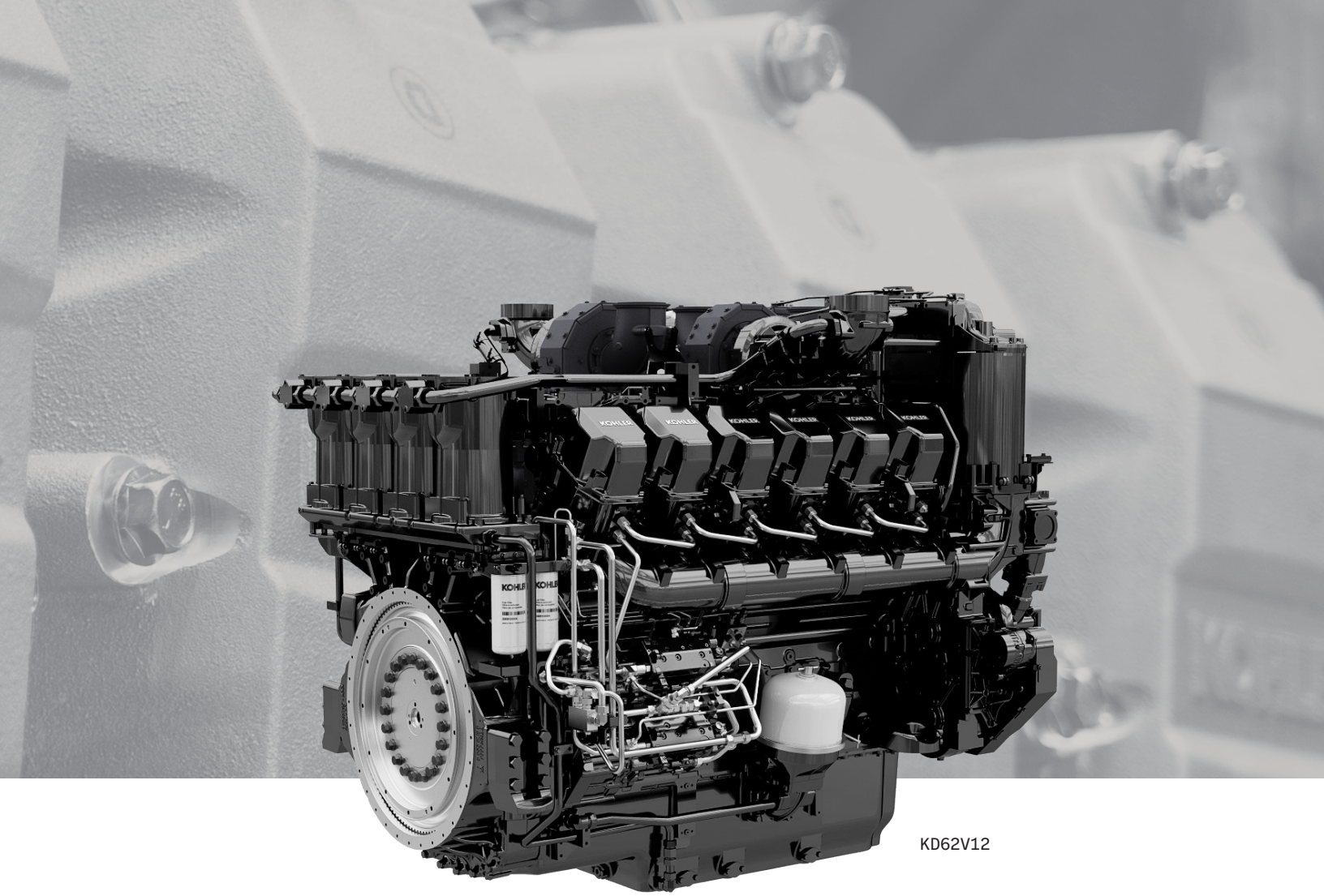
Using finite element analysis (FEA), our engines optimize the rigidity and weight distribution of connecting rods, crankshafts, engine blocks, and other critical components to ensure engine stability.

Modern Measuring Devices

Machines that measure 3D with microrange accuracy offer the best prerequisites for attaining the quality you expect. In addition to inspecting internally manufactured parts, these machines are also used to inspect any parts brought in from external suppliers.

KD SERIES™ SPECS

		KD18L06	KD27V12	KD36V16	KD45V20
GENERAL DATA					
Number of cylinders		6	12	16	20
Cylinder arrangement		6 Inline	90° V	90° V	108° V
Cycle		4-cycle	4-cycle	4-cycle	4-cycle
Bore	mm (in)	148 (5.8)	135 (5.3)	135 (5.3)	135 (5.3)
Stroke	mm (in)	174 (2.9)	157 (6.2)	157 (6.2)	157 (6.2)
Displacement	total L (cu in)	17.960 (1096)	27.00 (1647.6)	36.00 (2196.9)	45.00 (2746.1)
Dimensions L x W x H	mm (in)	1725 x 1033 x 1263 (62.9 x 40.7 x 49.7)	2022 x 1356 x 1343 (79.6 x 53.4 x 52.9)	2831 x 1358 x 1581 (111.5 x 53.5 x 62.3)	3087 x 1414 x 1547 (121.5 x 55.7 x 60.9)
GROSS POWER					
1500 rpm (50 Hz)	kWm/bhp	710/952	979/1313	1333/1788	1547/2075
1800 rpm (60 Hz)	kWm/bhp	820/1100	2700/3619	1450/1944	1910/2561



KD62V12

		KD62V12	KD83V16	KD103V20
GENERAL DATA				
Number of cylinders		12	16	20
Cylinder arrangement		60° V	60° V	60° V
Cycle		4-cycle	4-cycle	4-cycle
Bore	mm (in)	175 (6.9)	175 (6.9)	175 (6.9)
Stroke	mm (in)	215 (8.5)	215 (8.5)	215 (8.5)
Displacement	total L (cu in)	62.04 (3785.9)	82.72 (5047.9)	103.40 (6309.9)
Dimensions L x W x H	mm (in)	2661 x 1753 x 2126 (104.8 x 69.0 x 83.7)	3240 x 1777 x 2125 (127.6 x 69.9 x 83.7)	3624 x 1777 x2125 (142.7 x 70.0 x 83.7)
GROSS POWER				
1500 rpm (50 Hz)	kWm/bhp	2406/3227	3007/4032	3800/5096
1800 rpm (60 Hz)	kWm/bhp	2700/3621	3490/4680	4290/5699

KOHLER GLOBAL SERVICE

Behind every KOHLER® G-Drive diesel engine there's a world of support. Numerous distributors, sales and service locations, and parts distribution centers make up our network, which extends across the globe. Plus, it's all backed by instant online access to everything from parts information to product warranties.

Day-to-Day Expert Assistance

Kohler provides comprehensive support to engine technicians worldwide by offering:

- Commissioning
- Scheduled and unscheduled maintenance
- Repairs
- Technical documentation
- Product training

Our Support Capabilities

- Factory-trained technicians equipped with advanced diagnostics and repair tools
- Extended large-engine certification program for field technicians
- 24/365 Kohler service

Qualifying Training with Our Product Experts

For advanced training, Kohler has four locations based in North America, Europe, and Asia. These dedicated facilities contain all the necessary resources: teaching rooms, mechanical workshops, test benches, simulators, and engine emulators—all to provide participants with hands-on experience.

Spare Parts and Consumables

Parts required for maintenance and repair are stored in warehouses strategically located around the world. We also draw on an international distribution network and dedicated personnel with specialized tools to ensure quick availability.

KOHLER® genuine parts work in perfect harmony with your engine, maximizing engine performance, prolonging engine life, and protecting your investment. Superior design and top-quality materials result in maximum power, longevity, and low total cost of operation. As a result, they enhance your peace of mind, increase uptime, and lower maintenance costs.

A modular system allows us to scale the number of components depending on the power required. Using standard components means fewer parts must be stocked in the field and operators require less training. This reduces costs and improves response time.

Diagnostic Tools

With its self-explanatory user guidance and user-friendly interface, the electronic diagnostic tool KODIA enables a simple and rapid search for malfunctions and faults.

- Engine parameter recording with graphic display for postevent analysis
- Chronological error code and event recording
- Load profile calculation
- Engine sensors simulated for commissioning purposes

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