	CUMMINS MARINE Charleston, SC 29405 Marine Performance Curves gce.cummins.com	Basic Engine Model: **QSB7-DM**	Curve Number: **DM-93776**	
		Engine Configuration: **D313014MX03**	CPL Code: **3460**	Date: **19-Sep-17**

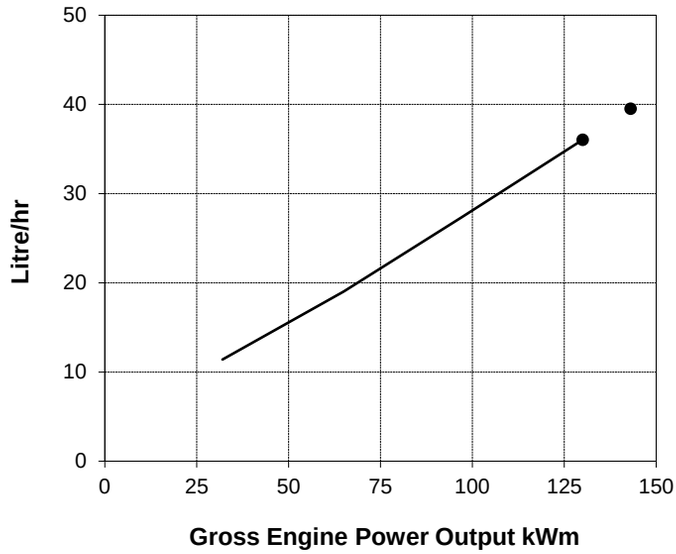
Displacement:	**6.7 liter [408 in³]**		kW [hp] @ rpm
Bore:	**107 mm [4.21 in]**	Advertised Power:	**130[174]@1800**
Stroke:	**124 mm [4.88 in]**	Aspiration:	**Turbocharged / Aftercooled**
Fuel System:	**High Pressure Common Rail**	Exhaust Type:	**Water Jacketed**
Cylinders:	**6**		

CERTIFIED: This marine diesel engine complies with or is certified to the:
EPA Tier 3 - Model year requirements of the EPA marine regulation (40CFR1042)
IMO Tier II (Two) NOx requirements of International Maritime Organization (IMO), MARPOL 73/78 Annex VI, Regulation 13

Engine Speed	Overload Capacity		Prime Power		Continuous Power	
RPM	kWm	BHP	kWm	BHP	kWm	BHP
1800	142	191	130	174	104	139

Engine Performance Data @ 1800 rpm

OUTPUT POWER			FUEL CONSUMPTION			
%	kWm	BHP	kg/kWh	Lb/ BHP-h	Liter/ hour	U.S. Gal/ hour
10% OVERLOAD CAPACITY						
110%	143	191	0.229	0.376	39.5	10.4
PRIME POWER						
100%	130	174	0.230	0.378	36.0	9.5
75%	97	131	0.234	0.385	27.3	7.2
50%	65	87	0.242	0.398	19.0	5.0
25%	32	44	0.294	0.483	11.4	3.0
10%	13	17	0.396	0.651	6.7	1.8
CONTINUOUS POWER						
80%	104	139	0.233	0.383	29.0	7.7



Rating Conditions: Ratings are in accordance with ISO 15550 and ISO 8528-5 reference conditions; air pressure at 100 kPa (29.61 in Hg), air temperature 25°C (77°F), and 30% relative humidity.
Power output curves are based on the engine operating with fuel system, water pump, and lubricating oil pump; not included are battery charging alternator, fan, optional equipment, and driven components.
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.
Unless otherwise specified, tolerance on all values is +/-5%.

Prime Power Rating is applicable for supplying continual electrical power at varied load. The following are the Prime Rating parameters:
* Engines with a Prime Power rating are available for an unlimited number of hours per year in variable load applications. Variable load is not to exceed an 80 percent average of the rated power.
* A 10 percent overload capability is available for a period of one hour within a 12 hour period of operation.
* Total operating time at the 10 percent overload power shall not exceed 25 hours per year. This power rating follows ISO 8528 guidelines.

TECHNICAL DATA DEPT. **CHIEF ENGINEER**

Auxiliary Marine Engine Performance Data

Curve No.	**DM-93776**
DS :	**D31-MX-1**
CPL :	**3460**
DATE:	**19-Sep-17**

General Engine Data

Engine Model	QSB7-DM			
Rating Type	Prime Power		Overload	
Rated Engine Power ....kW [hp]	130	[174]	142	[191]
Governed Engine Speed ....rpm		1800		
Rated HP Production Tolerance ....±%		5		
Rated Engine Torque ....N·m [lb·ft]	688	[508]	756	[557]
Default Idle Speed Setting....rpm		700		
Low Idle Speed Range Minimum ....rpm		700		

Maximum Continuous Torque Capacity from Front of Crank

Maximum Torque Capacity from Front of Crank[2] ....N·m [lb·ft]	689	[508]		
Brake Mean Effective Pressure ....kPa [psi]	1293	[188]	1419	[206]
Compression Ratio		17.3:1		
Piston Speed ....m/sec [ft/min]	7	[1465]		
Firing Order		1-5-3-6-2-4		
Friction Power ....kW [hp]	19	[25]		
Steady State Stability Band at Constant Load ....%		0.25		
Weight Dry - Engine With Heat Exchanger ....kg [lb]	708	[1561]		

Noise and Vibration

Average Noise Level - Top	(Idle).. ....dBA @ 1m	N.A.
	(Rated) ....dBA @ 1m	N.A.
Average Noise Level - Right Side	(Idle).. ....dBA @ 1m	N.A.
	(Rated) ....dBA @ 1m	N.A.
Average Noise Level - Left Side	(Idle).. ....dBA @ 1m	N.A.
	(Rated) ....dBA @ 1m	N.A.

Fuel System[1]

Approximate Fuel Flow to Pump ....l/hr [gal/hr]	134.0	[35.4]	134.0	[35.4]
Maximum Allowable Fuel Supply to Pump Temperature ....°C [°F]	60	[140]	60	[140]
Approximate Fuel Flow Return to Tank ....l/hr [gal/hr]	98.0	[25.9]	94.5	[25.0]
Approximate Fuel Return to Tank Temperature ....°C [°F]	56	[133]	57	[134]
Maximum Heat Rejection to Drain Fuel ....kW [Btu/min]	1	[47]	1	[46]
Average Fuel Consumption- Emissions ISO 8178 D2 Test Cycle....l/hr [gal/hr]	18.4	[4.9]		

Air System[1]

Intake Manifold Pressure ....mm Hg [in Hg]	148	[44]	162	[48]
Intake Air Flow ....l/sec [cfm]	195	[412]	205	[434]
Heat Rejection to Ambient ....kW [Btu/min]	6	[362]	6	[339]

Exhaust System[1]

Exhaust Gas Flow ....l/sec [cfm]	410	[869]	440	[932]
Exhaust Gas Temperature (Turbine Out) ....°C [°F]	369	[696]	384	[723]
Exhaust Gas Temperature (Manifold) ....°C [°F]	538	[999]	561	[1042]
Heat Rejection to Exhaust ....kW [Btu/min]	89	[5047]	98	[5570]

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.**

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Auxiliary Marine Engine Performance Data

		Curve No.	**DM-93776**		
		DS :	**D31-MX-1**		
		CPL :	**3460**		
		DATE:	**19-Sep-17**		
Emissions (in accordance with ISO 8178 Cycle D2)					
NOx (Oxides of Nitrogen)	g/kw·hr [g/bhp·hr]	4.141	[3.088]		
HC (Hydrocarbons)	g/kw·hr [g/bhp·hr]	0.486	[0.363]		
CO (Carbon Monoxide)	g/kw·hr [g/bhp·hr]	1.042	[0.777]		
PM (Particulate Matter)	g/kw·hr [g/bhp·hr]	0.165	[0.123]		
CO_2 (Carbon dioxide)	g/kw·hr [g/bhp·hr]	855	[638]		
Emissions (in accordance with ISO 8178 Cycle E2)					
NOx (Oxides of Nitrogen)	g/kw·hr [g/bhp·hr]	4.251	[3.170]		
HC (Hydrocarbons)	g/kw·hr [g/bhp·hr]	0.290	[0.216]		
CO (Carbon Monoxide)	g/kw·hr [g/bhp·hr]	0.687	[0.512]		
PM (Particulate Matter)	g/kw·hr [g/bhp·hr]	0.125	[0.093]		
CO_2 (Carbon dioxide)	g/kw·hr [g/bhp·hr]	759	[566]		
Cooling System[1]					
Sea Water Pump Specifications	MAB 0.08.17-07/16/2001				
Minimum Pressure Cap Rating	kPa [psi]	103	[15]		
Engines with Keel Cooling					
Coolant Flow to Cooler (with blocked open thermostat)	l/min [gal/min]	174	[46]		
Standard Thermostat Operating Range – Start to open	°C [°F]	71	[160]		
Standard Thermostat Operating Range – Full open	°C [°F]	83	[181]		
Heat Rejection to Engine Coolant[3]	kW [Btu/min]	125	[7110]	131	[7444]
Maximum Engine Coolant Inlet Temperature from Cooler	°C [°F]	54	[130]		
Engines with Radiator Cooling					
Coolant Flow to Radiator (with blocked open thermostat)	l/min [gal/min]	174	[46]		
Standard Thermostat Operating Range – Start to open	°C [°F]	71	[160]		
Standard Thermostat Operating Range – Full open	°C [°F]	83	[181]		
Heat Rejection to Engine Coolant[3]	kW [Btu/min]	125	[7110]	131	[7444]
Maximum Coolant Inlet Temperature from Radiator					
For Radiator @ 35° C [95° F] Ambient Air	°C [°F]	54	[130]		
For Radiator @ 50° C [122° F] Ambient Air	°C [°F]	68	[155]		

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