

CHONGQING CUMMINS ENGINE PERFORMANCE CURVE

Engine Model Curve No.

KTA19-D(M) D(M)-457

Configuration CPL Code Date

D193097MX02 CQ411 29-Aug-08

Displacement: 19L [1150 in.³] kW [HP] @ r/min Bore: 159mm [6.25 in.] Prime Power: 336 [450] @1500

Stroke: **159mm** [6.25 in.]

Fuel System: PT Aspiration: Turbocharged/Aftercooled

Cylinders: 6 Exhaust: Wet

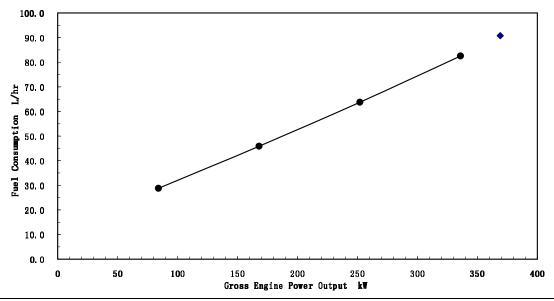
CERTIFIED: This marine diesel engine complies with or is certified to the:

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

Engine Speed	Overload	Capacity	Prime Power			
r/min	kW	bhp	kW	bhp		
1500	369	495	336	450		

Engine Performance Data @ 1500 r/min

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OUTPUT POWER			FUEL CONSUMPTION			
%	kW	bhp	kg/kW.h	lb/bhp.h	l/hr	gal/hr
10% Overload Capacity						
110	369	495	0.209	0.344	90.8	24.0
Prime Pov	ver					
100	336	450	0.209	0.344	82.5	21.8
75	252	338	0.215	0.354	63.7	16.8
50	168	225	0.232	0.382	45.9	12.1
25	84	113	0.291	0.479	28.8	7.6



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

Curve No.:

2846 [50]

DS:

D(M)-457

DS-D193097

CPL: CQ411 DATE: 29-Aug-08 General Engine Data¹ KTA19-D(M) Engine Model..... Rating Type Prime Power Overload Rated Engine Power......hp [kW] 450 [336] 495 [369] Governed Engine Speed.....rpm 1500 1500 Rated HP Production Tolerance..... ±2% Rated Engine Torque......lb. ft. [N·m] 1732 [2349] Idle Speed Range......rpm 675-775 205 [1415] Compression Ratio 14.5:1 1565 [7.95] Friction Power.....hp [kW] 60 [45] Fuel System¹ Fuel Consumption.....gal/hr [l/hr] 21.8 [82.5] 24 [90.8] Approximate Fuel Flow to Pump......gal/hr [l/hr] 104 [394] Maximum Allowable Fuel Supply to Pump Temperature.....°F [°C] N.A. N.A. Fuel Rail Pressure.....psi [kPa] 134 [923] Weight 1 3996 [1814] Dry - Engine With Heatexchangerlb. [kg] 4416[2005] Installation Diagram No..... 4914569 Hookup Diagram & Drawing, electrical circuit No..... 4061349、4061350 Air System¹ Intake Manifold Pressure......in. Hg [kPa] N.A. 43 [146] 915 [432]

Exhaust System¹

Exhaust Gas Flow	2529 [1194]
Exhaust Gas Temperature (Turbine Out)°F [°C]	975 [524]
Heat Rejection to ExhaustBTU/min [kW]	13604 [239]

Heat Rejection to Ambient......BTU/min [kW]

Cooling System¹

Coolant Flow to Engine Heat Exchanger/Keel Cooler

At 3 psi Friction Head External to Engine	613 [162]
At 8 psi Friction Head External to Engine	549 [145]
Standard Thermostat Operating Range (Min)°F [°C]	180 [82]
Standard Thermostat Operating Range (Max)°F [°C]	199 [93]
Heat Rejection to Engine Coolant ³ BTU/min [kW]	11726 [206]
Heat Rejection to LTA Coolant ³ BTU/min [kW]	N.A.
Sea Water Flow @ 10 psi Pump Discharge Pressure	N.A.
Pressure Cap Rating (With Heat Exchanger Option)psi [kPa]	7 [50]

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 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.

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