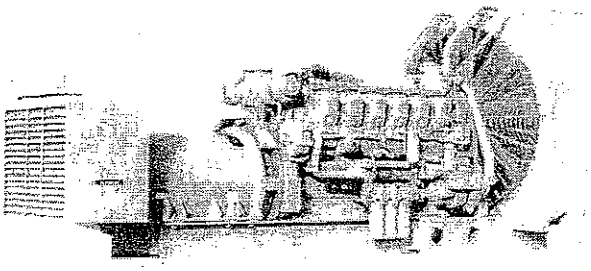
125 KW

CATERPILLAR®

Generator Set

3512
Standby Power

1000-1250 kW 60 Hz



Shown with
Optional Equipment

SPECIFICATIONS

V-12, 4-Stroke-Cycle Watercooled Diesel

Bore—mm (in)	170 (6.7)
Stroke—mm (in)	190 (7.5)
Displacement—L (cu in)	51.8 (3158)
Compression Ratio	13.5:1

CATERPILLAR ENGINE FACILITIES ISO 9001 CERTIFIED

FEATURES

- **CAT® DIESEL GENERATOR SETS**
  Factory designed, certified prototype tested with torsional analysis. Production tested and delivered to you in a package that is ready to be connected to your fuel and power lines. EPG Designer computer sizing available. Supported 100% by your Caterpillar dealer with warranty on parts and labor. Extended warranty available in some areas. The generator set was designed and manufactured in an ISO 9001 compliant facility. Generator set and components meet or exceed the following specifications: AS1359, AS2789, ABGSM TM3, BS4999, DIN6271, DIN6280, EGSA101P, JEM1359, IEC 34/1, ISO3046/1, ISO DIS8528, NEMA MG1-22.
- **RELIABLE, FUEL EFFICIENT DIESEL**
  The compact, four-stroke-cycle diesel engine combines durability with minimum weight while providing dependability and economy. The fuel system operates on a variety of fuels.
- **CATERPILLAR® SR4 GENERATOR**
  Single bearing, wye connected, static regulated, brushless permanent magnet excited generator designed to match the performance and output characteristics of the Caterpillar diesel engine that drives it.
- **EXCLUSIVE CATERPILLAR VOLTAGE REGULATOR**
  Three-phase sensing and Volts per Hertz regulation give precise control, excellent block loading, and constant voltage in the normal operating range.

CATERPILLAR® SR4 GENERATOR

Type	Brushless, revolving field, solid-state exciter
Construction	Single bearing, close coupled
Three phase	Wye connected
Insulation	Class F with tropicalization and antiabrasion
Enclosure	Drip proof IP 22
Overspeed capability	150%
Paralleling capability	standard with adjustable voltage droop
Wave form	Less than 5% deviation
Voltage regulator	3-phase sensing with Volts-per-Hertz
Voltage regulation	Less than ± 1/2%
Voltage gain	Adjustable to compensate for engine speed droop and line loss
TIF	Less than 50
THF	Less than 3%

CATERPILLAR CONTROL PANEL

24 Volt DC Control
Vibration isolated
NEMA 1, IP 22 enclosure
Dead front
Lockable hinged door
Generator instruments meet ANSI C-39-1

Voltages Available
60 Hz
139/240, 277/480,
346/600, 4160

(Adjustable a minimum of ±10%)
Other voltages available – consult your Caterpillar dealer.
Some voltages require derating

1250 KW

CATERPILLAR®

3512 GENERATOR SET

STANDARD EQUIPMENT

Engine
Aftercooler
Air cleaner
Breather, crankcase
Cooler, lubricating oil
Exhaust fitting and flange
Filters, right hand
fuel, full flow
lubricating oil, full flow
Flywheel housing
Governor
2301A, speed control
Lifting eyes
Manifold, exhaust, dry
Pumps,
fuel transfer, gear driven
lubricating oil, gear driven
jacket water, gear driven
Rails, mounting
Shutoff, manual
Starting, electric, 24 Volt DC
Turbochargers
Vibration damper

Generator
SR4 brushless with VR3 voltage regulator

ELECTRONIC MODULAR CONTROL PANEL (EMCP)

Standard Generator Controls and Monitoring:
Ammeter/voltmeter phase selector switch
Digital ammeter, voltmeter, frequency meter
Selector switch
Voltage adjust rheostat

Standard Engine Controls and Monitoring:
Automatic/manual start-stop control
Cooldown timer
Cycle cranking
DC voltmeter
Engine control switch for: off/reset, auto start, manual start, stop
Emergency stop pushbutton

Shutoffs with LED indicators for:
High coolant temperature
Low oil pressure
Overcrank
Overspeed

OPTIONAL EQUIPMENT

Engine
Air cleaner, heavy duty
Charging alternator
Cooling systems
Exhaust fittings
Governor, Woodward 3161, 2301A load share
Protection devices
Tachometer drive

Generator
Extension terminal box
Manual voltage control
MIL Std 461B
Permanent magnet excitation
RFI N level (VDE 875), BS800
Space heater
Temperature rise detectors

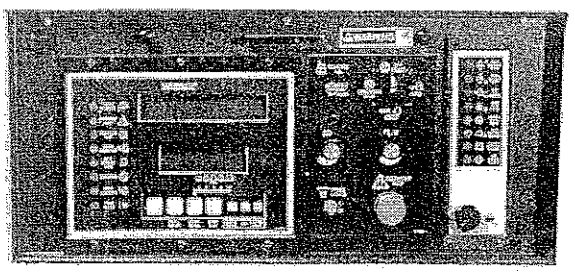
Switchgear
Automatic start/stop
Battery charger
Circuit breaker
Electric operated
Enclosure, floor standing NEMA 1
Main load buss
Manual
Paralleling
manual, permissive
Protective relays

Control Panel
Annunciator panel and prealarm module (meets NFPA 99/110 requirements)
Contacts for remote alarms
Enclosure, NEMA 12/IP 23
Illumination lights and switch
NFPA 110
Provision for:
auxiliary relay
charging voltmeter
cycle cranking
governor speed switch
manual start/stop module
prealarm module
starting aid switch
synchronizing lights

Caterpillar® EMCP II

Electronic Modular Control Panel

The Electronic Modular Control Panel (EMCP) is a generator-mounted control panel, available on all Caterpillar packaged generator sets. It utilizes environmentally sealed, solid-state, microprocessor-based modules for engine control and AC metering. This new application of mature, high-tech electronics to generator monitoring provides more features, accuracy and reliability than present electro-mechanical and many competitive panel systems.



The EMCP provides these standard control and monitoring features, many of which are options on other panels:

- Automatic/manual start-stop engine control with programmable safety shutdowns and associated flashing LED indicators for low oil pressure, high coolant temperature, overspeed, overcrank and emergency stop
- Cycle cranking–adjustable 1-60 second crank/rest periods
- Cooldown timer–adjustable 0-30 minutes
- Energized to run or shutdown fuel control systems
- LCD digital readout for: Engine oil pressure; coolant temperature; engine rpm; system DC volts; engine running hours; system diagnostic codes; generator AC volts; generator AC amps; and generator frequency
- Engine control switch
- Ammeter-voltmeter phase selector switch
- Emergency stop pushbutton
- Indicator/display test switch
- Voltage adjust potentiometer
- Rugged NEMA 1/IP 22 cabinet.

1250 KW

3512 GENERATOR SET

CATERPILLAR®

GVW - 82,740#

TECHNICAL DATA

3512 Standby Generator Sets			60 Hz–1800 RPM		
Rating Information	Power Rating @ 0.8 PF with Fan	kW	1000	1100	1250
		kV•A	1250	1375	1562
	Engine Bhp without Fan		1482	1592	1818
Physical Factors	Length	mm	5123	5148	5326
		in	201.7	202.6	209.7
	Width	mm	2092	2092	2092
		in	82.4	82.4	82.4
	Height	mm	2459	2459	2459
		in	96.8	96.8	96.8
	Weight	kg	10,215	10,700	10,815
		lb	22,520	23,600	23,850 + trailer
	Generator Frame Size		685	687	689
Lubrication & Cooling Systems	Engine Lubricating Oil Capacity	L	333	333	333
		qts	352	352	352
	Engine Coolant Capacity with Radiator	L	335	335	335
		gal	88	88	88
	Standard Radiator Arrangement Data: Air Flow (Max @ Rated Speed)	m³/min	1594	1594	2012
		cfm	56,284	56,284	71,044
	Air Flow Restriction (after radiator)	kPa	0.12	0.12	0.12
		in water	0.5	0.5	0.5
	Ambient Air Capability (TMI)	Deg. C	55	50	49
		Deg. F	131	123	118
	Radiator Size		72/25	72/25	72/25
Exhaust System	System Backpressure (Max Allowable)	kPa	6.7	6.7	6.7
		in water	27	27	27
	Exhaust Flange Size (Internal Diameter)	mm	203	203	203
		in	8.0	8.0	8.0
Performance Data @ Rated Conditions	Fuel Consumption (100% load) with Fan per ISO3046/1: +5%, -0% tolerence	L/Hr	267.7	280.4	333.6
		gph	70.7	74.1	88.2
	Fuel Consumption (75% load) with Fan	L/Hr	204.6	219.7	248.2
		gph	54.0	58.0	65.6
	Fuel Consumption (50% load) with Fan	L/Hr	146.1	155.6	174.5
		gph	38.6	41.1	46.1
	Combustion Air Inlet Flow Rate	m³/min	97.3	101	106
		cfm	3436	3580	3732
	Exhaust Gas Flow Rate	m³/min	245	258	293
		cfm	8651	9096	10,335
	Heat Rejection to Coolant (total)	kW	660	689	824
		BTU/min	37,534	39,183	46,861
	Heat Rejection to Exhaust (total)	kW	1087	1138	1380
		BTU/min	61,818	64,718	78,480
	Heat Rejection to Atmosphere from Engine	kW	117	119	126
		BTU/min	6654	6768	7166
	Heat Rejection to Atmosphere from Generator	kW	62.7	62.8	67.2
		BTU/min	3565	3575	3825
	Exhaust Gas Stack Temperature	Deg. C	477	483	548
		Deg. F	891	902	1018
	Deration for Engine Altitude–3% per 305m (1000 ft) above	mm	2075	1650	875
		ft	6808	5413	2871

Fuel Tank

Approx 1400 gal

1250 KW

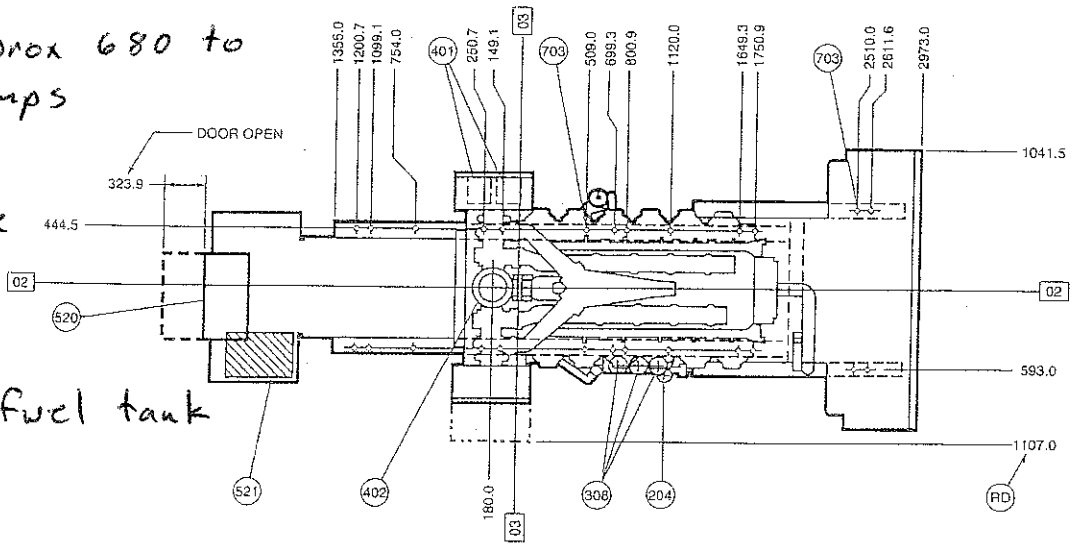
CATERPILLAR®

3512 GENERATOR SET

STANDBY POWER GEN SET PACKAGE — TOP VIEW

Fuel Tank is Approx 1400 Gallon

At approx 680 to 700 Amps Engine will operate 24 Hours on full fuel tank



02	Centerline of Engine	308	Oil Filter	520	Control and Power Panel	703	Customer Mounting Holes
03	Rear Face of Cylinder Block	401	Air Inlet	521	Conduit Entrance	RD	Removal Distance
204	Fuel Filter	402	Exhaust				

For overall length see technical data section (page 3).

Note: General configuration not to be used for installation. See general dimension drawings for detail.

CONDITIONS AND DEFINITIONS

Prime — Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. 10% overload power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514 available on request.

Standby — Output available with varying load for the duration of the interruption of the normal source power. Fuel stop power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514.

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

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046/1, DIN6271 and BS5514 standard conditions.

Fuel rates are based on fuel oil of 35° API (16° C or 60° F) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/L (7.001 lbs/U.S. gal.).

Materials and specifications are subject to change without notice.

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The International System of Units (SI) is used in this publication.

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