

Cummins Series

AC413 Technical Data



Cummins Power Generator

330KW/413KVA



**Powered by
Cummins NTA855-G3****General feature:**

- ◆ Assembled by Cummins diesel engine and Leroy Somer alternator.
- ◆ Three filters as standard, fuel and water separator as optional.
- ◆ Radiator and fan with safety guard.
- ◆ Single bearing alternator IP 23, Insulation Class H.
- ◆ Heavy duty steel as base frame and 8hrs operation base fuel tank.
- ◆ Automatic control panel and 3 poles circuit breaker, internal cable.
- ◆ 12V or 24V battery, battery wires.
- ◆ Battery charger and float battery charger as standard supply scope.
- ◆ Optional soundproof canopy, ATS, synchronization panel, movable trailers.

Genset Main Technical Data:

Genset Model	AC413
Prime Power	300KW/375KVA
Standby Power	330KW/413KVA
Frequency/Speed	60Hz/1800rpm
Standard Voltage	120V/208V
Phases	Three phases, four wires

(1) PRP: Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO8528-1. A 10% overload capability is available for a period of 1 hour within 12-hour period of operation. In accordance with ISO 3046-1.

(2) ESP: The Standby Power Rating is applicable for supplying emergency power in variable load applications for up to 200 hours per year in accordance with ISO8528-1. Overload is not allowed.



Cummins Engine Data:

Manufacturer	Chongqing Cummins Engine Co., Ltd.
Model	NTA855-G3
Engine speed	1800rpm
Engine power	
-----Standby power	399kw
-----Prime power	358kw
-----Continuous power	N.A.
Type	4-cycle, in-line, 6 cylinder
Aspiration	Turbocharged, aftercooled
Bore X Stroke	140 X 152 mm
Displacement	14L
Fuel system	PT
Compression Ratio	14.0 : 1
Firing Order	1-5-3-6-2-4

Fuel Consumption

	Output Power		Fuel Consumption		Fuel Rate
	HP	kW	kg/h	L/h	g/kW-h
Standby100%	535	399	81.7	96.1	204.8
Prime100%	480	358	74.0	87.1	206.7
75%	360	269	56.2	66.0	209.3
50%	240	179	39.9	46.9	222.9
25%	120	90	22.8	26.8	254.7
10%	48	36	9.9	11.6	276.5

Exhaust system

Max. allowable back pressure	10 kPa
Standard exhaust pipe diameter	127 mm

Air induction system

Maximum allowable intake air restriction	
-----with clean filter element	3.74 kPa
-----with dirty filter element	6.22 kPa
Minimum dirt holding capacity	53 g/L/s

Cooling system

Coolant capacity	
-----Engine only	20.8 L
-----With radiator	60.6 L
-----With heat exchanger	49.2 L
Standard thermostat(modulating) range	82-94 °C
Max. coolant temperature	96 °C
Max. allowable top tank temperature for standby/prime	104/100 °C
Min. recommended top tank temperature	71 °C



Lubrication system

Oil Pressure	
-----Idle speed	103 kPa
-----Governed speed	241-345 kPa
Max. allowable oil temperature	121°C
Max. oil consumption	0.24 L/h
Oil Pan capacity - Low/High	28.4 / 36.0 L
Total system capacity	38.6 L
Angularity of oil pan-Front Down/Front Up/Side to Side	38 °/38 °/38 °

Fuel System

Type Injection system	Direct injection Cummins PT
Min. fuel supply line size	16 mm
Min. fuel return line size	13 mm
Max. fuel pump supply	352 L
Fuel rail pressure	1400 kPa
Max. Fuel temperature	71°C

Electric system

Min. recommended battery capacity (24V)	
-----Cold soak(no Load)----CCA	900
-----Min. reserved capacity---CCA	320
-----Cold soak(with Load)----CCA	900
-----Min. reserved capacity---CCA	320
Max. allowable resistance of cranking circuit	0.002 ohm
Standard cranking moto(heavy duty,positive	24 Volt
Standard battery charging system, negative ground	35 ampere

Performance data

Idle speed	650-750 r/min
Max. no-load governed speed	2100 r/min
Max over speed capability	2700 r/min


	Prime Condition		Standby Condition	
	60Hz		60Hz	
	1800		1800	
Governed Engine Speed - r/min.....				
Gross Engine Power Output - HP (kW)	480	(358)	535	(399)
Torque lb. ft. (N·m).....	1400	(1899)	1561	(2117)
Brake Mean Effective Pressure - PSI (kPa)	247	(1705)	275	(1900)
Piston Speed - ft./min (m/s).....	1799	(9.14)	1799	(9.14)
Friction Horsepower - HP (kW).....	47	(35)	47	(35)
Intake Air Flow - CFM (L/s)	1010	(477)	1150	(543)
Engine Water Flow - GPM (L/min.)	95	(6)	95	(6)
Raw Water Flow - GPM (L/s)	62	(3.9)	62	(3.9)
Exhaust Gas Temperature (After Turbine) - °F (°C).....	970	(521)	980	(527)
Exhaust Gas Flow (After Turbine) - CFM (L/s).....	2785	(1314)	3190	(1506)
Air to Fuel Ratio.....	26.7:1		27.3:1	
Heat Radiation - BTU (kW).....	2960	(52)	3300	(58)
Heat Rejection to Coolant - BTU (kW).....	12010	(211)	13380	(235)
Heat Rejection to Ambient - BTU (kW).....	14230	(250)	15430	(271)



ALTERNATOR Specifications:

Manufacturer	Leroy-somer Electro-technique (Fuzhou) Company Ltd.
Model	LSA 46.3 L11
Frequency	60HZ
Voltage	208V, "YY"
Output power-----Continuous duty/40°C	300kw / 375kva
-----Stand-by/27°C	330kw / 413kva
Phase	3 ph.
Power factor	P.F.=0.8
Insulation class	H
Winding pitch	2/3 (N ° 6)
Number of wires	12
Protection	IP23
Altitude	≤ 1000 m
Overspeed	2250 min ⁻¹
Excitation system	Shunt
AVR type	R250
Voltage regulation	±0.5%
Short-circuit current	N/A
Total harmonics (THD)	no load < 1.5%
Wave form : NEMA = TIF	< 50
Air follow	1.1 m ³ /s
Relative humidity	≤ 95%
Bearing	Single
Coupling	Direct

Circuit breaker specification:

	Manufacturer	Delixi Group
	Brand	Delixi
	Model	DZ20Y-1250/3300-1250A
	Capacity	1250amp
	Voltage	400V

Starting Battery specification:

	Battery Voltage	12V
	Battery Capacity	100Ah
	Quantity	2 pcs
	Battery type	Free maintenance, sealed lead-acid type

Control system:



Deepsea 6120

Auto start and stop control panel



Deepsea 6120 is an auto mains failure controller for single generator, it can monitor and protect the generator working all the time. it has a LCD display which clearly shows the status of the engine. this controller include six inputs and six outputs. This controller can also be programmed using the frong panel or by using DSE configuration Suite PC software.

Parameters:

This controller can provide Generator frequency, Under/over speed, Generator volts, Generator current, Engine oil pressure, Engine coolant temperature, Flexible fuel level, Hours run counter, Battery volts, Fail to start/stop, Emergency Stop. Failed to reach loading voltage/frequency, Charge fail, Loss of magnetic pick-up signal, Low DC voltage, CAN diagnostics and CAN fail/error, Mains volts 3 phase, Mains frequency, AMF indications

Protection:

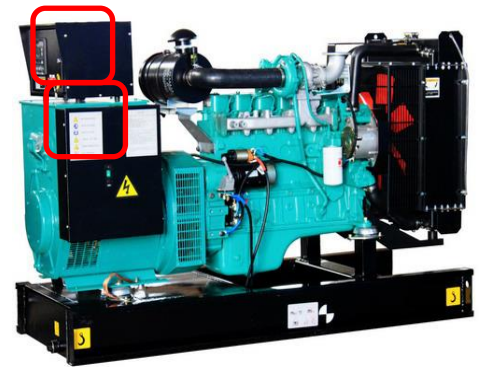
- ◆ Low Oil Pressure
- ◆ High water Temperature
- ◆ High voltage and low voltage
- ◆ Overspeed

- ◆ Emergency stop
- ◆ Fail to start

Features:

- ◆ Protection: Automatic start/stop, load transfer and alarming of generator;
- ◆ CAN and magnetic pick-up versions.
- ◆ PC and front panel configurable
- ◆ 6digital inputs and 4analogue inputs.
- ◆ 6 outputs
- ◆ 3 phase generator and mains voltage monitoring.
- ◆ Advanced metering capability.
- ◆ Test button.
- ◆ Power switch for city and power generation unit
- ◆ Reasonable structure and key layout
- ◆ Supports 6 languages display (Chinese, English, France, Thailand, Turkey, Arabia)
- ◆ Can simultaneously detect a variety of engine parameters
- ◆ Modules can be configured according to customer needs.
- ◆ IP65 protection class (silent type)

- ① Power switch
- ② Lamp switch
- ③ Power indicator
- ④ Operation buttons
- ⑤ LCD display



Open type



Silent type

Soundproof Enclosure Specification:

Our silent generator is designed by professional acoustic engineers based on 15 years experience.

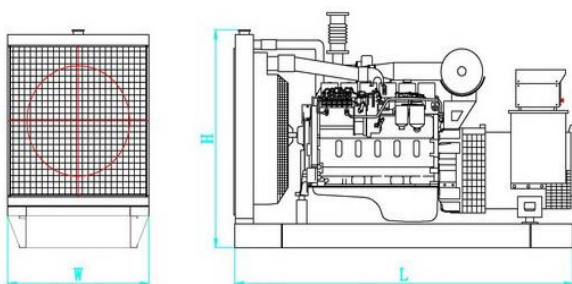
- ★ multi-way air intake and exhaust guarantee the power performance of the generator.
- ★ large-scale impedance combined type silencer effectively reduce noise of the generator.
- ★ internal high performance rubber damper and flexible materials reduce vibration.
- ★ Base mounted fuel tank supports the generator running for 8 hours.
- ★ Cold steel materials of the canopy.
- ★ Best powder paint.
- ★ Zinc plated and Corrosion resistance.
- ★ Elegant appearance and reliable quality.
- ★ Stainless steel locks and hinges.
- ★ Access to all weather conditions.
- ★ Fireproof, waterproof and dustproof.
- ★ High quality soundproof materials could efficiently reduce noise.
- ★ Big base fuel tank in the frame guarantee sufficient diesel supply.
- ★ 180° revolvable and disassemble door for easy maintenance.
- ★ Concave lockable access door for easy operation and indefectible.
- ★ Lights inside of the canopy for maintenance.



- ★ Transparent viewing window make the control panel clear at a glance.
- ★ Emergency stop button mounted on the canopy exterior for urgency.
- ★ Cooling fluid injection hole is kept on the ceiling crust.
- ★ Pipe of lube oil and cooling fluid is mounted on the bottom of generator for easy let.
- ★ Fuel fill and battery can easy be accessed by lockable door.
- ★ Cooling fan and battery are fully guarded.
- ★ Heat insulation of exhaust smoke system inside the canopy.
- ★ Forkman slot is for choice.
- ★ Lifting ear is mounted in the base frame.

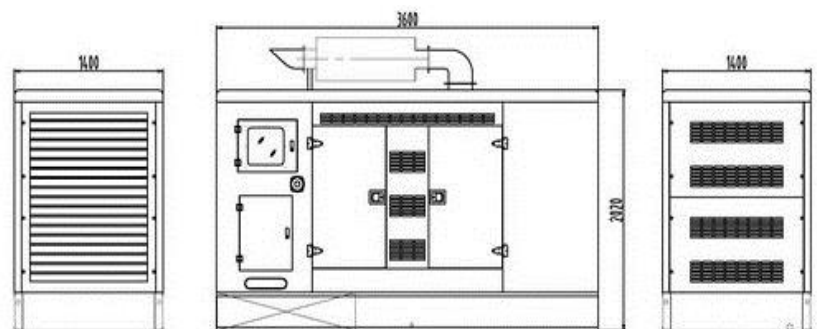
Weight and Dimensions

1. Open Version:



Open Type (Standard Configuration)
 Overall Size: 3066x1010x1710mm(L*W*H)
 Weight: 3000kg

2. Soundproof Version:



Soundproof Type
 Overall size: 3600 × 1400 × 2120mm(L*W*H)
 Weight: 3810kg