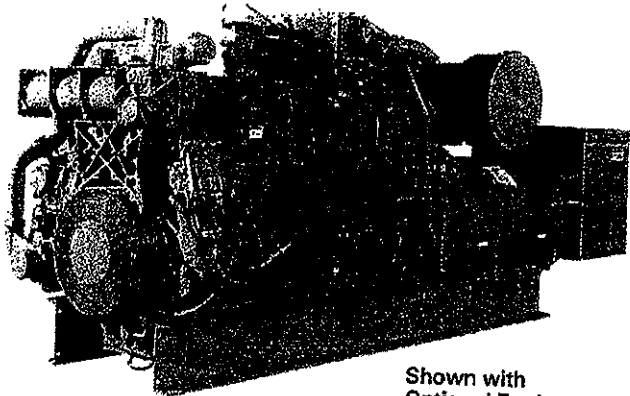


CATERPILLAR



Shown with
Optional Equipment

**Gas Engine G3512 LE
Generator
Set**

1500 rpm
50 Hz
900-950 kV·A; 720-760 kW

Continuous Power

CATERPILLAR® ENGINE SPECIFICATIONS

V-12, 4-Stroke-Cycle Spark-Ignited
Bore— mm (in)..... 170 (6.7)
Stroke— mm (in)..... 190 (7.5)
Displacement— L (cu in)..... 51.8 (3158)
Aspiration Turbocharged-Aftercooled
Compression ratio 8:1, 11:1
Shipping Weight (dry) —kg (lb)..... 9166 (20 190)
(includes engine, generator, and rails)

FEATURES

- **CATERPILLAR® FACTORY PACKAGE**
Factory designed, assembled, and tested. Supported by Caterpillar parts and labor warranty through your local Caterpillar dealer.
- **DIESEL STRENGTH BUILT IN**
Blocks, crankshafts, liners, and connecting rods are common with higher loaded Cat® diesel engines. Robust design provides prolonged life at lower gas engine loads.
- **ELECTRONIC IGNITION SYSTEM WITH DETONATION SENSITIVE TIMING**
The Caterpillar Electronic Ignition System (EIS) provides optimized spark timing for all operating conditions. Timing is automatically controlled to maintain continuous detonation protection.

- **LOW EXHAUST EMISSIONS**
2.0 gram/bhp-hr NO_x. Lower emissions are achievable for selected applications; consult your Caterpillar dealer.
- **FUEL FLEXIBILITY**
Capability to burn a wide range of gaseous fuels, including landfill gas, digester gas, coal seam gas, and propane.
- **GALLERY COOLED PISTONS**
Oil passageways provide cooler piston temperatures which prevent carbon build-up and increase detonation margin.
- **COOLING WATER TEMPERATURE**
Choice of cooling water temperature between 99° C and 127° C to match heat recovery requirements.

CATERPILLAR® SR4 GENERATOR

Type..... Static regulator, brushless excited
Construction..... Single bearing, close coupled
Three phase..... Wye connected
Insulation..... Class F
Enclosure..... Drip proof
Alignment..... Caterpillar pilot shaft
Overspeed capability..... 130%
Waveform..... Less than 5% deviation
Voltage regulator..... 3-phase sensing with
Volts-per-Hertz

Voltage regulation..... Less than ± 1%
Voltage gain..... Adjustable to compensate for
engine speed droop and line loss
TIF..... Less than 50
THF..... Less than 3%



CATERPILLAR**G3512 LE GAS GENERATOR SET****STANDARD EQUIPMENT**

Air cleaners with
 service indicator
 Breather, crankcase
 Cooler, lubricating oil
 Filters, lubricating oil, RH
 Flywheel housing,
 SAE No. 00
 Governor (Woodward),
 magneto engine: 2301
 EIS engine: 2301A
 Ignition system
 Altronic III or
 Caterpillar EIS
 Instrument panel,
 RH or LH
 exhaust temp.
 intake manifold
 pressure
 intake manifold
 temp.
 oil pressure
 oil pressure
 differential
 service meter
 water temp.

Lifting eyes
 Manifold, exhaust,
 watercooled
 Paint,
 Caterpillar yellow
 Protection devices
 Pumps
 gear driven
 aftercooler water
 lubricating oil
 jacket water
 Rails, mounting, 13 inch
 Regulator,
 gas pressure
 SAE standard rotation
 Thermostats
 and housing
 Torsional vibration
 damper

OPTIONAL EQUIPMENT

Cooling systems,
 high temperature
 Custom generator
 voltages
 Exhaust fittings
 Generator mounted
 control panel
 Governor (Woodward),
 magneto engine: 2301A
 Load share governor
 Low BTU arrangements
 Low pressure gas fuel
 system (10 kPa)
 Muffler
 Power takeoffs
 Prelube pump
 Starting systems
 Tachometer

G3512 LE GAS GENERATOR SET



TECHNICAL DATA

G3512 LE Low Pressure - 1500 rpm		32 SCAC	54 SCAC	32 SCAC	54 SCAC
Electrical Output @ 0.8 PF without Fan	kW	760	720	760	720
Engine Speed	kV-A	950	900	950	900
Voltage	rpm	1500	1500	1500	1500
Compression Ratio		400/3300	400/3300	400/3300	400/3300
Min Gas Pressure Required	kPa	11:1	11:1	8:1	8:1
NO _x		10-34	10-34	10-34	10-34
CO g/bhp-hr	g/bhp-hr	2.00	2.00	2.00	2.00
HC (total)	g/bhp-hr	1.93	1.92	1.78	1.83
HC (non-methane)	g/bhp-hr	3.82	3.68	2.71	2.78
Exhaust O ₂ (dry)	g/bhp-hr	0.57	0.55	0.41	0.42
Fuel Consumption (100% load)	%	7.6	7.5	7.9	8.0
Fuel Consumption (75% load)	MJ/kW-hr	10.33	10.61	10.58	10.79
Air Inlet Flow Rate	MJ/kW-hr	10.95	11.09	10.69	10.98
Exhaust Gas Flow Rate @ stack C	Nm ³ /min	63.2	59.9	68.6	66.3
Heat Rejection to Jacket Water (total)	Nm ³ /min	160.0	154.0	175.0	170.0
Heat Rejection to Exhaust (to 177° C)	kW	643.0	672.0	620.0	628.0
Heat Rejection to Aftercooler	kW	388.0	382.0	431.0	421.0
Heat Rejection to Atmosphere	kW	139.0	105.0	171.0	139.0
Exhaust Gas Stack Temperature	Deg C	80.0	80.0	80.0	80.0
		456.0	467.0	465.0	468.0

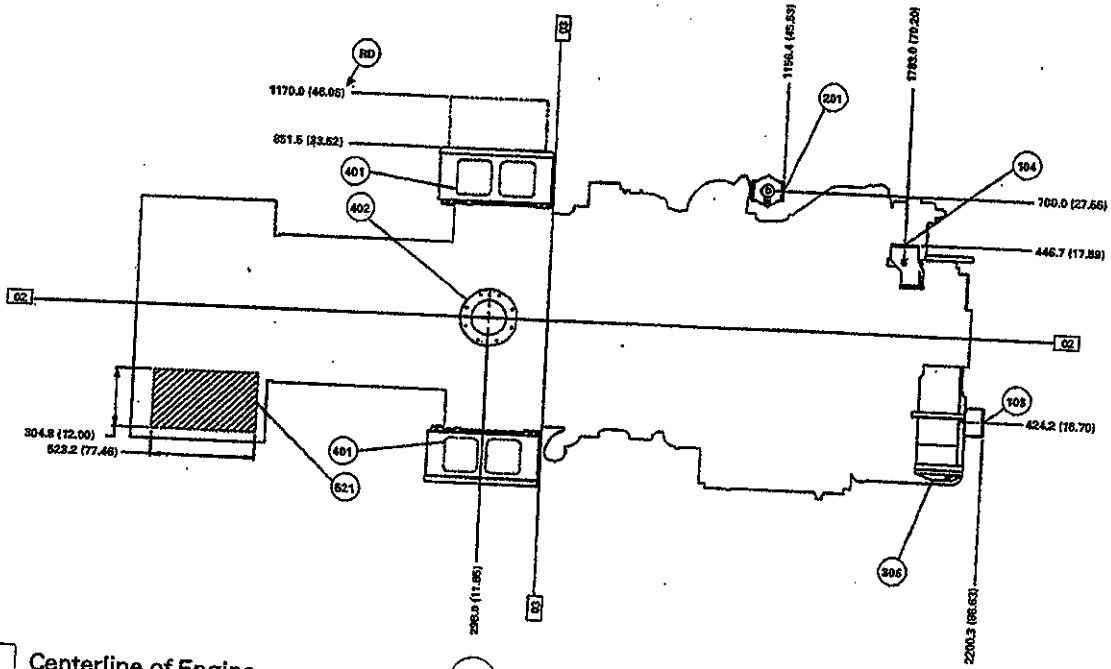
G3512 LE High Pressure - 1500 rpm		32 SCAC	54 SCAC	32 SCAC	54 SCAC
Electrical Output @ 0.8 PF without Fan	kW	760	720	760	720
Engine Speed	kV-A	950	900	950	900
Voltage	rpm	1500	1500	1500	1500
Compression Ratio		400/3300	400/3300	400/3300	400/3300
Min Gas Pressure Required	kPa	11:1	11:1	8:1	8:1
NO _x		207-278	207-278	241-278	241-278
CO g/bhp-hr	g/bhp-hr	2.00	2.00	2.00	2.00
HC (total)	g/bhp-hr	1.93	1.92	1.78	1.83
HC (non-methane)	g/bhp-hr	3.82	3.68	2.71	2.78
Exhaust O ₂ (dry)	g/bhp-hr	.57	.55	.41	.42
Fuel Consumption (100% load)	%	7.6	7.5	7.9	8.0
Fuel Consumption (75% load)	MJ/kW-hr	10.33	10.61	10.58	10.79
Air Inlet Flow Rate	MJ/kW-hr	10.95	11.09	10.69	10.98
Exhaust Gas Flow Rate @ stack C	Nm ³ /min	63.2	59.9	68.6	66.3
Heat Rejection to Jacket Water (total)	Nm ³ /min	160.0	154.0	175.0	170.0
Heat Rejection to Exhaust (to 177° C)	kW	648.0	676.0	627.0	633.0
Heat Rejection to Aftercooler	kW	388.0	382.0	431.0	421.0
Heat Rejection to Atmosphere	kW	133.0	101.0	165.0	134.0
Exhaust Gas Stack Temperature	Deg C	80.0	80.0	80.0	80.0
		456.0	467.0	465.0	468.0

* SCAC refers to Separate Circuit Aftercooling water inlet temperature. Ratings and data based on specified standard conditions (back page).



G3512 LE GAS GENERATOR SET

GAS GENERATOR SET — TOP VIEW



- 02 Centerline of Engine
- 03 Rear Face of Cylinder Block
- 103 Water Inlet
- 104 Water Outlet
- 201 Fuel Inlet
- 308 Oil Filter
- 401 Air Inlet
- 402 Exhaust
- 521 Conduit Entrance
- RD Removal Distance

See general dimension drawing 119-9594 for additional Electronic Ignition System (EIS) engine detail and NA information.

For magneto ignition system engines see general dimension drawing 7C-4609.

Note: General configuration not to be used for installation.

CONDITIONS AND DEFINITIONS

Ratings are based on SAE J1349 standard conditions of 100 kPa (29.61 in Hg) and 25° C (77° F). These ratings also apply at ISO3046/1, DIN6271 and BS5514 standard conditions of 100 kPa (29.61 in Hg) and 27° C (81° F); and API 7B-11C standard conditions of 99 kPa (29.38 in Hg) and 29° C (85° F) also apply.

Ratings are based on dry natural gas having a low heat value of 35.22 MJ/m³ (905 btu/ft³). Variations in altitude, temperature, and gas composition from standard conditions may require a reduction in engine horsepower.

Turbocharged-aftercooled ratings apply to 1525 m (5000 ft) and 25° C (77° F). **Naturally aspirated engines** apply to 150 m (500 ft) and 29° C (85° F). For applications which exceed these limits consult your Caterpillar dealer.

Continuous – Output available without varying load for an unlimited time. Continuous power in accordance with ISO8528, ISO3046/1, AS2789, DIN6271, and BS5514.

Materials and specifications are subject to change without notice.
LEHX6193

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