



3 PHASE OUTPUTS					
GENERATOR SET MODEL	RATING	50HZ		60HZ	
		KVA	KW	KVA	KW
<b>WPSC-440</b>	STAND-BY	440	352	500	400
	PRIME	400	320	439	451

Ratings at 0.8 pf - Generator designed to operate in ambient temperatures up to 50 °C

Standard Voltages 380 – 415 Volts 3 Phase 50/60HZ

**RATING DEFINITIONS:**

**PRIME POWER**

These ratings are applicable for supplying continuous power (at variable load) in Lieu of commercially purchased power. There is no limitation to the annual hours of operation and this model can supply 10% overload power for 1 hour in 12 hours.

**STANDBY POWER**

These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these rating. When used at standby Rating the alternator will be peak continuous rated (according to ISO3046)

**TECHNICAL DATA (50HZ)**

Engine model:	6ZTAA13-G2	Cooling system:	water
Engine manufacturer:	Cummins	Total coolant capacity:	(liters) 30
Emissions statement	MEP Stage II	Total lubrication system capacity:	(liters) 40
Number of cylinders:	6	Engine rotation (viewed facing flywheel):	Anti-clockwise
Cylinder arrangement	Vertical in-line	Engine speed:	RPM 1500
Aspiration:	Turbocharged, aftercooled	Output rated(prime) power:	KW 392
Combustion system	direct injection	Fuel consumption at: 50% load	L/h 46
Compression ratio	14.5:1	75% load:	L/h 65
Bore/stroke:	mm. 140/152	100% load:	L/h 85
Displacement:	(liters) 19	Specific lube oil consumption:	Max 0.8% of fuel Consumption

**Note:** Standard reference condition for ratings are 27 °C air Inlet temp, 1000 m bar and 30% relative humidity.

Fuel consumption data at various loads, diesel fuel with a specific gravity of 0.85kG

## STANDARD SPECIFICATION WPSC-440

### 1. ENGINE

Cummins heavy duty diesel engine.

#### 1.1 Governor

Electronic, compliance with ISO8528, Class G2.

### 2. COOLING RADIATOR

Radiator and cooling fan complete with protection guards, designed to cool the engine in ambient temperatures up to 50° C.



The radiator is mounted on the base frame to avoid vibrations coming from the engine.

### 3. FILTRATION SYSTEM

Cartridge type air filter with security element. Cartridge fuel filter and full lube oil filter. All filters have replaceable elements.

### 4. EXHAUST SYSTEM

Heavy-duty industrial silencer.

### 5. ELECTRICAL SYSTEM

24 Volt DC system with battery charging alternator, Starter motor, High capacity maintenance free lead acid battery, battery rack mounted on the generating set base frame, and heavy duty interconnecting cables with terminations.



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**6. ALTERNATOR** Screen protected and drip-proof, self-exciting, self-regulating brush-less alternator. Four poles, STAR winding connection, suitable for tropical, humid and saline climates. H class insulation IP23.

### 7. AUTOMATIC VOLTAGE REGULATOR

Static electronic design voltage regulator. Steady voltage precision within + 1 % from no load to full load including cold and hot variations, at any Power factor between 0.8 and unity.

### 8. MOTOR STARTING

An overload capacity equivalent to between 160% to 300% of full load impedance at zero power factor can be sustained for 10 seconds.

### 9. MOUNTING ARRANGEMENT

#### 9.1 Base Frame

The complete generating set is mounted on heavy duty steel fabricated base frame Which is anti rust coated.

#### 9.2 Coupling

Engine and alternator are directly coupled by means of SAE flange so there is no possibility of misalignment after prolong use. The engine fly wheel is flexibly coupled to the alternator rotor.

#### 9.3 Anti Vibration Mounting Pads

Anti vibration pads are fitted between engine-alternator base frame ensuring complete vibration isolation of rotating assemblies.

### 10. FUEL SYSTEM

Metal Fuel tank of 500 litres capacity. The Fuel tank is easy to clean and is equipped with visual fuel level indicator.

### 11. DIMENSIONS

#### Open Type

Length	3490 mm
Width	1150 mm
Height	1850 mm
Weight	4365 Kg

#### Silent type

Length	3490 mm
Width	1150 mm
Height	1850 mm
Weight	4365 Kg

### 12. CONTROL PANEL

The manual starting control panel (DSE6020) has been designed and built to combine all the instruments control and the warning lights for engine and alternator. The sheet steel made panel is carefully painted for tropical climates and is designed for a dusty environment. Includes following equipment Ammeter with selector switch – water temperature meter – oil pressure meter- moulded case three pole circuit breaker with thermal and magnetic release - automatic shut down in case of HWT, LOP and over speed - starting key and stop push button - acoustical signal - warning light for high cooling water temperature, low oil pressure, battery charging - hours meter



Automatic starting control board versions are available as option.

### 13. DOCUMENTATION

A full set of operation and maintenance manual are provided.

### 14. FACTORY TESTS

Generating set is subject to a strict load test before delivery. A test certificate can be provided as optional.

### 15. QUALITY STANDARDS

Generating set meets the following standards ISO 8528, IEC 34.1, CEI 2.3, VDE 0530, BS 4999-5000, NF51-100. Cummins is fully accredited ISO 9001 company.

### 16. WARRANTY

Generating set is guaranteed for a period of 12 months from date of commissioning



**Power  
Generation**