Industrial Generator Set - KD500



Ratings Range

400/230 V - 50 Hz

Standby	**kW**	400
	kVA	500
Prime	**kW**	364
	kVA	455

Benefits and features

Rehlko premium quality
- Design offices using the latest technical innovations
- Modern fully certified factories
- A cutting edge laboratory
- The generating set, its components and a wide range of options have been fully developed, prototype tested, factory built, and production tested
- Approved for use with HVO (Hydrotreated Vegetable Oil) according to EN15940

Rehlko premium performances
- Optimized and certified sound levels
- Reliable power, even in extreme conditions
- Optimized fuel consumption
- Compact footprint
- Best quality of electricity, high starting and loading capacity, according to ISO8528-5
- Robust base frames and high-quality enclosures
- Protection of installations and people
- Approved in line with the most stringent standards

Engines
- Rehlko Premium level engines
- High power density, small footprint
- Low temperature starting capability
- Long maintenance interval

Alternator
- Provide industry leading motor starting capability
- Built with a class H insulation and IP23

Cooling
- A compact and complete solution using a mechanically driven radiator fan
- Designed or optimized by Rehlko
- High temperature and altitude product capacity available

Base frame and enclosure
- High quality steel with enhanced corrosion resistance
- Highly durable QUALICOAT-certified epoxy paint
- Minimum 1500 hours of resistance to salt spray in accordance with ISO12944
- Ergonomic access to allow easy maintenance and connection of the generator
- Robust design optimized for transportation

General Specifications

Manufacturer	Rehlko
Engine ref.	KD15L06T-AA56A
Alternator choices	KH01983T KH02215T
Performance class	G3
Controllers	APM403
Consumption @ 100% load ESP (L/h)*	95
Consumption @ 100% load PRP (L/h)*	85
Emission level	Not certified
Type of Cooling	Radiator
Factory installed enclosures	M238 M238-DB M238-DW M238-DW-DB

"* Volumetric Fuel consumption is up to 4% higher when using HVO than Diesel Fuel"

Generator sets ratings

		Standby rating			Prime rating	
	Hz	kWe	kVA	Amps	kWe	kVA
400/230	50	400	500	722	364	455
380/220	50	400	500	760	364	455
200/115	50	400	500	1443	364	455
240 TRI	50	400	500	1203	364	455
230 TRI	50	400	500	1255	364	455
220/127	50	400	500	1312	364	455
415/240	50	400	500	696	364	455

Engine Specifications	
Engine brand	Rehlko
Engine ref.	KD15L06T-AA56A*
Air inlet system	Turbo
Cylinder configuration	6 - L
Displacement (l)	14,51
Bore (mm) x Stroke (mm)	135 x 169
Compression ratio	23.0:1
Speed 50Hz (RPM)	1500
Maximum stand-by power at rated RPM (kW)	459
Governor type	Electronic

Lubrication System	
Oil Filter Quantity and type****	Spin On / 1
Charge Air coolant	Air/Air

*****Rehlko recommends the use of genuine oil and filters.*

Fuel System	
Maximum fuel pump flow (l/h)	282
Fuel filter: Qty, type	1 / 1
Fuel	Diesel Fuel

* Engine reference may be partially modified depending on genset application, options selected by the customer and lead time required.

Consumption with cooling system	
Fuel consumption @ ESP Max Power (l/h)	98,8
Fuel consumption @ PRP Max Power (l/h)	89
Fuel consumption @ 75% of PRP Power (l/h)	66
Fuel consumption @ 50% of PRP Power (l/h)	44

Cooling system	
Radiator & Engine capacity (l)	59,01
Fan power 50Hz (kW)	15,5
Fan air flow w/o restriction (m3/s)	8,6
Available restriction on air flow (mm H2O)	25
Free	Glycol-Ethylene
Radiated heat to ambiant (kW)	40
Heat rejection to coolant HT (kW)	145
HT circuit flow rate (l/min)	340
Coolant capacity HT, engine only (l)	22
Max coolant temperature, Shutdown (°C)	107
Thermostat begin of opening HT (°C)	80
Thermostat end of opening HT (°C)	97

Exhaust system	
Heat rejection to exhaust (kW)	260
Exhaust gas temperature @ ESP (°C)	413
Exhaust gas flow @ ESP (l/s)	1128
Electrical system	
Battery voltage (V)	24
Air Intake system	
Combustion air flow (l/s)	534
Radiated heat to ambiant (kW)	40

Alternator Specifications	
Number of pole	4
Technology	Brushless
AVR Regulation	Yes
Insulation class	H
Indication of protection	IP23
Number of bearing	1
Number of wires	12
Coupling	Direct
Overspeed (rpm)	2250
Voltage regulation at established rating (+/- %)	0,5
Unbalanced load acceptance ratio (%)	8

Alternator standard features

- All models are brushless, rotating-field alternators
- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting
- The AVR voltage regulator provides superior short circuit capability
- Self-ventilated and dip proof constructio
- Superior voltage waveform

Note: See Alternator Data Sheets for alternator application data and ratings, efficiency curves, voltage dip with motor starting curves, and short circuit decrement curves.



APM403 controller
The APM403 is a versatile control unit which allows operation in manual or automatic mode

- Measurements : voltage and current
- kW/kWh/kVA power meters
- Standard specifications: Voltmeter, Frequency meter.
- Optional : Battery ammeter.
- J1939 CAN ECU engine control
- Alarms and faults: Oil pressure, Coolant temperature, Overspeed, Start-up failure, alternator min/max, Emergency stop button.
- Engine parameters: Fuel level, hour counter, battery voltage.
- Optional (standard at 24V): Oil pressure, water temperature.
- Event log/ Management of the last 300 genset events.
- Mains and genset protection
- Clock management
- USB connections, USB Host and PC,
- Communications : RS485 INTERFACE
- ModBUS protocol /SNMP
- Optional : Ethernet, GPRS, remote control, 3G, 4G
- Websupervisor, SMS, E-mails

Codes and Standards

Engine-generators set is designed and manufactured in facilities certified to standards ISO9001:2015 & ISO14001:2015. The generator sets and its components are prototype-tested, factory built and production tested and are in compliance with the relevant standards:

- Machinery Directive 2006/42/EC of May 17th 2006
- EMC Directive2014/30/UE
- Safety objectives set out in the Low Voltage Directive 2014/35/UE
- EN ISO 8528-13, EN 60034-1, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 55011, EN 1679-1 et EN 60204-1

Power ratings definition according to ISO8528-1 (2018-02 edition) and ISO-3046-1

Emergency Standby Power (ESP): The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Average load factor per 24 hours of operation is <70%.
Prime Power (PRP): At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour within 12 hour of operation. Average load factor per 24 hours of operation is <70%.

Warranty informations

Standard warranty period:

- for Products in "back-up" service
  - 36 months from the date the Product leaves the plant
  - 24 months from the Product’s commissioning date
  - 1,000 running hours

The warranty expires when one of the above conditions is met.

- for Products in “prime” or "continuous" service (continuous supply of electricity, either in the absence of any normal electricity grid or to complement the grid),
  - 24 months from the date the Product leaves the plant
  - 12 months from the Product’s commissioning date
  - 2,500 running hours

The warranty expires when one of the above conditions is met.
For more details regarding conditions of application and scope of the warranty please refer to our General “terms & conditions of sales”.

Standard scope of supply:

All our open gensets are fitted with:

- Industrial water-cooled DIESEL engine
- Engine electronic governor
- Electric starter & charge alternator
- Battery(1)
- Standard air filter
- Electric circuit breaker, adapted to the short-circuit current of the generating set
- Single bearing alternator IP 23 T° rise/ insulation to class H/H
- Welded steel base frame with 85% vibration attenuation mounts
- frame height optimized to allow it to be moved safely by forklift
- enclosure made of new high-quality European steel with enhanced corrosion resistance
- enclosures and base frames tested and analyzed by the French Corrosion Institut
- 100% of tanks tested for permeability
- Personal protection ensured by protective grilles on hot and rotating parts
- Separate 9 dB(A) silencer
- Fuel tank welded inside the genset frame
- Retention bund included for gensets up to 250 kVA ESP
- Emergency stop button on the outside
- Flexible fuel lines & lub oil drain cock
- Oil(2) and antifreeze liquid(2)
- Exhaust outlet with flexible and flanges
- User’s manual (1 copy)
- Packing under plastic film

(1) excluded from the supply up to 165 kVA ESP if assembled outside Europe
(2) excluded from the supply up to 830 kVA ESP if assembled outside Europe

Dimensions and Weights





Tank capacity (L)	Overall Size, max., L x W x H, (mm)			Dry weight (kg)	Sound levels		
	Length (mm)	Width (mm)	Height (mm)		Sound power level guaranteed (Lwa) 50Hz (75% PRP)	Acoustic pressure level @1m in dB(A) 50Hz (75% PRP)	Acoustic pressure level @7m in dB(A) 50Hz (75% PRP)
Dimensions compact version – Radiator							
598	3340	1496	1966	3340			
M238 soundproofed version – Radiator							
598	4879	1560	2450	4470	99	81	70
M238 soundproofed version - In compliance with 2000/14/CE standard – Radiator							
598	4879	1560	2450	4470	98	80	69
Dimensions DW compact version – Radiator							
1455	3340	1496	2220	3660			
M238 - Dimensions DW soundproofed version – Radiator							
1455	4879	1560	2704	4800			
M238 DW soundproofed version - In compliance with 2000/14/CE standard – Radiator							
1455	4879	1560	2704	4800			
Dimensions DW 48h compact version – Radiator							
3821	4859	1496	2479	4260			

** dimensions and weight without options*

Reference Conditions: 25°C Air Inlet Temperature, 40°C Fuel Inlet Temperature, 100 kPa Barometric Pressure; 10.7 g/kg of dry air Humidity. Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back pressure set to maximum allowable limit; Fuel density at 0.85 kg/L.
Data was taken from a single engine test according to the test methods, fuel specification and reference conditions stated above and is subjected to instrumentation and engine-to-engine variability. Test conducted with alternate test methods, instrumentation, fuel or reference conditions can yield different results. Data and specifications subject to change without notice.