Industrial Generator Set - B70

Ratings Range

		400/230 V - 50 Hz
Standby	**kW**	56
	kVA	70
Prime	**kW**	51
	kVA	64

Benefits and features

Rehlko premium quality
- Rehlko provides **one source responsibility** for the generating set and accessories
- The generator set, its components and a wide range of options have been **fully developed, prototype tested, factory built**, and production tested
- The generator sets are designed in accordance to ISO8528

Rehlko premium performances

Engines
- High reliability enhanced through a simple design for optimal functional performances
- High performances turbochargers providing high engine performances under all loads
- Easy operation and maintenance

Alternator
- Provide industry leading motor starting capability
- Excitation system to permit sustained overcurrent > 270% In, during 5 sec
- Built with a class H insulation and IP23

Cooling
- A compact and complete solution using a mechanical radiator fan
- High temperature and altitude product capacity available

Control panel
- The Rehlko wide controller range provides the reliability and performances you expect from your equipment. You can program, manage and diagnose it easily and in an efficient way

Rehlko worldwide support
- A standard two-year or 1000-hours limited warranty for standby applications.
- A standard one-year or 2500 hours limited warranty for prime power applications.
- A worldwide product support

General Specifications

Manufacturer	Rehlko
Engine ref.	4M10G70_5
Alternator choices	KH00812T
Performance class	G2
Voltage (V)	380/220 400/230 415/240
Controllers	APM303
Consumption @ 100% load ESP (L/h)*	16
Consumption @ 100% load PRP (L/h)*	14
Emission level	Fuel consumption optimization
Type of Cooling	Radiator
Factory installed enclosures	M138-B

"* 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
380/220	50	54	67	102	49	61
400/230	50	56	70	101	51	64
415/240	50	56	70	97	51	64

Engine Specifications	
Engine brand	BAUDOUIN
Engine ref.	4M10G70_5*
Air inlet system	Turbo
Cylinder configuration	4 - L
Displacement (l)	4,09
Bore (mm) x Stroke (mm)	105 x 118
Compression ratio	17.5 : 1
Speed 50Hz (RPM)	1500
Maximum stand-by power at rated RPM (kW)	66
Governor type	Electronic
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state (%)	+/- 0.5%

Lubrication System	
Oil Filter Quantity and type****	
Charge Air coolant	Water/Air

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

Fuel System	
Maximum fuel pump flow (l/h)	84
Max head on fuel return line (m fuel)	10,4
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	
Specific consumption @ ESP Max Power (g/kW.h)	210,9
Specific consumption @ PRP Max Power (g/kW.h)	208,9
Specific consumption @ 75% of PRP Power (g/kW.h)	206,9
Specific consumption @ 50% of PRP Power (g/kW.h)	214,5

Cooling system	
Radiator & Engine capacity (l)	17,9
Fan power 50Hz (kW)	1,5
Fan air flow w/o restriction (m3/s)	2,43
Available restriction on air flow (mm H2O)	
Type of coolant	Gencool
Radiated heat to ambiant (kW)	8,4
Heat rejection to coolant HT (kW)	42
Coolant capacity HT, engine only (l)	9,4
Max coolant temperature, Shutdown (°C)	105
Thermostat begin of opening HT (°C)	76
Thermostat end of opening HT (°C)	89

Exhaust system	
Heat rejection to exhaust (kW)	49
Exhaust gas temperature @ ESP (°C)	700
Exhaust gas flow @ ESP (l/s)	237
Electrical system	
Battery voltage (V)	12
Air Intake system	
Combustion air flow (l/s)	66,2
Radiated heat to ambiant (kW)	8,4

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	06
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 construction
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds
- 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.

APM303 controller
The APM303 is a versatile unit which can be operated in manual or automatic mode. It offers the following features:

- Measurements: phase-to-neutral and phase-to-phase voltages, fuel level (In option : active power currents, effective power, power factors, Kw/h energy meter, oil pressure and coolant temperature levels)
- Supervision: Modbus RTU communication on RS485
- Reports: (In option : 2 configurable reports)
- Safety features: Overspeed, oil pressure, coolant temperatures, minimum and maximum voltage, minimum and maximum frequency (Maximum active power P<66kVA)
- Traceability: Stack of 12 stored events

For further information, please refer to the data sheet for the APM303

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
  - 30 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),
  - 18 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
- Electric starter & charge alternator
- 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
- Exhaust outlet with flexible and flanges
- User’s manual (1 copy)
- Packing under plastic film

Excluded from the supply:

- For Baudouin XPRESS products, from 25 to 1500 kVA: oil and antifreeze liquid
- For Baudouin XPRESS products, from 25 to 165 kVA: batteries

Dimensions and Weights

Compact version	
Overall Size, max., L x W x H, (mm)	1948 x 1084 x 1245
Dry weight (kg)	917
Tank capacity (L)	190

M138-B - Dimensions soundproofed version	
Overall Size, max., L x W x H, (mm)	2572 x 1126 x 1583
Tank capacity (L)	190
Dry weight (kg)	1287
Sound power level guaranteed (Lwa) 50Hz (75% PRP)	93
Acoustic pressure level @1m in dB(A) 50Hz (75% PRP)	77
Acoustic pressure level @7m in dB(A) 50Hz (75% PRP)	67

** 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.