

Image shown might not reflect actual configuration

## BENEFITS & FEATURES

### CAT® GENERATOR SET PACKAGE

Cat generator set packages have been fully prototype tested and certified torsional vibration analysis reports are available. The packages are designed to meet the NFPA 110 requirement for loading, conform to the ISO 8528-5 steady state and full transient response requirements.

### CAT DIESEL ENGINES

The four-cycle Cat diesel engine combines consistent performance with excellent fuel economy and transient response that meets or exceeds ISO 8528-5. The engines feature a reliable, rugged, and durable design that has been field proven in thousands of applications worldwide in emergency standby installations.

### COOLING SYSTEM

The cooling system has been designed and tested to ensure proper generator set cooling, and includes the radiator, fan, belts, and all guarding installed as standard. Contact your Cat dealer for specific ambient and altitude capabilities.

### GENERATORS

The generators used on Cat packages have been designed and tested to work with the Cat engine. The generators are built with robust Class H insulation and provide industry-leading motor starting capability and altitude capabilities.

### EMCP CONTROL PANELS

The EMCP controller features the reliability and durability you have to come to expect from your Cat equipment. The EMCP 4 is a scalable control platform designed to ensure reliable generator set operation, providing extensive information about power output and engine operation. EMCP 4 systems can be further customized to meet your needs through programming and expansion modules.

## 550 ekW- 750 ekW

### 60 Hz

Standby	Prime
550 ekW	500 ekW
600 ekW	545 ekW
650 ekW	600 ekW
700 ekW	635 ekW
750 ekW	680 ekW

## SPECIFICATIONS

### ENGINE SPECIFICATIONS

Engine Model	Cat® C18 ACERT In-line 6, 4-cycle diesel
Bore x Stroke	145mm x 183mm (5.7in x 7.2in)
Displacement	18.1 L (1106.3 in³)
Compression Ratio	14.5:1 (550-600 ekW); 14:1 (650-750 ekW)
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	Electronic Unit Injection
Governor	Electronic ADEM™ A4
Emission Certifications	EPA TIER II

### GENERATOR SET SPECIFICATIONS

Alternator Design	Brushless Single Bearing, 4 Pole
Stator	2/3 Pitch
No. of Leads	6/12
Available Voltage Options	600/480/240/220/208V
Frequency	60Hz
Alternator Voltage	24V
Alternator Insulation & IP	Class H; IP23
Standard Temperature Rise	125/130 Deg C
Available Excitation Options	Self-Excited, AREP
Voltage Regulation, Steady State +/-	≤1%

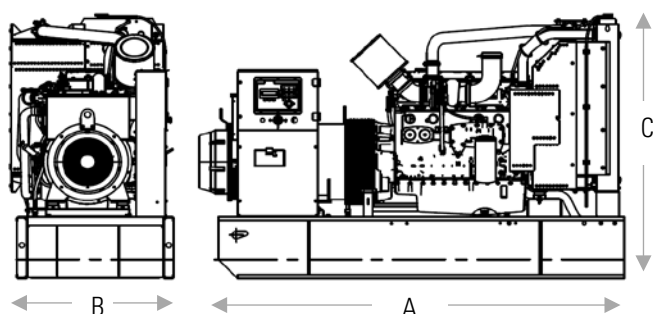
## STANDARD EQUIPMENT

Air inlet system	Aftercooler core. Turbocharger
Control panels	EMCP4.2B control panel. Standard breaker <ul style="list-style-type: none"> <li>• 3 Pole</li> <li>• Right mounted power centre</li> </ul>
Cooling system	Radiator and cooling fan with belt guards Thermostats and housing. Coolant level sensor Coolant level sight gauge Jacket water pump, gear driven. Coolant drain valve; terminated on edge of base. Cooling system filled with Caterpillar Extended Life Coolant
Exhaust system	Exhaust manifold; dry.
Fuel system	Primary fuel filter w/integral water separator & secondary filter. Fuel cooler. Fuel priming pump. Flexible fuel lines. Engine fuel transfer pump
Generators and generator attachments	Brushless, self-excited 2/3 pitch, random wound. IP23 Protection. Insulation Class H and temperature rise Power centre, IP22 bottom cable entry Segregated low voltage wiring pane
Mounting System	Narrow skid base Generator mounting & Duct Plate Anti-vibration mounts (Non-captive)
Protection System	Overspeed High coolant temperature shutdown Low oil pressure shutdown Low Coolant level shutdown
Starting/charging system	24-Volt Electric Starting Motor 24V, 45 amp charging alternator Battery rack & cables
Certifications	EPA Stationary Emergency Use

## OPTIONAL EQUIPMENT

Air inlet system	Dual Element air cleaner Heavy Duty Canister air filters
Control panels	EMCP 4.4 Local Annunciator Annunciators Box Remote E-Stop button Discrete I/O Module Volt Free Contact Earth (Ground) Fault Relay
Circuit Breakers	Single LSI motorised Circuit Breaker External Paralleling Auxiliary Contacts Neutral Bar (208V)
Enclosures	Sound Attenuated (SA). Weather Protective Aluminium Enclosure
Cooling system	Coolant Heater Jacket water heater with pump Stone guards.
Base / Fuel Tank	Audio & Visual Fuel Alarm Sub Base Dual Wall Fuel Tank: 660, 1000, 1900, 2200 gal
Fuel System	Integral 8hr Tank Base Sub Tank Bases: 24Hr & 48Hr
Generators and generator attachments	PMG, AREP Oversize Coastal Protection (CIP) Space Heater Control
Starting/charging system	Standard Battery Set Oversize Battery Set.
Certifications	UL2200 Listed CSA 22.2 Certification of Compliance – IBC Seismic Dual IBC & OSHPD
General	Tool Set.

## WEIGHTS & DIMENSIONS



Standby Ratings	Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Generator Set Weight kg (lb)
<b>550 ekW</b>	3477 (137)	1628 (65)	2102 (83)	4431 (9769)
<b>600 ekW</b>				
<b>650 ekW</b>	3512 (138)	1690 (67)	2222 (88)	4863 (10721)
<b>700 ekW</b>				
<b>750 ekW</b>				

Note: Weights & Dimensions are for open set on skid base.



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## INTEGRAL & SUB BASE FUEL TANKS

### FEATURES

- UL Listed for United States (UL 142) and Canada (CAN/ULC S601)
- Facilitates compliance with NFPA 30 code, NFPA 37 and 110 standards and CSA C282 code
- Dual wall
- Lockable fuel fill cap, 4" (101.6 mm) NPT
- Low fuel level warning standard, customer configurable warning or shutdown
- Primary tank leak detection switch in containment basin
- Tank design provides capacity for thermal expansion of fuel
- Fuel supply dip tube is positioned so as not to pick up fuel sediment
- Fuel return and supply dip tube is separated by an internal baffle to prevent immediate re-supply of heated return fuel
- Pressure washed with an iron phosphate solution
- Interior tank surfaces coated with a solvent-based thin-film rust preventative
- Heavy gauge steel gussets with internal lifting rings
- Primary and secondary tanks are leak tested at 20.7 kPa (3 psi) minimum
- Compatible with open packages and enclosures
- Gloss black polyester alkyd enamel exterior paint
- Welded steel containment basin (minimum of 110% of primary tank capacity)
- Direct reading fuel gauge with variable electrical output
- Emergency vents on primary and secondary tanks are sized in accordance with NFPA 30.

### SUB BASE

- The sub-base fuel tank mounts below the generator set wide base.

### INTEGRAL

- Integral diesel fuel tank is incorporated into the generator set base frame
- Robust base design includes linear vibration isolators between tank base and engine generator.

### OPTIONS

- Audio/visual fuel level alarm panel
- 5gal (18.9 L) spill containment
- 5gal (18.9 L) spill containment with fuel fill drop tube with in 6" (152 mm) from bottom of tank
- 5gal (18.9 L) spill containment with overfill prevention valve and fuel fill drop tube with in 6" (152 mm) from bottom of tank
- ULC Listed 7.5gal (28.4 L) spill containment with vent extensions, vent whistle, and drop tube facilitating compliance with CSA B139-09
- ULC Listed 7.5gal (28.4 L) spill containment with overfill prevention valve, vent extensions, vent whistle and drop tube facilitating compliance with CSA B139-09

## Integral & Sub-Base Fuel Tank Base Useable Capacities with Fuel Tank Dimensions & Weights

Integral – Width (W) 2014 mm (79.3 in)

Integral\* – Width (W) 2315 mm (91.2 in)

Sub-base – Width (W) 2056 mm (81.0 in)

### A. Open Set & Weather Protective Enclosure

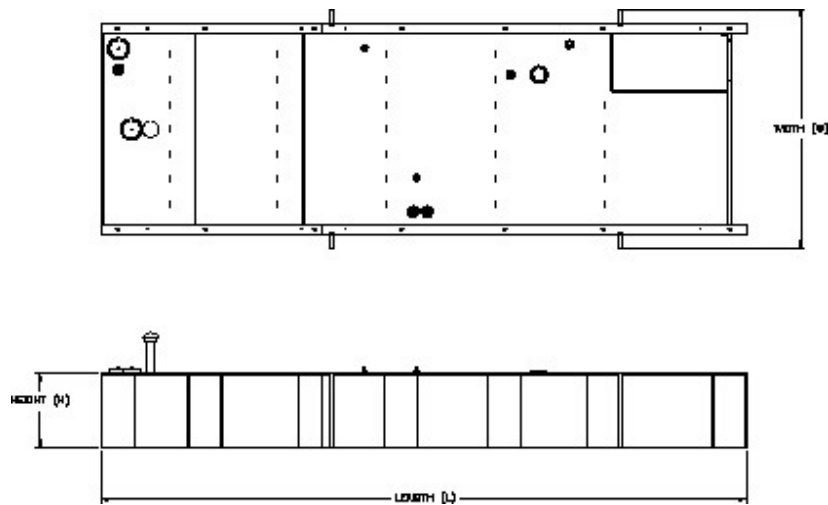
C18 Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank			
						Dry Weight		Height 'H'		Length 'L'		Open		Enclosure	
		Litre	Gallon	Litre	Gallon	kg	lb	mm	in	mm	in	mm	in	mm	in
Integral	FTDW004	1446	382	1422	376	1015	2237	635	25.0	3814	150.1	2426	95.5	2560	100.8
Sub-Base	FTDW005	3941	1041	3876	1024	1659	3657	635	25.0	5550	218.5	2763	108.8	2955	116.3
Sub-Base	FTDW007	8339	2203	8244	2178	2150	4134	889	35.0	7074	278.5	2291	117.8	3159	124.4
Sub-Base	FTDW008	2476	654	2435	643	1468	3236	635	25.0	3810	150.0	2739	107.9	2905	114.4

### B. Sound Attenuated Enclosure

C18 Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank	
						Dry Weight		Height 'H'		Length 'L'		Enclosure	
		Litre	Gallon	Litre	Gallon	kg	lb	mm	in	mm	in	mm	in
Integral	FTDW003	1446	382	1422	376	1015	2237	635	25.0	3814	150.1	2560	100.8
Integral*	FTDW031	5175	1367	4997	1320	2046	4510	762	30.0	6737	265.3	2675	105.3
Sub-Base	FTDW005	3941	1041	3876	1024	1659	3657	635	25.0	5550	218.5	2905	114.3
Sub-Base	FTDW007	8339	2203	8244	2178	2150	4134	889	35.0	7074	278.5	3209	126.3
Sub-Base	FTDW011	2476	654	2435	643	1468	3236	635	25.0	3810	150.0	2905	114.3

### C. Estimated Run Time (Hours) at 100% Load

C18 Tank Design	Feature Code	Standby Ratings (ekW)			Prime Ratings (ekW)		
		600	550		545	500	
Integral Tank	FTDW003/004	8	9		9	10	
Sub-Base	FTDW005	24	25		25	27	
Sub-Base	FTDW007	51	54		54	59	
Sub-Base	FTDW008/011	15	16		16	17	
		Standby Ratings (ekW)			Prime Ratings (ekW)		
		750	700	650	680	635	600
Integral Tank*	FTDW031	24	25	27	26	27	29



The heights listed above do not include lumber used during manufacturing and shipping

Tanks with full electrical stub-up area include removable end channel. Tanks with RH stub-up include stubup area directly below the circuit breaker or power terminal strips. Dimensions include weather-protective enclosure exhaust system.

Dual wall sub-base tanks are UL Listed and constructed in accordance with UL Standard for Safety UL 142, Steel Aboveground Tanks for Flammable and Combustible Liquids and Canada CAN/ULC S601, Standard for Shop Fabricated Steel Aboveground Horizontal Tanks for Flammable and Combustible Liquids.

Fuel tanks and applicable options facilitate compliance with the following United States NFPA Code and Standards:

NFPA 30: Flammable and Combustible Liquids Code

NFPA 37: Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines

NFPA 110: Standard for Emergency and Standby Power Systems

Fuel tanks and applicable options facilitate compliance with the following Canadian Standard and Code:

CSA C282 – Emergency Electrical Power Supply for Buildings

CSA B139-09 – Installation Code for Oil-Burning Equipment

The following sub-base fuel tanks meet Chicago code for containment and labelling: FTDW005, FTDW008, FTDW011



## SOUND ATTENUATED & WEATHER PROTECTIVE ENCLOSURES

60 Hz

### FEATURES

#### Robust / Highly Corrosion Resistant Construction

- Factory installed on skid base
- Environmentally friendly, polyester powder baked paint
- 14 gauge steel
- Interior zinc plated fasteners
- Exterior stainless steel fasteners
- Internally mounted exhaust silencing system
- Designed and tested to comply with UL 2200 Listed generator set package
- Compression door latches providing solid door seal

#### Excellent Access

- Large cable entry area for installation ease.
- Accommodates side mounted single or multiple breakers.
- Three doors on both sides.
- Vertically hinged allow 180° opening rotation and retention with door stays.
- Lube oil and coolant drains piped to the exterior of the enclosure base.
- Radiator fill cover.

#### Security and Safety

- Lockable access doors which give full access to control panel and breaker.
- Cooling fan and battery charging alternator fully guarded.
- Fuel fill, oil fill and battery can only be reached via lockable access.
- Externally mounted emergency stop button.
- Designed for spreader bar lifting to ensure safety.
- Stub-up area is rodent proof.

#### Transportability

- These enclosures are of extremely rugged construction to withstand outdoor exposure and rough handling common on many construction sites.

#### Options (Sound Attenuated)

- Enclosure constructed with 14 gauge steel
- Enclosure constructed with 12 gauge aluminium (5052 grade)
- Caterpillar yellow or white paint
- Control panel viewing window
- UL Listed integral fuel tank with 670, 400, and 300 gallon capacities.
- UL Listed sub base fuel tank with 660, 1000, 1900, and 2200 gallon capacities.
- Seismic certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, IBC 2012, CBC 2007, CBC 2010
- IBC Certification for 150 mph wind loading
- AC/DC lighting package
- 5 kW Canopy space heater to facilitate compliance with NFPA 110
- Motorized louvers and gravity discharge damper
- 125A Load Center
- GFCI outlets.

#### Options (Weather Protective)

- Caterpillar Yellow or white paint
- UL Listed integral fuel tank with 680, 400, and 300 gallon capacities
- UL Listed sub-base fuel tank with 660, 1000, 1900, and 2200 gallon capacities.
- Seismic certification per applicable building codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, IBC 2012, CBC 2007, CBC 2010.
- IBC Certification for 150 mph wind loading
- Anchoring details are site specific and are dependent on many factors such as generator set size, weight, and concrete strength. IBC Certification requires that the anchoring system used is reviewed and approved by a professional engineer.
- AC/DC lighting package

## Enclosure Package Operating Characteristics

Enclosure Type	Standby ekW	Cooling Air Flow Rate		Ambient Capability*		Sound Pressure Levels (dBA) at 7m (23 ft) 100% Load
		m³/s	cfm	°C	°F	
Level 1 Sound Attenuated Enclosure (Steel)	550	8.1	17234	45	113	75
	600	8.1	17234	43	109	75
	650	12.7	26909	51	123	75
	700	12.7	26909	48	118	75
	750	12.7	26909	46	114	75
Sound Attenuated Enclosure (Aluminium)	550	8.1	17234	45	113	76
	600	8.1	17234	43	109	76
	650	12.7	26909	52	126	86
Weather Protective Enclosure	600	9.1	17234	50	122	87
	650	12.7	26909	46	114	87
	700	12.7	26909	46	114	87
	750	12.7	26909	46	114	87
	750	12.7	26909	46	114	87

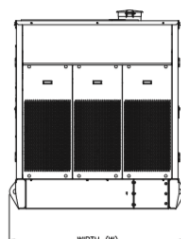
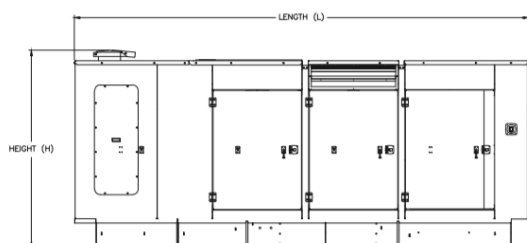
\*Cooling system performance at sea level. Consult your Cat® dealer for site specific ambient and altitude capabilities.

**Note:** Sound level measurements are subject to instrumentation, installation and manufacturing variability, as well as ambient site conditions.

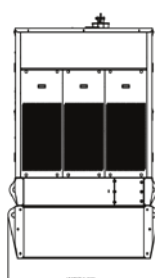
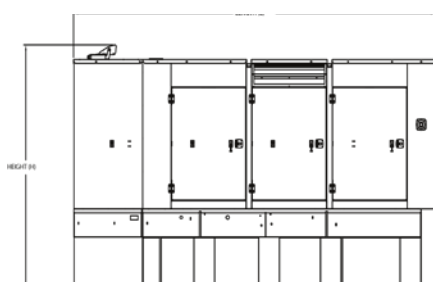
## Component Weights to Calculate Package Weight

Standby ekW	Narrow Skid Base		Wide Skid Base		Sound Attenuated Enclosure (Steel)		Sound Attenuated Enclosure (Aluminium)		Weather Protective Enclosure	
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb
550 600	301	664	578 (SA)	1275 (SA)	1301	2868	817	1801	1222	2693
			563 (WP)	1241 (WP)						
650 700 750	286	630	637	1404	1393	3071	-NA-	-NA-	1273	2806

SA- Sound Attenuated, WP- Weather Protective



Sound Attenuated & Weather Protective Enclosure on Skid Base



Sound Attenuated Enclosure on a UL Listed Integral Fuel Tank Base



## WEIGHTS & DIMENSIONS

Enclosure Type	Standby Ratings, ekW	Length, L		Width, W		Height, H		Package Weights	
		mm	in	mm	in	mm	in	kg	lb
<b>Open Set on Skid (wide Base)</b>	550/600	3814	150.0	2014	80.0	2102	83.0	4431	9769
	650/700/750	5230	206.0	2315	91.1	2222	88.0	5187	11436
<b>Sound Attenuated Enclosure on Skid Base</b>	550/600	5183	204.0	2014	79.3	2262	89.0	5732	12637
	650/700/750	5230	205.9	2315	91.1	2253	88.7	6580	14507
<b>Sound Attenuated Enclosure on a UL Listed Integral Fuel Tank Base</b>	550/600	5187	204.2	2014	79.3	2561	101.0	6747	14874
	650/700/750	6977	274.7	2315	91.1	2675	105.3	7989	17613
<b>Sound Attenuated Enclosure on a UL Listed 660 Gallon Sub-Base Fuel Tank Base</b>	550/ 600	5184	204.1	2056	80.9	2905	114.4	7200	15873
<b>Sound Attenuated Enclosure on a UL Listed 1000 Gallon Sub-Base Fuel Tank Base</b>	550/ 600	5747	226.3	2056	80.9	2905	114.4	7391	16294
<b>Sound Attenuated Enclosure on a UL Listed 1900 &amp; 2200 Gallon Sub-Base Fuel Tank Base</b>	550/ 600	7271	286.2	2056	80.9	3209	126.3	7882	17377
<b>Weather Protective Enclosure on Skid Base</b>	550/600	5183	204.0	2014	79.3	2320	91.3	5930	13073
	650/700/750	6977	274.7	2315	91.1	2675	105.3	6436	14189
<b>Weather Protective Enclosure on a UL Listed Integral Fuel Tank Base</b>	550/ 600	5183	204.0	2014	79.3	2561	101.0	7976	17584
<b>Weather Protective Enclosure on a UL Listed 660 Gallon Sub-Base Fuel Tank Base</b>	550/ 600	5184	204.1	2056	80.9	2905	114.4	7398	16310
<b>Weather Protective Enclosure on a UL Listed 1000 Gallon Sub-Base Fuel Tank Base</b>	550/ 600	5747	226.3	2056	80.9	2905	114.4	7589	16731
<b>Weather Protective Enclosure on a UL Listed 1900 &amp; 2200 Gallon Sub-Base Fuel Tank Base</b>	550/ 600	7271	286.2	2056	80.9	3209	126.3	8080	17813



## EMCP 4 CONTROL KEY FEATURES

### EMCP 4 control features

- Run / Auto / Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 24-volt DC operation
- Environmental sealed front face
- Text alarm/event descriptions

### Digital indication for:

- RPM
- DC volts
- Operating hours
- Oil pressure (psi, kPa or bar)
- Coolant temperature
- Volts (L-L & L-N), frequency (Hz)
- Amps (per phase & average)
- kW, kVA, kVAR, kW-hr, %kW, PF (4.2 only)

### Warning/shutdown with common LED indication of:

- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency Stop
- Failure to start (overcrank)
- Low coolant temperature
- Low coolant level



### Programmable protective relaying functions:

- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under Frequency (81 o/u)
- Reverse Power (kW) (32) (4.2 only)
- Reverse reactive power (kVAR) (32RV)
- Overcurrent (50/51)

### Communications:

- 4 digital inputs & 4 relay outputs (4.1)
- 6 digital inputs & 8 relay outputs (4.2)
- 12 digital inputs & 8 relay outputs (4.4)
- Customer data link (Modbus RTU) (4.2 only)
- Accessory module data link (4.2 only)
- Serial annunciator module data link (4.2 only)
- Emergency stop pushbutton

### Compatible with the following:

- Digital I/O module
- Local Annunciator
- Remote CAN annunciator
- Remote serial annunciator

## 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.

## WORLDWIDE PRODUCT SUPPORT

Cat dealers provide extensive post-sale support including maintenance and repair agreements. Cat dealers have over 1,800 dealer branch stores operating in 200 countries. The Caterpillar® S-O-S™ program effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products.



## BUILT FOR IT.™

[www.Cat.com/electricpower](http://www.Cat.com/electricpower)

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