

MAKAWA POWER GENERATION BY KUBOTA

KUBOTA Diesel Series

| | |
|----------------------------------|---------------------|
| Genset model | MKW-13KBS |
| Power (standby) | 14.3 KVA / 14.3 KW |
| Power (prime) | 13 KVA / 13 KW |
| Diesel engine brand | KUBOTA |
| Diesel engine model | D1703-E2BG-CHN-1 |
| Frequency / Speed | 50 Hz / 1500 RPM |
| Rated voltage | 230 V |
| Rated current | - |
| Wiring method | one-phase, two-wire |
| Power factor | 1 |
| Fuel tank | 65 L |
| Noise level | ≤63dB(A)@7m |
| Dimensions of Silent type | 1673*778*967 (mm) |
| Weight of Silent type | 595 KG |

| | |
|-----------------------------|---------------|
| Alternator brand | Leroy somer |
| Alternator model | LSA 40 M5 |
| Control system brand | DEEPSEA |
| Control system model | DSE6120 MK II |



INFORMATION TO BE CLARIFIED

- Other voltage levels 230V, 277V, 220V, 254V, 240V, 127V, 120V, etc. are available upon request.
- Standard reference conditions: All data are based on ISO 3046 standard reference conditions - Altitude 100m (328ft), Atmospheric Pressure 100kPa(29.53inHg), Ambient Temperature 50-55°C, Relative Humidity 30%.
- User load conditions do not match the standard reference conditions, please contact GOLDENLEO engineers to determine the choice of generator capacity improper selection can lead to shorten the unit overhaul period or other serious consequences.
- GOLDENLEO generator sets comply with all major standards, such as ISO8528, ISO 14000, ISO3046, GB755, BS5000, VDE0530, IEC34-1.

Visit the official website for more information: www.gd-leopard.com

STANDARD CONFIGURATION

| | |
|--|--|
| Diesel engine | KUBOTA , including the body comes with: three filters (air filter, diesel filter, machine filter), starter motor, charging generator, etc. |
| Alternators | Leroy somer, LSA 40 M5 |
| Standard cooling system | 122°F (50°C) ambient radiator |
| Unit common base | I: (520kW and below) base tank and shock absorber, starter battery holder II: (520kW and above) Channel steel base and shock absorber, starter battery holder |
| Output Circuit breaker | DELIXI, OUTPUT CIRCUIT BREAKER |
| Control system | DEEPSEA, DSE6120 MK II |
| Starting battery | Maintenance-free batteries and battery float charger |
| Accessories for installation with machine | Corrugated vibration isolators, smoke bends, industrial silencers, and standard parts for connections. Standard tools kit |
| Accompanying documentation | Electrical drawings, unit operation and maintenance manuals, test report of generator, certificates of conformity, etc. |

OPTIONAL CONFIGURATION

| | |
|------------------------------------|---|
| Engine Parts | ◇Heavy-duty air filter ◇Water jacket heater ◇Oil-water separator |
| Alternator or accessories | - |
| Cooling system | ◇50°C water tank ◇Heat exchanger + cooling water tower + external water circulation pump system ◇Distant horizontal water tank system |
| Control system | ◇AMF function ◇Parallel function ◇Low-temperature environment application ◇Moisture-proof heater for control panel ◇Other |
| Output Circuit breaker | ◇3/4-pole ◇fixed/drawer type ◇electric mechanism |
| ATS switchgear | ◇ATS switching cabinet: AISIKAI (customized according to users' conditions of use and requirements) |
| Starter battery | ◇Nickel-cadmium batteries ◆Maintenance-free batteries ◇Liquid float charge and selection switch ◇Charging current meter |
| Split fuel tank | ◇Customized according to the user's conditions of use and requirements |
| Other optional requirements | |

ENGINE TECHNICAL PARAMETERS

| ENGINE TECHNICAL PARAMETERS | | | |
|-----------------------------|------------------|----------------------------|-------------------------------|
| Engine manufacturer | KUBOTA | Prime Power | 12.8 KW |
| Model | D1703-E2BG-CHN-1 | Standby Power | 15.1 KW |
| Compression ratio | 23:1 | Speed | 1500 RPM |
| Structural form | Four stroke | Governor Type | All Speed Mechanical Governor |
| Number of cylinders | 4 / in Line | | |
| Displacement | 1.647 L | Cooling method | Closed water cooling |
| Bore | 98 mm | Dry weight (engine only) | 148 KG |
| Stroke | 110 mm | Wet weight (with radiator) | - |

| START SYSTEM | |
|---------------------|--------|
| Start rated power | 1.4 KW |
| Start rated voltage | DC 12V |

| COOLING SYSTEM | |
|-------------------|---|
| Coolant capacity | - |
| Coolant flow rate | - |

| FUEL SYSTEM | |
|-----------------------|------------|
| Fuel type | Diesel oil |
| Fuel injection pump | - |
| Fuel injection nozzle | - |
| Fuel filter | - |

| AIR EXHAUST SYSTEM | |
|---------------------------------------|---|
| Heat rejection of exhaust | - |
| Exhaust flow rate (Prime) | - |
| Exhaust gas temperature after turbing | - |

| FUEL CONSUMPTION | | |
|------------------------|------|-------|
| Generator output power | L/h | g/KWh |
| Standby | - | - |
| Prime | 3.9 | 233 |
| 75% prime | 2.9 | - |
| 70% prime | 2.75 | - |
| 50% prime | 1.97 | - |

| LUBRICATION SYSTEM | |
|--------------------------------------|-------|
| Total capacity of lubrication system | 7.6 L |
| Maximum allowable oil temperature | - |

| OVERALL DIMENSIONS | |
|---------------------------|---|
| Length (without radiator) | - |
| Width (without radiator) | - |
| Height (without radiator) | - |

ALTERNATOR BASIC PARAMETERS

| | | | |
|--|-------------------|----------------------------------|-------------------------|
| Alternator model | LSA 40 M5 | Rated power of alternator | 13 KVA / 13 KW |
| Power factor | 1 | Input voltage | 230 V |
| Phase and Wiring method | 1-phase, 12-wires | Frequency | 50 Hz |
| Pole | 4 | Bear | single bearing |
| Winding pitch | 2/3 | Protection class | IP23 |
| Insulation class | H | Telephone Impact Factor | TIF: <50 |
| Total Harmonic Distortion THD (**) in no-load | <3% | Voltage Adjustment Ratio | ±0.5% |
| Total Harmonic Distortion THD (**) on linear load | <5% | Regulation | AVR |
| Overspeed | 2250 RPM | Excitation method | brushless self-exciting |

BASIC PARAMETERS OF THE CONTROL SYSTEM

| CONTROL SYSTEM | |
|-----------------------------|---------------|
| Control system brand | DEEPSEA |
| Control system model | DSE6120 MK II |

INPUT, OUTPUT & COMMUNICATION PORTS

- 6 Digital inputs
- 3 Analog Inputs
- 6 Custom DC Outputs
- USB Terminal

MAIN FEATURES

- Back-lit text LCD display
- Front panel editing
- LED and LCD alarm indication
- Power Save mode
- CAN and Magnetic Pick-up/Alt. versions available (specify on ordering)
- PC and front panel configuration
- 6 Outputs (4 configurable on Magnetic Pick-up/Alt., 6 configurable on CAN version)
- Configurable timers and alarms
- Alternative configuration
- Event Log (10)
- Remote Start input
- 3 Phase generator monitoring
- Current Monitoring and protection
- 3 Phase Mains (Utility) monitoring (DSE6120 MK II only)

- Test button (DSE6120 MK II only)
- Battery voltage monitoring
- Engine pre-heat
- Hours counter
- Comprehensive shutdown or warning on fault condition

KEY BENEFITS

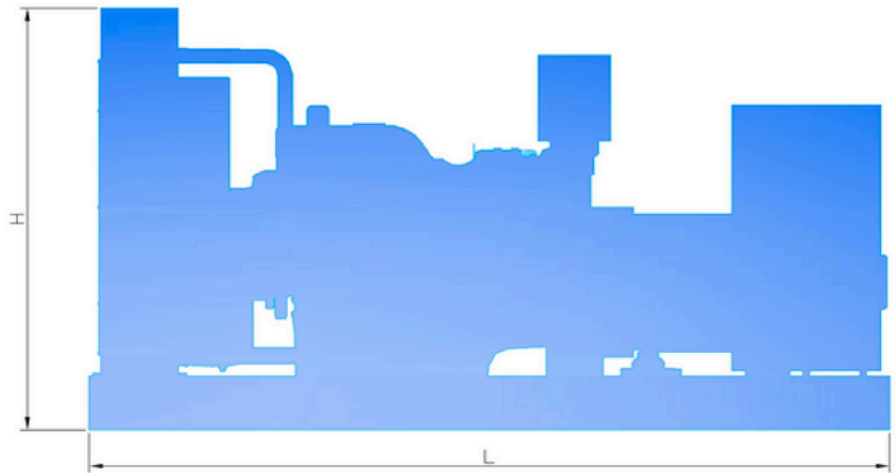
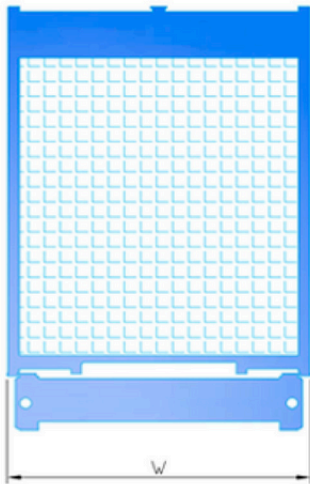
- Automatically transfers between mains (utility) and generator power (DSE6120 MK II only)
- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout
- Multiple engine parameters are monitored simultaneously
- Module can be configured to suit individual applications

- Compatible with a wide range of CAN engines
- Tier 4 engine support
- Uses DSE Configuration Suite PC software for simplified configuration
- IP65 rating (with optional gasket) offers increased resistance to water ingress
- Licence-free PC software

DSE6120 MKII



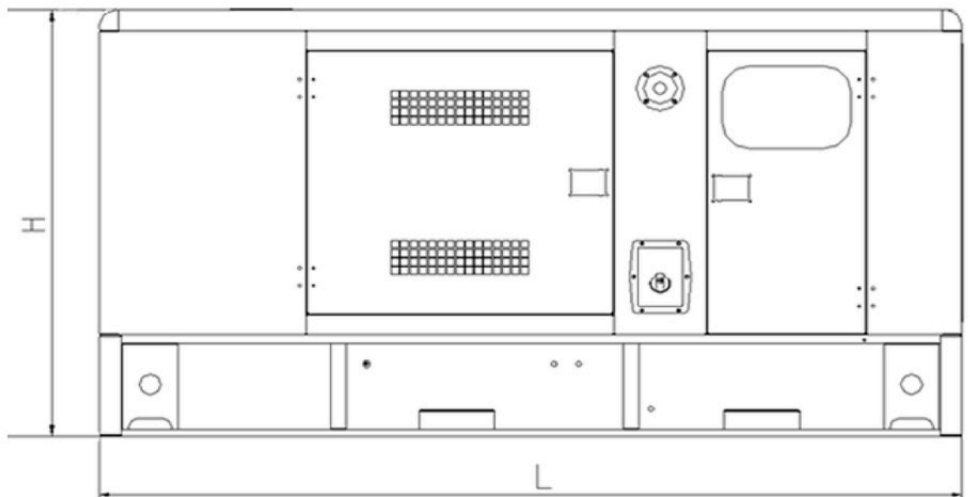
EXTERIOR DRAWING (FOR REFERENCE ONLY)



OVERALL DIMENSIONS

Open type

| | L | W | H |
|-----------|---|---|---|
| Open type | - | - | - |



OVERALL DIMENSIONS

Silent type

| | L | W | H |
|-------------|-----------|----------|----------|
| Silent type | 1673 (mm) | 778 (mm) | 967 (mm) |

Specifications are subject to change without notice.

Visit the official website for more information: www.gd-leopard.com