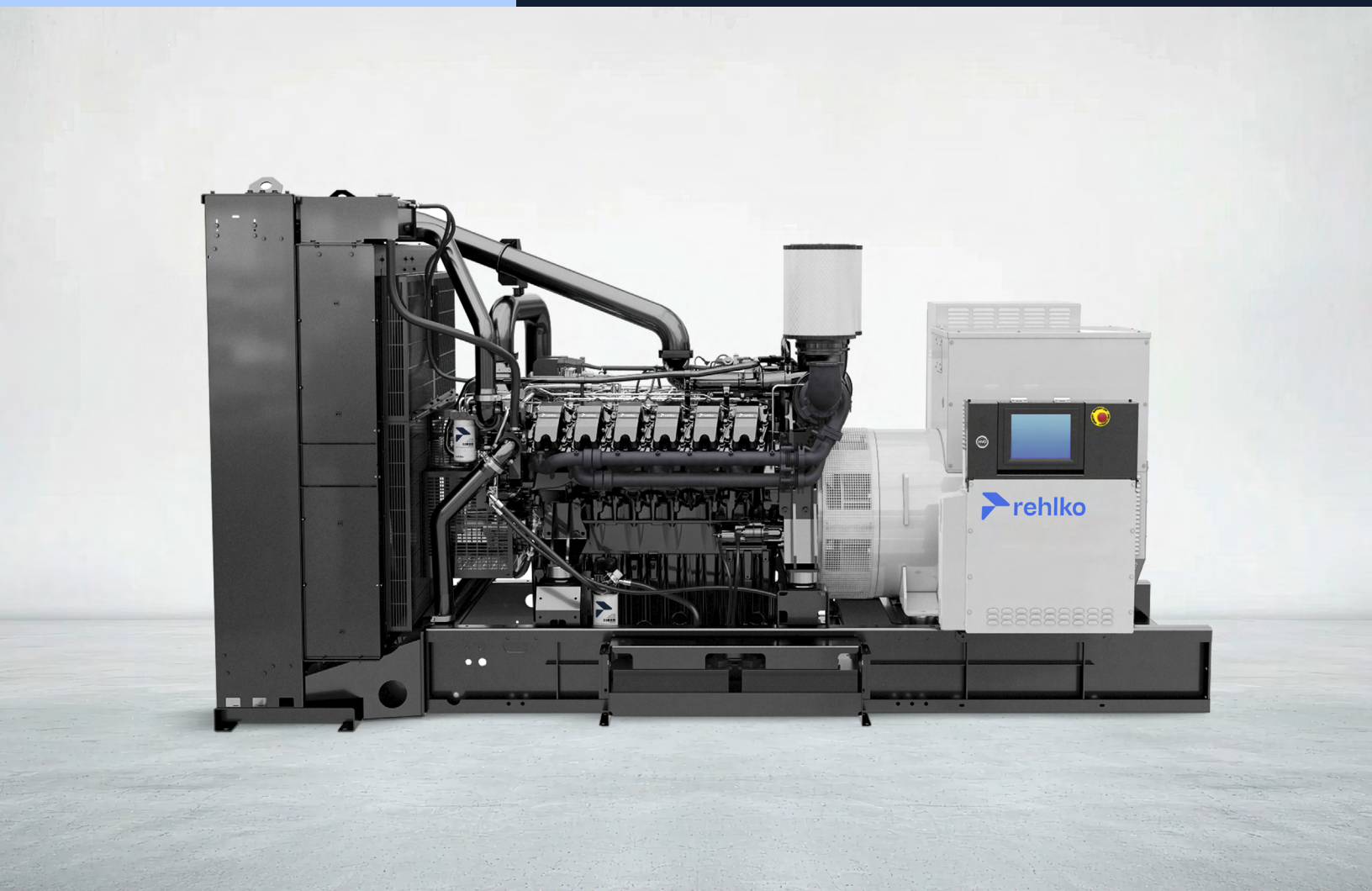
rehlko

KD Series™ Generators Specification Guide

700–4000 kW

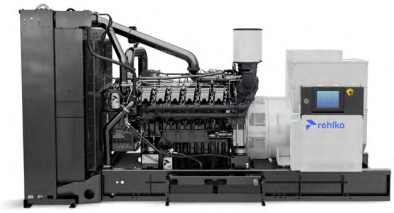


KD Series™ Generators

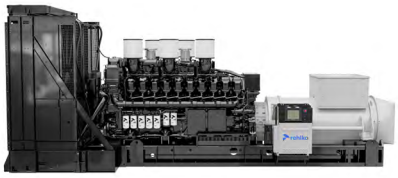
Built for the most critical jobs on earth.

KD Series™ (700–4000 kW) generators deliver dependable industrial power for hospitals, data centers, airports, and other critical facilities. They offer proven fuel economy, a compact footprint, and rugged construction for long service life.

KD700



KD1000



KD3500

Quick Specs

KD SERIES GENERATORS	
kW Range (60 Hz)	700–4000 kW
Engine Manufacturer	Rehlko
Displacement Range	18–103 liters
Cylinder / Arrangement	I6, V12, V16, V20
Bore Sizes	135 mm, 148 mm, 175 mm
Gross Horsepower Range	1100–5699 BHP
EPA Rating	Tier 2

Exclusive Features

Innovative Design

- High-ambient standard cooling systems (50°C)
- Common rail injection systems, designed specifically for our KD Series generators
- Large touch-screen controller with intuitive interface for load and generator management
- Full accessory package options including circuit breakers, battery heaters, block heaters, battery chargers, and centrifugal oil filters

Best-in-Class Performance

- Superior fuel efficiency, power density, fuel lift, exhaust flow, and many other performance standards
- Ideal for crucial applications including data centers, hospitals, power plants, and mining sites
- Premium three-year unlimited warranty for installations in the U.S.
- Competitively priced

Tested and Certified

- Provides advanced short-circuit capability; Meets NEMA MG 1, IEEE, and ANSI standards; Multiple alternator options available
- Rehlko enclosures are built and manufactured at the same factory as the generator system—factory-certified UL2200, IBC seismic-certified, and OSHPD-certified
- EPA Tier 2-certified, as well as CSA, NFPA, IBC, ISO 8528-5 factory-certified

Specification Guide

This information will help you identify the characteristics you need to write a better specification—ultimately resulting in a better, more reliable product for your customer.

Rehlko KD Series Engine

FEATURES	BENEFITS
Variable-flow-rate, engine-driven fuel pump(s) help adjust for the required flow rate and result in low-temperature fuel return	**Cost Saving** No need for fuel coolers or oversized day tanks; fewer accessories needed in the specification means lower total cost for customers
Capable of 12-foot minimum fuel lift	**Bigger Fuel Tanks** High fuel lifts create flexible site design, allowing for deeper day tanks while also reducing the need for any auxiliary fuel pumps
A minimum of 140-ampere automatic battery-charging alternator with a solid-state voltage regulator	**Always Ready** High-output battery-charging capability ensures safety and reliability
Governor regulated by an electronic control unit (ECU)	**Easy Maintenance** ECU and Rehlko controllers communicate seamlessly with one another for easier maintenance and service
Engine fuel system capable of deaerating the fuel upon return to the fuel tank	**Long-Lasting** Deaerating improves fuel life and overall engine life, lowering total cost of ownership
Closed crankcase ventilation capable of filtering debris discharge to a minimum of 95% efficiency	**Reduced Maintenance, Extended Reliability** Less debris in atmosphere minimizes service intervals and extends reliability of engine, ultimately resulting in a more sustainable product
Capable of 85% load factor in emergency backup power scenarios and 75% load factor in prime applications	**Maximum Power** Highest load acceptance to maximize value
Engine-tested and capable of generating 2,200 (bar) injection pressure	**Cleaner Emissions** Better atomization of fuel leading to increased efficiency and cleaner emissions

Cooling System

FEATURES	BENEFITS
Engine is liquid-cooled by a closed-loop, unit-mounted radiator rated to operate the generator set at a full-load ambient temperature of 50˚C (122˚F)	**Reliable in Extreme Conditions** Minimizes cooling air and maximizes performance of the engine. With 50˚C standard, the generator will be able to run in some of the harshest conditions
Radiator core is modular	**Cost-Effective Design** Damaged section can be replaced individually, instead of needing to replace the entire core
Standard mechanical fan drive, driven from the engine	**Lower Maintenance Costs, Better Quality Electric** fans can be very troublesome and temperamental. The mounted fan lowers maintenance costs and increases the cooling quality over other options with multiple fans

Rehlko Controller

FEATURES	BENEFITS
Onboard paralleling allows paralleling of up to eight generator sets of mixed sizes and fuel types	**Cost Savings** Both load management and generator management, eliminating the need for a master control panel (MCP)
Load management supporting up to 16 loads per system with ability to be used on a single generator or paralleling system	**Low-Cost Configurability** Allows shedding of lower-priority loads if needed to ensure critical loads are always powered
Support for RS-485 ports for Modbus RTU, RJ45 Ethernet port for Modbus TCP, SNMP, or BACnet	**Simplified Communication** User flexibility for monitoring critical equipment
Meets UL6200 and NFPA 110, Level 1	**Code Compliance** Thermal and instantaneous current-limiting settings for alternator protection. Provides protection against line-to-line and line-to-neutral faults
Data logging automatically captures specific data	**Easy Reporting** Download and analyze generator operation data for reports like JCAHO
The generator set controller continuously monitors and stores critical operational data for 24 hours	**Fast Troubleshooting** Access to operational data to confirm proper operation and quickly troubleshoot system issues
Large, full-color touch-screen display with easy-to-use interface	**Easy to Use** Intuitively provides quick access to information
Stores data of critical operating parameters	**Instant Access to System Data** On-site troubleshooting is possible without a PC or the need to download the data to display elsewhere
Highlights all active faults and warnings; stores an event log of events, faults, and warnings	**Detailed History of Events** Allows for obvious insight into any system issues while providing a detailed history of events
Provides password access to protect modification of parameters by unintended users	**Secure Data Protection** Protects the generators from any accidental or intentional tampering

Alternator

FEATURES	BENEFITS
Permanent-magnet generator (PMG) alternator	**More Reliable** Brushless PMG design provides consistent, lasting reliability
Class H per UL1446 insulation, vacuum-pressure impregnation (VPI) varnish, fungus-resistant epoxy	**Added Durability** Class H temperature rise coated with a VPI epoxy better secures the alternator, protecting it from harm from the conditions of the site
Superior voltage waveform from $^{2}/_{3}$ pitch windings and skewed stator	**Low Harmonic and Voltage Distortion** $^{2}/_{3}$ pitch eliminates third harmonic and provides low total harmonic distortion. A subtransient reactance of less than 10% will limit voltage distortion. Rehlko offers a wide range of models to meet this benefit
Adequate bus bar for customer connection	**Easy Installation** Bus bars allow for easier installation
Alternator meets requirements of NEMA MG1, UL2200, CSA, and CE low-voltage directive	**Certified** Ensures that the specification calls for adequate U.S. certifications

Warranty

FEATURES	BENEFITS
Three-year 1,000 hours in standby mode Two-year 8,700 hours in prime mode	**Peace of Mind** Better warranty to protect the customer against any unforeseen damage

Rehlko Skin-Tight Enclosures

FEATURES	BENEFITS
All enclosure parts receive a 100% epoxy primer electrocoat (e-coat) with high-edge protection	**Advanced Protection** Rehlko corrosion-resistant epoxy coating system can lead to a longer life for the generator and keep aesthetics in high-quality shape for longer
Internal exhaust system (including muffler)	**Space-Efficient and Quieter** A fully integrated exhaust system not only saves space, but also cuts down on the noise emitted by the unit
All enclosures surpass a 3,000-hour salt spray corrosion test per ASTM-B117 and are capable of meeting 200 mph wind load	**Superior Durability** In the harshest conditions and towns with governmental limits, Rehlko enclosures stand up to the elements
Every enclosure is UL2200-certified from the factory and IBC-certified, if required	**Tested and Approved** No on-site certification necessary; most certifications are done in our factory

eFRAME™ Walk-In Enclosures

FEATURES	BENEFITS
Custom-designed modular enclosure	Allows for ultimate serviceability and ease of access to engine and radiator with reduction in service costs and generator downtime
UL 2200 FTPP, 135-mph wind load rating, IBC certified for site specific use	Tested and reliable enclosure ensures compliance with national and local regulations
Designed and manufactured by generator set manufacturer (single-source supply)	Single-source provider to reduce lead times and end-user risk
All-aluminum frame and skin construction	Durable-proven construction method that also offers the highest level of corrosion protection
Heavy-duty sound-attenuated entrance doors with stainless steel exterior hardware, hidden hinges, and locking soft-close mechanism	Safe and secure enclosure access points
Multiple egress exits equipped with exit lights and crash bars on each side of enclosure	Operator safety during an emergency
Enclosure-mounted switchboard with internal main and load bank breaker with cam-locks accessible from exterior of enclosure	Simplified load bank connection for testing and also allows portable generator hookup for facility
Minimum 20 inches of walk-in clearance around sides and rear of generator set within enclosure	Quicker diagnosing and servicing of generator set