CCEC	重庆康明斯发动机 性能数据单	发动机型号 **NTA855-G1B**		日期 **2022/5/17**
		CPL代号 **3524/355**	数据单编号 **FR798**	特征编号 **D093517DX02**

排量： **14L [855 in.^{3}]** 缸数： **6**

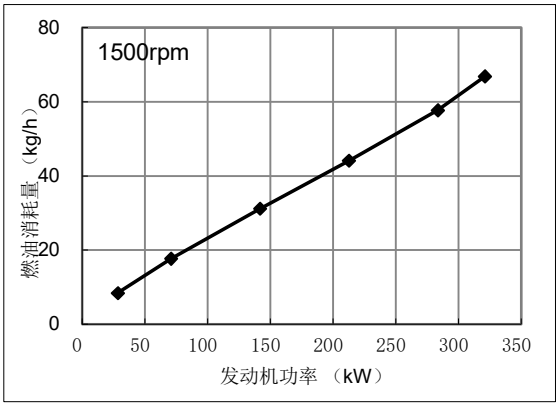
缸径x行程: **140mmx152mm [5.50 in.x6.00in.]** 燃油系统： **PT**

压缩比: **14:1** 吸气方式： **增压，中冷**

发动机转速	备用功率		常用功率		持续功率	
rpm	**kW**	**HP**	**kW**	**HP**	**kW**	**HP**
1500	321	430	284	380	-	-
1800	347	465	313	420	-	-

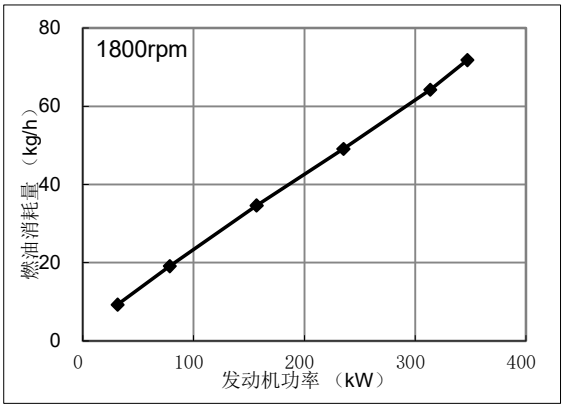
发动机性能数据@1500 rpm

输出功率			燃油消耗		
%	**HP**	**kW**	**kg/h**	**L/h**	**g/kW-h**
备用功率					
110	430	321	66.8	80.5	208.1
常用功率					
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
持续功率					
100	-	-	-	-	-



发动机性能数据@1800 rpm

输出功率			燃油消耗		
%	**HP**	**kW**	**kg/h**	**L/h**	**g/kW-h**
备用功率					
110	465	347	71.8	86.5	206.9
常用功率					
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
持续功率					
100	-	-	-	-	-



所有数据如有更改，恕不另行通知。

所有数据基于：

--ISO 3046标准规定的条件 :大气压力100kPa(29.5in.Hg)、进气 温度 25°C (77°F) 、 相对湿度30% 。

--发动机运转使用符合GB 252标准的0号柴油。

--进气阻力3.7kPa(15in H_2O) ； 排气阻力10kPa (3.0 in Hg)。

--发动机带燃油系统、水泵、机油泵；但不包括交流发电机、空压机、风扇、 选用设备和被驱动的部件。

曲线和数据状态: 产品 **总工程师:**

公差: ±5%以内

G驱动发动机功率标定指导说明

此指导说明是为了确保发电驱动用发动机在装配发电机组时的正确应用。发电驱动用发动机不能用于变速直流发电机组。

备用功率标定 可用于在失去主电源的情况下提供紧急备用电源。在此功率上没有超载能力。在任何情况下发动机都不允许以备用功率与市电并网。

此标定的发动机应安装在有效电网覆盖区域内。备用功率标定的发动机按平均负荷率为80%来使用，一年不超过200小时。在备用功率点使用时每年不超过25小时。备用功率标定的发动机只能在断电时作为应急电源使用。电网预先通知的断电不属于应急电源使用范畴。

持续功率标定

可以恒定按100%标定负荷、无时限连续使用的功率。按此标定的发动机无超负荷能力。

常用功率标定是可以替代商业电网电力来使用的功率。常用功率必须按下列两种类型之一来使用。

无时限运行常用功率

按常用功率标定的发动机，可有效地变负荷无时限使用。在每250小时的运行周期内，可变负荷的均值不能超过所标定常用功率的70%。

一年内，100%常用功率的整个运行时间不超过500小时。

在12小时运行周期内，有1小时有效超负荷10%的能力。在一年内，超负荷10%运行的整体时间不超过25小时。

限时运行常用功率

按常用功率标定的发动机，可以有限运行于不变负荷用途。诸如使用功率低而输出功率受限的场合。在功率决不会超过常用功率标定的前提下，每年内可与市电并网运行750小时。但长期高负荷运行将缩短发动机寿命。一年内并网运行超过750小时时，请按持续功率标定运行。

参考标准：

以ISO-3046为基础的BS-5514和DIN-6271标准。

环境温度和海拔变化后的修正：

发动机可以在下面的条件下运行，而功率不必进行调整：

转速为1800r/min的发动机，海拔高度低于1525 m (5000 ft)，环境温度低于40°C(104°F)。

转速为1500r/min的发动机，海拔高度低于1525 m (5000 ft)，环境温度低于40°C(104°F)。

发动机超出上述条件运行时，每升高300 m (984 ft)，功率下调4%；环境温度高于40°C(104°F)时，每升高11°C，功率下调2% (升高10°F，下调1%)。

重庆康明斯发动机有限公司

发动机数据单

发动机型号：NTA855-G1B **数据单编号：FR798**

特征编号：D093517DX02 **CPL 号：3524/3550**

常用功率：284 kW(380 HP)@1500 r/min 313 kW(420 HP)@1800 r/min **日期：2022/5/17**

备用功率：321 kW(430 HP)@1500 r/min 347 kW(465 HP)@1800 r/min

整机数据

型式	四冲程、直列、六缸	
进气方式	增压，中冷	
缸径×行程 - mm×mm (in.×in.)	140×152	(5.5 × 6.0)
排量 - L ($in.^3$)	14	(855)
压缩比	14:1	
发火顺序	1-5-3-6-2-4	
发动机干重		
--风冷型发动机 - kg (lb.)	1300	(2870)
--水冷型发动机 - kg (lb.)	1410	(3095)
发动机湿重		
--风冷型发动机 - kg (lb.)	1350	(2970)
--水冷型发动机 - kg (lb.)	1510	(3320)
旋转部件转动惯量 - 配备FW1010飞轮 - $kg·m^2$ ($lb.·ft.^2$)	4.99	(118.5)
发动机重心距飞轮壳后端 - mm (in.)	704	(27.7)
发动机重心在曲轴中心线之上 - mm (in.)	140	(5.5)

发动机安装

允许的最大缸体后端面处弯矩 - N·m (lb.·ft.)	1356	(1000)

排气系统

允许的最大排气背压 - kPa (in.Hg)	10	(3.0)
允许的标准排气管直径 - mm (in.)	127	(5.0)

进气系统

允许的最大进气阻力		
--新滤芯 - kPa (in. H_2O)	3.7	(15)
--旧滤芯 - kPa (in. H_2O)	6.2	(25)
允许的最小容纳灰尘能力 - g/L/s(g/CFM)	53	(25)
允许的最大进气温升 ΔT - °C (°F)	17	(30)

冷却系统

冷却液容量 - 单机 - L (U.S. gal)	20.8	(5.5)
- 带散热器 - L (U.S. gal)	60.6	(16.0)
- 带热交换器 - L (U.S. gal)	49.2	(13)
发动机外部最大允许冷却液阻力 - kPa (PSI) @1500/1800rpm	41/48	(6/7)
最大冷却水静压(除压力盖) kPa (PSI)	103	(15)
最大冷却水静压(高于曲轴中心线以上) -m (ft.)	14.0	(46)
标准节温器温度调节范围 - °C (°F)	82 - 94	(180 - 202)
允许的最小压力盖压力 -kPa (PSI)	48.2	(7.0)
冷却水最高温度 - °C (°F)	96	(205)
散热器上水室允许的最高温度 - °C (°F)	100	(212)
散热器上水室允许的最低温度 - °C (°F)	71	(160)
允许的顶部水箱最高温度 - 备用功率 / 额定功率 - °C (°F)	104 / 100	(220 / 212)
推荐的顶部水箱最低温度 - °C (°F)	71	(160)
冷却水最小膨胀空间占系统容积 - %	5	
最小补水量 - L (U.S. gal)	4.2	(1.1)
发动机进水口处生水*的最高压力 -kPa (PSI)	103	(15)
原水泵进水口最大阻力 - kPa (in.Hg)	34	(10)
原水泵最大吸程 - m (ft.)	10	(3.05)
最小原水泵管径 - mm (in.)	51	(2)
允许的舷外冷却压损 -kPa (PSI)	28	(4)

润滑系统

机油压力 @ 怠速 - kPa (PSI)	103 最小	(15) 最小
@ 额定转速 - kPa (PSI)	241 - 345	(35 - 50)
允许的最高机油温度 - °C (°F)	121	(250)
机油盘容量 低位/高位 - L (U.S. gal.)	28.4 / 36.0	(7.5 / 9.5)
系统总容量 - L (U.S. gal.)	38.6	(10.2)
机油盘允许倾角 - 前倾/后倾/侧倾	38°/38°/38°	

燃油系统

喷油系统型式	直喷式康明斯 PT系统	
PT燃油泵进油管路最大允许阻力		

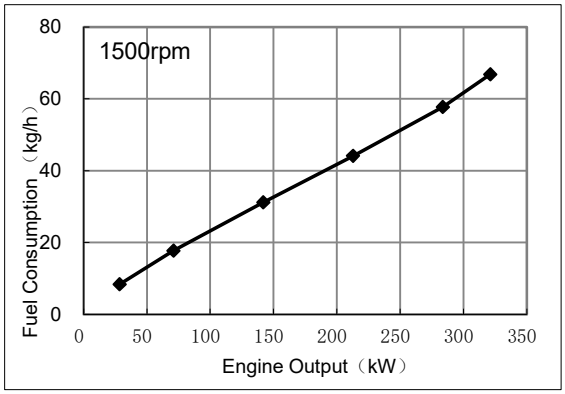
CCEC	CHONGQING CUMMINS ENGINE PERFORMANCE DATASHEET	Engine Model NTA855-G1B		Date 2022/5/17
		CPL 3524/355	Data sheet FR798	Configuration D093517DX02

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	-	-

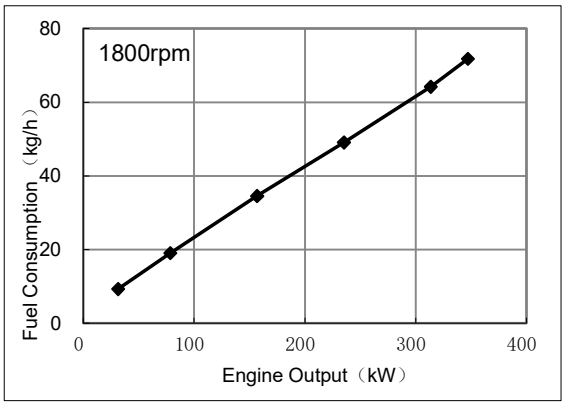
Engine Performance Data @1500 rpm

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 foumulated 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 appliacations.

STANDBY POWER RATING is appliable 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 shouled 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 capablility is available for aperiod 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, theat 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 Temperatrue 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 Popwer				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

CHONGQING CUMMINS ENGINE CO. LTD. CHONGQING, CHINA, 400031