



Image may not reflect actual engine.

### CATERPILLAR® ENGINE SPECIFICATIONS

#### V-12, 4-Stroke-Cycle-Diesel

- Emissions ..... IMO compliant
  - Bore ..... 137 mm (5.4 in.)
  - Stroke ..... 152 mm (6.0 in.)
  - Displacement ..... 27.0 L (1,649 cu. in.)
  - Rotation (from flywheel end)... Counterclockwise
  - Compression Ratio ..... 14.5:1
  - Capacity for Liquids
    - Cooling System (engine and expansion tank) ..... 132.8 L (35.1 U.S. gal)
    - Lube Oil System (refill) .. 117.0 L (31.0 U.S. gal)
  - Oil Change Interval ..... 500 hr
  - Engine Weight,
    - Net Dry (approx) ..... 2418 kg (5,330 lbs)
    - Minimum Lubrication Oil Grade (required) .. CF-4
- \*Meets or exceeds Marine Society requirements

### CATERPILLAR® SR4 GENERATOR

- Brushless, revolving field, PM excited
- Single bearing, close coupled construction
- Three-phase, wye connection, 10 wire
- Class F insulation with tropicalization and anti-abrasion
- Pilot shaft alignment
- Generator-mounted Volts-per-Hertz voltage regulator
- ±0.5% voltage regulation
- Adjustable voltage droop for parallel operation
- Adjustable voltage gain
- Space heater
- 596 frame generator approx. net weight 2704 kg (5,949 lb)
- 50 Hz voltage, 190-380 volts, adjustable +10%, -5%
- Meets or exceeds Marine Society requirements

### PERFORMANCE DATA

Turbocharged-Separate Circuit Aftercooled

#### DM6089-00

738 kVA (.8 pf) 590 ekW			
% load	kVA	Lph	g/bkW-hr
100	738	166.1	224.8
75	533	122.4	220.2
50	369	84.9	227.2
25	184	50.0	257.3

### ENGINE AND GENERATOR CERTIFICATIONS

Engine or Generator	bkW/ekW @ rpm	ABS	BV	DnV	GL	LR
Engine 3412C DITA	620 bkW @ 1800 rpm	X	X	X	X	X
Generator 596 Frame	590 ekW @ 1800 rpm	X	X	X	X	X

## STANDARD EQUIPMENT

Marine auxiliary packaged generator set with Caterpillar® 3412C DITA Marine Society certified engine with MSC approvable alarms and shutdowns and Caterpillar SR4 permanent magnet excited, Marine Society certified generator

- Double wall fuel lines
- Air starting motor
- Air start silencer
- Premium wiring harness for engine and Marine Society approved alarm and shutdowns
- Manual voltage control
- Drip pan with 60 mm (2.4 in) sides and hose barb connection for customer connection under both fuel filter and oil filter
- Cable trays

### Customer Interface Panel

- Engine controls — off/reset, auto, manual start, cool down, emergency stop
- Shutdown lamp and alarm — emergency stop, low oil pressure (low speed), low oil pressure (high speed), high jacket water temperature, engine overspeed
- Alarm acknowledgement button
- Interconnect receptacle for remote engine control and monitoring

### Contacting Panel

- Pressure and temperature sensors and controllers — low oil pressure shutdown at low speed and high speed, low oil pressure alarm at low speed and high speed, low jacket water pressure alarm, low fuel pressure alarm, high jacket water temperature alarm and shutdown, high oil temperature alarm, water level sensor, fuel line leak sensor

### Terminal Box

- Circuit breakers
- Relays
- Terminal points
- Isolated power supply

### Exterior Grease Fitting in Generator for Bearing Lubrication

### IP23 Enclosure to Generator

### Duplex Fuel Filter

## OPTIONAL EQUIPMENT

### Duplex Primary Fuel Filter/Water Separator (shipped loose)

### Duplex Oil Filters

### Jacket Water Heater/Circulation Pump

### Shutoff Solenoid — ETS 24-32 V

### Annunciation Panel (shipped loose)

- Emergency stop
- Engine controls — off/reset, auto, manual start, cool down
- Annunciation — low oil pressure shutdown and alarm, high jacket water temperature shutdown and alarm, engine overspeed shutdown, low jacket water pressure alarm, low jacket water level alarm, high oil temperature alarm, low starting air pressure alarm, fuel leak alarm
- Alarm acknowledgement
- Lamp test
- Start/run contact
- Voltage adjust potentiometer
- Signal outputs — alarms, shutdowns, engine running, engine controls, magnetic pickup

### GL Package — special GL requirements

- Metal air hose (air supply line to starter)
- Steel pipes for fuel and oil lines [max hose length 600 mm (24 in)]
- Gauges — fuel pressure, oil pressure, tachometer

## DIMENSIONS



## RATING DEFINITIONS AND CONDITIONS

**Ratings** are based on SAE J3046 and 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), 27°C (81°F), and 60% relative humidity.

**Prime Power** — For continuous electrical service with 10 percent overload capability (ISO power with 10% overload for one hour in 12 in accordance with ISO3046/1, DIN6271, BS5514).

Performance data is calculated in accordance with tolerances and conditions stated in this specification sheet and is only intended for purposes of comparison with other manufacturers' engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar's control.

Power produced at the flywheel will be within standard tolerances up to 49°C (120°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.

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**Fuel rates** are based on fuel oil of 35° API [16°C (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.