



CUMMINS INC.
 Charleston, SC 29405
 Marine Performance Curves
marine.cummins.com

Basic Engine Model
QSB 6.7

Curve Number:
M-93961

Engine Configuration
D313011MX03

CPL Code:
3887

Date:
8-May-13

Displacement: **6.7 liter [408 in³]**
 Bore: **107 mm [4.21 in]**
 Stroke: **124 mm [4.88 in]**
 Cylinders: **6**
 Fuel System: **HPCR Bosch CRIN 3.0**

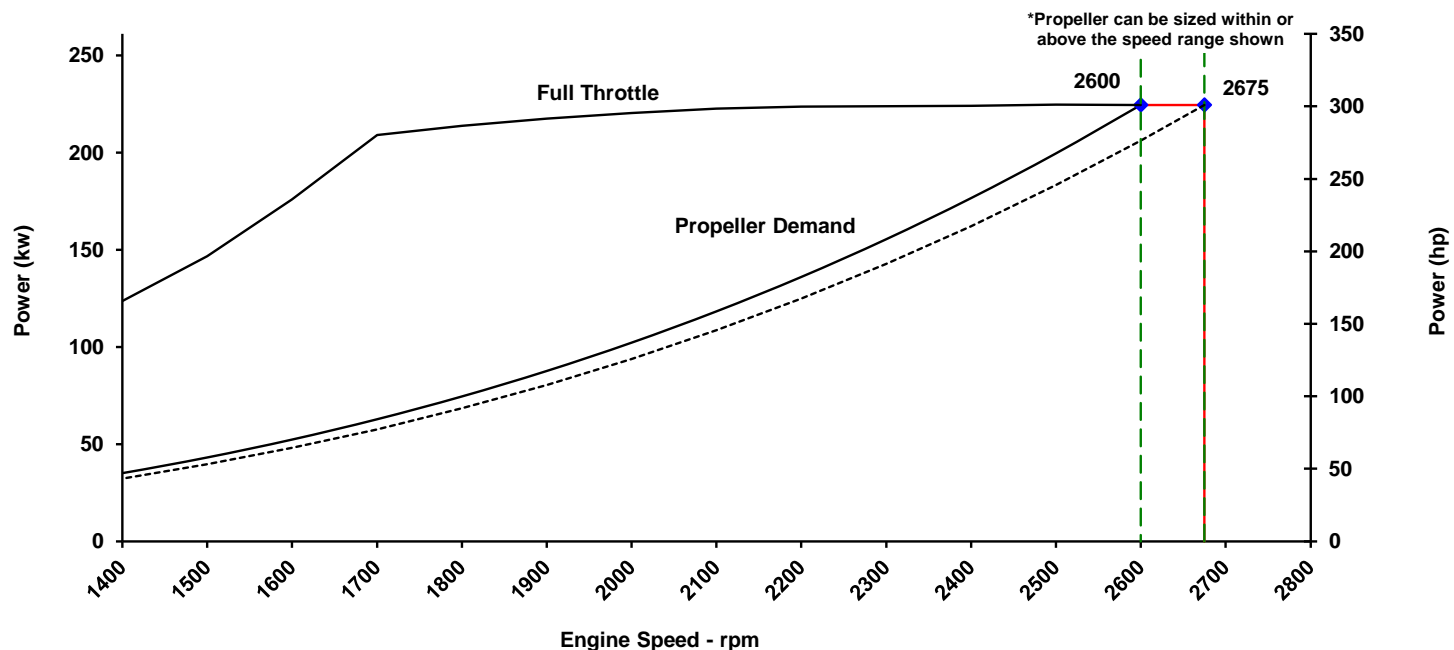
Rated Power: **224 kw [301bhp, 305mhp]**
 Rated Speed: **2600 rpm**
 Rating Type: **Medium Continuous Duty**
 Aspiration: **Turbocharged / Sea Water Aftercooled**

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



Speed	Full Throttle				Propeller Demand					
	Power		Torque		Power		Torque		Fuel Consumption	
	kw	(hp)	N·m	(ft·lb)	kw	(hp)	N·m	(ft·lb)	L/hr	(gal/hr)
rpm	kw	(hp)	N·m	(ft·lb)	kw	(hp)	N·m	(ft·lb)	L/hr	(gal/hr)
2675	224	(301)	801	(591)						
2600	224	(301)	824	(608)	224	(301.0)	824	(608.0)	55.7	(14.7)
2500	225	(301)	858	(633)	202	(270.8)	771	(568.8)	51.2	(13.5)
2400	224	(300)	891	(657)	181	(242.5)	719	(530.7)	45.8	(12.1)
2300	224	(300)	929	(685)	161	(216.2)	669	(493.6)	40.2	(10.6)
2200	224	(300)	971	(716)	143	(191.7)	621	(457.7)	35.6	(9.4)
2100	222	(298)	1011	(746)	126	(169.1)	573	(422.9)	31.7	(8.4)
2000	220	(296)	1052	(776)	111	(148.2)	528	(389.2)	27.7	(7.3)
1900	217	(292)	1093	(806)	96	(129.1)	484	(356.7)	23.8	(6.3)
1800	214	(287)	1133	(836)	83	(111.5)	441	(325.4)	20.6	(5.5)
1700	209	(280)	1174	(866)	71	(95.6)	400	(295.3)	18.1	(4.8)
1600	176	(236)	1049	(774)	61	(81.1)	361	(266.4)	15.5	(4.1)
1500	147	(196)	933	(688)	51	(68.2)	324	(238.7)	12.9	(3.4)
1400	124	(166)	843	(622)	42	(56.6)	288	(212.3)	10.6	(2.8)
1300	107	(144)	786	(580)	35	(46.3)	254	(187.1)	8.8	(2.3)
1200	92	(124)	733	(541)	28	(37.3)	221	(163.3)	7.1	(1.9)
1100	78	(105)	678	(500)	22	(29.5)	191	(140.9)	5.8	(1.5)
1000	65	(87)	620	(457)	17	(22.8)	162	(119.8)	4.6	(1.2)
900	55	(73)	580	(428)	13	(17.2)	136	(100.2)	3.6	(1.0)
800	45	(61)	541	(399)	9	(12.5)	111	(82.0)	2.8	(0.7)
700	38	(51)	521	(384)	6	(8.7)	89	(65.3)	2.1	(0.5)
600	31	(42)	500	(369)	4	(5.7)	68	(50.3)	1.5	(0.4)

*** Cummins 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 draggers, 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.

Propulsion Marine Engine Performance Data

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

Air System¹

Intake Manifold Pressure .....	.....kPa [in Hg]	138 [41]
Intake Air Flow .....	.....l/sec [cfm]	284 [602]
Heat Rejection to Ambient .....	.....kW [Btu/min]	17 [946]

Exhaust System¹

Exhaust Gas Flow .....	.....l/sec [cfm]	599 [1,269]
Exhaust Gas Temperature (Turbine Out) .....	.....°C [°F]	436 [817]
Exhaust Gas Temperature (Manifold) .....	.....°C [°F]	574 [1,065]

Emissions (in accordance with ISO 8178 Cycle E3)

NOx (Oxides of Nitrogen) .....	.....g/kw-hr [g/hp-hr]	4.70 [3.50]
HC (Hydrocarbons) .....	.....g/kw-hr [g/hp-hr]	0.10 [0.07]
CO (Carbon Monoxide) .....	.....g/kw-hr [g/hp-hr]	0.48 [0.36]
PM (Particulate Matter) .....	.....g/kw-hr [g/hp-hr]	0.09 [0.07]
CO ₂ (Carbon dioxide) .....	.....g/kw-hr [g/hp-hr]	687.00 [512.30]

Cooling System¹

Sea Water Pump Specifications .....	.....MAB 0.08.17-07/16/2001	
Pressure Cap Rating .....	.....kPa [psi]	103 [15]
Max. Coolant Outlet Pressure from the Engine.....	.....kPa [psi]	414 [60]

Sea Water Aftercooled Engine (SWAC)

Standard Thermostat Operating Range (Start to Open) .....	.....°C [°F]	71 [160]
Standard Thermostat Operating Range (Full Open) .....	.....°C [°F]	83 [182]

TBD= To Be Determined

N/A = Not Applicable

N.A. = Not Available

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.

CUMMINS INC.

COLUMBUS, INDIANA

All Data is Subject to Change Without Notice - Consult the following Cummins website for the most recent data:

<http://marine.cummins.com>