

Cat® C27

Diesel Generator Sets



Image shown may not reflect actual configuration

Bore – mm (in)	137.2 (5.4)
Stroke – mm (in)	152.4 (6.0)
Displacement – L (in ³)	27.03 (1649.47)
Compression Ratio	16.5:1
Aspiration	TA
Fuel System	MEUI
Governor Type	ADEM™ A4

Standby 60 Hz ekW (kVA)	Prime 60 Hz ekW (kVA)	Standby 60 Hz ekW (kVA)	Prime 60 Hz ekW (kVA)	Emissions Performance
750 (937)	680 (850)	800 (1000)	725 (906)	Optimized for Low Fuel Consumption

Standard Features

Cat® Diesel Engine

- Designed and optimized for low fuel consumption
- Reliable performance proven in thousands of applications worldwide

Generator Set Package

- Accepts 100% block load in one step and meets other NFPA 110 loading requirements
- Conforms to ISO 8528-5 G3 load acceptance requirements
- Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators

- Superior motor starting capability minimizes need for oversizing generator
- Designed to match performance and output characteristics of Cat diesel engines

Cooling System

- Cooling systems available to operate in ambient temperatures up to 50°C (122°F)
- Tested to ensure proper generator set cooling

EMCP 4 Control Panels

- User-friendly interface and navigation
- Scalable system to meet a wide range of installation requirements
- Expansion modules and site specific programming for specific customer requirements

Warranty

- 24 months/1000-hour warranty for standby and mission critical ratings
- 12 months/unlimited hour warranty for prime and continuous ratings
- Extended service protection is available to provide extended coverage options

Worldwide Product Support

- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

Financing

- Caterpillar offers an array of financial products to help you succeed through financial service excellence
- Options include loans, finance lease, operating lease, working capital, and revolving line of credit
- Contact your local Cat dealer for availability in your region

Optional Equipment

Engine

Air Cleaner

- ☐ Single element
- ☐ Dual element
- ☐ Heavy duty

Muffler

- ☐ Residential grade (25 dB)

Starting

- ☐ Standard batteries
- ☐ Oversized batteries
- ☐ Standard electric starter(s)
- ☐ Jacket water heater

Alternator

Output voltage

- ☐ 208V
- ☐ 240V
- ☐ 480V
- ☐ 600V

Temperature Rise (over 40°C ambient)

- ☐ 150°C
- ☐ 125°C
- ☐ 105°C
- ☐ 80°C

Winding type

- ☐ Random wound

Excitation

- ☐ Internal excitation (IE)

Attachments

- ☐ Anti-condensation heater
- ☐ Stator and bearing temperature monitoring and protection

Power Termination

Type

- ☐ Bus bar
- ☐ Circuit breaker
- ☐ 400A ☐ 800A
- ☐ 1200A ☐ 1600A
- ☐ 2000A ☐ 2500A
- ☐ 3000A
- ☐ UL ☐ IEC
- ☐ 3-pole ☐ 4-pole
- ☐ Manually operated
- ☐ Electrically operated

Trip Unit

- ☐ LSI ☐ LSI-G
- ☐ LSIG-P

Factory Enclosure

- ☐ Sound attenuated

Attachments

- ☐ Cold weather bundle
- ☐ DC lighting package
- ☐ Motorized louvers

Fuel Tank

- ☐ 1000 gal (3785 L)
- ☐ 2000 gal (7571 L)
- ☐ 3600 gal (13627 L)

Control System

Controller

- ☐ EMCP 4.2B
- ☐ EMCP 4.3
- ☐ EMCP 4.4

Attachments

- ☐ Local annunciator module
- ☐ Remote annunciator module
- ☐ Expansion I/O module
- ☐ Remote monitoring software

Charging

- ☐ Battery charger – 10A
- ☐ Battery charger – 20A
- ☐ Battery charger – 30A

Vibration Isolators

- ☐ Rubber
- ☐ Spring
- ☐ Seismic rated

Cat Connect

Connectivity

- ☐ Ethernet
- ☐ Cellular
- ☐ Satellite

Extended Service Options

Terms

- ☐ 2 year (prime)
- ☐ 3 year
- ☐ 5 year
- ☐ 10 year

Coverage

- ☐ Silver
- ☐ Gold
- ☐ Platinum
- ☐ Platinum Plus

Ancillary Equipment

- ☐ Automatic transfer switch (ATS)
- ☐ Uninterruptible power supply (UPS)
- ☐ Paralleling switchgear
- ☐ Paralleling controls

Certifications

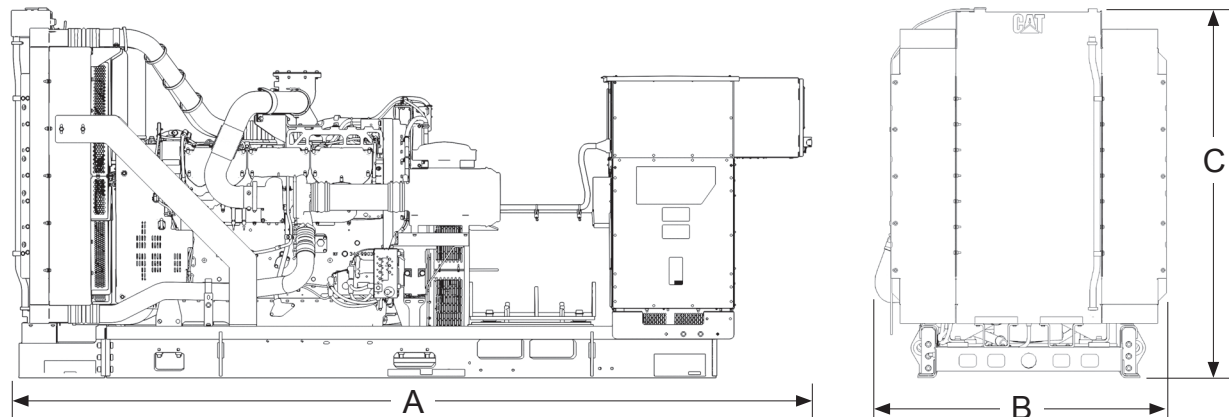
- ☐ UL2200
- ☐ IBC seismic certification
- ☐ OSHPD pre-approval
- ☐ EU Certification of Conformance (CE)
- ☐ EEC Declaration of Conformity

Note: Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.

Package Performance

Performance	Standby		Prime		Standby		Prime	
Frequency	60 Hz		60 Hz		60 Hz		60 Hz	
Gen set power rating with fan	750 ekW		680 ekW		800 ekW		725 ekW	
Gen set power rating with fan @ 0.8 power factor	937 kVA		850 kVA		1000 kVA		906 kVA	
Emissions	Low Fuel		Low Fuel		Low Fuel		Low Fuel	
Performance number	DM9072-01		DM9074-02		DM9068-01		DM9070-02	
Fuel Consumption								
100% load with fan – L/hr (gal/hr)	200.3	(52.9)	183.1	(48.4)	213.3	(56.3)	196.2	(51.8)
75% load with fan – L/hr (gal/hr)	154.4	(40.8)	141.6	(37.4)	164.6	(43.5)	150.4	(39.7)
50% load with fan – L/hr (gal/hr)	111.2	(29.4)	102.9	(27.2)	117.3	(31.0)	108.3	(28.6)
25% load with fan – L/hr (gal/hr)	69.1	(18.3)	64.8	(17.1)	72.0	(19.0)	67.5	(17.8)
Cooling System								
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)	0.12	(0.48)	0.12	(0.48)	0.12	(0.48)
Radiator air flow – m³/min (cfm)	1200	(42377)	1200	(42377)	1200	(42377)	1200	(42377)
Engine coolant capacity – L (gal)	55.0	(14.5)	55.0	(14.5)	55.0	(14.5)	55.0	(14.5)
Radiator coolant capacity – L (gal)	41.0	(10.0)	41.0	(10.0)	41.0	(10.0)	41.0	(10.0)
Total coolant capacity – L (gal)	96	(24.5)	96	(24.5)	96	(24.5)	96	(24.5)
Inlet Air								
Combustion air inlet flow rate – m³/min (cfm)	55.0	(1942.9)	52.0	(1835.4)	58.2	(2055.3)	56.2	(1984.1)
Exhaust System								
Exhaust stack gas temperature – °C (°F)	515.9	(960.6)	503.0	(937.4)	523.6	(974.4)	506.5	(943.6)
Exhaust gas flow rate – m³/min (cfm)	150.2	(5303.8)	139.0	(4907.9)	160.3	(5661.7)	151.6	(5351.4)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)	6.7	(27.0)
Heat Rejection								
Heat rejection to jacket water – kW (Btu/min)	334	(19012)	316	(17959)	350	(19909)	330	(18760)
Heat rejection to exhaust (total) – kW (Btu/min)	713	(40526)	651	(37011)	765	(43510)	708	(40287)
Heat rejection to aftercooler – kW (Btu/min)	121	(6855)	105	(5998)	140	(7966)	129	(7319)
Heat rejection to atmosphere from engine – kW (Btu/min)	109	(6208)	96	(5477)	105	(5950)	93	(5285)
Heat rejection from alternator – kW (Btu/min)	47	(2673)	41	(2337)	57	(3213)	50	(2866)
Emissions (Nominal)								
NOx mg/Nm³ (g/hp-h)	3359.5	(6.74)	3178.9	(6.37)	3371.2	(6.20)	2847.5	(5.71)
CO mg/Nm³ (g/hp-h)	119.8	(0.24)	118.0	(0.23)	137.1	(0.25)	120.2	(0.24)
HC mg/Nm³ (g/hp-h)	6.9	(0.02)	8.7	(0.02)	7.7	(0.02)	9.4	(0.02)
PM mg/Nm³ (g/hp-h)	7.7	(0.02)	7.5	(0.02)	5.0	(0.01)	4.4	(0.01)
Emissions (Potential Site Variation)								
NOx mg/Nm³ (g/hp-h)	4065.0	(8.15)	3846.5	(7.71)	4079.2	(7.51)	3445.5	(6.91)
CO mg/Nm³ (g/hp-h)	224.0	(0.45)	220.6	(0.44)	256.4	(0.48)	224.8	(0.45)
HC mg/Nm³ (g/hp-h)	13.0	(0.03)	16.5	(0.04)	14.6	(0.03)	17.7	(0.04)
PM mg/Nm³ (g/hp-h)	15.0	(0.04)	14.7	(0.04)	9.8	(0.02)	8.7	(0.02)

Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
4674 (184.0)	1723 (67.8)	2162 (85.1)	6622 (14,600)

Note: For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.

Ratings Definitions

Standby

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Prime

Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated kW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Applicable Codes and Standards

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU.

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

Data Center Applications

Tier III/Tier IV compliant per Uptime Institute requirements. ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

Fuel Rates

Fuel rates are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.)

www.cat.com/electricpower

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Sound Attenuated Enclosures for C27 and C32 Generator Sets

These sound attenuated, factory installed enclosures are designed for safety and aesthetic value. Rugged construction provides weather protection and the ability to withstand exposure to the elements.

Features and Benefits

Robust/Highly Corrosion-Resistant Construction

- Environmentally friendly, polyester powder-baked paint in Caterpillar yellow
- Zinc plated or stainless steel fasteners
- 14-gauge steel construction
- Pitched roof for improved rain ingress protection
- Critical grade internally mounted muffler/exhaust system
- Vibration spring isolators
- 75 dBA at 7 m

Excellent Access

- Control panel mounted on left side or right side of package
- Large cable entry area for ease of installation
- Left-hand or right-hand bottom entry access to power cable bus or circuit breaker
- Double doors on both sides
- Lube oil and coolant drains piped to exterior of enclosure and terminated drain valves

Options

- Interior AC lighting system and AC receptacles (interior and exterior)
- AC distribution box
- Interior DC lighting system with automatic shutoff timer
- Cold-weather bundle, including motorized louvers (powered closed), backdraft dampers, and enclosure space heater
- Caterpillar Yellow (default), white, grey, or beige paint
- 1000, 2000, and 3600 gallon fuel tanks
- 120 mph wind loading

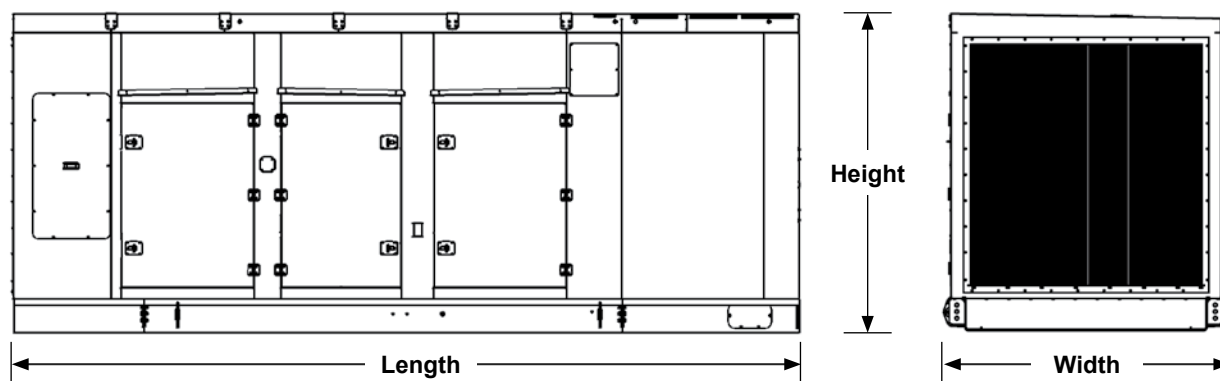
Security and Safety

- Lockable access doors with standard key use
- Cooling fan and battery charging alternator fully guarded
- Oil fill and battery can only be reached via lockable access
- External fuel connections
- Externally mounted emergency stop button
- Designed for spreader-bar lifting to ensure safety

Certifications

- UL Listed
- Seismic certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, IBC 2012, CBC 2007
- IBC certifiable for 120 mph wind loading
- Tested and analyzed in accordance with: ASCE 7-98, ASCE 7-02, ASCE 7-05, ICC-ES AC-156

Enclosure Weights and Dimensions



Note: For reference only – do not use for installation design. Please contact your dealer for exact weights and dimensions.

	Weight*		Length		Width		Height	
	kg	lbs	mm	in	mm	in	mm	in
Enclosure with sub base	3500	7716	7010	276	2554	101	2844	112
Enclosure with 1000 gal tank base	5920	13,051	7645	301	2554	101	3213	127
Enclosure with 2000 gal tank base	6050	13,338	7645	301	2554	101	3454	136
Enclosure with 3600 gal tank	7000	15,432	9750	384	2554	101	3759	148

*Weight does not include package generator set weight.

	Generator Set Weight**	
	kg	lbs
C27 Open Generator Set	6622	14,600
C32 Open Generator Set	6668	14,700

**Dry weight

Note: For reference only – do not use for installation design. Please contact your dealer for exact weights and dimensions.

<http://www.cat.com/powergeneration>

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