



Image shown may not
reflect actual engine.

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Emissions	IMO compliant
Displacement	8.82 L (538.2 cu in)
Rated Engine Speed	2500
Bore	112.0 mm (4.41 in)
Stroke	149.0 mm (5.87 in)
Aspiration	Turbocharged-Aftercooled
Governor	Electronic
Cooling System	Heat Exchanger
Weight, Net Dry (approx)	946 kg (2,086 lb)
Refill Capacity	
Cooling System	47.0 L (12.4 gal)
Lube Oil System	32.0 L (8.5 gal)
Oil Change Interval	250 hr
Caterpillar® Diesel Engine Oil 10W30 or 15W40	
Rotation (from flywheel end)	Counterclockwise
Flywheel and flywheel housing	SAE No. 1
Flywheel Teeth	113
Max. Exhaust Backpressure	10.0 kPa (40.2 in. water)
Fuel Consumption	98.3 L/hr (26.0 g/hr)

STANDARD ENGINE EQUIPMENT

Air Inlet System

Corrosion-resistant sea water aftercooler core, air cleaner/fumes disposal system (closed)

Control System

Electronic governor, HEUI™ fuel system, A4 electronic control module, engine-mounted 70-pin dedicated customer connector, SAE J1939 data link

Cooling System

Thermostat and housing, belt-driven centrifugal jacket water pump, gear-driven auxiliary sea water pump, expansion tank, engine-mounted heat exchanger, removal tube bundle (for sea water), engine oil cooler, auxiliary sea water lines, transmission oil cooler

Exhaust System

Watercooled exhaust manifold and wastegated turbocharger

Flywheel and Flywheel Housings

SAE No. 1 flywheel (113 teeth), SAE No. 1 flywheel housing

Fuel System

Fuel filter (RH or LH service), fuel transfer pump, fuel priming pump

Lube System

Crankcase breather, oil filter (front center service), oil filler (RH or LH service), oil level gauge (RH or LH service), oil pan, oil pan drain (RH or LH service), lubricating oil, gear-driven engine oil pump

Mounting System

Front support (adjustable height)

Protection System

Electronic overspeed shutoff

General

Torsional vibration damper and guard, lifting eyes, literature, variable engine wiring, RH or LH service options

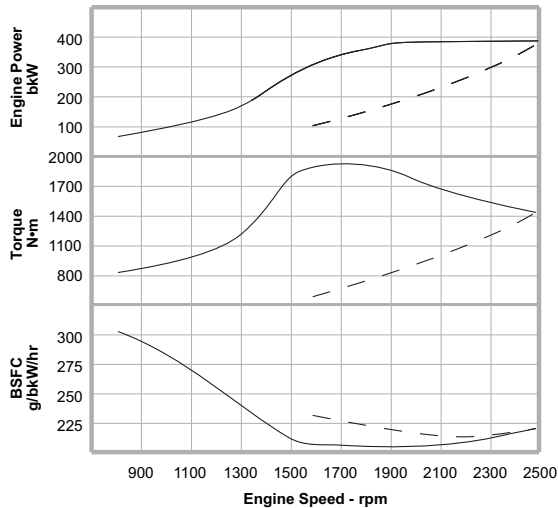
ISO Certification

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

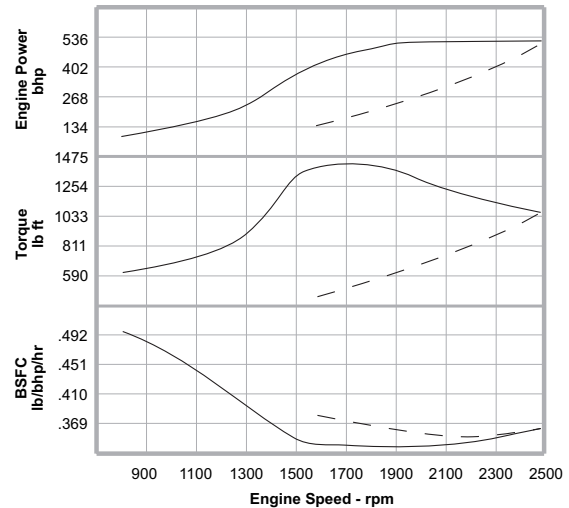
MARINE ENGINE PERFORMANCE

Preliminary

D Rating — DM8138-00



Metric Maximum Power Prop Demand **375 bkW**

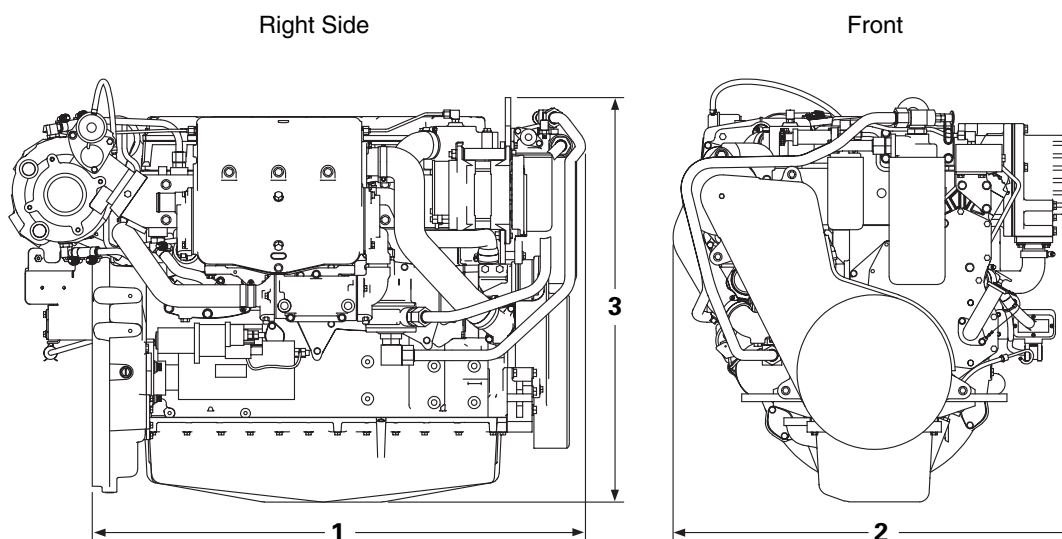


English Maximum Power Prop Demand **503 bhp**

	Engine Speed rpm	Rated Engine Power bkW	Rated Engine Torque N•m	BSFC g/bkW/hr	Fuel Rate L/hr
Maximum Power Data	2500	375	1433	221.7	98.3
	2400	375	1492	217.8	97.1
	2300	375	1557	212.1	95.5
	2200	375	1628	208.5	93.3
	2100	375	1705	205.6	92.3
	2000	375	1791	204.8	90.9
	1900	375	1885	202.9	90.8
	1800	363	1926	203.7	88.3
	1700	344	1932	206.8	84.9
	1600	322	1922	209.3	80.5
	1500	290	1846	208.3	72.0
	1400	231	1576	224.6	62.0
	1300	166	1219	244.1	48.2
	1200	144	1146	255.4	43.8
	1100	117	1016	282.2	39.5
Prop Demand Data	1000	100	955	288.2	34.6
	900	84	891	295.0	29.4
	800	67	800	306.0	24.5
	1574	94	569	229.4	25.7

	Engine Speed rpm	Rated Engine Power bhp	Rated Engine Torque lb ft	BSFC lb/bhp/hr	Fuel Rate gal/hr
Maximum Power Data	2500	503	1056	0.366	26.0
	2400	503	1100	0.359	25.6
	2300	503	1147	0.350	25.2
	2200	503	1200	0.344	24.7
	2100	503	1257	0.339	24.4
	2000	503	1320	0.338	24.0
	1900	503	1389	0.335	24.0
	1800	486	1419	0.336	23.3
	1700	461	1424	0.341	22.4
	1600	431	1416	0.345	21.3
	1500	389	1361	0.344	19.0
	1400	310	1161	0.371	16.4
	1300	222	899	0.403	12.7
	1200	193	845	0.421	11.6
	1100	157	749	0.466	10.4
Prop Demand Data	1000	134	704	0.476	9.1
	900	113	657	0.487	7.8
	800	90	589	0.505	6.5
	1574	126	419	0.379	6.8

DIMENSIONS



Engine Dimensions		
(1) Length to Flywheel Housing	1198.7 mm	47.19 in.
(2) Width	974.0 mm	38.30 in.
(3) Height	982.8 mm	38.69 in.
Weight, Net Dry (approx)	946 kg	2,086 lb

Note: Do not use for installation design.

RATING DEFINITIONS AND CONDITIONS

D Rating (Intermittent Duty)

% Load Factor: up to 50

% Time at Rated RPM: 16

Typical Time at Full Load:

Typical Hour/Year: 1000 to 3000

Typical Applications: For vessels operating at rated load and rated speed up to 16% of the time (up to 50% load factor). Typical applications could include but are not limited to vessels such as offshore patrol boats, customs boats, police boats, some fishing, fireboats, or harbor tugs. Typical operation ranges from 1000 to 3000 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.

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 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 50°C (122°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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