

CHONGQING CUMMINS ENGINE PERFORMANCE CURVE

Engine Model Curve No. KTA19-M M-445 Configuration CPL Code Date D193064MX02 0969 27-Aug-08

Displacement: 14L

140mm

Advertised Power: [855 in.³]

351kW [470HP] @1800 r/min

Bore:

Stroke: 152mm

[5.50 in.] [6.00in.]

Aspiration: Rating Type: Turbocharged/Aftercooled

Continuous

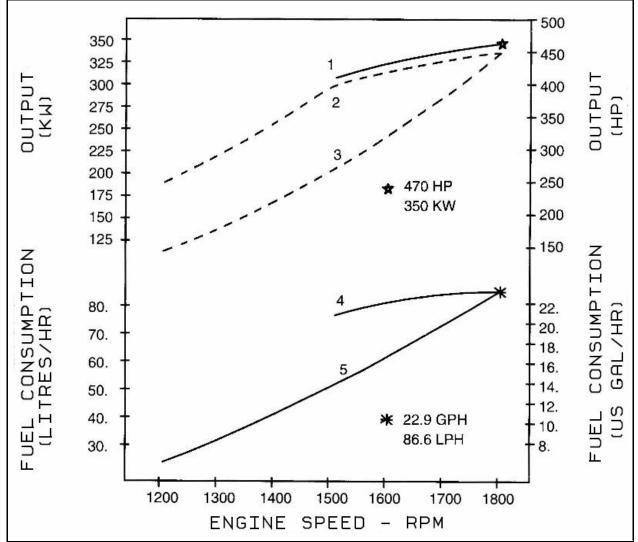
Cylinders: 6

Fuel System:

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

PT

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

- 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-445
DS: DS-4964
CPL: 0969
DATE: 27-Aug-08

General Engine Data	
Engine Model	KTA19-M
Rating Type	Continuous
Rated Engine Powerhp [kW]	470 [351]
Rated Engine Speedrpm	1800
Peak Engine Torque @ 1500 rpm	1438 [1950]
Brake Mean Effective Pressure	• •
	179 [1232] 675-775
Minimum Idle Speed Settingrpm	50
Normal Idle Speed Variation±rpm	• •
High Idle Speed Range Minimumrpm	1962
Maximumrpm	2106
Aspiration	Turbocharged/Aftercooled
Compression Ratio	15.5:1
Piston Speed	1870 [9.5]
Weight (Dry) - Engine Only - Average	3800 [1725]
Weight (Dry) - Engine With HeatexchangerSystem - Average	4198 [1906]
Installation Diagram No	4914417
Fuel System ¹	
Fuel Consumption at Rated Speedgal/hr [l/hr]	23 [86.6]
Approximate Fuel Flow to Pumpgal/hr [l/hr]	72 [273]
Maximum Allowable Fuel Supply to Pump Temperature	
Approximate Fuel Return to Tank Temperature	160[71] N.A.
Maximum Heat Rejection to Drain Fuel	N.A.
Fuel Pressure - Pump Out / Rail Mechanical Gaugepsi [kPa]	169 [1164]
Air System ¹	
Intake Manifold Pressurein. Hg [kPa]	33 [112]
Intake Air Flowcfm [l/sce]	1059 [500]
Heat Rejection to AmbientBTU/min [kW]	2448 [43]
[]	21.0 [.0]
Exhaust System ¹	
Exhaust Gas Flowcfm [l/sec]	2605 [1230]
Exhaust Gas Temperature (Turbine Out)°F [°C]	871 [466]
Exhaust Gas Temperature (Manifold)°F [°C]	1141 [616]
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]	120 [454]
Standard Thermostat Operating Range (Start to Open)°F [°C]	180 [82]
Standard Thermostat Operating Range (Full Open)	203 [95]
Heat Rejection to Engine Coolant BTU/min [kW]	16222 [285]

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 .