Specification sheet

Rental Power

500 kW
U.S EPA Tier IV Emissions

Description

This Cummins Power Generation rental package is a fully integrated mobile power generation system, providing optimum performance, reliability, and versatility for standby and prime power applications.

Features

Cummins diesel engine

- U.S. Tier IV Final certified Cummins X15-G17 engines which meet emissions limits without the use of a diesel particulate filter (DPF)
- Rugged 4-cycle industrial diesel delivers reliable power and fast response to load changes
- Advanced electronic engine controls with integrated aftertreatment system provide superior fuel efficiency while reducing emissions
- High-pressure common rail fuel system reduces engine noise and smoke
- Cummins Direct Flow™ air filtration offering improved air management, longer service life, and easier serviceability
- 2-stage fuel filtration with optimum particle and water separation
- Automated SCR health management system
- Equipped with heavy duty air cleaners, bypass-type oil filters, and dual-element fuel/water separation filtration system with 4-way valve.

Control features

- The most advanced, reliable, and capable generator set control system available with parallel and Masterless Load Demand (MLD) capabilities
- Controls provide precise frequency and voltage regulation, alarm and status message display in one easy to operate customer interface

Stamford alternators

- 12-lead reconnectable alternators fitted with link board
- Designed and built by Cummins Generator Technologies.
- Voltage reconnectable - 480/277 VAC high Wye, 240/139 VAC low Wye and 208/120 VAC low Wye standard.
- Alternators designed for improved motor starting.
- Permanent magnet excitation for improved performance in non-linear load applications

Rental package enclosure

- Sound attenuated, white powder coated lockable enclosure
- 23-hour fuel tank (75% prime) with leak detection sensor
- UL 142 fuel tank with 110%+ fluid containment basin
- Cooling system rated for 113°F (45 °C) at 100% standby ambient
- Complete engine fluid containment reservoir
- Camlock & busbar distribution panel
- Removable 1600A link board makes switch from 480V, 240V and 208V simple
- Shore power (15A/125 VAC) – battery charger & (50A/240VAC) – Jacket water heater & shore power
- Smart paralleling connector makes paralleling with other Cummins T4F units easier
- Auxiliary Fuel connection
- (2) 120V GFCI and (3) 50 amp 240VAC Recep

Rental package options

- DOT approved electric brake trailer with heavy duty center mounted jack, pintle hitch

Model	Voltages	Standby Rating 60 Hz kW (kVA)	Prime Rating 60 Hz kW (kVA)	Sound Level Full load at 7m	Alternator Model
C500D6RE	208/240/480	500 (625)	450 (563)	81.9 dB(A)	HC5F

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Engine specifications

Engine model	X15-G17
Alternator data sheet	ADS-308
Tier rating	Tier IV
Design	4 cycle, In-Line, turbocharged and after-cooled
Bore	136.9 mm (5.39 in.)
Stroke	168.9 mm (6.65 in.)
Displacement	15 liters (912 in^3)
Cylinder block	Cast iron, In-Line 6 cylinder
Battery capacity	1750 Ams @32F
Battery charging alternator	110 amps
Starting voltage	24 volt, negative ground
Fuel system	Extra high pressure injection
Fuel filter	Diesel
Air cleaner type	Dry element with restriction indicator
Lube oil filter type(s)	spin-on, full flow filter
Standard cooling system	104 °F (40 °C) ambient radiator

Alternator specifications

Design	Brushless, 4 pole, drip proof revolving field
Stator	Double layer concentric, 2/3 winding pitch
Rotor	Singe bearing, flexible disc
Insulation system	Class H per NEMA MG1-1.65
Standard temperature rise	125/40 ºC prime
Exciter type	PMG (permanent magnet generator)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform total harmonic distortion	< 1.5% no load, < 5% non-distorting balance linear load
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	< 2%

Power capability specifications (Assume power factor = 0.80 for 3 phase amps)

	Standby rating					
		208 V, 3 Phase Amps 60Hz	**480 V, 3 Phase Amps 60Hz**	**240 V, 3 Phase Amps 60Hz**		
C500D6RE		1735	752	1504		

Electrical power panel specifications

Model voltage	**120 V duplex receptacles**	**240 V twist**	**Load lug connection (stud diameter)**	**Load lug circuit breakers**
120/208 Volt	2 - 20 Amp GFCI	3 - 50 Amp	1/2 inch	50 Amp

PowerCommand 3.3 Control System

An integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing. Refer to document S-1570 for more detailed information on the control.

Simplified display for rental operators - simplified display tailored for rental equipment operations for ease of use.

Power management – Control function provides battery monitoring and testing features and smart starting control system.

Advanced control methodology – Three phase sensing, full wave rectified voltage regulation, with a PWM output for stable operation with all load types.

Regulation compliant – Prototype tested: UL, CSA and CE compliant.

Service - InPower™ PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.

Easily upgradeable – PowerCommand controls are designed with common control interfaces.

Reliable design – The control system is designed for reliable operation in harsh environment.

Operator panel features

Operator/display functions

- 320 x 240 pixels graphic LED backlight LCD
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches
- Alpha-numeric display with pushbuttons
- LED lamps indicating genset running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop

Alternator data

- Line-to-neutral and line-to-line AC volts
- 3-phase AC current
- Frequency
- kW, kVar, power factor kVA (three phase and total)

Engine data

- DC voltage
- Lube oil pressure
- Coolant temperature
- Comprehensive FAE data (where applicable)

Other data

- Fault history
- Data logging and fault simulation (requires InPower)

Standard control functions

Digital governing

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 3-phase, 4-wire line-to-line sensing
- Configurable torque matching

AmpSentry AC protection

- AmpSentry protective relay
- Over current and short circuit shutdown
- Over current warning
- Single and three phase fault regulation
- Over and under voltage shutdown
- Over and under frequency shutdown
- Overload warning with alarm contact
- Reverse power and reverse var shutdown
- Field overload shutdown

Engine protection

- Battery voltage monitoring, protection and testing
- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Cranking lockout
- Sensor failure indication
- Full authority electronic engine protection

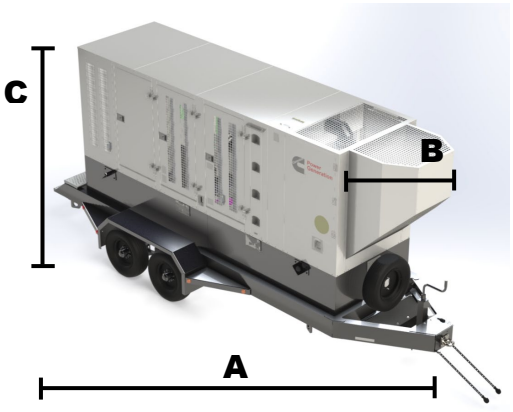
Control functions

- Time delay start and cool down
- Real time clock for fault and event time stamping
- Cycle cranking
- Load shed
- Remote emergency stop

Ratings definitions

Standby:
Applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating. (Equivalent to Fuel Stop Power in accordance with ISO3046, AS2789, DIN6271 and BS5514). Nominally rated.

Prime (unlimited running time):
Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. (Equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514).



Dimensions

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Weight w/o fuel kg (lbs.)	Weight with fuel kg (lbs.)	Fuel capacity liters (gal)*
C500D6RE without trailer	6113 (241)	1499 (59)	2555 (101)	8024 (17690)	9752 (21500)	2071 (547)
C500D6RE with trailer	7300 (287)	2584 (102)	3118 (123)	10179 (22440)	11887 (26250)	2071 (547)

* Onboard DEF capacity is sized for 24 hours of operation

Fuel consumption

		Standby				Prime				
60 Hz Ratings, kW (kVA)		500 (625)				450 (563)				Hours of operation
	Load	¼	½	¾	Full	¼	½	¾	Full	75% PRP
	US Gal/hr.	11.1	18.8	26.4	34	10.6	16.8	23.3	30.5	23.5
	L/hr.	42.1	70.1	99.8	128.7	40.1	63.6	88.2	115.4	23.5

Note: DEF consumption less than 4% of fuel consumption

** Fuel consumption number are conservative pending final test.

Trailer information

Model	Tire size	Tire type	Load range	Number of tires per trailer	Lug pattern
C500D6RE	235/75R17.5	RoadMaster (RM170)	6000 lbs/2721 kg	4	8 hole

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

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PDA061E859 NAS-6311-EN (11/20)