CATERPILLAR®

C18 ACERT™ MARINE PROPULSION

339 bkW
(454 bhp)

Image may not reflect actual engine

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Displacement	18.1 L (1106 in³)
Rated Engine Speed	1800
Bore	145 mm (5.7 in.)
Stroke	183 mm (7.2 in.)
Aspiration	Turbocharged-Aftercooled
Governor	Electronic
Cooling System	Keel-Cooled/ Heat-Exchanger Cooled
Weight, Net Dry (approx.)	
Keel-Cooled	1539 kg (3394 lb)
Heat Exchanger-Cooled	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 and 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 or separate circuit keel cooling

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

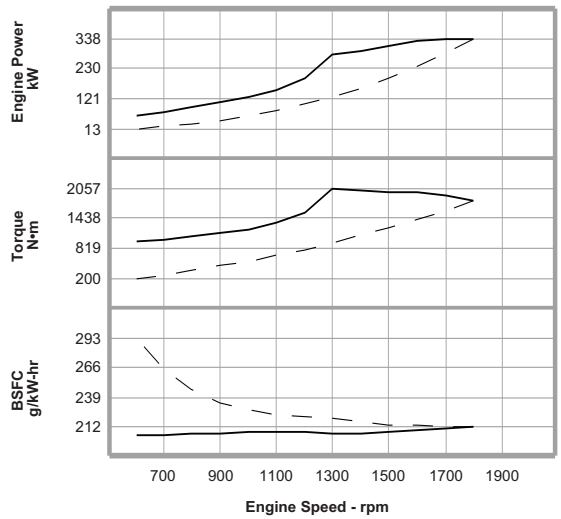
General
Vibration damper; lifting eyes, RH or LH service options; literature; variable engine wiring; upper rear-facing customer wiring connector and service tool connections

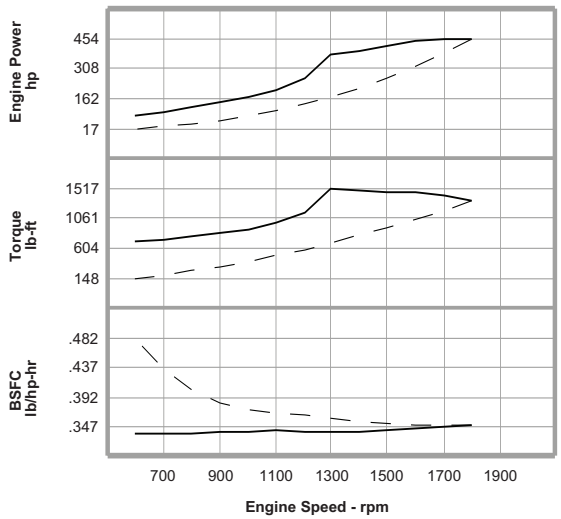
ISO Certification
Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities.

PERFORMANCE CURVES

Turbocharged-Aftercooled

A Rating — 339 bkW (454 bhp) @ 1800 rpm
DM9574-00





Metric | Maximum Power — | Prop Demand - - - | **339 kW**

English | Maximum Power — | Prop Demand - - - | **454 hp**

Performance Data

	Engine Speed rpm	Engine Power kW	Engine Torque N•m	BSFC g/kW-hr	Fuel Rate L/hr
Maximum Power Data	1800	338.5	1796	212.1	85.6
	1700	338.5	1901	210.1	84.8
	1600	333.0	1987	208.6	82.8
	1500	313.0	1993	207.0	77.2
	1400	295.0	2012	205.6	72.3
	1200	197.0	1568	206.3	48.4
	1100	154.0	1337	206.6	37.9
	1000	126.0	1203	206.3	31.0
	900	106.0	1125	205.7	26.0
	700	74.0	1009	204.0	18.0
	600	61.0	971	203.4	14.8
Prop Demand Data	1800	338.5	1796	212.1	85.6
	1700	285.2	1602	211.9	72.0
	1600	237.7	1419	212.3	60.2
	1500	195.9	1247	213.4	49.8
	1400	159.3	1086	215.8	41.0
	1200	100.3	798	220.6	26.4
	1100	77.3	671	222.6	20.5
	1000	58.0	554	226.7	15.7
	900	42.3	449	234.5	11.8
	700	19.9	272	265.3	6.3
	600	12.5	200	293.1	4.4

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

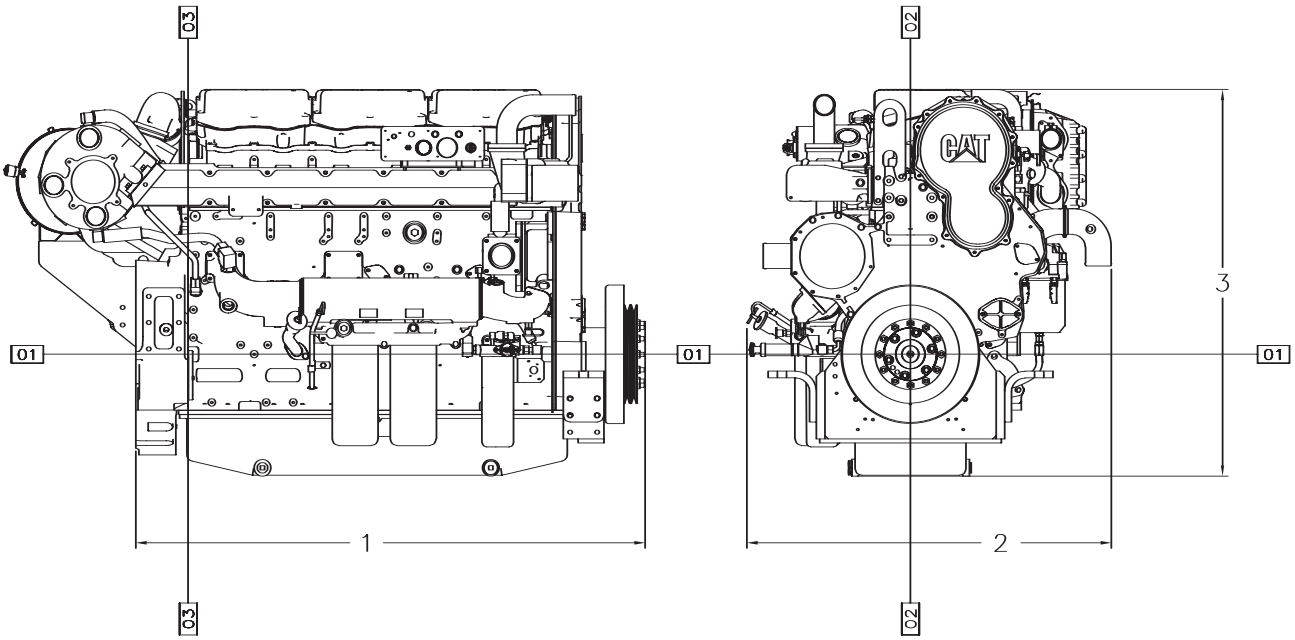
Performance Data

	Engine Speed rpm	Engine Power hp	Engine Torque lb-ft	BSFC lb/hp-hr	Fuel Rate gph
Maximum Power Data	1800	453.9	1325	.349	22.6
	1700	453.9	1402	.345	22.4
	1600	446.6	1465	.343	21.9
	1500	419.7	1470	.340	20.4
	1400	395.6	1484	.338	19.1
	1200	264.2	1156	.339	12.8
	1100	206.5	986	.340	10.0
	1000	169.0	887	.339	8.2
	900	142.1	830	.338	6.9
	700	99.2	744	.335	4.8
	600	81.8	716	.334	3.9
Prop Demand Data	1800	453.9	1325	.349	22.6
	1700	382.5	1182	.348	19.0
	1600	318.8	1047	.349	15.9
	1500	262.7	920	.351	13.2
	1400	213.6	801	.355	10.8
	1200	134.5	589	.363	7.0
	1100	103.7	495	.366	5.4
	1000	77.8	409	.373	4.1
	900	56.7	331	.386	3.1
	700	26.7	201	.436	1.7
	600	16.8	148	.482	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		
Heat-Exchanger Cooled	1504.8 mm	59.24 in.
Keel-Cooled	1504.8 mm	59.24 in.
Width		
Heat-Exchanger Cooled	1077.2 mm	42.41 in.
Keel-Cooled	1077.2 mm	42.41 in.
Height		
Heat-Exchanger Cooled	1143.9 mm	45.04 in.
Keel-Cooled	1143.9 mm	45.04 in.
Weight (dry)		
Heat-Exchanger Cooled	1673 kg	3688 lb
Keel-Cooled	1539 kg	3394 lb

Note: Do not use for installation design. See general dimension drawings for detail (Drawing #315-3171).

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RATING DEFINITIONS AND CONDITIONS

A Rating (Unrestricted Continuous)
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.

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.: DM9574-00
U.S. Sourced
LEHM7331-01 (1-08)