

CATERPILLAR®

Generator Set

3306

1800 rpm
230-250 kW 60 Hz

Standby Power



Shown with Optional Equipment

CATERPILLAR® ENGINE SPECIFICATIONS

I-6, 4-Stroke-Cycle Watercooled Diesel
 Bore—mm (in) 121 (4.75)
 Stroke—mm (in) 152 (6.0)
 Displacement—L (cu in) 10.5 (638)
 Compression ratio 15:1



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: ABGSM TM3, AS1359, AS2789, BS4999, BS5000, BS5514, DIN6271, DIN6280, EGSA101P, IEC 34/1, ISO3046/1, ISO8528, JEM1359, NEMA MG1-22, VDE0530, 89/392/EEC, 89/336/EEC.

■ 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® SR4B GENERATOR

Single bearing, wye connected, static regulated, brushless self 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® SR4B GENERATOR

Type Static regulated, brushless
 Excitation Self excited
 Construction Single bearing, close coupled
 Three phase Wye connected
 Insulation Class H with tropicalization and antiabrasion
 Enclosure Drip proof IP 22
 Alignment Pilot shaft
 Overspeed capability 150%
 Wave form Less than 5% deviation
 Paralleling capability With optional droop transformer
 Voltage regulator 3-phase sensing with Volts-per-Hertz
 Voltage regulation .. Less than $\pm 1/2\%$ (steady state)
 Less than $\pm 1\%$ (no load to full load)
 Voltage gain Adjustable to compensate for engine speed droop and line loss

TIF Less than 50
 THD Less than 5%

CATERPILLAR CONTROL PANEL

24 Volt DC Control

Vibration isolated
 NEMA 1, IP 22 enclosure
 Electrically dead front
 Lockable hinged door
 Generator instruments meet ANSI C-39-1
 Terminal box mounted

Voitages Available

See Price List.

(Adjustable a minimum of $\pm 10\%$)

Other voltages available – consult your Caterpillar dealer. Some voltages require derating.

STANDARD EQUIPMENT

Engine
 Aftercooler
 Air cleaner
 single element with
 service indicator
 Base
 Blower fan and drive
 Breather, crankcase
 Cooler, lubricating oil
 Exhaust fitting and
 flange
 Filters, right hand
 fuel, full flow
 lubricating oil, full flow
 Flywheel housing
 SAE No.1
 Governor
 hydra-mechanical
 Lifting eyes
 Linear vibration
 isolators
 between engine/
 generator and base
 Manifold, exhaust, dry
 Pumps, gear driven
 fuel transfer
 lubricating oil
 jacket water
 Radiator
 Shutoff, manual
 Starting, electric, 24 Volt

Generator
 SR4B brushless self
 excited with VR3
 voltage regulator

ELECTRONIC MODULAR CONTROL PANEL (EMCP)

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

**Standard Engine
 Controls and Monitoring:**
 Automatic/manual
 start-stop control
 Cooldown timer
 Cycle cranking
 Emergency stop
 pushbutton
 Engine control switch
 for:
 off/reset, auto start,
 manual start, stop
 Shutdown protection
 and LED indicators for:
 high coolant temp.
 low oil pressure
 overcrank
 overspeed

STANDBY POWER EQUIPMENT

Engine
 Air cleaner, heavy duty
 Air precleaner
 Base, narrow or
 wide, skidable
 fuel tank
 single wall and
 dual wall
 Charging alternator
 Cooling systems
 Enclosure
 weatherproof and
 sound-attenuated
 Exhaust fittings
 Governor, Woodward
 1724 or 1724
 load share
 Muffler
 industrial
 residential
 critical
 Protection devices
 Tachometer drive

Generator
 Extension terminal box
 Manual voltage control
 MIL Std. 461C, Part 9
 Space heater

Switchgear
 Automatic start-stop
 Battery charger

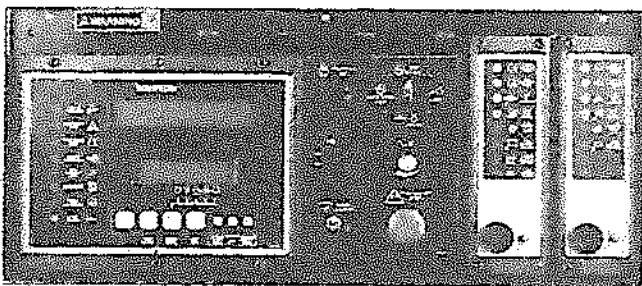
Circuit breaker
 manual
 electric operated
 Enclosure - floor
 standing NEMA 1
 Main load buss
 Paralleling
 manual
 permissive
 Protective relays

Control Panel
 Auxiliary relay
 Enclosure,
 NEMA 12/IP 44
 Governor speed switch
 Illuminating lights
 Installed speed sensing
 governor (Woodward)
 Low coolant level
 Provision for:
 alarm module
 NFPA 99
 alarm module
 NFPA 110
 custom alarm module
 (8 or 16 lights)
 Over voltage relay
 Over current relay
 Reverse power relay
 Starting aid switch
 Synchronizing lights

CATERPILLAR® EMCP II

Electronic Modular Control Panel

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



The EMCP II 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.

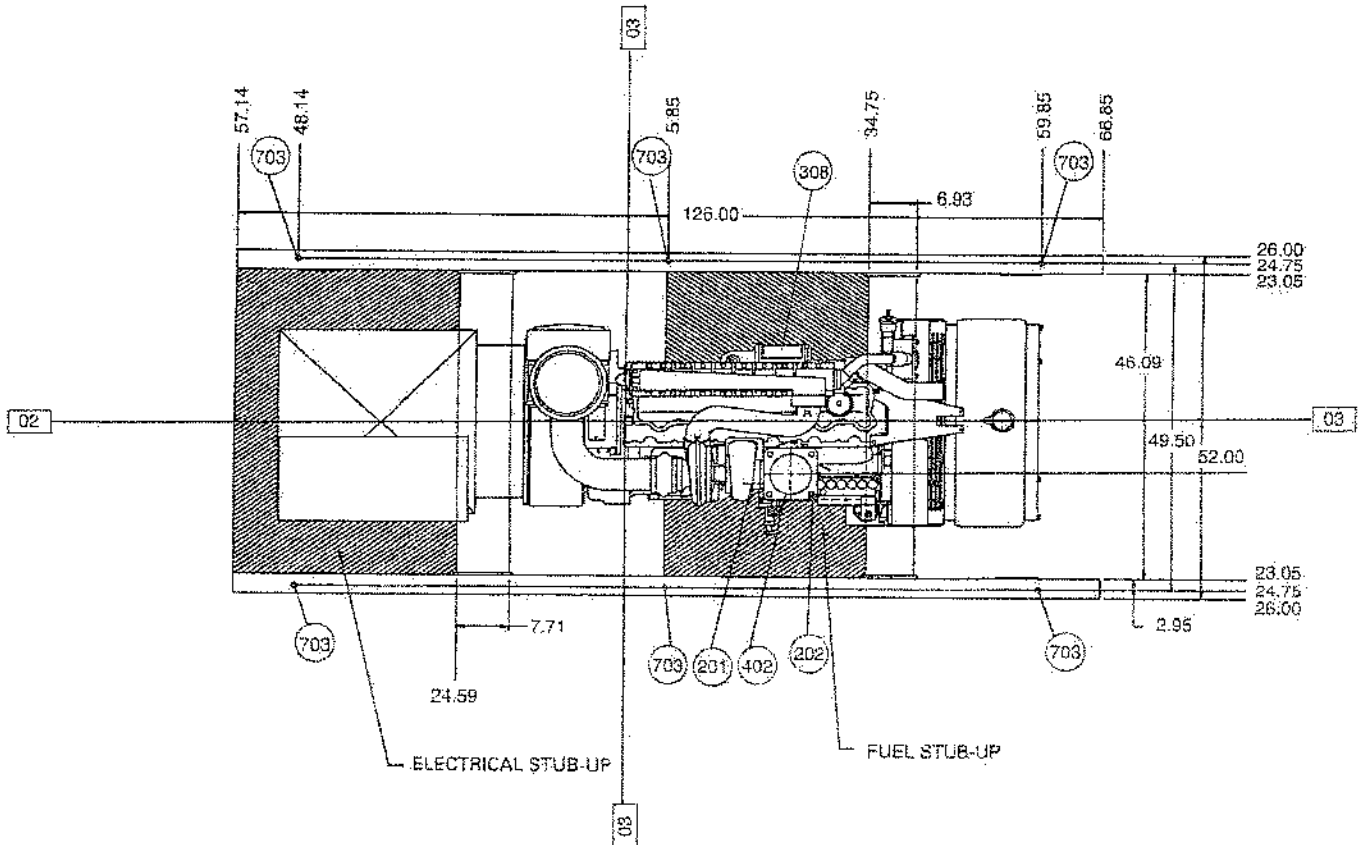
3306 GENERATOR SET



TECHNICAL DATA

3306 Standby Power Generator Sets – 1800 rpm/60 Hz			
Power Rating @ 0.8 PF with Fan	kW	230	250
Power Rating @ 0.8 PF with Fan	kV•A	288	313
Engine hp without Fan		345	377
Aspiration		TA	ATAAC
Generator Frame Size		445s	446s
Engine Lubricating Oil Capacity	qt	31	31
System Backpressure (Max Allowable)	in water	27	27
Exhaust Flange Size — (Internal Diameter)	in	6.0	6.0
Length	in	126.0	126.0
Width	in	52.0	52.0
Height	in	69.2	69.2
Shipping Weight	lb	5020	5530
Engine Coolant Capacity with Radiator	gal	10.5	11.6
Engine Coolant Capacity without Radiator	gal	4.2	4.2
Standard Radiator Arrangement Data Air Flow (Max @ Rated Speed)	cfm	9840	9985
Air Flow Restriction (After Radiator)	in water	0.25	0.25
Ambient Air Temperature (Consult T.M.I.)	Deg F.	125	134
100% Load Fuel Consumption (100% load) with Fan	gph	17.6	18.9
75% Load Fuel Consumption (75% load) with Fan	gph	13.1	13.4
Combustion Air Inlet Flow Rate	cfm	688	775
Exhaust Gas Flow Rate	cfm	2018	2150
Heat Rejection to Coolant (Total)	BTU/min	8530	5971
Heat Rejection to Exhaust (Total)	BTU/min	14 672	16 265
Heat Rejection to Atmosphere from Engine	BTU/min	2718	3469
Heat Rejection to Atmosphere from Generator	BTU/min	1102	1267
Exhaust Gas Stack Temperature	Deg F	1025	1020

STANDBY POWER GEN SET PACKAGE — TOP VIEW



- (201) Fuel Inlet
- (202) Excess Fuel Return
- (308) Oil Filter
- (402) Exhaust
- (703) Customer Mounting Holes

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

Note: General configuration not to be used for installation. See general dimension drawings for detail. All dimensions are in inches.

CONDITIONS AND DEFINITIONS

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.

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/liter (7.001 lbs/U.S. gal.).

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