



CHONGQING CUMMINS ENGINE PERFORMANCE DATASHEET

Engine Model
NTA855-G1B

Date
2022/5/17

CPL
3524/355

Data sheet
FR798

Configuration
D093517DX02

Displacement: **14L [855 in.³]**

Cylinders: **6**

BorexStroke: **140mmx152mm [5.50 in.x6.00in.]**

Fuel System: **PT**

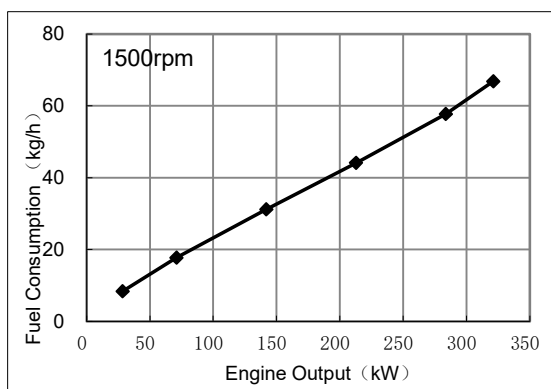
Compression Ratio **14:1**

Aspiration: **Turbocharged&Aftercooled**

Engine Speed		Standby Power		Prime Power		Continuous Power	
rpm		kW	HP	kW	HP	kW	HP
1500		321	430	284	380	-	-
1800		347	465	313	420	-	-

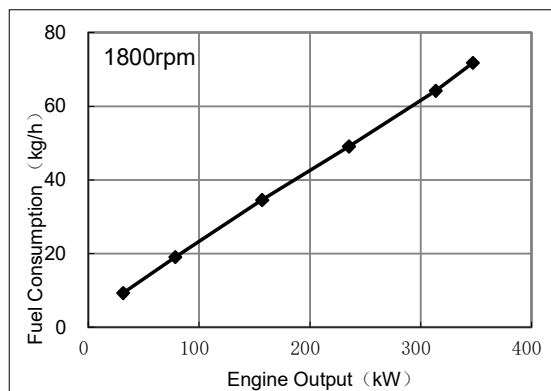
Engine Performance Data @1500 rpm

Output Power			Fuel Consumption		
%	HP	kW	kg/h	L/h	g/kW-h
Standby Power					
110	430	321	66.8	80.5	208.1
Prime Power					
100	380	284	57.7	69.5	203.5
75	285	213	44.1	53.1	207.3
50	190	142	31.2	37.6	220.0
25	95	71	17.7	21.3	249.6
10	38	28	8.4	10.1	296.2
Continuous Power					
100	-	-	-	-	-



Engine Performance Data @1800 rpm

Output Power			Fuel Consumption		
%	HP	kW	kg/h	L/h	g/kW-h
Standby Power					
110	465	347	71.8	86.5	206.9
Prime Power					
100	420	313	64.2	77.3	204.9
75	315	235	49.1	59.2	208.9
50	210	157	34.6	41.7	220.8
25	105	78	19.1	23.0	243.8
10	42	31	9.3	11.2	296.7
Continuous Power					
100	-	-	-	-	-



Data Subject to Change Without Notice.

All data is based on:

--ISO 3046 Standard Reference Conditions of : Barometric Pressure:100kPa(29.5in.Hg); Air Temperature: 25°C (77° F) ; Relative Humidity: 30% .

--Engine operating with fuel corresponding to grade No.2-D per ASTM D975.

--All data are based on 15 in H2O(3.7kPa) air intake restriction and 3.0 in Hg (10kPa) exhaust restriction.

--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.

Data Status: Production

Chief Engineer:

Tolerance: ±5%



POWER RATING APPLICATION GUIDELINES FOR GENERATOR DRIVE ENGINES

These guidelines have been formulated to ensure proper application of generator drive engines in A.C. generator set installations. Generator drive engines are not designed for and shall not be used in variable speed D.C. generator set applications.

STANDBY POWER RATING is applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. Under no condition is an engine allowed to operate in parallel with the public utility at the standby Power rating.

This rating should be applied where reliable utility power is available. A standby rated engine should be sized for a maximum of an 80% average load factor and 200 hours of operation per year. This includes less than 25 hours per year at the Standby Power rating. Standby ratings should never be applied except in true emergency power outages. Negotiated power outages contracted with a utility company are not considered an emergency.

CONTINUOUS POWER RATING

Applicable for supplying utility power at a constant 100% load for an unlimited number of hours per year. No overload capability is available for this rating.

PRIME POWER RATING is applicable for supplying electric power in lieu of commercially purchased power. Prime Power applications must be in the form of one of the following two categories:

UNLIMITED TIME RUNNING PRIME POWER

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 period of 250 hours.

The total operating time at 100% Prime Power shall not exceed 500 hours per year.

A 10% overload capability is available for a period of 1 hour within a 12 hour period of operation. Total operating time at the 10% overload power shall not exceed 25 hours per year.

LIMITED TIME RUNNING PRIME POWER

Prime Power is available for a limited number of hours in a non-variable load application. It is intended for use in situations where power outages are contracted, such as in utility power curtailment. Engines may be operated in parallel to the public utility up to 750 hours per year at power levels never to exceed the Prime Power rating. The customer should be aware, however, that the life of any engine will be reduced by this constant high load operation. Any operation exceeding 750 hours per year at Prime Power rating should use the Continuous Power rating.

Reference Standards:

BS-5514 and DIN-6271 standards are based on ISO-3046.

Operation At Elevated Temperature And Altitude:

The engine may be operated at:

1800RPM up to 5,000 ft.(1525 m) and 104°F (40°C) without power deration.

1500RPM up to 5,000 ft.(1525 m) and 104°F (40°C) without power deration.

For sustained operation above these conditions, derate by 4% per 984 ft. (300 m), and 1% per 10°F (2% per 11°C).

-- With Clean Fuel Filter - in.Hg (kPa).....	4.0	(13.5)
-- With Dirty Fuel Filter - in.Hg (kPa).....	8.0	(27.1)
Maximum Allowable Head on Injector Return Line		
-- With Check Valve - in.Hg (kPa).....	6.5	(22.0)
-- Without Check Valve - in.Hg (kPa).....	2.5	(8.5)
Minimum Fuel Supply Line Size - in. (mm).....	0.625	(16)
Minimum Fuel Return Line Size - in. (mm).....	0.5	(13)
Maximum Fuel Pump Supply - U.S.gal/h (L) @ 1500/1800rpm.....	68/84	(257/319)
Maximum Fuel Temperature °F (°C).....	160	(71)

ELECTRICAL SYSTEM

Minimum Recommended Battery Capacity (24V)		
-- Cold Soak (No Load) - CCA.....	900	
- Minimum Reserved Capacity - CCA.....	320	
-- Cold Soak (With Load) - CCA.....	900	
- Minimum Reserved Capacity - CCA.....	320	
Maximum Allowable Resistance of Cranking Circuit - ohm.....	0.002	
Standard Cranking Motor (Heavy Duty , Positive Engagement) - volt.....	24	
Standard Battery Charging System , Negative Ground - ampere.....	35	

PERFORMANCE DATA

Idle Speed - r/min	575 - 650	
Minimum Crankshaft Rotation for unaided Cold Start - r/min.....	150	
Minimum Torque for unaided Cold Start - lb.·ft. (N·m).....	375	(509)
Exhaust Sound Pressure at 1m from Exhaust Outlet -1500r/min -dBA.....	N/A	

All data is based on :

- Engine Operating with fuel system, water pump, lubricating oil pump, air cleaner and exhaust silencer, fan, and optional driven components.
- Engine operating with fuel corresponding to grade No.2-D per ASTM D975.
- ISO 3046, Part1, Standard Reference Conditions of : Barometric Pressure:100kPa(29.5in.Hg); Altitude: 110m (361ft.); Air Temperature: 25°C (77°F) ; Relative Humidity: 30% .
- This Data Sheet includes both air-cooled (Fan/Radiator) & raw water cooled (Heatexchanger/Raw Water Pump) type engine.

	Prime Power		Standby Power	
	60Hz	50Hz	60Hz	50Hz
Gross Engine Power Output - HP (kW)	465 (347)	430 (321)	420 (313)	380 (284)
Brake Mean Effective Pressure - PSI (kPa)	240 (1652)	266 (1834)	216 (1490)	235 (1623)
Piston Speed - ft./min (m/s).....	1799 (9.14)	1500 (7.62)	1799 (9.14)	1500 (7.62)
Friction Horsepower - HP (kW).....	47 (35)	29 (22)	47 (35)	29 (22)
Intake Air Flow - CFM (L/s)	981 (463)	886 (418)	949 (448)	795 (375)
Engine Water Flow - GPM (L/s)	95 (6.0)	79 (5.0)	95 (6.0)	79 (5.0)
Raw Water Flow - GPM (L/s)	62 (3.9)	54 (3.4)	62 (3.9)	54 (3.4)
Exhaust Gas Temperature (After Turbine) - °F (°C).....	900 (482)	930 (499)	871 (466)	905 (485)
Exhaust Gas Flow (After Turbine) - CFM (L/s).....	2570 (1213)	2310 (1090)	2435 (1149)	2077 (980)
Heat Radiation - BTU (kW).....	2445 (43)	2218 (39)	2218 (39)	1934 (34)
Heat Rejection to Coolant - BTU (kW).....	14786 (260)	13307 (234)	13364 (235)	11715 (206)
Heat Rejection to Ambient - BTU (kW).....	12340 (217)	11089 (195)	11146 (196)	9781 (172)

Engine Model: NTA855-G1
Data Sheet: FR798
Date: 2022/5/17

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CHONGQING, CHINA, 400031

All Data is Subject to Change Without Notice - contact CCEC for most recent data . Tel : 86-400-889-9990