



Gas Engine Generator Set

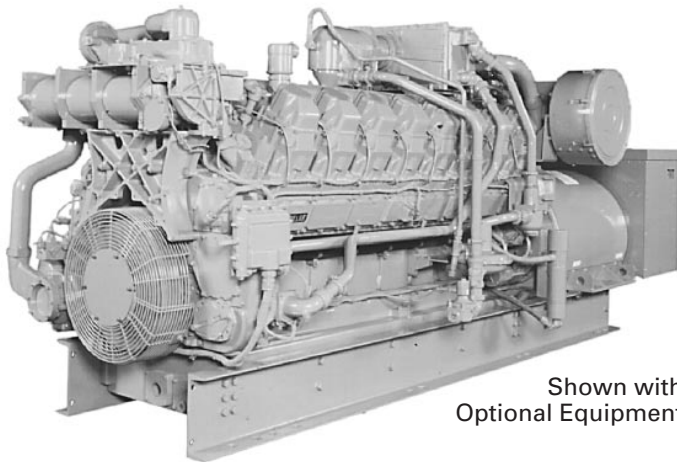
G3516

1200 rpm

60 Hz

460-820 kW

Continuous Power



Shown with
Optional Equipment

CATERPILLAR® ENGINE SPECIFICATIONS

V-16, 4-Stroke-Cycle Spark-Ignited

Bore — in (mm) 6.7 (170)

Stroke — in (mm) 7.5 (190)

Displacement — cu in (L) 4210 (67.4)

Aspiration Turbocharged-Aftercooled

Compression ratio 11:1, 9:1

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%



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, 10 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
Load share governor
Low BTU arrangements
Low pressure gas fuel
system (2 psi)
Muffler
Power takeoffs
Prelube pump
Starting systems
Tachometer

TECHNICAL DATA

G3516 Gas Engine Generator Set–1200 rpm		90 LE	130 LE	90 TA	130 TA	NA
Electrical Output @ 0.8 PF without Fan	kW	820	770	770	750	460
Voltage		480/4160	480/4160	480/4160	480/4160	480
Compression Ratio		11:1	11:1	9:1	9:1	9:1
Minimum Gas Pressure Required	psi	1	1	25	25	2
Shipping Weight	lb	26 020	26 020	25 820	25 820	21 030
Gen Set Length	in	192.3	192.3	192.3	192.3	183.4
Gen Set Width	in	67.1	67.1	67.1	67.1	63.4
NO _x	g/bhp-hr	2.0	2.0	18.0	20.1	10.6
CO	g/bhp-hr	1.3	1.5	1.0	1.0	38.5
HC (total)	g/bhp-hr	4.2	3.9	1.0	1.1	3.3
HC (non-methane)	g/bhp-hr	0.6	0.6	0.1	0.2	0.5
Fuel Consumption (100% load)	Btu/hp-hr	7082	7011	7570	7506	8064
Fuel Consumption (75% load)	Btu/hp-hr	7160	7174	7859	7895	8467
Air Inlet Flow Rate	scfm	2300	2203	1579	1544	958
Exhaust Gas Flow Rate @ Stack F	cfm	5827	5551	4446	4344	3087
Heat Rejection to Jacket Water (total)	Btu/min	37 590	35 429	51 921	50 215	35 259
Heat Rejection to Exhaust (to 350° F)	Btu/min	19 734	19 392	17 231	16 549	14 502
Heat Rejection to Aftercooler	Btu/min	8132	6199	4777	3753	–
Heat Rejection to Atmosphere from Engine	Btu/min	10 407	8644	8530	8132	4891
Exhaust Gas Stack Temperature	Deg. F	769	781	872	864	1063

LE refers to low emission engine configuration.

TA refers to standard engine configuration.

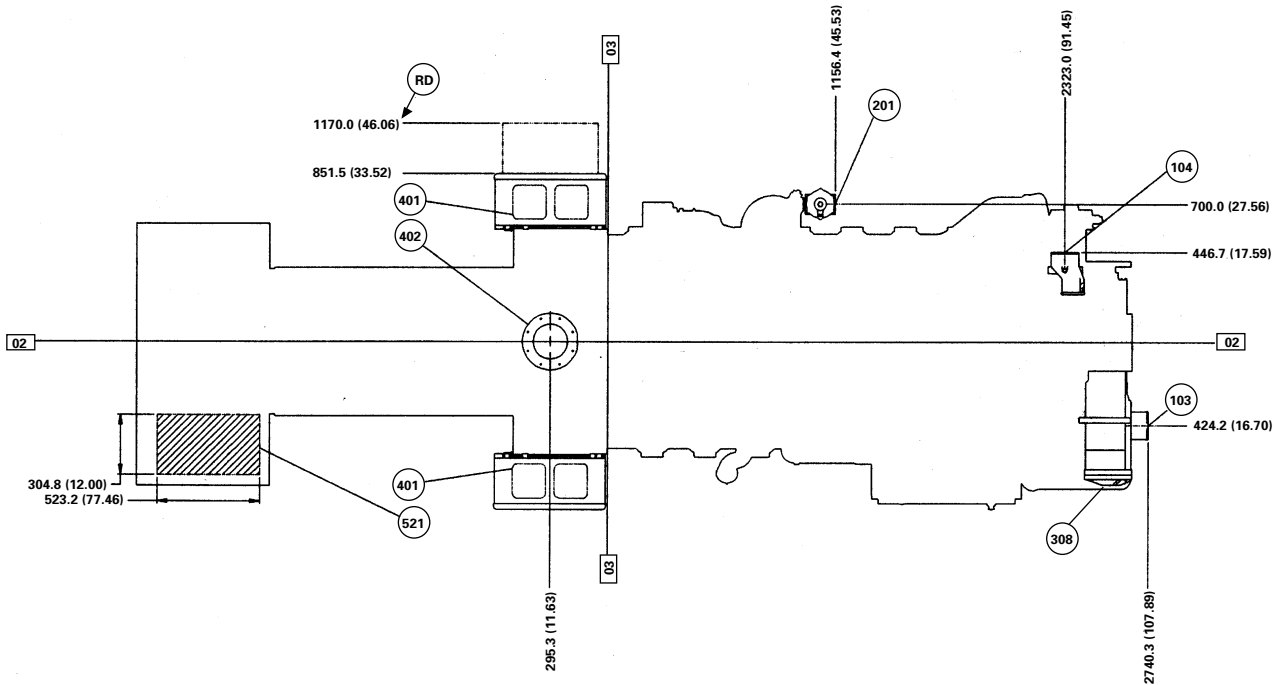
90 refers to aftercooler water inlet temperature in °F.

130 refers to aftercooler water inlet temperature in °F.

All data is based on standard conditions.

These ratings do not allow for overload capability.

TOP VIEW



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

See general dimension drawing 114-1975 for additional Electronic Ignition System (EIS) engine detail and NA information.

For magneto ignition system engines see general dimension drawing 7C-5067.

Note: General configuration not to be used for installation.

CONDITIONS AND DEFINITIONS

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

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

Turbocharged-aftercooled ratings apply to 5000 ft (1525 m) and 77° F (25° C). **Naturally aspirated** engines apply to 500 ft (150 m) and 85° F (29° C). 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.

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.