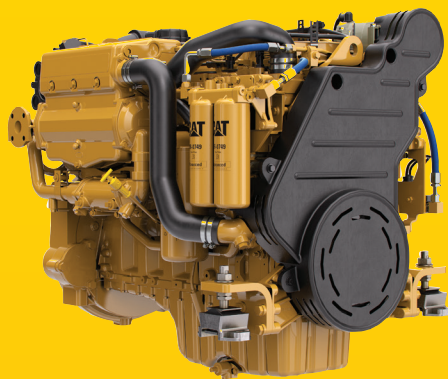


C9.3



MARINE PROPULSION ENGINE

476 bhp	355 kW	2300 rpm
416 bhp	310 kW	2100 rpm
375 bhp	280 kW	1800 rpm



SPECIFICATIONS

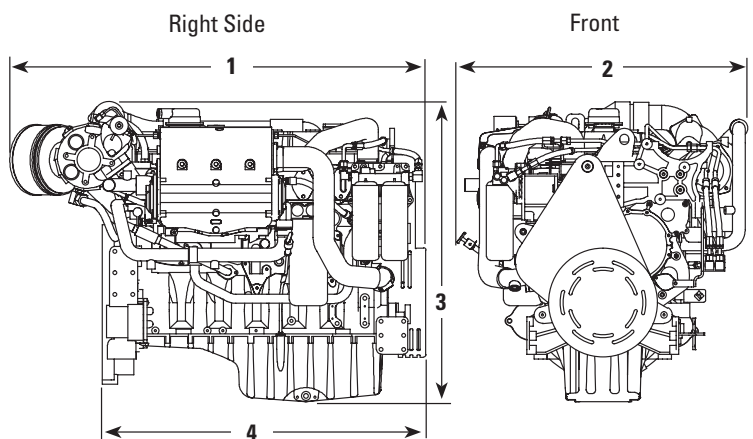
I-6, 4-Stroke-Cycle-Diesel

- U.S. EPA Tier 3/EU Stage IIIA/IMO II certified
- Displacement 9.3 L (567.5 in³)
- 115 mm (4.5 in) bore x 149 mm (5.8 in) stroke
- Electronically governed
- Common rail fuel system
- Turbocharged-aftercooled
- Heat exchanger or keel cooled
- Refill capacity
 - Lube oil system: 24.5 L (6.5 gal) – Simplex
 - Cooling system: 41.3 L (11 gal) – HEX
- SAE No. 1 Flywheel Housing
- SAE No. 14 Flywheel (113 teeth)
- 500-hour oil change interval
- Counterclockwise rotation

FEATURES AND BENEFITS

- Electronic control system provides industry-leading torque and throttle response at low speeds, while maintaining fuel efficiency at high speeds
- Common rail fuel system enables optimum combustion and low emissions
- RH and LH locations for fuel and oil filters and dipstick improves serviceability
- Compatible with Cat® displays
- Available remote-mounted display panel with start, stop, and engine diagnostics
- 12V or 24V electrical system
- Marine classification society certificates: ABS, BV, CCS, CRS, DNV, GL, IRS, KR, LR, NK, PRS, RINA, RS

DIMENSIONS



ENGINE DIMENSIONS & WEIGHT

(1) Length	1470.8 mm	57.9 in
(2) Width	1028.6 mm	40.5 in
(3) Height	1060.1 mm	41.7 in
(4) Length (front to flywheel)	1144.3 mm	45.1 in
Weight, dry (approx.)	1045-1122 kg	2304-2474 lb

Note: Do not use these dimensions for installation design. See general dimension drawings for detail.

MARINE ENGINE PERFORMANCE

Max Power

B Rating – EM0780					C Rating – EM0779					D Rating – EM0778				
rpm	bhp	g/hr	bkW	g/bkW-hr	rpm	bhp	g/hr	bkW	g/bkW-hr	rpm	bhp	g/hr	bkW	g/bkW-hr
1800	375	19.3	280	219.1	2100	416	21.5	310	220.4	2300	476	24.9	355	222.3
1600	371	18.3	277	209.4	1800	410	20.2	306	210.0	2000	472	23.6	352	213.5
1400	319	15.7	238	209.2	1500	366	17.2	273	200.3	1500	369	17.3	275	200.1
1200	225	11.3	168	213.3	1200	233	11.6	174	211.8	1300	259	12.6	193	208.0
900	94	5.1	70	230.3	900	115	6.2	85	230.3	900	114	6.0	85	225.1
700	54	2.9	40	230.7	700	75	4.2	56	239.5	700	70	3.8	52	231.3

Prop Demand

B Rating – EM0780					C Rating – EM0779					D Rating – EM0778				
rpm	bhp	g/hr	bkW	g/bkW-hr	rpm	bhp	g/hr	bkW	g/bkW-hr	rpm	bhp	g/hr	bkW	g/bkW-hr
1800	375	19.3	280	219.1	2100	416	21.5	310	220.4	2300	476	24.9	355	222.3
1600	264	13.5	197	217.3	1800	262	13.5	195	219.3	2000	313	16.2	233	220.2
1400	177	8.9	132	213.3	1500	152	7.7	113	216.5	1500	132	6.9	99	222.0
1200	111	6.1	83	232.3	1200	78	4.2	58	232.1	1300	86	4.7	64	230.4
900	47	2.7	35	240.5	900	33	1.9	24	251.4	900	29	1.7	21	258.7
700	22	1.4	17	268.3	700	15	1.1	12	296.9	700	13	1.0	10	311.5

STANDARD EQUIPMENT

- Watercooled turbocharger and exhaust manifold
- Electronic control system
- Thermostats and housing
- Gear-driven sea water pump (self-priming)
- Common rail fuel system
- Shell and tube type jacket water heat exchanger
- Corrosion-resistant sea water aftercooler
- Engine oil cooler
- Vibration damper and guard
- Primary fuel filters

OPTIONAL EQUIPMENT

- Alternators – 24V 70, 105 amp, 12V 110 amp
- Closed crankcase ventilation system
- Transmission gear oil cooler (engine mounted for HEX)
- Additional engine and transmission sensor packages
- Instrument panels
- Electric starting motors – 12V or 24V
- Air starting motor
- Dual starting motors
 - 24V electric and air
 - 24V electric (2)
- Electric fuel priming pump
- Fuel cooler
- PTO Drives – V belt pulley stack, stub shaft
- Duplex fuel and oil filters
- Double wall fuel rail

RATING DEFINITIONS AND CONDITIONS

B Rating (Heavy Duty)

Typical applications: For vessels operating at rated load and rated speed up to 80% of the time, or 10 hours out of 12, with some load cycling (40% to 80% load factor). Typical applications could include but are not limited to vessels such as mid-water trawlers, purse seiner, crew and supply boats, ferries, or towboats. Typical operation ranges from 3000 to 5000 hours per year.

C Rating (Maximum Continuous)

Typical applications: For vessels operating at rated load and rated speed up to 50% of the time, or 6 hours out of 12, with cyclical load and speed (20% to 80% load factor). Typical applications could include but

are not limited to vessels such as ferries, harbor tugs, fishing boats, offshore service boats, displacement hull yachts, or short trip coastal freighters. Typical operation ranges from 2000 to 4000 hours per year.

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.

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