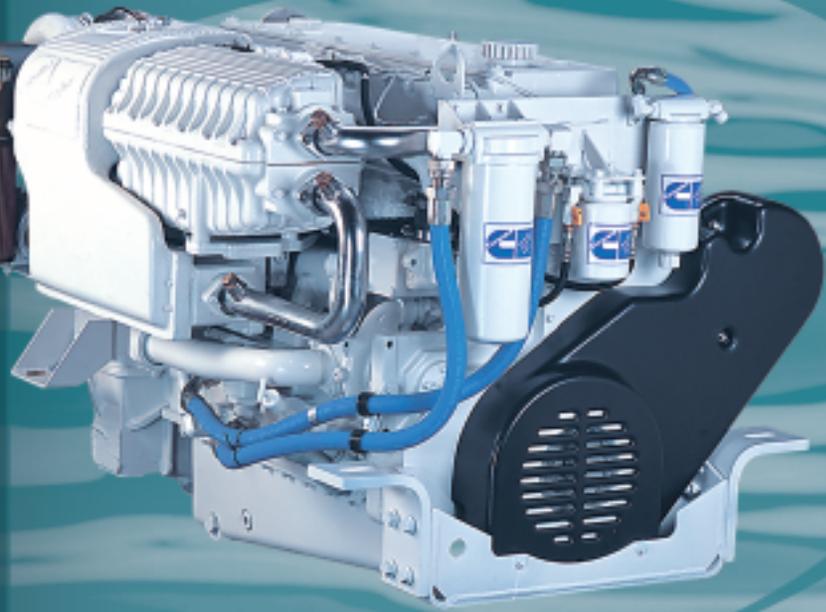


THE QUANTUM ENGINE SERIES



Cummins MerCruiser Diesel
The New Wave in Diesel Marine Power





Powering Your Lifestyle

Passion or Profession? Bottom-line: you want reliable, innovative and proven engine propulsion for your boat. Cummins MerCruiser Diesel delivers a new wave of marine diesel power that brilliantly advances the science of marine diesel technology.

Astounding improvements in fuel efficiency translate into extended range and significant savings at the pump. Environmentally friendly and fully compliant with European and US emission requirements, these new engines are virtually smoke free. Low noise and vibration offer smooth, comfortable cruising. Improvements in compact designs and power to weight ratios, means that Cummins MerCruiser Diesel Quantum Series engines are now a reality for a wider range of sport fishing boats and yachts.

Experience A New Wave

The Quantum Series engines encompass superior digital technology experienced at start up, felt piercing through the roughest waves, measured in extra miles between fill-ups, and relied upon to protect your engine from serious mechanical malfunctions.

Cummins MerCruiser Diesel continues to assemble one of the most modern and responsive customer support teams the marine industry has ever seen. Worldwide, we've surpassed 1,500 distributors and dealers who maintain quality components and parts, able to quickly respond to your needs.

Visionary Future

Cummins MerCruiser Diesel is a joint venture between two legendary leaders in marine propulsion—Cummins Incorporated and Mercury Marine. The combination of engineering and marketing expertise, exceptional range of products and an ever-growing worldwide service network is keeping CMD on course to become the industry's only "prop-to-helm" performance source for boaters the world over.

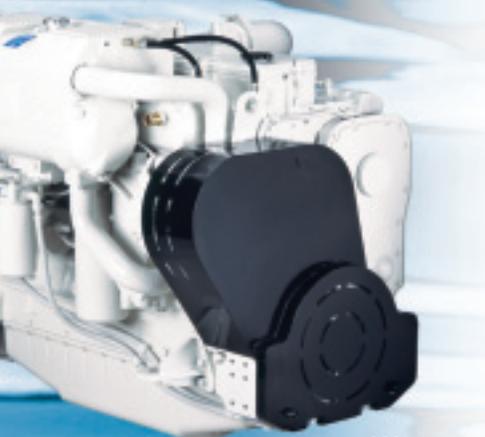
Quantum Diesel Engines offer many advantages... **Freedom** to cruise farther... **Low noise** and **Vibration**... **Virtually No Smoke**... **Impressive Acceleration, Power** and **Long Engine Life.**



The Quantum Series Diesel Engine



QSL9
285-405 mhp

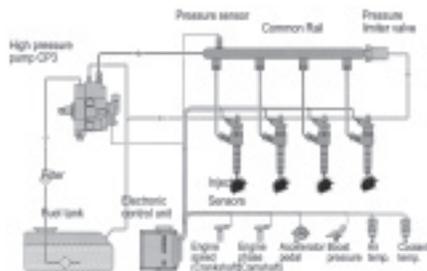


QSC8.3
490-540 mhp



QSB5.9
230-380 mhp

- Improved Fuel Economy
- Instant Start Up In Cold Weather
- Virtually Smoke & Odor Free
- EPA Tier 2/IMO Compliant
- 80% Less Noise at Idle on QSB Series
- Lighter Weight / Increased Power



Common Rail Illustration

CMD has engineered more pleasure into your boating experience with Quantum Series Engines by virtually eliminating smoke, significantly reducing engine noise and simplifying vessel engine information management.

Quantum— derived from the Latin word *quantus*— means how great. Precisely how you’ll feel about this exceptional series of virtually smoke-free diesel engines. From quiet, effortless start-ups to heart-thumping acceleration,



the Quantum Series engines are what you look for but rarely find in a diesel propulsion system. Central to the newest Quantum engines is the high-pressure common rail fuel system, which provides better power-to-weight ratios, cleaner starting, less noise and virtually eliminates smoke and odor commonly associated with diesel engines. Cummins MerCruiser Diesel is a vanguard of the environment, earning the first EPA Tier 2/IMO emission standards certification. All Quantum Engines already meet 2006 EPA standards. Field-tested for thousands of hours in a variety of boats in all types of environments, the full-authority electronic control continually monitors operating conditions and adjusts to provide optimized performance. Unsurpassed reliability and durability... Cummins MerCruiser Diesel has increased the warranty period for the Quantum Series. Now that’s great confidence!



The Quantum Diesel Advantages

- Low Noise and Vibration
- Virtually No Smoke
- State-of-the-art fuel systems including high pressure Common Rail and Celect unit injection
- Compact Lightweight Designs
- Outstanding Range
- Durability and Reliability

Confidence

Durability, diesel economy and dependable power are hallmarks of the Quantum Series. Quantum Series Engines take the worry out of going further and running longer.



QSM11
300-670 mhp



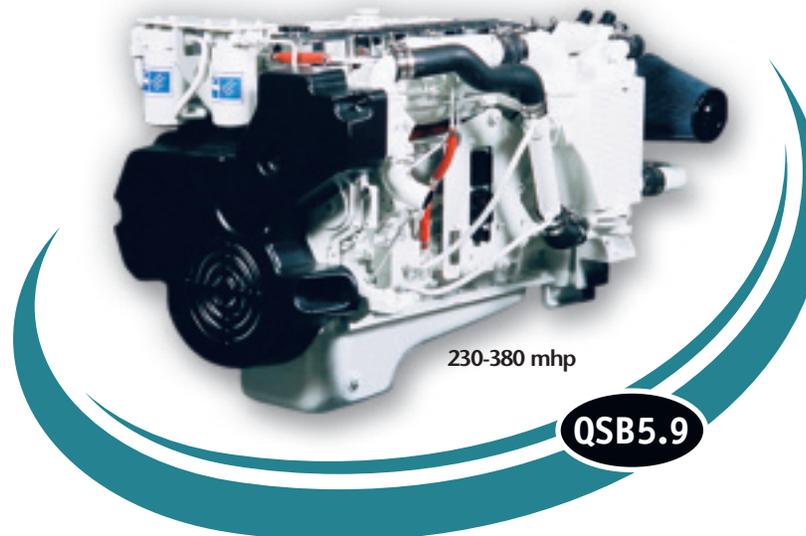
The Quantum Series Diesel Engine 5.9 Litre



All new Quantum Series engines use the SmartCraft multiplexing digital control and communication system. Constantly monitoring engine performance,



providing instant diagnostics, and inputs from many other boat systems, such as fuel tank levels, GPS and water depth in one easy to read color helm display, you'll always be in command and control of your vessel.



Features:

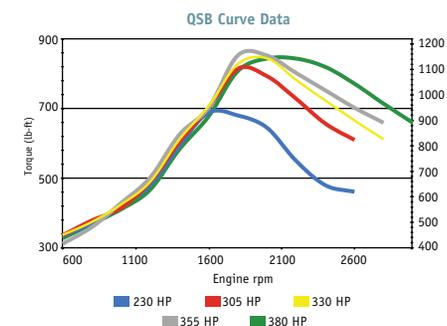
- **Strengthened block for long life and reduced noise**
- **24 valve cylinder head for better breathing and acceleration**
- **Corrosion proof beltguard**
- **Easily accessed filters and maintenance items**
- **Gallery cooled pistons for long life**
- **Common rail fuel system**
- **Meets EPA 2006 emissions standards**

Better Range

The QSB5.9-380 improves fuel economy 5% (61 lph/16.3 gph @ 2800 rpm cruise) while offering a 6% increase in cruise power. Boats accelerate quicker from the combination of a perfectly matched turbo-charger and a new 24 valve cylinder head which allows the engine to breathe easier.

Quiet Strength

An 80% reduction in noise at idle is one of the many benefits from the common rail fuel injection system and design modifications to the cylinder block. The cast iron block is scalloped which further reduces noise by increasing the stiffness of the engine. Peak torque on the QSB5.9-380 increases nearly 20% without wastegating. In addition, peak torque occurs 200 RPM lower than previously on the Cummins 370B.



Cummins MerCruiser Diesel has a long-term vision to provide boatbuilders with a complete integrated system for vessel propulsion. The combination of engines, services and



expertise is second to none in the diesel marine industry. Reliable. Responsible. Propulsion solution providers.



Features:

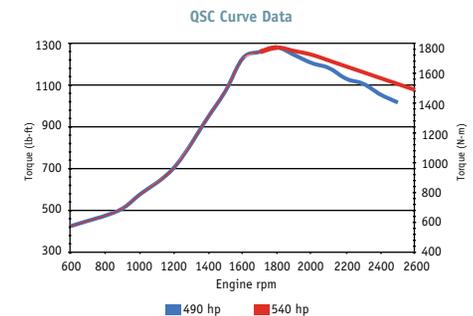
- SmartCraft enabled
- 24 valve cylinder head for better breathing and acceleration
- Corrosion proof beltguard
- Easily accessed filters and maintenance items
- Gallery cooled piston for long life
- Stainless steel sea water piping provides outstanding corrosion resistance
- Meets EPA 2006 emissions standards
- Common rail fuel system

Clean, Quiet Operation

Refining the benefits of common rail fuel systems further allows the QSC8.3 to reduce white smoke levels at start up without the aid of air heaters. The QSC8.3 is quiet at idle and virtually smoke free.

Advanced Engineering

Expectations of a long engine life are evident throughout the QSC8.3. Stainless steel piping improves the durability of the seawater cooling circuit. A new polymer belt guard prevents corrosion. Well-thought-out placement of engine components is welcome news for installers and those who maintain your vessel. Inboard fuel and lube filters can be installed on either side of the engine for easy servicing. Front supports with multiple mounting locations make for easier installation, while a raised turbocharger location reduces exhaust connection complexity.



The Quantum Series Diesel Engine 8.3 Litre

The Quantum Series Diesel Engine 9 Litre



By constantly monitoring and integrating all of the information your vessel can provide, SmartCraft enables



you to maximize your boating experience! We've mastered the technology to link your boat's systems and controls...



Features:

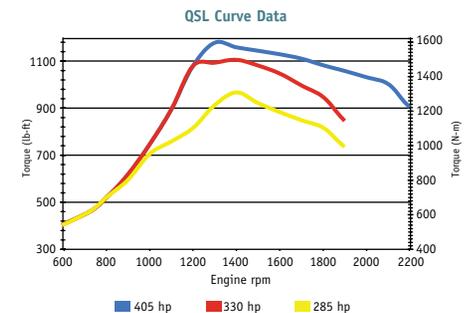
- 24 valve cylinder head for better breathing and acceleration
- Corrosion proof beltguard
- Easily accessed filters and maintenance items
- Articulated gallery cooled pistons for long life
- Common rail fuel system
- Meets EPA 2006 emissions standards
- SmartCraft enabled

Clean, Quiet Operation

Refining the benefits of common rail fuel systems further allows the QSL9 to reduce white smoke levels at start up without the aid of air heaters. Extremely environmentally friendly, the QSL9 is quiet at idle and virtually smoke free.

Advanced Engineering

Expectations of a long engine life are evident throughout the QSL9. A new belt guard aids in fighting corrosion. Well-thought-out placement of engine components is welcome news for installers and those who maintain your vessel. Handed fuel and lube filters can be installed on either side of the engine for easy servicing. Front supports with multiple mounting locations make for easier installation, while a raised turbocharger location reduces exhaust connection complexity.



The Quantum Series Diesel Engine 11 Litre



Cummins MerCruiser Diesel continues developing environmentally responsible engines. The QSM11 was the first to be EPA Tier 2 emissions certified.



Cleaner for the seas we enjoy and cleaner for your boat. And, the proven closed crankcase ventilation system provides a cleaner engine room.



Features:

- Closed crankcase ventilation for cleaner engine room
- C-Cruise: Marine cruise control, engine synchronization
- Electronic engine sensors & diagnostics
- Quiet, fuel-efficient, virtually smoke free
- Meets EPA 2006 emissions standards

More Horsepower—Extraordinary Fuel Efficiency

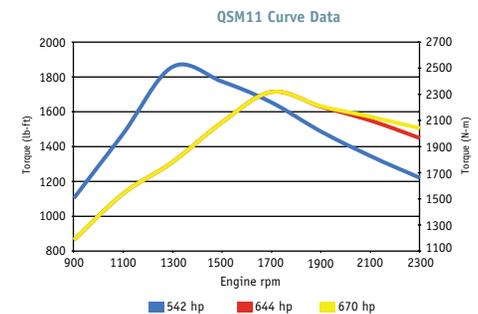
Now with added horsepower across the entire QSM11 range, these workhorses are already meeting 2006 worldwide emission standards. Proven performance whether you are backing down on a trophy fish or backing into a tight slip in your favorite port of call – the QSM11 consistently delivers in all climates.

Marine Cruise Control

Focusing on enjoyment rather than work, the exciting C-Cruise feature provides marine cruise control. C-Cruise options include slow idle, engine synchronization for twin-engine applications and adjustable cruise speeds. Advanced interactive digital (LCD) engine displays, backup throttles, prognostics and diagnostics are available.

Perfect for Trawlers

The engine's compact size promotes ease of installation and easy access for maintenance. With a new 455 horsepower rating, the QSM11 is ideal for trawlers and similar applications.





It's simple and it's SMART.

By constantly monitoring and integrating all of the information your vessel can provide, SmartCraft enables you to maximize your boating experience! We've mastered the technology to link your boat's systems and controls... the result is SmartCraft and intelligent boaters around the world.

Estimated range, fuel consumption, gear monitoring, maintenance updates, engine temperature, it's all here... it's all SmartCraft.



- Have instant access to the information on the performance of your boat...
- Know when something is going wrong and how to respond...
- Know how far you can go on the fuel you have on board...
- One simple integrated system so you don't have to learn and monitor many systems...
- A system that is expandable so you don't have to replace it when future enhancements are available...
- A system that is proven and reliable and won't leave you stranded...

Cruise With Confidence

One call and help is one the way. Regardless of where you bought your boat or where you dock it... Cummins MerCruiser Diesel has you covered.

Extended coverage is available up to six years, including labor and travel. We're that confident in our engines. Of course, this is precisely the level of coverage you'd expect from the world's most respected producer of diesel engines.

Cummins MerCruiser Diesel sponsors Certified Application Engineer training and Qualified Marine Technician training to provide accurate diagnostic and service applications. Worldwide, there are more than 1,500 distributors and dealers who also stock quality parts to respond quickly to customer needs.

For engine performance backed by superior coverage, see your Cummins MerCruiser Diesel distributor, Call 800-DIESELS for the nearest distributor or visit us at www.cmdmarine.com.



Mobile QuickServe

When your boat is down and you need help on the spot, count on CMD's Mobile QuickServe. It's an entire service network geared to providing rapid response with the highest service expertise in the industry.



Quantum Warranty

The engine performance you expect and the protection plan to back it up... For recreational applications, our Quantum Engine Series includes an upgraded warranty package with base engine coverage of 24 months or 1000 hours. And with extended major components covered up to 48 months (6 years = base plus extended) or 2000 hours, you can cruise with confidence.



Planned Maintenance www.cmdmarine.com

Unparalleled coverage. Purchase your maintenance program at one port and have the work done at any authorized CMD service location in the United States. Order service on-line.



24 Hour Call Center 1-800-DIESELS

24/7 Anywhere in North America- One call for service or information about your engines.

Marine Technical Center

Adding an extra year to the warranty on select CMD Diesels illustrates the confidence you should have with a Cummins MerCruiser Diesel in your boat. Validation begins at our one-of-a-kind Marine Technical Center, located in Charleston, South Carolina (USA) adjacent to the CMD main manufacturing facility. This 33,000 square foot highly advanced center houses engine test cells and a team of the industry's most talented engineers who lead our design, new product development, electronics and vessel integration programs. When fishing, cruising or working on a commercial boat, you put a lot of trust in your engine. Cummins MerCruiser Diesel is the new wave in Diesel Marine Power.



The Quantum Engine Series Specifications



	QSB5.9		QSC8.3		QSL9		QSM11		QSM11 (commercial)	
Available Crankshaft Power	kW [mhp]	Engine Speed [rpm]	kW [mhp]	Engine Speed [rpm]	kW [mhp]	Engine Speed [rpm]	kW [mhp]	Engine Speed [rpm]	kW [mhp]	Engine Speed [rpm]
	280 [380]	3000	397 [540]	2600	298 [405]	2100	492 [670]	2300	336 [455]	2100
	261 [355]	2800	361 [490]	2500	243 [330]	1800	474 [645]	2300	298 [405]	2100
	242 [330]	2800			209 [285]	1800	447 [610]	2300	261 [355]	1800
	224 [305]	2600					433 [590]	2300	220 [300]	1800
	169 [230]	2600					399 [540]	2300		
							336 [455]	2100		
Bore x Stroke	102 x 120 mm	4.02 x 4.72 in	114 x 135 mm	4.49 x 5.31 in	114 x 144 mm	4.49 x 5.69 in	125 x 147 mm	4.92 x 5.79 in	125 x 147 mm	4.92 x 5.79 in
Displacement	5.9 liters	359 cu in	8.3 liters	505 cu in	8.9 liters	540 cu in	10.8 liters	661 cu in	10.8 liters	661 cu in
Number of cylinders	6	6	6	6	6	6	6	6	6	6
Engine weights (Dry) w/o gear	588 kg	1296 lb	895 kg	1975 lb	907 kg	2000 lb	1188 kg	2620 lb	1118 kg	2464 lb
Length (L) w/o gear	1036 mm	40.8 in	1174 mm	46.2 in	1174 mm	46.2 in	1360 mm	53.5 in	1328.9 mm	52.3 in
Width (W)	852 mm	33.5 in	839 mm	33.0 in	842 mm	33.1 in	1085 mm	42.7 in	952 mm	37.5 in
Height (H)	879 mm	34.8 in	982 mm	38.6 in	1091 mm	43.0 in	1009 mm	39.7 in	1006 mm	39.6 in
	QSB5.9-380 HO		QSC8.3-540 HO		QSL9-405 MCD / HO		QSM11-670 HO		QSM11-455 MCD / HO	
Fuel Consumption	3000 rpm @ 77.2 L/hr	3000 rpm @ 20.4 G/hr	2600 rpm @ 109.9 L/hr	2600 rpm @ 29.0 G/hr	2100 rpm @ 79.4 L/hr	2100 rpm @ 21.0 G/hr	2300 rpm @ 124.8 L/hr	2300 rpm @ 33.0 G/hr	2100 rpm @ 87.6 L/hr	2100 rpm @ 23.1 G/hr
	2400 rpm @ 39.4 L/hr	2400 rpm @ 10.4 G/hr	2000 rpm @ 51.4 L/hr	2000 rpm @ 13.6 G/hr	1500 rpm @ 31.7 L/hr	1500 rpm @ 8.4 G/hr	1700 rpm @ 50.8 L/hr	1700 rpm @ 13.4 G/hr	1700 rpm @ 45.4 L/hr	1700 rpm @ 12.0 G/hr
	QSB5.9-330 HO		QSC8.3-490 INT / HO		QSL9-330 HD / HO		QSM11-645 HO		QSM11-405 HD / HO	
Fuel Consumption	2800 rpm @ 63.2 L/hr	2800 rpm @ 16.7 G/hr	2500 rpm @ 96.2 L/hr	2500 rpm @ 25.4 G/hr	1800 rpm @ 62.7 L/hr	1800 rpm @ 16.6 G/hr	2300 rpm @ 121.9 L/hr	2300 rpm @ 32.2 G/hr	2100 rpm @ 75.4 L/hr	2100 rpm @ 19.9 G/hr
	2200 rpm @ 33.7 L/hr	2200 rpm @ 8.9 G/hr	2000 rpm @ 51.4 L/hr	2000 rpm @ 13.6 G/hr	1400 rpm @ 30.5 L/hr	1400 rpm @ 8.1 G/hr	1700 rpm @ 48.6 L/hr	1700 rpm @ 12.8 G/hr	1700 rpm @ 39.4 L/hr	1700 rpm @ 10.4 G/hr
	QSB5.9-355 INT / HO				QSL9-285 CON / HO		QSM11-610 HO		QSM11-355 CON / HO	
Fuel Consumption	2800 rpm @ 69.7 L/hr	2800 rpm @ 18.4 G/hr			1800 rpm @ 54.5 L/hr	1800 rpm @ 14.4 G/hr	2300 rpm @ 113.6 L/hr	2300 rpm @ 30.0 G/hr	1800 rpm @ 65.3 L/hr	1800 rpm @ 17.2 G/hr
	2200 rpm @ 36.3 L/hr	2200 rpm @ 9.6 G/hr			1400 rpm @ 26.7 L/hr	1400 rpm @ 7.1 G/hr	1700 rpm @ 46.4 L/hr	1700 rpm @ 12.3 G/hr	1400 rpm @ 31.0 L/hr	1400 rpm @ 8.2 G/hr
	QSB5.9-305 MCD / HO						QSM11-590 INT / HO		QSM11-300 CON / HO	
Fuel Consumption	2600 rpm @ 57.5 L/hr	2600 rpm @ 15.2 G/hr					2300 rpm @ 107.0 L/hr	2300 rpm @ 28.3 G/hr	1800 rpm @ 55.2 L/hr	1800 rpm @ 14.6 G/hr
	2000 rpm @ 30.7 L/hr	2000 rpm @ 8.1 G/hr					1700 rpm @ 45.1 L/hr	1700 rpm @ 11.9 G/hr	1400 rpm @ 26.4 L/hr	1400 rpm @ 7.0 G/hr
	QSB5.9-230 HD / HO						QSM11-540 HO			
Fuel Consumption	2600 rpm @ 42.8 L/hr	2600 rpm @ 11.3 G/hr					2300 rpm @ 101.6 L/hr	2300 rpm @ 26.9 G/hr		
	2000 rpm @ 23.2 L/hr	2000 rpm @ 6.1 G/hr					1700 rpm @ 41.2 L/hr	1700 rpm @ 10.9 G/hr		
							QSM11-455 MCD / HO			
Fuel Consumption							2100 rpm @ 80.0 L/hr	2100 rpm @ 21.1 G/hr		
							1500 rpm @ 32.7 L/hr	1500 rpm @ 8.6 G/hr		

Metric ratings, crankshaft power rated according to SAEJ1228/ISO8665, ISO 3406-1 fuel stop power with 40°C (104°F) fuel. Crankshaft power rated according to SAEJ1228/ISO8665, at standard reference conditions. Propshaft power for inboard engines is approximately 3 percent less than rated crankshaft power, which represents net power available after typical reverse/reduction gear losses and may vary depending on type of gear or propulsion system used. See you local CMD professional for the latest technical information. ©2004 Cummins MerCruiser Diesel Marine, LLC. All rights reserved. Ratings subject to change without notice. Not responsible for typographical errors.



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.

Continuous Duty (CON)

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.

Intermittent Duty (INT)

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 Duty (MCD)

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 (HD)

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.

High Output (HO) Quantum Engines Only

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 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.

Rating Conditions

Declared power ratings are based upon ISO 306 reference conditions; air pressure of 100 kPa (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. Fuel consumption is based on fuel of 35° API gravity at 16°C (60°F) having LHV of 42,780 k/kg (18,390 Btu/lb) and weighing 838.9 g/liter (7,001 lb/U.S. gal).

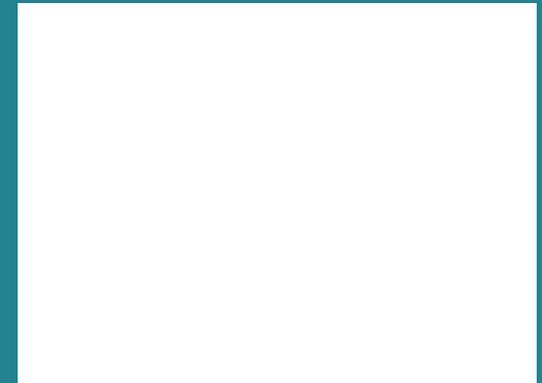
Pleasure Craft Rating (PC)

Intended for use in variable load applications where full power is limited to 1 hour out of every 12 hours of operation. Reduced power must be at or below 400 rpm of the maximum rated rpm. This rating is reserved for recreational planning craft used only and exclusively for pleasure and recreation.

Light Commercial Rating (LC)

Intended for use in variable load applications where full power is limited to 1 hour out of every 12 hours of operation. Reduced power must be at or below 400 rpm of the maximum rated rpm. This rating is for government, commercial or any revenue producing craft that operate less than 500 hours per year.

All information contained in this brochure is subject to change without notice. CMD is not responsible for typographical errors or incorrect data. See your local CMD professional for the latest technical information.



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