CATERPILLAR®

C18 ACERT™ MARINE PROPULSION

651 bkW
(873 bhp)

Image may not reflect actual engine

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Displacement	18.1 L (1106 in³)
Rated Engine Speed	2200
Bore	145 mm (5.7 in.)
Stroke	183 mm (7.2 in.)
Aspiration	Turbocharged-Aftercooled
Governor	Electronic
Cooling System	Heat Exchanger Cooled
Weight, Net Dry (approx.)	1673 kg (3688 lb)
Refill Capacity	
Cooling System	45.8 L (12.1 gal)
Lube Oil System	64 L (16.9 gal)
Oil Change Interval	500 hours
Caterpillar Diesel Engine Oil 10W30 or 15W40	
Rotation (from flywheel end)	Counterclockwise
Flywheel and flywheel housing	SAE No. 1 or SAE No. 0
Flywheel Teeth	
SAE No. 1	113
SAE No. 0	136
Maximum Exhaust Backpressure	6.7 kPa (26.9 in. water)

STANDARD EQUIPMENT

Air Inlet System
Corrosion-resistant sea water aftercooler, air cleaner/fumes disposal (closed system), jacket water cooled turbocharger, turbocharger inlet OD straight connection

Control System
Electronic governing (A4), programmable low idle, electronic diagnostics and fault logging, fuel/air ratio control, electronic throttle position sensor

Cooling System
Thermostat and housing, block heater (1500W, 120V AC current), gear-driven jacket water pump, self priming, gear-driven sea water pump with bronze impeller, titanium plate type heat exchanger

Exhaust System
Watercooled exhaust manifold and turbocharger, round-flanged outlet

Flywheel and Flywheel Housings
Standard SAE No. 1 flywheel and flywheel housing, 113 teeth, SAE standard rotation; optional SAE No. 0 flywheel and flywheel housing, 136 teeth, SAE standard rotation

Fuel System
Fuel filter, RH service on port, LH service on starboard; fuel transfer pump; fuel priming pump; flexible fuel lines

Instrumentation
Electric service meter, instrument panel (24V), start/stop switch, emergency stop button, maintenance due light, diagnostic light, warning light, maintenance clear switch, start motor magnetic switch, 15 and 3A breakers

Lube System
Crankcase breather; oil cooler; spin-on oil filter, RH service on port, LH service on starboard; center sump deep oil pan; oil filler; dipstick, RH service on port, LH service on starboard; gear-driven oil pump

Mounting System
Adjustable front support

Power Take-Offs
Hydraulic pump drive, SAE A, 11 tooth spline, 46 ft-lbs max torque, counterclockwise as viewed from front of the engine looking into the drive and turns 1.41 x engine speed, 292 mm crankshaft pulley, 15.88 mm width

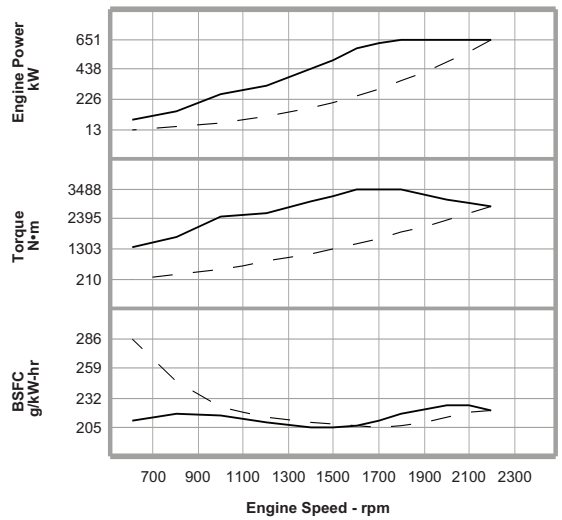
General
Vibration damper; lifting eyes, RH or LH service options; literature; variable engine wiring; upper rear-facing customer wiring connector and service tool connections

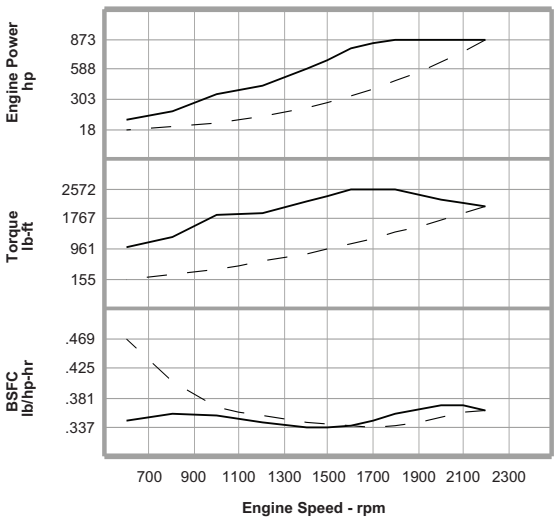
ISO Certification
Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities.

PERFORMANCE CURVES

Turbocharged-Aftercooled

D Rating — 651 bkW (873 bhp) @ 2200 rpm
DM9662-00





Metric | Maximum Power — — Prop Demand — — | **651 kW**

English | Maximum Power — — Prop Demand — — | **873 hp**

Performance Data

	Engine Speed rpm	Engine Power kW	Engine Torque N•m	BSFC g/kW-hr	Fuel Rate L/hr
Maximum Power Data	2200	651.0	2826	219.3	170.2
	2100	650.9	2960	225.2	174.7
	2000	650.9	3108	225.4	174.9
	1800	649.1	3443	216.1	167.2
	1700	619.4	3479	210.9	155.7
	1600	584.4	3488	206.3	143.7
	1500	508.1	3234	203.7	123.4
	1400	443.0	3022	203.9	107.7
	1200	327.0	2602	209.1	81.5
	800	145.6	1738	217.1	37.7
	600	86.1	1370	210.7	21.6
Prop Demand Data	2200	651.0	2826	219.3	170.2
	2100	566.2	2575	217.9	147.1
	2000	489.1	2335	213.8	124.7
	1900	419.3	2108	209.3	104.6
	1800	356.6	1892	205.6	87.4
	1600	250.4	1495	205.4	61.3
	1500	206.3	1314	206.8	50.9
	1200	105.6	841	214.3	27.0
	1100	81.4	706	218.4	21.2
	800	31.3	374	247.6	9.2
	600	13.2	210	285.5	4.5

Cubic prop demand curve with 3.0 exponent for displacement hulls only.

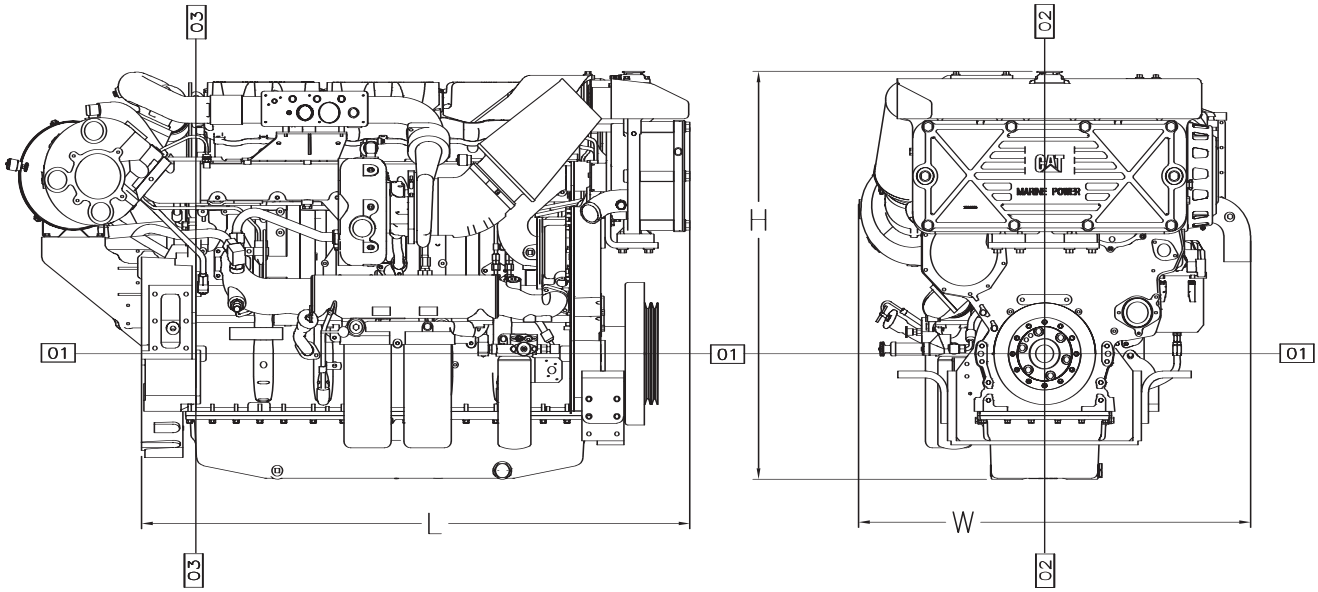
Performance Data

	Engine Speed rpm	Engine Power hp	Engine Torque lb-ft	BSFC lb/hp-hr	Fuel Rate gph
Maximum Power Data	2200	873.0	2084	.361	45.0
	2100	872.9	2183	.370	46.2
	2000	872.9	2292	.371	46.2
	1800	870.5	2539	.355	44.2
	1700	830.6	2566	.347	41.1
	1600	783.7	2572	.339	38.0
	1500	681.4	2385	.335	32.6
	1400	594.1	2229	.335	28.5
	1200	438.5	1919	.344	21.5
	800	195.3	1282	.357	10.0
	600	115.5	1010	.346	5.7
Prop Demand Data	2200	873.0	2084	.361	45.0
	2100	759.3	1899	.358	38.9
	2000	655.9	1722	.351	32.9
	1900	562.3	1555	.344	27.6
	1800	478.2	1395	.338	23.1
	1600	335.8	1103	.338	16.2
	1500	276.7	969	.340	13.4
	1200	141.6	620	.352	7.1
	1100	109.2	521	.359	5.6
	800	42.0	276	.407	2.4
	600	17.7	155	.469	1.2

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.

For most current information, please refer to TMI.

ENGINE DIMENSIONS



C18 ACERT Engine Dimensions (approx.)		
Length to Flywheel Housing	1504.8 mm	59.24 in.
Width	1077.2 mm	42.41 in.
Height	1143.9 mm	45.04 in.
Weight (dry)	1673 kg	3688 lb

Note: Do not use for installation design. See general dimension drawings for detail (Drawing #308-2634).

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RATING DEFINITIONS AND CONDITIONS

D Rating (Intermittent Duty)
Typical applications: For vessels operating at rated load and rated speed up to 16% of the time, or 2 hours out of 12, (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 boats, 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.

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 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.: DM9662-00
U.S. Sourced
LEHM8112-00 (1-08)