

# QSB5.9 QUANTUM SERIES ENGINE

## Engine Overview

- Unmatched performance driven through a perfectly matched turbocharger and a new 24-valve cylinder head that delivers industry-leading power density
- Quiet operation, including an 80-percent reduction in noise at idle, is one of the many benefits from the common-rail fuel system
- Enhanced sociability from the high-pressure common-rail design virtually eliminates smoke and improves the whole boating experience
- Maximize vessel performance and access comprehensive vessel diagnostic information via SmartCraft® electronics
- Peace of mind is delivered by the CMD Captain's Briefing and global service network

## Features

**Fuel System:** Bosch High-Pressure Common-Rail, Front mounted spin-on Fleetguard fuel filter

**Lubrication System:** Front mounted spin-on Fleetguard lube filter

**Electrical System:** 12-volt and 24-volt systems available

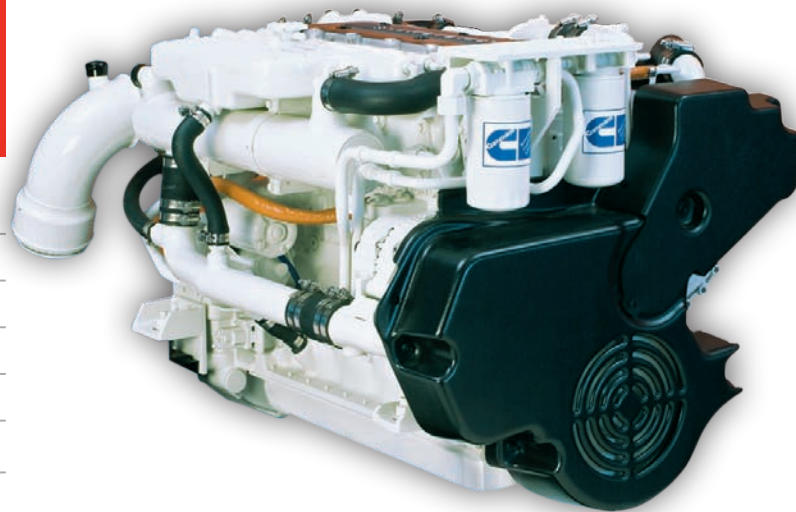
**Air Intake System:** Light duty or servicable type air cleaner

**Coolant System:** Sea Water heat exchanger cooling system; Keel cooled system available

**Emissions:** EPA Tier 2, IMO, and RCD certified

**Breather System:** Open or closed

**Engine Updates:** Optional dry run SW pump and an alternate fuel capability (JP8, JP5)



## Engine Specifications

Configuration	In-line 6-cylinder, 4-stroke diesel
Bore & Stroke	102 mm x 120 mm (4.02 in x 4.72 in)
Displacement	5.9 L (359 in³)
Aspiration	Turbocharged / Aftercooled
Rotation	Counterclockwise facing flywheel

## Power Ratings

Rating	HO/GS	HO	ID/HO	HO/GS	ID/HO	HO	MD/HO	HD/HO	ID/HO
Metric hp	480	440	425	380	355	330	305	230	230
bhp	473	434	420	375	350	325	300	225	227
KW	353	235	313	280	261	243	224	168	169
Rated rpm	3400	3800	3000	3000	2800	2800	2600	2600	3000
Max Torque ft-lbs	942	519	908	898	853	830	783	670	510
Max Torque N-m	1277	703	1231	1218	1156	1125	1062	908	691
rpm @ max torque	2200	2600	2000	2000	2000	1800	1800	1600	1400

Ratings and specifications subject to change without notice. Not responsible for typographical errors.

**Cummins MerCruiser Diesel**

RELIABILITY THROUGH INNOVATION

1-800-DIESELS

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## Fuel Consumption (Prop Curve)

Rating	QSB5.9 - 480 HO/GS				QSB5.9 - 440 HO				QSB5.9 - 425 ID/HO				QSB5.9 - 380 HO/GS				QSB5.9 - 355 ID/HO			
rpm	3400	3200	3000	2800	3400	3200	3000	2800	3000	2800	2600	2400	3000	2800	2600	2400	2800	2600	2400	2200
KW	199	300	252	209	324	275	231	192	313	260	213	171	280	232	190	153	261	214	172	136
l/hr	60.6	79.4	63.2	52.4	89.9	72.6	58.5	48.6	81.3	65.5	53.0	43.4	76.2	60.6	48.1	39.5	68.1	55.2	44.3	36.2
bhp	266	402	338	280	434	368	310	257	420	349	285	230	375	311	255	205	350	287	231	183
gal/hr	26.0	21.0	16.7	13.8	23.7	19.2	15.4	12.8	21.5	17.3	14.0	11.5	20.1	16.0	12.7	10.4	18.0	14.6	11.7	9.6

Rating	QSB5.9 - 330 HO				QSB5.9 - 305 MD/HO				QSB5.9 - 230 HD/HO				QSB5.9 - 230 ID/HO			
rpm	2800	2600	2400	2200	2600	2400	2200	2000	2600	2400	2200	2000	3000	2800	2600	2400
KW	243	199	160	127	224	180	143	110	168	135	107	83	169	141	115	93
l/hr	63.3	50.8	41.6	33.5	57.3	47.0	37.9	30.8	42.2	36.8	29.7	23.3	47	40	32.98	26.82
bhp	325	266	214	170	300	242	191	148	225	181	143	111	227	188	154	98
gal/hr	16.7	13.4	11.0	8.9	15.1	12.4	10.0	8.1	11.1	9.7	7.9	6.1	12.5	10.57	8.7	7.09

Fuel consumption data represents performance along a 2.7 fixed pitch propeller curve (3.0 for HD rating). Fuel consumption is based on fuel of 35° API gravity at 16°C (60°F) having an LHV of 42, 780 KJ / KG (18,390 BTU / lb) when used at 29°C (85°F) and weighing 838.9 g / liter (7.001 lb / US gal). Observed horsepower is certified within ±5% of rated horsepower. Consult your local CMD professional for further information.

## Engine Dimensions

Length		Width		Height		Weight (Dry)*	
mm	in	mm	in	mm	in	kg	lb
1036	40.8	836	32.9	880	34.6	612	1350

\*Does not include exhaust connection.  
Weights vary by rating. Length to flywheel housing.

## Available Accessories

**Engine Controls:** Digital Throttle and Shift, Electronic Throttle and Shift (ETS) and optional potentiometer for mechanical controls

**Instrumentation:** SmartCraft® 2.2 digital displays and / or analog gauges provide data on engine speed, oil pressure, engine load and more.

**Vessel System Integration:** SmartCraft® 2.2 monitors fluid level, vessel range, depth, vessel speed, rudder position, temperatures and more



## Ratings Definitions

**Heavy Duty (HD):** Intended for nearly continuous use in variable load applications, where full power is limited to eight hours out of every ten hours of operation. Also, reduced power operation must be at or below cruise rpm, which is 200 rpm below the maximum rated speed. This rating is for applications operating less than 5000 hours per year.

**Medium Continuous (MD):** Intended for moderate use in variable load applications, where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operation must be at or below cruise rpm, which is 200 rpm below the maximum rated speed. This rating is for applications operating less than 3000 hours per year.

**Intermittent (ID):** Intended for intermittent use in variable load applications, where full power is limited to two hours out of every eight hours of operation. Also, reduced power operation must be at or below cruise rpm, which is 200 rpm below the maximum rated speed. This rating is for applications operating less than 1500 hours per year.

**Government Service (GS):** Intended for infrequent use in variable load applications, where full power is limited to one hour out of every eight hours of operation. Also, reduced power operation must be at or below cruise speed (rpm). Cruise speed (rpm) is dependent on the engine rated speed (rpm), Refer to Table 1 below. For applications operating less than 500 hours per year. Engines with this rating are restricted to non-revenue generating government service propulsion applications. It is not to be used in any revenue generating commercial applications, nor is it to be used in recreational/pleasure applications.

**High Output (HO):** Intended for infrequent use in variable load applications, where full power is limited to one hour out of every eight hours of operation. Also, reduced power operation must be at or below cruise speed (rpm). Cruise speed (rpm) is dependent on the engine rated speed (rpm), Refer to Table 1 below. For applications operating less than 500 hours per year. Engines with this rating are intended for powering recreational/pleasure use vessels only. Commercial use is defined as any work or employment related use of the product, or any use of the product which generates income, for any part of the warranty period, even if the product is only occasionally used for such purposes.

**Rating Conditions:** Declared power ratings are based upon ISO 15550 reference conditions/ air pressure of 100kPa (29.612 in Hg) air temperature of 25° C (77°F) and 30% relative humidity. Propeller Shaft Power represents the net power available after typical reverse/reduction gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

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Table 1

Rated Speed	Cruise Speed (reduction from rated)
2000 to 2800 rpm	200 rpm
2801 to 3500 rpm	300 rpm
3501 to 4500 rpm	400 rpm