



## XQ2000 SOUND ATTENUATED POWER MODULE

60 Hz

### FEATURES



#### EMISSIONS

EPA and CARB Emissions Certified for non-road mobile applications.



#### CAT® DIESEL GENERATOR SETS

Factory designed, certified prototype tested with torsional analysis. Production tested and delivered to you in a package that is ready to be connected to your fuel and power lines. Electric Power Design Pro computer sizing available. Supported 100% by your Caterpillar dealer with warranty on parts and labor. Extended warranty available in some areas. The generator set was designed and manufactured in an ISO 9001 compliant facility. Generator set and components meet or exceed the following specifications: AS1359, AS2789, ABGSM TM3, BS4999, DIN6271, DIN6280, EGSA101P, JEM1359, IEC 34/1, ISO3046/1, ISO8528, NEMA MG1-22.



#### CATERPILLAR® SR4B GENERATOR

Single bearing, wye connected, static regulated, brushless permanent magnet excited generator designed to match the performance and output characteristics of the Caterpillar diesel engine that drives it.



#### RELIABLE, FUEL EFFICIENT DIESEL

The compact, four-stroke-cycle diesel engine combines durability with minimum weight while providing dependability and economy. The fuel system operates on a variety of fuels.

#### CATERPILLAR® COOLING SYSTEM

Sized compatible to rating with energy efficient fan and core.

#### CATERPILLAR® SWITCHGEAR

Single unit or optional paralleling components. Circuit breakers, bus bars, and connection panel ready to connect.

#### EXCLUSIVE CATERPILLAR® VOLTAGE REGULATOR

Three-phase sensing and adjustable Volts-per-Hertz regulation give precise control, excellent block loading, and constant voltage in the normal operating range.

#### SOUND ATTENUATED ISO CONTAINER

For ease of transportation and protection. Meets 74 dBA at 50 ft or below per SAE J1074 measurement procedure.

## FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

| System                      | Standard   | Optional   |
|-----------------------------|--|--|
| <b>Engine</b>               | Air cleaner, with service indicator<br>Batteries<br>Filters; fuel, LH with service indicators; lubricating oil<br>Insulated muffler<br>Jacket water heater<br>Pump, fuel priming — LH<br>Radiator<br>Service meter<br>Standard eight-gauge instrument panel<br>Sump pump<br>Governor<br>Electronic ADEM II   |  |
| <b>Generator</b>            | SR4B brushless, 480 volt, PM excited three-phase with digital voltage regulator, space heater  |  |
| <b>Containerized Module</b> | Air intake louvers<br>Bus bar access door<br>Fuel tank — 4730 L (1250 Gal) UL listed<br>Fuel/water separator<br>110 VAC/24 VDC lighting<br>Sound attenuated (74 dBA @ 50 ft)<br>ISO hi cube container<br>Lockable doors<br>Stainless steel hardware and hinges<br>Vertical radiator and exhaust discharge plenum   |  |
| <b>Cooling</b>              | Standard cooling provides 110° ambient at prime rating   |  |
| <b>Switchgear</b>           | Floorstanding switchgear with EMCP II components<br>Automatic start/stop with cooldown timer<br>Battery charger, heavy duty 20A<br>Protection: 32, 59<br>Circuit breaker, electrically operated<br>Connection terminals, 3-phase and neutral<br>Automatic paralleling<br>Auxiliary power connections for jacket water heater, battery charger, space heaters | Meters: power factor, KW, PF, W/WHM, synchroscope, KVAR<br>Protection: 27, 40, 810, 81U<br>CIM, CCM, remote annunciation<br>Plug and peak shave utility conversion panel |

## SPECIFICATIONS



### CAT SR4B GENERATOR

Type . . . . . Static regulated brushless PM excited  
 Construction . . . . . Single bearing, close coupled  
 Three-phase . . . . . Wye connected — 6 lead  
 Insulation . . . . . Class H — 2 extra dips and  
 bakes on random wound units  
 Enclosure . . . . . Drip proof  
 Alignment . . . . . Pilot shaft  
 Overspeed capability . . . . . 130%  
 Voltage regulator . . . . . 3-phase sensing with  
 Volts-per-Hertz  
 Voltage regulation . . . . . Less than  $\pm 0.5\%$   
 Voltage gain . . . . . Adjustable to compensate for  
 engine speed droop and line loss  
 Wave form . . . . . Less than 5% deviation  
 TIF . . . . . Less than 50  
 THD . . . . . Less than 3%



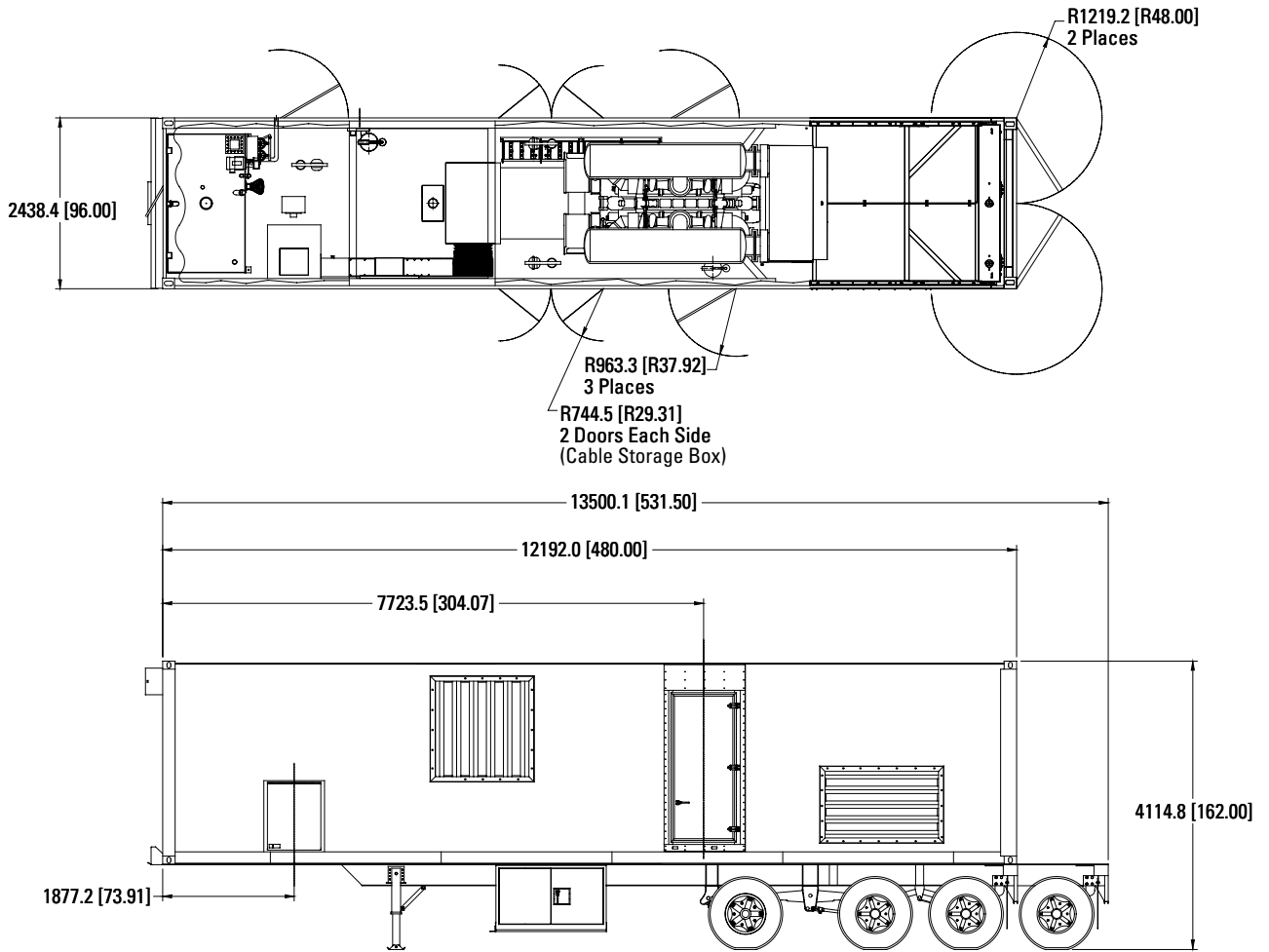
### CAT® 3516B ENGINE

V-16, 4-stroke-cycle diesel  
 Bore — mm (in) . . . . . 170 (6.7)  
 Stroke — mm (in) . . . . . 190 (7.5)  
 Displacement — L (cu in) . . . . . 69.0 (4210)  
 Aspiration . . . . . Turbocharged-Aftercooled  
 Heatrate (LHV) . . . . . 8701 Btu/kWh

## TECHNICAL DATA

| Power Rating<br>60 Hz  | Standby<br>2000  | Prime<br>1825 |
|--|--|---------------|
| <b>Engine and Container Information</b><br>Engine Model<br>Container size<br>Container dimensions                              | 3516B<br>12 (40)<br>see below                            |               |
| <b>Fuel Capacity Hours of Operation<br/>at 100% Load Factor</b><br>4732 L (1250 Gal) Standard 12 m (40 ft)                     | 9  | 10            |
| <b>Approximate Weight (Dry) —<br/>Container with Generator Set and Switchgear</b><br>Including Container<br>With Undercarriage | kg (lb)<br>29 091 (64,000)<br>kg (lb)<br>33 636 (74,000) |               |

## Container Dimensions



The power module must have support under the center when set on the ground.

| Dimensions    |            |           |
|---------------|------------|-----------|
| <b>Length</b> | 13500.1 mm | 531.50 in |
| <b>Width</b>  | 2438.4 mm  | 96.00 in  |
| <b>Height</b> | 4114.8 mm  | 162.00 in |

## STANDARD CONTROLS

### 12 m (40 ft) CONTAINERS

#### 480V/60 Hz

Floorstanding switchgear includes the following functions and features:

#### ELECTRONIC MODULAR CONTROL PANEL (EMCP II) COMPONENTS

##### GENERATOR SET CONTROL (GSC)

###### Monitoring

Sequentially rotating, backlit LCD display of engine hours, engine rpm, DC battery voltage, oil pressure, and water temperature.

Includes pushbutton to hold display on any single parameter.

###### Protection

###### Shutdowns:

Overspeed, overcrank, high water temperature, low oil pressure, and emergency stop. With LED indicator for each condition.

###### Alarms:

Low coolant level

###### AC Metering

Three-phase volts (L-L), amperes and frequency with phase select pushbutton, on backlit LCD.

Metering accuracy is 0.5%.

###### Control

Automatic starting with field adjustable cycle crank, failure to start (overcrank), and cooldown timer.

###### Programming and Diagnostics

Includes field programmable set-points for engine control and monitoring variables and self diagnosis of EMCP II system component and wiring failures.

##### ALARM MODULE

Flashing LED warnings for: low coolant temperature, high coolant temperature (pre-alarm), low oil pressure (pre-alarm), engine control switch not in automatic, and low DC voltage. Includes alarm horn and acknowledge pushbutton.

##### ENGINE CONTROL SWITCH

Snap action rotary switch, four-position — off/reset, automatic, manual, stop/cooldown. Off/reset for engine shutdown and resetting faults, automatic for remote starting by customer contact closure, manual for local starting and manual paralleling, stop/cooldown for manual operation cooldown.

##### ALARM ACKNOWLEDGE/LAMP TEST SWITCH

Three-position, spring return to center switch for alarm acknowledge and lamp test of all discrete indicating lamps. Lamp test shall also sound the alarm horn.

##### ANNUNCIATION CIRCUITS

Upon receipt of an alarm or shutdown condition, the horn shall sound and an LED shall flash. Upon acknowledgement from alarm acknowledge/lamp test switch, the horn shall be silenced and the lamp steadied. LED shall be extinguished when ECS is placed in the off/reset position if the alarm condition has been corrected. Circuits are recurring such that the LED shall flash and the horn sound, should another fault occur even prior to correction of the initial fault.

## **STANDARD CONTROLS** (Continued)

### **EMERGENCY STOP PUSHBUTTON**

Mushroom head, twist to reset, causes engine shutdown and tripping of the generator circuit breaker. Prevents engine starting when depressed.

### **MANUAL PARALLELING**

Controls consisting of reverse power relay, synchronizing lights, and switch. Reverse power condition causes tripping of the generator circuit breaker, immediate engine shutdown, flashing of indicating lamp, and sounding of alarm horn.

### **CIRCUIT BREAKER**

Fixed mounted, three-pole, manually operated, molded case circuit breaker with solid state trip unit for overload (time overcurrent) and fault (instantaneous) protection. Includes DC shunt trip coil activated on any generator set monitored fault. Circuit breaker is sized for full load capacity of the generator set at 0.8 power factor.

### **LOAD SHARE GOVERNOR**

Electronic load sharing governor with speed adjust potentiometer, idle/rated switch, and isochronous/droop switch.

### **VOLTAGE REGULATOR**

Standard Caterpillar generator-mounted digital voltage regulator with voltage adjust rheostat mounted in the floorstanding switchgear.

### **CURRENT TRANSFORMERS (3)**

Five-ampere secondary with shorting terminal strips

### **POTENTIAL TRANSFORMERS (3)**

120 VAC secondary with primary and secondary fuse protection, two connected to the generator side of the circuit breaker, one connected to the load side of the circuit breaker.

### **BUS BARS**

Three-phase plus fully rated neutral bus bars with NEMA standard hole pattern for connection of customer load cables and generator cables. Bus bars are sized for full load capacity of the generator set at 0.8 power factor. Also includes ground bus, connected to the generator frame ground and container frame with holes for connection of field ground cable. Bus bars are accessible from outside of the power module via hinged, lockable cable access door.

### **ACCESSORY POWER**

3500 Power Modules

Three 230 VAC (50 Hz units) or 120 VAC (60 Hz units) shore power connections for jacket water heaters, generator space heater, and battery charger.

### **BATTERY CHARGER**

24 VDC/20A battery charger with float/ equalize modes and charging ammeter.

# RENTAL

# CATERPILLAR®



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