

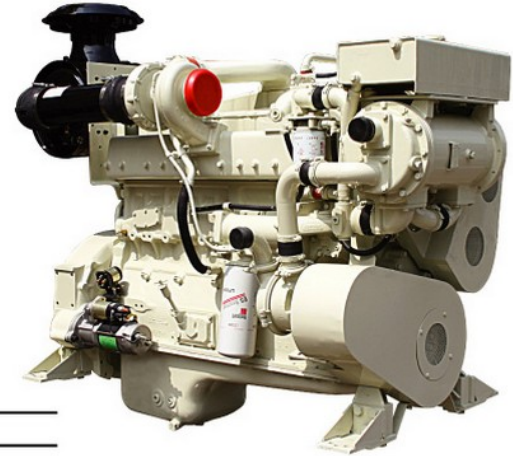
NTA855-M



MARINE PROPULSION 400HP/450HP

ENGINE SPECIFICATIONS

Engine Type	Inline-6 Cylinder, 4-Stroke Diesel
Bore x Stroke	140 mm x 152 mm (5.5 in x 6.0 in)
Displacement	14L (855 in ³)
Rotation	Counterclockwise facing flywheel
Compression Ratio	14.0:1
Emissions	IMO



POWER RATINGS

Power Rating	Continuous Duty	Continuous Duty
Rated RPM	1800	1800
kW (BHP)	298(400)	336(450)
Max Torque (N•m)	-	1538
(lb•ft)	-	1134
RPM	-	1500

ENGINE FEATURES

Certifications

Emissions compliant to IMO Annex VI of MARPOL 73/78 guidelines. Certifications available from the CCS Register

Fuel System

Full authority PT fuel system optimizes combustion for enhanced fuel economy as well as reduced emissions and minimal smoke. Premium fuel injectors utilize ceramic components for increased durability

Engine Design

Robust engine block designed for continuous duty operation and long life. Metric O-ring seals and edge molded gaskets eliminate fluid leaks. Full power take-off available from front of crankshaft. Single-piece piston design with hardened liners and nitride coated rings for exceptional durability

Lubrication System

Fleetguard spin-on oil filters provides extended service intervals and less maintenance. Standard capacity (34.0 L [9.0 gal]) or large capacity (36.0 L [9.5 gal]) oil pan available allows for longer oil change intervals. Prelub system protects engine from damage due to dry starts

Cooling System

Keel cooled or engine mounted plate-type heat exchanger available. Spin-on Cummins corrosion resistor for protection against cooling system corrosion

Exhaust System

Water cooled exhaust manifold reduces emissions and cools engine surface temperature

Air System

WCTT (Holset) HT3B turbochargers optimized for marine applications. Water pump, aftercooling for efficient operation and optimization of performance

Electrical System

24-volt, 100 amp alternator with isolated ground components

ENGINE DIMENSIONS

	Length		Width		Height		Weight	
	mm	in	mm	in	mm	in	kg	lb
HX	1975	77.8	934.6	36.8	1598	62.9	1430	3150
KC	1809	71.2	881.1	34.7	1598	62.9	1310	2890

CUMMINS engine NTA855-M400

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NTA855-M



MARINE PROPULSION 400HP/450HP

PERFORMANCE DATA

Power Rating	Continuous Duty 400 hp			
RPM	1800	1600	1400	1200
kW	299	210	140	88
g/kW•hr	208	210	215	225
l/hr	73.8	52.4	36.0	23.7
bhp	400	281	188	119
lb/hp•hr	0.341	0.345	0.353	0.369
gal/hr	19.5	13.8	9.5	6.3

Power Rating	Continuous Duty 450 hp			
RPM	1800	1600	1400	1200
kW	336	236	158	100
g/kW•hr	209	209	215	222
l/hr	83.6	58.7	40.5	26.3
bhp	450	316	212	133
lb/hp•hr	0.343	0.343	0.353	0.365
gal/hr	22.1	15.5	10.7	7.0

Rating Definitions: 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.


Fuel Consumption: Based on No. 2 diesel fuel weight at 0.85 kg/liter (7.1 lb/U.S. gal).

Cummins is a pioneer in product improvement. Thus specifications may change without notice, consult your local Cummins professional for further information.

CUMMINS engine NTA855-M400

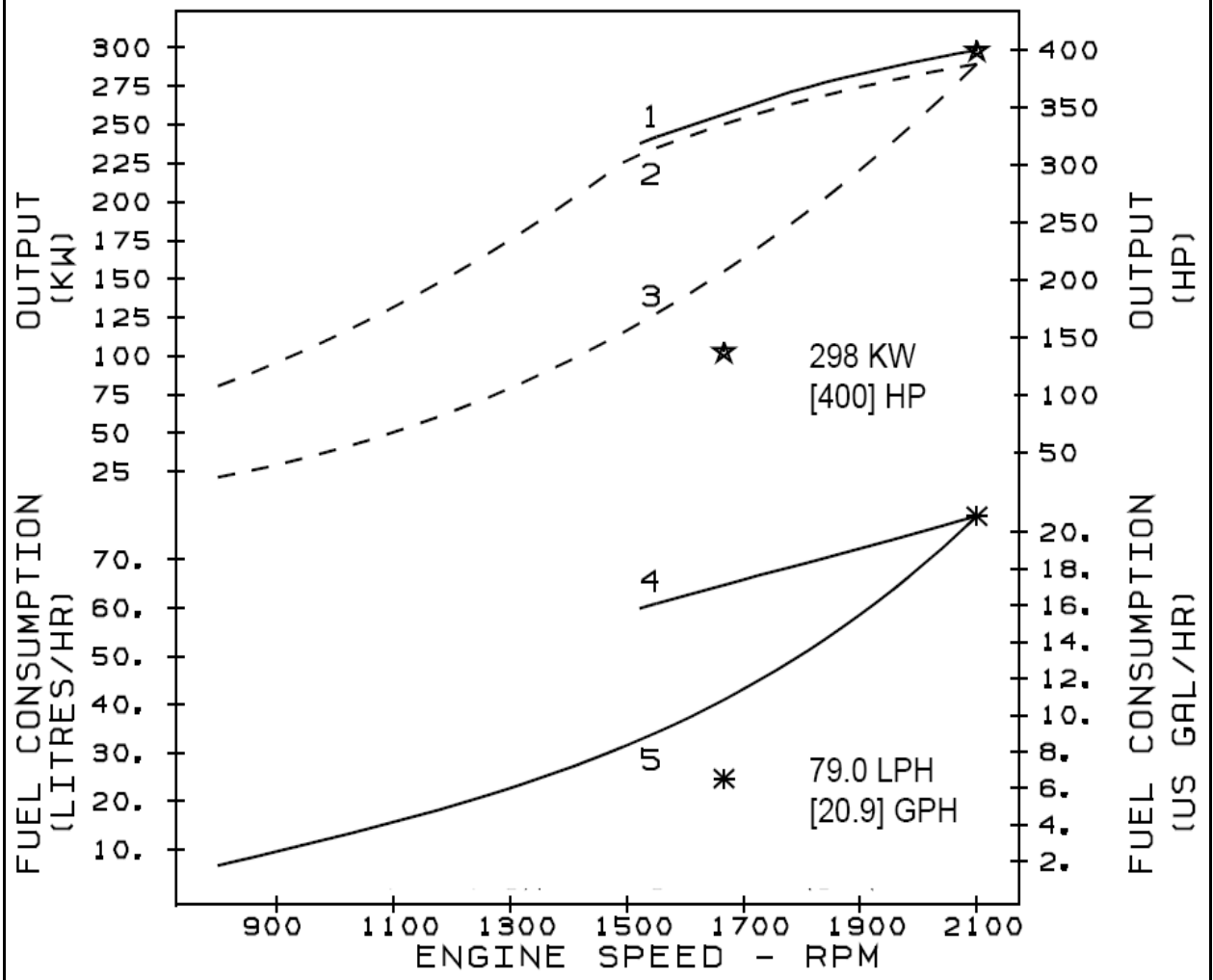


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	PERFORMANCE CURVE	Engine Model NTA855-M	Curve No. M-182	
		Configuration D093348MX02	CPL Code CQ155	Date 6-Oct-08

Displacement: **14L [855 in.³]** Advertised Power: **298kW [400HP] @2100 r/min**
 Bore: **140mm [5.50 in.]**
 Stroke: **152mm [6.00in.]** Aspiration: **Turbocharged/Aftercooled**
 Fuel System: **PT** Rating Type: **Medium 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 | 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) | |

Medium Continuous Rating: This power rating is intended for continuous use in variable load applications where full power is limited to six (6) hours out of every twelve (12) hours of operation. Also, reduced power operations must be at or below 200 RPM of the maximum rated RPM. This is an ISO 3046 Fuel Stop Power Rating and is for applications that operate 3,000 hours per year or less.



Propulsion Marine Engine Performance Data

Curve No.: M-182
DS: DS-4962
CPL: CQ155
DATE: 6-Oct-08

General Engine Data

Engine Model.....	NTA855-M
Rating Type	Medium Continuous
Rated Engine Power..... hp [kW]	400 [298]
Rated Engine Speed..... rpm	2100
Peak Engine Torque @ 1500 rpm..... lb. ft. [N · m]	1100 [1491]
Brake Mean Effective Pressure..... psi [kPa]	176 [1216]
Minimum Idle Speed Setting..... rpm	575-675
Normal Idle Speed Variation..... ±rpm	50
High Idle Speed Range Minimum..... rpm	2289
Maximum..... rpm	2457
Aspiration	Turbocharged/Aftercooled
Compression Ratio	14.5:1
Piston Speed..... ft/min [m/sec]	2087 [10.6]
Weight (Dry) - Engine Only - Average..... lb. [kg]	2870 [1303]
Weight (Dry) - Engine With HeatexchangerSystem - Average	3150 [1430]
Installation Diagram No.....	4061358

Fuel System¹

Fuel Consumption at Rated Speed..... gal/hr [l/hr]	21 [79]
Approximate Fuel Flow to Pump..... gal/hr [l/hr]	63 [237]
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]	161 [1109]

Air System¹

Intake Manifold Pressure..... in. Hg [kPa]	45 [152]
Intake Air Flow..... cfm [l/sce]	1038 [490]
Heat Rejection to Ambient..... BTU/min [kW]	2277 [40]

Exhaust System¹

Exhaust Gas Flow..... cfm [l/sec]	2372 [1120]
Exhaust Gas Temperature (Turbine Out)..... ° F [° C]	770 [410]
Exhaust Gas Temperature (Manifold)..... ° F [° C]	1040 [560]

Cooling System¹

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]	70 [264]
Standard Thermostat Operating Range (Start to Open)..... ° F [° C]	180 [82]
Standard Thermostat Operating Range (Full Open)..... ° F [° C]	201 [94]
Heat Rejection to Engine Coolant ³ BTU/min [kW]	14856 [261]

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).

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