**Certified:** This diesel engine complies with or is certified to the following agencies requirements:

- EPA Tier 3 - Model year requirements of the EPA marine regulation (40CFR1042)
- EU Stage IIIa - EC Nonroad Mobile Machinery Directive (2004/26/EC)
- IMO Tier II (Two) NOx requirements of International Maritime Organization (IMO), MARPOL 73/78 Annex VI, Regulation 13

### Technical Data

**Displacement:** 6.7 liter

**Bore:** 107 mm [4.21 in]

**Stroke:** 124 mm [4.88 in]

**Cylinders:** 6

**Fuel System:** HPCR Bosch CRIN 3.0

**Rated Power:** 224 kW [301bhp, 305mhp]

**Rated Speed:** 2600 rpm

**Rating Type:** Medium Continuous Duty

**Aspiration:** Turbocharged / Sea Water Aftercooled

**Fuel Consumption:**
- Full Throttle: L/hr (gal/hr)
- Propeller Demand: kW (hp)

### Performance Curves

- **Engine Speed - rpm**
- **Power (kw)**
- **Torque (N·m)**
- **Propeller Demand (kw)**

### Certifications

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### Full Throttle Requirements:

- Engine achieves or exceeds rated rpm at full throttle under any steady operating condition
- Engines in variable displacement boats (such as pushboats, tugboats, net druggers, etc.) achieve no less than 100 rpm below rated speed at full throttle during a dead push or bollard pull
- Engine achieves or exceeds rated rpm when accelerating from idle to full throttle

### Rated Conditions:

- Ratings are based upon ISO 15550 reference conditions; air pressure of 100 kPa [29.612 in Hg], air temperature 25deg. C [77 deg. F] and 30% relative humidity.
- Member NMMA. Unless otherwise specified, tolerance on all values is +/-5%. Values from engine control modules and displayed on instrument panels are not absolute. Tolerance varies, but is generally less than +/-5% when operating within 30% of rated power.
- Full Throttle curve represents power at the crankshaft for mature gross engine performance corrected in accordance with ISO 15550. Propeller Curve represents approximate power demand from a typical propeller. Propeller Shaft Power is approximately 3% less than rated crankshaft power after typical reverse/reduction gear losses and may vary depending on the type of gear or propulsion system used.

- Fuel Consumption is based on fuel of 35 deg. API gravity at 16 deg C [60 deg. F] having LHV of 42,780 kj/kg [18390 Btu/lb] and weighing 838.9 g/liter [7.001 lb/U.S. gal].

**Medium Continuous (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 15550 fuel stop power rating and is for applications that operate less than 3,000 hours per year.
General Engine Data

Engine Model: QSB 6.7
Rating Type: Medium Continuous Duty
Rated Engine Power: 224 [301] kW [hp]
Rated Engine Speed: 2600 rpm
Rated Power Production Tolerance: ±5%
Rated Engine Torque: 824 [608] N·m [lb·ft]
Peak Engine Torque @ 1700 rpm: 1174 [866] N·m [lb·ft]
Brake Mean Effective Pressure: 1548 [225] kPa [psi]
Indicated Mean Effective Pressure: 1548 [225] kPa [psi]
Maximum Allowable Engine Speed: 2675 rpm

Maximum Continuous Torque Capacity from Front of Crank Specifications

Maximum Torque Capacity from Front of Crank: 824 [608] N·m [lb·ft]
Compression Ratio: 16.5:1
Piston Speed: 10.7 [2115] m/sec [ft/min]
Firing Order: 1-5-3-6-2-4
Weight (Dry) - Engine With Heat Exchanger System - Average: 663 [1462] kg [lb]

Governor Settings

Default Droop Value: 0%
High Speed Governor Break Point: 2675 rpm
Minimum Idle Speed Setting: 550 rpm
Normal Idle Speed Variation: ±10 rpm
High Idle Speed Range Minimum: 2670 rpm
High Idle Speed Range Maximum: 2680 rpm

Noise and Vibration

Average Noise Level - Top (Idle): 75 dBA @ 1m
Average Noise Level - Right Side (Idle): 100 dBA @ 1m
Average Noise Level - Left Side (Idle): 75 dBA @ 1m
Average Noise Level - Front (Idle): 76 dBA @ 1m
Average Noise Level - Top (Rated): 101 dBA @ 1m

Fuel System¹

Fuel Consumption at Rated Speed: 55.6 [14.7] l/hr [gal/hr]
Approximate Fuel Flow to Pump: 215.8 [57.0] l/hr [gal/hr]
Maximum Allowable Fuel Supply to Pump Temperature: 60.0 [140] °C [°F]
Approximate Fuel Flow Return to Tank: 160.1 [42.3] l/hr [gal/hr]
Maximum Heat Rejection to Drain Fuel: 2.1 [119] kW [Btu/min]

¹ Unless otherwise specified, all data is at rated power conditions and can vary ±5%.
² No rear loads can be applied when the FPTO is fully loaded. Max PTO torque is contingent on torsional analysis results for the specific drive system. Consult Installation Direction Booklet for Limitations.
³ Heat rejection to coolant values are based on 50% water/50% ethylene glycol mix and do NOT include fouling factors. If sourcing your own cooler, a service fouling factor should be applied according to the cooler manufacturer's recommendation.
⁴ Consult option notes for flow specifications of optional Cummins seawater pumps, if applicable.

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COLUMBUS, INDIANA

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## Propulsion Marine Engine Performance Data

**Curve No.** M-93961  
**DS:** D31-MX-2  
**CPL:** 3887  
**DATE:** 8-May-13

### Air System¹

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intake Manifold Pressure</td>
<td>138 [41] kPa</td>
</tr>
<tr>
<td>Intake Air Flow</td>
<td>284 [602] l/sec [cfm]</td>
</tr>
<tr>
<td>Heat Rejection to Ambient</td>
<td>17 [946] kW [Btu/min]</td>
</tr>
</tbody>
</table>

### Exhaust System¹

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaust Gas Flow</td>
<td>599 [1,269] l/sec [cfm]</td>
</tr>
<tr>
<td>Exhaust Gas Temperature (Turbine Out)</td>
<td>436 [817] °C [°F]</td>
</tr>
<tr>
<td>Exhaust Gas Temperature (Manifold)</td>
<td>574 [1,065] °C [°F]</td>
</tr>
</tbody>
</table>

### Emissions (in accordance with ISO 8178 Cycle E3)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx (Oxides of Nitrogen)</td>
<td>4.70 [3.50] g/kw·hr [g/hp·hr]</td>
</tr>
<tr>
<td>HC (Hydrocarbons)</td>
<td>0.10 [0.07] g/kw·hr [g/hp·hr]</td>
</tr>
<tr>
<td>CO (Carbon Monoxide)</td>
<td>0.48 [0.36] g/kw·hr [g/hp·hr]</td>
</tr>
<tr>
<td>PM (Particulate Matter)</td>
<td>0.09 [0.07] g/kw·hr [g/hp·hr]</td>
</tr>
<tr>
<td>CO₂ (Carbon dioxide)</td>
<td>687.00 [512.30] g/kw·hr [g/hp·hr]</td>
</tr>
</tbody>
</table>

### Cooling System¹

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Water Pump Specifications</td>
<td>MAB 0.08.17-07/16/2001</td>
</tr>
<tr>
<td>Pressure Cap Rating</td>
<td>103 [15] kPa [psi]</td>
</tr>
<tr>
<td>Max. Coolant Outlet Pressure from the Engine</td>
<td>414 [60] kPa [psi]</td>
</tr>
</tbody>
</table>

### Sea Water Aftercooled Engine (SWAC)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Thermostat Operating Range (Start to Open)</td>
<td>71 [160] °C [°F]</td>
</tr>
<tr>
<td>Standard Thermostat Operating Range (Full Open)</td>
<td>83 [182] °C [°F]</td>
</tr>
</tbody>
</table>

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² No rear loads can be applied when the FPTO is fully loaded. Max PTO torque is contingent on torsional analysis results for the specific drive system. Consult Installation Direction Booklet for Limitations.
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