XQ 375 Tier 4 Final R E N T A L

*Shown with optional Trailer

STANDBY 375 kW
PRIME 340 kW
POWER MODULE

50/60 Hz Switchable Rating

Frequency	Voltage	Standby kW (kVA)	Prime kW (kVA)
60 Hz	480/277V	375	340
60 Hz	240/139V	375	340
60 Hz	208/120V	350	320
60 Hz	600V	375	340
50 Hz	400/230V	320 (400)	290 (400)

FEATURES

FUEL/EMISSIONS STRATEGY
- EPA Tier 4 Final and CARB Certified for Non-Road Mobile applications at all 50 and 60 Hz ratings

SINGLE-SOURCE SUPPLIER
- Factory designed and fully prototype tested with certified torsion vibration analysis available
- ISO 9001:2000 compliant facility

CAT® C13 Tier 4 Final DIESEL ENGINE
- Utilizes ACERT™ Technology and Cat NO_x Reduction System (NRS)
- Four-stroke diesel engine combines consistent performance and excellent fuel economy with minimum weight
- ECM electronic engine control

CAT CEM (Clean Emissions Module)
- After treatment module consists of DOC, DPF & SCR

DIESEL EXHAUST FLUID (DEF) Tank
- 12 gallon DEF tank with on tank fill and integrated pump, level sensor and heating elements
- Electrically heated DEF lines from DEF tank to CEM

CAT EMCP 4.2 CONTROL PANEL
- Fully featured power metering, protective relaying and engine/generator control and monitoring
- Simple user friendly interface and navigation
- Automatic set-point adjustment integrated with voltage and frequency changes

CAT SR4B SERIES GENERATOR
- Designed to match performance and output characteristics of Cat diesel engines
- Permanent magnet excitation
- Segregated AC/DC, low voltage accessory box provides single point access to accessory connections

PRODUCT LINK ASSET MONITORING
- Total Hours & Total Fuel Consumption
- Events & Diagnostic
- GPS Location
- kWh Measurement

CAT DIGITAL VOLTAGE REGULATOR (Cat DVR)
- Three-phase sensing
- Adjustable volts-per-hertz regulation
- Provides precise control, excellent block loading, and constant voltage in the normal operating range.

ENCLOSURE
- Highly corrosion resistant 12 gauge sheet steel construction
- Two coat polyester powder-coated finish
- 7 doors and 3 access doors for ease of maintenance
- Secure and safe design with safety glass control panel viewing window with lockable access door
- Fuel fill and battery can only be reached through lockable access doors
- Certified single point lifting eye and lifting points on the base frame

DISTRIBUTION PANEL
- Switchable via linkboard from 480/277V 3 phase to 240/139V 3 phase (can be adjusted down to 208/120V 3 Phase)

REAR CUSTOMER ACCESS
- Separate control panel and distribution panel access doors
- Hinged door over main bus connectors
- Emergency stop on panel
- Remote start/stop contacts

REDUCED ENVIRONMENTAL IMPACT
- EPA Tier 4 Final technology
- 110% spill containment of onboard engine fluids
- Meets 76 dB(A) at 7 m per SAE J1074 measurement procedure at 110% prime load

RENTAL READY FEATURES
- Anti-condensation heater 110-120 VAC
- Coolant heater 110-120 VAC
- UL Listed battery charger
- Solar powered battery maintainer

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FACTORY INSTALLED STANDARD EQUIPMENT

SYSTEM	STANDARD EQUIPMENT
Air Inlet	Air cleaner, two stage cyclonic/paper with dust cup and service indicator Turbocharger and air-to-air aftercooler
Charging System	UL/CSA listed 120 V, 20 Amp battery charger, shock mounted and enclosed in dust proof housing Charging alternator; 24V-45A, heavy duty with integral regulator and belt guards
Control Panel	EMCP 4.2 genset mounted controller NEMA 2, IP23 dust proof enclosure, UL508 listed Idle/rated and 50/60Hz frequency switches Generator Protection features: 32, 32RV, 46, 50/51, 27/59, 81 O/U Metering display: voltage, current, frequency, power factor, kW, WHM, and kVAR Panel illumination lights and Emergency stop switch
Cooling System	Package mounted radiator with vertical air discharge provides 43° C ambient capability at prime +10% rating Blower fan, fan drive, fan guard and belt guards 120VAC coolant heater, fuse protected, thermostatically controlled, automatically disconnected on start-up Coolant drain line with internal brass ball control valve piped to base-frame Coolant sight gauge, level switch and shutdown 50% coolant antifreeze with corrosion inhibitor
Distribution System	NEMA 1 steel enclosure, separate hinged, lockable door with rust resistant pinned hinges Main bus connections with hinged load cover with Plexiglas window closed for operation Main circuit breaker 3-pole, 240/480V-1600A with 24V DC shunt trip wired to load door safety switch Current transformers, hard mounted Multiple duplex and twist-lock receptacles with individual circuit breakers Two wire remote start/stop terminals and 120 VAC shore power connection for rapid starting
Enclosure	Sound attenuating, 12 gauge sheet metal enclosure limits overall noise to 77 dB(A) @ 7m (23') Modular panel construction and one piece welded roof design with 2 degree pitch Interior walls and ceilings insulated with flame retardant, precision cut foam materials meeting NFPA220 Black stainless steel pad-lockable latches, doorkeepers on all doors and zinc die-cast hinges/grab handles Single point lifting Painted Cat power module white with Cat rental decals
Engine	EPA Tier 4 Final certified Cat C13 ATAAC heavy duty diesel engine Electronic ADEM™ A4 controls
Clean Emissions Module	Cat Clean Emissions Module comes with integrated DOC, DPF & SCR and is located in separate compartment
DEF System	12 gal plastic DEF tank provides 24 Hrs run time @ 75 % Prime + 10% rating similar to fuel system. DEF tank is equipped with integrated pump, level sensor to display the DEF level in EMCP panel and electrically heated lines from DEF tank to CEM. Equipped with Low and critically low level alarms with a critically low shutdown
Fuel System	520 gal (1970 L) double wall fuel tank, UL142, ULC, and Transport Canada certified, 27 hr runtime @ 75% prime +10% rating, internal fuel fill Fuel cooler, pressure gauge, primary fuel filter with integral water separator, and engine mounted secondary Switch operated, electric priming pump Auxiliary connections for customer supplied fuel transfer system with 6 way fuel transfer valve
Generator	SR4B 450 frame, three-phase, random wound, 12-lead design, permanent magnet excited, 0.750 pitch 240-480 volt link board built into distribution system provides either 480/277 volt or 240/139 volt Coastal insulation protection. Windings impregnated in a triple dip, thermo-setting moisture, oil and acid resisting polyester varnish. Heavy coat of anti-tracking varnish for additional protection. Cat digital voltage regulator (Cat DVR) with VAR/PF control, RFI suppression, exciter diode monitor 120VAC anti-condensation heater
Product Link Asset Monitoring	Product Link functionality features include: · Total Hours and Total Fuel Consumption · GPS Location · Geo-Fencing · kWh Measurement · Start/Stop Times · Events and Diagnostic (via supported datalink)
Lube System	Pump, integral oil cooler, lube oil, filter, filler and dipstick, and oil sampling valve Open crankcase breather with 75% filter Oil drain line with internal brass ball valve routed to connection point accessible from exterior 500 hour oil change intervals
Mounting System	Generator set soft mounted to the heavy duty, fabricated steel base frame Skiddable steel base frame with tie down eyes contains integral fuel tank Provides 110% spill containment of all engine fluids
Starting System	Single electric starting motor, 24V Dual 12V (1400 CCA) maintenance free batteries with disconnect switch, battery rack, and cables UL listed, 120 volt single phase jacket water heater with thermostat and shut off valves
General	Canadian Standards Authority (CSA) certified Factory testing of standard generator set Full manufacturer's warranty, O&M manuals

OPTIONAL EQUIPMENT

Available Options
Tandem axle trailer with electric brakes

CAT EMCP 4.4 CONTROL PANEL
- Simple user friendly interface and navigation
- Automatic set-point adjustment integrated with voltage and frequency selection
- UL508A recognized
- Convenient service access for Cat Service tools (not included)
- Integration with the Cat DVR provides enhanced system monitoring
- Ability to view and reset diagnostics of all controls networked on primary CAN datalink eliminates need for separate service tools for troubleshooting
- True RMS AC metering, 3 phase
- Multiple stored setpoint group selection via switched input eliminates need to reprogram control when switching voltages and frequencies

EMCP 4.4 ENGINE OPERATOR INTERFACE
- Controls
  - Run/Auto/Stop
  - Speed Adjust
  - Voltage Adjust
  - Emergency Stop
  - Cycle crank
  - Cool-down timer
- Digital indication for
  - RPM
  - DC Volts
  - Operating hours
  - Oil pressure
  - Coolant Temperature
  - Oil Temperature
  - L-L volts, L-N volts, phase amps, Hz
  - ekW, kVA, kVAR, kW-hr, %kW, PF
- Shutdowns with common indicating light for
  - Low oil pressure
  - Overspeed
  - High Coolant Temp
  - High Oil Temp
  - Failure to Start (Overcrank)
  - Emergency stop
  - Low Coolant level
- Emergency stop pushbutton
- Panel illuminating lights
- Display navigation keys including two shortcut keys for Engine Parameters, Generator Parameters, Control and main menu
- Fuel level monitoring and control

EMCP 4.4 GENERATOR PROTECTIVE RELAYING
- Generator protective features provided by EMCP 4.4
  - Phase over/under voltage (Device 27/59)
  - Over/Under frequency (Device 81 O/U)
  - Reverse Power (Device 32/32RV)
  - Current Balance (46)
  - Overcurrent (Device 50/51)
  - Bus Phase Sequence

MODES OF OPERATION
- Provides for:
- Single unit stand-alone mode
- Island mode paralleling and load sharing (Multi-Unit mode) with other EMCP4.4 product
- Single Unit Stand-Alone Mode
- The utility is providing power for the plant loads
- The PM Generator breaker is open
- The PM is in automatic standby mode to respond to a utility failure
- Multi-Unit Mode
- Features auto synchronization (voltage & phase matching), load sharing (kW) analog signal (like units only), and load sharing (kVAR) analog signal (like units only)
- The customer protective relaying senses a utility abnormal condition
- A run request is sent to the PM Generator plant
- The first PM generator to reach rated to voltage and frequency is closed to the bus and remaining units are paralleled to the bus as they reach rated voltage and frequency
- Plant load is transferred to the Power Modules, which share load equally via load share lines

XQ 375 Tier 4 Final R E N T A L

TECHNICAL DATA

CAT GENERATOR

Frame Size . . . .SR4B – 450
Pitch 0.750
No. of poles 4
Excitation . . . . . Static regulated brushless PM excited
Number of bearings. . . . . Single bearing, close coupled
Insulation. . . . . Class H
Temperature rise . . . . . 105^0 C
Enclosure . . . . . Drip proof IP23
Overspeed capability – % of rated . . . . . 125% of rated
Voltage regulator . . . . . 3 phase sensing with Volts-per-Hertz
Voltage regulation. . . . . Less than ± 1⁄2% voltage gain
Adjustable to compensate for engine speed droop and line loss
Wave form deviation 3%
Telephone Influence Factor (TIF). . . . . Less than 50
Harmonic Distortion (THD). . . . . Less than 5%

CAT DIESEL ENGINE

C13 ATAAC, I-6 4-stroke water cooled diesel
Bore – mm (in). . . . . 130 mm (5.10 in)
Stroke – mm (in) . . . . . 157 mm (6.20 in)
Displacement – L (cu in) . . . . . 12.5 L (763 in^3)
Compression ratio. 17.0:1
Engine RPM 1500-1800
Aspiration. . . . . TA
Aftercooler type . . . . . ATAAC
Turbocharger . . . . . Single
Fuel system . . . . . MEUIC
Governor type . . . . . ADEM™ A4
Fuel…… Requires ULSD

Materials and specifications are subject to change without notice.

Generator Set Technical Data		50Hz	50 Hz	60Hz	60Hz
	Units	Standby	Prime	Standby	Prime
Performance Specification		EM0181	EM0180	EM0179	EM0178
Power Rating	kW (KVA)	320 (400)	290 (360)	375 (468 kVA)	340 (425 kVA)
Lubricating System					
Oil pan capacity	L (gal)	37 (19.5)	37 (19.5)	37 (19.5)	37 (19.5)
Fuel System					
Fuel consumption					
100% Load	L/hr (gal/hr)	95.7 (25.1)	88.0 (23.1)	95.7 (25.1)	88.0 (23.1)
75% Load	L/hr (gal/hr)	73.4 (19.2)	67.9 (17.7)	73.4 (19.2)	67.9 (17.7)
50% Load	L/hr (gal/hr)	52.3 (13.6)	48.6 (12.7)	52.3 (13.6)	48.6 (12.7)
Fuel Tank Capacity	L (gal)	1970 (520)	1970 (520)	1970 (520)	1970 (520)
Running time @ 75% rating	Hr	26	29	26	29
DEF System					
DEF Tank Capacity	L (gal)	48 (12)	48 (12)	48 (12)	48 (12)
DEF Consumption					
100% Load	L/hr (gal/hr)	-	-	2.5 (0.7)	2.4 (0.6)
75% Load	L/hr (gal/hr)	-	-	1.8 (0.5)	1.5 (0.4)
50% Load	L/hr (gal/hr)	-	-	-	-
Running time @ 75% rating	Hr	-	-	27	33
Cooling System					
Ambient Capability	°C (°F)	43	43	43	43
Engine & Radiator coolant capacity	L (gal)	61 (16.2)	61 (16.2)	61 (16.2)	61 (16.2)
Engine coolant capacity	L (gal)	19 (5.0)	19 (5.0)	19 (5.0)	19 (5.0)
Air Requirements					
Combustion air flow	m_3/min (cfm)	19.7 (693.2)	18.3 (646.1)	(828.3)	(803.3)
Exhaust System					
Exhaust flow at rated – dry exhaust	m_3/min (cfm)	13.8 (485.1)	13.1 (460.3)	16.0 (565.7)	15.9 (558.9)
Exhaust temperature at rated kW	°C (°F)	496.4 (924.7)	488.9 (911.8)	473.4 (880)	454.1 (846.9)
Noise Rating (with enclosure)*					
@ 7 meters (23 feet) @ 75% of rating	dB(A)	76	76	76	76
Emissions (Not to exceed data)					
NO_x	g/hp-hr	1.42	1.28	1.55	1.56
CO	g/hp-hr	0.08	0.07	0.08	0.07
HC	g/hp-hr	0.01	0.01	0.02	0.02
PM	g/hp-hr	0.02	0.02	0.01	0.02

Model	Length mm (in)	Width mm (in)	Height mm (in)	Weight with Lube oil and Coolant kg (lb)	Weight with fuel, lube oil and coolant Kg (lb)
XQ375 w/o trailer	5080 (208.7)	1524 (60)	2642 (104)	6667 (14700)	8571 (18900)
XQ375 w/ trailer	7206 (283.7)	2591 (102)	3204 (126.1)	8132 (17930)	10036 (22130)

FEATURES
- NEMA 2, IP23 dust proof enclosure with hinged lockable door and viewing window
- EMCP 4.2 display
- Panel light on/off switch
- Emergency stop pushbutton
- Lamp test/reset pushbutton
- Voltage adjust potentiometer
- Alarm and shutdown indicators
- Idle /rated switch
- Regeneration alarm indications for DPF 80% soot level
- and high exhaust temperature
- 50/60 Hz frequency adjustment
- Fuel level display
- Convenient service access for Cat Dealers (service tools not included).

EMCP 4.2 ENGINE OPERATOR INTERFACE
- Controls
  - Run/Auto/Stop
  - Emergency Stop
  - Speed Adjust
  - Cycle crank
  - Voltage Adjust
  - Remote start/stop
- Engine Monitoring:
  - RPM
  - DC Volts
  - Operating hours
  - Oil pressure
  - Coolant Temperature
  - Oil Temperature
  - Crank attempt and successful start counter
- Generator Monitoring:
  - L-L volts, L-N volts, Current (phase)
  - Average volts, Amps, Frequency
  - ekW, kVA, kVAR, kW-hr
  - Power Factor (Average, Phase)
  - kW-hr, kVA-hr (total)
  - Excitation voltage and current (with CDVR)

- Shutdowns with common indicating light for:
  - Low oil pressure
  - Overspeed
  - High Coolant Temp
  - High Oil Temperature
  - Failure to Start (Overcrank)
  - Emergency stop
  - Low Coolant level

EMCP 4.2 GENERATOR PROTECTIVE RELAYING
Generator protective features provided by EMCP 4.2
- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under frequency (81 O/U)
- Reverse Power (kW) (32)
- Reverse Reactive Power (kVAR) (32RV)
  Over current (50/51)

DISTRIBUTION PANEL
- Separate load and control sections
- Access using a hinged padlock-able door
- Main busbar with hinged cover door with a clear Plexiglas window.
- Customer convenience power receptacles protected by miniature circuit breaker:
  1 – 240V, 50A California style Twist Lock.
  1 – 240V, 20A Twist Lock.
  2 – 120V, 20A Ground Fault Interrupters.
  2 – 120V, 15A Duplex Receptacles with GFI.

CIRCUIT BREAKER
- Includes DC shunt trip coil activated on any monitored engine or electrical fault,
- 100 KA-interrupting capacity at 1480 VAC.
- Under-voltage release
- 1600A fixed type, 4 poles, generator set mounted

LINK BOARD ASSEMBLY
- High/low voltage output reconnection via movable link board
- Includes switch providing voltage setting input to the EMCP 4.2 for automatic set point configuration

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: CSA 22.0 No. 100, IEC60034-22, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-16, UL1004B, NEC,CEC, 2006/42/EEC, 2006/95/EC, 2004/108/EC, 2000/EC/14, UL142, Ulc601, IBC CGSB43, API 546, EGSA 101P, IEEE 43, DEFRA, UL1741, NFPA 99/110, OSHA, 97/68/EC, BS4999, BS5000, IEC60034-5

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

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 on the generator set is peak prime rated (as defined in ISO8528 at 30° C (86° F)).

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

Prime – Applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchases power. There is no limitation on the annual hours of operation and the generator can supply 10% overload power.