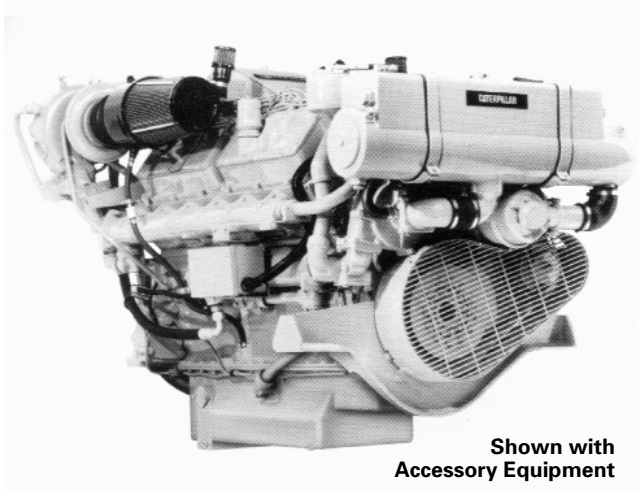




Marine Propulsion Engine 3412C

High Performance

746 kW (1000 bhp) 1014 mhp @ 2100 rpm



Shown with Accessory Equipment

STANDARD EQUIPMENT

Air Inlet System

Corrosion resistant aftercooler core; air cleaner/fumes disposal, closed system with service indicator (shipped loose)

Cooling System

Gear driven auxiliary sea water pump; gear driven centrifugal jacket water pump; block heaters, one on each side; expansion tank with heat exchanger and deaerators; oil cooler; thermostats and housing with 92°C (198°F) full open temperature

Exhaust System

Watercooled manifold and turbocharger; round flanged outlet, 130 mm (5.12 in.)

Flywheel and Flywheel Housing

SAE No. 1 (113 teeth) standard engine
SAE No. 0 (136 teeth) side access engine

Fuel System

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

Instruments

Heavy-duty tachometer drive, SAE standard rotation; instrument panel — RH on port, LH on starboard; 4-hole panel with oil pressure, water temperature, and fuel pressure gauges (standard engine); 8-hole panel with oil pressure, water temperature, fuel pressure, and oil temperature gauges (side access engine)

Lube System

Oil level gauge and oil filter — RH service on port, LH service on starboard; crankcase breather; oil filter in valve cover; shallow center sump oil pan; deep sump oil pan (side access engine)

Mounting System

Front support (adjustable for standard engine only)

Protection System

Overspeed and air inlet shutoffs

General

Vibration damper and guard, Caterpillar yellow paint, lifting eyes

SPECIFICATIONS

V-12, 4-Stroke-Cycle-Diesel

Emissions	IMO compliant
Displacement	27 L (1649 cu. in.)
Bore	137 mm (5.4 in.)
Stroke	152 mm (6.0 in.)
Aspiration	Turbocharged-Aftercooled
Governor	Hydra-mechanical
Engine Weight, Net Dry (approx)	2315 kg (5099 lb)
Capacity for Liquids	
Cooling System	67.1 L (17.7 U.S. gal)
Lube Oil System (refill)	
Shallow	68.1 L (17.7 U.S. gal)
Deep	138 L (36.5 U.S. gal)
Oil Change Interval	
Shallow	250 hr
Deep	500 hr
Caterpillar DEO 10W30 or 15W40	
Rotation (from flywheel end)	Counterclockwise

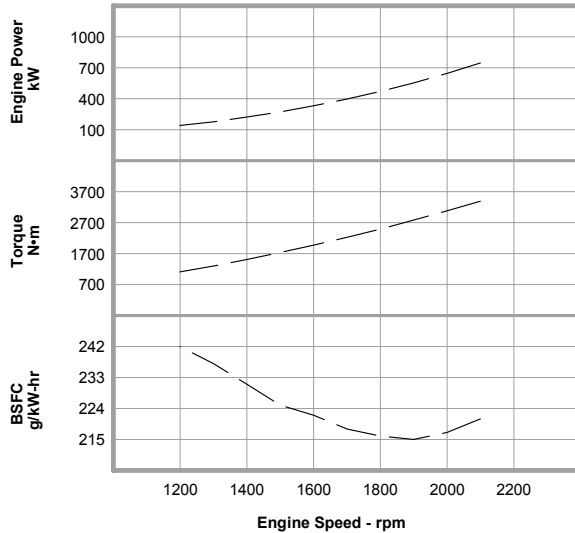
ACCESSORY EQUIPMENT

Air Starting Motor — RH or LH (Side Access Engine Only)
Alarm Contactor for Oil Pressure, Water Temperature
24V 60 Amp Alternator
Appearance Kit
Auxiliary Sea Water Pump
Custom Paint
Digital Tachometer
Double Wall Fuel Lines and Drain
Duplex Oil Filter (Side Access Engine Only)
Electric Service Meter
24V Electric Starting Motor
Hydraulic Pump Drive
8-Hole Instrument Panel (Standard Engine Only)
Jacket Water Connection
Light-Duty Air Cleaner, Open System
Pilot House Instrument Panel
Primary Fuel Filter/Water Separator
Remote Positive Locking Governor Control
Spare Parts Kit
Storage Preservation
Two-Groove Pulley and Damper
Water Level Switch Gauge

PERFORMANCE CURVES

E Rating — DM6083-00

IMO Compliant

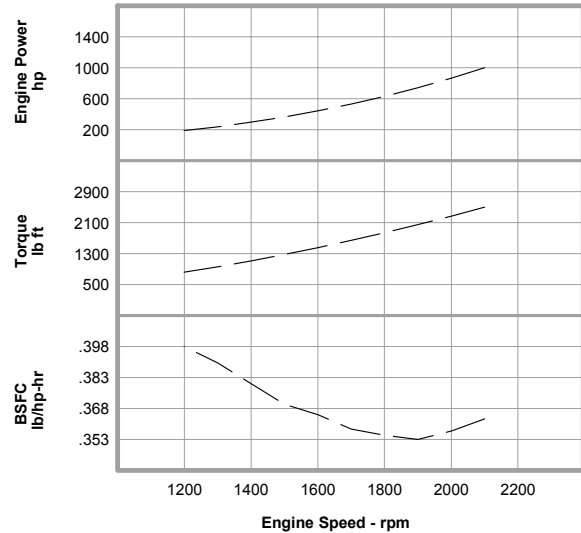


Metric Maximum Power
Prop Demand 746 kW

Performance Data

	Engine Speed rpm	Engine Power kW	Engine Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
Prop Demand Data	2100	746	3392	221.0	196.4
	2000	644	3077	217.0	166.3
	1900	553	2777	215.0	141.5
	1800	470	2492	216.0	120.9
	1700	396	2223	218.0	103.0
	1600	330	1969	222.0	87.1
	1500	272	1731	225.0	73.0
	1400	221	1508	231.0	60.9
	1300	177	1300	237.0	50.0
	1200	139	1108	242.0	40.1

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

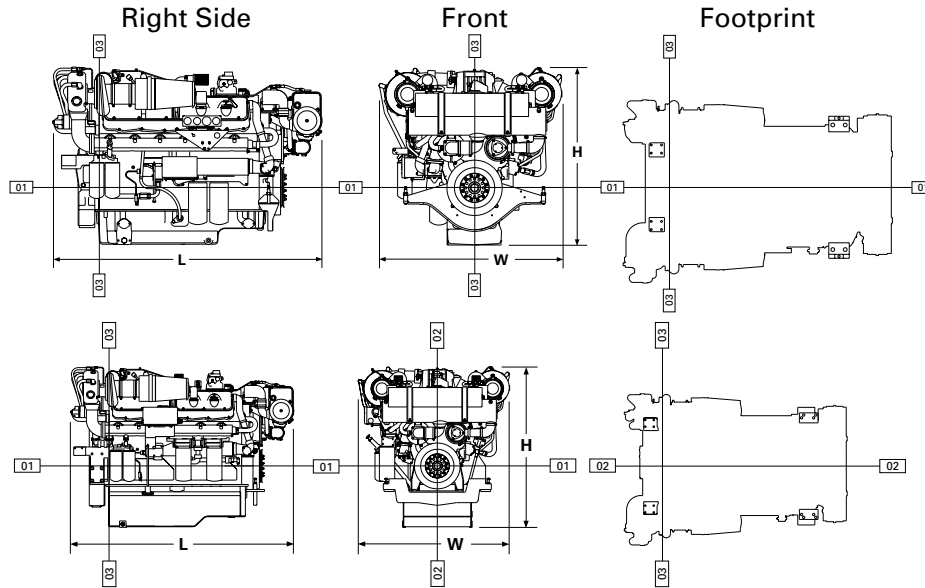


English Maximum Power
Prop Demand 1000 hp

Performance Data

	Engine Speed rpm	Engine Power hp	Engine Torque lb ft	BSFC lb/hp-hr	Fuel Rate gph
Prop Demand Data	2100	1000	2502	.363	51.9
	2000	864	2269	.357	43.9
	1900	741	2048	.353	37.4
	1800	630	1838	.355	31.9
	1700	531	1640	.358	27.2
	1600	442	1452	.365	23.0
	1500	365	1277	.370	19.3
	1400	296	1112	.380	16.1
	1300	237	959	.390	13.2
	1200	187	817	.398	10.6

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*

	Standard Engine		Side Access Engine	
	mm	in.	mm	in.
Overall Length	1992.5	78.5	1992.5	78.4
Length from front to rear face of block	1650.6	65.0	1650.6	65.0
Overall Height	1311.9	51.7	1437.2	56.6
Height from crankshaft centerline to top of engine	888.8	35.0	888.8	35.0
Height from crankshaft centerline to bottom of oil pan	423.1	16.7	548.4	21.6
Overall Width	1362.1	53.6	1354.2	53.3
Width from crankshaft centerline to port side (left side)	646.2	25.4	646.2	25.4
Width from crankshaft centerline to starboard side (right side)	708.0	27.9	708.0	27.9
Standard Engine	Front		Rear	
	mm	in.	mm	in.
Customer mounting hole diameter	27.5	1.1		5/8
Width from crankshaft centerline to mounting holes	460.5	18.1	252.4	9.9
Length from crankshaft centerline to mounting holes	1209.0	47.6	312.7	12.3
	1301.0	51.2	57.9	2.3
			134.2	5.3
Side Access Engine	Front		Rear	
	mm	in.	mm	in.
Customer mounting hole diameter	20.5	0.8		5/8
Width from crankshaft centerline to mounting holes	431.8	17.0	352.7	13.9
Length from crankshaft centerline to mounting holes	457.2	18.0	413.0	16.3
	1242.5	48.9	78.4	3.1
	1261.5	49.7	154.6	6.1
	1350.5	53.2		
	1369.5	53.9		

*Illustrations and dimensions from drawings: 196-5459 Standard Engine, 123-7639 Side Access Engine.

RATING DEFINITIONS AND CONDITIONS

E Rating –

Typical Application Planing hull vessels such as pleasure craft, harbor patrol, harbor master, and some fishing and pilot boats.

Typical Hours Per Year 250 to 1000

Time at Rated Speed Up to 8%

Load Factor Up to 30%

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

Rated Speed 2100 rpm

Maximum Cruise Speed 1950 rpm

Maximum Continuous Cruise Speed 1800 rpm

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.

Engine Performance Parameters

Power ±3%

Specific Fuel Consumption ±3%

Fuel Rate ±5%

Ratings are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

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).



3412C MARINE PROPULSION — 746 bkW (1000 bhp)

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.

TMI Reference No.: DM6083-00 (6-19-01)

Materials and specifications are subject to change without notice.

The International System of Units (SI) is used in this publication.

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