CATERPILLAR®

C12 ACERT™ COMPACT MARINE PROPULSION

715 mhp
(705 bhp)
526 bkW

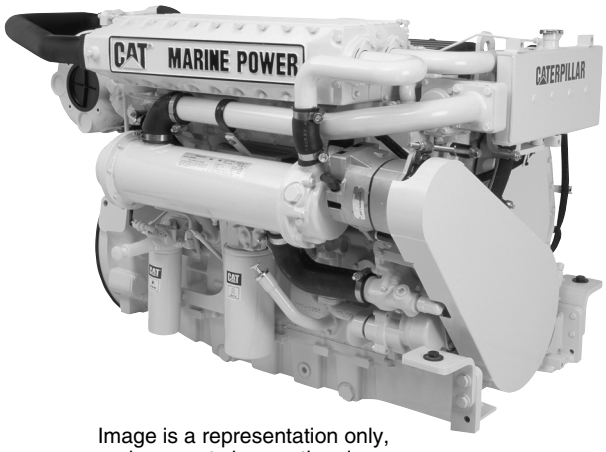


Image is a representation only, and may not show optional attachments.

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Emissions . . . . . EPA Tier II and IMO Compliant
Displacement . . . . . 12 L (732 cu. in.)
Rated Engine Speed. 2300
Bore . . . . . 130.0 mm (5.1 in.)
Stroke . . . . . 150.0 mm (5.9 in.)
Aspiration . . . . . Turbocharged-Aftercooled
Governor . . . . . Electronic
Cooling System . . . . . Heat Exchanger
Weight, Net Dry (approx) . . . . . 1,174 kg (2,588 lb)
Refill Capacity
  Cooling System . . . . . 45 L (12.0 U.S. gal)
  Lube Oil System. . . . . 28 L (7.5 U.S. gal)
Oil Change Interval. . . . . 250 hrs
  Caterpillar Diesel Engine Oil 10W30 or 15W40
  Center Sump Oil Pan
Rotation (from flywheel end) . . . . . Counterclockwise
Flywheel and Flywheel Housing . . . . . SAE No. 1
Flywheel Teeth 113

STANDARD ENGINE EQUIPMENT

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

Control System
Electronic governing, cold mode start strategy, power compensation for fuel temperature, programmable low idle, electronic diagnostics and fault logging, engine and transmission monitoring (speed, temperature, pressure), fuel/air ratio control

Cooling System
Thermostat and housing, gear-driven jacket water pump, self-priming, gear-driven sea water pump with rubber impeller, integral heat exchanger/expansion tank with removable tube bundle and replaceable copper-nickel tubes

Exhaust System
Watercooled exhaust manifold and turbocharger

Flywheels & Flywheel Housings
SAE No. 1 flywheel, 113 teeth, SAE No. 1 flywheel housing (10 degree slant pad), 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

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

Mounting System
Front support

Power Take-Offs
Hydraulic pump drive, SAE A, 11 tooth spline, 57 ft-lbs max torque, counterclockwise as viewed from rear of the engine looking into the pump drive and turns 1.41 x engine speed, 345 mm crankshaft pulley, 15.88 mm width single groove

Protection System
12 or 24 volt electronic shutdown (energized-to-run)

General
Vibration damper, lifting eyes, RH or LH service options, literature, variable engine wiring, upper rear-facing customer wiring connector and ECAP connection, electronic installation kit (connectors, pins, sockets)

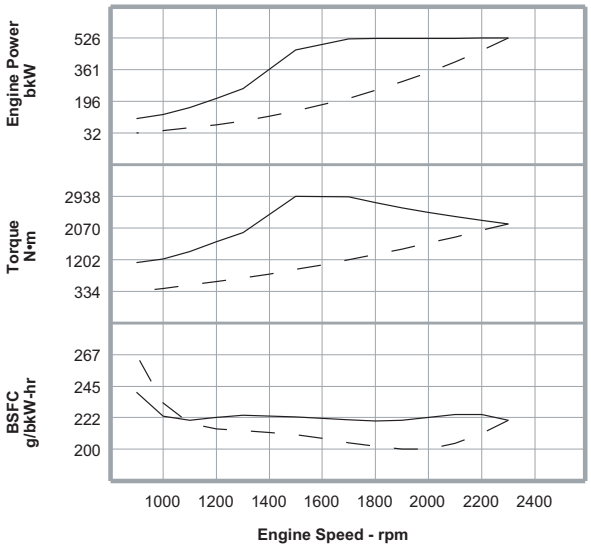
ISO Certification
Factory-designed systems built at Caterpillar ISO9001:2000 certified facilities

MARINE ENGINE PERFORMANCE

Preliminary

C12 DITA ACERT COMPACT
526 kW (705 hp) @ 2300 rpm
E Rating (High Performance) — DM7676-00

EPA Tier II and IMO Compliant

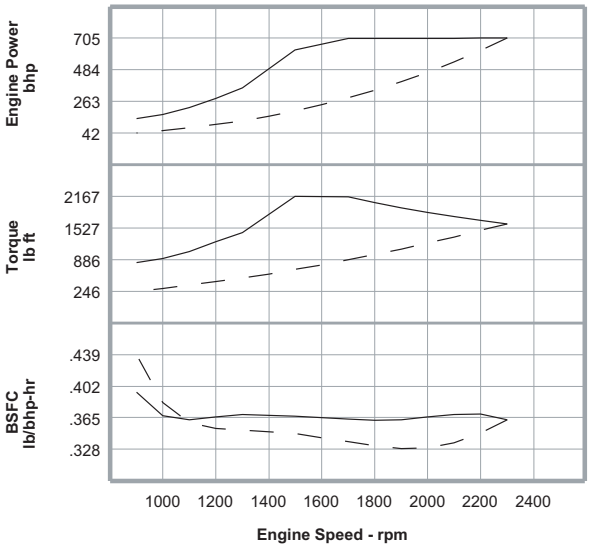


Metric | Maximum Power | Prop Demand | 526 bkW

Preliminary Performance Data

	Engine Speed rpm	Engine Power bkW	Engine Torque N•m	BSFC g/bkW-hr	Fuel Rate L/hr
Maximum Power Data	2300	526.0	2184	220.2	138.1
	2200	525.0	2279	224.9	140.7
	2100	523.1	2378	224.5	140.0
	2000	522.0	2493	222.3	138.3
	1900	522.0	2624	220.4	137.1
	1700	521.1	2927	220.8	137.1
	1500	461.5	2938	222.7	122.5
	1300	263.8	1938	223.9	70.4
	1200	211.4	1683	222.2	56.0
	1000	128.3	1225	223.3	34.1
	900	105.5	1120	240.5	30.3
Prop Demand Data	2300	526.0	2184	220.2	138.1
	2200	460.3	1998	210.9	115.7
	2100	400.4	1821	204.0	97.4
	1900	296.5	1490	200.0	70.7
	1800	252.1	1338	202.0	60.7
	1600	177.1	1057	207.7	43.8
	1500	145.9	929	210.4	36.6
	1300	95.0	698	213.0	24.1
	1200	74.7	594	214.2	19.1
	1000	43.2	413	232.9	12.0
	900	31.5	334	266.8	10.0

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



English | Maximum Power | Prop Demand | 705 bhp

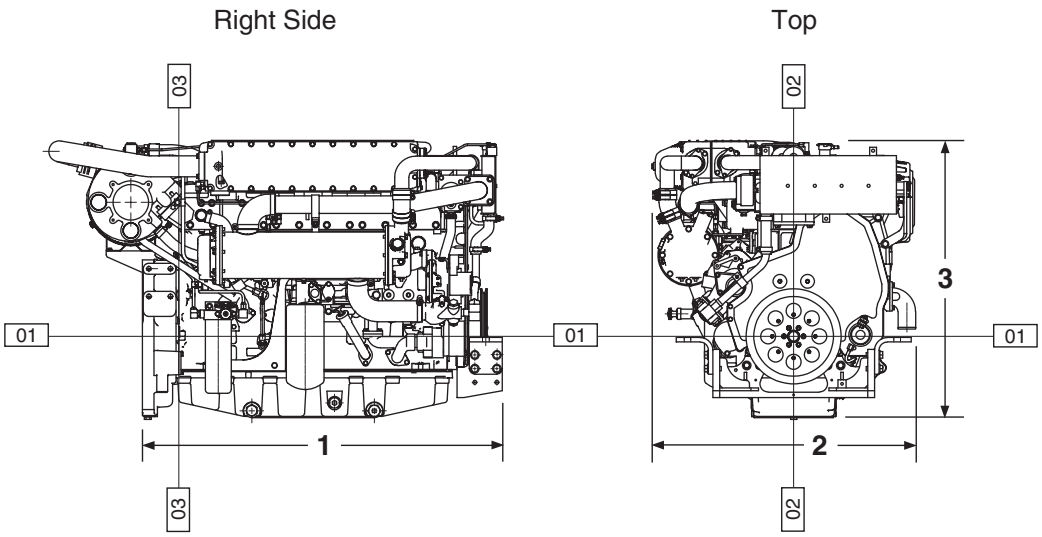
Preliminary Performance Data

	Engine Speed rpm	Engine Power bhp	Engine Torque lb ft	BSFC lb/bhp-hr	Fuel Rate gph
Maximum Power Data	2300	705.4	1611	.362	36.5
	2200	704.0	1681	.370	37.2
	2100	701.5	1754	.369	37.0
	2000	700.0	1839	.365	36.5
	1900	700.0	1935	.362	36.2
	1700	698.8	2159	.363	36.2
	1500	618.9	2167	.366	32.4
	1300	353.8	1429	.368	18.6
	1200	283.5	1241	.365	14.8
	1000	172.1	903	.367	9.0
	900	141.5	826	.395	8.0
Prop Demand Data	2300	705.4	1611	.362	36.5
	2200	617.3	1474	.347	30.6
	2100	536.9	1343	.335	25.7
	1900	397.6	1099	.329	18.7
	1800	338.1	987	.332	16.0
	1600	237.5	780	.341	11.6
	1500	195.7	685	.346	9.7
	1300	127.4	515	.350	6.4
	1200	100.2	438	.352	5.0
	1000	57.9	305	.383	3.2
	900	42.2	246	.439	2.6

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.

DIMENSIONS

Preliminary



Preliminary Engine Dimensions		
(1) Length to Flywheel Housing	1329.9 mm	52.36 in
(2) Width	968.6 mm	38.13 in
(3) Height	1008.7 mm	39.71 in
Weight, Net Dry (approx)	1174 kg	2,588 lb

Note: Do not use for installation design.

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RATING DEFINITIONS AND CONDITIONS

E Rating (High Performance)

% Load Factor: up to 30

% Time at Rated RPM: up to 8

Typical Time at Full Load: 1/2 hours out of 6

Typical Hour/Year: 250 to 1000

Typical Applications: For vessels operating at rated load and rated speed up to 8% of the time (up to 30% load factor). Typical applications could include but are not limited to vessels such as pleasure craft, harbor patrol boats, harbor master boats, some fishing or patrol boats. Typical operation ranges from 250 to 1000 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.

TMI Reference No.: DM7676-00
U.S. Sourced
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