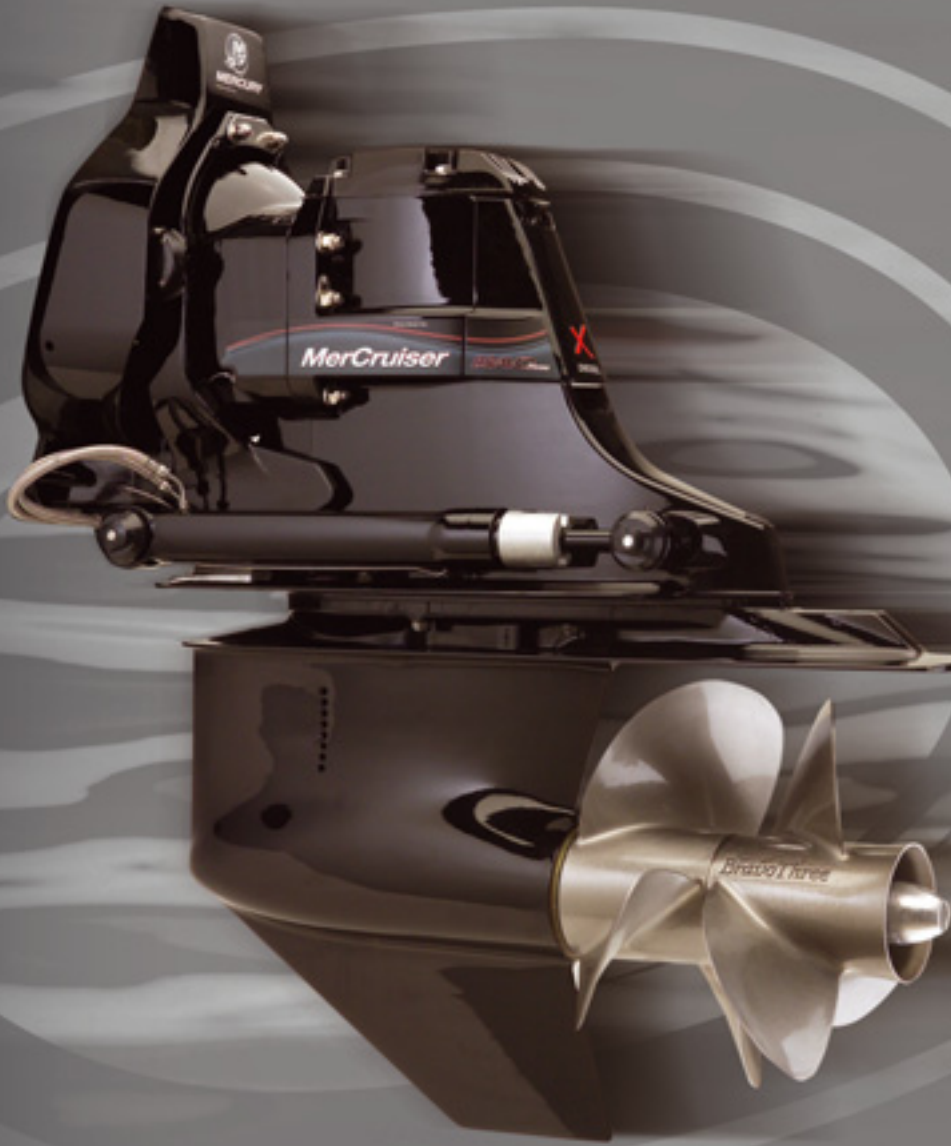


THE MERCUISER ENGINE SERIES



**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. These engines are environmentally friendly and fully compliant with European and US emission requirements. Low noise and vibration offer smooth, comfortable cruising. Improvements in compact designs and power to weight ratios, means that the MerCruiser Diesel Series engines are now a reality for a wider range of yacht tenders, coastal fishing, small runabouts and cruisers that previously had no diesel options.

## Experience A New Wave

Many of our engine packages encompass superior digital technology that you feel at throttle up and experience in power piercing through the roughest waves. The engine monitors itself to protect you 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, enabling them 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.

**Cummins MerCruiser Diesel**  
**offers many advantages...**  
**Freedom to cruise farther...**  
**Low noise... Impressive**  
**Acceleration, Power and**  
**Extended Engine Life.**





# Cruise with Confidence



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

When cruising far from your home port, you can rely upon the vast CMD service network to be there for you.

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. Visit us at [www.cmdmarine.com](http://www.cmdmarine.com).



## MerCruiser Series Warranty

Superior performance and the best backed coverage in the industry... For recreational applications, our MerCruiser engine series is covered for a minimum of one full year (parts and labor). Plus, our optional MerCruiser Product Protection Plan can extend your coverage for up to 5 additional years.

## Marine Technical Center

You can cruise with confidence when you have 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 MerCruiser Series Diesel Engines



1.7 MS 120



2.8 ES 200



4.2 ES 320

- **You can cruise farther and for less money.** For new installations or repowers, the MerCruiser Series engines are a viable alternative to gas powered boats.
- **A remarkably compact design, these propulsion packages can fit into vessels as small as 15 feet and generate maximum power and acceleration.**
- **A well matched turbocharger, aftercooler and direct-injection fuel system combine to create impressive horsepower and torque.**
- **Intelligent design features like our closed-cooling, contribute to the engine's overall durability and corrosion resistance.**
- **Call it reliability by design. Everything from special pistons that resist higher mechanical and thermal constraints to optimized locations for easy servicing of components is geared toward worry-free days on the water.**

Smooth, quiet acceleration and throttle response... the ability to make the most of every precious drop of fuel... unsurpassed reliability and durability... minimal smoke and noise... These are what you look for but rarely find in a diesel engine.



These are precisely what you get with the MerCruiser Series engines. A remarkably compact design makes it lighter than the leading competitor... without sacrificing performance. In fact, these engines generate more power and acceleration for their size than other engines in their class. You can thank the turbocharger, aftercooler and highly refined direct-injection fuel system for the engine's impressive horsepower and torque. Meanwhile, the standard closed-cooling system contributes to the engine's overall durability and corrosion resistance. Simply put, Cummins MerCruiser Diesel helps you get the most from your vessel, whether you own a yacht tender, small runabout, coastal fishing boat, or small cruiser. Plus, it's the ideal choice for twin engine applications.



## The Diesel Advantages

- Outstanding Fuel Economy and Range
- Durability for Longer Engine Life
- Higher Torque for Better Acceleration

## The CMD Diesel Advantages

- Low Noise and Vibration for Smoother Operation
- State-of-the-art Turbocharger, Aftercooler and Direct-injection System for Maximum Engine Efficiency
- Compact Lightweight Designs for Improved Top Speeds and Performance



1.7 MS 120

### Confidence

Durability, diesel economy and dependable power are hallmarks of the MerCruiser Series engines. Go further and run longer for less money, anywhere you need to go... and back.









# The MerCruiser Series Diesel Engine 1.7 Litre



1.7 MS 120

120

The freedom to cruise farther, stay out longer, and spend less on fuel is now a reality with



## Features:

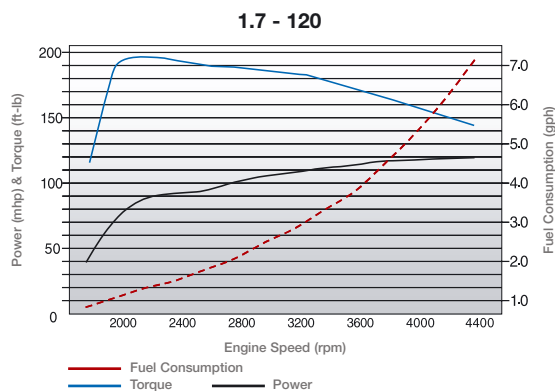
- Newly designed torsional coupler for smoother ride with inboard transmissions
- The proven and durable MerCruiser alpha drive on sterndrive versions is the industry standard
- Glow plugs are standard on inboards for improved starting in cold conditions
- Power steering option available on sterndrives
- IMO & RCD emissions compliant

## Compact, Lightweight Design

Crafted to smartly fit in small boats 15 to 29 feet in length, a compact 16 valve cylinder head allows the engine to breathe easier. Advanced components like the integrated heat exchanger and exhaust manifold reduce overall package size.

## Impressive Acceleration and Power

Quick acceleration and precise throttle response are the result of a proven direct-injection fuel system that includes a wastegated turbocharger and aftercooler.



Cummins MerCruiser Diesel, the largest selling sterndrive engine model in the world.



1.7 MI 120

120



2.8 ES 200

200

An engineering achievement, the 2.8L offers compelling features to make a case for diesel over gas. A tunnel design cylinder block, the strongest such design in the industry, is one



of many innovations, making this series durable, lighter, compact and compatible in size for repowering considerations.

### Features:

- Drop-in replacement for many gasoline inboards
- Advanced electronic control system for improved fuel efficiency, excellent low-speed torque and engine protection
- Large aftercooler and fresh water-cooled turbocharger provides increased performance
- Low emissions– less noise
- Easy servicing– longer service intervals
- Quick start gear reduction starter motor
- IMO & RCD emissions compliant

### Clean, Quiet Operation

Vibration leads to noise. We've solved that problem with twin balance shafts, a tested and proven concept. Likewise, changes to the air intake reduces engine noise. The engine also features a new design of the spiral-shaped intake port for higher swirl, better combustion, increased power and lower emissions.

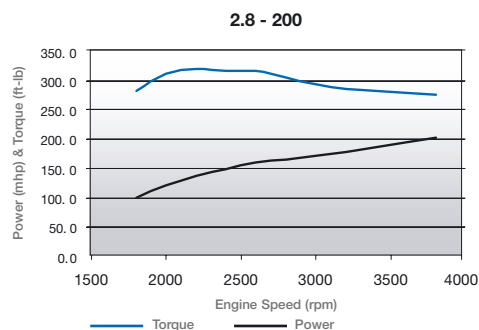
### Durability, Lower Maintenance

Beyond reliability to get you home, building an engine that withstands the rigors of a marine environment and ease of repair are specific CMD advantages. These high-revving powerhouses feature an advanced micro-processor to monitor various engine parameters.



2.8 EI 200

200



# The MerCruiser Series Diesel Engine 2.8 Litre











# The MerCruiser Series Diesel Engine 4.2 Litre



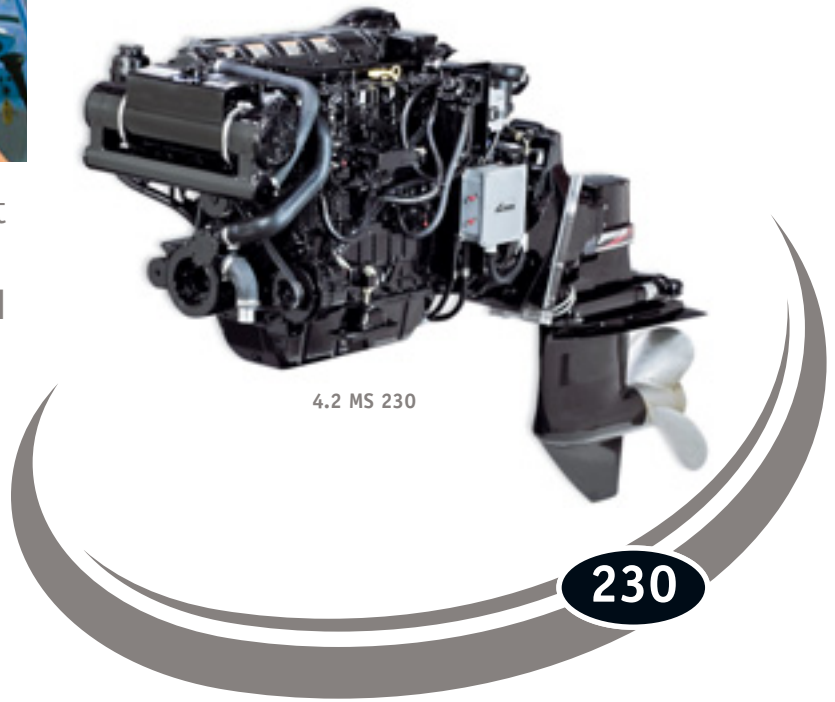
Power that is predictable and reliable. Power that responds quickly to your every command. Power that delivers the cruising speed, durability and fuel

### Features:

- Quick response– excellent low-speed torque
- Color-coded, easily accessible service points
- Designed and tested for long-life
- IMO & RCD emissions compliant

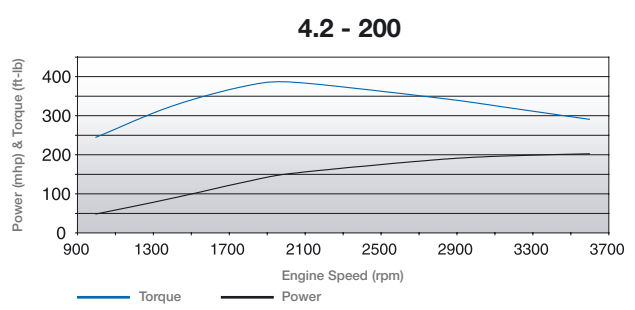


efficiency you expect from a world-class diesel. Our respected 4.2 Litre mechanical engines are being used in both pleasure and light commercial applications internationally.



### Turnkey Reliance

Those who patrol the coastline, provide search and rescue or fight fires from the water, demand performance. There can be no compromises. Cummins MerCruiser Diesel's 6-cylinder 200 and 230 are built on proven diesel technology that delivers longer-life and lower maintenance solutions. Features include waste-gated turbocharger for improved acceleration, engine block and manifold freshwater cooling to better fight corrosion, and lower maintenance. Pure, clean, responsive power.





4.2 EI 250

250

From smaller runabouts and fishing boats to yacht cruisers, Cummins MerCruiser Diesel has the engine



you need!  
We've got the power to get you there and qualified marine service centers to back you up.

## Features:

- Turbocharged, waste-gated, and aftercooled for quick response & superior performance
- New 2-Stage injectors provide lower emissions and noise levels
- New design of the spiral-shaped intake port for higher swirl and better combustion
- Excellent low-speed torque
- Electronic control system for optimum performance and safety
- IMO & RCD emissions compliant

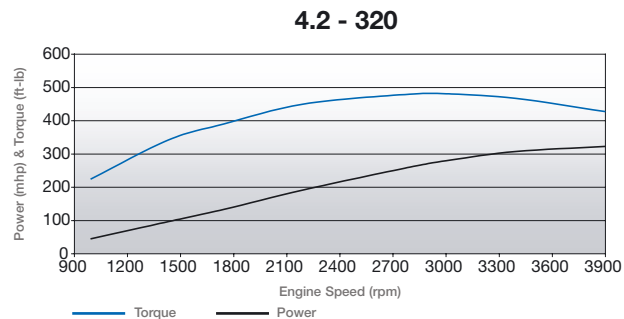


4.2 ES 320

320

### Clean, Quiet Operation

With the durability and fuel efficiency of a diesel, it's the best of both worlds in one powerful engine. The Cummins MerCruiser Diesel engines are now gaining recognition worldwide. These high-revving powerhouses feature an advanced microprocessor to monitor various engine parameters. The engine combines the quiet, smooth performance of a traditional gasoline engine with the added fuel economy, torque and durability of a diesel.



# The MerCruiser Series Diesel Engine 4.2 Litre







# The MerCruiser Drive Series

Cummins MerCruiser Diesel sterndrives and jet drives enhance the durability of our fuel efficient diesel engines.

Our new Bravo X Series sterndrives have improved hydrodynamic profile, precision-forged gears for longer life, and redesigned clutch assembly for effortless

shifting. The exclusive Power Trim XD Memory System allows the drive to return to original trim

position even after striking an under water object to maintain full control in case of emergency.

## All MerCruiser Sterndrives Include

- Freshwater cooling
- Power Trim
- Power Steering (Optional on 1.7 Alpha)

## Available Diesel Instruments Include

- Tachometer
- Volt meter
- Coolant temperature gauge
- Oil pressure gauge
- Trim gauge
- Warning light panel

## Corrosion Fighting Packages Include

- Closed freshwater cooling
- Ceramic coated exhaust elbows
- MerCathode® protection neutralizes corrosive galvanic electrical currents that can destroy metal components
- Exclusive painting process

Choose your application—yacht tender, coastal fishing, small runabouts or cruisers, Cummins MerCruiser Diesel offers a solid and versatile drive to make the most of your engine's power.



## Alpha One

Matched with the 1.7L Diesel for single or twin applications, ideal for fishing boats, runabouts and small cruisers. Versatile, fast and features fish line cutter and anti-feedback steering (power steering version).

## Bravo One X

Excels under high stress requirements. Heavy-duty shafts and bearings coupled to near-net-forged gears withstand heavy torque and thrust loads.

## Bravo Two X

Favored for larger cruisers and houseboats where extra thrust is needed to get up on and maintain plane at slower speeds.

## Bravo Three X

Counter rotating props provide improved acceleration and tracking. Large rudder area provides excellent handling for single engine boats.





4.2 EI 250

250

From smaller runabouts and fishing boats to yacht cruisers, Cummins MerCruiser Diesel has the engine



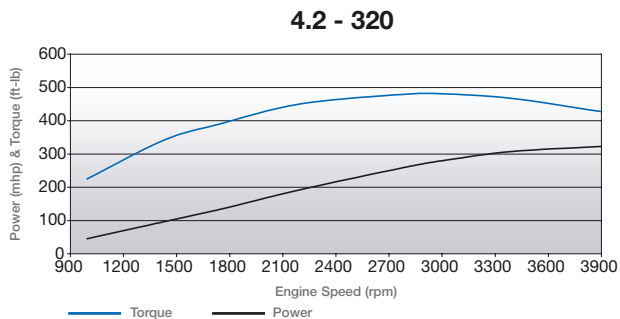
you need!  
We've got the power to get you there and qualified marine service centers to back you up.

## Features:

- Turbocharged, waste-gated, and aftercooled for quick response & superior performance
- New 2-Stage injectors provide lower emissions and noise levels
- New design of the spiral-shaped intake port for higher swirl and better combustion
- Excellent low-speed torque
- Electronic control system for optimum performance and safety
- IMO & RCD emissions compliant

### Clean, Quiet Operation

With the durability and fuel efficiency of a diesel, it's the best of both worlds in one powerful engine. The Cummins MerCruiser Diesel engines are now gaining recognition worldwide. These high-revving powerhouses feature an advanced microprocessor to monitor various engine parameters. The engine combines the quiet, smooth performance of a traditional gasoline engine with the added fuel economy, torque and durability of a diesel.



4.2 ES 320

320



# The MerCruiser Series Diesel Engine 4.2 Litre

# The MerCruiser Engine Series Specifications

	1.7 MS 120	1.7 MI 120	1.7 MJ 120	2.8 ES 170	2.8 EI 170	2.8 EJ 170	2.8 ES 200	2.8 EI 200	2.8 EJ 200	4.2 MS 200
Crankshaft HP (kW)	120 (88)	120 (88)	120 (88)	170 (125)	170 (125)	170 (125)	200 (147)	200 (147)	200 (147)	200 (147)
Propshaft HP (kW)	115 (84)	116 (85)	115 (84)	162 (119)	165 (122)	162 (119)	191 (141)	194 (142)	191 (141)	191 (141)
Rating	PC	PC	PC	PC	PC	PC	PC	PC	PC	LC
Displacement (cu.in./liters)	103/1.7	103/1.7	103/1.7	169/2.8	169/2.8	169/2.8	169/2.8	169/2.8	169/2.8	254/4.2
Cylinders	Inline-4	Inline-4	Inline-4	Inline-4	Inline-4	Inline-4	Inline-4	Inline-4	Inline-4	Inline-6
Bore & Stroke in. (mm)	3.11x3.39 (79x86)	3.11x3.39 (79x86)	3.11x3.39 (79x86)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)
Compression Ratio	17.2:1	17.2:1	17.2:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1
Fuel System	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected
Rated RPM	4400	4400	4400	3800	3800	3800	3800	3800	3800	3600
Voltage	12 Volt	12 Volt	12 Volt	12 Volt	12 Volt	12 Volt	12 Volt	12 Volt	12 Volt	12 Volt
Alternator Amp	50	50	50	80	80	80	80	80	80	70
Remote Oil Filter	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Standard
Fuel Consumption (Rated)	4400 rpm @ 27.3 l/hr	4400 rpm @ 27.3 l/hr	4400 rpm @ 27.3 l/hr	3800 rpm @ 40.4 l/hr	3800 rpm @ 40.4 l/hr	3800 rpm @ 40.4 l/hr	3800 rpm @ 49.6 l/hr	3800 rpm @ 49.6 l/hr	3800 rpm @ 49.6 l/hr	3600 rpm @ 40.6 l/hr
Fuel Consumption (Rated)	4400 rpm @ 7.2 g/hr	4400 rpm @ 7.2 g/hr	4400 rpm @ 7.2 g/hr	3800 rpm @ 10.7 g/hr	3800 rpm @ 10.7 g/hr	3800 rpm @ 10.7 g/hr	3800 rpm @ 13.1 g/hr	3800 rpm @ 13.1 g/hr	3800 rpm @ 13.1 g/hr	3600 rpm @ 10.7 g/hr
Fuel Consumption (Cruise)	4000 rpm @ 20.1 l/hr	4000 rpm @ 20.1 l/hr	4000 rpm @ 20.1 l/hr	3400 rpm @ 25.8 l/hr	3400 rpm @ 25.8 l/hr	3400 rpm @ 25.8 l/hr	3400 rpm @ 31.6 l/hr	3400 rpm @ 31.6 l/hr	3400 rpm @ 31.6 l/hr	3200 rpm @ 27.7 l/hr
Fuel Consumption (Cruise)	4000 rpm @ 5.3 g/hr	4000 rpm @ 5.3 g/hr	4000 rpm @ 5.3 g/hr	3400 rpm @ 6.8 g/hr	3400 rpm @ 6.8 g/hr	3400 rpm @ 6.8 g/hr	3400 rpm @ 8.3 g/hr	3400 rpm @ 8.3 g/hr	3400 rpm @ 8.3 g/hr	3200 rpm @ 7.3 g/hr
Gear Lube Monitor	Standard	N/A	Standard	Standard	N/A	Standard	Standard	N/A	Standard	Standard
Mercathode	Optional	N/A	Optional	Standard	N/A	Optional	Standard	N/A	Optional	Standard
Exhaust Risers	Optional	N/A	Optional	Standard	N/A	Standard	Standard	N/A	Standard	Standard
Power Steering	Optional	N/A	N/A	Standard	N/A	N/A	Standard	N/A	N/A	Standard
Jackshaft Kit	Optional	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Optional
Hot Water Heater Kit	Optional	Optional	Optional	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Multilingual Diagnostic Tools	N/A	N/A	N/A	Optional	Optional	Optional	Optional	Optional	Optional	N/A
Length in. (mm)	29.4 (748)	26.0 (660)	42.6 (1082)	40.8 (1035)	36.6 (931)	47.8 (1214)	33.9 (862)	27.9 (708)	47.8 (1214)	49.4 (1254)
Width in. (mm)	29.4 (746)	29.1 (738)	29.1 (738)	29.9 (759)	29.9 (759)	29.9 (759)	30.2 (767)	29.9 (759)	29.9 (759)	29.3 (743)
Height in. (mm)	28.1 (715)	28.1 (715)	28.1 (715)	31.1 (790)	31.1 (790)	31.1 (790)	31.1 (790)	31.1 (790)	31.1 (790)	31.0 (788)
Weight Bravo I/Alpha/Boat	653 lbs. (296 kg)	550 lbs. (250 kg)	N/A	1075 lbs. (488 kg)	869 lbs. (395 kg)	N/A	1075 lbs. (488 kg)	869 lbs. (395 kg)	N/A	1275 lbs. (578 kg)
Weight Bravo II/Down Angle	N/A	607 lbs. (276 kg)	N/A	1087 lbs. (493 kg)	973 lbs. (442 kg)	N/A	1087 lbs. (493 kg)	973 lbs. (442 kg)	N/A	1287 lbs. (584 kg)
Weight Bravo III/V-Drive	N/A	N/A	N/A	1096 lbs. (497 kg)	1017 lbs. (462 kg)	N/A	1096 lbs. (497 kg)	1017 lbs. (462 kg)	N/A	1296 lbs. (588 kg)
Weight Jet lbs. (kg)	N/A	N/A	750 lbs. (341 kg)	N/A	N/A	1080 lbs. (491 kg)	N/A	N/A	1080 lbs. (491 kg)	N/A
Alpha Drive	2.0°	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bravo One Gear Ratios	N/A	N/A	N/A	1.5 • 1.65°	N/A	N/A	1.5 • 1.65°	N/A	N/A	1.5° • 1.65
Bravo One XR Gear Ratios	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bravo Two Gear Ratios	N/A	N/A	N/A	2.2° • 2.0	N/A	N/A	2.0 • 1.81 • 2.2°	N/A	N/A	2.0° • 1.81 • 2.2
Bravo Three Gear Ratios	N/A	N/A	N/A	2.2 • 2.0° • 2.43	N/A	N/A	2.2 • 2.0°	N/A	N/A	1.65 • 1.81° • 2.0 • 2.2
Jet Gear Ratio	N/A	N/A	1.86:1	N/A	N/A	1.52:1	N/A	N/A	1.42:1	N/A
ZF 25A	N/A	1.6 • 1.9 • 2.3 • 2.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZF 45A	N/A	N/A	N/A	N/A	1.5 • 2.0 • 2.43	N/A	N/A	1.5 • 2.0 • 2.43	N/A	N/A
ZF 45A (Trolling V/V)	N/A	N/A	N/A	N/A	2.0	N/A	N/A	2.0	N/A	N/A
ZF 63A	N/A	N/A	N/A	N/A	1.5 • 2.0 • 2.5	N/A	N/A	1.5 • 2.0 • 2.5	N/A	N/A
ZF 63IV	N/A	N/A	N/A	N/A	1.5 • 2.0 • 2.5	N/A	N/A	1.5 • 2.0 • 2.5	N/A	N/A



Metric rating, crankshaft power rated power rated according to SAE J1228/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. Propshaft power for sterndrive en-

gines is approximately 4.5 percent less than rated crankshaft power. See your local CMD professional for the latest technical information. Length measurement is length to flywheel. ©2005 Cummins MerCruiser Diesel Marine, LLC. All rights reserved. Ratings subject to change without notice. Not responsible for typographical errors.



4.2 MI 200	4.2 MS 230	4.2 MI 230	4.2 ES 250	4.2 EI 250	4.2 EJ 250	4.2 ES 270	4.2 EI 270	4.2 ES 320	4.2 EI 320
200 (147)	230 (169)	230 (169)	250 (184)	250 (184)	250 (184)	270 (198)	270 (198)	320 (236)	320 (236)
194 (142)	220 (162)	222 (164)	239 (176)	241 (178)	239 (176)	259 (191)	261 (192)	306 (225)	310 (229)
LC	PC	PC	PC	PC	PC	PC	PC	PC	PC
254/4.2	254/4.2	254/4.2	254/4.2	254/4.2	254/4.2	254/4.2	254/4.2	254/4.2	254/4.2
Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6	Inline-6
3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)	3.70x3.94 (94x100)
16.5:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1
Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected	Direct-Injected
3600	3800	3800	3800	3800	3800	3800	3800	3900	3900
12 Volt	12 Volt	12 Volt	12 Volt	12 Volt	12 Volt	12 Volt	12 Volt	12 Volt	12 Volt
70	65	65	65	65	65	65	65	65	65
Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
3600 rpm @ 40.6 l/hr	3800 rpm @ 46.6 l/hr	3800 rpm @ 46.6 l/hr	3800 rpm @ 51.7 l/hr	3800 rpm @ 51.7 l/hr	3800 rpm @ 51.7 l/hr	3800 rpm @ 58.2 l/hr	3800 rpm @ 58.2 l/hr	3900 rpm @ 71.0 l/hr	3900 rpm @ 71.0 l/hr
3600 rpm @ 10.7 g/hr	3800 rpm @ 12.3 g/hr	3800 rpm @ 12.3 g/hr	3800 rpm @ 13.7 g/hr	3800 rpm @ 13.7 g/hr	3800 rpm @ 13.7 g/hr	3800 rpm @ 15.4 g/hr	3800 rpm @ 15.4 g/hr	3900 rpm @ 18.8 g/hr	3900 rpm @ 18.8 g/hr
3200 rpm @ 27.7 l/hr	3400 rpm @ 29.7 l/hr	3400 rpm @ 29.7 l/hr	3400 rpm @ 32.9 l/hr	3400 rpm @ 32.9 l/hr	3400 rpm @ 32.9 l/hr	3400 rpm @ 37.1 l/hr	3400 rpm @ 37.1 l/hr	3600 rpm @ 52.8 l/hr	3600 rpm @ 52.8 l/hr
3200 rpm @ 7.3 g/hr	3400 rpm @ 7.8 g/hr	3400 rpm @ 7.8 g/hr	3400 rpm @ 8.7 g/hr	3400 rpm @ 8.7 g/hr	3400 rpm @ 8.7 g/hr	3400 rpm @ 9.8 g/hr	3400 rpm @ 9.8 g/hr	3600 rpm @ 14.0 g/hr	3600 rpm @ 14.0 g/hr
N/A	Standard	N/A	Standard	N/A	Standard	Standard	N/A	Standard	N/A
N/A	Standard	N/A	Standard	N/A	Optional	Standard	N/A	Standard	N/A
N/A	Standard	N/A	Standard	N/A	Standard	Standard	N/A	Standard	N/A
N/A	Standard	N/A	Standard	N/A	N/A	Standard	N/A	Standard	N/A
N/A	Optional	N/A	Optional	N/A	N/A	Optional	N/A	Optional	N/A
Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
N/A	N/A	N/A	Optional	Optional	Optional	Optional	Optional	Optional	Optional
45.5 (1155)	49.4 (1254)	45.5 (1155)	49.6 (1259)	45.5 (1155)	64.0 (1624)	49.6 (1259)	45.5 (1155)	49.6 (1259)	45.5 (1155)
26.9 (684)	29.3 (743)	26.9 (684)	29.1 (740)	26.9 (684)	29.1 (740)	29.1 (740)	26.9 (684)	29.1 (740)	26.9 (684)
30.2 (767)	31.3 (794)	30.2 (767)	31.3 (794)	30.7 (779)	31.3 (794)	31.3 (794)	30.7 (779)	31.3 (794)	30.7 (779)
1161 lbs. (528 kg)	1275 lbs. (578 kg)	1161 lbs. (528 kg)	1275 lbs. (578 kg)	1161 lbs. (528 kg)	N/A	1275 lbs. (578 kg)	1161 lbs. (528 kg)	1275 lbs. (578 kg)	1161 lbs. (528 kg)
1265 lbs. (575 kg)	1287 lbs. (584 kg)	1265 lbs. (575 kg)	1287 lbs. (584 kg)	1265 lbs. (575 kg)	N/A	1287 lbs. (584 kg)	1265 lbs. (575 kg)	1287 lbs. (584 kg)	1265 lbs. (575 kg)
1309 lbs. (595 kg)	1296 lbs. (588 kg)	1309 lbs. (595 kg)	1296 lbs. (588 kg)	1309 lbs. (595 kg)	N/A	1296 lbs. (588 kg)	1309 lbs. (595 kg)	1296 lbs. (588 kg)	1309 lbs. (595 kg)
N/A	N/A	N/A	N/A	N/A	1280 lbs. (582 kg)	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	1.5° • 1.65	N/A	1.5° • 1.65	N/A	N/A	1.36 • 1.5°	N/A	1.36 • 1.5°	N/A
N/A	N/A	N/A	1.35 • 1.5°	N/A	N/A	1.35 • 1.5°	N/A	1.35 • 1.5°	N/A
N/A	2.0° • 1.81 • 2.2	N/A	2.0° • 1.81 • 2.2	N/A	N/A	2.0° • 1.81	N/A	2.0° • 1.81	N/A
N/A	1.65 • 1.81° • 2.0 • 2.2	N/A	1.65 • 1.81° • 2.0	N/A	N/A	1.5 • 1.65 • 1.81°	N/A	1.5 • 1.65 • 1.81°	N/A
N/A	N/A	N/A	N/A	N/A	1.33:1	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1.5 • 2.0 • 2.5	N/A	1.5 • 2.0 • 2.5	N/A	1.5 • 2.0 • 2.5	N/A	N/A	1.5 • 2.0 • 2.5	N/A	1.5 • 2.0 • 2.5
1.5 • 2.0 • 2.5	N/A	1.5 • 2.0 • 2.5	N/A	1.5 • 2.0 • 2.5	N/A	N/A	1.5 • 2.0 • 2.5	N/A	1.5 • 2.0 • 2.5



#### **Rating Definitions**

Ratings are based on ISO 8665 conditions of 100 kPa (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.

#### **Rating Conditions**

Declared power ratings are based upon ISO 8665 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.

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.

Propshaft power for sterndrive engines is approximately 4.5 percent less than rated crankshaft power.

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