



# QSB5.9

## QUANTUM SERIES ENGINE

### 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 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 delivered by the Cummins Captain's Briefing and global service network

### 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 in <sup>3</sup> )
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	472	436	420	375	350	325	300	225	227
KW	352	325	313	280	261	243	224	168	169
Rated rpm	3400	3400	3000	3000	2800	2800	2600	2600	3000
Max Torque ft-lbs	942	913	908	898	853	830	783	670	510
Max Torque N-m	1278	1238	1231	1218	1156	1125	1062	908	691
rpm @ max torque	2200	2000	2000	2000	2000	1800	1800	1600	1600

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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	352	348	340	334	325	319	318	310	313	307	299	292	280	279	281	271	261	259	256	254
l/hr	97.4	79.1	62.8	52	90.6	72.8	58.7	48.6	81.3	65.5	53	43.4	76.2	60.6	48.1	39.5	68.1	55.2	44.3	36.2
bhp	472	466	456	448	436	427	426	416	420	411	401	391	375	374	377	364	350	347	343	340
gal/hr	25.7	20.9	16.6	13.7	23.9	19.2	15.5	12.8	21.5	17.3	14	11.5	20.1	16	12.7	10.4	18	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	238	240	238	224	221	222	213	168	162	167	165	169	168	162	217
l/hr	63.3	50.8	41.6	33.5	57.3	47	37.9	30.8	42.2	36.8	29.7	23.3	47	40	33	26.8
bhp	325	319	321	320	300	296	287	286	225	217	225	222	227	226	217	207
gal/hr	16.7	13.4	11	8.9	15.1	12.4	10	8.1	11.1	9.7	7.9	6.1	12.5	10.6	8.7	7.1

Fuel consumption data represents performance along a 2.7 fixed pitch propeller curve (for HO, ID, MCD, 3.0 for HD and CON ratings). 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 Cummins 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. Length measured from back of flywheel to engine front. Overall height includes dipstick.



## 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.

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

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