

Quantum Engines

Axius®

Sterndrives

Inboards

Zeus®

SmartCraft®



Cummins MerCruiser Diesel

Q U A N T U M S E R I E S





The Power of Two Legendary Names in Marine Propulsion

Cummins Incorporated + Mercury Marine

Engineering Expertise + Global Network

Cummins Inc. is recognized worldwide as a leader in advanced diesel power systems. Its success in the marine market includes over 80 years of experience producing reliable propulsion and auxiliary engines for recreational and commercial applications.

Since the company was founded in 1939, Mercury Marine has continually set the standard as the world's most innovative technological leader in marine propulsion and has consistently emphasized performance and innovation. That pledge remains strong today, as Mercury is repeatedly recognized for its ability to foresee and fulfill the needs of its consumers.

Cummins MerCruiser Diesel, a joint venture between these two industry leaders, represents a combination of world-class research and engineering expertise, exceptional range of products and an ever-growing global service network. Through this alliance, CMD has emerged as the industry's premier choice for vessel integration performance.

The Premier Propulsion System Solution



ZEUS®



QUANTUM



Cummins MerCruiser Diesel
RELIABILITY THROUGH INNOVATION

Trusted by Boaters Worldwide

Cummins MerCruiser Diesel is focused on bringing a greater level of enjoyment, efficiency and reliability to boaters of all types. From a day cruise with your family to the daily grind of commercial fishing, our products are built for maximum strength, performance and safety.

Through incredible advances in diesel technology and control systems, CMD has brought a wider range of boaters the freedom to cruise farther, to experience a quieter, smoother ride, to virtually eliminate smoke and fumes, to achieve greater control, to maneuver in bold new ways and to experience a level of power and fuel economy never before realized in diesel propulsion.

Our innovative Quantum diesel engines – some of the cleanest and most efficient compact diesel engines to ever hit the water – combined with our advanced drives, electronic control systems, SmartCraft® vessel integration, Zeus®, Axius® and worldwide service network, make it clear that CMD is the premier propulsion system solution.

Regardless of what brings you out on the water, CMD has developed an engine package to meet your needs. From runabouts to trawlers, high-performance yachts to tournament sportfishers, in marinas all across the globe, recreational boaters and professional mariners alike trust the combined power of Cummins Incorporated and Mercury Marine to consistently deliver innovative and reliable diesel propulsion systems.





Diesel Advantages

- Outstanding fuel economy and range
- Higher torque for greater power
- Durability for longer engine life

Quantum Advantages

- Instant startup in cold weather
- Virtually smoke and odor free
- Lighter weight / increased power
- Simplified engine information management
- 80% less noise at idle on QSB Series
- SmartCraft® vessel integration
- Unmatched durability
- EPA Tier 2, IMO and RCD certified

Unsurpassed Reliability & Efficiency



Today's boat operators demand a higher level of performance from all aspects of their vessels. Advances in boatbuilding materials and techniques, improvements in vessel design, comfort and safety, and significant developments in marine electronics have raised expectations across the board.

The CMD Quantum Series engines meet this challenge by delivering a level of performance and reliability that sets a completely new standard for marine diesel propulsion. The result of decades of research and cutting-edge innovations, Quantum engines feature specialized high-pressure common rail or electronic injection fuel systems that provide increased power-to-weight ratios, cleaner starts and less noise. The smoke and odor often associated with diesel engines are all but eliminated. With quiet, effortless startups and impressive acceleration, these engines contribute to a superior boating experience. • >>



Unsurpassed for reliability and durability, Cummins MerCruiser Diesel has increased the warranty period for the Quantum Series to give you even greater peace of mind.



• >> To ensure maximum performance, all Quantum Series engines are SmartCraft® capable. Multiplexing digital control and communications systems constantly monitor not only engine performance but also fuel tank levels, GPS and water depth. With a color helm display that provides instant diagnostics and is easy to read, you'll always be in command of your vessel.

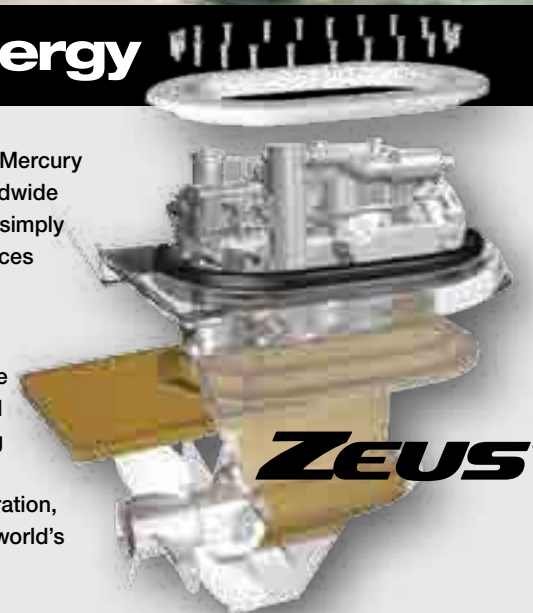
Quantum engines also feature advanced piston design for durability. Front engine supports have been strengthened and designed for easier installation. A raised turbocharger location reduces exhaust connection complexity. Handed fuel and lube filters can be installed on either side of the engine for easy servicing. Add a corrosion-proof belt guard, and you can begin to understand the level of detailed planning that goes into our products and the resulting confidence you can have in them.

In addition to setting the benchmark for performance, Cummins MerCruiser Diesel is also a leader in environmental protection, earning one of the first EPA Tier 2 and IMO emission standards certifications. Field-tested for thousands of hours in a variety of boats and in all types of environments, our full-authority electronic control system continually monitors operating conditions and adjusts to provide optimized performance.

Innovative Synergy

Building on the synergy of the Cummins and Mercury Marine joint venture and drawing from a worldwide network of technology partnerships, there is simply no other company that possesses the resources and unyielding commitment to innovation as Cummins MerCruiser Diesel.

The most recent example of CMD's innovative leadership is the highly acclaimed Zeus® Pod Propulsion System featuring joystick docking and Skyhook® station keeping. The result of more than a decade of research and collaboration, CMD has produced what is being called the world's most advanced marine propulsion system.



Innovative Solutions

From the synergy of two of the most respected names in marine diesel power comes one total solution for all of your boating needs. Recognized as the world's leading propulsion system solution provider, Cummins MerCruiser Diesel delivers you the peace of mind in knowing that every major component in your propulsion system was engineered to work in perfect harmony.

Together with an elite group of trusted partners, CMD has created a fully integrated marine propulsion system that is unrivaled in the industry. Reliable and well-built drives; powerful, clean and quiet engines and smooth electronic controls are all managed through the cutting-edge SmartCraft® system.

Every component has been specifically designed to optimize reliability, performance and safety. If a problem should ever arise, you are backed by a global network of service technicians with the expertise and parts to get you back on the water quickly.



1



1 Digital Throttle & Shift (DTS)

2 SmartCraft® VesselView Display

3 Quantum Engines

4 Drives & Transmissions

3



2



4





QSD2.0 Features

- Compatible with Alpha sterndrives 130-170 hp ratings and Bravo sterndrives for 170 hp rating
- Turbocharged and seawater aftercooled for quick response and superior performance
- High-pressure common-rail fuel system
- EPA Tier 2, IMO and RCD, select ratings BSO/SAV certified
- Counterbalancer shafts for low vibration
- Sterndrive or inboard
- Drop-in replacement for many gasoline engines
- SmartCraft® enabled
- 16-valve cylinder head for better acceleration
- Digital Throttle & Shift capable

Cummins MerCruiser Diesel is proud to offer the QSD line. Incorporating the cutting-edge technologies of our current Quantum engines such as a high-pressure common-rail fuel system and SmartCraft® capability, this new series sets the pace for sterndrive applications in the marine industry.

Compact and Powerful

Combining the quiet, smooth performance of a traditional gasoline engine with the added fuel economy, torque and durability of a diesel, this four-cylinder, compact powerhouse features an advanced ECM with SmartCraft® compatibility to monitor various engine parameters. The QSD2.0 also features advanced components like the integrated heat exchanger and exhaust manifold, which also help reduce overall package size. Impressive acceleration and precise throttle response are the result of a proven common-rail fuel system that includes a turbocharger and seawater aftercooler.

SPECIFICATIONS

QSD2.0 (115, 130, 150, 170 metric horsepower)

Displacement litres (cu. in.)	2.0 (120)
Cylinders	Inline-4
Fuel System	Common Rail
Water-in-Fuel Sensors	Yes
Cabin Heat	Standard
Exhaust Risers	5" Standard on Sterndrives, 3.5" inboard
Closed Crankcase Ventilation	Standard
Volts / Amps	12 V / 110 Amp
Corrosion Protection (drive and engine)	MerCathode (optional with Alpha, standard with Bravo) / Zinc Anodes / Advanced painting process / SeaCore (optional – Bravo only)
Air Handling	Turbocharged / Aftercooled / Wastegated
Drive Options	Inboard / Alpha Sterndrive (130-170 hp) / Bravo X 1, 2, 3 Sterndrive (170 hp)



QSD2.0 Litre 115-170 mhp

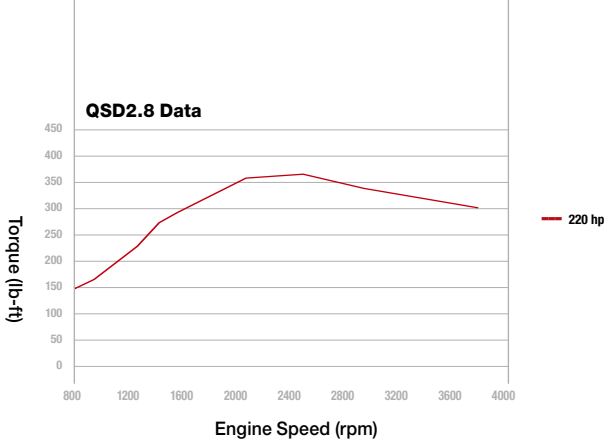
The QSD2.8 is one of the most versatile members of the Quantum line. Featuring a high-pressure common-rail fuel system and SmartCraft® capability, this four-cylinder powerhouse offers reduced noise and improved sociability, and is a perfect fit for a wide variety of sterndrive applications.

Compact and Durable

Don't be fooled by its compact design: the QSD2.8 is built to last. With a gear-driven camshaft and patented tunnel-design crankcase with wet liners, this diesel is extremely durable. Hydraulic lifters and counterbalancing shafts reduce noise and vibration, while a proven common-rail fuel system significantly reduces emissions. Precise throttle response is aided by a turbocharger and a seawater aftercooler, while an advanced ECM with SmartCraft® compatibility provides system monitoring and control never before seen in a diesel engine this size.

QSD2.8 Features

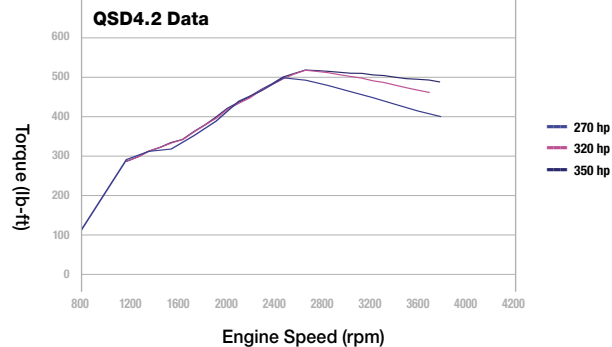
- Available in inboard or Bravo sterndrive configuration
- Axis® joystick control system optional on twin Bravo packages
- Turbocharged and seawater aftercooled for quick response and superior performance
- High-pressure common-rail fuel system
- EPA Tier 2, IMO and RCD, BSO/SAV certified
- Counterbalancer shafts for low vibration
- Drop-in replacement for many gasoline engines
- SmartCraft enabled
- Digital Throttle & Shift capable
- Available in High Output and Light Commercial ratings



SPECIFICATIONS

	QSD2.8 (220 metric horsepower)
Displacement litres (cu. in.)	2.8 (169)
Cylinders	Inline-4
Fuel System	Common Rail
Water-in-Fuel Sensors	Yes
Cabin Heat	Standard
Exhaust Risers	5" Standard on Sterndrives
Closed Crankcase Ventilation	Standard
Volts / Amps	12 V / 110 Amp
Corrosion Protection (drive and engine)	Zinc Anodes / Advanced painting process / SeaCore optional, MerCathode standard with Bravo drive
Air Handling	Turbocharged / Aftercooled / Wastegated
Drive Options	Inboard / Bravo X 1, 2, 3 sterndrive / Axis

QSD2.8Litre 220 mhp



QSD4.2 Features

- Available in inboard or Bravo sterndrive configuration
- Axisus® joystick control system optional on twin Bravo packages
- Turbocharged and seawater aftercooled for quick response and superior performance
- High-pressure common-rail fuel system
- EPA Tier 2, IMO and RCD, BSO/SAV certified
- Drop-in replacement for many gasoline engines
- SmartCraft enabled, Digital Throttle & Shift optional
- 320 hp model available in High Output and Light Commercial ratings

Designed for sterndrive and inboard applications where more power is needed, the six-cylinder QSD4.2 rounds out the QSD line. Featuring a high-pressure common-rail fuel system and SmartCraft® capability, this compact diesel offers reduced noise and improved sociability up to 350 mhp.

Durable and Powerful

With a gear-driven camshaft and patented tunnel-design crankcase with wet liners, this diesel is extremely durable. Impressive acceleration and precise throttle response are the result of a proven common-rail fuel system that includes a turbocharger and seawater aftercooler. An advanced ECM with SmartCraft® compatibility provides system monitoring and control.

SPECIFICATIONS

QSD4.2 (270, 320, 350 metric horsepower)

Displacement litres (cu. in.)	4.2 (254)
Cylinders	Inline-6
Fuel System	Common Rail
Water-in-Fuel Sensors	Yes
Cabin Heat	Standard
Exhaust Risers	5" Standard on Sterndrives
Closed Crankcase Ventilation	Standard
Volts / Amps	12 V / 110 Amp
Corrosion Protection (drive and engine)	MerCathode / Zinc Anodes / Advanced painting process / SeaCore optional
Air Handling	Turbocharged / Aftercooled / Wastegated
Drive Options	Inboard / Bravo X 1, 2, 3 (270 & 320 hp); Bravo XR 1, 3 (350 hp) / Axisus



QSD4.2Litre 270-350 mhp

QSD2.0, QSD2.8 & QSD4.2 Quantum Engine Series Specifications

SPECIFICATIONS	QSD2.0-115	QSD2.0-130	QSD2.0-150	QSD2.0-170	QSD2.8-220	QSD4.2-270	QSD4.2-320	QSD4.2-350
Crankshaft mhp <i>(kw) @ rpm</i>	115 (84) @ 3000	130 (96) @ 4000	150 (110) @ 4000	170 (110) @ 4000	220 (162) @ 3800	270 (199) @ 3800	320 (235) @ 3800	350 (257) @ 3800
Ratings	HO	HO	HO	HO	HO, LC	HO	HO / LC	HO
Cylinders	Inline-4	Inline-4	Inline-4	Inline-4	Inline-4	Inline-6	Inline-6	Inline-6
Bore & Stroke mm x mm <i>(in x in)</i>	83.0 x 92.0 (3.27 x 3.62)	83.0 x 92.0 (3.27 x 3.62)	83.0 x 92.0 (3.27 x 3.62)	83.0 x 92.0 (3.27 x 3.62)	94 x 100 (3.70 x 3.94)	94 x 100 (3.70 x 3.94)	94 x 100 (3.70 x 3.94)	94 x 100 (3.70 x 3.94)
Displacement litres <i>(cu.in.)</i>	2.0 (120)	2.0 (120)	2.0 (120)	2.0 (120)	2.8 (169)	4.2 (254)	4.2 (254)	4.2 (254)
Compression Ratio	17.5:1	17.5:1	17.5:1	17.5:1	17.5:1	17.5:1	17.5:1	17.5:1
Fuel Consumption <i>(Rated) @ l/hr (g/hr)</i>	3000 @ 21.6 (5.7)	4000 @ 29.5 (7.8)	4000 @ 34.1 (9.0)	4000 @ 37.1 (9.8)	3800 @ 37.6 (9.9)	3800 @ 60.6 (16)	3800 @ 71.9 (19)	3800 @ 81.4 (21.5)
Fuel Consumption <i>(Cruise) @ l/hr (g/hr)</i>	2700 @ 15.5 (4.1)	3600 @ 20.1 (5.3)	3600 @ 23.1 (6.1)	3600 @ 32.2 (8.5)	3400 @ 27.3 (7.2)	3400 @ 41.3 (10.9)	3400 @ 48.1 (12.7)	3400 @ 52.6 (13.9)
Length mm <i>(in)*</i>	589 (23.2)	808 (31.8)	808 (31.8)	808 (31.8)	1001 (39.4)	1225 (48.2)	1225 (48.2)	1225 (48.2)
Width mm <i>(in)</i>	823 (32.4)	823 (32.4)	823 (32.4)	823 (32.4)	767 (30.2)	772 (30.4)	772 (30.4)	772 (30.4)
Height mm <i>(in)</i>	711 (28.0)	711 (28.0)	711 (28.0)	711 (28.0)	790 (31.1)	790 (31.1)	790 (31.1)	790 (31.1)
Engine Weight kg <i>(lbs)</i>	250 (551)	250 (551)	250 (551)	250 (551)	360 (794)	460(1014)	460 (1014)	460 (1014)
Fuel System	Common Rail	Common Rail	Common Rail	Common Rail	Common Rail	Common Rail	Common Rail	Common Rail
Volts / Amps	12 V / 110 Amp	12 V / 110 Amp	12 V / 110 Amp	12 V / 110 Amp	12 V / 110 Amp	12 V / 110 Amp	12 V / 110 Amp	12 V / 110 Amp
Corrosion Protection <i>(drive and engine)</i>	Zinc Anodes / Advanced painting process	Zinc Anodes / Advanced painting process / MerCathode optional on Alpha drive	Zinc Anodes / Advanced painting process / MerCathode optional on Alpha drive	Zinc Anodes / Advanced painting process / MerCathode standard on Bravo drive, optional on Alpha drive / SeaCore optional on Bravo drive	Zinc Anodes / Advanced painting process / MerCathode standard, SeaCore optional on Bravo drive	Zinc Anodes / Advanced painting process / MerCathode standard, SeaCore optional on Bravo drive	Zinc Anodes / Advanced painting process / MerCathode standard, SeaCore optional on Bravo drive	Zinc Anodes / Advanced painting process / MerCathode standard, SeaCore optional on Bravo drive
Air Handling	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated
Propulsion Options	Inboard (TM 345 w/ wo trolling valve, 1.54:1, 2.00:1; TM 485 w/wo trolling valve, 2.40:1)	Alpha (see pg. 11) / Inboard (TM 345 w/wo trolling valve, 1.54:1, 2.00:1; TM 485 w/wo trolling valve, 2.40:1)	Alpha (see pg. 11) / Inboard (TM 345 w/wo trolling valve, 1.54:1, 2.00:1; TM 485 w/wo trolling valve, 2.40:1)	Alpha/Bravo X 1,2,3 Sterndrive (see pg. 11) / Inboard (TM 345 w/wo trolling valve, 1.54:1, 2.00:1; TM 485 w/wo trolling valve, 2.40:1)	Bravo X 1,2,3 Sterndrive (see pg. 11) / Axius (see pg. 12) / Inboard (TM 485 w/wo trolling valve, 1.51:1, 2.09:1, 2.40:1)	Bravo X 1,2,3/Bravo XR 1,3 Sterndrive (see pg. 11) / Axius (see pg. 12) / Inboard (ZF 63 A, 1.50:1, 2.00:1, 2.50:1; ZF 63 IV, 1.50:1, 2.00:1, 2.50:1)	Bravo X 1,2,3/Bravo XR 1,3 Sterndrive (see pg. 11) / Axius (see pg. 12) / Inboard (ZF 63 A, 1.50:1, 2.00:1, 2.50:1; ZF 63 IV, 1.50:1, 2.00:1, 2.50:1)	Bravo X 1,2,3/Bravo XR 1,3 Sterndrive (see pg. 11) / Axius (see pg. 12) / Inboard (ZF 63 A, 1.50:1, 2.00:1, 2.50:1; ZF 63 IV, 1.50:1, 2.00:1, 2.50:1)

QSD2.0

115i
130s
130i
150s
150i
170s
170i

QSD2.8

220s
220s Axius
220i

QSD4.2

270s
270s Axius
270i
320s
320s Axius
320i
350s
350s Axius
350i

Metric rating, crankshaft power rated according to SAE J1228/ISO 8665, ISO 3406-1 fuel stop power with 40°C (104°F) fuel. Crankshaft power rated according to SAE J1228/ISO 8665, 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. * Sterndrive lengths are front of engine to zero point of transom. QSD technical data is preliminary. Propshaft power for sterndrive engines is approximately 4.5 percent less than rated crankshaft power. See your local CMD professional for the latest technical information. Options may affect size & weight of engines. Length measurement is length to flywheel housing. ©2009 Cummins MerCruiser Diesel Marine, LLC. All rights reserved. Ratings and specifications subject to change without notice. Not responsible for typographical errors.

Sterndrives

Engineered specifically to enhance the performance and durability of our fuel-efficient diesel engines, Cummins MerCruiser sterndrives are uniquely suited to maximize your engine's performance.

The Bravo® X sterndrive series features an improved hydrodynamic profile, precision-forged gears for longer life and a redesigned clutch assembly for effortless shifting. To maintain full control in case of an emergency, the exclusive Power Trim XD Memory System allows the drive to return to the original trim position even after striking an underwater object. For a wide array of applications – yacht tender, coastal fishing, small runabouts or cruisers – Cummins MerCruiser Diesel offers a reliable and versatile drive and a wide range of props to make the most of your engine's power.

All CMD Sterndrive Packages Include:

- Power trim
- Power steering

Available Diesel Instruments Include:

- Tachometer
- Volt meter
- Coolant temperature gauge
- Oil pressure gauge
- Steering position indicator
- Fuel flow meter
- Trim indicator
- Speedometer

Corrosion-Fighting Packages Include:

- MerCathode® protection (optional with Alpha drives, standard with Bravo drives) to neutralize corrosive galvanic electrical currents that can destroy metal components
- Exclusive painting process
- Optional SeaCore® corrosion protection for Bravo drives

Alpha

The Alpha® outdrive is ideal for single or twin applications in fishing boats, runabouts and small cruisers. Versatile and fast, it features a fish line cutter and anti-feedback power steering.

QSD	SPECS	ALPHA	LENGTH*	OVERALL WIDTH	OVERALL HEIGHT
2.0	Ratio mm (in)	1.65, 1.81, 2.0	808 (31.8)	823 (32.4)	711 (28.0)
	Weight kg (lbs)**	288 (636)	–	–	–
2.8	Ratio mm (in)	–	–	–	–
	Weight kg (lbs)	–	–	–	–
4.2	Ratio mm (in)	–	–	–	–
	Weight kg (lbs)	–	–	–	–

* Front of engine to Zero Point on Transom

Bravo One X

The Bravo One® drive performs superbly under high-stress requirements. Heavy-duty shafts and bearings coupled to near-net-forged gears withstand heavy torque and thrust loads.

QSD	SPECS	BRAVO I	LENGTH*	OVERALL WIDTH	OVERALL HEIGHT
2.0	Ratio mm (in)	1.5, 1.65	808 (31.8)	823 (32.4)	711 (28.0)
	Weight kg (lbs)**	309 (681)	–	–	–
2.8	Ratio mm (in)	1.5, 1.65	1001 (39.4)	767 (30.2)	790 (31.1)
	Weight kg (lbs)	419 (924)	–	–	–
4.2	Ratio mm (in)	1.36, 1.5, 1.65	1225 (48.2)	772 (30.4)	790 (31.1)
	Weight kg (lbs)	519 (1144)	–	–	–

* Front of engine to Zero Point on Transom

Bravo Two X

The Bravo Two® is superior for larger cruisers and houseboats where extra thrust is needed to get up on and maintain plane at slower speeds.

QSD	SPECS	BRAVO II	LENGTH*	OVERALL WIDTH	OVERALL HEIGHT
2.0	Ratio mm (in)	1.81, 2.0, 2.2	808 (31.8)	823 (32.4)	711 (28.0)
	Weight kg (lbs)**	–	–	–	–
2.8	Ratio mm (in)	1.81, 2.0, 2.2	1001 (39.4)	767 (30.2)	790 (31.1)
	Weight kg (lbs)	424 (935)	–	–	–
4.2	Ratio mm (in)	1.65, 1.81, 2.0, 2.2	1225 (48.2)	772 (30.4)	790 (31.1)
	Weight kg (lbs)	524 (1155)	–	–	–
QSB					
5.9	Ratio mm (in)	1.50	1689 (67)	902 (36)	914 (36)
	Weight kg (lbs)**	714 (1570)	–	–	–

* Front of engine to Zero Point on Transom

Bravo Three X

The Bravo Three® has counter-rotating props providing improved acceleration and tracking. Large rudder area provides excellent handling for single engine boats.

QSD	SPECS	BRAVO III	LENGTH*	OVERALL WIDTH	OVERALL HEIGHT
2.0	Ratio mm (in)	1.65, 1.81, 2.0, 2.2	808 (31.8)	823 (32.4)	711 (28.0)
	Weight kg (lbs)**	318 (702)	–	–	–
2.8	Ratio mm (in)	1.65, 1.81, 2.0, 2.2	1001 (39.4)	767 (30.2)	790 (31.1)
	Weight kg (lbs)	464 (1024)	–	–	–
4.2	Ratio mm (in)	1.36, 1.5, 1.65, 1.81	1225 (48.2)	772 (30.4)	790 (31.1)
	Weight kg (lbs)	528 (1165)	–	–	–

* Front of engine to Zero Point on Transom

Bravo One XR and Bravo Three XR

Specially built and tuned for high-performance boats

QSD	SPECS	BRAVO 1 XR	BRAVO 3 XR
4.2	Ratio mm (in)	1.35, 1.50	1.81
	Weight kg (lbs)**	519 (1144)	528 (1165)

Not all ratios are available with every engine rating.

** Package weight includes engine, transom plate, and drive (no prop)

HIGH PERFORMANCE



Axis® is a revolutionary sterndrive package that provides maneuverability and performance on a level never before available. As the first fully intuitive sterndrive system for piloting a boat, it offers you entirely new ways to enjoy your time on the water – because it makes boating as easy for the novice as it is for the experienced boater.



SmartCraft Joystick Docking



Axis' individual drives simultaneously thrust in forward and reverse to direct the boat.

Joystick control makes maneuvering



A Revolutionary Sterndrive Control System That Will Change Your Boating Experience Forever

A Solid Foundation > Axis uses twin, individually articulating MerCruiser® Bravo Three® X and XR sterndrives with compact QSD Diesel engine packages. So boaters not only enjoy superb maneuverability and increased performance, but also benefit from season-long reliability. Axis also allows for easy upgrading to the MerCruiser-premium SeaCore® Sterndrive System – with hardcoat anodizing and an increased use of stainless steel – which makes it perfect for saltwater environments.

Astonishing Precision > In addition to the amazingly smooth and responsive SmartCraft® Digital Throttle & Shift and variable assist power steering, Axis uses the industry's best Joystick Docking System, which uses vectored thrust to effect complex boat movements. Since the drives work together but aren't connected to one another, at docking speeds joystick docking allows Axis-powered boats to move sideways, forward, reverse, at an angle or even in a tight circle – all with a simple push or twist of the joystick.





into a slip easy – even for the novice.

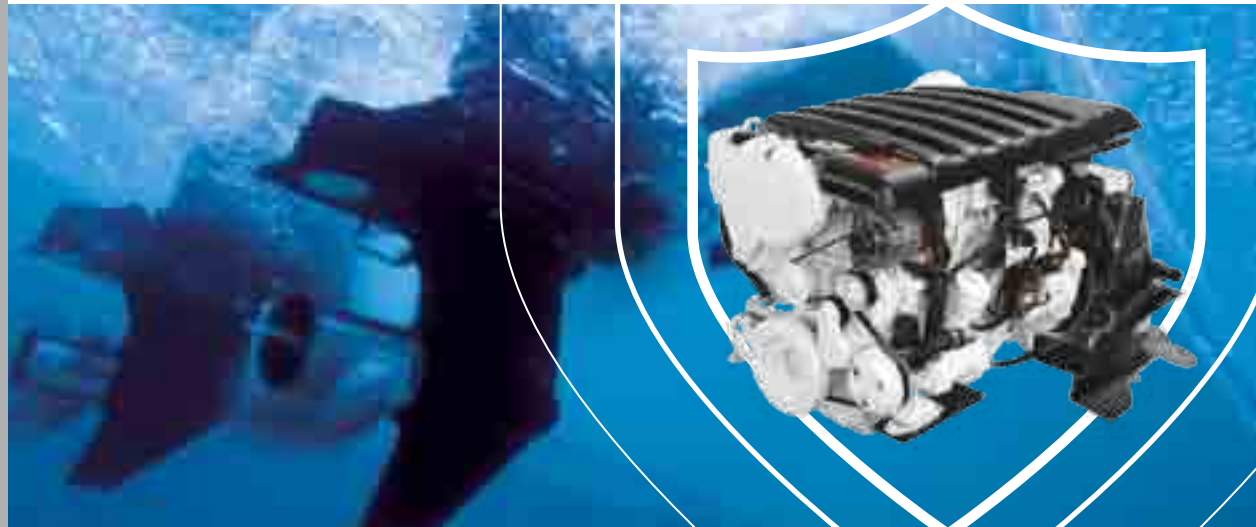


Axius offers improved time to plane, better top speed and improved fuel economy over inboards – and is easier to handle and control at any speed.

Axius Features:

- Twin individually articulated sterndrives
- Variable-assist power steering
- Intuitive joystick system for effortless docking
- Incredible low-speed maneuverability
- Easier to control at any speed
- Proven foundation of MerCruiser® Bravo Three® sterndrives
- Saltwater ready via optional SeaCore® Sterndrive System
- Clean, quiet, compact QSD Quantum Diesel engines
- Greatly reduced noise and vibration for a more pleasurable boating experience
- SmartCraft® technology that connects a boat's diverse onboard systems into a single integrated system
- Easy to install with no hull modifications
- Covered by CMD's exclusive Marine Repair Logistics service (see pg. 26)

SeaCore® SYSTEM The World's Premier Saltwater System



Protection with a Four-Year Limited Corrosion Warranty

Unmatched Corrosion Protection. Unequaled Performance >

Saltwater can take its toll on marine propulsion systems. This is why the **SeaCore® System** offers more than just improved corrosion resistance. It's as close as a marine propulsion system can come to being corrosion-proof.



Hardcoat anodizing slows the destructive growth of corrosion

In developing the revolutionary **SeaCore System**, we've moved the entire industry forward in a way that makes other saltwater sterndrives seem instantly inferior. Rather than just enclosing the drive components in a plastic shell, we protect them all the way to the core with industrial hardcoat anodizing and a closed-cooling system. All of which makes for the ultimate in corrosion protection.



- Industrial hardcoat anodized XK-360 alloy for Bravo® running gear
- MerCathode® active corrosion protection
- Closed-cooling system seals engine from saltwater



SeaCore Availability

Diesel Power Options:

QSD2.8 - 220 hp

QSD4.2 - 270 hp

QSD4.2 - 320 hp

QSD4.2 - 350 hp

QSB5.9 - 230 hp

Sterndrive Options:

Bravo One X

Bravo Two X

Bravo Three X

Bravo One XR

Bravo Three XR

Vessel Integration & Information Management

The industry-leading vessel information technology just got better! The next generation of SmartCraft® is available across CMD's pod, inboard and sterndrive engines and offers the maximum amount of vessel control and information management in the marketplace, resulting in the ultimate outcome of Intuitive Boating. Estimated range, fuel consumption, maintenance updates and engine temperature are all at your fingertips with the advanced SmartCraft system. By constantly monitoring and integrating the wealth of information your vessel can provide, SmartCraft allows you to fully maximize every aspect of your vessel's performance!

SmartCraft lets you...

- Invest in a system that is adaptable so you don't have to replace it when future enhancements are available.
- Know when something is going wrong and how to respond.
- Feel confident that you have a system that is proven and reliable and won't leave you stranded.
- Know how far you can cruise with the fuel you have on board.
- Have instant access to the information on the performance of your vessel.
- Have one simple integrated system so you don't have to learn and monitor multiple systems.



- Smart Start/Stop prevents accidental starter activation
- Vessel Integration Panel (VIP) allows ease of service
- Circuit protection from resettable breakers eliminates the need for fuses
- Engine room start/stop (available with QSB, QSC, QSL, QSM) allows starting and stopping of engine
- Expandable architecture gives the customer a "plug and play" design amounting to a personalized helm
- SmartCraft gives you fingertip access to vessel system information (generation, water and fuel tanks, air conditioner and more), allowing a true connection to your vessel

SmartCraft means integrated...

Features

Intuitive functions simplify operator interaction and increases operator's level of control with auto sync, cruise control, throttle only, and single lever control.

Control

SmartCraft control coordinates motion control with throttle and gear and trolling valve.

Redundancy

SmartCraft systems provide redundancy to protect the operator against single-point failures to get the vessel home, including electrical isolation and backup of motion control commands.

Protection

SmartCraft instantly notifies the operator of problems – if they arise – and coordinates features and controls to anticipate the needs of the vessel's operation, reducing the workload on the operator.

Sensors

SmartCraft sensors provide continual and reliable knowledge of how the vessel is operating including tank levels, steering, speed and more.

Information

Constant access to critical data such as engine and transmission information, fuel management and trip summaries allows the operator to make decisions easily and enjoy the ride!





Vessel Control

At Cummins MerCruiser Diesel, our goal is to make your boating life simple, easy and enjoyable. We achieve this through developing highly reliable and innovative engines and then pairing them with superior electronic engine controls such as our **Digital Throttle & Shift (DTS)**.

Reducing the difficulty of boating through effortless Digital Throttle & Shift

DTS Features & Benefits:

- Digital Throttle & Shift gives intuitive engine and gear control
- Gear shift protection prevents transmission damage
- Smoother, faster shifting and accelerating because the system does the shifting for you
- Eliminates the more abrupt, imprecise shifting so common among mechanical systems
- Resistance adjustable to operator's preference
- Does not rely on bulky mechanics of traditional systems so there is no kinking of cables and no cable adjustments are needed
- Stops vessel faster than conventional systems without destroying the drive or damaging the engine

For more information on CMD's superior electronic engine controls, please visit our website: www.cmdmarine.com

Single- or Dual-Engine Applications

The DTS system may be used in applications with either one or two engines; no additional control boxes or vessel wiring required.

Single-Lever Control

Single-lever control permits gear and throttle control using a single lever. The DTS system protects the engines and transmissions during shifting.

Two-Button Station Transfer

A "TRANSFER" button is provided on the control head to allow the boat operator to take control at a different helm station. The DTS control system has a "two-button" press process.

One button press starts the transfer. If the handles at the station taking control are in an appropriate position, a second button press completes the station transfer process.

Multiple Station Capability

Multiple station capability available with QSD, QSB, QSC, QSL and QSM engines with electric shift transmissions.

Gear Lockout

A dedicated "Throttle Only" button is provided on the control head to lock the gear in the neutral position so that the engine can be "warmed up" at the dock. An indicating light provides positive feedback to the boat operator that the engine may be safely throttled up in neutral while at the dock.

Automatic Engine Synchronization

At key "ON," the system default is for auto sync to be on. As long as the levers' positions are close, the DTS system will control the port engine speed to match the starboard. If the operator desires to run engines out of sync, a button is provided to turn sync off.

Gear Position Indicating Lights

The control head includes an indicator light for each engine to let the operator know when the transmissions are in the neutral position.

Easy Installation

DTS control is integrated as part of the base SmartCraft system and has been engineered for easy installation. DTS architecture incorporates redundancy for peace of mind.

Dock Mode

The DTS system in dock mode increases throttle resolution for docking. It makes the lever input less sensitive, allowing the operator to have better engine rpm control during close-quarter maneuvers.

Troll Mode

Integrated support for trolling valves (troll-capable). The troll feature allows you to slow the vessel down. This application is ideal for fishing vessels, as it gives the ability to precisely control the speed. It also allows the vessel speed to be reduced easily to enter a no wake zone.

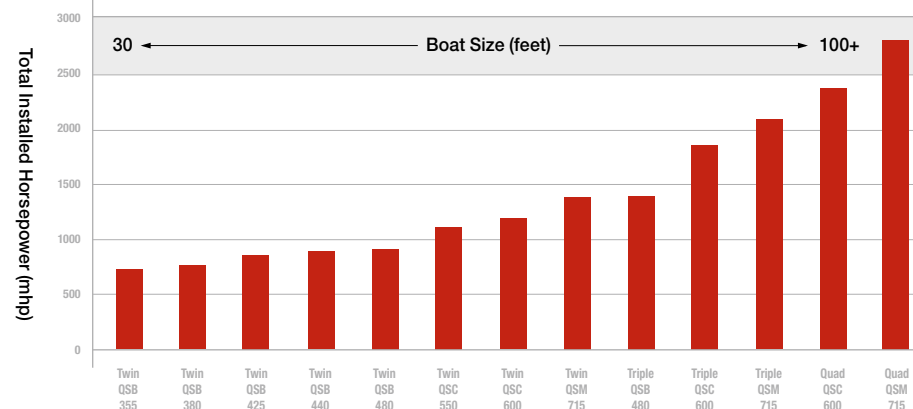


Providing improved fuel economy, faster cruise speed, and faster top speed, Zeus Pod Drives give you the protection, maneuverability and performance every boater needs.



Docking Without Fear > Never again worry about wind and current when you approach the dock. Our advanced joystick control system is incredibly intuitive and can be operated with a simple turn of the wrist. One hand controls it all, from sideways tracking, to spinning on a dime, to precise speed control. Whether at the dock or backing down on a blue marlin, the total authority and maneuverability is simply unmatched.

13 Zeus Power Nodes to Fit Your Life on the Water



An Unparalleled Level of Protection, Performance

DESIGNED FOR PROTECTION > If the pod drive strikes debris, the rear-facing propellers are protected by the pod gearcase and skeg.

Additionally, by mounting the pod drive in a tunnel, the torpedo on the drive is the same depth as the keel. Most floating objects will be deflected downward by the keel and skeg, away from the propellers. Should the unit come into contact with a substantial object, the skeg is designed to shear below the torpedo, minimizing damage to the drive and costly repair bills.

By designing a rear-facing pod drive mounted in a tunnel, we offer maneuverability and efficiency improvement, without sacrificing protection.



Clean, Quiet & Comfortable >

Because CMD Zeus Pods utilize counter-rotating propellers and are mounted on large rubber grommets, gear noise and vibration are significantly reduced for a quiet and comfortable ride. With a foundation of quiet and clean-running Quantum engines, already-low engine exhaust is nearly eliminated by venting exhaust gases through the propeller hubs where the water flow leaves it in your wake.



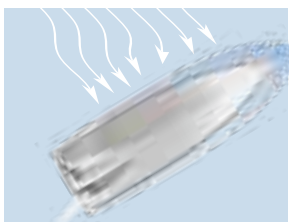
Enhanced Maneuverability >

Get performance more like a luxury sports car than the typical yacht. Each pod turns independently, resulting in much greater turning efficiency and responsiveness.

Reliable, responsive hydraulic power steers the pods and actuates the integrated trim tabs. Trim tabs are automated to improve visibility during acceleration and optimize performance and fuel economy at all speeds. The rear-facing

pod with through-hub exhaust facilitates a very tight turning radius. Counter-rotating propellers eliminate lateral forces, giving completely straight tracking. At the helm, a self-centering wheel, customizable steering response, and a tilt wheel give a whole new meaning to the word cruise.

& Ease of Use



Skyhook® Station Keeping >

Envision having the ability to pull up to a busy fuel dock and wait in line without having to constantly tend to your controls to stay in place, or imagine fishing a jetty by yourself without ever stepping to the helm. With the touch of a button, the Skyhook feature maintains your vessel's position and heading, even in strong currents and windy conditions.



Zeus Features:

Maneuverability/Ease of Use

- Intuitive joystick system with proportional thrust provides easy, stress-free docking experience, even in wind and current.
- Skyhook holds boat position and heading, perfect for waiting for a bridge opening, or hovering over a prime fishing spot
- Advanced Autopilot is integrated, and it provides both autoheading and waypoint tracking
- Automated, integrated trim tabs, when activated, constantly self adjust to provide the optimum running attitude at all speeds, relieving the captain of tedious manual adjustment. They also reduce time to plane and improve the captain's vision over the bow during acceleration

Performance/Efficiency

- Zeus technology results in improved fuel economy, faster cruise speed and higher top speed compared to inboard propulsion
- Trim tabs automatically adjust to provide the most efficient running angle, no matter what speed the boat is traveling
- Twin counter-rotating propellers and hydrodynamic gearcase design apply thrust horizontally – not on a downward angle – make CMD Zeus inherently more efficient than a conventional shaft-driven system

Protection

- Robust, tunnel-mounted pods with rear-facing stainless steel propellers for industry-leading defense against damage from debris and grounding
- Shearable skeg designed to break free on mild to moderate strikes, minimizing harm to the pod
- Pod designed to break away – without compromising watertight integrity – in the event of a major collision or hard grounding that might otherwise result in hull damage
- Covered by CMD's exclusive Marine Repair Logistics service (see pg. 26)



CMD Integration Services is obsessed with making the first integration of a given CMD propulsion package into a particular boat model as flawless as humanly possible. The CMDIS team relentlessly and continuously evaluates every aspect of a project from start to finish, making sure that boatbuilder gets back the best possible marriage of propulsion and vessel.

CMD Integration Services



CMD created its Integration Services group to fill a void it saw in the marine industry. Today's electronic diesel engine is just a part of a complex propulsion system that may include such things as Digital Throttle and Shift, multiple SmartCraft displays, multiple helms, pods, sterndrives and joysticks. To help our boatbuilder partners seamlessly integrate our products into their vessels and ensure that everything works just as CMD and the boatbuilder envisioned, we put together a team of experts. The team includes naval architecture resources, boatbuilding expertise, mechanical and electronic technicians, applications engineers and a direct connection to the respective product managers at CMD headquarters.

While based at a haul-out ready waterfront marina facility just minutes from CMD's headquarters in Charleston, S.C., the Integration Services team can and does travel virtually everywhere quality boats are manufactured. Whether working out of its home shop, or at boat plant half a world away, CMD Integration Services can provide as little or as much help as the builder desires, and can train the boatbuilder's own technicians in the process. All work is fully documented down to the smallest detail, including OEM bill-of-material, drawing and schematic edits, and propulsion system preparation and installation instructions, and all of that information is provided to the customer for use on future installations.



Inboards

As a critical component to our power systems, CMD has chosen a select group of transmissions that have been specifically engineered for maximum reliability and durability. Gear ratios have been carefully selected to enhance the already optimized performance of the Quantum engines.

QSD2.0 GEAR RATIOS

GEAR MODEL	RATIOS
TM 345 with and without trolling valve	1.54:1 / 2.00:1
TM 485 with and without trolling valve	2.40:1

QSD2.8 GEAR RATIOS

GEAR MODEL	RATIOS
TM 485 with and without trolling valve	1.51:1 / 2.09:1 / 2.40:1

QSD4.2 GEAR RATIOS

GEAR MODEL	RATIOS
ZF 63 A	1.50:1 / 2.00:1 / 2.50:1
ZF 63 IV	1.50:1 / 2.00:1 / 2.50:1

*Not all ratios are available with every engine rating.
Additional gear options may be available.*

QSB 480 and NXT¹ Sterndrive

Diesel reliability meets high-performance boating



Unmatched Corrosion Protection. Unequaled Performance >

Finally, a high-performance marine package that makes sense. CMD has combined its industry-leading QSB5.9 liter 480 hp engine with Mercury Racing's hot NXT¹ Sterndrive to make the most robust and easy-to-own go-fast package the world has ever seen.

Compared to any other high-performance engine:

- Six times longer life
- More reliable
- Longer warranty
- Up to 10-times longer service intervals
- Superior fuel economy
- Reduced noise
- Enhanced corrosion protection
- Smoother shifting: It's the only one with Digital Throttle & Shift

Imagine feeding your need for speed without having to put up with finicky, thirsty, loud engines that have an oh-so-short lifespan. The QSB has a two-year/1,000-hour warranty on the entire engine, plus another four years/2,000 hours of coverage on many major engine components. That means that long after most high-performance engines have long since been overhauled or replaced, the QSB will still not only be running strong, its main components will still be under warranty. (For full engine specifications, please see next page.)

That rock-solid horsepower is delivered to the water via the Mercury Racing NXT¹ Sterndrive, the legendary builder's latest drive offering. Covered by a one-year/500-hour warranty, plus a three-year limited corrosion warranty, the drive is built to take the massive torque the QSB generates, without compromising hydrodynamic efficiency and top-speed capability. The NXT¹ drive is available in five different ratios and is compatible with both Mercury Racing's Maximus and the CNC Cleaver propellers, so it can fit a wide variety of applications from large, twin- and triple-engine poker run boats to security intercept craft to single-engine sport boats.

Extended Range

The QSB5.9 offers excellent fuel economy and cruise power. Boats accelerate quickly from the combination of a perfectly matched turbocharger and a new 24-valve cylinder head, which allows the engine to breathe more efficiently.

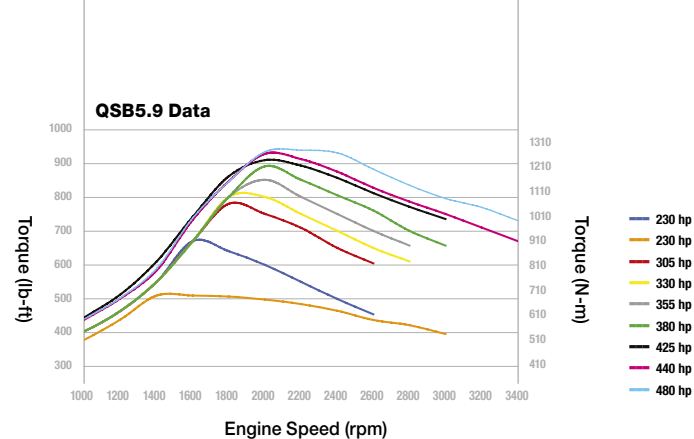
Quiet Strength

An 80-percent 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. Combined, these innovations make for a strong and highly reliable power system.

GEAR MODEL	RATIOS
ZF 220 A	1.53:1 / 1.75:1 / 2.04:1 / 2.5:1
Twin Disc MG 5050 A	1.50:1 / 1.80:1 / 2.04:1
ZF 85 A	1.56:1 / 1.75:1 / 1.96:1 / 2.50:1
ZF 85 IV	2.01:1 / 1.64:1
ZF 280-1A	2.01:1 / 2.48:1 / 2.23:1
Twin Disc MG 5061 A	1.50:1

QSB5.9 Features

- EPA Tier 2, IMO and RCD certified
- SmartCraft® enabled
- Gallery-cooled pistons for long life
- Common-rail fuel system
- Easily accessed filters and maintenance items
- Corrosion-proof belt guard
- 24-valve cylinder head for better acceleration
- Strengthened block for long life and reduced noise



SPECIFICATIONS

QSB5.9 (230, 305, 330, 355, 380, 425, 440, 480 metric horsepower)

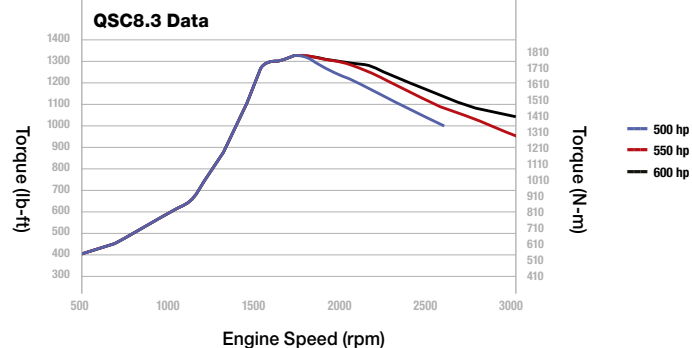
Displacement litres (cu. in.)	5.9 (359)
Cylinders	Inline-6
Fuel System	Common Rail
Cabin Heat / Block Heat	Optional
Closed Crankcase Ventilation	Optional
Volts / Amps / Isolated	12 or 24 Volt / 70-160 Amp / Optional
Corrosion Protection	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process
Air Handling	Turbocharged / Aftercooled
Propulsion Options	Inboard / Bravo X 2 Sterndrive (230 hp) / Zeus Pod (355, 380, 425, 480 hp)



QSB5.9 Litre

230-480 mhp

Not all ratios are available with every engine rating.
Additional gear options may be available.



QSC8.3 Features

- EPA Tier 2, IMO and RCD certified
- SmartCraft® enabled
- Gallery cooled pistons for long life
- Common-rail fuel system
- Easily accessed filters and maintenance items
- Corrosion-proof belt guard
- 24-valve cylinder head for better acceleration
- Stainless steel sea water piping provides outstanding corrosion resistance

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

Through thousands of hours of testing and research CMD has developed and refined engines containing elements that fulfill customers' expectations for long engine life. Stainless steel piping improves the durability of the seawater cooling circuit. A new polymer belt guard eliminates corrosion. Inboard fuel and lube filters can be installed on either side of the engine for easy servicing.



GEAR MODEL	RATIOS
Twin Disc MG 5075 A	1.77:1 / 2.05:1
ZF 280 IV	1.56:1 / 2.06:1
ZF 280-1 A	1.76:1 / 2.0:1 / 1.962:1 / 1.483:1
Twin Disc MG 5065 A	1.77:1 / 2.04:1 / 2.43:1
ZF 286A	1.48:1 / 1.75:1 / 1.96:1 / 2.21:1 / 2.39:1
ZF 286-1V	2.01:1 / 1.815:1 / 1.535:1 / 2.32:1
ZF 305A	1.75:1

SPECIFICATIONS

QSC8.3 (500, 550, 600 metric horsepower)

Displacement litres (cu. in.)	8.3 (505)
Cylinders	Inline-6
Fuel System	Common Rail
Cabin Heat / Block Heat	Optional
Closed Crankcase Ventilation	Optional
Volts / Amps / Isolated	12 or 24 Volt / 70-160 Amps / Optional
Corrosion Protection	Zinc Anodes / E-coating / Polymer belt guard / Stainless steel sea water tubes / Two-part epoxy paint process
Air Handling	Turbocharged / Aftercooled / Wastegated
Propulsion Options	Inboard / Zeus Pod (550, 600 hp)



Not all ratios are available with every engine rating.
Additional gear options may be available.

QSC8.3 Litre 500-600 mhp

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

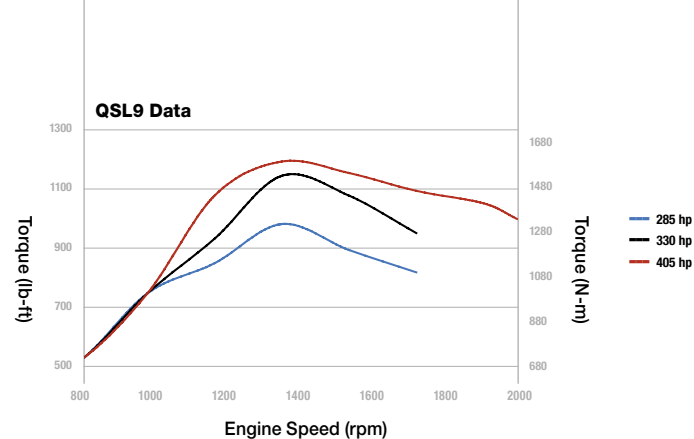
The QSL9's many enhancements, including two-piece articulated gallery-cooled pistons, fulfill all expectations of durability and reliability. Well designed placement of engine components is welcome news for installers and those who maintain your vessel. Handed fuel and lube filters can be installed on either side of the engine for easy servicing.

Perfect for Trawlers

Thousands of hours of reliable commercial and trawler operation are supported by features belonging to the QSL9 series including low rpm, large displacement relative to horsepower and excellent fuel economy for long range cruising.

QSL9 Features

- EPA Tier 2, IMO and RCD certified
- SmartCraft® enabled
- Common-rail fuel system
- Easily accessed filters and maintenance items
- Corrosion-proof belt guard
- 24-valve cylinder head for better acceleration
- Long engine life and low cost of ownership by design
- Two-piece articulated gallery cooled pistons for long life



SPECIFICATIONS

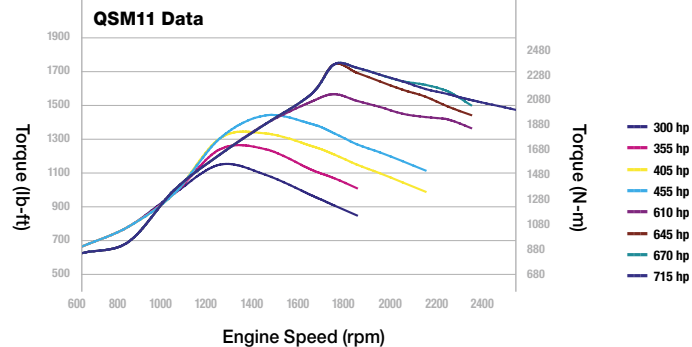
QSL9 (285, 330, 405 metric horsepower)

Displacement litres (cu. in.)	8.9 (542)
Cylinders	Inline-6
Fuel System	Common Rail
Cabin Heat / Block Heat	Optional
Closed Crankcase Ventilation	Optional
Volts / Amps / Isolated	12 or 24 Volt / 70-160 Amps / Optional
Corrosion Protection	Zinc Anodes / E-coating / New polymer belt guard / Two-part epoxy paint process
Air Handling	Turbocharged / Aftercooled / Wastegated
Propulsion Options	Inboard



QSL9Litre

285-405 mhp



QSM11 Features

- EPA Tier 2, IMO and RCD certified
- SmartCraft® enabled
- High-pressure electronic fuel injection
- Closed crankcase ventilation for cleaner engine room
- Electronic engine sensors and diagnostics
- Quiet, fuel-efficient and virtually smoke free

More Horsepower/Excellent Fuel Efficiency

Now with added horsepower across the entire QSM11 range, these workhorses deliver proven performance. Whether you are backing down on a trophy fish or pushing a heavy barge, the QSM11 consistently delivers in all climates.

Perfect for Cruisers, Sportfishers and Trawlers

The engine's compact size promotes ease of installation and easy access for maintenance. With new 300-455 horsepower ratings, the QSM11 is ideal for trawlers, lobster boats and similar applications. The 610 to 715 horsepower ratings are first choice for sportfishers and cruisers.

GEAR MODEL	RATIOS
ZF 305A	1.54:1 / 1.75:1 / 1.76:1
ZF 325A	1.733:1 / 2.037:1
Twin Disc MG 5114 IV	1.80:1
ZF 325 IV	1.793 / 2.037:1
ZF 311 A	2.033:1
Twin Disc MG 5028 A	1.53:1
ZF 325-1A	1.73:1 / 2.037:1 / 2.24:1
ZF 325-1	1.00:1
Twin Disc MG 5095	1.81:1

SPECIFICATIONS

300, 355, 405, 455 metric horsepower

610, 645, 670, 715 metric horsepower

Displacement litres (cu. in.)	10.8 (661)
Cylinders	Inline-6
Fuel System	High-Pressure Electronic Injection
Cabin Heat / Block Heat	Optional
Closed Crankcase Ventilation	Not Available
Volts / Amps / Isolated	12 or 24 Volt / 70-160 Amps / Optional
Corrosion Protection	Zinc Anodes / E-coating / New polymer belt guard / Stainless steel sea water tubes / Two-part epoxy paint process
Air Handling	Turbocharged / Aftercooled
Propulsion Options	Inboard

Displacement litres (cu. in.)	10.8 (661)
Cylinders	Inline-6
Fuel System	High-Pressure Electronic Injection
Cabin Heat / Block Heat	Optional
Closed Crankcase Ventilation	Optional
Volts / Amps / Isolated	12 or 24 Volt / 70-160 Amps / Optional
Corrosion Protection	Zinc Anodes / E-coating / New polymer belt guard / Stainless steel sea water tubes / Two-part epoxy paint process
Air Handling	Turbocharged / Aftercooled
Propulsion Options	Inboard / Zeus Pod (715 hp only)



Not all ratios are available with every engine rating.
Additional gear options may be available.

QSM11 Litre

300-715 mhp

QSB5.9, QSC8.3, QSL9 & QSM11 Quantum Engine Series Specifications

SPECIFICATIONS	QSB5.9-230s	QSB5.9-230	QSB5.9-305	QSB5.9-330	QSB5.9-355	QSB5.9-380	QSB5.9-425	QSB5.9-440	QSB5.9-480	QSC8.3-500	QSC8.3-550
Crankshaft mhp <i>(kw) @ rpm</i>	230 (169) @ 3000	230 (169) @ 2600	305 (224) @ 2600	330 (242) @ 2800	355 (261) @2800	380 (280) @ 3000	425 (313) @ 3000	440 (324) @ 3400	480 (353) @ 3400	500 (368) @ 2600	550 (404) @ 3000
Ratings	HO / INT	HD / HO	MCD / HO	HO	INT / HO	HO / GS	HO / GS	HO	HO / GS	INT / HO	HO
Cylinders	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6
Bore & Stroke mm x mm <i>(in x in)</i>	102 x 120 (4.02 x 4.72)	102 x 120 (4.02 x 4.72)	102 x 120 (4.02 x 4.72)	102 x 120 (4.02 x 4.72)	102 x 120 (4.02 x 4.72)	102 x 120 (4.02 x 4.72)	102 x 120 (4.02 x 4.72)	102 x 120 (4.02 x 4.72)	102 x 120 (4.02 x 4.72)	4.49 x 5.31 (114 x 135)	4.49 x 5.31 (114 x 135)
Displacement litres (cu.in.)	5.9 (359)	5.9 (359)	5.9 (359)	5.9 (359)	5.9 (359)	5.9 (359)	5.9 (359)	5.9 (359)	5.9 (359)	8.3 (505)	8.3 (505)
Fuel Consumption <i>(Rated) @ l/hr (g/hr)</i>	3000 rpm @ 47.3 (12.5)	2600 rpm @ 42.2 (11.1)	2600 rpm @ 57.3 (15.1)	2800 rpm @ 63.3 (16.7)	2800 rpm @ 68.1 (18.0)	3000 rpm @ 76.2 (20.1)	3000 rpm @ 87.6 (23.1)	3400 rpm @ 89.9 (23.7)	3400 rpm @ 98.8 (26.1)	2600 rpm @ 100.6 (26.6)	3000 rpm @ 109.4 (28.9)
Fuel Consumption <i>(Cruise) @ l/hr (g/hr)</i>	2800 rpm @ 40.0 (10.6)	2400 rpm @ 35.7 (9.4)	2400 rpm @ 47.0 (12.4)	2600 rpm @ 50.8 (13.4)	2600 rpm @ 55.2 (14.6)	2800 rpm @ 60.6 (16.0)	2800 rpm @ 68.1 (18.0)	3000 rpm @ 58.5 (15.4)	3000 rpm @ 63.2 (16.7)	2400 rpm @ 76.7 (20.3)	2600 rpm @ 85.4 (22.6)
Length mm (in)	1036 (40.8)	1036 (40.8)	1036 (40.8)	1036 (40.8)	1036 (40.8)	1036 (40.8)	1036 (40.8)	1036 (40.8)	1036 (40.8)	1174 (46.2)	1174 (46.2)
Width mm (in)	836 (32.9)	836 (32.9)	836 (32.9)	836 (32.9)	836 (32.9)	836 (32.9)	836 (32.9)	836 (32.9)	836 (32.9)	839 (33.0)	839 (33.0)
Height mm (in)	880 (34.6)	880 (34.6)	880 (34.6)	880 (34.6)	880 (34.6)	880 (34.6)	880 (34.6)	880 (34.6)	880 (34.6)	982 (38.7)	982 (38.7)
Engine Weight kg (lbs)	612 (1350)	612 (1350)	612 (1350)	612 (1350)	612 (1350)	612 (1350)	612 (1350)	612 (1350)	612 (1350)	896 (1975)	896 (1975)
Fuel System	Common Rail	Common Rail	Common Rail	Common Rail	Common Rail	Common Rail	Common Rail	Common Rail	Common Rail	Common Rail	Common Rail
Volts / Amps / Isolated	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional
Corrosion Protection <i>(drive and engine)</i>	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / SS sea water tubes / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / SS sea water tubes / Two-part epoxy paint process
Air Handling	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated
Propulsion Options	Inboard (see pg. 20) / Bravo 2 X Sterndrive (see pg. 11)	Inboard (see pg. 20)	Inboard (see pg. 20)	Inboard (see pg. 20)	Inboard (see pg. 20) / Zeus 3000 Series Pod (see pg. 16)	Inboard (see pg. 20) / Zeus 3000 Series Pod (see pg. 16)	Inboard (see pg. 20) / Zeus 3000 Series Pod (see pg. 16)	Inboard (see pg. 20)	Inboard (see pg. 20) / Zeus 3000 Series Pod (see pg. 16)	Inboard (see pg. 21)	Inboard (see pg. 21) / Zeus 3000 Series Pod (see pg. 16)

Metric rating, 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.

QSB5.9

230
305
330
355
380
425
440
480

QSC8.3

500
550
600

QSL9

285
330
405

QSM11

300
355
405
455
610
645
670
715

QSC8.3-600	QSL9-285	QSL9-330	QSL9-405	QSM11-300	QSM11-355	QSM11-405	QSM11-455	QSM11-610	QSM11-645	QSM11-670	QSM11-715
600 (442) @ 3000	285 (209) @ 1800	330 (243) @ 1800	405 (298) @ 2100	300 (220) @ 1800	355 (261) @ 1800	405 (298) @ 2100	455 (336) @ 2100	610 (449) @ 2300	645 (474) @ 2300	670 (493) @ 2300	715 (526) @ 2500
HO / GS	CD / HO	HD / HO	MCD / HO	CON / HO	CON / HO	HD / HO	MCD / HO	INT / HO	HO	HO / GS	HO / GS
Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6
4.49 x 5.31 (114 x 135)	4.49 x 5.71 (114 x 145)	4.49 x 5.71 (114 x 145)	4.49 x 5.71 (114 x 145)	4.92 x 5.79 (125 x 147)	4.92 x 5.79 (125 x 147)	4.92 x 5.79 (125 x 147)	4.92 x 5.79 (125 x 147)	4.92 x 5.79 (125 x 147)	4.92 x 5.79 (125 x 147)	4.92 x 5.79 (125 x 147)	4.92 x 5.79 (125 x 147)
8.3 (505)	8.9 (542)	8.9 (542)	8.9 (542)	10.8 (661)	10.8 (661)	10.8 (661)	10.8 (661)	10.8 (661)	10.8 (661)	10.8 (661)	10.8 (661)
3000 rpm @ 125.1 (33.0)	1800 rpm @ 54.3 (14.4)	1800 rpm @ 61.7 (16.3)	2100 rpm @ 80.2 (21.2)	1800 rpm @ 55.2 (14.6)	1800 rpm @ 65.3 (17.2)	2100 rpm @ 75.4 (19.9)	2100 rpm @ 87.6 (23.1)	2300 rpm @ 116.6 (30.8)	2300 rpm @ 125.2 (33.4)	2300 rpm @ 127.9 (33.8)	2500 rpm @ 142.7 (37.7)
2800 rpm @ 101.4 (26.8)	1600 rpm @ 37.9 (10.0)	1600 rpm @ 44.3 (11.7)	1900 rpm @ 55.6 (14.7)	1600 rpm @ 38.9 (10.3)	1600 rpm @ 45.4 (12.0)	1900 rpm @ 54.5 (14.4)	1900 rpm @ 64.6 (17.1)	2100 rpm @ 84.3 (22.3)	2100 rpm @ 88.4 (23.4)	2100 rpm @ 93.4 (24.7)	2300 rpm @ 110.2 (29.1)
1174 (46.2)	1173 (46.2)	1173 (46.2)	1173 (46.2)	1329 (52.3)	1329 (52.3)	1329 (52.3)	1329 (52.3)	1329 (52.3)	1329 (52.3)	1329 (52.3)	1329 (52.3)
839 (33.0)	842 (33.2)	842 (33.2)	842 (33.2)	1081 (42.5)	1081 (42.5)	1081 (42.5)	1081 (42.5)	1104 (43.5)	1104 (43.5)	1104 (43.5)	1104 (43.5)
982 (38.7)	1086 (42.8)	1086 (42.8)	1086 (42.8)	1039 (40.9)	1039 (40.9)	1039 (40.9)	1039 (40.9)	1012 (39.9)	1012 (39.9)	1012 (39.9)	1012 (39.9)
896 (1975)	907 (2000)	907 (2000)	907 (2000)	1184 (2610)	1184 (2610)	1184 (2610)	1184 (2610)	1188 (2620)	1188 (2620)	1188 (2620)	1188 (2620)
Common Rail	Common Rail	Common Rail	Common Rail	High Pressure Electronic Injection	High Pressure Electronic Injection	High Pressure Electronic Injection	High Pressure Electronic Injection	High Pressure Electronic Injection	High Pressure Electronic Injection	High Pressure Electronic Injection	High Pressure Electronic Injection
12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional	12 or 24 Volt / 70-160 Amp / Optional
Zinc Anodes / E-coating / Polymer belt guard / SS sea water tubes / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / SS sea water tubes / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / SS sea water tubes / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / SS sea water tubes / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / SS sea water tubes / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / SS sea water tubes / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / SS sea water tubes / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / SS sea water tubes / Two-part epoxy paint process	Zinc Anodes / E-coating / Polymer belt guard / SS sea water tubes / Two-part epoxy paint process
Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled / Wastegated	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled	Turbocharged / Aftercooled
Inboard (see pg. 21) / Zeus 3000 Series Pod (see pg. 16)	Inboard (see pg. 22)	Inboard (see pg. 22)	Inboard (see pg. 22)	Inboard (see pg. 23)	Inboard (see pg. 23)	Inboard (see pg. 23)	Inboard (see pg. 23)	Inboard (see pg. 23)	Inboard (see pg. 23)	Inboard (see pg. 23)	Inboard (see pg. 23) / Zeus 3000 Series Pod (see pg. 16)

Propshaft power for sterndrive engines is approximately 4.5 percent less than rated crankshaft power. See your local CMD professional for the latest technical information. Options may affect size & weight of engines.
Length measurement is length to flywheel housing. ©2009 Cummins MerCruiser Diesel Marine, LLC. All rights reserved. Ratings and specifications subject to change without notice. Not responsible for typographical errors.

Service Overview

One call and help is on the way. Regardless of where you bought your boat, or where you dock it, you can rely upon the vast CMD service network to be there for you. For information on your nearest service center, visit www.cmdmarine.com.



Marine Repair Logistics

An exclusive service for owners of CMD Zeus- and Axios-powered boats

At CMD we go to great lengths to make sure our products are reliable and trouble free. However, if something does go wrong with your Zeus or Axios propulsion system – no matter what caused it – help is just a phone call or email away, 24 hours a day, seven days a week. CMD will manage the repair event for you free of charge. We will put you in touch with the appropriate service provider who can get you back on the water, no matter where you are in the world. The service is designed to help expedite unscheduled service events and let you get back to enjoying your boat. Marine Repair Logistics – enhanced personal service for owners of Zeus and Axios boats for even greater peace of mind.



CMD Certified Field Technicians

To provide professional diagnostic, repair and maintenance services, Cummins MerCruiser Diesel sponsors Certified Application Engineer training and Qualified Marine Technician training for our field staff.

Largest Worldwide Network

To respond quickly to customer needs, there are more than 1,500 distributors and dealers worldwide who stock quality parts and accessories for our marine power systems.

Marine Technical Center

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. We have dedicated significant resources to ensuring that our engines are the safest, most durable and most reliable marine diesels on the market.



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 Quantum Series engines provide the performance you expect with a protection plan to back it up. For recreational applications, our Quantum Engine Series includes an upgraded warranty package with a base engine coverage of 24 months or 1000 hours. The base warranty for some Quantum engines includes extended major components coverage for an additional 48 months or 2000 hours, so you can cruise with confidence. Commercial engine warranties provide coverage for 24 months or 1,000 to 9,000 hours, depending on the rating.



Quantum Encompass

CMD offers an optional extended service contract plan on some Quantum engines that will provide additional repair service for up to six years, including a one-year Sea Tow® membership (where Sea Tow® operates).



Captain's Briefing

Many Quantum engines include a free Captain's Briefing program to help new boat owners understand, operate and maintain their new engine. Hands-on training is provided by a CMD technician and includes the following:

- General engine information
- Instruction on operation and maintenance
- Start-up operation
- Maintenance schedules

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.

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.

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.

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.

HIGH OUTPUT (HO)

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 500 hours per year or less.

RATING CONDITIONS

Declared power ratings are based upon ISO 3046-1 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).

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.

Cummins MerCruiser Diesel

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