



Diesel generator set C380 D5

50 Hz



Made by Cummins®

Cummins commercial diesel generator sets integrate the universal design, production and testing standard of Cummins, providing fully reliable and integrated power generation systems with optimum performance for applications in Standby Power, Prime Power and Continuous operation.

In accordance with the standard of ISO8528-2005 and GB/T2820-2009 AC Generator Sets Driven by Reciprocating Internal Combustion Engine.

Certified to ISO9001 and ISO9002 for generator set design and manufacture.

Cummins provides full quality assurance and is responsible for the warranty of generator sets including engine, alternator and control system.

National specialized service network ensures 24 hours after-sale service and the supply of parts and accessories.

Standard features of generator set

Engine: Cummins NT855 series engine.

Type: Four-stroke, water cooled, turbocharged and after-cooled.

Structure: Cast steel crankshaft, connecting rod, cast iron cylinder block.

Cooling system: Built-in water circulating pump and thermostat improves working efficiency of engine.

Filter: Cummins Fleetguard series high-precision filter.

Alternator: Stamford HC series alternator.

Type: Revolving magnetic field, single bearing, 4 pole, brushless, drip proof structure, in accordance with GB755, BS5000, and IEC34-1.

Stator: Taper slot structure, 2/3 pitch windings, effectively suppressing waveform distortion of third harmonic current and output voltage under non-linear load.

Rotor: Flexible driving disc connected to engine directly, perfect damper winding reduces parallel oscillation.

Cooling system: Directly drive centrifugal blower fan.

Control system: PowerCommand® control system based on microprocessor.

Short-circuit protection: Schneider breaker, AmpSentry™ patent protection, PowerCommand controller.

Base frame: Bolted steel base frame with A/V mounting, complex seismic structure and bottom oil tank.

Radiator: Standard genset mounted radiator.

Standard accessories: Exhaust elbow, exhaust bellows, exhaust silencer, etc.

Genset model	Standby Power		Prime Power		Engine	Alternator	Control system
	kVA	kW	kVA	kW			
C380 D5	388	310	350	280	NTA855-G4	HCI444E	PC1.2

230/400 VAC, 50 Hz, 0.8 PF (lagging) 3 phase

Generator set specifications	Standby	Prime
Voltage regulation (no load to full load)	± 1%	
Steady-state voltage variation	± 1%	
Frequency regulation (no load to full load)	Isochronous	
Steady-state frequency variation	± 0.25%	
EMC compatibility	BS EN61000-6-4 / BS EN61000-6-2	
Fuel consumption, L/hr @ 100% load	83	75
Battery starting capacity, A/hr	180*2	
Total coolant capacity (with engine and water tank), L	66	
Bottom oil tank capacity, L	700	

Engine specifications

Model	NTA855-G4	
Configuration	Cast iron, in-line, 6-cylinder	
Displacement, L	14	
Compression ratio	14.0:1	
Aspiration	Turbocharged and water-to-air after-cooled	
Fuel system	Direct injection	
Bore* stroke, mm	140*152	
Rated speed, rpm	1500	
Governor type	Electronic	
Starting voltage	24 V, negative ground	
Battery charging alternator	24 V, 35 A	
Cold starting current, CCA	900 (-18 °C)	
Lube oil capacity, L	39	
Combustion air (Standby), m ³ /s	0.43	
Coolant capacity, L	21	
Maximum fuel flow, L/hr	329	
Maximum fuel inlet resistance, mm Hg	27.1	

Alternator specifications

Protection class	IP23	
Insulation system	Class H	
Standard temperature rise	Standby, 150 °C (at 40 °C ambient temperature)	
Exciting type	Self-exciting	
AC Waveform Total Harmonic Distortion (THDV)	< 1.5% no load, < 5% 3-phase balanced linear load	
Telephone Influence Factor (TIF)	< 50 (per NEMA MG1-22.43)	
Telephone Harmonic Factor (THF)	< 2%	

Exhaust specifications

	Standby	Prime
Exhaust gas flow at rated load, L/S	1225	1128
Exhaust gas temperature, °C	541	524
Maximum exhaust back pressure, kPa	10	

Cooling system specifications

Radiator ambient design, °C	40	
Minimum air inlet (outlet) area, m ²	1.68 (1.3)	
Radiator tank capacity, L	45	
Radiator cooling air flow (Standby), m ³ /s	6.9	
Total heat rejection, Kw	45.3	
Maximum cooling air flow static resistance, Pa	124.5	

Control system

Generator set control PowerCommand 1.2 –

The PowerCommand 1.2 control is a microprocessor based generator set monitoring control system. The control provides a simple operator interface to the generator set, digital voltage regulation, digital engine speed governing, start/stop control and protective functions.

- The PowerCommand 1.2 control is suitable for use on a wide range of generator sets in non-paralleling applications.
- The PowerCommand control can be configured for any frequency, voltage and power configuration from 120 to 600 VAC for 50 Hz or 60 Hz operation.
- Power for the control is derived from the generator set starting batteries. The control functions over a voltage range from 8 VDC to 35 VDC.
- A larger HMI reduces setup time, provides more information per screen, enhanced navigation and serviceability.
- Includes all functions to locally or remotely start and stop, and protect the generator set.
- Control switch – RUN/OFF/AUTO
- OFF mode – the generator set is shut down and cannot be started, as well as reset faults
- RUN mode – the generator set will execute its start sequence
- AUTO mode – the generator set can be started with a start signal from a remote device

Status indications – The control has a lamp driver for external fault/status indication. Functions include:

- The lamp flashes during preheat (when used) and while the generator set is starting
- READY TO LOAD – flashing until the set is at rated voltage and frequency, then on continuously
- Fault conditions are displayed by flashing a two-digit fault code number

LED indicating lamps – includes LED indicating lamps for the following functions:

- Remote start
- Warning
- Shutdown
- Auto
- Run
- Remote emergency stop switch input. Immediate shut down of the generator set on operation

Major features

- 12 or 24 VDC battery operation
- Digital engine speed governing to provide isochronous frequency regulation
- Digital voltage regulation full wave rectified single phase (Line to Line) sensing.
- Generator set monitoring monitors status of all critical engine and alternator conditions functions
- Engine starting includes relay drivers for start and Fuel Shut Off (FSO)
- Configurable inputs and outputs – two discrete inputs and two dry contact relay outputs
- Smart starting control system – integrated fuel ramping to limit black smoke and frequency overshoot
- Advanced serviceability using InPower™, a PC based software service tool

Base engine protection -

- Low oil pressure shutdown
- High engine temperature shutdown
- Underspeed/sensor fail shutdown
- Fail to start
- Battery charging alternator fail warning

HMI220 operator interface

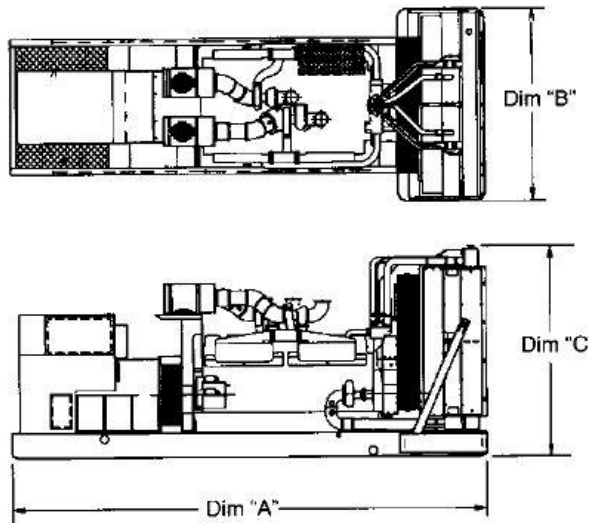
- Back-lit graphics 128 x 128 LCD display
- English text and symbolic overlay
- Multiple language LCD screens
- Dedicated manual/off/auto function switches with mode LEDs and configurable access code (key switch)
- Control set-up without PC-based tool (InPower)
- UL508 recognized/CSA certified/CE compliant
- Multiple HMIs per generator set (one local and one remote)
- Plug and play operation



Standard generator set

Model	Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Weight* Dry Weight (kg)
C380 D5	3393	1100	1994	3450

Standard outline drawings of generator set



The outlines are for illustrative purposes only, not used for installation design.

Please refer to genset outline drawing for exact representation of this model for installation design.

Ratings definitions:

Emergency Standby Power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with GB.T2820/ISO 8528. The effective oil limited power is in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-Time Running Power (LTP):

Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with GB.T2820/ISO 8528.

Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with GB.T2820/ISO 8528. A 10% overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with GB.T2820/ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

For more information contact your local Cummins distributor or visit power.cummins.com

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