

# QSD2.8 QUANTUM SERIES ENGINE

## Engine Overview

- Quiet, smooth performance and enhanced sociability produced from the proven High-Pressure Common-Rail fuel system
- Impressive acceleration and precise throttle response is another key result of the fuel system
- Enhanced fuel economy delivered by the full-authority electronic engine control
- Maximize vessel performance and access comprehensive vessel diagnostic information via SmartCraft® electronics

## Power Ratings

Rating	HO/LC
Metric hp	220
bhp	214
KW	160
Rated rpm	3800
Max Torque ft-lbs	358
Max Torque N-m	485
rpm @ max torque	2600

## Engine Specifications

Configuration	In-line 4-cylinder, 4-stroke diesel
Bore & Stroke	94 mm x 100 mm (3.7 in x 3.94 in)
Displacement	2.8 L (169 in <sup>3</sup> )
Aspiration	Turbocharged / Sea Water Aftercooled
Rotation	Counterclockwise facing flywheel

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

## Features

**Fuel System:** Bosch Common-Rail (CRS 2.0); Integrated WIF sensor in secondary fuel filter

**Lubrication System:** Cast aluminum oil pan

**Electrical System:** 12 Volt system

**Cooling System:** Sea Water Aftercooled; Heat Exchanger only

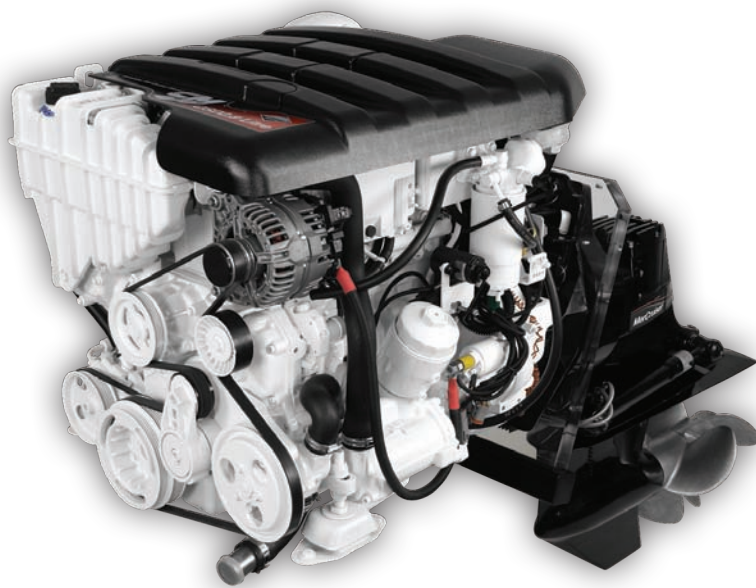
**Emissions:** EPA Tier 2, IMO, RCD certified, BSO/SAV (select ratings)

Available for recreational and light commercial duty applications

Tailor a propulsion package based on budget and needs:

QSD2.8 220 available with Bravo 1X, 2X, & 3X drives

QSD2.8 220 available for inboard applications with ZF63IV or TM485 gears (mech/12V electric shift) and optional trolling valve



**Cummins MerCruiser Diesel**

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1-800-DIESELS

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## Fuel Consumption (Prop Curve)

Rating	QSD2.8 - 220 HO/LC			
rpm	3800	3600	3400	3200
KW	160	138	118	100
l/hr	50.0	40.9	34.1	28.6
bhp	214	185	159	135
gal/hr	13.2	10.8	9.0	7.6

Fuel consumption data represents performance along a 2.7 fixed pitch propeller curve. 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
707	27.8	761	30	790	31.1	360	794

\*Weight is engine with heat exchanger system - average. Overall width and height; length to rear face of flywheel housing.

## Available Accessories

**Engine Controls:** Mechanical and Digital Throttle and Shift options

**Instrumentation:** SmartCraft digital displays and / or analog style gauges provide data on engine speed, oil pressure, coolant temp, battery voltage, vessel speed, and drive trim position.

**Vessel System Integration:** New Vessel Interface Panel (VIP)

## Ratings Definitions

**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.

**Light Commercial (LC):** Intended for use in variable load applications where full power is limited to one hour out of every twelve hours of operation. Reduced power must be at or below 400 rpm of the maximum rated rpm. This rating is government, commercial or any revenue producing craft that operate less than 500 hours per year.

**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

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