

## KEY FEATURES:

Generator made by OEM-Perkins

Every generating set carries a comprehensive test program & report thereon

### Certifications

ISO 8528/1, ISO 3046/1:1986, BS5514/1, NEMA MG 1-22, NEMA MG 1.32-33, IEC 60034, BS 5000 PART 99, VDE 0530, ISO 8528/3, UL 1446, UL 1004, ISO 9001, ISO 14001, AS 1359, IEC 34

Complete protection functions & safety labels

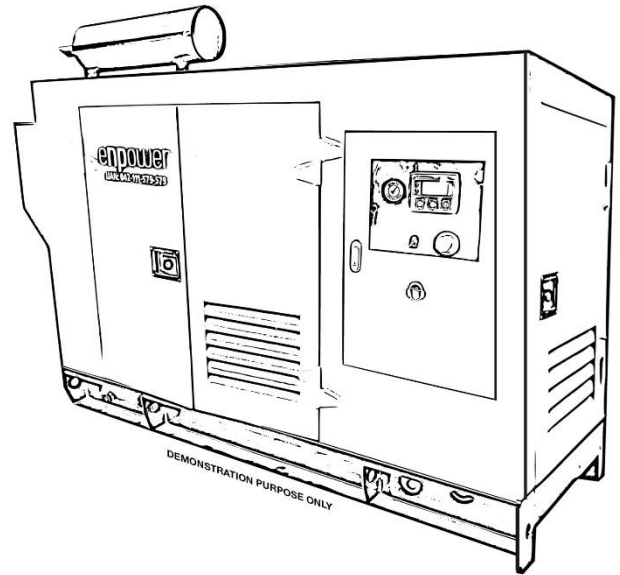
Easy & Economical availability of Spares

Advanced digital control system, long service life, easy to operate, low fuel consumption & anti-vibrating isolators

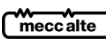
After Sales support all over Pakistan

High quality, reliable & complete generating set

Easy for operation & maintenance



## POWERED BY:



## GENERATOR SET:

|                 |   |       |
|-----------------|---|-------|
| Generator Model | EPG110                                    |       |
| Prime Power     | 100-KVA                                   | 80-KW |
| Standby Power   | 110-KVA                                   | 88-KW |
| Configuration   | 380-415 V, 3Ph, 50 Hz, 1500 RPM at 0.8 PF |       |

## FUEL CONSUMPTION

|                         |           |
|-------------------------|-----------|
| Consumption @ 100% load | 22.6 Ltrs |
| Consumption @ 75% load  | 17.1 Ltrs |
| Consumption @ 50% load  | 11.8 Ltrs |

## DIMENSIONS, WEIGHT & FUEL TANK (Approx.)

| Particulars     | Open | Canopy-R | Canopy-S |
|-----------------|------|----------|----------|
| Length (Inches) | 82   | 84       | 95       |
| Width (Inches)  | 29   | 42       | 44       |
| Height (Inches) | 54   | 46       | 46       |
| Net Weight (Kg) | 1227 | 1824     | 1843     |
| Fuel Tank (L)   |      | 140      | 148      |

## ALTERNATOR DATA:

| Manufacturer       | LEROY SOMER           | STAMFORD | Equivalent |
|--------------------|-----------------------|----------|------------|
| Model /Series      | TAL Series            | TBA      | TBA        |
| Frequency /Speed   | 50 Hz / 1500 RPM      |          |            |
| Coupling           | Direct                |          |            |
| No. of Bearings    | Single Bearing        |          |            |
| Phase / Poles      | 3-Phase/4-Pole        |          |            |
| Over speed         | 2250 mn <sup>-1</sup> |          |            |
| AVR Model          | R120                  |          |            |
| Voltage Regulation | ± 1%                  |          |            |
| Insulation Class   | H                     |          |            |
| Ingress Protection | IP 23                 |          |            |
| Excitation         | Shunt                 |          |            |
| Winding Pitch      | 2/3 (wdg 3)           |          |            |

## CONTROLLER DATA:

|       |             |
|-------|-------------|
| Make  | Deep Sea-UK |
| Model | DSE 4520    |

**ENGINE DATA:**

|  |                   |
|--|-------------------|
| Manufacturer                                 | Perkins           |
| Model  | 1104C-44TAG2      |
| Cylinders                                    | 4                 |
| Cylinders Arrangement                        | Vertical In-Line  |
| Displacement                                 | 4.4 L             |
| Aspiration System                            | Turbocharged      |
| Combustion System                            | Direct Injection  |
| Governor                                     | Mechanical        |
| Bore   | 105 mm            |
| Stroke                                       | 127 mm            |
| Speed  | 50 Hz & 1500 RPM  |
| Cooling System                               | Water Cooled      |
| Cycle  | 4-Stroke          |
| Gross Power PRP (KWm)                        | 93-KWm /125-HP    |
| Gross Power STP (KWm)                        | 103-KWm /138-HP   |
| Gross Power PRP                              | 98 HP             |
| Compression Ratio                            | 18.23:1           |
| Rotation                                     | Anti-Clockwise    |
| Lubricating Capacity                         | 8 L               |
| Coolant Capacity                             | 13 L              |
| Radiator Cooling air flow m <sup>3</sup> / s | 2.76 Min          |
| Thermostat Operation Range                   | 82-93° C          |
| Coolant & water Ratio                        | 50:50             |
| Exhaust Gas Temperature                      | 555° C            |
| Combustion Air flow m <sup>3</sup> / min     | 6.01              |
| Exhaust Gas Flow m <sup>3</sup> / min        | 15.2              |
| Allowable Back Pressure                      | 18 kPa            |
| Exhaust Outlet Size                          | 64 mm             |
| Battery Charging Alternator                  | 65 Amps           |
| Starter Motor                                | 3 KW, 12V         |
| Oil Pressure                                 | 415-470 kPa       |
| Dry Weight (Kg)                              | 463               |
| Recommended Oil Grade                        | API-CH4-SAE15W-40 |
| Battery Voltage                              | 12 V              |
| Fuel Type                                    | Diesel            |
| Recommended Fuel                             | Grade # 2         |

**OTHER INFORMATION:**

|                        |                  |
|------------------------|------------------|
| ATS /AMF Panel         | Optional         |
| External Fuel Tank     | Optional         |
| Trailer/Trolley        | Optional         |
| Remote Monitoring      | Optional         |
| Operating Temperature  | Up to 50° C      |
| Low Fuel Level Sensor  | Available        |
| 4-Pole Breaker         | Optional         |
| Sound Level @ 7M       | 78 dBs (Approx.) |
| Synchronizing System   | Optional         |
| Customized Color       | Optional         |
| Customized Sound Level | Optional         |

**STANDARD SPECIFICATIONS:**

**1.ENGINE** Perkins 4 stroke heavy duty high performance industrial type diesel engine.

**2.ENGINE FILTRATION SYSTEM** • Air filter. • Fuel filter. • Full flow lube oil filter. All filters have replaceable elements.

**3.COOLING RADIATOR.** Radiator and cooling fan, complete with safety guards, designed to cool the engine at high ambient temperatures

**4.EXHAUST SYSTEM** Heavy duty Industrial Exhaust Silencer.

**5. CIRCUIT BREAKER TYPE** 3 pole MCB. (4 pole is optional)

**6. FUEL SYSTEM** On Generating Sets up to 500 KVA, the base frame design is incorporated with an integral fuel tank with capacity of approx. 5-8 hours running at Full Load. The tank is supplied complete with fill cap breather, fuel feed and return lines to the Engine and drain plug.

**7. ALTERNATOR 7.1 INSULATION SYSTEM** • The insulation system is Class H. • All windings are impregnated in either a triple dip thermosetting liquid, oil and acid resisting polyester varnish or vacuum pressure impregnated with a special polyester resin. • Heavy coat of anti-tracking varnish additional protection against moisture or condensation. **7.2 AUTOMATIC VOLTAGE REGULATOR (AVR)** The fully sealed Automatic Voltage Regulator maintains the Voltage Regulation at ±0.5%. Nominal adjustment by means of a trim pot incorporated on the AVR.

**8. MOUNTING ARRANGEMENT 8.1 BASE FRAME** The complete Generating Set is mounted as a whole on a heavy duty fabricated steel Base frame. **8.2 COUPLING** The Engine and Alternator are directly coupled by means of an SAE flange. The Engine flywheel is flexibly coupled to the Alternator rotor. **8.3 ANTI-VIBRATION MOUNTING PADS** Anti-Vibration pads are affixed between the Engine / Alternator feet and the Base frame thus ensuring complete vibration isolation of the rotating assembly. **8.4 SAFETY GUARDS** The Fan & Fan Drive along with the Battery Charging Alternator are Safety Guard protected for personnel protection.

**9. FACTORY TESTS** • The Generating set is load tested before dispatch • All protective devices control functions and site load conditions are simulated. The generator and it's systems are checked before dispatch.

**10. DOCUMENTATIONS** Operation & Maintenance manual, Circuit wiring diagrams and Commissioning / Fault Finding instruction leaflets are accompanied with the Generator.

**11. WARRANTY** All of the Generating Sets are covered under a warranty policy for a period of 12 months or 1000 Hours Warranty of the equipment is in line with manufacturers warranty terms & conditions. (check warranty statement for more details, as it may vary for different countries)

**Disclaimer:** In-line with continuous product development, we reserve the right to change specifications without prior notice.

| CONTROLLER LCD DISPLAY:                  | Deep Sea<br>DSE 4520 | Deep Sea<br>DSE 6020 |
|--|----------------------|----------------------|
| Voltage between Phases (L-L)             | ✓                    | ✓                    |
| Voltage between Neutral and Phase (L-N)  | ✓                    | ✓                    |
| Frequency                                | ✓                    | ✓                    |
| 3 Phase Current                          | ✓                    | ✓                    |
| Real Power (KW) and Apparent Power (KVA) | ✓                    | ✓                    |
| Power Factor                             | ✓                    | ✓                    |
| Engine Speed                             | ✓                    | ✓                    |
| Running Hours                            | ✓                    | ✓                    |
| Coolant Temperature                      | ✓                    | ✓                    |
| Oil Pressure                             | ✓                    | ✓                    |
| Battery Voltage                          | ✓                    | ✓                    |
| LCD Alarm Indication                     | ✓                    | ✓                    |
| 3 Phase Mains (Utility) Sensing          | ✓                    | ✓                    |

### PROTECTING FUNCTIONS:

|  |   |   |
|--|---|---|
| Emergency Stop Button                  | ✓ | ✓ |
| High coolant Temperature               | ✓ | ✓ |
| Low Oil Pressure                       | ✓ | ✓ |
| Over Current / Load                    | ✓ | ✓ |
| Under/Over Speed, Frequency & Voltages | ✓ | ✓ |
| Low / High Battery Voltages            | ✓ | ✓ |
| Low Fuel Level Warning at 20%          | ✓ | ✓ |
| Low Fuel Level Shutdown at 10%         | ✓ | ✓ |

### RATINGS DEFINITIONS:

**Prime Power:** These ratings are applicable for supplying continuous electrical power at variable load in lieu of commercially purchased power. 10% overload power is available for 1 hour in 12 hours continuous operation.

**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.

### STANDARD REFERENCE CONDITIONS:

Output ratings are presented at 25° C air inlet temperature, barometric pressure 100 kPa relative humidity 30%. This rating set is designed to operate at high ambient temperature up to 50° C, humidity up to 99% and higher altitude. De-rating may apply. (Some of the specifications are not standard on all Genset models)

### OPTIONAL ITEMS



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engineering company

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