KG23LP – KG19NG / 50Hz (Gas)

GENERATORS GHADDAR

Gensets
Small Range

Kubota

LEROY SOMER

Generating Set Ratings		LPG Gas		Natural Gas	
Voltage*1	Frequency	Standby Rating*2	Continuous Rating*3	Standby Rating*2	Continuous Rating*3
230/400 V	50 Hz	26.1 kVA	23 kVA	22.2 kVA	19 kVA

The above ratings represent the generating set capability guaranteed within ±3% at the reference conditions equivalent to those specified in ISO 8528/1 standard.

Pictures for Gensets could vary from actual product.

Notes

1. The applicable voltage range is 380V to 415V for 50Hz applications and 380V to 480V for 60Hz applications.

*2. **Stand-by rating** is a standby power rating of the generating set, where a variable load limited to an annual usage up to 500 hours is applied, with 300 hours of which may be continuous running. Noting that no overload is permitted.*

*3. **Continuous rating:** this is the maximum power available for continuous loads for unlimited running hours a year between the maintenance times recommended by the manufacturer under the environmental conditions established by the same.*

Certifications

- The complete Generating Set is type-tested according to ISO 8528-8 Standard.

- The control panel is certified by an ISO 17025 accredited laboratory to have IP55 according to IEC 60355

ISO 17025 ACCREDITED LABORATORY

Certified System Quality ISO 9001 SAI GLOBAL

Dimensions

Length	1700 mm
Width	610 mm
Height	880 mm
Weight	420 Kg

Engine Technical Data

Make & Model	**KUBOTA WG2503**	
Cylinders	In-line, 4 Cylinder	
Bore & Stroke (mm)	88 x 102.4	
Induction system	Natural aspirated	
Ignition	Full transistor battery ignition type	
Cycle	4 stroke	
Compression ratio	9.1:1	
Cooling System	Water cooled	
Displacement (Liters)	2.491	
Lube oil capacity (Liters)	9.5	
Coolant capacity (Liters)	8.4	
Engine Speed (rpm)	1500	
Governor	Electronic	
Minimum gas inlet pressure (mbar)	1 MPa	
Max allowed inlet pressure (mbar)	5 KPa	
Fuel Types	**LPG Gas**	**Natural Gas**
Fuel Consumption (g/kWh)	245	255
Radiator cooling air flow (m^3/min)	53.2	50.2
Max exhaust gas flow (m^3/min)	3.89	3.50
Exhaust temperature °C (max)	650	655
Exhaust Back Pressure (KPa)	11.5	

The above performance data are valid as per the following specs:
- Natural Gas is methane based, LPG is propane based.
- Lubricating oil specification should exceed API CE, viscosity is (15W/40).
- The coolant should be 50% inhibited glycol and 50% fresh water.

Alternator Technical Data

Make & Model	**Leroy Somer TAL042A**		
Frequency / No. of poles	50Hz / 4P	Voltage regulation	± 1 %
Ingress protection	IP23	Coolant air flow	0.1 m^3/s
Insulation class	H		
Terminals	6		
Excitation system	SHUNT		

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Control Panel Specifications

GMP260MKIII (DSE6110 MKIII) panel is an automatic start generating set panel of microprocessor-based design which is capable of interfacing with electronic engine through the can-bus J1939. It is fully configurable by PC software, yet most settings can be programmed by front fascia buttons. If Mains voltage is to be monitored, DSE6120MKIII can be offered.

Circuit Breaker Schneider or ABB, 3 Pole MCB (4 Pole available as Optional)

Construction

Sheet Fabrication	CNC shearing & bending
Paint type	Heat-treated powder-coated
Paint application	Electrostatic corona spraying
Durability tests	• IMPACT [EN ISO 6272] • Salt spray resistance [ASTM B117-73] • Humidity Resistance [ASTM D2247]
Compliance	• Panel is compliant with [ISO8528-8] • Clearance & Creepage [IEC60355-1] • Leakage current & Dielectric strength [IEC60355-1] • Protection against electric shock [IEC600 364-4-41]
Degree of protection	IP55
Wire crimping	• Crimping force up to 20KN • Accuracy of 0.01mm • Each crimping is checked by Komax CFA+
Wire coding	• Wires are coded by wire color and cross-section • Wires are coded by printed numbers • Wires are coded by printed function of the wire

Protection (standard)	(OPTIONAL Note 1,3)	Control (standard)	(OPTIONAL Note 1)	Instrumentation (standard)	(OPTIONAL Note 1,3)
Over /Under AC voltage	High oil temperature	Remote start input	Battery Changer: 5A, 10A , UL	Gen AC Voltage: 3ph VLL & VLN	Lube oil temperature
Over /Under frequency	High exhaust temperature	Emergency Stop button		Gen Frequency: Hz	Exhaust temperature
Delayed Over current	Low gas pressure	Common Alarm volt-free contact	Extension:	Gen Current: 3 phase A	Engine Inlet air (Boost) pressure
Short-circuit	Low coolant pressure	Event log (100 events)	Ethernet –Modbus TCP	Power: KW, KVA, KVAR & PF	Charging ammeter
Over KW		Weekly Exerciser	RS485- Modbus RTU	Energy: KWhr, KVAhr, KVARhr	Gas pressure
High Engine Temperature	Low oil level	Audible Alarm	GPS tracker	Lube Oil pressure	Coolant pressure
Low oil pressure	High winding temperature	Standard CANbus J1939		Engine coolant temperature	
Maintenance Alarm	High bearing temperature	Pre/Post heat control	Webnet Applications	Battery DC Voltage	Lube oil level
High/Low Battery voltage	Low boost pressure	Data Logging	SNMP Gateway	DC Alternator Voltage	Winding temperature 3xRTD
Low coolant level Note 2	Fusible link fire protection	PLC Editor	Inputs: 20mA, 10V	Engine Speed	Bearing temperature RTD
3 ph Mains Sensing (6120)	Low coolant temperature	Oil Level Control	Thermocouples	Operating hours	Tier 4 Support

Note 1: some OPTIONAL features could be standard if CANbus is established within electronic engines.
Note 2: Low coolant level protection is standard feature for Gensets above 200KVA, otherwise it is optional.
Note 3: There is limitation in the number of protections and measurements that can be offered with GMP260MKIII.

Other types of control Panels & Modules can be offered according to required specifications (DSE 7310/20, 7410/20, 8610, 8810 and Others).

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Genset Standard Features

Assembly:
Gensets are assembled at Ghaddar Machinery Factory in compliance with ISO 8528-8 standard.

Fabrication:
- The engine/alternator assembly rests on skid with Anti-vibration mounting pads.
- The skid is made up of durable sheet metals and beams exceeding "Vibration & Torsion" Resistance Norms.
- The control panel enclosure is made up of metal sheet .

Paint:
-The skid and control panel enclosure are painted with heat-treated and power-coated electrostati corona spraying.
- Paints passed durability tests conforming to international quality standards.
- Impact (EN ISO 6272)
- Salt Spray Resistance (ASTM B117-73)
- Humidity Resistance (ASTM D2247)

Works-Testing:
- All Gensets are tested prior to dispatch.
- Test is automatically generated and checked according to ISO8528
- Test certificate is issued for each Genset

Equipment:
- Water cooled Radiator with belt driven blower fan and full guarding
- Electric starter with solenoid Relay
- Battery Charging Alternator
- Energized to run solenoid
- Replaceable Gas, oil and air filters
- Heavy duty leads acid battery with matching capacity (Amps & CCA)
- Gas train.

Documentation:
- User Manual for Operation, Installation and Maintenance guidance
- Wring Diagram.
- Test Report
- Maintenance Schedule
- Catalogues for Engine, Alternator & AVR

Genset Optional Features

- Manual & Automatic Transfer Switches,
- Synchronizing & Totalizing Panels
- Water jacket heater
- Oil heater
- Battery heater
- Anti-condensation Heater
- Air Shut-off Valve
- Oil Sampler
- Pre-lube Oil Pump
- Gas detectors
- One loose supplied industrial exhaust silencer – 16 DB. noise reduction level.

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