

CHONGQING CUMMINS ENGINE PERFORMANCE CURVE

Engine Model	Curve No.	
K19-M	M-489	
Configuration	CPL Code	Date
D193080MX02	CQ415	31/May/11

Displacement: 19L [1150 in.3 Advertised Powe 447kW [600HP] @1800 r/min

Bore: 159mm [6.25 in.]

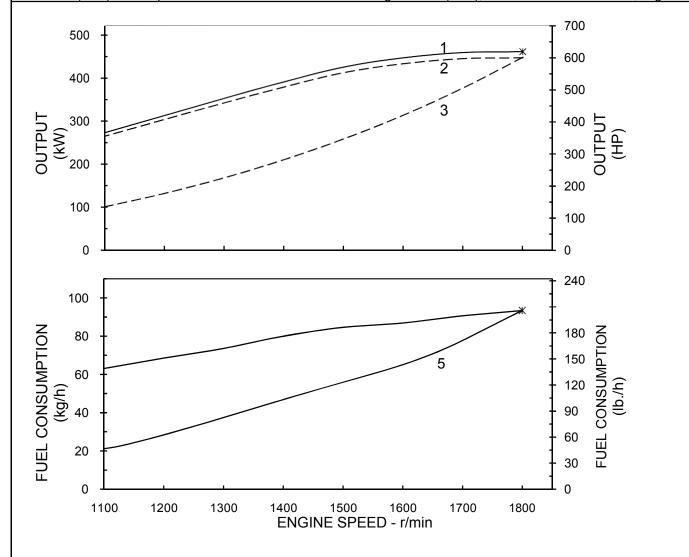
Stroke: 159mm [6.25 in.] Aspiration: Turbocharged/Aftercooled

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

Cylinders: 6

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

IMO Tier II(Two)NOx requirements of 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 50°C and 30% relative humidity. Power is rated in accordance with IMCI prodedures.

Engine will be able to give continous rating at 442kw at ambient temperature 50°C

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 (2.7 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.



KTA19-M3 Propulsion Marine Engine Performance Data

Curve No.: M-489 DS: DS-4964

CPL: CQ415 DATE: 31-May-11

General Engine Data		DATE: OT May 11
Engine Model		K19-M
Rating Type		Continuous
Rated Engine Power	hp [kW]	600 [447]
Rated Engine Speed		
Engine Torque @ 1500 rpmlb.	•	1926 [2612]
Mean Effective Pressure		227 [1568]
Minimum Idle Speed Setting		625-675
Normal Idle Speed Variation	•	25
High Idle Speed Rang Minimum	•	1915
Maximum	-	2106
Aspiration	•	Turbocharged/Aftercooled
Compression Ratio		14.5:1
Piston Speed		
Weight (Dry) - Engine Only - Average		
Weight (Dry) - Engine With Heatexchanger System - Average		4958 [2251]
Fuel System ¹		1000 [2201]
Avg. Fuel Consumption - ISO 8178 E3 Standard Test Cycle	gal/hr [l/hr]	20.7 [78.2]
Fuel Consumption at Rated Speed		
Approximate Fuel Flow to Pump		
Maximum Allowable Fuel Supply to Pump Temperature		
Approximate Fuel Return to Tank Temperature		
Maximum Heat Rejection to Drain Fuel		N.A.
Fuel Pressure - Pump Out / Rail Mechanical Gauge		153 [1054]
Air System ¹		
Intake Manifold Pressure	in. Ha [kPa]	60 [203]
Intake Air Flow		
Rejection to AmbientBTU		1081 [19]
Exhaust System ¹	»,,,,,,,	
Exhaust Gas Flow	cfm [l/sec]	3440 [1624]
Exhaust Gas Temperature (Turbine Out)	• •	781 [416]
Exhaust Gas Temperature (Manifold)		1029 [554]
Emsission (in accordance with ISO 8178 Cycle E3)	۱ [0]	1023 [334]
NOx (Oxides of Nitrogen)	a/bo.br [a/k\\/.br]	5.07 [6.8]
Cooling System ¹	.g/np·ni [g/kvv·ni]	5.07 [6.8]
Sea Water Pump SpecificationsMAB	0 00 17 07/16/2001	
Pressure Cap Rating (With Heat Exchanger Option)		7 [50]
Engines with Low Temperature Aftercooling (LTA)	psi [kraj	7 [50]
Main Cooler		
Coolant Flow to Engine Heat Exchanger/Keel Cooler	gal/min	141 [534]
Standard Thermostat Operating Range (Start to Open)		
Standard Thermostat Operating Range (Full Open)		203 [95]
Heat Rejection to Engine Coolant ³		10815 [190]
LTA Cooler		
Coolant Flow to LTA Heat Exchanger/Keel Cooler		
LTA Thermostat Operating Range (Start to Open)		
LTA Thermostat Operating Range (Full Open)	° F [° C]	172 [78]
Heat Rejection to LTA Coolant ³	BTU/min [kW]	5977 [105]
Maximum Coolant Inlet Temperature from LTA Cooler	°F [°C]	145 [63]

TBD = To Be Determined

N/A = Not Applicable

N.A. = Not Avaliable

- 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).

Electronics:

24V standard electrical system with 12 V option.

Lubrication system:

72L (19gal)

Starting system:

Electrical starter 32V Alternator 32V 60A

Exhaust System:

Exhaust Gas Flow	cfm [l/sec]	3440	[1624]
Exhaust Gas Temperature (Turbine Out)	°F [°C]	781	[416]
Exhaust Gas Temperature (Manifold)	°F [°C]	1029	554]

Engine Room / Instrument Panel

1* Engine Instrument Panel, Engine family K19.

Remote Display 1* Display, mounting type remote

Paint

Marine Gray and gray primer