

CHONGQING CUMMINS ENGINE PERFORMANCE CURVE

Engine Model Curve No. **KTA38-M1** M-638 CPL Code Configuration Date D233034MX02 2163 11-Dec-08

[2300 in.3] Advertised Power: Displacement: 38L 746kW [1000HP] @1800 r/min

Bore: 159mm [6.25 in.]

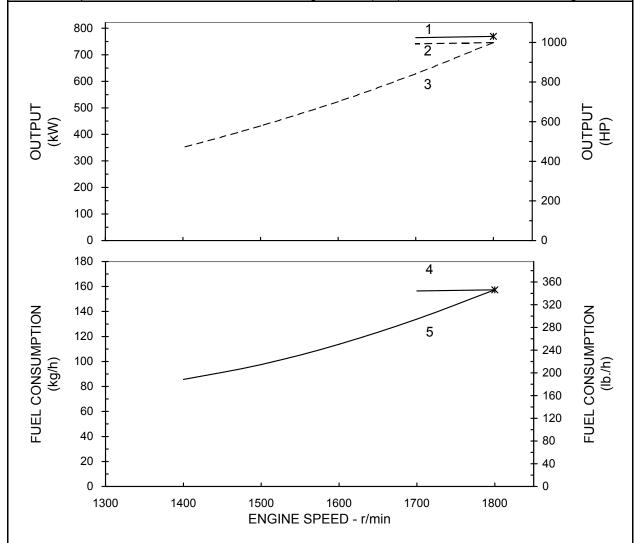
Stroke: Aspiration: 159mm [6.25 in.] Turbocharged/Aftercooled

Fuel System: Rating Type: **Continuous** PT

Cylinders: 12

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.Hq] air temperature 25°C [77°F] and 30% relative humidity. Power is rated in accordance with IMCI

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

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-638
DS: DS-4983
CPL: 2163
DATE: 11-Dec-08

General Engine Data	
Engine Model	KTA38-M1
Rating Type	Continuous
Rated Engine Powerhp [kW]	1000 [746]
Rated Engine Speedrpm	1800
Peak Engine Torque @ 1400 rpmlb. ft. [N·m]	3088 [4188]
Brake Mean Effective Pressurepsi [kPa]	190 [1309]
Minimum Idle Speed Settingrpm	575-675
Normal Idle Speed Variation±rpm	50
High Idle Speed Range Minimumrpm	1815
Maximumrpm	2016
Aspiration	Turbocharged/Aftercooled
Compression Ratio	13.9:1
Piston Speed ft/min [m/sec]	1870 [9.5]
Weight (Dry) - Engine Only - Averagelb. [kg]	9291 [4218]
Weight (Dry) - Engine With HeatexchangerSystem - Average	9996 [4538]
Installation Diagram No	4061308
Fuel System ¹	40 [405]
Fuel Consumption at Rated Speedgal/hr [l/hr]	49 [185]
Approximate Fuel Flow to Pumpgal/hr [l/hr]	103 [390]
Maximum Allowable Fuel Supply to Pump Temperature	140 [60]
Approximate Fuel Return to Tank Temperature°F [°C]	154 [68]
Maximum Heat Rejection to Drain FuelBTU/min [kW]	171 [3]
Fuel Pressure - Pump Out / Rail Mechanical Gaugepsi [kPa]	162.0 [1116]
Air System ¹	
Intake Manifold Pressurein. Hg [kPa]	49 [166]
Intake Air Flow	2328 [1099]
Heat Rejection to AmbientBTU/min [kW]	4383 [77]
- 1	
Exhaust System ¹	4707 [0000]
Exhaust Gas Flow	4727 [2232]
Exhaust Gas Temperature (Turbine Out)	736 [391]
Exhaust Gas Temperature (Manifold)°F [°C]	N.A.
Cooling System ¹	
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]	335 [1268]
Standard Thermostat Operating Range (Start to Open)r [°C]	180 [82]
Standard Thermostat Operating Range (Full Open)	203 [95]
Heat Rejection to Engine Coolant	27322 [480]
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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).

CHONGQING CUMMINS ENGINE CO. LTD.

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