

# ULTIMATE POWER SOLUTION (FZC)

The world's best dealer for Power Generation, Control System, & Power Solution

POWERED BY:



**166 KVA**

3 PHASE

**60 Hz**

**150 KVA**

3 PHASE

**50 Hz**

## GENERATING SET MODEL (UPSP166)

| Output Ratings                  | Prime   | Standby |
|---------------------------------|---------|---------|
| 380-415 V, 3ph, 50 Hz, 1500 rpm | 150 KVA | 165 KVA |
|                                 | 120 KW  | 132 KW  |
| 380-415 V, 3ph, 60 Hz, 1800 rpm | 166 KVA | 183 KVA |
|                                 | 132 KW  | 147 KW  |

## ENGINE / TECHNICAL DATA

Ratings at 0.8 Power Factor

|                                   |                                        |
|-----------------------------------|----------------------------------------|
| Engine Make                       | PERKINS                                |
| Engine Model                      | 1106A-70TAG2                           |
| Governing Type                    | Mechanical                             |
| Number of Cylinder/ Arrangement   | 6/ Vertical in-line                    |
| Bore and Stroke (mm)              | 105 mm x 135 mm                        |
| Compression Ratio                 | 18.2 : 1                               |
| Displacement (L)                  | 7.01 L                                 |
| Aspiration/ Cooling               | Turbocharged aftercooled/ Water cooled |
| Combustion System                 | Direct Injection                       |
| Rotation from Flywheel End        | Anti-clockwise                         |
| Total Lubrication System Capacity | 18 L                                   |
| Total Coolant Capacity            | 21 L                                   |
| Cycle                             | 4 stroke                               |
| Frequency and Engine Speed        | 50 Hz / 1500 rpm      60 Hz / 1800 rpm |
| Fuel Consumption                  |                                        |
| @50% load                         | 16.5 L/hr      18.5 L/hr               |
| @75% load                         | 24.2 L/hr      28.8 L/hr               |
| @100% load                        | 32.3 L/hr      37.5 L/hr               |
| @110% load                        | 35.2 L/hr      40.7 L/hr               |
| Exhaust temperature               | 471°C      419°C                       |

## ALTERNATOR

|                      |                        |
|----------------------|------------------------|
| Make                 | UPS / Leroy Somer(TAL) |
| Model                | UPS274G / TAL044J      |
| No. of bearings      | 1                      |
| Insulation           | H                      |
| Exciter Type         | SHUNT                  |
| Wires                | 6/12                   |
| Degree of protection | IP23                   |
| Winding Pitch        | 2/3                    |
| Overspeed            | 2250 mn <sup>-1</sup>  |
| Voltage Regulation   | ±1%                    |

## CONTROL PANEL

|       |                |
|-------|----------------|
| Make  | DeepSea        |
| Model | 4110/20 SERIES |

The DSE 4110/20 Seeries., is an Auto Start Control for single genset application. It includes a LCD display which clearly shows the status of engine all the times. This module can either programmed using the front panel or by using configurator sale PC software.

### Metering and Alarm Indications:

- Generator frequency
- UnderSpeed, Overspeed
- Generator volts (L-L, L-N)
- Generator current
- Engine oil pressure
- Engine coolant temperature
- Hours run counter
- Battery volts
- Fail to start/stop
- Emergency stop
- Failed to reach loading voltage/frequency
- Charge fail
- LOW DC voltage
- CAN diagnostic and CAN fail/error



CERTIFIED BY:



# STANDARD SPECIFICATIONS

**166 KVA**

**3 PHASE**

**60 Hz**

**150 KVA**

**3 PHASE**

**50 Hz**

## 1. ENGINE

Perkins four stroke heavy duty high performance industrial type diesel engine.

## 2. ENGINE FILTERATION SYSTEM

- Cartridge type dry air filter.
  - Cartridge type fuel filters.
  - 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 (consult your dealer for de-rating factors)

## 4. EXHAUST SYSTEM

Exhaust gas flow 23.86-31.99 m<sup>3</sup>/min  
Maximum allowable back pressure 6 (kPa)

## 5. CIRCUIT BREAKER TYPE

3 pole MCCB. (4 pole is optional)

## 6. Fuel System

The baseframe design is incorporated with an integral fuel tank with a capacity of approx. 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 antitracking varnish additional protection against moisture or condensation.

### 7.2 AUTOMATIC VOLTAGE REGULATOR (AVR)

The fully sealed Automatic Voltage Regulator maintains the Voltage Regulation at  $\pm 1\%$ . Nominal adjustment by means of a trim pot incorporated on the AVR.

## 8. MOUNTING ARRANGEMENT

### 8.1 COUPLING

- The Engine and Alternator are directly coupled by means of an SAE flange. The Engine flywheel is flexibly coupled to the Alternator rotor.

### 8.2 ANTI-VIBRATION MOUNTING PADS

- Anti-Vibration pads are affixed between the Engine/ Alternator feet and the Baseframe thus ensuring complete vibration isolation of the rotating assembly.

### 8.3 SAFETY GUARDS

- The Fan & Fan Drive along with the Battery Charging Alternator are Safety Guard protected for personnel protection.

## 9. FACTORY TEST

- The Generating set is load tested before dispatch
- All protective devices control functions and site load conditions are simulated. The generator and its systems are checked before dispatch.

## 10. EQUIPMENT FINISHING

All mild steel components are fully degreased and painted with powder coated paint to ensure maximum scuff resistance and durability.

## 11. DOCUMENTATION

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

## 12. QUALITY STANDARDS

The equipment meets the following standards: B84999, B65000, BS5514 IEC 60034, VDE0530, NEMA MG 1.22 and ISO8528.

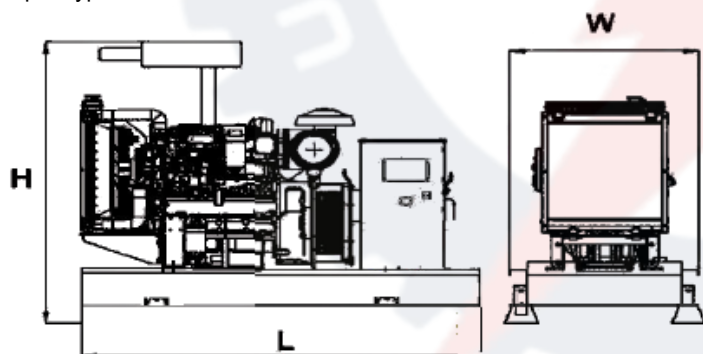
## 13. WARRANTY

All of the Generating Sets are covered under a warranty policy for a period of 12 months or 1000 working 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)

In line with continuous product development, we reserve the right to change specifications without notice.

## STANDARD GENERATOR DIMENSION

Open type Generator



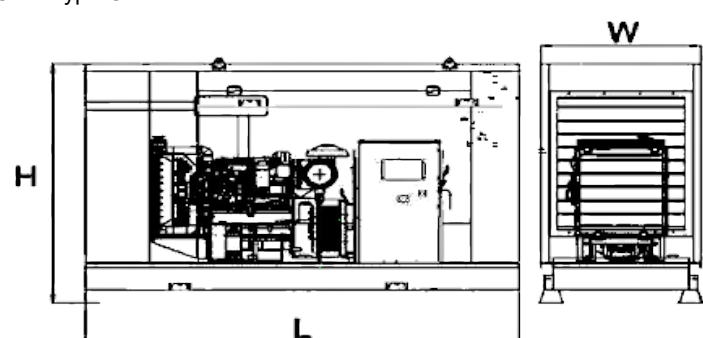
**Length, L: 2440 mm**

**Height, H: 1400 mm**

**Width, W: 900 mm**

**Weight: 1400 kg**

Close type Generator



**Length, L: 2850 mm**

**Height, H: 1650 mm**

**Width, W: 1100 mm**

**Weight: 1700 kg**