



# CHONGQING CUMMINS ENGINE PERFORMANCE CURVE

Engine Model  
**KTA19-M**

Curve No.  
**M-446**

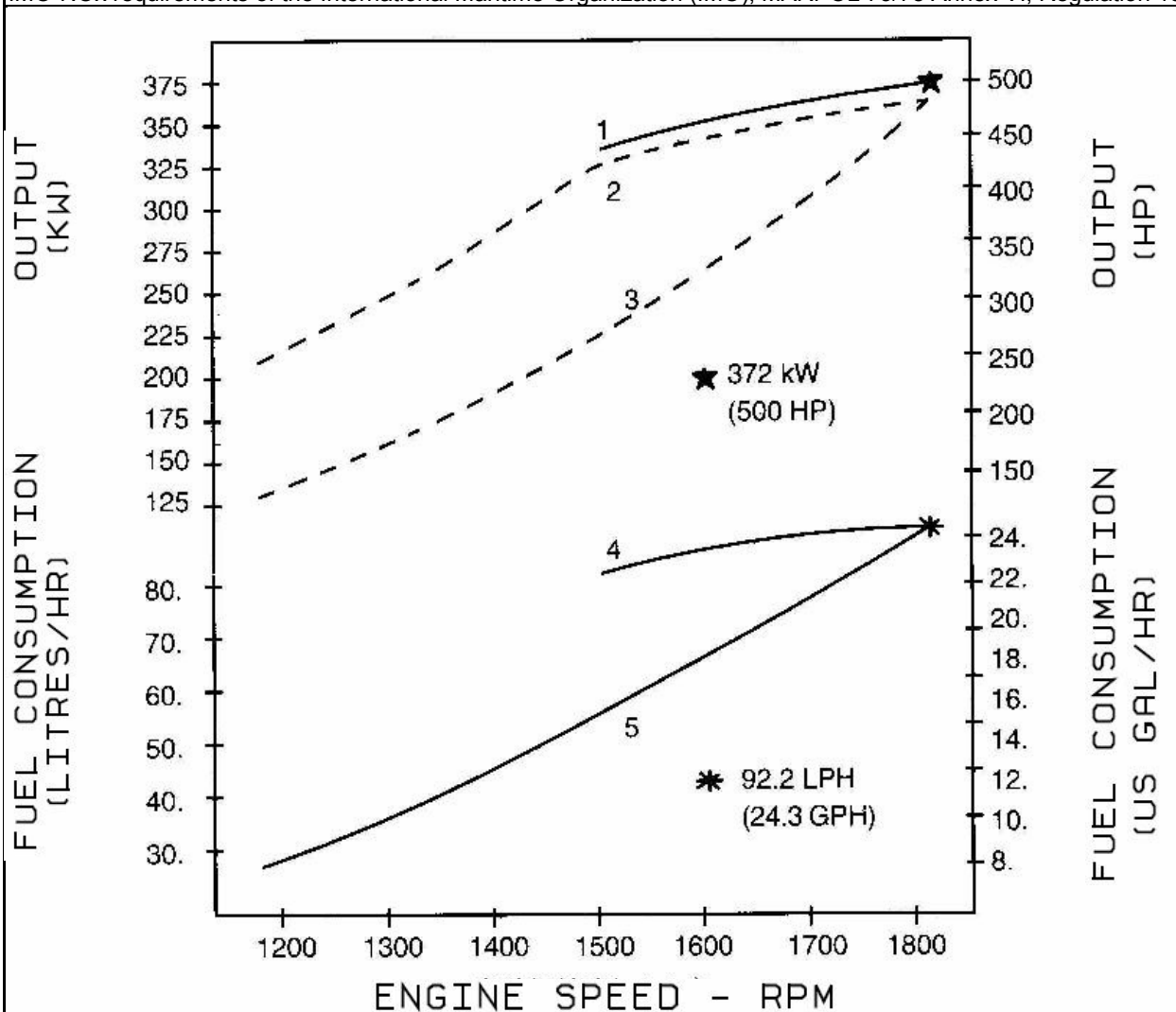
Configuration  
**D193064MX02**

CPL Code  
**0969**

Date  
**27-Aug-08**

Displacement: **14L [855 in.<sup>3</sup>]**      Advertised Power: **373kW [500HP] @1800 r/min**  
Bore: **140mm [5.50 in.]**  
Stroke: **152mm [6.00in.]**      Aspiration: **Turbocharged/Aftercooled**  
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 procedures.

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
3. Typical Propeller Power Curve (3.0 exponent)
4. Fuel Consumption for Brake and Shaft power.
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-446  
DS: DS-4964  
CPL: 0969  
DATE: 27-Aug-08

### General Engine Data

Engine Model.....	KTA19-M
Rating Type .....	Continuous
Rated Engine Power..... hp [kW]	500 [ 373 ]
Rated Engine Speed.....rpm	1800
Peak Engine Torque @ 1500 rpm..... lb.·ft. [N·m]	1532 [ 2077 ]
Brake Mean Effective Pressure.....psi [kPa]	190 [ 1309 ]
Minimum Idle Speed Setting..... rpm	675-775
Normal Idle Speed Variation.....±rpm	50
High Idle Speed Range    Minimum..... rpm	1962
Maximum..... rpm	2106
Aspiration .....	Turbocharged/Aftercooled
Compression Ratio .....	15.5:1
Piston Speed..... ft/min [m/sec]	1870 [ 9.5 ]
Weight (Dry) - Engine Only - Average.....lb. [kg]	3800 [ 1725 ]
Weight (Dry) - Engine With HeatexchangerSystem - Average .....	4198 [ 1906 ]
Installation Diagram No.....	4914417

### Fuel System<sup>1</sup>

Fuel Consumption at Rated Speed.....gal/hr [l/hr]	24 [ 90 ]
Approximate Fuel Flow to Pump.....gal/hr [l/hr]	71 [ 270 ]
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]	187 [ 1288 ]

### Air System<sup>1</sup>

Intake Manifold Pressure.....in. Hg [kPa]	36 [ 122 ]
Intake Air Flow.....cfm [l/sce]	1101 [ 520 ]
Heat Rejection to Ambient.....BTU/min [kW]	2618 [ 46 ]

### Exhaust System<sup>1</sup>

Exhaust Gas Flow.....cfm [l/sec]	2753 [ 1300 ]
Exhaust Gas Temperature (Turbine Out).....°F [ °C]	891 [ 477 ]
Exhaust Gas Temperature (Manifold).....°F [ °C]	1161 [ 627 ]

### Cooling System<sup>1</sup>

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]	120 [ 454 ]
Standard Thermostat Operating Range (Start to Open).....°F [ °C]	180 [ 82 ]
Standard Thermostat Operating Range (Full Open).....°F [ °C]	203 [ 95 ]
Heat Rejection to Engine Coolant <sup>3</sup> .....BTU/min [kW]	17247 [ 303 ]

TBD = To Be Determined

N/A = Not Applicable

N.A. = Not Available

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 .