

Image shown may not reflect
actual Engine

SPECIFICATIONS

V-12, 4-Stroke-Cycle-Diesel

Displacement.....	51.75 L (3,157.98 in ³)
Rated Engine Speed.....	1200
Bore.....	170.0 mm (6.69 in)
Stroke.....	190.0 mm (7.48 in)
Aspiration.....	Turbocharged-Aftercooled
Governor.....	Electronic
Cooling System.....	Heat Exchanger
Weight, Net Dry (approx.).....	7,145 kg (15,752 lb)
Refill Capacity	
Cooling System (engine only).....	156.8 L (41.4 Gal)
Lube Oil System (refill).....	613.2 L (162.0 gal)
Oil change Interval.....	1000 hrs
Caterpillar Diesel Engine Oil 10W30 or 15W40	
Deep Sump Oil Pan	
Rotation (from flywheel end).....	Counterclockwise
Flywheel and Flywheel Housing.....	SAE NO. 00
Flywheel Teeth.....	183

STANDARD ENGINE EQUIPMENT

Air Inlet System

Corrosion resistant separate circuit aftercooler core, regular duty air cleaners with service indicator, dual turbochargers

Cooling System

Auxiliary fresh water pump, centrifugal non-self-priming auxiliary sea water pump, gear driven centrifugal jacket water pump, expansion tank, engine oil cooler, thermostats and housing

Control System

Dual Caterpillar A-III electronic engine control, Electronic Unit Injection fuel system, rigid wiring harness

Exhaust System

Dry gas-tight exhaust manifolds with thermo-laminated heat shields, dual turbochargers with watercooled bearings and thermo-laminated heat shields, vertical exhaust outlet

Fuel System

Electronically controlled unit injectors, RH fuel filter with service indicators, fuel transfer pump

Instrumentation

Engine mounted instrument panel with four position switch, alarm horn, overspeed shutdown notification light, emergency stop notification light, secondary ECM "Ready" light, secondary ECM "Active" light, graphical display unit for analog or digital display of: oil and fuel pressure, oil and fuel filter differential, system DC voltage, exhaust and water temperature, air inlet restriction, service meter, engine speed, fuel consumption (total and instantaneous)

Lube System

Top mounted crankcase breather, RH oil filter with service indicators, RH oil level gauge, RH oil filler, gear type oil pump, deep sump oil pan

Mounting System

Ledge type engine mounting rails

Power Take-Offs

Accessory drive on lower RH and lower LH, two-sided front housing

Protection System

ADEM II electronic monitoring system with customer programmable engine deration strategies, emergency stop push button

General

Vibration damper and guard, Caterpillar yellow paint, lifting eyes (Engines for heat exchanger cooling do NOT include heat exchanger. Keel cooling conversion available.)

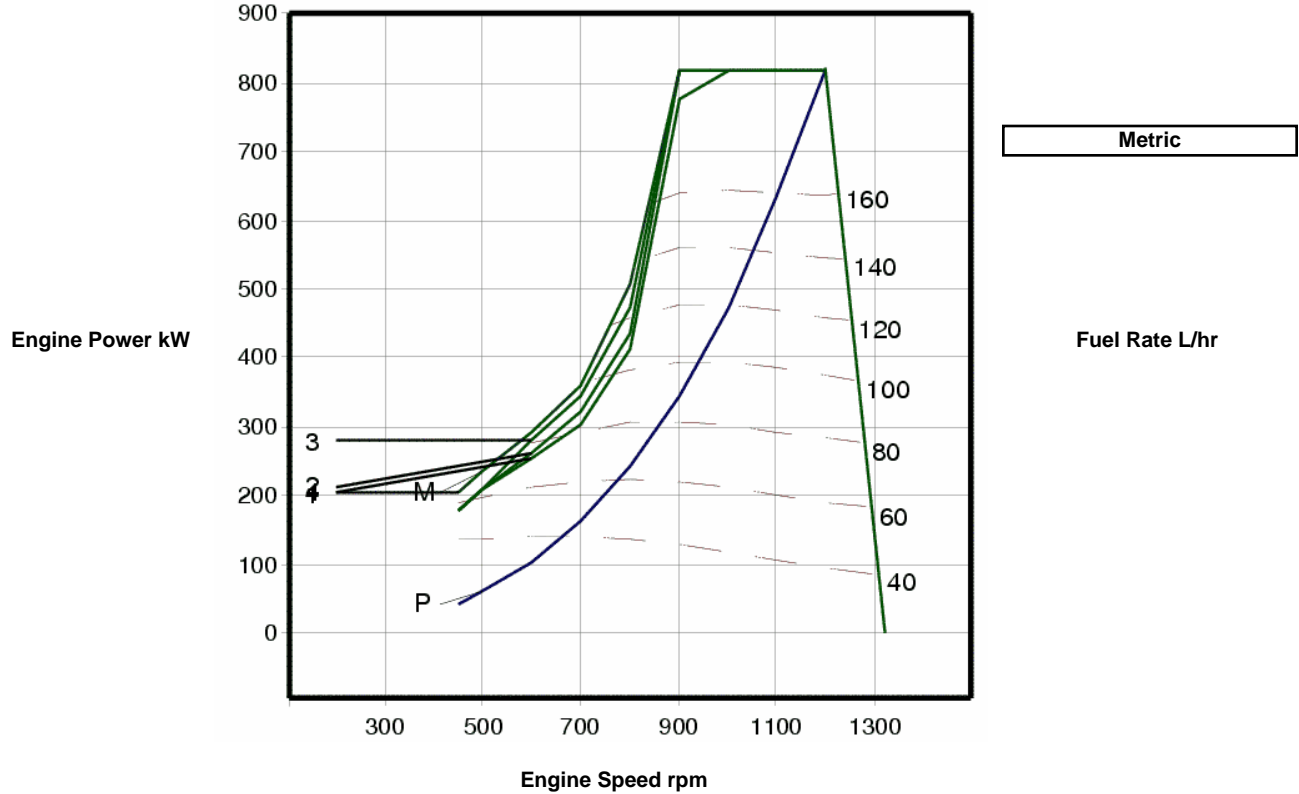
ISO Certification

Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities

PERFORMANCE CURVES

A-RATING - DM6890-01

Aftercooler Temperature 30° C (86° F)



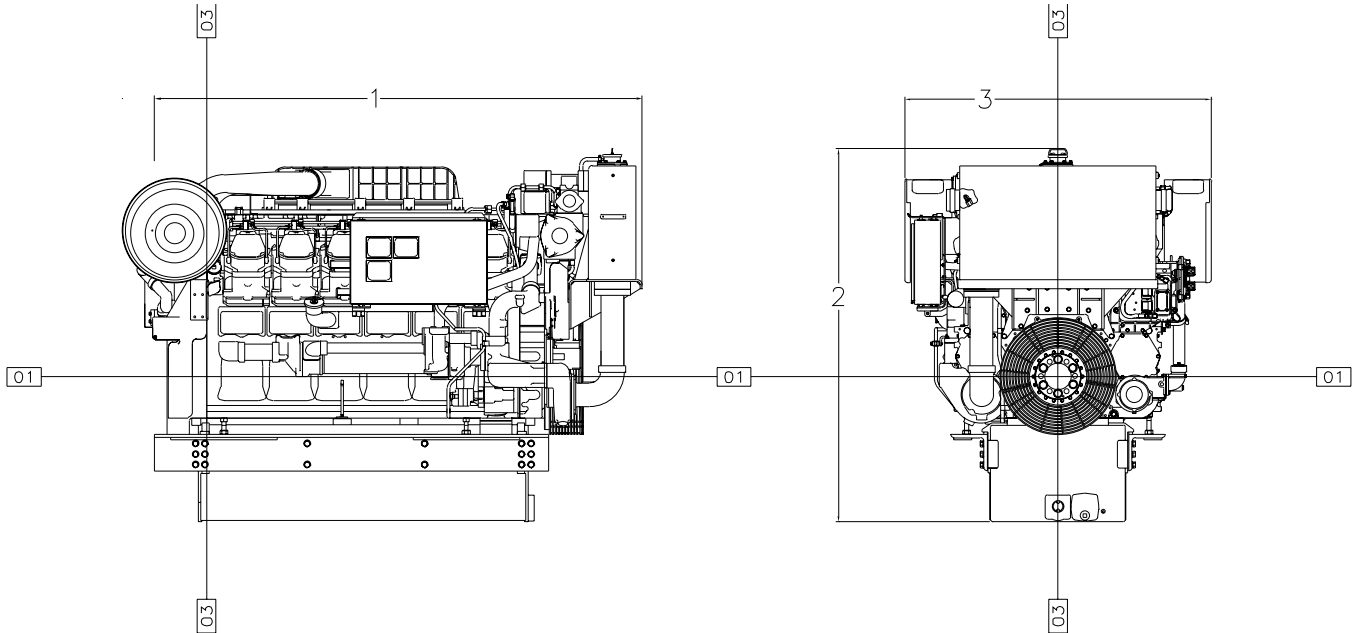
Engine Speed rpm	Engine Power kW	Engine Torque N-m	BSFC g/kW-hr	Fuel Rate L/hr	Engine Speed rpm	Engine Power kW	Engine Torque N-m	BSFC g/kW-hr	Fuel Rate L/hr
Zone 1 Curve 1					Max Limit Curve 4				
1200	820	6525	201.5	197.0	1200	820	6525	201.5	197.0
1000	820	7830	206.7	202.0	1000	820	7830	206.6	201.9
900	776	8234	207.4	191.8	900	820	8700	207.4	202.7
800	414	4942	215.8	106.5	800	506	6040	217.7	131.3
600	252	4011	243	73.0	600	293	4663	248.1	86.7
450	179	3798	270.4	57.7	450	206	4371	280.9	69.0
Zone 2 Curve 2					Prop Demand Curve P				
1200	820	6525	201.5	197.0	1200	820	6525	201.5	197.0
1000	820	7830	206.6	202.0	1000	474.5	4531	211.6	119.7
900	820	8700	207.3	202.7	900	345.9	3671	214.9	88.6
800	436	5204	216.4	112.5	800	243	2900	221.3	64.1
600	263	4186	244.2	76.6	600	102.5	1631	251.9	30.8
450	179	3798	270.4	57.7	450	43.2	918	325.7	16.8
Zone 3 Curve 3									
1200	820	6525	201.5	197.0	1200	820	6525	201.5	197.0
1000	820	7830	206.6	201.9	1000	820	7830	206.6	201.9
900	820	8700	207.4	202.7	900	820	8700	207.4	202.7
800	473	5646	217.3	122.5	800	506	6040	217.7	131.3
600	280	4456	245.4	81.9	600	293	4663	248.1	86.7
450	179	3798	270.4	57.7	450	206	4371	280.9	69.0

NOTE: Curve P is a cubic prop demand curve with 3.0 exponent for displacement hulls only.

DIMENSIONS

Right Side

Front



Engine Dimensions		
(1) Length to Flywheel Housing	2640.7 mm	103.96 in
(2) Width	1703.0 mm	67.05 in
(3) Height	2073.8 mm	81.65 in
Weight, Net Dry (approx)	7145 kg	15,752 lb

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 2339504).

RATING DEFINITIONS AND CONDITIONS

A Rating (Unrestricted Continuous) -

% Load Factor: 80 to 100

% Time at Rated RPM: up to 80

Typical Time at Full Load: No Limit

Typical Hour/Year: 5000 to 8000

Typical Applications: For vessels operating at rated load and rated speed up to 100% of the time without interruption or load cycling (80% to 100% load factor).

Typical applications could include but are not limited to vessels such as freighters, tugboats, bottom drag trawlers, or deep river tugboats. Typical operation ranges from 5000 to 8000 hours per year.

Power

at declared engine speed is in accordance with

ISO3046-1:2002E. Caterpillar maintains ISO9001:1994/QS-9000 approved engine test facilities to assure accurate calibration of test equipment.

Electronically controlled engines are set at the factory at the advertised power corrected to standard ambient conditions. The published fuel consumption rates are in accordance with ISO3046-1:2002E.

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/L (7.001 lb/U.S. gal). Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.

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 manufacturer's 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.

Performance No.: DM6890-01

Feature Code: 512DM39

U.S. Sourced

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Materials and specifications are subject to change without notice.

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

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