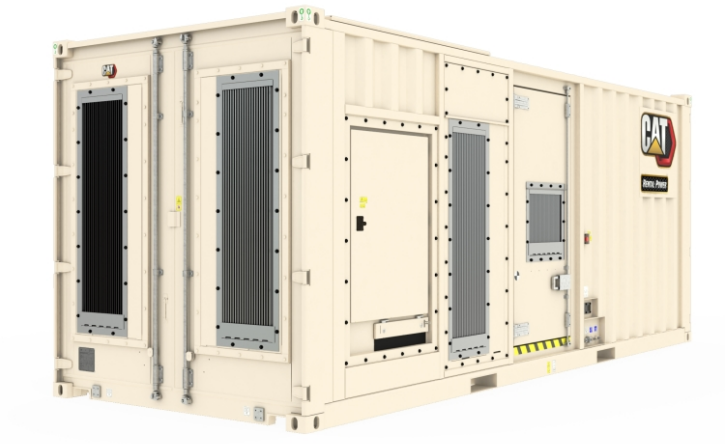


PRIME 50Hz 1100kVA (880kW)
50/60 Hz Switchable Rating

Picture shown may not reflect actual configuration

Specifications

Frequency	Voltage	Prime kW (kVA)
50 Hz	380/220 V	880 (1100)
	400/230 V	880 (1100)
	415/240 V	880 (1100)
60 Hz	380/220 V	888 (1111)
	440/254 V	970 (1210)
	480/277 V	970 (1210)
50 Hz Optional Reconnectable	380/220 V	798 (998)
	400/230 V	798 (998)
	415/240 V	798 (998)
60 Hz Optional Reconnectable	380/220 V	790 (988)
	220/127 V or 440/254 V	888 (1110)
	240/138 V or 480/277 V	970 (1210)

Cat® C32 Diesel Engine	Metric	Imperial (English)
Configuration	C32 ATAAC V-12 4-stroke water cooled diesel	
Bore	145 mm	5.7 in
Stroke	162 mm	6.4 in
Displacement	32 L	1959 in^3
Aspiration	Air-to-air aftercooled	
Compression Ratio	15.0:1	
Engine RPM	1500-1800	
Aftercooler Type	ATAAC	
Turbocharger	TWIN	
Fuel System	EUI	
Governor Type	Caterpillar ADEM control System	
Fuel	See Fuel Specifications Table (page 5)	

Benefits & Features

Fuel/Emissions Strategy

- Low Brake Specific Fuel Consumption (BSFC)

Single-Source Supplier

- Factory designed and fully prototype tested with certified torsional vibration analysis available
- ISO 9001:2000 compliant facility

Cat® C32 Diesel Engine

- Utilizes ACERT™ Technology combined with Electronic ADEM™ A4 controls and EUI fuel system for reduced fuel consumption, minimized exhaust emissions, and maximized power output
- Frequency switchability without iron changes for greater fleet utilization and versatility
- Constant tension fan drive eliminates belt tension adjustments

Cat EMCP 4.4 Control Panel

- Fully featured power metering, protective relaying and engine/generator control and monitoring
- Simple user-friendly interface and navigation
- Single point interface for voltage and 50/60Hz speed adjustment.
- Synchronizing Capabilities
- Ethernet Remote Monitoring
- Large screen interface

Cat SR5 Generator

- Designed to match performance and output characteristics of Cat diesel
- Class H insulation
- Coastal Insulation Protection including main and exciter stator and all rotating active components for extended life and increased reliability
- ISO 8528-5 G2 Class performance
- Optional 12-lead reconnectable generator

Integrated Voltage Regulator (IVR)

- Provides precise control, excellent block loading, and constant voltage in the normal operating range
- Removes duplicate set points and wiring for simplified operation and troubleshooting
- Dedicated IVR status screens in EMCP4.4
- IVR fully supported by Cat ET (Electronic Technician) service tool
- Three-phase sensing
- Adjustable volts-per-hertz regulation

Sound Attenuated Container

- Provides 9-high stack CSC rated enclosure for ease of transportation and protection
- Primer and paint finish for long term corrosion protection
- Pad lockable access doors for secure and safe design
- Fuel fill and battery secured by pad lockable access doors
- Fork pockets in base for lifting

External Customer Access

- External, package mounted control panel and power distribution panel improves operator safety and serviceability
- Robust buss bar hook-up point for lugged cable connection
- Customer buss connections protected by limit switch and clear protection panel
- Emergency stop on control panel and enclosure sides

Reduced Environmental Impact

- Maintenance free filtered open crankcase fumes disposal, with drain back to crankcase
- 110% spill containment of on-board engine fluids
- Bund level alarm
- 84 dBA Sound Pressure, 1m, 75% load, 50hz
- 76 dBA Sound Pressure, 7m, 75% load, 50hz
- Critical grade, spark arresting, aluminum spray protected exhaust silencer with vertical discharge and flush mounted rain cap
- Inboard-mounted 6-way fuel valve connection for external fuel connection
- Vertical discharge of hot cooling air for reduced footprint

Cat Connect

- Asset monitoring that combines hardware, software, user interfaces and dealer services to help reduce risk, improve performance and control costs.

Standard Equipment

Air Inlet

- Air cleaner, cellulose media and service indicator
- Pressure sensors for remote monitoring

Charging System

- Charging alternator; 24V, 50A, heavy duty with integral regulator and belt guards
- Optional 230 V, 10 Amp battery charger, enclosed in dust proof housing

Control Panel

- EMCP 4.4 package mounted digital controller
- Full engine and generator monitoring and fault protection
- 50/60Hz frequency switch
- Panel mounted emergency stop switch
- Integrated Voltage Regulator with EM15 Excitation Module
- Two-wire remote start/stop terminals
- Optional DEIF® and ComAp® control panels, requires IVR removal

Cooling System

- Constant speed, engine driven, pusher fan
- Package mounted radiator with vertical air discharge
  - Provides 43ºC at 100% and 110%
  - Provides 50ºC at 75%
  - Provides 57ºC at 50%
- Fully guarded
- Coolant drain line with internal ball valve piped to exterior wall
- Low coolant level shutdown
- 50% ELC antifreeze with corrosion inhibitor

Distribution System

- Robust steel enclosure, separate hinged, lockable door with rust resistant pinned hinges
- Separate load and accessory sections
- Main circuit breaker 3-pole, 2000A with 65 kA-interrupting capacity at 380/415V 50/60Hz
- Electrically operated circuit breaker includes DC under voltage trip coil activated on any monitored engine protection, electrical fault, or loss of control voltage
- 230 VAC auxiliary power connection for powering optional battery charger, Jacket Water Heater (JWH), anti-condensation heater
- Optional 4-pole breaker, not available with optional reconnectable generator

Enclosure

- Interior walls, ceilings and ducts insulated with 100mm thick acoustic insulation, protected by perforated sheeting
- Enclosure is white with Cat trade dress films

Exhaust System

- Integrated spark arresting silencer with flexible connector

Fuel System

XPQ1100 Fuel Tank Capacities		
Tank Type	Usable Volume Litres (Gal)	Run time (Hrs) @ 75% prime load
Single Wall BS799-5	1550 L (396 gal)	9.4Hrs

Standard Equipment(continued)

Fuel System (continued)

- Engine mounted spin-on primary & secondary fuel filter
  - Primary filter (10 micron) with integral water separator
  - Secondary (4 micron) secondary fuel filter
- Electric priming pump, controlled from EMCP or switch on secondary filter housing
- External fuel connections for customer supplied fuel, includes 6-way valve to switch engine fuel supply and return from on-board tank to external tank, internally mounted within the bund area.
- Mechanical fuel gauge viewable from fill door opening
- Fuel level sender with control panel display and local dial gauge at fuel tank fill point. High & low level fuel warnings. Low level shutdown.
- Optional triple Racor® 10 micron primary filter and water separator with service valves for change on-the-fly capability

Generator

- 1424 frame, three-phase, random wound, 6-lead design, internally-excited, 2/3 pitch
- Coastal Insulation Protection including exciter protection
- Single sealed bearing
- Optional 230 VAC anti-condensation heater available
- Optional stator and bearing RTDs and RTD module for preventative maintenance monitoring

Lube System

- On engine spin-on oil filters, filler, and dipstick
- Oil drain piped to exterior wall with internally mounted ball valve
- ~500 hour oil change intervals with 2000 ppm (0.2%) sulfur fuel
- ~700 hour oil change intervals with 500 ppm (0.05%) sulfur fuel

Mounting System

- Heavy duty, steel base frame supports engine, generator, and radiator
- Vibration isolators between base and enclosure floor to limit vibration transmitted to package

Starting System

- Single electric starting motor, 24V
- Two (2) 1400 CCA maintenance free batteries, battery rack with pad lockable single pole battery isolator
- Optional 9 kW coolant heater, breaker protected, thermostatically controlled, automatically disconnected on start-up

General

- Factory testing of standard generator set
- Full manufacturer's warranty, O&M manuals
- Schematics, disassembly and assembly guides, system operation test and adjust guides available in SISweb

Fuel Specifications

Specification Standard	Grade Class	Fuel Description
EN590	Grade A to F and Class 0 to 4	European automotive fuel (DERV)
ASTM D975	1-D S15	US special purpose light middle distillate
		15ppm Sulphur
ASTM D975	2-D S15	US special purpose middle distillate
		15ppm Sulphur
JIS K2204	No1	Japanese automotive diesel. Different classes correspond to season and district where used
	No2	
	No3	
	Special No3	
BS2869	Class A2	Fuel oil for agriculture and industrial engines (Red Diesel)
MIL-DTL-83133 NATO F34	JP-8	Aviation kerosene fuels – acceptable when used with appropriate lubricity additive, and must meet minimum requirements of Caterpillar Specification for Diesel Fuel. Reference SEBU6251
MIL-DTL-83133 NATO F35		
MIL-DTL-5624 NATO F44	JP-5	
MIL-DTL-38219 (USAF)	JP-7	
NATO XF63		
ASTM D1655	JET A	
	JET A1	
B5-B7		Blend of bio diesel meeting EN14214 or ASTM D6751 with EN590 or ASTM D975 standard mineral diesel fuels
B7-B20		

Technical Data

Cat Generator	
Frame Size	1424
Pitch	2/3
No. of poles	4
Excitation	Static regulated, brushless, internal-excited
Number of bearings	Single bearing, close coupled
Insulation	Class H
Temperature rise	125/40°C
Enclosure	Drip proof IP23
Overspeed capability (% of rated)	125% (60Hz), 150% (50Hz)
Voltage regulator	3 phase sensing with adjustable Volts-per-Hz
Voltage regulation	Less than ± 1%
Telephone Harmonic Factor (THF)	Less than 2%
Total Harmonic Content (THC)	Less than 4%

Materials and specifications are subject to change without notice.

Technical Data (continued)

Cat Generator Set – 50/60 Hz			
	Units	**50 Hz EM2226**	**60 Hz EM2209**
Prime Power Rating	kW (kVA)	880 (1100)	970 (1210)
Performance Specification			
Lubricating System Oil pan capacity	L (gal)	186 (49)	
Fuel System Fuel consumption @ 1.0 PF 100% Load 75% Load 50% Load Fuel Tank Capacity Running time @ 75% rating	 L/hr L/hr L/hr L Hr	 218.2 163.4 116.0 1550 9.4	 253.6 189.2 133.6 1550 8.2
Cooling System Ambient Capability Engine & Radiator coolant capacity Engine coolant capacity	 °C L L	 43 155 55	
Air Requirements Combustion air flow	 m^3/min	 67.3	 85.3
Exhaust System Exhaust flow at rated – dry exhaust Exhaust temperature at rated kW	 m^3/min °C	 64.5 439.1	 80.7 454.6
Noise Rating (with enclosure) @ 7 meters (23 feet) @ 0% of rating @ 7 meters (23 feet) @ 75% of rating @ 7 meters (23 feet) @ 100% of rating @ 1 meter (3.3 feet) @ 0% of rating @ 1 meter (3.3 feet) @ 75% of rating @ 1 meter (3.3 feet) @ 100% of rating	 dB(A) dB(A) dB(A) dB(A) dB(A) dB(A)	 73 76 76.4 82 85 85	 76.4 77.4 77.5 85.5 86.5 87
Emissions (Nominal data) @ 100% Load NOx CO HC PM	 g/hp-hr g/hp-hr g/hp-hr g/hp-hr	 6.21 0.41 0.01 0.03	 6.37 0.45 0.03 -

Technical Data (continued)

XQP1100 — Dimensions			
	Length mm (in)	Width mm (in)	Height mm (in)
Generator Set	6096 (240)	2438 (96)	2591 (102)

XQP1100 — Weight	
	Weight kg (lb)
Lube Oil & Coolant – Empty Fuel Tank	14,539 (32,053)
Fuel Tank 200 Gallons of Fuel	15,256 (33,633)
Full Fuel Tank	15,916 (35,088)

Standard Features and Options

Rental Ready Features

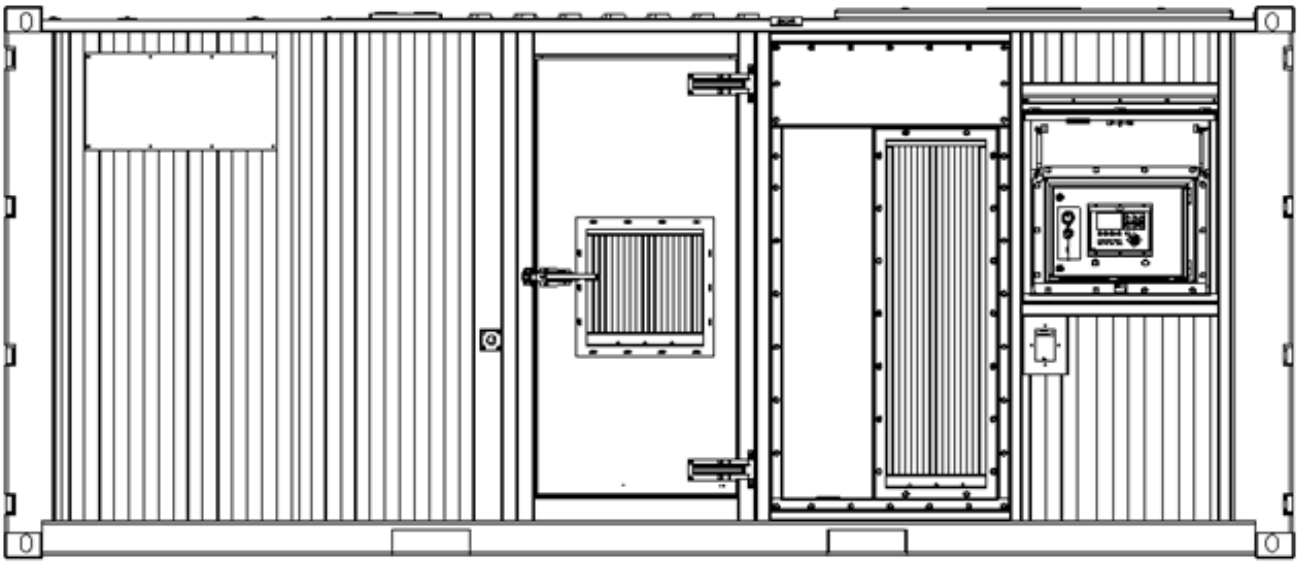
- Forklift pockets
- Coolant & oil drains piped to exterior wall
- CE certified
- Supplier certified spark arresting muffler, Det Norske Veritas (DNV) approved spark arrestor approved for areas where emissions of exhaust gases are permitted on board ships and mobile off-shore units
- 50/60 Hz frequency switch via terminal link
- Optimized cable entry for easy hook-up
- Cat Connect PLE 641

Available Options Summary

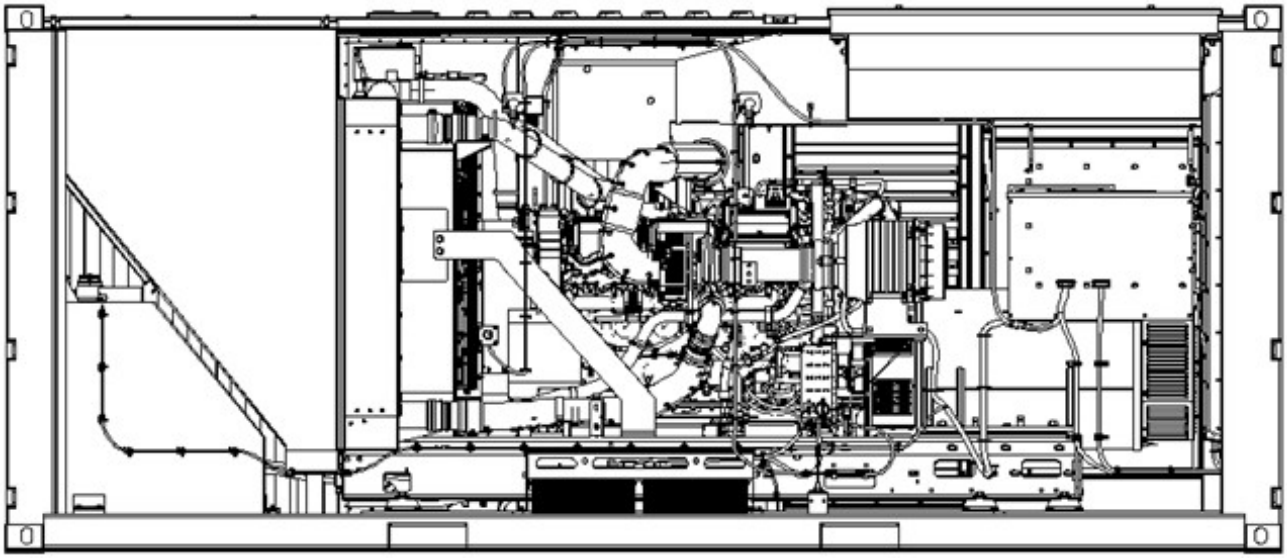
- DEIF® and ComAp® synchronising control panel and motorised breakers
- Anti-condensation heater (230 VAC)
- Stator and bearing RTDs and monitoring
- 4-pole, 2000 A breaker
- Re-connectable generator with 3000 A, 3-pole breaker and buss work to match increased amperage (4-pole not available)
- Coolant heater 230 VAC
- 24V battery charger
- Triple Racor primary fuel filter/separator with service valves
- Permanent Magnet Generator (PMG) excitation
- Heater for OCV in low ambient temperature applications
- Adjustable Earth Leakage detection
- CE labelling

General Layout Images

Pictures shown may not reflect actual configuration

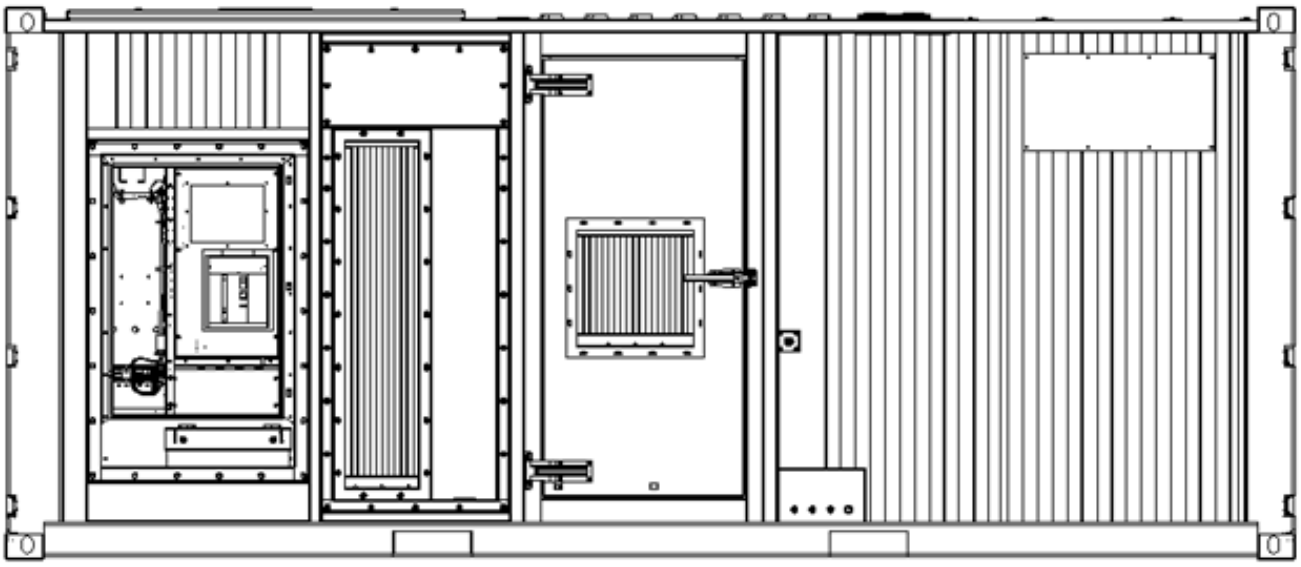


Left Hand Exterior View

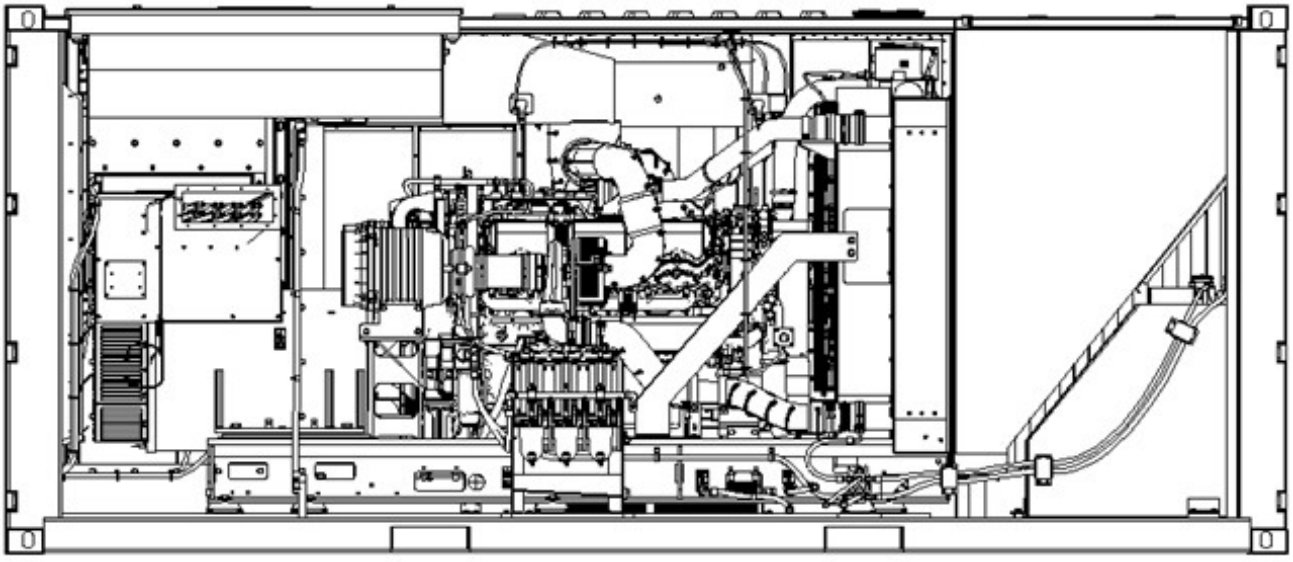


Left Hand View with Exterior and Control Panel Removed

General Layout Images (continued)

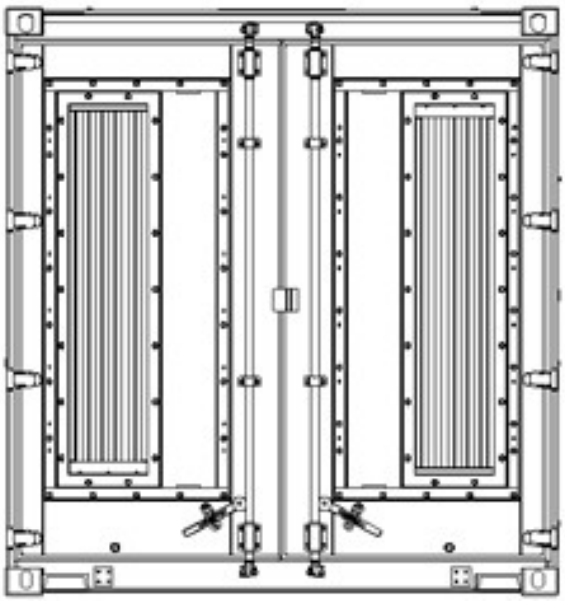


Right Hand Exterior View; Breaker Box Door Removed

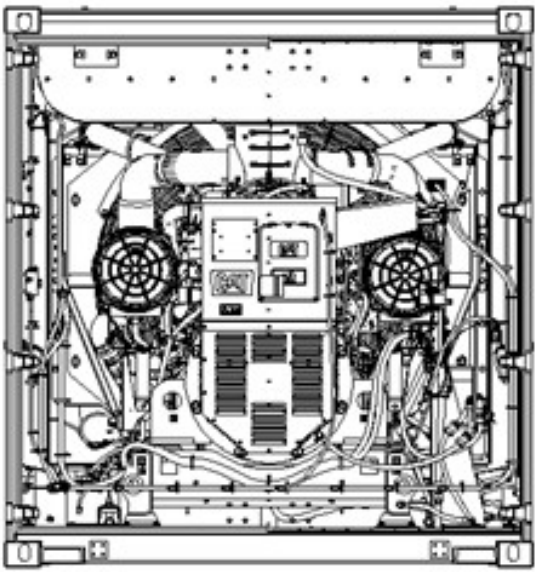


Right Hand View with Exterior Removed

General Layout Images (continued)

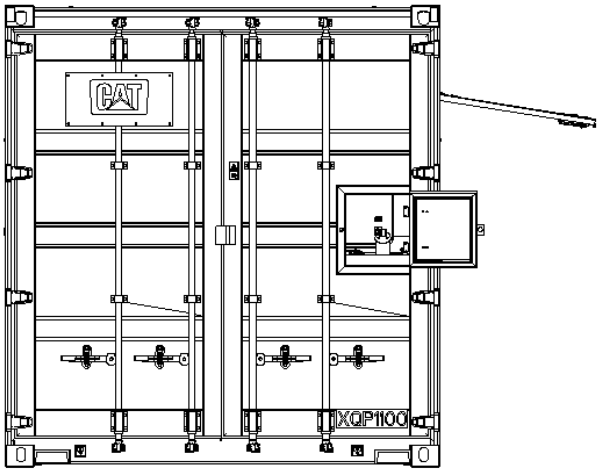


Rear View

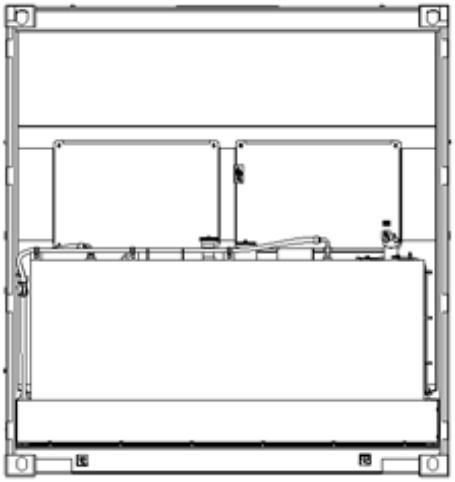


Rear View with Exterior Removed

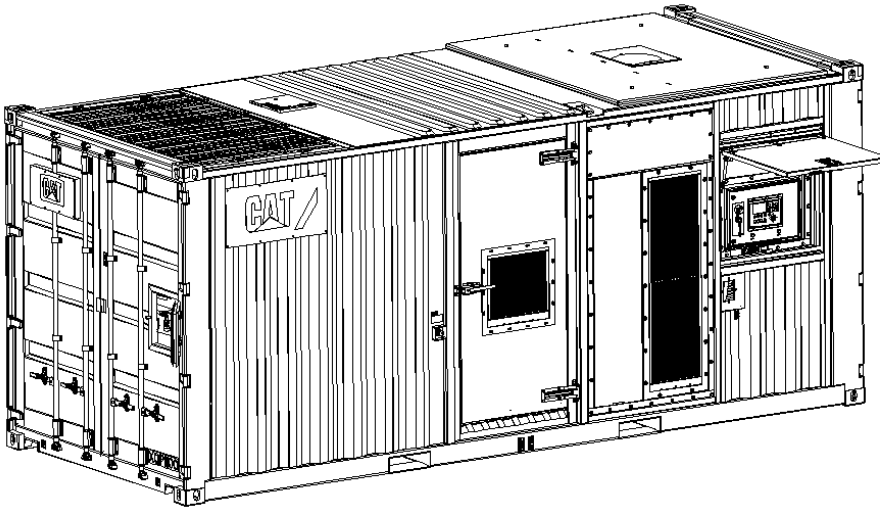
General Layout Images (continued)



Front View

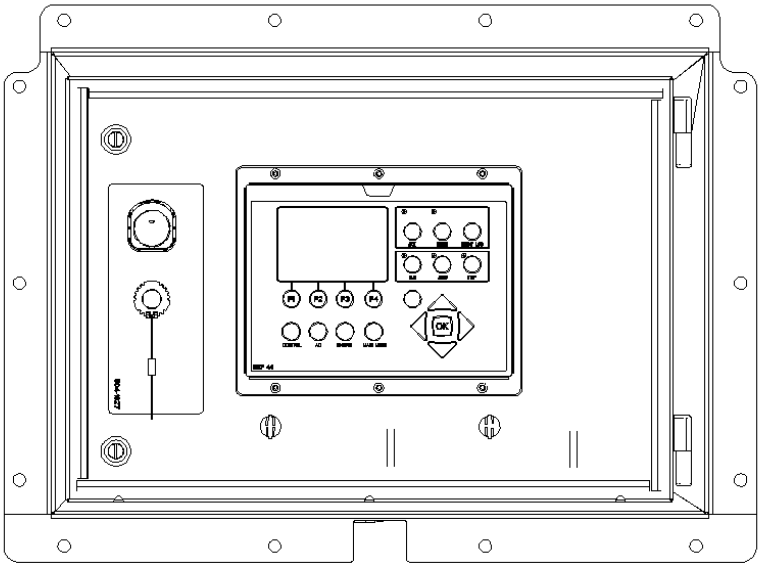


Front View with Exterior Removed



Isometric View of Left Hand Side

Control Panel & Power Distribution Layout



Ratings Definitions and Conditions

Designed to Meet Specifications:
ISO 8528, EN 12601, EN 60204-1, ISO 3046, IEC 60034

Ratings are based on SAE J1349 standard conditions.
These ratings also apply at ISO0346 standard conditions.

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.

Fuel Rates are based on fuel oil of 35° API {16°C (60°F)} gravity having an LHV of 42780 kJ/kg (18390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/litre (7.001 lb/U.S. gal).
Additional ratings may be available for Specific customer requirements, contact your Caterpillar Representative for details.
For information regarding Low Sulphur fuel and biodiesel capability and consult your Cat Dealer.