Displacement: 8.3 liters [504.5 in.³]
Bore: 114 mm [4.49 in.]
Stroke: 135 mm [5.32 in.]
Fuel System: Inline Bosch P7100
Cylinders: 6

Rated Curves (upper) represent rated power at the crankshaft for mature gross engine performance capabilities obtained and corrected in accordance with ISO 3046. Propeller Curve (lower) is based on a typical fixed propeller demand curve using a 2.7 exponent. Propeller Shaft Power is approximately 3% less than rated crankshaft power after typical reverse/reduction gear losses and may vary depending on the type of gear or propulsion system used.

Fuel Consumption is based on fuel of 35° API gravity at 16°C [60°F] having LHV of 42,780 kJ/kg [18390 Btu/lb] and weighing 838.9 g/liter [7.001 lb/U.S. gal].

Intermittent Rating: This power rating is intended for Intermittent use in variable load application where full power is limited to two (2) hours out of every eight (8) hours of operation. Also, reduced power operation must be at or below 200 RPM of the maximum rated RPM. This rating is an ISO 3046 fuel stop power rating and is for applications that operate less than 1500 hours per year.

Ratings are based upon ISO 8665 and SAE J1228 reference conditions; air pressure of 100 kPa [29.612 in. Hg], air temperature 25°C [77°F], and 30% relative humidity. Power is rated in accordance with IMCI procedures. Member NMMA.

CERTIFIED: This marine diesel engine conforms with the NOx requirements of the International Maritime Organization (IMO), MARPOL 73/78 Annex VI, Regulation 13 as applicable.
Marine

Marine Engine Performance Data

General Engine Data

- Engine Model: 6CTA8.3-M (SW)
- Rating Type: Intermittent
- Rated Engine Power: 321 [430] kW
- Rated Engine Speed: 2600 rpm
- Rated HP Production Tolerance: 15%
- Peak Engine Torque @ 1800 RPM: 1395 [1029] Nm [ft/lb]
- Brake Mean Effective Pressure: 1790 [260] kPa [PSI]
- Minimum Idle Speed Setting: 600 rpm
- Maximum Idle Speed Capacity from Front of Crank: N.A.
- Compression Ratio: 15:35:1
- Firing Order: 1-5-3-6-2-4
- Weight (Dry) Engine Only - Average: 801 [1765] kg
- Weight (Dry) Engine With Heat Exchanger System - Average: 855 [1855] kg

Fuel System

- Approximate Fuel Flow to Pump: 259 [68] liter/hr [GPH]
- Maximum Allowable Fuel Supply to Pump Temperature: 60 [140] °C
- Approximate Fuel Flow Return to Tank: 170 [45] liter/hr [GPH]
- Approximate Fuel Return to Tank Temperature: N.A.
- Maximum Heat Rejection to Drain Fuel: N.A.

Air System

- Intake Air Flow: 434 [920] liter/sec [CFM]
- Heat Rejection to Ambient: 42 [2415] kW [BTU/min]

Exhaust System

- Exhaust Gas Temperature (Turbine Out): 444 [830] °C
- Exhaust Gas Temperature (Manifold): N.A.

Emissions (in accordance with ISO8178 Cycle E3)

- NOx (Oxides of Nitrogen): 7.54 [5.62] g/kw-hr [g/bhp-hr]
- HC (Hydrocarbons): 0.30 [0.22] g/kw-hr [g/bhp-hr]
- CO (Carbon Monoxide): 0.50 [0.37] g/kw-hr [g/bhp-hr]
- PM (Particulate Matter): 0.17 [0.13] g/kw-hr [g/bhp-hr]

Cooling System

- Coolant Flow to Engine: 322 [85] liter/min [GPM]
- Standard Thermostat Operating Range (Min.): 71 [160] °C
- Standard Thermostat Operating Range (Max.): 83 [182] °C
- Heat Rejection to Engine Coolant: 277 [15,750] kW [BTU/min]

- Sea Water Flow (With Heat Exchanger Option): 238 [63] liter/min [GPM]
- Pressure Cap Rating (With Heat Exchanger Option): 103 [15] kPa [PSI]

INSTALLATION DRAWING

Engine Only: 3170262

TBD = To Be Decided
N/A = Not Applicable
N.A. = Not Available

All Data are Subject to Change Without Notice - consult the following Cummins intranet site for most recent data:
http://www.cummins.com