



Generating Set

GSK 22 TWIK

MAIN FEATURES



SOUNDPROOF



WATER COOLED



400 / 230 V



50 Hz



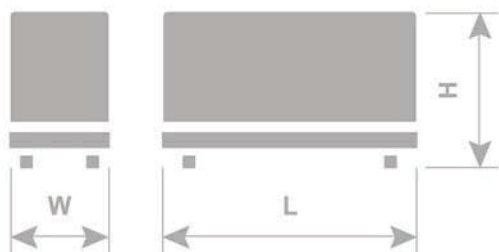
1500 rpm



DIESEL



Dimensions and Weight Generating Set



(L) Length	1.410 mm
(H) Height	1.320 mm
(W) Width	850 mm
Weight with liquids	700 kg
Tank capacity	85 L
Autonomy 75 %	25 H
Noise level	70 ± 2,3 dB(A)@7m

General Data Generating Set

SERVICE	PRP	STANDBY
Power	20 kVA	22 kVA
Power	16 kW	17,6 kW
Speed	1500 rpm	
Standard voltage	400 / 230 V	
Max current available	31 A	
Power factor	0,8 Cos Phi	

Environmental reference conditions: 1.000 mbar, 25 ° C, 30% Relative Humidity. Power referred to ISO 3046

P.R.P. PRIME POWER - ISO 8528: Prime Power-Continuous power at variable load: The power that a genset can supply in continuous service at a variable load for an unlimited number of hours per year while respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. The average power supplied over time and any applicable overload must be less than the percentages stated by the Manufacturer.

STANDBY POWER - (ISO 3046 Fuel Stop power): Limited-time running power-Limited power: The maximum power that a genset can supply for a limited time respecting the maintenance intervals established in the environmental conditions stated by the Manufacturer. The number of hours per year is stated by the Manufacturer. Overload is not permitted.

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STANDARD FEATURES

Engine

4-stroke Diesel engine, water cooled. Arrest system energised in working Air filter with replaceable cartridges. Safety guards on moving parts. Electric start with battery (12 V), batteries (24 V).

Cooling system

The radiator and the fan are protected with grids, which are designed to cool the engine at an ambient temperature up to 50° C (122° F).

Alternator

4-pole three-phase synchronous primary European home, self-excited brushless, self-regulated, ventilated, and protected. Has a fixed and a rotating inductor induced inclined quarries with damping cage. The self-regulation is obtained through an electronic regulator very reliable which ensures a constant supply under different operating conditions of the generator. The regulator so configured corresponds to benefits specified in IEC 34-1, IEC 2-3, BS 4999-5000, VED 0503.

Insulation and impregnation

The insulation is class "H"; the windings are impregnated with tropicalized epoxy resins applied by dipping, dripping and vacuum parts subjected to high voltages in order to guarantee an optimum level of insulation.

VDE 0875 regulations series production meets the grade "G" and "H" and the essential safety requirements imposed by European EMC Directive; compliance with the latter is assured by the application of European standards EN 50081-1 and EN 50082-1.

Automatic voltage adjustment

Accuracy of $\pm 1\%$ with a load from 0 to 100%, with a speed from -2% to +5% and a power factor from 0.8 to 1 with a balanced load.

Overload

The allowed overload is 300% for 20 seconds, 50% for 2 minutes and 10% for 1 hour every 6 hours.

Control system

Designed to bring together the tools of electrical control, the power switch and protections both motor and the alternator. The electrical panel is made of steel plate epoxy powder coated to withstand tropical conditions and corrosive environments. The control panel is fitted with an electronic control card that insure to manage the generating set in manual or automatic function , magneto thermal circuit breaker 4 poles, output terminal, on/off switch.

Electric system

It is fitted with battery charger alternator, grounded, starter. Battery attached with cartridge holder on the base of the generator with appropriate cables and insulated.

Refuelling system

Tanks built into the base of the generator with cap for filling and fuel reserve sensor.

Exhaust system

Residential silencer mounted on board it reduce noise both by absorption and through resonance.

The sound-absorbent material used has long fibers, resists temperatures up to 650 °C, and is protected and held in place by a perforated metal sheet.

The outer casing is made of carbon steel. The noise reduction up to 35 dBA..

Skid

Folded and welded steel base black complies with UNI 36,537, DIN 17,119 and 17,120 and 59,411 with vibration dampers that isolate the perfect alignment of the motor with the alternator from the engine block. Defenders of the turbo, exhaust manifold, radiator and fan are included.

Soundproof canopy

The soundproofed canopy version is acoustic bent and welded carbon steel plate which gives great stiffness to the structure, attenuates the sound emission and protects the generator from external agents.

The material used for soundproofing, is not combustible, non-corrosive to the metal and really durable and it is certified A1 class firefighting extinguishing.

All doors are equipped with safety key lock.

Documentation

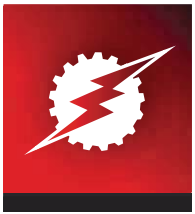
Engine use and maintenance manual, the alternator and generator. The electric control panel wiring diagrams and control.

CE Declaration.

Test report on request.

Testing

Before delivery, the generator is tested on our test benches. Total occurs and the proper functioning of the generator and all instruments mounted.



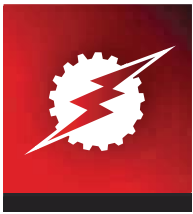
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ENGINE - LOMBARDINI/KOHLER KDI 1903 M		1500 rpm
PRP Power	kW	17,3
ST BY Power	kW	19
Cycle	-	Diesel 4T
Injection system	-	Direct
Intake	-	Natural
Cylinders	N°	3 L
Swept volume	Lt	1,8
Starting system	V	12
Bore x stroke	mm	88 x 102
Fuel consumption 50% - 75% - 100%	L/h	2,4 - 3,5 - 4,8
Cooling	T	Water
Antifreeze capacity	l	6,8
Oil capacity	l	8,9
Governor	-	Mechanical

ALTERNATOR		
Voltage regulator	T	Electronic AVR
Poles	N°	4
Phases	N°	3+1
Winding treatment	T	Tropicalized
Insulation	T	Class H
Short circuit current	A	3 In: 20 s
Protection degree	IP	23
Cooling	T	Self-ventilated

The alternator is manufactured according to, and complies with, the most common specifications such as CEI 2-3, IEC 34-1, EN 60034-1, VDE 0530, BS 4999-5000, CAN/ CSA-C22.2 No14-95- No100-95.

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COUPLING

Type	-	Direct
SAE	-	4 - 7.5

ENVIROMENTAL CONDITIONS

Temperature	°C	25 (Max 50°)
Humidity	%	30 (Max 75%)
Barometric pressure	mbar	1000
Altitude	m	900

Documents

- Engine use and maintenance
- Alternator use and maintenance
- AMF card use and maintenance
- Generating set use and maintenance
- Wiring diagrams

Warranty:

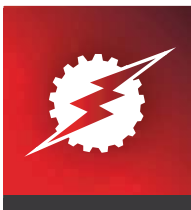
All major equipment is covered by a one-year manufacturer's warranty.

Emergency equipment is covered by a warranty two year manufacturer, within the limit of 500 hours of service per year.

CE reference standards

- 2006/42/CE Machine Safety
- 2006/95/CE Low voltage
- 2004/108/CE Electromagnetic Compatibility
- EN 12100, EN 13857, EN 60204
- BS 5000, ISO 8528, ISO 3046, CEI 60034, NEMA MG-1.22

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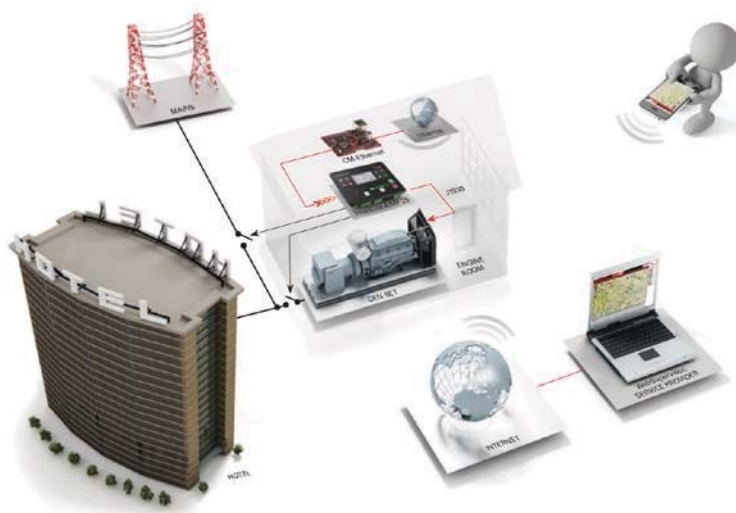
STANDBY SYSTEM

In commercial application

In standby systems, the load is supplied by the mains and the gen-set is used as a back-up.

InteliLite AMF 9 an Auto Mains Failure controller continuously monitors the mains and in case of any failure it automatically starts the engine and transfers the load to the generator.

The controller communicates with engine management unit via a CAN J1939 bus. Engine values and alarms are visible on a graphical LCD screen in plain language - no need to learn cryptic flashing or numeric error codes.



CONTROLLER

Gen-Set controller manual/amf

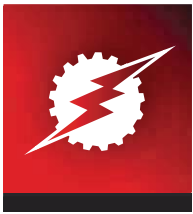


QASC 9

Advanced single gen-set controller for stand-by and prime power applications

- Easy to use
- LCD display with back light
- Start/Stop button
- Manual / Automatic / Test / Lock button
- Automatic change over command I
- Support for Modbus and SNMP protocols
- Mains / Unit Remote switching control
- 3-Phase voltmeter mains generator control
- Information on 3 preventive maintenance operation
- Automatic supervision of faults with messages on the display
- Remote commands with contacts
- Clock for programming the startup or stopping of the Gen-Set
- Programming of parameters (threshold, times, counts etc.)
- Programmable weekly autotest
- Keyswitch card supply
- Modem GSM [optional]
- 3 Mains voltmeters
- 3 Generator ammeters
- 3 Generator voltmeters
- Generator frequency meter
- Voltammeter
- Wattmeter
- Hour-meter
- Battery voltmeter
- Startup counter
- Tachometer
- Fuel level
- Historic Events

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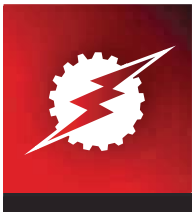


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OPTIONS

ART.	IMAGES	DESCRIPTION
EM-BI08-EFCP		Extension module with 8 configurable binary terminals for inputs or outputs.
CM - ETHERNET		Internet / Ethernet module with 10/100 Mbit interface over RJ45 socket.
CM - GPRS		Communication module providing wireless internet connectivity over GPRS and GSM communication.
N200		Parallel Gen Set controller.
ATS		Automatic change over supplied in a detached box.
PDR		Adjustable differential protection.

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OPTIONS

ART.	IMAGES	DESCRIPTION
PHS		Water preheater with thermostat.
DWT		Underground double wall tank from 1000 to 30000 l.
SWT		Aboveground tank with collection base from 1000 to 30000 l.
CRPC		Underground tanks fuel leakage panel.
OCIO		Underground tanks fuel level detection device.
FRK		Automatic refuelling kit with manual and electric pump.
-		-

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POWER GENERATION
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- > Air compressors / Lighting towers / Motor pumps



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SPARE PARTS

- > Generator Sets / Petrol-diesel engines / Compressors / Motor pumps



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