

## **CHONGQING CUMMINS ENGINE** PERFORMANCE CURVE

Engine Model	Curve No.	
NTA855-D(M)	D(M)-804	
Configuration	CPL Code	Date
D093641MX02	CQ126	11-Sep-08

Prime Power

bhp

kW

Displacement: [855 in.<sup>3</sup>] 14L kW [HP] @ r/min Prime Power: Bore: 140mm [5.50 in.] 313 [420] @1800

Stroke: 152mm [6.00in.]

Fuel System: Aspiration: PT Turbocharged/Aftercooled

Cylinders: Exhaust:

CERTIFIED: This marine diesel engine complies with or is certified to the:

**Engine Speed** 

r/min

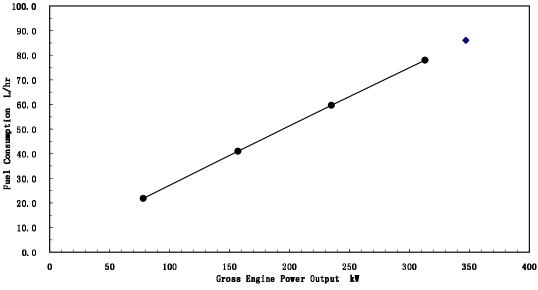
IMO-NOx requirements of the International Maritime Organization (IMO), MARPOL 73/78 Annex VI, Regulation 13

**Overload Capacity** 

18	800	347	465	313	420			
Engine Performance Data @ 1800 r/min								
OUTPUT POWER		R FUEL CONSUMPTION						
%	kW	bhp	kg/kW.h	lb/bhp.h	l/hr	gal/hr		
10% Overload Capacity								
110	347	465	0.211	0.351	86.0	23.0		
Prime Power								
100	313	420	0.212	0.348	78.0	20.6		
75	225	245	0.046	0.255	E0.7	15.0		

bhp

59.7 15.8 50 157 210 0.222 0.366 41.0 10.8 25 78 105 0.238 0.390 21.8 5.8



Rating Conditions: Ratings are in accordance with ISO-3046 reference conditions; air pressure at 100 kPa (29.61.in Hg.), air temperature 25°C (77°F), and 30% relative humidity. The fuel consumption data is based on GB252 No.0 diesel fuel (No. 2 diesel fuel in U.S.) weight at 0.85 kg/litre (7.1 lb/U.S. gal).

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.

Operation at Elevated Temperatures for sustained operation above 40°C (104°F), derate 2% per 11°C (1% per 10° Prime Power Rating is applicable for supplying continual electrical power at varied load. The following are the Prime Rating parameters:

- \* Prime Power is available for an unlimited number of hours per year in a variable load application. Variable load should not exceed a 70% average of the Prime Power rating during any operating period of 250 hours.
- \* The total operating time at 100% Prime Power shall not exceed 500 hours per year.
- There is a 10% overload capability for a period of 1 hour within a 12 hour period of operation. Total operating time at 10% overload shall not exceed 25 hours per year.



## **Chongqing Cummins Engine Co. Ltd.**

## **Auxiliary Marine Engine Performance Data**

	DS: CPL:	DS-D093641 CQ126	
	DATE:	11-Sep-08	
General Engine Data <sup>1</sup>		•	
Engine Model	NTA85	55-D(M)	
Rating Type	Prime Power	Overload	
Rated Engine Powerhp [kW]	420 [ 313 ]	465 [ 347 ]	
Governed Engine Speedrpm	1800	1800	
Rated HP Production Tolerance	±2%		
Rated Engine Torquelb.·ft. [N·m]		1358 [ 1841 ]	
Idle Speed Range rpm	575-650		
Brake Mean Effective Pressurepsi [kPa]	216 [ 1490 ]	239 [ 1652 ]	
Compression Ratio	14.0:1		
Piston Speed ft/min [m/sec]	1795 [ 9.12 ]		
Friction Powerhp [kW]	47 [ 35 ]		
Fuel System <sup>1</sup>			
Fuel Consumptiongal/hr [l/hr]	20.6 [ 78 ]	23 [ 86 ]	
Approximate Fuel Flow to Pumpgal/hr [l/hr]	62 [ 234 ]	68 [ 258 ]	
Maximum Allowable Fuel Supply to Pump Temperature°F [°C]	160 [71 ]	00[200]	
Approximate Fuel Flow Return to Tank	N.A.		
Fuel Rail Pressurepsi [kPa]		181 [ 1247 ]	
Weight <sup>1</sup>			
Dry - Engine Only	2896 [ 1315 ]		
Dry - Engine With Heatexchangerlb. [kg]	3128[ 1420 ]	4570	
Installation Diagram No.		4572	
Hookup Diagram & Drawing, electrical circuit No	4061349	4061349、4061350	
Air System <sup>1</sup>			
Intake Manifold Pressurein. Hg [kPa]	N.A.	58 [ 196 ]	
Intake Air Flowcfm [I/sce]	949 [ 448 ]	981 [ 463 ]	
Heat Rejection to AmbientBTU/min [kW]	2106 [ 37 ]	2391 [ 42 ]	
Exhaust System <sup>1</sup>			
Exhaust Gas Flow	2436 [ 1150 ]	2563 [ 1210 ]	
Exhaust Gas Trow°F [°C]	871 [ 466 ]	900 [ 482 ]	
Heat Rejection to ExhaustBTU/min [kW]	10644 [ 187 ]	11839 [ 208 ]	
Treat Nejection to Exhaust	10044 [ 107 ]	11009 [ 200 ]	
Cooling System <sup>1</sup>			
Sea Water Pump SpecificationsMAB 0.08.17-07/16/2001			
Pressure Cap Rating (With Heat Exchanger Option)psi [kPa]	7 [ 50 ]		
Engines without Low Temperature Aftercooler (LTA)			
Jacket Water Aftercooled Engine (JWAC)			
Coolant Flow to Engine Heat Exchangergal/min [l/min]	62 [ 234 ]		
Standard Thermostat Operating Range (Min)°F [°C]	180 [ 82 ]		
Standard Thermostat Operating Range (Max)°F [°C]	201 [ 94 ]		
Unit Direction to Engine Cooley 3	40750 [ 004 ]	44000 [ 050 ]	

TBD = To Be Determined

N/A = Not Applicable

N.A. = Not Avaliable

D(M)-804

- 1. All Data at Rated Conditions.
- 2. 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).

## **CHONGQING CUMMINS ENGINE CO. LTD.**

CHONGQING, P.R.CHINA, 400031

All Data is Subject to Change Without Notice - contact CCEC for most recent data .