Technical Description 500 kVA

The above rating represent the engine performance capabilities guaranteed within plus or minus 5% at the reference conditions equivalent to those specified in ISO 3046, BS 5514, DIN 6271B and SAE J1349. The rating is applicable for supplying continuous power (at variable load). There is no limitation to the annual hours of operation and this model can supply 10% overload power for 1 hour in 12 hours.

Engine:
PERKINS type 2806C-E16TAG2, watercooled, 1500 rpm, 6 cylinder in line, 4 stroke
Induction system: Turbocharged and AA Charge Cooled
Bore: 140 mm, (5.5 in), Stroke 171 mm (6.7 in)
Compression ratio: 15,9 : 1, Cubic capacity 15,8 litres (964 cu.in)
Governor: Electronic, Gross Engine Power 483 kW, 648 hp (644 hp), BMEP 2450 kPA (355 psi), Heat Rejection to Exhaust System: 420,7 kW (23929 Btu/min), Heat Rejection to Cooling System 179,4 kW (10200 Btu/min) Exhaust temperature: 459° C (858°F), Total Radiated Heat: 24,7 kW (1404 Btu/min), Exhaust Gas Flow: 90,3 m³/min (3178 cfm), Cooling Air Flow: 564 m³/min (19915 cfm),
Combustion Air Flow: 41,3 m³ (1458 cfm), Fuel oil consumption: about 108 ltr/h at 100% of power rating
Diesel Fuel: To conform to BS 2869: 1988 Class A2 or ASTM D975 66T Number 2D.
Standard reference conditions 27°C (80°F) Air Inlet Temperature, 152,4 m (500 ft) A.S.L.

Generator:
Type LL6014H, 500 kVA / 400 kW, 1500 rpm, 50 Hz, 380 / 220 Volt, 755 Ampere or 400 / 230 Volt, 722 Ampere or others.
Screen protected and drip-proof, selfexciting, self regulating and brushless with fully connected damper windings, IC06 cooling system and sealed-for-life bearings.
12 wire reconnactable winding provides a wide range of 3 phases voltages. Insulation Class H.
All windings are impregnated in either a triple dip thermo-setting moisture, oil and acid resisting polyester varnish or vacuum pressure impregnated with a special polyester resin.
Heavy coat of anti-tracking varnish for additional protecting against moisture or condensation.
Electrical design in accordance with BS5000 part 99, IEC34-1, VDE0530, UTE51100, NEMA MG-122.
The fully sealed automatic voltage regulator maintains the voltage within the limits of +/- 1,0% from no load to full load including cold to hot variations at any power factor between 0.8 lagging and unity and inclusive of a speed variation of 4,5%.

The total distortion of the voltage waveform with open circuit between phases or phase and neutral is in the order of 2. On a 3 phase balanced harmonic-free load the total distortion is in the order of 3,5%. Machines are designed to have a THF better than 2% and a TIF better than 50. A 2/3 pitch factor is standard on all stator windings.
Radio Interference: Supression is in line with the provisions of BS800 and VDE Class G and N.

Control System: Set mounted keystart panel in a vibration isolated sheet enclosure with a hinged locable door.

The control panel is equipped as follows:

Instruments: Voltmeter
Ammeter
Frequency Meter
Hours Run Meter
Coolant Temperature Gauge
Oil pressure Gauge
Battery Condition Voltmeter

Controls: Start / Stop Keyswitch
Voltmeter Phase Sel Switch, 7 pos
Ammeter Phase Sel Switch, 4 pos

Shutdown Protection Devices with Indicators for:
High Coolant Temperature
Low Oil Pressure

Circuit Breaker: 3 pole moulded case circuit breaker will be mounted on the generator in a vibration isolated sheet steel box with adequate access for incoming and outgoing cables.

Scope of Supply: Heavy duty fabricated steel baseframe with antivibration mounting pads to avoid vibrations. The baseframe incorporates specially designed crane lifting devices.
Engine and alternator are directly coupled by means of an SAE flange so that there is no possibility of misalignment after prolonged use. The engine flywheel is flexible coupled to the alternator rotor and a full torsional analysis has been carried out to guarantee no harmful vibration will occur in the assembly.
Unit mounted tropical capacity radiator with engine driven blower fan.
Electric starting system with heavy duty lead acid type starting battery and battery charging system. (24 Volt DC) Energised to run shutdown solenoid and emergency air valve for fail safe operation. Oil pressure and water temperature switches. Oil pressure and water temperature senders.
High capacity air, fuel and lubrication oil filter.
Daily fuel tank.
All sheet metal components are fully degreased, phosphated and chromated for anti-corrosive protection prior to painting with polyester powder. The powder is cured at a temperature of 200 degrees centigrade. All fasteners are electroplated.

Exhaust silencer system with flexible connections. (supplied loose)

Full set of operation and maintenance manuals, circuit wiring diagrams, commissioning/fault finding instruction leaflets.
The generator set will be load tested in a test bay before despatch. A test certificate is provided on request.

The equipment meets the following standards: BS4999, BS5000, BS5514, ICE 34, VDE0530.

Guarantee: 12 month after taking into operation or 18 month after delivery, which date occurs first

Dimensions unpacked: about L 3875, W 1150, H 2197 mm, weight 3800 kg net
Dimensions with Sound Attenuated Canopy: L 5823, W 1600, H 2150 mm, weight about 5.500 kg net