



QSC8.3

QUANTUM SERIES ENGINE

Features

Fuel System: Cummins High-Pressure Common-Rail; handed spin-on engine mounted fuel filter

Lubrication System: Handed spin-on engine mounted lube filter, cast aluminum oil pan

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

Coolant System: Sea water heat exchanger cooling system

Emissions: EPA Tier 2, IMO, and RCD certified, EIAPP and RRR certificate options available

Engine Overview

Unmatched performance from industry-leading power density on this four-valve-per-cylinder engine

Increased durability from innovative engine design characteristics

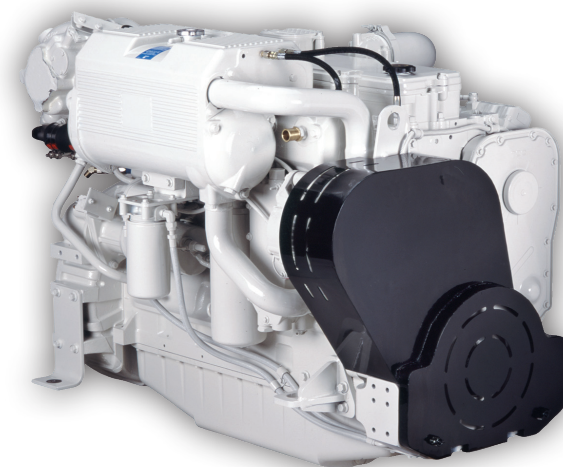
Improved fuel economy and sociability from the high-pressure common-rail fuel system

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 | 114 mm x 135 mm (4.49 in x 5.31 in) |
| Displacement | 8.3 L (505 in ³) |
| Aspiration | Turbocharged / Aftercooled |
| Rotation | Counterclockwise facing flywheel |



Power Ratings

| Rating | HO/ID | HO | HO/GS |
|-------------------|-------|------|-------|
| Metric hp | 500 | 550 | 600 |
| bhp | 493 | 543 | 593 |
| KW | 368 | 405 | 442 |
| Rated rpm | 2600 | 3000 | 3000 |
| Max Torque ft-lbs | 1327 | 1327 | 1327 |
| Max Torque N-m | 1799 | 1799 | 1799 |
| rpm @ max torque | 1800 | 1800 | 1800 |

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

Fuel Consumption (Prop Curve)

| Rating | QSC8.3-500 ID/HO | | | | QS8.3-550 HO | | | | QSC8.3-600 HO/GS | | | |
|---------------|------------------|------|------|------|--------------|------|------|------|------------------|------|------|------|
| rpm | 2600 | 2400 | 2200 | 2000 | 3000 | 2800 | 2600 | 2400 | 3000 | 2800 | 2600 | 2400 |
| KW | 368 | 367 | 366 | 353 | 405 | 404 | 399 | 221 | 442 | 428 | 418 | 410 |
| l/hr | 96.1 | 76.1 | 59.4 | 46.2 | 112.8 | 87.7 | 73.1 | 56.8 | 123.1 | 96.1 | 76.9 | 61.9 |
| bhp | 493 | 493 | 490 | 474 | 543 | 541 | 535 | 530 | 593 | 573 | 561 | 549 |
| gal/hr | 25.4 | 20.1 | 15.7 | 12.2 | 29.8 | 23.2 | 19.3 | 15.0 | 32.5 | 25.4 | 20.3 | 16.4 |

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 |
| 1174 | 46.2 | 839 | 33 | 982 | 38.7 | 896 | 1975 |

*Does not include exhaust connection. Weights vary by rating.

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

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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