

CHONGQING CUMMINS ENGINE PERFORMANCE CURVE

Engine Model Curve No.

NT855-M M-175

Configuration CPL Code Date

D092347MX02 0731 6-Oct-08

Displacement: 14L [855 in.3] Advertised Power: 164kW [220HP] @1800 r/min

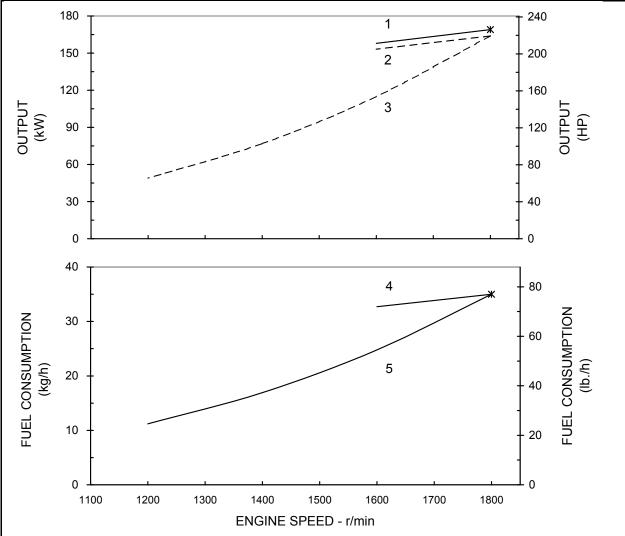
Bore: 140mm [5.50 in.]

Stroke: 152mm [6.00in.] Aspiration: Turbocharged Fuel System: PT Rating Type: Continuous

Cylinders: 6

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

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



Rating Conditions:Ratings are based upon ISO 8665 and SAE J1228 reference conditions;air pressure of 100kPa [29.612 in.Hg] air temperature 25°C [77°F] and 30% relative humidity.Power is rated in accordance with IMCI prodedures.

Fuel consumption is based on fuel of 35° API gravity at 16°C (60°F) having LHV of 42,780 kj/kg (18,390 Btu/lb) and weighing 838.9 g/liter (7.001 lb/U.S.gal).

Propeller Shaft Power represents the net power available after typical reverse/reduction gear losses and is 97% of rated power.

1. Brake power

- 4. Fuel Consumption for Brake and Shaft power.
- 2. Shaft power with Reverse / Reduction Gear
- 5. Fuel Consumption for Typical Propeller.
- 3. Typical Propeller Power Curve (3.0 exponent)

Continuous Rating: This power rating is intended for continuous use in applications requiring uninterrupted service at full power. This rating is an ISO3046 Standard Power Rating.



Chongqing Cummins Engine Co. Ltd.

Propulsion Marine Engine Performance Data

Curve No.:	M-175
DS:	DS-4962
CPL:	0731
DATE:	6-Oct-08

Engine Model	General Engine Data		
Rated Engine Power. hp kW Rated Engine Speed. rpm 1800 Peak Engine Torque @ rpm lb-ft. [N-m] N.A. Brake Mean Effective Pressure. psi kPa 113 [781] Minimum Idle Speed Setting. rpm 50 F5-675 F	Engine Model		NT855-M
Rated Engine Speed. rpm	Rating Type		Continuous
Peak Engine Torque @ rpm	Rated Engine Power	hp [kW]	220 [164]
Brake Mean Effective Pressure	Rated Engine Speed	rpm	1800
Minimum Idle Speed Setting	Peak Engine Torque @ rpm	lb.·ft. [N·m]	N.A.
Normal Idle Speed Variation	Brake Mean Effective Pressure	psi [kPa]	113 [781]
High Idle Speed Range Minimum	Minimum Idle Speed Setting	rpm	575-675
Maximum	Normal Idle Speed Variation	±rpm	50
Aspiration	High Idle Speed Range Minimum	rpm	1962
Compression Ratio	Maximum	rpm	2106
Piston Speed	Aspiration		Turbocharged
Weight (Dry) - Engine Only - Average	Compression Ratio		14.5:1
Weight (Dry) - Engine With Heatexchanger System - Average	Piston Speed	ft/min [m/sec]	1791 [9.1]
Fuel System	Weight (Dry) - Engine Only - Average	lb. [kg]	2797 [1270]
Installation Diagram No	Weight (Dry) - Engine With HeatexchangerSystem - Average	lb. [kg]	3040 [1380]
Fuel Consumption at Rated Speed. gal/hr [l/hr] 11 [41] Approximate Fuel Flow to Pump. gal/hr [l/hr] 32 [123] Maximum Allowable Fuel Supply to Pump Temperature. °F [°C] 160 [71] Approximate Fuel Return to Tank Temperature. °F [°C] N.A. Maximum Heat Rejection to Drain Fuel. BTU/min [kW] N.A. Fuel Pressure - Pump Out / Rail Mechanical Gauge. psi [kPa] 87 [599] Air System¹ Intake Manifold Pressure. in. Hg [kPa] 33 [112] Intake Air Flow. cfm [l/sce] 726 [343] Heat Rejection to Ambient. BTU/min [kW] 1195 [21] Exhaust System¹ Exhaust Gas Flow. cfm [l/sec] 1631 [770] Exhaust Gas Temperature (Turbine Out) °F [°C] 658 [348] Exhaust Gas Temperature (Manifold) °F [°C] 928 [498] Cooling System¹ Sea Water Pump Specifications. MAB 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 Exchanger. gal/min [l/min] 62 [234] Standard Thermostat Operating Rang	Installation Diagram No		
Fuel Consumption at Rated Speed. gal/hr [l/hr] 11 [41] Approximate Fuel Flow to Pump. gal/hr [l/hr] 32 [123] Maximum Allowable Fuel Supply to Pump Temperature. °F [°C] 160 [71] Approximate Fuel Return to Tank Temperature. °F [°C] N.A. Maximum Heat Rejection to Drain Fuel. BTU/min [kW] N.A. Fuel Pressure - Pump Out / Rail Mechanical Gauge. psi [kPa] 87 [599] Air System¹ Intake Manifold Pressure. in. Hg [kPa] 33 [112] Intake Air Flow. cfm [l/sce] 726 [343] Heat Rejection to Ambient. BTU/min [kW] 1195 [21] Exhaust System¹ Exhaust Gas Flow. cfm [l/sec] 1631 [770] Exhaust Gas Temperature (Turbine Out) °F [°C] 658 [348] Exhaust Gas Temperature (Manifold) °F [°C] 928 [498] Cooling System¹ Sea Water Pump Specifications. MAB 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 Exchanger. gal/min [l/min] 62 [234] Standard Thermostat Operating Rang			
Approximate Fuel Flow to Pump		10 510 . 3	44 * 44 *
Maximum Allowable Fuel Supply to Pump Temperature	·		• •
Approximate Fuel Return to Tank Temperature	• • • • • • • • • • • • • • • • • • • •		
Maximum Heat Rejection to Drain Fuel			• •
Fuel Pressure - Pump Out / Rail Mechanical Gauge			
Air System¹ in. Hg [kPa] 33 [112] Intake Air Flow			
Intake Manifold Pressure	Fuel Pressure - Pump Out / Rail Mechanical Gauge	psi [kPa]	87 [599]
Intake Air Flow	Air System ¹		
Heat Rejection to Ambient	Intake Manifold Pressure	in. Hg [kPa]	33 [112]
Exhaust System¹ Exhaust Gas Flow	Intake Air Flow	cfm [l/sce]	726 [343]
Exhaust Gas Flow	Heat Rejection to Ambient	BTU/min [kW]	1195 [21]
Exhaust Gas Flow	F 10 110 11 11		
Exhaust Gas Temperature (Turbine Out)	-	ofm [l/o.o.a]	1624 [770]
Exhaust Gas Temperature (Manifold)			
Cooling System¹ Sea Water Pump Specifications			
Sea Water Pump Specifications	Exhaust Gas Temperature (Manilolu)	F[C]	928 [498]
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 (Start to Open)°F [°C] 180 [82] Standard Thermostat Operating Range (Full Open)°F [°C] 201 [94]	Cooling System ¹		
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 (Start to Open)°F [°C] 180 [82] Standard Thermostat Operating Range (Full Open)°F [°C] 201 [94]	Sea Water Pump SpecificationsMAB 0.0	08.17-07/16/2001	
Jacket Water Aftercooled Engine (JWAC)Coolant Flow to Engine Heat Exchanger	Pressure Cap Rating (With Heat Exchanger Option)	psi [kPa]	7 [50]
Coolant Flow to Engine Heat Exchanger	• • • • • • • • • • • • • • • • • • • •		
Standard Thermostat Operating Range (Start to Open)	<u> </u>		
Standard Thermostat Operating Range (Full Open)			62 [234]
			180 [82]
Heat Rejection to Engine Coolant ³			201 [94]
	Heat Rejection to Engine Coolant ³	BTU/min [kW]	7001 [123]

TBD = To Be Determined

N/A = Not Applicable

N.A. = Not Avaliable

- 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.
- 4. Consult option notes for flow specifications of optional Cummins seawater pumps (if applicable).

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