C12 High Performance Marine Propulsion Engine

Marine

Cat® C12 Diesel Marine Propulsion Engines, with ratings of 578-609 mhp (570-600 bhp) at 2300 rpm, meet IMO I emission standards. The C12 takes full advantage of the electronically controlled unit injection fuel system, resulting in an environmentally friendly engine with outstanding performance and fuel economy. There is also a wide range of optional equipment available to meet the needs of your marine commercial or pleasure craft application.

Specifications

Ratings	
Power Range	578-609 mhp (570-600 bhp)

Engine		
Speed Range		2300 rpm
Emissions		IMO I
Aspiration		TA
Bore	130 mm	5.1 in
Stroke	150 mm	5.9 in
Displacement	12 l	732 in³
Rotation from Flywheel End		Counterclockwise
Configuration		In-line 6, 4-Stroke-Cycle Diesel

Dimensions & Weights		
Height	1005 mm	39.5 in
Length	1574 mm	62 in
Width	969 mm	38.1 in
Dry Weight	1174 kg	2588 lb

Benefits and Features

ADEM III Control System

More control inputs and outputs, capacity for additional features, additional monitoring capabilities, expansion capability for future enhancements

Most Advanced Electronic Control System

Adjustment free control of engine speed, customer defined operating characteristics, protection and warning system, optional display systems available

Future Enhancement Capability

The electronic control system has additional capacity for future enhancements to ensure a long useful engine life

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Redesigned Exhaust Manifold

Provides a smoother passage for improved exhaust gas flow to the turbocharger which leads to more usable energy and lower exhaust temperatures.

Easy Replacement for 3196

The C12 has the same physical size, same footprint, and the same connection points as the 3196 engine as well the same optional attachments.

Optional Monitoring System

Caterpillar offers several “plug and play” monitoring systems which display everything from the basic engine operating parameters to engine load factor and trip totals. Ask your local Caterpillar dealer for additional information on our Marine Power Display (MPD), Marine Analog Power Display (MAPD), and our Engine Vision Display (EVD).

Product Support

Trained technicians at over 1800 authorized service locations worldwide support Caterpillar products. Use our Internet Dealer Locator www.cat.com to identify the Caterpillar dealer location nearest to you.

Warranty

C-12 Marine Propulsion engines used in commercial applications are covered for 12 months from the date of delivery to the end user. Engines used in non-revenue producing pleasure craft applications are covered for 24 months, unlimited hours, from the date of delivery. Concurrently, specific engine components are covered for 60 months, unlimited hours, from the date of delivery to the end user.

Extended Service Coverage (ESC)

Optional engine protection coverage for up to 60 months from date of delivery may be purchased through your local Caterpillar dealer.

Standard Equipment

Air Inlet System

• Aftercooler - sea water; corrosion resistant, Air Cleaner/Fumes Disposal (closed system), Turbocharger, Jacket Water Cooled

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, Emergency stop switch (A&B ratings only)

Cooling System

• Thermostat and housing, Jacket water pump; gear driven, Sea water pump; rubber impeller; self-priming; gear-driven, Integral heat exhanger/expansion tank; removable tube bundle; replaceable copper-nickel tubes, Keel cooling - combined circuit (includes pipe thread flange kit)

Exhaust System

• Watercooled Manifold & Turbocharger

Flywheels & Flywheel Housings

• Flywheel; SAE No. 1; 113 teeth, Flywheel housing; SAE No. 1 (10 degree slant pad), SAE standard rotation

Fuel System

• Fuel filer; RH service on Port; LH service on Starboard, Fuel transfer pump, Fuel priming pump, Flexible fuel lines

Instrumentation

• Service meter, electric

Lube System

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• Crankcase breather, Oil cooler, Oil filter; spin-on; RH service on Port; LH service on Starboard, Oil filler, Dipstick; RH service on Port; LH service on Starboard, Oil pump; gear driven

Mounting System

• Front support

Power Take-Offs

• Hydraulic pump drive; SAE A; 11 tooth spline, 57 ft-lbs max torque; counterclockwise as viewed from the rear of hte engine looking into the pump drive and turns 1.41 x engine speed, Crankshaft pulley; 345 mm (13.6 in) single groove; 15.88 mm (.63in) width

Protection System

• Shutdown; electronic; 12 or 24 volt; 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)

Optional Equipment

Air Inlet System

• Low Profile Air Inlet Line, Shield (Air Inlet Line)

Charging System

• Charging Alternators, Voltmeter Guages, Voltmeter Guage Mounting, Alternator Mounting Group

Cooling System

• Sea Water Pump, Coolant Recovery Tank, Flange Kit

Exhaust System

• Flexible Fitting, Elbow, Dry Elbow, Watercooled Elbow, Exhaust Connection, Exhaust Outlet Pipe, EXH Outlet Flange, Rain Cap, Muffler

Fuel System

• Fuel Cooler, Fuel Connections, Primary Fuel Filter, Primary Fuel/Water Separator

Instrumentation

• OEM Wiring Harness, Engine to Engine Harness, Digital Tachometer, Tachometer Mounting, Magnetic Pickup, RH 4 Hole Instrument Panel, LH 4 Hole Instrument, Marine Power Display System, Marine Power Display Unit (for additional monitoring stations), Marine Power Display Bracket, Wiring Group, Transmission Sensors

Lube System

• Manual sump pump, Transmission oil cooler

Mounting System

• Vibration Isolators

Power Take-Offs

• Crankshaft Pulley, Front Stub Shaft, Front Stub Shaft & Pulley

Starting System

• Air Pressure Regulator, Air Start Silencer, Start Switch, Jacket Water Heater, Battery sets (24 volt - dry)

General

• Wiring Harness Removal, Belt Guard - Alternator, Belt Guard - Alternator Pulley, Filter Cover Kit

Packing

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- Overseas Preservation, Engine Protective Cover, Storage Preservation, Export Packing

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CATERPILLAR®

C12 ACERT™ COMPACT MARINE PROPULSION

669 mhp
(660 bhp)
492 bkW

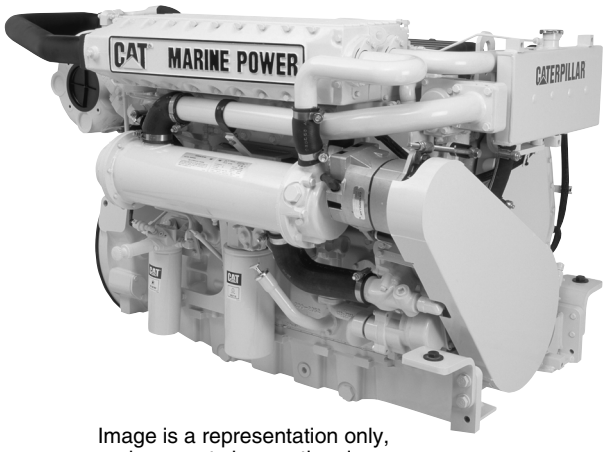


Image is a representation only, and may not show optional attachments.

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)

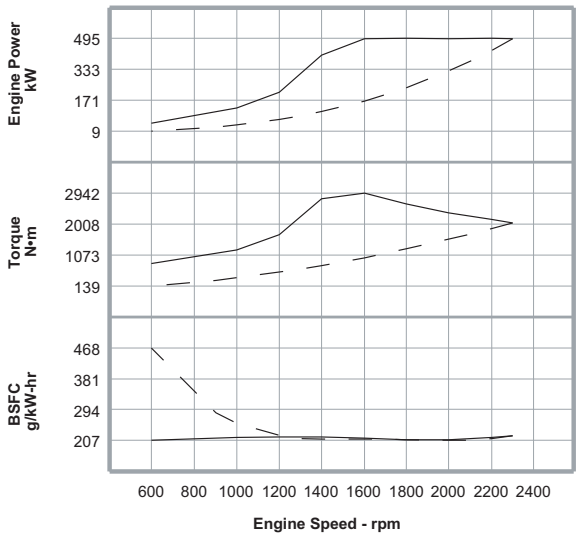
ISO Certification
Factory-designed systems built at Caterpillar ISO9001:2000 certified facilities

MARINE ENGINE PERFORMANCE

Preliminary

C12 DITA ACERT COMPACT
492 bkW (660 bhp) @ 2300 rpm
E Rating (High Performance) — DM7530-01

EPA Tier II and IMO Compliant

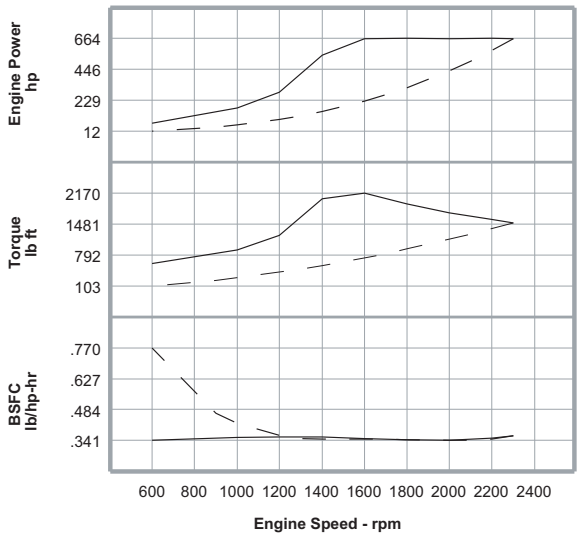


Metric | Maximum Power / Prop Demand | 492 kW

Preliminary Performance Data

	Engine Speed rpm	Engine Power kW	Engine Torque N•m	BSFC g/kW-hr	Fuel Rate L/hr
Maximum Power Data	2300	492.0	2043	220.0	129.0
	2200	494.9	2148	214.1	126.3
	2000	492.7	2353	208.0	122.2
	1800	493.8	2620	208.9	123.0
	1600	493.0	2942	212.6	124.9
	1400	406.3	2771	216.1	104.7
	1200	210.4	1675	216.3	54.3
	1000	128.2	1225	214.5	32.8
	600	50.9	810	206.9	12.5
Prop Demand Data	2300	492.0	2043	220.0	129.0
	2200	430.6	1869	211.2	108.4
	2100	374.5	1703	207.0	92.4
	2000	323.5	1545	206.6	79.7
	1800	235.8	1251	209.1	58.8
	1600	165.6	989	210.7	41.6
	1400	111.0	757	210.1	27.8
	1300	88.8	653	212.2	22.5
	1200	69.9	556	220.8	18.4
	900	29.5	313	283.8	10.0
	600	8.7	139	468.5	4.9

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



English | Maximum Power / Prop Demand | 660 hp

Preliminary Performance Data

	Engine Speed rpm	Engine Power hp	Engine Torque lb ft	BSFC lb/hp-hr	Fuel Rate gph
Maximum Power Data	2300	659.8	1507	.362	34.1
	2200	663.7	1584	.352	33.4
	2000	660.7	1735	.342	32.3
	1800	662.2	1932	.343	32.5
	1600	661.1	2170	.350	33.0
	1400	544.9	2044	.355	27.7
	1200	282.2	1235	.356	14.3
	1000	171.9	903	.353	8.7
	600	68.3	597	.340	3.3
Prop Demand Data	2300	659.8	1507	.362	34.1
	2200	577.4	1378	.347	28.6
	2100	502.2	1256	.340	24.4
	2000	433.8	1139	.340	21.1
	1800	316.2	923	.344	15.5
	1600	222.1	729	.346	11.0
	1400	148.9	558	.345	7.3
	1300	119.1	482	.349	5.9
	1200	93.7	410	.363	4.9
	900	39.6	231	.467	2.6
	600	11.7	103	.770	1.3

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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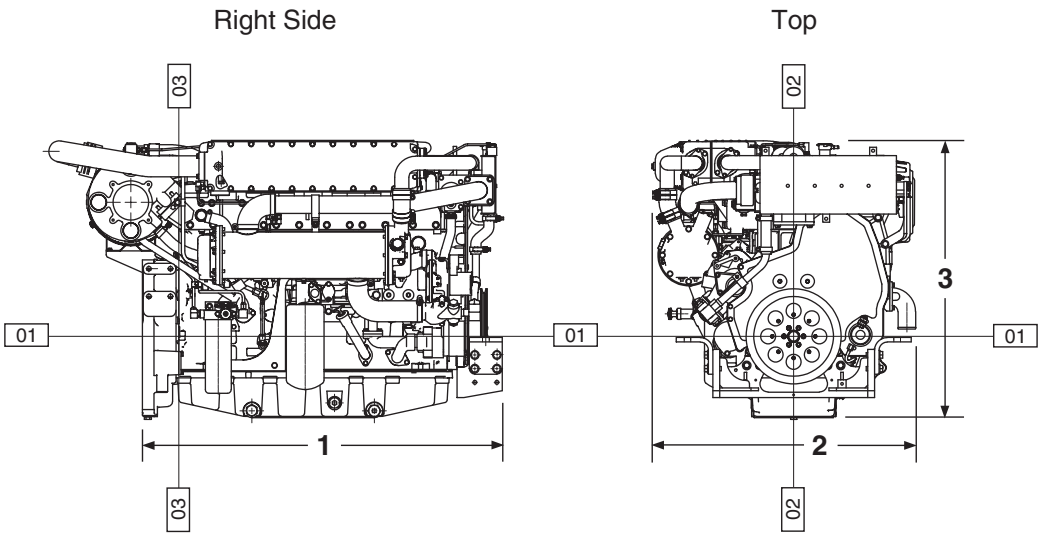
DIMENSIONS

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.

CATERPILLAR® C12 ACERT™ COMPACT MARINE PROPULSION

669 mhp (660 bhp) 492 bkW

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.

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TMI Reference No.: DM7530-01
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CATERPILLAR®

C12 ACERT™ MARINE PROPULSION

715 mhp
(705 bhp)
526 bkW

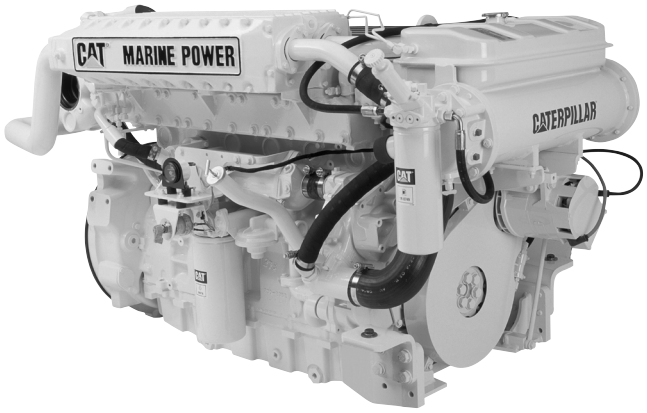


Image is a representation only, and may not show optional attachments.

SPECIFICATIONS

I-6, 4-Stroke-Cycle-Diesel

Emissions . . . . . EPA Tier II and IMO Compliant
Displacement. . . . . 12 L (732.24 cu. in.)
Rated Engine Speed. 2300
Bore. . . . . 130 mm (5.1 in.)
Stroke . . . . . 150 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)

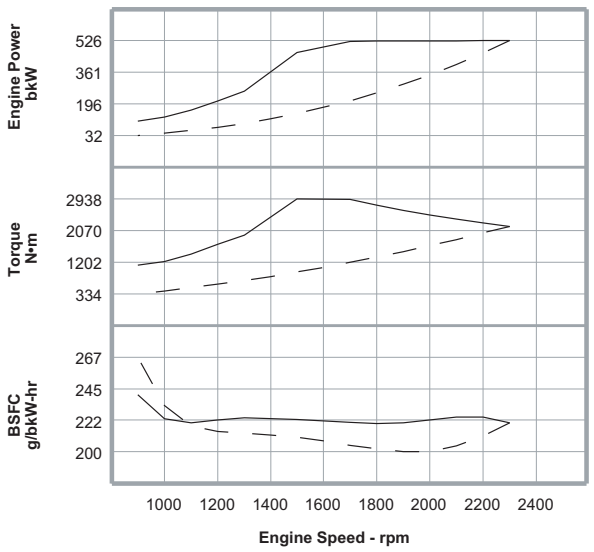
ISO Certification
Factory-designed systems built at Caterpillar ISO9001:2000 certified facilities

MARINE ENGINE PERFORMANCE

Preliminary

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

EPA Tier II and IMO Compliant

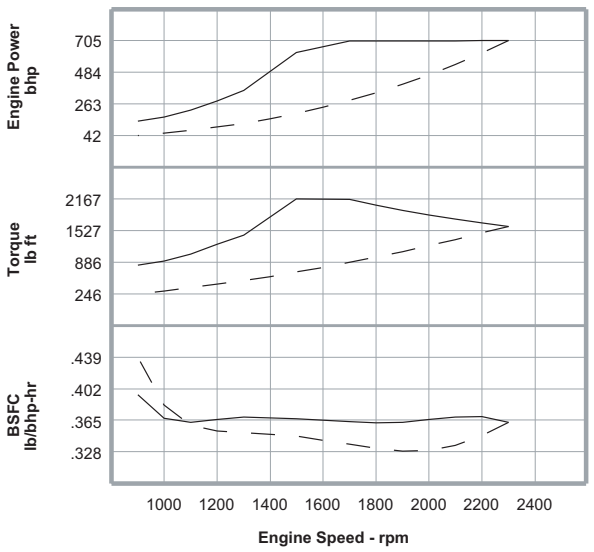


Metric | Maximum Power / Prop Demand | **526 bkW**

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.

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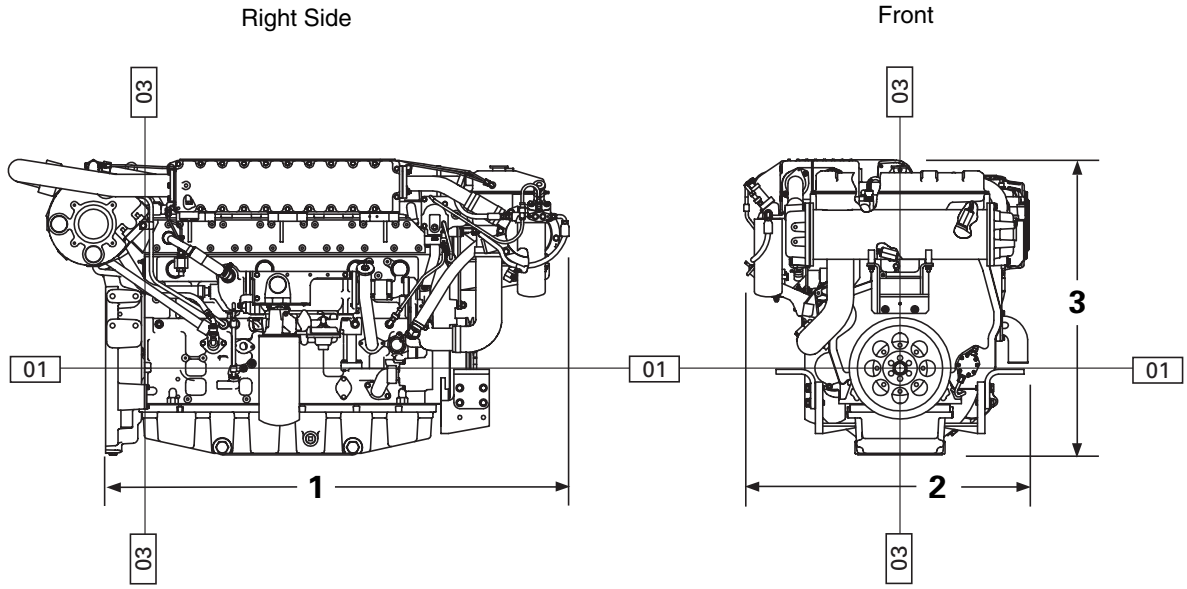
DIMENSIONS

Preliminary



Preliminary Engine Dimensions		
(1) Length to Flywheel Housing	1573.9 mm	61.96 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.

CATERPILLAR®

C12 ACERT™ MARINE PROPULSION

715 mhp (705 bhp) 526 bkW

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.

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C12 ACERT™ COMPACT MARINE PROPULSION

715 mhp
(705 bhp)
526 bkW

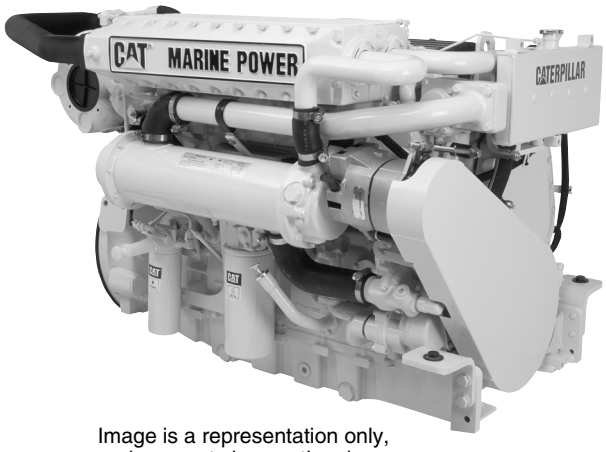


Image is a representation only, and may not show optional attachments.

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)

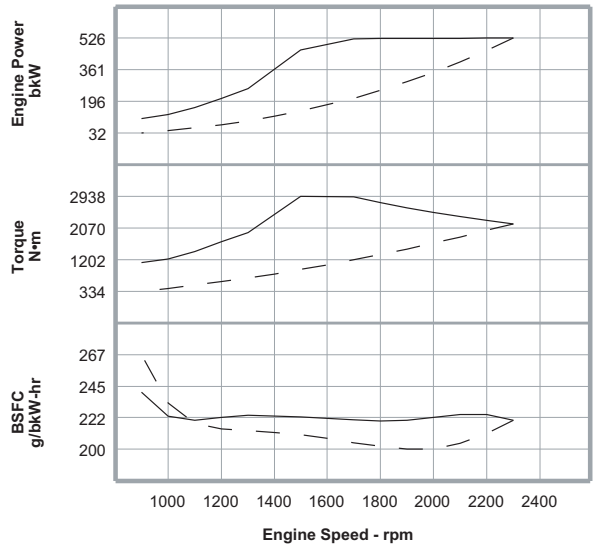
ISO Certification
Factory-designed systems built at Caterpillar ISO9001:2000 certified facilities

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

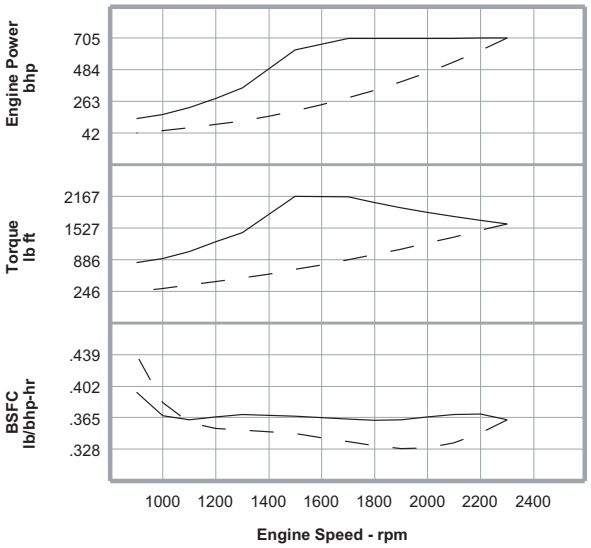


Metric | Maximum Power | Prop Demand | **526 bkW**

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.

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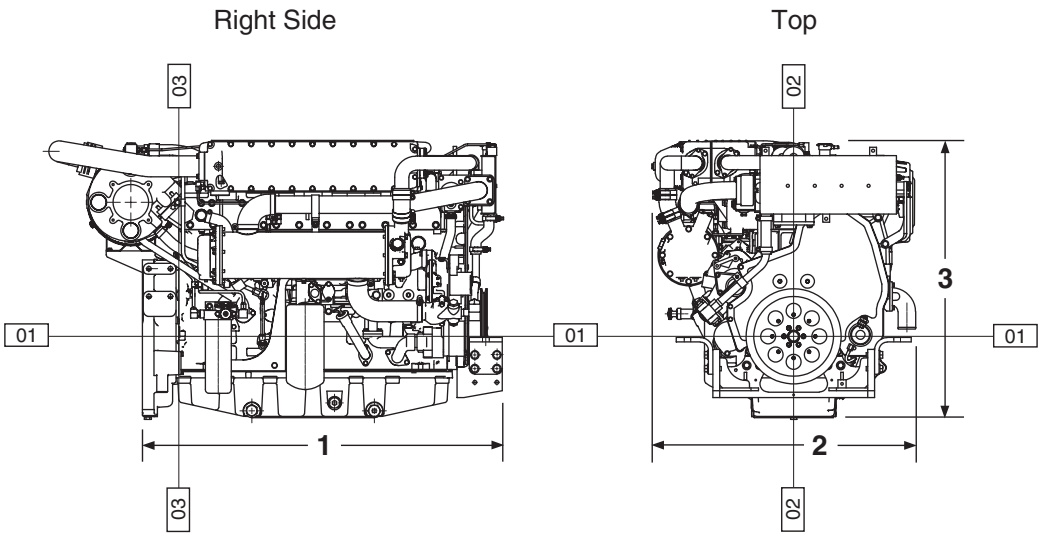
DIMENSIONS

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.

CATERPILLAR® C12 ACERT™ COMPACT MARINE PROPULSION

715 mhp (705 bhp) 526 bkW

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.

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