

COMMERCIAL DIESEL ENGINES



Cummins MerCruiser Diesel
The New Wave in Diesel Marine Power







Powering your Profession

Sure, what you do is a job. Where you do it – on the water – is a passion.

Passion or Profession? Bottom-line: You want reliable, innovative and proven engine propulsion for your vessel. Year after year, Cummins MerCruiser Diesel delivers a new wave of diesel marine power that brilliantly advances the science of diesel technology. While constantly collecting data from satisfied customers worldwide, our engineers incorporate new and improved components on our long-standing engines, often adding more durability than when the engine packages were first introduced.

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 premier "prop-to-helm" performance source for mariners the world over.

Cummins MerCruiser Diesel
delivers a **new wave** of diesel
marine power that brilliantly
advances the science of
diesel technology.

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. Whether you operate a commercial charter, tug or work boat, you put a lot of trust in your engine. Cummins MerCruiser Diesel provides the reliability to get the job done. We are the new wave in Diesel Marine Power.



The Commercial Series-Quantum



Designed With Installers and Serviceability in Mind

One of our newest engines in the Quantum Series, the QSL9 commercial engine has many advantages. A tighter, compact design offers more space in the engine room. The engine also features two piece articulated steel pistons 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. Now add a corrosion proof belt guard and you begin to see the level of detail and confidence we have in this product - backed up with a two-year warranty and a robust extended warranty offering that meets your specific needs.

Quantum Series: QSB5.9, QSC8.3, QSL9, QSM11 (230-590 mhp)

	QSB5.9	QSC8.3	QSL9	QSM11
Crankshaft power1	261 kW, 355 mhp	361 kW, 490 mhp	298 kW, 405 mhp	433 kW, 590 mhp
Crankshaft power2	224 kW, 305 mhp	N/A	243 kW, 330 mhp	336 kW, 455 mhp
Crankshaft power3	169 kW, 230 mhp	N/A	209 kW, 285 mhp	298 kW, 405 mhp
Crankshaft power4	N/A	N/A	N/A	261 kW, 355 mhp
Crankshaft power5	N/A	N/A	N/A	220 kW, 300 mhp
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
Displacement	5.9 litres, 359 cu in	8.3 litres, 505 cu in	8.9 litres, 540 cu in	10.8 litres, 661 cu in
Number of cylinders	6	6	6	6
Engine weights (Dry) w/o gear	588 kg, 1296 lb	895 kg, 1975 lb	907 kg, 2000 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	1328.9 mm, 52.3 in
Width (W)	852 mm, 33.5 in	839 mm, 33 in	842 mm, 33.1 in	952 mm, 37.5 in
Height (H)	879 mm, 34.8 in	982 mm, 38.6 in	1091 mm, 43 in	1006 mm, 39.6 in
Fuel Consumption				
Fuel Consumption	QSB5.9-355 INT	QSC8.3-490 INT	QSL9-405 MCD	QSM11-590 INT
	2800 rpm @ 69.7 L/hr, 18.4 G/hr	2500 rpm @ 96.2 L/hr, 25.4 G/hr	2100 rpm @ 79.4 L/hr, 21.0 G/hr	2300 rpm @ 107.2 L/hr, 28.3 G/hr
	2200 rpm @ 36.3 L/hr, 9.6 G/hr	2000 rpm @ 51.4 L/hr, 13.6 G/hr	1500 rpm @ 31.7 L/hr, 8.4 G/hr	1700 rpm @ 45.1 L/hr, 11.9 G/hr
	QSB5.9-305 MCD		QSL9-330 HD	QSM11-455 MCD
	2600 rpm @ 57.5 L/hr, 15.2 G/hr		1800 rpm @ 62.7 L/hr, 16.6 G/hr	2100 rpm @ 87.6 L/hr, 23.1 G/hr
	2000 rpm @ 30.7 L/hr, 8.1 G/hr		1400 rpm @ 30.5 L/hr, 8.1 G/hr	1700 rpm @ 45.4 L/hr, 12.0 G/hr
	QSB5.9-230 HD		QSL9-285 CON	QSM11-405 HD
	2600 rpm @ 42.8 L/hr, 11.3 G/hr		1800 rpm @ 54.5 L/hr, 14.4 G/hr	2100 rpm @ 75.4 L/hr, 19.9 G/hr
	2000 rpm @ 23.2 L/hr, 6.1 G/hr		1400 rpm @ 26.7 L/hr, 7.1 G/hr	1700 rpm @ 39.4 L/hr, 10.4 G/hr
				QSM11-355 CON
				1800 rpm @ 65.3 L/hr, 17.2 G/hr
				1400 rpm @ 31.0 L/hr, 8.2 G/hr
			QSM11-300 CON	
			1800 rpm @ 55.2 L/hr, 14.6 G/hr	
			1400 rpm @ 26.4 L/hr, 7.0 G/hr	

- EPA Tier 2 Certified
- Clean, quiet operation
- New block and 4 valve head design
- Improved fuel efficiency
- Single-loop keel cooling

Clearly the world is changing. The U.S. EPA Tier 2 and IMO have challenged us to build the most eco-friendly, powerful, and fuel-efficient diesel engines possible with today's technology. We're proud of the results and we know you'll be pleased with the durability and, more important, peerless reliability of our new commercially rated Quantum Series diesel engines.

Quantum Advantage

Central to the Quantum Series (QSB, QSC, QSL) is the high-pressure common rail fuel system, providing better power-to-weight ratios, cleaner starting, less noise and virtually eliminating smoke and odor traditionally associated with diesel engines. Even in cold environments, these superior engines provide instant starting.



The Commercial Series-Diamond



430C

Trusted & Tested

Reliable power to get the job done and get you home today, tomorrow and next week. This legendary Diamond Series engine from Cummins MerCruiser Diesel sees commercial duty every day from work boats in New Orleans to ferries in New Delhi. From the small, yet hardy 4B series to the untiring 6C series with continuous and intermittent duty ratings and years of mechanical ingenuity, this line is versatile for many marine applications. Optimized four cycle mechanical fuel systems provide quiet, fuel-efficient operation. Worldwide service, availability of parts - now and well into the future - trusted and tested, that's CMD.

- Meets IMO emissions requirements
- Turbocharged for enhanced performance
- C Series: wet lined for low cost rebuild
- Time-tested, proven performance engines preferred by commercial and military vessel operators worldwide
- Innovative efficiency, reliability, and consistent performance

	4B/4BT	6B/6BT	6BTA	C SERIES	N14
Crankshaft power1	112 kW (150 bhp)*	157 kW (210 bhp)	235 kW (315 bhp)	321 kW (430 bhp)	392 kW (525 bhp)
Crankshaft power2	97 kW (130 bhp)*	134 kW (180 bhp)	209 kW (280 bhp)	261 kW (350 bhp)	358 kW (480 bhp)
Crankshaft power3	60 kW (80 bhp)*	90 kW (120 bhp)*	194 kW (260 bhp)	190 kW (255 bhp)	328 kW (440 bhp)
Crankshaft power4	57 kW (76 bhp)*	86 kW (115 bhp)*	168 kW (225 bhp)	N/A	298 kW (400 bhp)
Crankshaft power5	N/A	N/A	N/A	N/A	269 kW (360 bhp)
Rated Speed	2500 - 2800 rpm	2500 - 2600 rpm	2300 rpm	1800 - 2600 rpm	1800 - 2100 rpm
Bore x Stroke	102 x 120 mm (4.02 x 4.72 in)	102 x 120 mm (4.02 x 4.75 in)	102 x 120 mm (4.02 x 4.72 in)	114 x 135 mm (4.49 x 5.32 in)	140 x 152 mm (5.50 x 6.00 in)
Displacement	3.9 litres (239 cu in)	5.9 litres (359 cu in)	5.9 litres (539 cu in)	8.3 litres (504.5 cu in)	14 litres (855 cu in)
Aspiration	Turbocharged Aftercooled	TA (2), NA (2)	Turbocharged Aftercooled	Turbocharged Aftercooled	Turbocharged Aftercooled
Number of cylinders	6	6	6	6	6
Engine weights (Dry) w/o gear	390 kg (860 lb)	509 kg (1120 lb)	469 - 581 kg (1035 - 1280 lb)	856 kg (1855 lb)	1610 kg (35.49 lb)
Length (L)	790 mm (31.00 in)	1138 mm (44.8 in)	1041 mm (41.00 in (SWAC))	1161.5 mm (45.70 in)	1451.3 mm (57.14 in)
Width (W)	711 mm (28.00 in)	710.9 mm (27.99 in)	816 mm (32.15 in (SWAC))	908.8 mm (35.78 in)	946.5 mm (37.27 in)
Height (H)	894 mm (35.00 in)	894 mm (35.2 in)	771.2 mm (30.40 in (SWAC))	921.5 mm (36.28 in)	1295 mm (51.0 in)
Fuel Consumption					
Fuel Consumption	INT (150 bhp)	INT (210 bhp)	INT (315 bhp)	INT (JWAC) 430 bhp	MCD (525 bhp)
	2800 rpm @ 28.8 L/hr, 7.6 G/hr 2200 rpm @ 14.4 L/hr, 3.8 G/hr	2600 rpm @ 44.9 L/hr, 11.9 G/hr 2400 rpm @ 22.2 L/hr, 9.4 G/hr	2800 rpm @ 63.7 L/hr, 16.8 G/hr 2600 rpm @ 50.5 L/hr, 13.4 G/hr	2600 rpm @ 91.6 L/hr, 24.2 G/hr 2400 rpm @ 66.3 L/hr, 17.5 G/hr	2100 rpm @ 99.2 L/hr, 26.2 G/hr 1900 rpm @ 73.1 L/hr, 19.3 G/hr
	MCD (130 bhp)	MCD (180 bhp)	MCD (280 bhp)	INT (350 bhp)	HD (480 bhp)
	2500 rpm @ 24.8 L/hr, 6.5 G/hr 1900 rpm @ 12.1 L/hr, 3.2 G/hr	2500 rpm @ 37.8 L/hr, 10.8 G/hr 2300 rpm @ 29.9 L/hr, 7.9 G/hr	2600 rpm @ 54.1 L/hr, 14.3 G/hr 2400 rpm @ 44.3 L/hr, 11.7 G/hr	2500 rpm @ 69.7 L/hr, 18.4 G/hr 2300 rpm @ 53.5 L/hr, 14.1 G/hr	1800 rpm @ 85.6 L/hr, 22.6 G/hr 1600 rpm @ 61.3 L/hr, 16.2 G/hr
	INT (80 bhp)	INT (120 bhp)	INT (JWAC) 260 bhp	CON (255 bhp)	CON (440 bhp)
	2800 rpm @ 17.1 L/hr, 4.5 G/hr 2200 rpm @ 7.6 L/hr, 2.0 G/hr	2800 rpm @ 25.0 L/hr, 6.6 G/hr 2200 rpm @ 13.2 L/hr, 3.5 G/hr	2600 rpm @ 56.8 L/hr, 15.0 G/hr 2400 rpm @ 42.4 L/hr, 11.2 G/hr	1800 rpm @ 50.9 L/hr, 13.4 G/hr 1600 rpm @ 34.4 L/hr, 9.1 G/hr	1800 rpm @ 79.4 L/hr, 21.0 G/hr 1600 rpm @ 56.3 L/hr, 14.9 G/hr
	MCD (76 bhp)	MCD (115 bhp)	MCD (JWAC) 225 bhp		CON (400 bhp)
	2500 rpm @ 15.5 L/hr, 4.1 G/hr 1900 rpm @ 6.8 L/hr, 1.8 G/hr	2500 rpm @ 23.7 L/hr, 6.3 G/hr 1900 rpm @ 11.4 L/hr, 3.0 G/hr	2500 rpm @ 46.9 L/hr, 12.4 G/hr 2200 rpm @ 27.1 L/hr, 7.2 G/hr		1800 rpm @ 77.2 L/hr, 19.2 G/hr 1600 rpm @ 52.0 L/hr, 13.7 G/hr
					CON (360 bhp)
					1800 rpm @ 66.9 L/hr, 17.7 G/hr 1600 rpm @ 44.7 L/hr, 12.6 G/hr

*Not tested for IMO compliance



Migeni
Baltimore, MD

SEAPORT TAXI



The Commercial Series-MerCruiser



4.2 MI 200

Our new diesel engines are designed to improve performance,



lower noise and vibration and reduce emissions.

Light Duty Commercial Applications

The commercial sterndrive market is growing globally in very imaginative ways. Worldwide commercial vessel operators are now embracing this new wave of diesel power. As the industry technology leader, Cummins MerCruiser Diesel is uniquely qualified to provide prop-to-helm solutions with these IMO compliant engines.

Clean, Quiet Operation

Smartly crafted, compact engines sporting the best reliability in the business earn serious consideration for both new and repowers. Our new diesel engines are designed to improve performance, lower noise and vibration for dependable service.

Sterndrives

Cummins MerCruiser Diesel sterndrives (jackshafts available) enhance the durability of our fuel efficient, diesel engines. Our new Bravo Series sterndrives with improved hydrodynamic profile, precision forged gears for longer life, and redesigned clutch assembly for effortless shifting are smooth and whisper quiet. For added reliability, the exclusive Power Trim XD Memory System returns to previous running position after striking an underwater object.



Bravo Two X Diesel Drive

	4.2 MS 200	4.2 MI 200
Crankshaft HP (kW)	200 (147)	200 (147)
Propshaft HP (kW)	191 (141)	194 (142)
Liter/CID	4.2L/254	4.2L/254
Cylinders	Inline-6	Inline-6
Bore & Stroke (in./mm)	3.70x3.94 (94x100)	3.70x3.94 (94x100)
Compression Ratio	16.5:1	16.5:1
Fuel System	Direct-Injected	Direct-Injected
Rated RPM	3600	3600
Alternator Amp	70	70
Length (in./mm)	49.6 (1259)	43.5 (1104)
Width (in./mm)	29.1 (740)	26.9 (684)
Height (in./mm)	30.9 (784)	30.9 (784)
Weight Bravo I / Alpha / Bobtail	1275 lbs. (578 kg.)	1161 lbs. (528 kg.)
Weight Bravo II / Down Angle	1287 lbs. (584 kg.)	1265 lbs. (575 kg.)
Weight Bravo III / V-Drive	1296 lbs. (588 kg.)	1309 lbs. (595 kg.)
Bravo One Gear Ratios	1.36 • 1.5 ^P • 1.65	N/A
Bravo Two Gear Ratios	2.0 ^P • 1.81 • 2.2	N/A
Bravo Three Gear Ratios	1.81 ^P • 2.0 • 2.2	N/A
ZF25A	N/A	N/A
ZF/Hurth Down-Angle	N/A	1.5 • 2.0 • 2.5:1
V-Drive	N/A	1.5 • 2.0 • 2.5:1



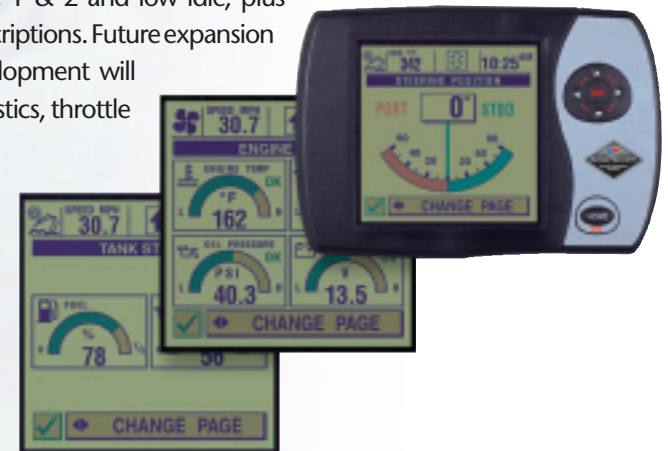
Master and commander... whether you pilot a small fish boat, trawler or ocean going tug, there is an overriding need to be in control. The SmartCraft Diesel View display, available on all Cummins MerCruiser Diesel Quantum Series Engines, provides you instant engine and vessel system monitoring.

From critical engine functions and pre-alarm conditions to answering the most basic of questions – “Do I have enough fuel,” SmartCraft’s digital technology is always at work making your job easier.

SmartCraft links a vessel’s systems and controls through a plug and play network architecture that reduces wiring and is easily expandable. For the boat builder, a single display frees up valuable space previously taken by multiple monitoring devices that didn’t always match the aesthetics of the helm design. Skippers have instant, one-touch access to the information on the performance of their boats and only have one simple integrated system to monitor and master.

Engine RPM, engine temperatures and pressures may be monitored through a variety of user-defined page displays. The system also provides more detailed information about gear temperature and pressures; intake air temperature and boost; percent throttle and load; engine sync; cruise 1 & 2 and low idle; plus engine fault and fault descriptions. Future expansion capabilities now in development will feature advanced diagnostics, throttle and gear control.

SmartCraft puts all the pieces together, giving boaters incredible control and ability to recognize if something is not performing and how to respond.



The New Wave of Diesel Marine Power

Worldwide service network

In ports of call around the globe, CMD sponsors Certified Application Engineer training and Qualified Marine Technician training to provide accurate, responsive application, service and troubleshooting. Worldwide, there are more than 1500 distributors and dealers who also maintain quality parts stock to respond quickly to customer needs.

Cruise and work with confidence

Cummins MerCruiser Diesel delivers impeccable diesel engines built for reliability and durability. Each engine is fully tested before it leaves our assembly facility. We sell the best built, best backed engines on the water. We are so confident in our new Quantum engines that CMD has increased the base warranty coverage periods to 24 months. Refer to the table below for specific details.

Warranty Coverage Period				
Rating	QSB, QSC, QSL		QSM11	
	Note: Coverage ends at which ever occurs first, months or hours of usage		Note: Coverage ends at which ever occurs first, months or hours of usage	
	Months	Hours	Months	Hours
Intermittent	24	3000	24	3000
Medium Continuous Duty	24	5000	24	6000
Heavy Duty	24	5500	24	8000
Continuous	24	6000	24	9000
Rating	MerCruiser			
Light Commercial	12 Months		500 Hours	
Rating	Diamond			
Intermittent	12 Months		1500 Hours	
Medium Continuous Duty	12 Months		3000 Hours	
Heavy Duty	12 Months		5000 Hours	
Continuous	12 Months		Unlimited Hours	

For specific warranty coverage or extended coverage plans, see your installing dealer or visit cmdmarine.com.





Rating Definitions

Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25oC (77oF) 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.

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).

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.



4500 Leeds Ave. #301
Charleston, SC 29405
1-800-DIESELS
email: wavemaster@cummins.com
www.cmdmarine.com
Bulletin Number: 4081938 Rev 11/04
©2004 Cummins MerCruiser Diesel