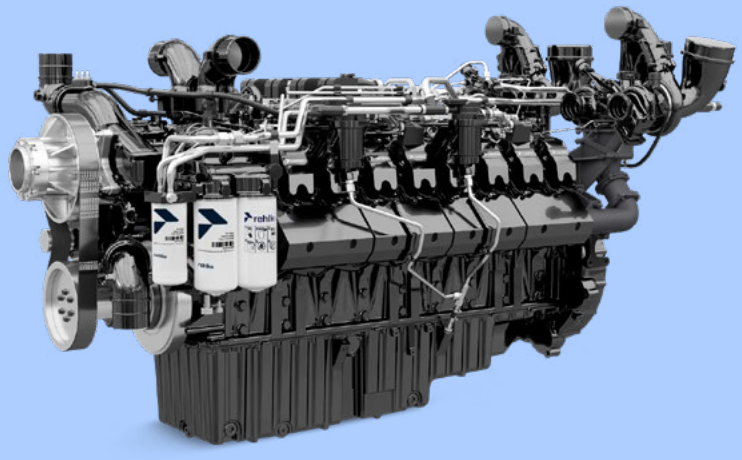
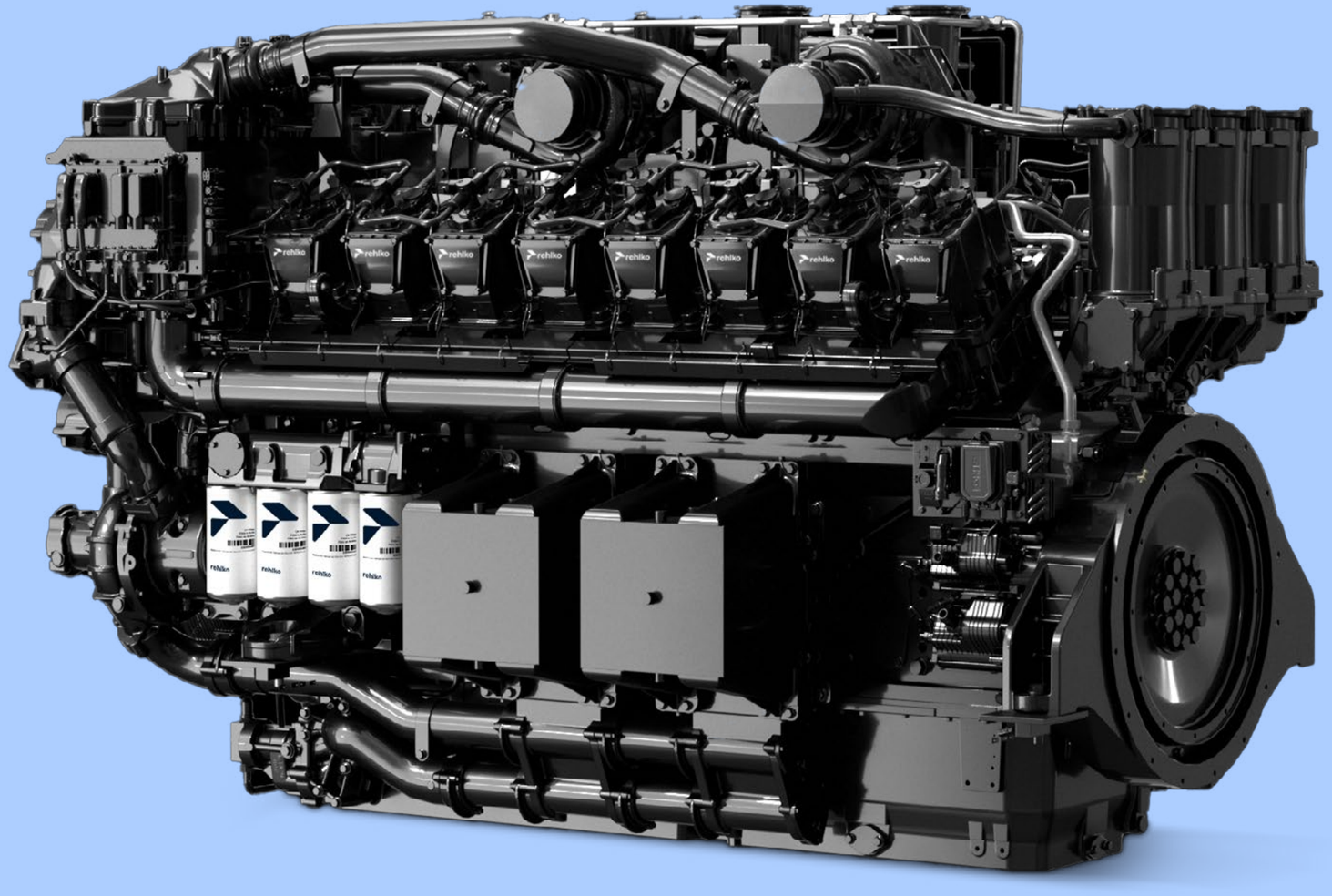
rehlko

KD Series™ *Engines*

700–4000 kW

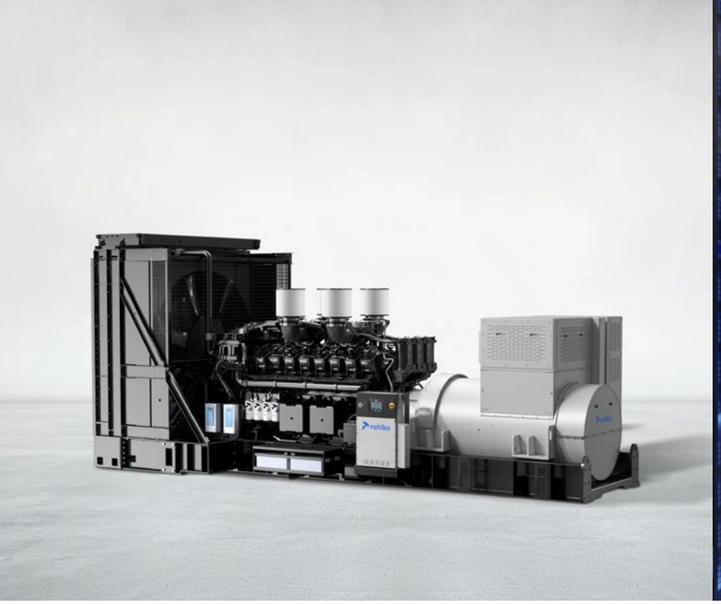


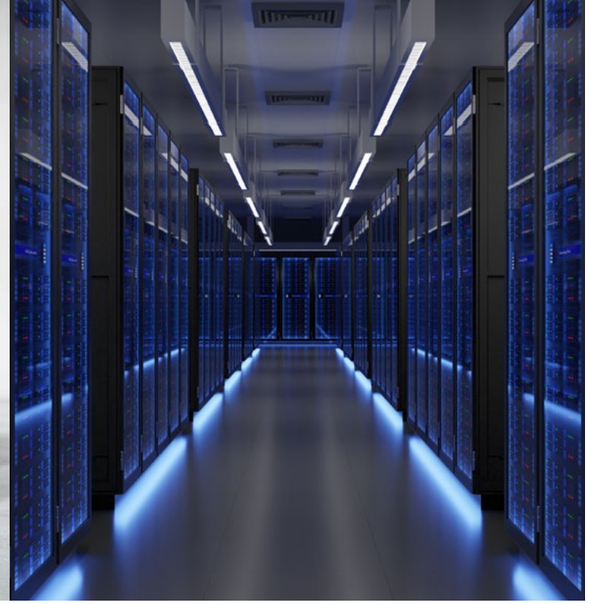


Power built for *resilience*

Power built for resilience starts with engineering that refuses to compromise. Rehlko G-Drive engines deliver exceptional power density and efficiency in a compact, purpose-built platform designed for today's most demanding generator applications.

From advanced combustion and intelligent controls to modular architecture that simplifies service, every detail is optimized to maximize uptime and performance. The result is reliable, future-ready power that keeps critical operations running—no matter the conditions.





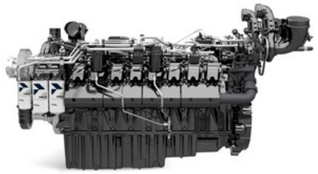
The G-Drive Engine with the *highest power density*.

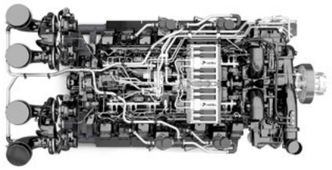
Only from Rehlko

Unleash the power of resiliency with Rehlko G-Drive diesel engines that deliver unparalleled specific power in a sleek, modular design. Pushing the boundaries of engineering excellence, our global team has crafted three revolutionary engine blocks that unleash a staggering range of power from 785 to 4290 kWm.

Purposely built for generator applications, these engines seamlessly blend greater power with exceptional efficiency. Boasting an impressive output of up to 41.7 kW/liter, these compact powerhouses deliver outstanding kilowatt displacement and performance. Furthermore, these engines are built for the future. They are approved for hydrotreated vegetable oil (HVO), a renewable fuel that is up to 90% carbon neutral.

Performance





Effective and efficient

The Rehlko G-Drive diesel engine range delivers exceptional kilowatt displacement in a compact package, enabling a smaller generator footprint while supporting efficient fuel consumption across a wide power range from 700 to 4000 kW. As a result, you can embrace the future of performance and cost-savings with our state-of-the-art offerings. The engine architecture, injection system, and engine management of Rehlko G-Drive engines have been meticulously designed to achieve optimal generator set performance while meeting all global emission standards.

Unwavering Strength

Our G-Drive engine is built for long-life performance inside your Rehlko power system and backed by a century of breakthroughs as well as a three-year emergency standby power (ESP) warranty. We design, test, and fit every component to empower your exact needs. Our computer-aided quality-management system ensures precision at every step of development, from the first stage of production through the engine's entire life cycle.

Streamlined Design

With the KD Series,™ servicing your engine has never been easier. Our modular design means that components like engine control units, connecting rods and pistons, fuel system components, cylinder heads, and more are shared across the entire series. This not only simplifies the servicing process but also reduces the need for a large spare parts inventory. Your technicians will spend less time searching for parts and more time getting your engines back up and running.

Smooth Progress

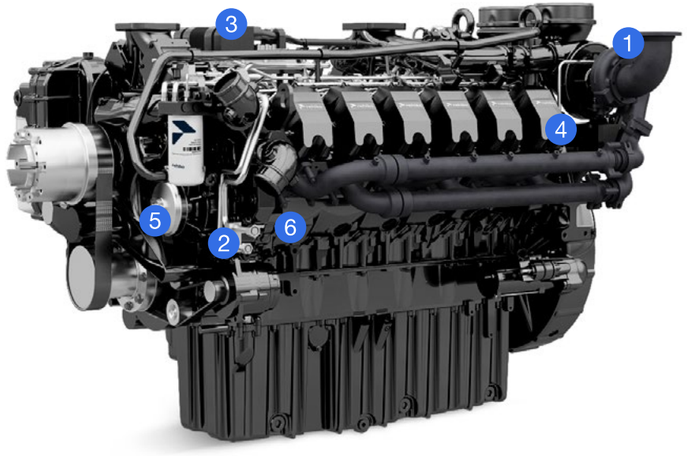
The Rehlko G-Drive engine delivers an unparalleled level of smooth, quiet and low vibration operation even in the most demanding conditions. Vibration has been mitigated to the greatest extent possible through low-noise combustion and optimized combustion pressure and the design of the engine block, crankcase, oil sump, valve cover, and subframe.

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

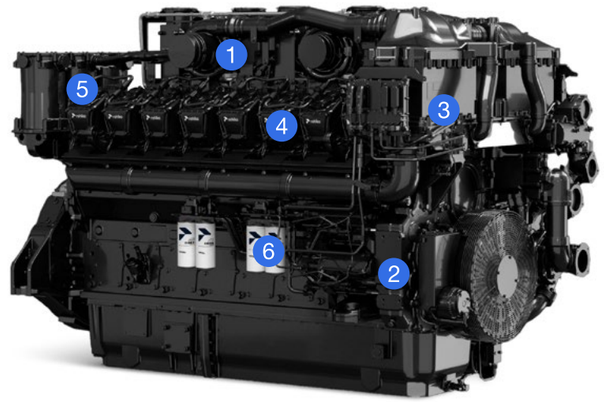
Cost-Conscious Advantage

Rehlko G-Drive engines offer reduced operating and maintenance costs due to their low fuel consumption, high power density, and affordable acquisition costs. Additionally, advanced diagnostics help prevent issues before they occur. The cylinder head design and crankcase ventilation enable extended service intervals and a longer engine lifetime.

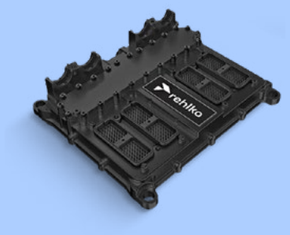
Innovation



KD27V12



KD83V16A



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.

1. Tuned Turbochargers

Expertly engineered to unlock peak performance, our turbochargers are precision-matched to each engine, ensuring the ideal intake air volume for optimal combustion. This precise calibration matched to each engine enables seamless operation at high altitudes while minimizing fuel consumption, resulting in enhanced efficiency and power.

2. Quiet and Constant

The common rail fuel system generates up to 2200-bar injection pressures for maximum efficiency, optimizing the combustion pressure curve through multiple injections. Exceptionally low noise and extremely stable power is possible with an ideal injection point and extremely uniform injection quantity. Engineers specifically designed the remarkable high lift fuel system to work optimally for Rehlko® 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 peak efficiency.

It is designed to work effortlessly within the generator and to communicate with KODIA, our intuitive diagnostic software, to allow monitoring of the engine performance.

4. Innovative Cylinder Head Design

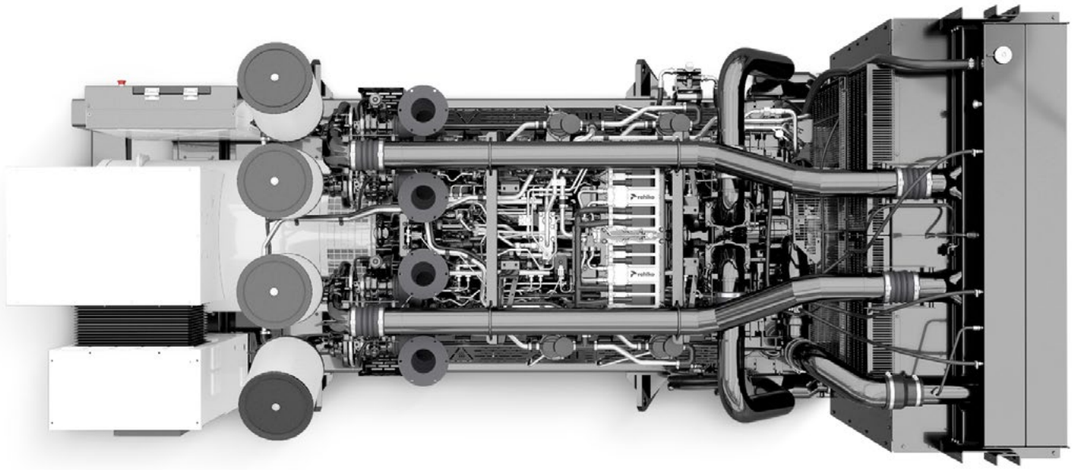
Our cutting-edge cylinder head features a crossflow design and new valve orientation, as well as more efficient fuel delivery, minimal low temperature fuel return, combustion and exhaust gas flow, better performance materials, and a strengthened structure.

5. Crankcase Ventilation

Our advanced closed crankcase ventilation system employs high-performance filters that achieve an impressive 95% efficiency rate, effectively capturing and retaining harmful particulates before they can escape into the environment. This innovative closed-loop regeneration design not only enhances filtration effectiveness but also promotes sustainable engine operation.

6. HVO-Ready

HVO offers a seamless transition to cleaner, more sustainable energy without the need for costly equipment modifications. This versatile renewable diesel can be used interchangeably with conventional diesel. Its exceptional stability and resistance to oxidation ensure long-term storage capabilities. Derived entirely from waste products, HVO delivers an impressive reduction of up to 90% in greenhouse gas emissions.



Built to perform. Built to *last*.

Resilient Engine Design

Our diesel engines boast cutting-edge design features that significantly minimize noise and vibration. The engine blocks, crankcases, oil sumps, valve covers, and subframes are all engineered with exceptional rigidity.

Internal Component Design

Our engines feature innovative one-piece steel pistons, allowing higher ignition pressures while ensuring a long service life. While under intense thermal stress, these pistons retain maximum strength. We've optimized every component through finite element analysis, resulting in ideal load distribution and optimal material usage.

Quality Materials For Longevity

Our engines are built using the highest quality materials and made with your safety in mind. For example, we make our bearing shells with composite material to completely protect the crankshaft bearings' longevity under heavier loads. Your safety drives our design and pushes us to create the highest-performing products we can.

State-of-the-art manufacturing and development

Each Rehlko G-Drive diesel engine is built under rigorous quality control protocols at our facilities in France and Switzerland. From production to performance, every detail is carefully considered and crafted for uncompromising reliability. These engines have proven their quality across nearly 100,000 hours of tests—both in the lab and the field—which is why they're trusted in critical applications including data centers, hospitals, power plants, and mining sites.

Fine-Tuned Quality Standards

To safeguard quality, our production plants implement a contemporary computer-assisted quality management system early in the production process, to be used throughout the entire product life cycle. We employ statistical assessments, failure mode and effects analysis (FMEA), continual improvement process (CIP), lean management, and the 8D method in our manufacturing processes to ensure consistency.

At each step in the manufacturing process, we place our products under rigorous operating conditions. Before leaving the factory, every engine part—and every engine—is tested under DIN EN ISO 9001/2008 standard requirements followed in France and Switzerland engine manufacturing plants. Consistent quality assurance and process monitoring lead to the high quality manufacturing we are known for.

Finite Element Analysis

Through finite element analysis (FEA), our engines optimize the rigidity and weight distribution of crucial components such as connecting rods, crankshafts, and engine blocks, ensuring optimal engine stability.

Modern Measuring Devices

Machines that measure 3D with micro-range accuracy are built for attaining the quality you expect. These machines inspect both internally and externally manufactured parts.

KD Series™ *specs*

700–4000 kW

	KD18L06	KD27V12	KD36V16	KD45V20
General Data				
Number of Cylinders	6	12	16	20
Cylinder Arrangement	6 Inline	90° V	90° V	90° 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 (60Hz) kWm/bhp	820/1100	2700/3619	1450/1944	1910/2561

	KD62V12A	KD83V16A	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)	2585 x 1757 x 2094 (101.8 x 69.2 x 82.4)	3106 x 1886 x 2060 (122.3 x 74.3 x 81.1)	3624 x 1777 x 2125 (142.7 x 70.0 x 83.7)
Gross Power			
1500 rpm (50 Hz) kWm/bhp	2406/3227	3007/4032	3800/5096
1800 rpm (60Hz) kWm/bhp	2700/3621	3490/4680	4290/5699

Rehlko *global* service

Behind every Rehlko 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

Rehlko 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 Rehlko service

Qualifying Training with Our Product Experts

For advanced training, Rehlko 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.

Rehlko 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

For more information, contact your Rehlko source of supply.
Or call toll-free in the U.S. and Canada 800-544-2444

powersystems.rehlko.com

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