gorban

Gorban Power Diesel Generator

Website: www.gorban-generator.com
Email: info@bao-power.com

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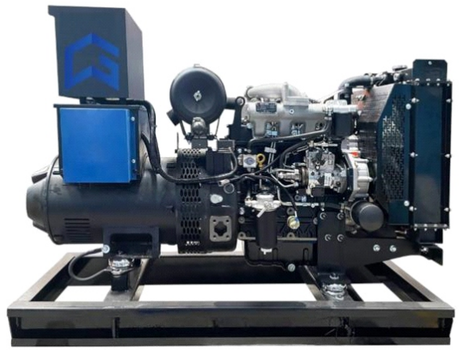
Feature

- High quality, reliable and complete generating sets.
- Every generating set carries a comprehensive test program which includes 0%,25%, 50%, 75%, 100% , 110% , 110% loading test and series protecting function (example: Low oil pressure , High coolant temperature, over current/load etc.) check.
- Easy for operation and maintenance
- Compact structure &high-strength chassis.
- Base frame design incorporates an intergrade fuel tank for at least 8 hours running (up to 650KVA).
- The canopy body painting adopts the HenKel pretreatment process and the base frame painting adopts sandblasting + famous brand powder, the paint warranty period can be 1.5 years.
- High-performance free-maintenance batteries with isolation switch.
- Anti- vibration pads are mounted between the engine/alternator feet and the base frame.
- Top lifting point and steel base frame with forklift holes, easy for transportation.
- Compliance with international electrical safety standards.
- Complete protection functions and safety labels.
  A large number of matching optional to meet the needs of various customers.



Prime Power(PRP) :

Continuous running at variable load for unlimited periods with 10% overload available for 1 hour in any 12 hour period, in accordance with ISO8528.

Standby Power/Emergency S tandby Power (ESP):

The maximum power available during a variable electrical power sequence, no overload on these ratings, in accordance with ISO 8528.

Continuous Power:

The maximum power which a generating set is capable of delivering continuously whilst supplying a constant electrical load. Average load can be 100%. The generator must not

ISO9001 : 2015
Quality system certified

ISO14001
System certification

OHSAS18001
System certification

CE certificate

Gorban Generator Sets: Key Features and Components

General Information

Specifically developed for the industrial applications, this stationary soundproof generator set is easy to use and straightforward to maintain. The available features & options are designed to fully meet the requirements of all industrial applications. The generator set will automatically start on mains failure and cool down and stop as soon as the mains come back. The generator set also controls the load transfer between mains (utility) and generator set. It can also be start-up by means of an external signal. It's your solution for Predictable Power.

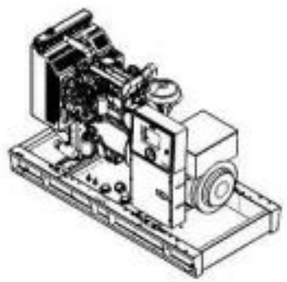
General Information		Prime power	Standby power
Rated Power (kVA)		1590	1750
Power Rating (kW)		1272	1400
Frequency (Hz)		50	
Engine Model		S16R-PTA/S16R-PTA-C	
Engine Speed (RPM)		1500	
Phase		3	
PF		0.8	
Control System		Digital	
Rated voltage (V)		400/230 (According to customer requirements)	
Fuel tank capacity operating time		/	
Fuel Consumption (L/h)	110% load	1383	
	100% load	348	
	75% load	261	
	50% load	174	

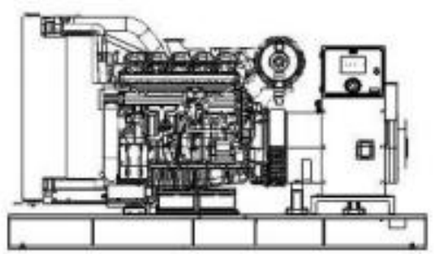
Dimension, Weight, Fuel Tank Capacity

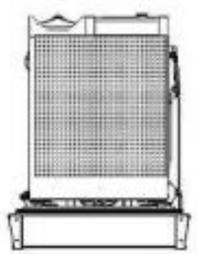
Dimension, Weight, Fuel Tank Capacity		
PGenerating set model	Silent	Open
Length(L) (mm)	5470	40' HC
Width(W) (mm)	2200	40' HC
Height(H) (mm)	2510	40' HC
Dry weight (kg)	14150	/
Tank capacity(L)	/	/
The loading capacity (40'HC)	2 units	/

General Information

Engine Specifications	
Engine model & manufacturer	KS16R-PTA/S16R-PTA-C
Emission Certification	-----
Number of cylinders	12
Cylinder arrangement	60°V
Cycle	Four stroke
Aspiration	Turbocharged
Bore x Stroke	170 x 180 mm
Displacement	65.4 L
Compression ration	14:1
Prime power /speed	1450 kW/1500 rpm
Standby power /speed	1590 kW/1500 rpm
Speed governor	Electronic
Cooling system	Forced Water Cooling Cycle
Frequency droop	≤ 3%
Total lubrication system capacity	230 L
Coolant capacity (engine only)	73 L
Fuel consumption100% load	205 g/kWh @1500 rpm
Starter motor	DC 24V
Charge alternator	DC 24V







Options:

For critical Options	For component Options
√	√

Cooling System

Cooling of the sleeves using cooling fluid comprised of water and glycol at 50% in a closed circuit driven by the engine pump.
Engine driven exhaust fan, radiator and expansion tank; original from the engine manufacturer.
The circuit is completed with the cooling purge system towards the outside of the bedplate and protections of all running surfaces

Lubrication System

Gear pump lubrication system driven by the engine and with original engine manufacturer lubricant filtering system. It is completed by an outward purge circuit by means of a manual purge pump.

Air Intake System

Air intake system for combustion with filtering device and filter change indicator; originals from the engine manufacturer. Intake air cooling after the turbo by means of an air/air exchanger.

Exhaust System

Interior and exterior aluminized steel exhaust silencer that is highly resistant to corrosion and with a water drainage system.

Start System

Start system that uses an electrical motor, battery, battery disconnector and battery charge alternator that is driven by the engine itself. The start motor and the battery charge alternator are originals from the engine manufacturer.

Lead acid battery with sealed structure to prevent leaks, maintenance free, large start-up capacity maintaining the voltage due to itslow internal resistance and small volume thanks to its rolled plates design that guarantees it will withstand many discharges with large temperature changes.

Fuel Supply System

The fuel intake system has a high performance decanter filter that prevents particles greater than 30 microns from passing through them.

Fuel tank capacity operating time	≥ 8h @ 75% load

Fuel Tank

Chassis:

- Constructed from high-durability steel, designed to handle generator weight.
- Anti-vibration mounts to minimize vibration and ensure stability.
- Includes lifting lugs for easier transportation and positioning.

Fuel Tank:

- Integrated fuel tank for generator sets below 1600 kVA.
- Rectangular, separate fuel tank for sets above 1600 kVA.
- Equipped with level indicators for convenient fuel monitoring.

Alternator

Gorban Power alternator with 4 poles, with a lifetime lasting greased bearing, H class insulation, without brushes, 2/3 coil and AVR (Automatic Voltage Regulator)
Protection of all the windings by means of 2-part high quality polyester resin impregnation. The stator windings receive a
double impregnation.
Excitation system with auxiliary winding with overload capacity 3 times the nominal current for 20 s.
Joining of engine and alternator through flexible disc coupling.

Alternator Specifications	
Alternator Brand	Stamford/ Leroy Somer
Number of phase	3
Power factor (Cos Phi)	0.8
Poles	4
Insulation type	H class
Winding Pitch	2/3
IP rating	IP23
Bearing	Single bearing
Voltage regulator	A.V.R
Coupling	Flexible disc
Exciter type	Self excited, Brushless
Voltage adjust range	≥5.0%
Voltage regulation	≤±1.0%

Regulations:

- CEI 2-3
- IEC 34-1
- EN 60034-1
- VDE 0530
- BS 4999-5000
- CAN/CSA-C22.2 No14-68-No100-95
- ISO 8528:3

Low Wave distribution

- THD < 4%
- THF (IEC) < 2%
- TIF (NEMA) < 40

Chinese brand Alternator Incorporates electromagnetic emissions suppressor in accordance with standard VDE 0875, class H.

Brand	Alternator	Voltage Stability	+-0.5%
Numbers of Wires	12 Wires	Working Temperature without Output Reduction	≤40°C
IP Alternator	IP23	Working Altitude without Output Reduction	≤1000m
Exciation System	Self Excitation	Phase	3 Phase
AVR	Sx460	Type	Brushless

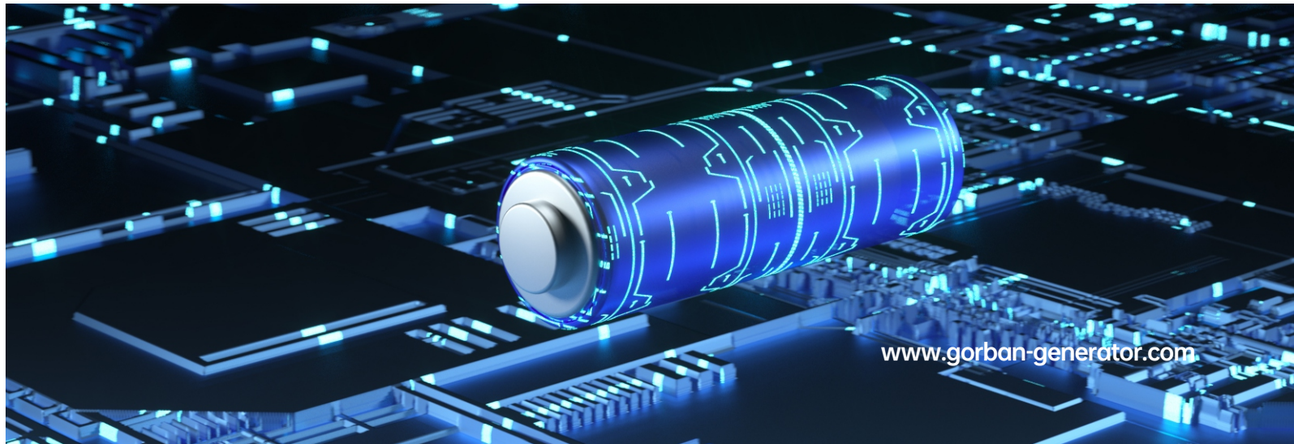
SOUNDPROOFED CANOPY

Soundproof generator set by means of cold-roll steel, phosphate steel, passivated and finish using polyester dust paint that guarantees a resistance of at least 720 hours in a saline mist chamber in accordance with standard ASM B-117-09.
Has IP44 protection, centre hoisting eyebolt and impact locks with key and door retainer.
It is lined inside with a noise-absorbing material made of mineral wool with a 30 mm thick waterproof (M0) protector veil with a density of 45 kg/m3.
It also has an emergency shutdown pushbutton that is accessible from the outside and an external fuel filler connection with cap and key.

ELECTRIC PANEL

Electrical panel integrated in the generator set with digital control plate, quick switching of the grounding system (TT, TN or IT) and emergency shutdown pushbutton.
Has an all-pole circuit breaker, manually actuated, with thermal-magnetic protection against overloads and short-circuits.

Has a battery charge maintainer, designed to be permanently connected to the battery and maintains it charged to its maximum capacity.
Has no moving parts. The charger switches to floating mode when the charge is completed.



ELECTRIC PANEL

Auto start and auto mains failure control module
(Alternator frequency & can speed sensing)

KEY FEATURES

•Ultimate size to feature ratio
•Automatically transfers between mains (utility) and generator (DSE4520 only)
•Hours counter provides accurate information for monitoring and maintenance periods
•User-friendly set-up and button layout for ease of use
•Multiple parameters are monitored simultaneously which are clearly displayed on the largest back-lit icon display in its class
•The module can be configured to suit a wide range of applications
•Uses DSE Configuration Suite PC Software for simplified configuration
•Compatible with a wide range of CAN engines
• Licence-free PC software
•Ip65 rating (with optional gasket) offers increased resistance to water ingress

KEY FEATURES

•Alternator frequency & CAN speed sensing in one variant
• Largest back-lit icon display in its class
• Heated display option
•Realtime clock provides accurate event logging
•Fully configurable via the fascia or PC using USB communication
•Extremely efficient power save mode
• 3 phase generator sensing
•3phase mains (utility) sensing (DSE4520 only)
• Compatible with 600 V ph to ph nominal systems
•Generator/load power monitoring (kW, kV A, kV Ar, pf)
•Accumulated power monitoring (kW h, kVA h, kVAr h)
•Generator overload protection (kW)
•Generator/load current monitoring and protection
•Fuelandstartoutputs(configurable when using CAN)
• 4 configurable DC outputs (2 for DSE4510)
• 3 configurable analogue/digital inputs
• 4 configurable digital inputs
• Configurable staged loading outputs
• 3 engine maintainance alarms
• Engine speed protection
• Engine hours counter
• Engine pre-heat
• Engine run-time scheduler
• Engine idle control for starting & stopping
• Battery voltage monitoring
• Start on low battery voltage
• Configurable remote start input
• 1 alternative configuration
• Comprehensive warning,electrical trip or shutdown protection upon fault condition
• LCD alarm indication
• Event log (50)

Options

The Controller LCD Display	DSE4520 control system	DSE7320 control system	Controller Optional
Voltage between phases(L-L)	√	√	
Voltage between neutral and phase(L-N)	√	√	
Frequency	√	√	
3 Phase current	√	√	
Real power(kW) and apparent power(kVA)	√	√	
Power factor	√	√	
Engine speed	√	√	
Running hours	√	√	
Coolant temperature	√	√	
Oil pressure	√	√	
Battery voltage	√	√	
LCD alarm indication	√	√	
3 Phase mains (utility) sensing	√	√	
Protecting Functions			
Emergency stop button	√	√	
High coolant temperature	√	√	
Low oil pressure	√	√	
Over current/load	√	√	
under/over speed, frequency & voltage	√	√	
Low/High battery voltage	√	√	
Low coolant level	Optional	Optional	

DSE7320(Deepsea)

DSE8610(Deepsea)

SmartGen

Some Optional Equipments that Gorban provides with Generator Sets;

- ■ Medium voltage alternator,
- ■ Remote radiator applications,
- ■ Automatic fuel filling system,
- ■ Fuel tank, oil pan, dashboard, alternator, coil heaters,
- ■ Alternator with double AVR and PMG,
- ■ Synchronization systems,
- ■ The generator output breaker,
- ■ Grid-generator transfer switches,
- ■ Accordance with the specific volume of demand-insulated cabins,
- ■ Seismic solutions,
- ■ Trailer,
- ■ Remote monitoring.