



LBE GENERATORS

*LBE POWERING YOUR WORLD
anytime. anywhere*

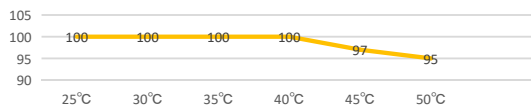
CT-90

Powered By Cummins

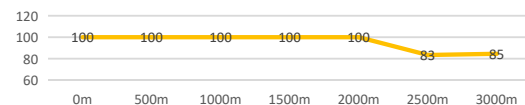


MODEL			CT-90
Power Pf.0.8	Standby	kVA	100
		kW	80
	Prime	kVA	90
		kW	72
	Frequency	Hz	60
	Voltage	V	220/380
	Rated speed	rpm	1800

Temperature (Celsius) Derate Curves
Unit: kVA



Altitude (meters) Derate Curves
Unit: kVA



Standard reference Conditions:

Standard reference condition 25°C (77°F) air inlet temp, 100m (328ft) A.S.L 30% relative humidity. Fuel consumption data with diesel fuel with specific gravity of 0.85 and conforming to BS 2869: 1998, Class A2.

Note:

The standby power rating of the generating set is where a variable load limited to an annual usage up to 500 hours is applied, with 300 hours of which may be continuous running. Noting that no overload is permitted

Standard Features

- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The generator set complies with ISO 8528-5, Class G3 requirements for transient performance.
- The generator set accepts rated load in one step.
- The 60Hz generator set engine is certified by the Environmental Protection Agency (EU or MEP) to conform to EU2、EU3 nonroad emissions regulations.(≤560KW)
- A one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are also available.

Generator Features

- The brushless, rotating-field generator has broadrange reconnectability.
- The pilot-excited, permanent-magnet generator (PMG) provides superior short-circuit capability
- Controllers are available for all applications. See controller features inside.
- The low coolant level shutdown prevents overheating (standard on radiator models only).
- Integral vibration isolation eliminates the need for under-unit vibration spring isolators.
- An electronic, isochronous governor delivers precise frequency regulation.
- Electronic engine controls and a generator microprocessor controller combine to deliver one of the most advanced control systems in today's generator market.



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Engine Specifications

Manufacturer / Model	Cummins 4BTA3.9-G11
Cylinder No.& Configuration	4 cylinder Diesel L type
Working Mode	Turbocharged and Aftercooled (Jacket water to cooler)
Bore x Stroke	102*120mm
Displacement	3.9L
Compression Ratio	17.3:1
Rated Power	80kW
Rated Speed	1800
Lubrication System	Splash Lubrication
Lube Oil	Conforms above CF class or SAE10W-30,15w-40
Lube Oil Capacity	10.9L
Battery Capacity	6-QW-45(380)*2
Fuel Type	Diesel:0#(Summer),-10#(Winter),-35#(Cold)
Fuel Consumption 25% load	6.4L/H
Fuel Consumption 50% load	10.8L/H
Fuel Consumption 75% load	15.3L/H
Fuel Consumption 100% load	20.1L/H



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ALTERNATOR SPECIFICATION

Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet, Pilot Exciter
Voltage regulator	Solid-State, Volts/Hz
Insulation	NEMA MG1, Class H
Material	Synthetic, Nonhygroscopic
Temperature rise	Prime 130°C, 150°C Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Rotor balancing	125% 60 Hz, 150% 50 Hz
Voltage regulation, no-load to full-load(with < 0.5% drift due to temp. variation	3-Phase Sensing, $\pm 0.25\%$
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the generator field.
- Self-ventilated and dripproof construction.
- Superior voltage waveform from two-thirds pitch windings and skewed stator.
- Digital solid-state.volts-per-hertz voltage regulator with $\pm 0.25\%$ no-load to full-load regulation.
- Brushless alternator with brushless pilot exciter for excellent load response.



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Controller

Audiovisual annunciation with NFPA 110 Level 1 capability. Programmable microprocessor logic and digital display features.

Safeguard circuit protection standard.

12- or 24-volt engine electrical system capability.

Remote start, remote annunciation, and remote communication options. Refer to M6-46 for additional controller features and accessories



Key Features

- 4-line back-lit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- LED and LCD alarm indication
- Customisable status screens
- Power save mode
- Support for up to three remote display units
- 9 configurable inputs
- 8 configurable outputs
- Flexible sender inputs
- Configurable timers and alarms
- 3 configurable maintenance alarms
- Multiple date and time scheduler
- Configurable event log (250)
- Control logic facilities
- Easy access diagnostic page
- CAN and Magnetic Pick-up / Alt. Sensing
- Fuel usage monitor and low fuel alarms
- Charger alternator failure alarm
- Manual speed control
- Manual fuel pump control
- Engine exerciser
- "protections disabled" feature
- kW overload protection
- Power monitoring
- Load switching (load shedding and dummy load outputs)
- Automatic load transfer
- Unbalanced load protection
- Independent Earth Fault trip
- USB connectivity
- Backed up real time clock
- Configurable display languages
- User selectable RS232 and RS485 communications
- SMS Messaging (additional external modem required)
- Additional display screens to help with modem diagnostics
- Integral PLC editor



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Generating Sets Standard and Optional Features

Engine	• 4-stroke, water-cooled diesel engine • Standard air filter • Standard fuel filter • Standard oil filter • Oil temperature sensor • Low coolant level sensor • Radiator with blowing fan • Industrial Grade Silencer • Fuel water separator • Water jacket heater (optional)
Alternator	• Class H insulation • IP23 Protection • Automatic Voltage Regulator (AVR) • PMG excitation (optional) • Single bearing alternator • Class F or class B temperature rise (optional) • Digital Voltage Regulator (optional) • Double bearing (optional) • Anti-Condensation Heater (optional) • IP41 Protection (optional)
Electrical system	• Maintenance-free and anti-explosion battery • Standard breaker • ABB breaker (optional) • ATS (optional) • Battery charger (optional) • GMS monitoring (optional) • 127/230 voltage (optional)
Packing	• Engine manual • Alternator manual • Gensets operation and maintenance manual • Tool kit
Baseframe	• Forklift pockets • Pulling slots • Earth wire protection • Built-in anti vibration mountings • Fuel outlet value • Standard fuel tank • Enlarged fuel tank (optional) • Separated fuel tank (optional)
Canopy	• Weatherproof & sound-attenuated canopy • Sound-absorbing material • Lifting lug • Emergency stop button • Inside silencer



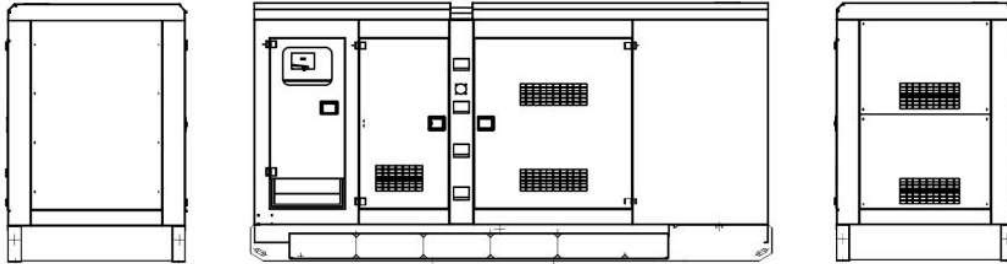
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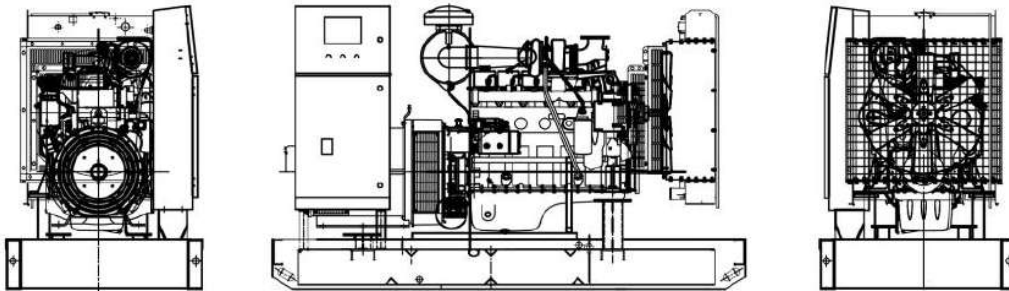
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Overview Dimension & Weight



(Silent type)					
Configuration	L= Length (mm)	W= Width (mm)	H= Height (mm)	Weight (kg)	Fuel Tank Capacity(L)
Silent Type	2452	960	1450	1207	113



(Open type)					
Configuration	L= Length (mm)	W= Width (mm)	H= Height (mm)	Weight (kg)	Fuel Tank Capacity(L)
Open Type	1850	850	1370	1080	-

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