Cat® C175-16

Diesel Generator Sets





Bore – mm (in)	175 (6.89)			
Stroke – mm (in)	220 (8.66)			
Displacement – L (in³)	84.7 (5166.88)			
Compression Ratio	16.7:1			
Aspiration	TA			
Fuel System	Common Rail			
Governor Type	ADEM™ A4			

Image shown may not reflect actual configuration

Standby 60 Hz ekW (kVA)			Continuous 60 Hz ekW (kVA)	Emissions Performance
3000 (3750)	3000 (3750)	2725 (3406)	2500 (3125)	U.S. EPA Stationary Emergency Use Only. (Tier 2)

Standard Features

Cat® Diesel Engine

- Meets U.S. EPA Stationary Emergency Use Only (Tier 2) emission standards
- Reliable performance proven in thousands of applications worldwide

Generator Set Package

- Accepts 100% block load in one step and 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

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

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Optional Equipment

Engine	Power Termination	Vibration Isolators			
Air Cleaner □ Single element □ Dual element	Type ☐ Bus bar ☐ Circuit breaker	□ Rubber□ Spring□ Seismic rated			
Muffler	□ 4000A □ 5000A □ UL □ IEC	Cat Connect			
☐ Industrial grade (15 dB)☐ Residential grade (25 dB)☐ Critical grade (34 dB)	☐ 3-pole ☐ Electrically operated	Connectivity ☐ Ethernet			
Starting Standard batteries	Trip Unit □ LSI □ LSI-G □ LSIG-P	☐ Cellular ☐ Satellite			
□ Oversized batteries□ Standard electric starter(s)	Control System	Extended Service Options			
☐ Dual electric starter(s)	Control System	Terms □ 2 year (prime) □ 3 year □ 5 year □ 10 year			
□ Air starter(s)□ Jacket water heater	Controller □ EMCP 4.2B □ EMCP 4.3				
Alternator	□ EMCP 4.4				
Output voltage □ 480V □ 6900V □ 600V □ 12470V □ 4160V □ 13200V □ 6300V □ 13800V	Attachments ☐ Local annunciator module ☐ Remote annunciator module ☐ Expansion I/O module ☐ Remote monitoring software	Coverage □ Silver □ Gold □ Platinum □ Platinum Plus			
□ 6600V Temperature Rise	Charging	Ancillary Equipment			
(over 40°C ambient) □ 150°C □ 125°C/130°C □ 105°C □ 80°C	□ Battery charger – 20A□ Battery charger – 35A□ Battery charger – 50A	 □ Automatic transfer switch (ATS) □ Uninterruptible power supply (UPS) □ Paralleling switchgear 			
Winding type ☐ Form wound	☐ Paralleling controls				
		Certifications			
Excitation ☐ Permanent magnet (PM)		☐ UL2200 ☐ CSA			
Attachments ☐ Anti-condensation heater ☐ Stator and bearing temperature		☐ IBC seismic certification☐ OSHPD pre-approval			

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

monitoring and protection

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Package Performance

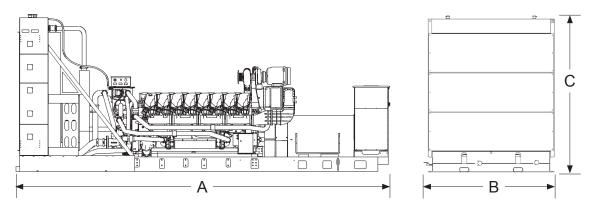
Performance	Sta	andby	Missio	n Critical	P	rime	Conf	inuous
Frequency	60) Hz	60) Hz	60) Hz	60) Hz
Gen set power rating with fan	300	0 eKW	3000) eKW	272	5 ekW	2500	0 eKW
Gen set power rating with fan @ 0.8 power factor	375	0 kVA	3750 kVA		3406 kVA		3125 kVA	
Emissions	EPA ES	SE (Tier 2)	EPA ESE (Tier 2)		EPA ESE (Tier 2)		EPA ESE (Tier 2)	
Performance number	DM8	448-10	DM9226-03		DM8449-06		DM8450-04	
Fuel Consumption								
100% load with fan – L/hr (gal/hr)	810.7	(214.2)	807.1	(213.2)	723.8	(191.2)	662.5	(175.0)
75% load with fan – L/hr (gal/hr)	625.8	(165.3)	616.1	(162.8)	571.0	(150.9)	526.1	(139.0)
50% load with fan – L/hr (gal/hr)	493.6	(130.4)	489.0	(129.2)	462.0	(122.0)	435.0	(114.9)
25% load with fan – L/hr (gal/hr)	305.0	(80.6)	313.6	(82.9)	295.1	(78.0)	278.2	(73.5)
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)	2933	(103578)	2933	(103578)	2933	(103578)	2933	(103578)
Engine coolant capacity – L (gal)	303.5	(80.2)	303.5	(80.2)	303.5	(80.2)	303.5	(80.2)
Radiator coolant capacity – L (gal)	632.0	(166.0)	632.0	(166.0)	632.0	(166.0)	632.0	(166.0)
Total coolant capacity – L (gal)	935.5	(246.2)	935.5	(246.2)	935.5	(246.2)	935.5	(246.2)
Inlet Air								
Combustion air inlet flow rate – m³/min (cfm)	276.7	(9772.2)	264.9	(9354.6)	249.0	(8790.7)	233.4	(8241.9)
Exhaust System								
Exhaust stack gas temperature – °C (°F)	477.7	(891.9)	479.4	(894.9)	460.9	(861.5)	444.1	(831.4)
Exhaust gas flow rate – m³/min (cfm)	725.6	(25620.0)	695.6	(24561.2)	634.0	(22388.6)	579.4	(20460.1)
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)	1379	(78436)	1373	(78059)	1248	(70951)	1161	(66018)
Heat rejection to exhaust (total) – kW (Btu/min)	3149	(179063)	3128	(177889)	2726	(155037)	2494	(141849)
Heat rejection to aftercooler – kW (Btu/min)	496	(28224)	492	(27992)	391	(22254)	349	(19848)
Heat rejection to atmosphere from engine – kW (Btu/min)	147	(8336)	182	(10340)	170	(9645)	165	(9390)
Heat rejection from alternator – kW (Btu/min)	112	(6369)	112	(6369)	99	(5619)	112	(6386)
Emissions* (Nominal)								
NOx mg/Nm³ (g/hp-h)	3113.9	(6.07)	3103.2	(6.07)	3313.2	(6.33)	3260.4	(6.12)
CO mg/Nm³ (g/hp-h)	325.6	(0.73)	149.2	(0.34)	184.9	(0.41)	222.9	(0.48)
HC mg/Nm³ (g/hp-h)	40.7	(0.11)	15.7	(0.04)	16.4	(0.04)	16.8	(0.04)
PM mg/Nm³ (g/hp-h)	13.0	(0.03)	10.0	(0.03)	15.1	(0.04)	15.2	(0.04)
Emissions* (Potential Site Variation)								
NOx mg/Nm³ (g/hp-h)	3736.7	(7.28)	3723.8	(7.29)	3975.8	(7.59)	3912.5	(7.34)
CO mg/Nm³ (g/hp-h)	586.2	(1.31)	268.6	(0.60)	332.8	(0.73)	401.1	(0.87)
HC mg/Nm³ (g/hp-h)	54.2	(0.15)	20.9	(0.06)	21.8	(0.06)	22.3	(0.06)
PM mg/Nm³ (g/hp-h)	18.2	(0.05)	14.0	(0.04)	21.1	(0.05)	21.3	(0.05)

^{*}mg/Nm3 levels are corrected to 5% $\rm O_2$. Contact your local Cat dealer for further information

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Weights and Dimensions



Dim "A"	Dim "B"	Dim "C"	Dry Weight
mm (in)	mm (in)	mm (in)	kg (lb)
7956 (313.2)	2889 (113.7)	3410 (134.3)	

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.

Mission Critical

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical power rating. Typical peak demand up to 100% of rated power for up to 5% of the operating time. 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 ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Continuous

Output available with non-varying load for an unlimited time. Average power output is 70-100% of the continuous power rating. Typical peak demand is 100% of continuous rated kW for 100% of the operating hours.

Applicable Codes and Standards

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO 3046, ISO 8528, 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.)

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