

QSM11 Quantum Engine Series

POWER RATINGS

Rating	HO & GS	HO & GS	HO	HO & INT	HO & MCD	HO & HD	HO & CON	HO & CON
Metric HP	715	670	645	610	455	405	355	300
BHP	705	661	636	602	450	400	350	295
kW	526	493	474	449	336	298	261	220
Rated RPM	2500	2300	2300	2300	2100	2100	1800	1800
Max Torque FT-LBS	1750	1750	1750	1575	1450	1344	1250	1160
Max Torque N-m	2373	2373	2373	2135	1966	1822	1695	1573
RPM	1700	1700	1700	1700	1400	1400	1350	1300
Manifold Design	Dry	Dry	Dry	Dry	Wet	Wet	Wet	Wet

EPA Tier 2, IMO, RCD Emissions Certified, and CCNR Emissions Certified

ENGINE SPECIFICATIONS

Configuration	In-line 6-cylinder, 4-stroke diesel
Bore & Stroke	4.92 in. x 5.79 in. (125 mm x 147 mm)
Displacement	10.8 L (661 in ³)
Aspiration	Turbocharged/Aftercooled
Rotation	Counterclockwise facing flywheel

FEATURES AND BENEFITS

Engine Design

Heavy-duty inline six-cylinder configuration. Four cycle design for quiet and fuel efficient operation. Low profile for ease of installation and easy service access.

Replaceable wet cylinder liners for longer life and lower rebuild costs.

Cooling System

Low profile, heat exchanger configuration with standard closed crankcase ventilation system. (High Output models only)

Air System

Holset turbocharger optimized for marine applications. Marine grade air filter. Large capacity sea water after-cooler. Cladded dry or wet exhaust manifolds available. Agency approval on commercial ratings by ABS, DNV, BV.



Fuel System

Cummins Select, a full authority electronic Unit Injection Fuel System optimizes combustion for increased engine performance and fuel efficient operation.

Lubrication System

34 L (8.0 g) marine grade, cast aluminum oil pan designed to resist corrosion. Spin-on Fleetguard oil filters.

Electrical System

12-volt and 24-volt systems available. Marine grade wiring harness and instrument panels.

Manufacturing

ISO certified plants.

Emissions Certified

Certificates of Compliance are available from the U.S. EPA and Lloyd's Register of Shipping.

AVAILABLE ACCESSORIES

Wet and dry exhaust connections

Hydraulic Pump Drive: SAE A or B flange

Accessory Drive Pulley: Belt or gear driven

Sea Cruise Package: Includes backup throttle, digital interface, engine synchronization, cruise control, idle speed control and slow idle.



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ENGINE DIMENSIONS 715, 670, 645, 610

455, 405, 355, 300

Length* in. (mm)	52.3 (1329)	52.3 (1329)
Width in. (mm)	43.5 (1104)	42.5 (1081)
Height in. (mm)	39.9 (1012)	40.9 (1039)
Weight* lbs. (kg)	2620 (1188)	2610 (1184)

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

ENGINE RATINGS	715	670	645	610
Fuel Consumption (Rated)	2500 rpm @ 143.8 l/hr	2300 rpm @ 127.9 l/hr	2300 rpm @ 125.2 l/hr	2300 rpm @ 116.6 l/hr
Fuel Consumption (Rated)	2500 rpm @ 38.0 g/hr	2300 rpm @ 33.8 g/hr	2300 rpm @ 33.1 g/hr	2300 rpm @ 30.8 g/hr
Fuel Consumption (Cruise)	2300 rpm @ 106.3 l/hr	2100 rpm @ 93.4 l/hr	2100 rpm @ 91.3 l/hr	2100 rpm @ 84.3 l/hr
Fuel Consumption (Cruise)	2300 rpm @ 28.1 g/hr	2100 rpm @ 24.7 g/hr	2100 rpm @ 24.1 g/hr	2100 rpm @ 22.3 g/hr
Crankshaft mhp (kW)	715 (526)	670 (493)	645 (474)	610 (449)
Compression Ratio	16.3:1	16.3:1	16.3:1	16.3:1
	455	405	355	300
Fuel Consumption (Rated)	2100 rpm @ 87.6 l/hr	2100 rpm @ 75.4 l/hr	1800 rpm @ 65.3 l/hr	1800 rpm @ 55.2 l/hr
Fuel Consumption (Rated)	2100 rpm @ 23.1 g/hr	2100 rpm @ 19.9 g/hr	1800 rpm @ 17.2 g/hr	1800 rpm @ 14.6 g/hr
Fuel Consumption (Cruise)	1900 rpm @ 64.6 l/hr	1900 rpm @ 56.2 l/hr	1600 rpm @ 47.0 l/hr	1600 rpm @ 38.9 l/hr
Fuel Consumption (Cruise)	1900 rpm @ 17.1 g/hr	1900 rpm @ 14.8 g/hr	1600 rpm @ 12.4 g/hr	1600 rpm @ 10.3 g/hr
Crankshaft mhp (kW)	455 (336)	405 (298)	355 (261)	300 (220)
Compression Ratio	15.9:1	15.9:1	15.9:1	15.9:1

Above data represents performance along a 2.7 fixed pitch propeller curve for 610 rating and above and a 3.0 propeller curve for 455 rating and below. Fuel consumption has a tolerance of +/- 5% and is based on fuel of 35° API gravity at 16°C (60°F) having an LHV of 42, 780 KJ/KG (18,390BTU/lb) when used at 40°C (104°F) and weighing 838.9 g/liter (7.001 lb/US gal). Cummins has always been a pioneer in product improvement. Thus specifications may change without notice. Consult your local Cummins professional for further information.

Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25°C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power rated in accordance with IMCI procedures.

High Output

Intended for use in variable load applications where full power is limited to one hour out of every eight hours of operation. This rating is for pleasure/non-revenue generating applications that operate less than 500 hours per year. Also, reduced power operation must be at or below 200 rpm of the maximum rated rpm.

Continuous Duty

Intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO 3046 standard power rating. Typical vessel applications include: ocean-going displacement hulls such as fishing trawlers, freighters, tugboats, bottom drag trawlers, and towboats.

Government Service (GS)

Intended for use in variable load applications where full power is limited to one hour out of every eight hours of operation. This rating is for Federal, State and local non-revenue generating applications that operate less than 500 hours per year.

Intermittent Duty

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 operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is intended for applications that operate less than 1,500 hours per year.

Medium Continuous

Intended for continuous use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 3,000 hours per year.

Heavy Duty

Intended for continuous use in variable load applications where full power is limited to eight (8) hours out of every ten (10) hours of operation. Also, reduced power operations must be at or below 200 rpm of the maximum rated rpm. This is an ISO 3046 fuel stop power rating and is for applications that operate 5,000 hours per year or less.



Cummins MerCruiser Diesel

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