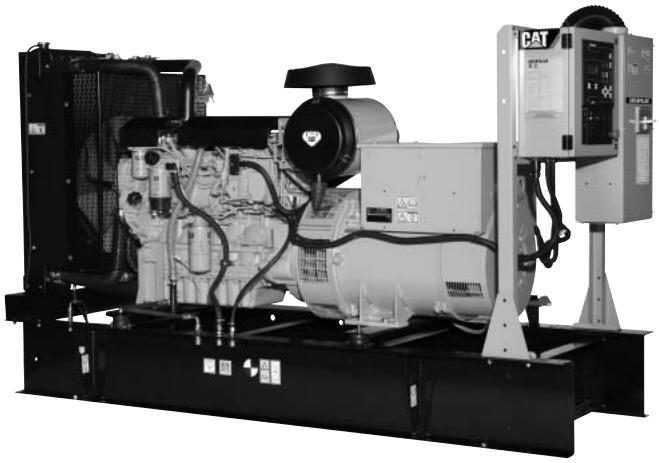
DIESEL GENERATOR SET

CATERPILLAR®



Picture shown may not reflect actual package

STANDBY 125-150 kW
PRIME 114-135 kW

60 Hz

Model	Standby kW (kVA)	Prime kW (kVA)
D125-6	125 (156.3)	114 (142.5)
D150-8	150 (187.5)	135 (168.8)

Tier 3 EPA Approved, Emissions Certified

FEATURES

GENERATOR SET
- Complete system designed and built at ISO 9001 certified facilities
- Factory tested to design specifications at full load conditions

ENGINE
- Governor, electronic
- Electrical system, 12 VDC
- Cartridge type filters
- Battery rack and cables
- Coolant and lube drains piped to edge of base

GENERATOR
- Insulation system, class H
- Drip proof generator air intake (NEMA 2, IP23)
- Electrical design in accordance with BS5000 Part 99, EN61000-6, IEC60034-1, NEMA MG-1.33

CONTROL SYSTEM
- EMCP 3.1 digital control panel
- Vibration isolated NEMA 1 enclosure with lockable hinged door
- DC and AC wiring harnesses

MOUNTING ARRANGEMENT
- Heavy-duty fabricated steel base with lifting points
- Anti-vibration pads to ensure vibration isolation
- Complete OSHA guarding
- Stub-up pipe ready for connection to silencer pipework
- Flexible fuel lines to base with NPT connections

COOLING SYSTEM
- Radiator and cooling fan complete with protective guards
- Standard ambient temperatures up to 50° C (122° F)

CIRCUIT BREAKER
- UL/CSA listed
- 3-pole with solid neutral
- NEMA 1 steel enclosure, vibration isolated
- Electrical stub-up area directly below circuit breaker

AUTOMATIC VOLTAGE REGULATOR
- Voltage within ± 0.5% 3-phase at steady state from no load to full load
- Provides fast recovery from transient load changes

EQUIPMENT FINISH
- All electroplated hardware
- Anticorrosive paint protection
- High gloss polyurethane paint for durability and scuff resistance

QUALITY STANDARDS
- BS4999, BS5000, BS5514, EN61000-6, IEC60034, NEMA MG-1.33, NFPA 110 (with optional equipment)

DOCUMENTATION
- Operation and maintenance manuals provided
- Wiring diagrams included

WARRANTY
- All equipment carries full manufacturer's warranty.

OPTIONAL EQUIPMENT*

ENCLOSURE
- B Series weather protective enclosure (includes internal silencer system)
- Sound attenuated enclosure (includes internal silencer system)
  – Single point lift
  – Panel viewing window
  – External emergency stop pushbutton

SILENCER SYSTEM – OPEN UNIT
- Level 1 silencer
- Level 2 silencer
- Level 3 silencer
- Mounting kit
- Through-wall installation kits

ENGINE
- Battery heater
- Lube oil drain pump
- High lube oil temperature shutdown
- Lube oil sump heater

CIRCUIT BREAKER
- Auxiliary voltfree contacts
- Shunt trip

GENERATOR
- Anti-condensation heater
- Permanent magnet generator
- AREP excitation system
- Generator upgrade 1 size

CONTROL SYSTEM
- No control system
- EMCP 3.2 digital control panel

MOUNTING ACCESSORIES
- Seismic (Zone 4) vibration isolators

FUEL SYSTEM
- UL listed closed top-diked skid-mounted fuel tank base (12/24-hour capacity) with fuel alarm (low level/leak detected)
- Critical high fuel alarm
- Critical low fuel level shutdown

COOLING SYSTEM
- Coolant heater
- Low coolant temperature alarm
- Low coolant level shutdown
- Radiator transition flange

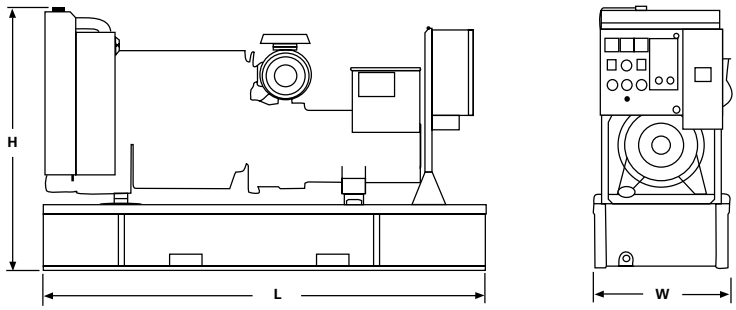
REMOTE ANNUNCIATORS
- 16-channel remote annunciator panel (supplied loose)

MISCELLANEOUS ACCESSORIES
- Toolkit
- Additional operator's manual pack
- Special enclosure color
- UL listing
- CSA certification
- French or Spanish language labels

EXTENDED SERVICE CONTRACTS
- Extended Service Coverage available

* Some options may not be available on all models. Not all options are listed.

GENERATOR SET DIMENSIONS AND WEIGHTS



Model	Length mm (in)	Width mm (in)	Height mm (in)	Weight kg (lb)*
D125-6	2780 (109.4)	900 (35.4)	1543 (60.7)	1347 (2,970)
D150-8	2780 (109.4)	900 (35.4)	1543 (60.7)	1407 (3,102)

NOTE: General configuration not to be used for installation. See specific dimensional drawings for detail.

*Includes oil and coolant

SPECIFICATIONS

GENERATOR

Voltage regulation . . . . . ± 0.5% 3-phase at steady state from no load to full load
Frequency . . . . . ± 0.25% for constant load, no load to full load
Waveform distortion . . . . . THD < 4%, at no load
Radio interference . . . . . Compliance with EN61000-6
Telephone interference. . . . . TIF < 50, THF < 2%
Overspeed limit . . . . . 2250 rpm
Insulation. . . . . Class H
Temperature rise . . . . . Within Class H limits
Available voltages 277/480, 266/460, 120/240, 127/220, 120/208, 347/600
Deration . . . . . Consult factory for available outputs
Ratings . . . . . At 30° C (86° F), 152.4 m (500 ft), 60% humidity, 0.8 pf

ENGINE

Manufacturer . . . . . Caterpillar
Type 4-cycle
Bore – mm (in) 105.0 (4.13)
Stroke – mm (in). 127.0 (5.00)
Governor Type . . . . . Electronic
Class. G2
Piston speed – m/sec (ft/sec). 7.62 (25.0)
Engine speed – rpm 1800
Air cleaner type . . . . . Dry, replaceable paper element type with restriction indicator

D125-6 – C6.6 ACERT

Aspiration . . . . . ATAAC
Cylinder configuration. . . . . In-line 6
Displacement – L (cu in). 6.6 (404)
Compression ratio 16.3:1
Max power at rated rpm – kW (hp)
  Standby 161.6 (217)
  Prime 144.6 (194)
BMEP – kPa (psi)
  Standby 1633 (237)
  Prime. 1461 (212)
Regenerative power – kW (hp). 14.9 (20)

D150-8 – C6.6 ACERT

Aspiration . . . . . ATAAC
Cylinder configuration. . . . . In-line 6
Displacement – L (cu in). 6.6 (404)
Compression ratio 16.3:1
Max power at rated rpm – kW (hp)
  Standby 171.3 (230)
  Prime 154.4 (207)
BMEP – kPa (psi)
  Standby 1731 (251)
  Prime. 1560 (226)
Regenerative power – kW (hp). 14.9 (20)

CONTROL PANEL

- Heavy duty sheet steel enclosure with lockable hinged door
- Vibration isolated from generating set
- LCD display
- AC metering
- DC metering
- Fail to start shutdown
- Low oil pressure shutdown
- High engine temperature
- Low/high battery voltage
- Underspeed/overspeed
- Loss of engine speed detection
- 2 spare fault channels
- 20 event fault log
- 2 LED status indicators
- Lockdown emergency stop push button

RATING DEFINITIONS AND CONDITIONS

Standby – Applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The generator is peak rated (as defined in ISO8528-3).

Prime – Applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and the generator set can supply 10 percent overload power for 1 hour in 12 hours.

D150-8 (3-Phase)

Materials and specifications are subject to change without notice.

Generator Set Technical Data – 1800 rpm/60 Hz			Standby		Prime	
Power Rating	kW	kVA	150	187.5	135	168.8
Lubricating System						
Type: full pressure						
Oil filter: spin-on, full flow						
Oil cooler: watercooled						
Oil type required: API CH4/CI4						
Total oil capacity	L	U.S. gal	16.5	4.4	16.5	4.4
Oil pan	L	U.S. gal	15.5	4.1	15.5	4.1
Fuel System						
Generator set fuel consumption						
100% load	L/hr	gal/hr	44.7	11.8	41.5	11.0
75% load	L/hr	gal/hr	36.8	9.7	34.3	9.1
50% load	L/hr	gal/hr	28.4	7.5	26.6	7.0
Engine Electrical System						
Voltage/ground: 12/negative						
Battery charging generator ampere rating	amps		100		100	
Cooling System						
Water pump type: centrifugal						
Radiator system capacity incl. engine	L	U.S. gal	21.0	5.5	21.0	5.5
Maximum coolant static head	m H_2O	ft H_2O	8.0	26.0	8.0	26.0
Coolant flow rate	L/hr	U.S. gal/hr	10 200	2,693	10 200	2,693
Minimum temperature to engine	°C	°F	85	185	85	185
Temperature rise across engine	°C	°F	7.9	14.2	7.9	14.2
Heat rejected to coolant at rated power	kW	Btu/min	78.4	4,461	73.5	4,182
Total heat radiated to room at rated power	kW	Btu/min	13.6	774	12.7	723
Radiator fan load	kW	hp	8.0	10.7	8.0	10.7
Air Requirements						
Combustion air flow	m^3/min	cfm	12.9	456	12.6	445
Maximum air cleaner restriction	kPa	in H_2O	5	20	5	20
Radiator cooling air (zero restriction)	m^3/min	cfm	327	11,548	327	11,548
Generator cooling air	m^3/min	cfm	26.4	923	26.4	923
Allowable air flow restriction (after radiator)	kPa	in H_2O	0.12	0.50	0.12	0.50
Cooling airflow (@ rated speed)						
Rate with restriction	m^3/min	cfm	317	11,195	317	11,195
Exhaust System						
Maximum allowable backpressure	kPa	in Hg	15	4.4	15	4.4
Exhaust flow at rated kW	m^3/min	cfm	31.5	1,112	30.5	1,077
Exhaust temperature at rated kW –						
Dry exhaust	°C	°F	625	1,157	610	1,130
Generator Set Noise Rating*						
(without attenuation) at 1 m (3 ft)	dB(A)		97.3		97.3	

Generator Technical Data		277/480V	266/460V	127/220V	120/240V 120/208V	347/600V
Motor Starting Capability:	(kVA)					
(30% voltage dip)	Self excited	420	391	363	330	N/A
	PM excited**	548	511	476	433	511
	AREP excited	548	511	476	433	511
Full Load Efficiencies:	Standby	92.9	92.9	92.9	92.5	92.9
	Prime	93.1	93.1	93.1	92.8	93.1
Reactances (per unit):	X_d	2.90	3.16	3.45	3.86	3.16
	X'_d	0.10	0.11	0.12	0.13	0.11
Reactances shown are applicable to the standby rating.	X''_d	0.058	0.063	0.069	0.078	0.063
	X_q	1.74	1.89	2.07	2.32	1.89
	X''_q	0.069	0.075	0.082	0.092	0.075
	X_2	0.063	0.069	0.075	0.084	0.069
	X_0	0.005	0.005	0.006	0.007	0.005
Time Constants:		t'_d 100 ms	t''_d 10 ms	t'_{do} 2966 ms		t_a 15 ms

* dB(A) levels are for guidance only
** With PMG Excited Option AVR12