

Cat® C175-16

Diesel Generator Sets



Image shown may not reflect actual configuration

Bore – mm (in)	175 (6.89)
Stroke – mm (in)	220 (8.66)
Displacement – L (in ³)	84.7 (5167)
Compression Ratio	16.7:1
Aspiration	TA
Fuel System	Common Rail
Governor Type	ADEM™ A4

Prime-DCP 60 Hz ekW (kVA)	Emissions Performance
2725 (3406)	U.S. EPA Stationary Emergency Use Only (Tier 2)

Features

Cat® Diesel Engine

- Meets U.S. EPA Stationary Emergency Use Only (Tier 2) emission standards
- Reliable performance proven in thousands of applications worldwide
- Certified alternative fuels including Hydrotreated Vegetable Oil (HVO), Renewable Diesel (RD) and Hydrotreated Renewable Diesel (HRD) which meet EN 15940 or ASTM D975 can be used or blended with EN 590 diesel

Generator Set Package

- Accepts 100% block load in one step
- Meets 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

Cat Energy Control System (ECS)

- 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
- Graphical touchscreen display
- Easily upgradeable

Warranty

- 12 months/unlimited hour warranty for prime-DCP 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

Standard and Optional Equipment

Engine	Power Termination	Vibration Isolators
Air Cleaner	Type	
<input type="checkbox"/> Single element	<input type="checkbox"/> Bus bar	<input type="checkbox"/> Rubber
<input type="checkbox"/> Dual element	<input type="checkbox"/> Circuit breaker	<input type="checkbox"/> Spring
Muffler	<input type="checkbox"/> 4000A <input type="checkbox"/> 5000A	<input type="checkbox"/> Seismic rated
<input type="checkbox"/> Industrial grade (15 dB)	<input type="checkbox"/> UL <input type="checkbox"/> IEC	
<input type="checkbox"/> Residential grade (25 dB)	<input type="checkbox"/> 3-pole	
<input type="checkbox"/> Critical grade (34 dB)	<input type="checkbox"/> Electrically operated	
Starting	Trip Unit	Cat Connect
<input type="checkbox"/> Standard batteries	<input type="checkbox"/> LSI <input type="checkbox"/> LSI-G	Connectivity
<input type="checkbox"/> Oversized batteries	<input type="checkbox"/> LSIG-P	<input type="checkbox"/> Ethernet
<input type="checkbox"/> Standard electric starter(s)	Control System	<input type="checkbox"/> Cellular
<input type="checkbox"/> Dual electric starter(s)	Controller	
<input type="checkbox"/> Air starter(s)	<input type="checkbox"/> Cat ECS 100	Extended Service Options
<input type="checkbox"/> Jacket water heater	<input type="checkbox"/> Cat ECS 200	Terms
Alternator	<input type="checkbox"/> EMCP 4.4	<input type="checkbox"/> 2 year (prime)
Output voltage	Attachments	<input type="checkbox"/> 3 year
<input type="checkbox"/> 480V <input type="checkbox"/> 6900V	<input type="checkbox"/> Local annunciator module	<input type="checkbox"/> 5 year
<input type="checkbox"/> 600V <input type="checkbox"/> 12470V	<input type="checkbox"/> Remote annunciator module	<input type="checkbox"/> 10 year
<input type="checkbox"/> 4160V <input type="checkbox"/> 13200V	<input type="checkbox"/> Expansion I/O module	Coverage
<input type="checkbox"/> 6300V <input type="checkbox"/> 13800V	<input type="checkbox"/> Remote monitoring software	<input type="checkbox"/> Silver
<input type="checkbox"/> 6600V	Charging	<input type="checkbox"/> Gold
Temperature Rise (over 40°C ambient)	<input type="checkbox"/> Battery charger – 20A	<input type="checkbox"/> Platinum
<input type="checkbox"/> 150°C	<input type="checkbox"/> Battery charger – 35A	<input type="checkbox"/> Platinum Plus
<input type="checkbox"/> 125°C/130°C	<input type="checkbox"/> Battery charger – 50A	Ancillary Equipment
<input type="checkbox"/> 105°C		<input type="checkbox"/> Automatic transfer switch (ATS)
<input type="checkbox"/> 80°C		<input type="checkbox"/> Paralleling switchgear
Winding type		<input type="checkbox"/> Paralleling controls
<input type="checkbox"/> Form wound		Certifications
Excitation		<input type="checkbox"/> ULC 2200 Listed
<input type="checkbox"/> Permanent magnet (PM)		<input type="checkbox"/> IBC seismic certification
Attachments		<input type="checkbox"/> OSHPD pre-approval
<input type="checkbox"/> Anti-condensation heater		
<input type="checkbox"/> Stator and bearing temperature monitoring and protection		

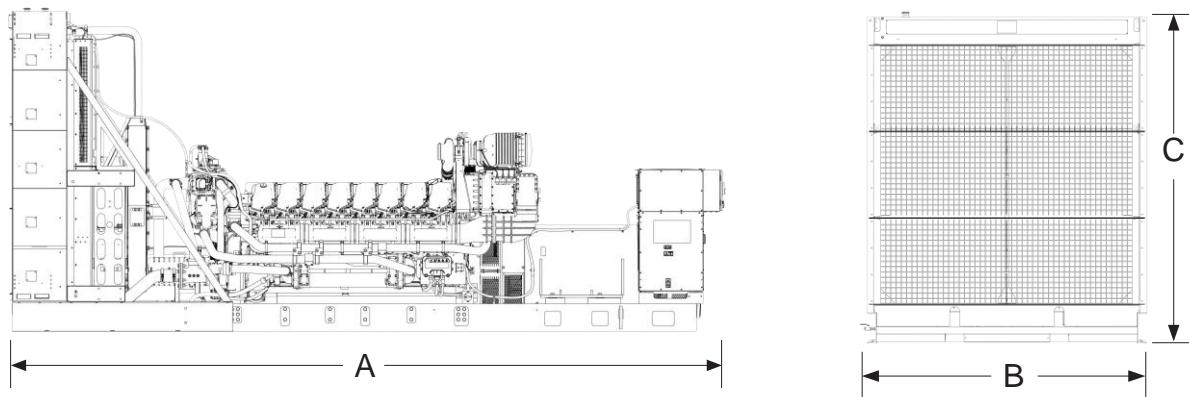
Note: Some options may not be available on all models. Certifications may not be available with all model configurations. Consult factory for availability.

Package Performance (Prime-DCP)

Performance		Standard	High Altitude
Frequency		60 Hz	60 Hz
Gen set power rating with fan		2725 ekW	2725 ekW
Gen set power rating with fan @ 0.8 power factor		3406 kVA	3406 kVA
Emissions		EPA ESE (Tier 2)	EPA ESE (Tier 2)
Performance number		EM5876-01	EM5913-03
Fuel Consumption			
100% load with fan – L/hr (gal/hr)	700.7	(185.1)	695.2 (183.7)
75% load with fan – L/hr (gal/hr)	552.8	(146.0)	564.8 (149.2)
50% load with fan – L/hr (gal/hr)	447.3	(118.2)	411.6 (108.7)
25% load with fan – L/hr (gal/hr)	285.7	(75.5)	240.3 (63.5)
Cooling System			
Radiator air flow restriction (system) – kPa (in. water)	0.12	(0.48)	0.12 (0.48)
Radiator air flow – m ³ /min (cfm)	2933	(103578)	2933 (103578)
Engine coolant capacity – L (gal)	303.5	(80.2)	303.5 (80.2)
Radiator coolant capacity – L (gal)	632.0	(166.0)	632.0 (166.0)
Total coolant capacity – L (gal)	935.5	(246.2)	935.5 (246.2)
Inlet Air			
Combustion air inlet flow rate – m ³ /min (cfm)	249.0	(8790.7)	245.9 (8681.9)
Exhaust System			
Exhaust stack gas temperature – °C (°F)	460.9	(861.5)	474.9 (886.9)
Exhaust gas flow rate – m ³ /min (cfm)	634.0	(22388.6)	631.3 (22290.9)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7	(27.0)	6.7 (27.0)
Heat Rejection			
Heat rejection to jacket water – kW (Btu/min)	1248	(70951)	1250 (71089)
Heat rejection to exhaust (total) – kW (Btu/min)	2726	(155037)	2848 (161966)
Heat rejection to aftercooler – kW (Btu/min)	391	(22254)	405 (23033)
Heat rejection to atmosphere from engine – kW (Btu/min)	170	(9645)	177 (10058)
Heat rejection from alternator – kW (Btu/min)	99	(5619)	99 (5619)
Emissions* (Nominal)			
NOx mg/Nm ³ (g/hp-h)	3313.2	(6.33)	2755.7 (5.52)
CO mg/Nm ³ (g/hp-h)	184.9	(0.41)	183.3 (0.36)
HC mg/Nm ³ (g/hp-h)	16.4	(0.04)	15.3 (0.03)
PM mg/Nm ³ (g/hp-h)	15.1	(0.04)	6.8 (0.02)
Emissions* (Potential Site Variation)			
NOx mg/Nm ³ (g/hp-h)	3975.8	(7.59)	3306.8 (6.62)
CO mg/Nm ³ (g/hp-h)	332.8	(0.73)	329.9 (0.65)
HC mg/Nm ³ (g/hp-h)	21.8	(0.06)	20.4 (0.05)
PM mg/Nm ³ (g/hp-h)	21.1	(0.05)	9.6 (0.02)

*mg/Nm³ levels are corrected to 5% O₂. Contact your local Cat dealer for further information.

Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
8182 (322.1)	2983 (117.5)	3410 (134.3)	22 906 (50,500)

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

Ratings Definitions

Prime-DCP

For data center applications only. Prime-DCP power output available with varying load for unlimited time. Average power output is not to exceed 100% of prime-DCP rated ekW. Typical peak demand is 100% of the prime-DCP rated ekW 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

AS 1359, ULC 2200 3rd edition, UL 489, UL 869A, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU and facilitates compliance to NFPA 37, NFPA 70, NFPA 99, NFPA 110.

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

Data Center Applications

- ISO 8528-1 Data Center Power (DCP) compliant per Cat diesel generator set prime-DCP rating.
- All ratings Tier III/Tier IV compliant per Uptime Institute requirements.
- All ratings ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

Fuel Rates

Fuel consumption reported in accordance with ISO 3046-1, 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 15°C (59°F) and weighing 850 g/liter (7.0936 lbs/U.S. gal.) All fuel consumption values refer to rated engine power.

www.cat.com/electricpower

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Materials and specifications are subject to change without notice.
 The International System of Units (SI) is used in this publication.