

CHONGQING CUMMINS ENGINE PERFORMANCE CURVE

Engine Model Curve No.

KTA19-D(M) D(M)-458

Configuration CPL Code Date

D193097MX02 CQ412 17-Oct-08

Displacement: 19L [1150 in.³] kW [HP] @ r/min Bore: 159mm [6.25 in.] Prime Power: 403 [540] @1500

Stroke: 159mm [6.25 in.]

Fuel System: PT Aspiration: Turbocharged/Aftercooled

Cylinders: 6 Exhaust: Dry

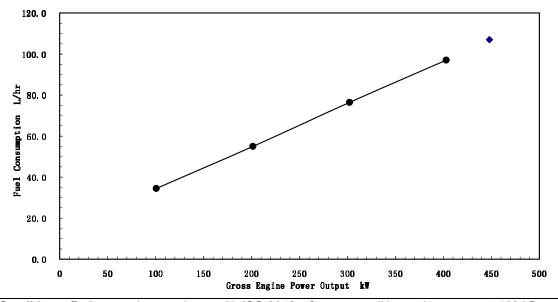
CERTIFIED: This marine diesel engine complies with or is certified to the:

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	448	600	403	540	

Engine Performance Data @ 1500 r/min

OUTPUT POWER				FUEL CONSUMPTION					
%	kW	bhp	kg/kW.h	lb/bhp.h	l/hr	gal/hr			
10% Overload Capacity									
110	448	600	0.203	0.331	107.0	28.0			
Prime Power									
100	403	540	0.205	0.337	97.0	25.6			
75	302.25	405	0.215	0.354	76.5	20.2			
50	201.5	270	0.232	0.382	55.0	14.5			
25	100.75	135	0.291	0.479	34.5	9.1			



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.:

D(M)-458

	DS:	DS-D193097	
	CPL:	CQ412	
General Engine Data ¹	DATE:	17-Oct-08	
Engine Model	KTA19-D(M)		
Rating Type	Prime Power	Overload	
Rated Engine Power	540 [403]	600 [448]	
Governed Engine Speedrpm		1500	
Rated HP Production Tolerance		1000	
Rated Engine Torque		2103 [2852]	
Idle Speed Range rpm			
Brake Mean Effective Pressurepsi [kPa]		273 [1886]	
Compression Ratio			
Piston Speed			
Friction Powerhp [kW]	60 [45]		
Fuel System ¹			
Fuel Consumptiongal/hr [l/hr]		28 [107]	
Approximate Fuel Flow to Pump			
Maximum Allowable Fuel Supply to Pump Temperature°F [°C]		07.5404.1	
Approximate Fuel Flow Return to Tank		27 [101]	
Fuel Rail Pressurepsi [kPa]	106 [730]	128 [882]	
Weight ¹			
Dry - Engine Onlylb. [kg]	3996 [1814]		
Dry - Engine With Heatexchangerlb. [kg]	4416[2005]		
Installation Diagram No	4914569		
Hookup Diagram & Drawing, electrical circuit No	4061349	4061350	
Air System ¹			
Intake Manifold Pressurein. Hg [kPa]	45 [450]	E2 [170]	
Intake Air Flow		53 [179] 1129 [533]	
Heat Rejection to Ambient	3301 [58]	3643 [64]	
Treat rejection to Ambient	3301[36]	3043 [04]	
Exhaust System ¹			
Exhaust Gas Flowcfm [l/sec]	2849 [1345]	3154 [1489]	
Exhaust Gas Temperature (Turbine Out)°F [°C]	975 [524]	991 [533]	
Heat Rejection to ExhaustBTU/min [kW]	14970 [263]	16336 [287]	
Cooling System ¹			
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			
Standard Thermostat Operating Range (Min)°F [°C]			
Standard Thermostat Operating Range (Max)°F [°C]			
Heat Rejection to Engine Coolant ³	14059 [247]	15596 [274]	
Heat Rejection to LTA Coolant	N.A.	.0000 [217]	
Sea Water Flow @ 10 psi Pump Discharge Pressure/min [gal/min]			
Pressure Cap Rating (With Heat Exchanger Option)psi [kPa]			
2	. []		

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.

CHONGQING, P.R.CHINA, 400031

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