

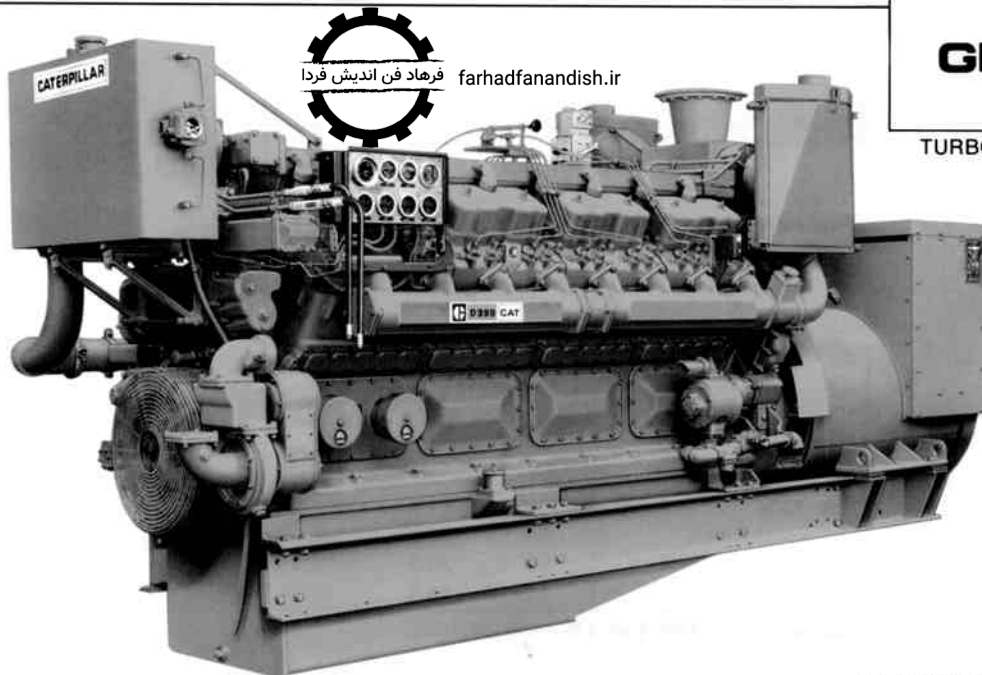


# CATERPILLAR

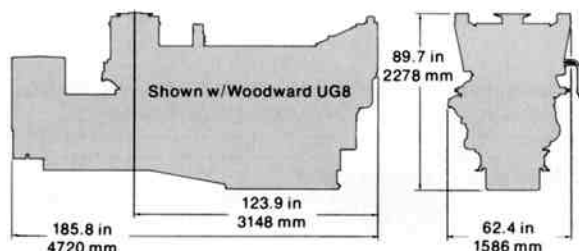
# D399

## MARINE GENERATOR SET

TURBOCHARGED-AFTERCOOLED



SHOWN WITH ACCESSORY EQUIPMENT



### V16, 4-STROKE-CYCLE DIESEL

BORE—in (mm)	6.25 (159)
STROKE—in (mm)	8.00 (203)
DISPLACEMENT—cu in (liter)	3,927 (64.4)
ROTATION (from flywheel end)	Counterclockwise
CAPACITY FOR LIQUIDS—U.S. Gal (liter)	
Cooling System (engine only)	85.0 (321.8)
Lube Oil System (refill)	160.0 (605.7)
ENGINE WEIGHT, Net Dry (approximate)—lb (kg)	17,660 (8009)
GENERATOR WEIGHT (approximate)—lb (kg)	7,860 (3565)

### STANDARD EQUIPMENT

#### Air Intake System:

Air Cleaner Adapters  
Air Cleaner Service Indicators  
Single-Stage Dry Air Cleaners

#### Control System:

Manual Shutoff Control  
Woodward UG8 or EG3P/2301

#### Cooling System:

Coolant Expansion Tank  
Coolant Pump  
Coolant Thermostats  
Lube Oil Cooler

#### Exhaust System:

Watercooled Turbocharger Shield  
Watershielded Exhaust Manifolds

#### Fuel System:

Flexible Fuel Supply Lines  
Fuel Filter  
Fuel Priming Pump  
Fuel Transfer Pump

#### Instruments and Gauges:

Instrument Panel  
Fuel Pressure Gauge  
Intake Manifold Temperature  
Gauges  
Lubricating Oil Pressure and  
Temperature Gauges  
Pyrometer  
Tachometer  
Water Temperature Gauge

Service Meter  
Tachometer Drive, Dual

#### Lubricating System:

Emergency Connections  
Lube Oil Filter  
Manual Sump Pump  
Prelube Pump

#### Mounting Systems:

Lifting Eyes  
Mounting Rails

#### Power Takeoffs:

Flywheel Housing, SAE No. 00  
Front Accessory Drive

#### Protection Devices:

Coolant Temperature and Oil  
Pressure Contactors  
Oil Pressure, Coolant Temperature  
and Overspeed Shutoffs  
(1200 rpm)

### ACCESSORY EQUIPMENT\*

#### Cat SRCR Generator:

60 Hz, 230-460V  
50 Hz, 200-400V

#### Cooling Systems:

Emergency Jacket Water  
Connections  
Heat Exchangers  
Sea Water Pump and Drive

#### Exhaust System:

Muffler

#### Fuel System:

Double Wall Fuel Lines  
Duplex Fuel Filters

#### Instruments and Gauges:

Exhaust Pyrometer and  
Thermocouples  
Tachometer

#### Lubricating System:

Duplex Oil Filters

#### Power Takeoffs:

Auxiliary Drives  
Front Enclosed Clutch  
Stub Shaft

#### Protection Devices:

Electrical and Hydra-Mechanical  
Shutoffs

#### Spare Parts:

ABS, BV, DnV, GL, LR, NK, R.I.Na  
Approved Parts Kits (engine and  
generator)

#### Starting Systems:

Air Starting  
Battery Chargers  
Battery Sets  
Charging Alternators (24, 30-32V)  
Electric Starting (24, 30-32V)  
Glow Plugs (24, 30-32V)

\*Consult your Caterpillar Dealer  
for additional accessory  
equipment.


**RATINGS**
**JACKET WATER  
AFTERCOOLED**

	rpm	kW	kV • A
<b>PRIME POWER—60 Hz</b>	1200	850*	1063
<b>Fuel Rate</b>	<b>Percent Load</b>	<b>U.S. gph</b>	<b>liter/h</b>
	100	65.3	247.4
	75	48.1	182.1
	50	33.7	127.4
	25	20.1	76.0

	rpm	kW	kV • A
<b>PRIME POWER—50 Hz</b>	1000	700	875
<b>Fuel Rate</b>	<b>Percent Load</b>	<b>U.S. gph</b>	<b>liter/h</b>
	100	51.8	195.9
	75	38.7	146.6
	50	26.3	99.5
	25	15.5	58.6

\*Society rating: ABS, DnV, LR—800 kW.

**RATING DEFINITION**

Prime Power—For continuous electrical service.

6270 standard conditions of 97.8 kPa (28.97 in Hg) and 20°C (68°F).

**RATING CONDITIONS**

Ratings are based on SAE J816 standard conditions of 29.38 in Hg (99.2 kPa) and 85°F (30°C). These ratings also apply at DIN

Fuel rates are based on fuel oil having an HHV of 19,590 Btu/lb (45 570 kJ/kg) and weighing 7.076 lb/U.S. gal (848 g/liter).

**SRCR GENERATOR**
**Construction:**

Revolving field, single-bearing AC generator with statically-regulated, statically-excited system. Built to IEEE-45 standards.

**Excitation:**

By rectified alternating current. Voltage buildup relay only moving part.

**Regulation:**

Volts-per-hertz regulation. Silicon-controlled rectifier. Transistorized voltage regulator automatically maintains voltage within  $\pm 1\%$  from no load to full load. No external voltage regulator needed. Shock mounted and epoxy encapsulated for protection against vibration and unfavorable atmospheric conditions.

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**Insulation:**

High temperature Class F insulation in stator and rotor. Treated against abrasion and fungus deterioration with epoxy impregnation and an additional overcoat of asphaltic material.

**Parallel Operation:**

Equipped with reactive droop compensation.

**Coupling:**

Close-coupled, multiple steel disc-type. Piloted shaft provides precise alignment and minimizes linear vibration.

**Voltage Level:**

Adjustable from rated voltage a minimum of  $\pm 5\%$ .

**Voltage Droop:**

Adjustable for proper division of reactive kV•A when operating in parallel with other generators.

**Voltage Gain:**

Adjustable to compensate for engine speed variation when operating with a speed droop governor.

**Marine Requirements:**

Embedded temperature detectors and generator space heater are standard equipment.