

# DGP-650

POWERED BY:



Generating Set pictured may include optional accessories.



## ENGINE / TECHNICAL DATA

| Engine Make                                   | Perkins                                |           |                |           |
|-----------------------------------------------|----------------------------------------|-----------|----------------|-----------|
| Engine Model                                  | 2806A-E18TAG2                          |           |                |           |
| Governing class                               | ISO 8528-5 G2                          |           |                |           |
| Number of Cylinders                           | 6                                      |           |                |           |
| Cylinder Arrangement                          | Vertical in line                       |           |                |           |
| Bore and Stroke mm                            | 145 x 183                              |           |                |           |
| Displacement / Cubic Capacity litres          | 18.1                                   |           |                |           |
| Induction System                              | Turbocharged, air to air charge cooled |           |                |           |
| Cycle                                         | 4 stroke                               |           |                |           |
| Combustion System                             | Direct Injection                       |           |                |           |
| Compression Ratio                             | 14.5:1                                 |           |                |           |
| Rotation                                      | Anti-clockwise, viewed on flywheel     |           |                |           |
| Cooling System                                | Water - cooled                         |           |                |           |
| Frequency and Engine Speed                    | 50Hz & 1500rpm                         |           | 60Hz & 1800rpm |           |
|                                               | Prime                                  | Standby   | Prime          | Standby   |
| Gross Engine Power kW (hp)                    | 584 (783)                              | 628 (842) | 568 (762)      | 623 (835) |
| Fuel Consumption @ %50 load L/hr              | 61.0                                   | -         | 66.0           | -         |
| @ %75 load L/hr                               | 90.0                                   | -         | 95.0           | -         |
| @ %100 load L/hr                              | 123.0                                  | 134.0     | 127.0          | 141.0     |
| Total Lubrication System Capacity litres      | 62                                     | 62        | 62             | 62        |
| Total Coolant Capacity (inc. radiator) litres | 61                                     | 68.5      | 68.5           | 68.5      |
| Exhaust Temperature: C°                       | 555                                    | 553       | 481            | 489       |
| Radiator Cooling Air Flow (Min) : m3/sec      | 6.22                                   | 7.2       | -              | -         |
| Combustion Air Flow : m3/min                  | 37.0                                   | 40.0      | 43.0           | 45.0      |
| Exhaust Gas Flow : m3/min                     | 106.0                                  | 114.0     | 109.0          | 118.0     |
| Fuel Tank Capacity : litres                   | 735                                    | 715       | 715            | 715       |

## ALTERNATOR DATA

| Make                   | Leroy Somer TAL                       |
|------------------------|---------------------------------------|
| Model                  | TAL 047 F / TAL A473 F                |
| KVA                    | 660                                   |
| KW                     | 528                                   |
| No. of bearings        | 1                                     |
| Insulation class       | H                                     |
| Total Harmonic Content | in linear load <5% , at no load <1.5% |
| Winding Leads          | 6                                     |
| Ingress Protection     | IP23                                  |
| Excitation System      | Self-Excited                          |
| Winding Pitch          | 2/3                                   |
| AVR Model              | R150                                  |
| Overspeed              | 2250 mn <sup>-1</sup>                 |
| Voltage Regulation     | ±1.0 %                                |
| Short Circuit Capacity | -                                     |

## RATINGS DEFINITION

### 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.

## OUTPUT RATINGS

| Output Ratings                      | Prime                   | Standby                 |
|-------------------------------------|-------------------------|-------------------------|
| 380-415 V<br>3 ph, 50Hz<br>1500 rpm | 669.53 KVA<br>535.62 KW | 736.48 KVA<br>589.19 KW |
| 480V<br>3 ph, 60Hz<br>1800 rpm      | 670.00 KVA<br>536.00 KW | 737.00 KVA<br>589.60 KW |

Applicable Voltages: 220/127 V at 60 Hz only  
(Consult your dealer for more details)

Ratings at 0.8 Power Factor

## DIMENSIONS & WEIGHT

| Length (mm) | Width (mm) | Height (mm) | Weight - wet (kg) |
|-------------|------------|-------------|-------------------|
| 5500        | 2000       | 2490        | 6125              |

\* For skid mounted genset without enclosure      wet weight = with lube oil and coolant

## CONTROL PANEL

|       |            |
|-------|------------|
| Make  | Deep Sea   |
| Model | DSE6110/20 |

The DSE6110 is an Auto Start Control Module and The DSE6120 is an auto mains(utility) Failure Control Module for single gen-set applications. Both modules have been designed to work with electronic engines providing advance engine monitoring and protection features.

- Transfer between mains(utility) and generator power(DSE6120 only)
- Generator frequency
- Underspeed, Overspeed
- Generator volts (L-L, L-N)
- Generator current
- Engine oil pressure
- Engine coolant temperature
- Fuel level (Warning or shutdown)
- Hours run counter
- Battery volts
- Fail to start/stop
- Emergency stop
- Failed to reach loading voltage/frequency
- Charge fail
- Loss of magnetic pick-up signal
- Low DC voltage
- CAN diagnostics and CAN fail/error

### 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 ratings.



## STANDARD SPECIFICATIONS

### 1 - ENGINE

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

### 2 - ENGINE FILTRATION SYSTEM

- Cartridge type dry air filters.
  - Cartridge type fuel filters.
  - Full flow lube oil filters.
- 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

|                                 |           |
|---------------------------------|-----------|
| Silencer noise reduction level  | 14 (dB)   |
| Maximum allowable back pressure | 6.9 (kPa) |

### 5 - CIRCUIT BREAKER TYPE

3 pole MCB / MCCB (supplied disconnected and without cables)

### 6 - FUEL SYSTEM

On Generating Sets up to 2000 KVA, the base frame design can be 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.

#### 7.2 - AUTOMATIC VOLTAGE REGULATOR (AVR)

The fully sealed Automatic Voltage Regulator maintains the Voltage Regulation at  $\pm 0.5\%$ .  
Nominal adjustment by means of a trim pot incorporated on the AVR.

#### 7.3 - MOTOR STARTING

An overload capacity equivalent to 300% of the Full Load impedance at zero Power Factor can be sustained for 10 seconds.

### 8 - MOUNTING ARRANGEMENT

#### 8.1 - BASE FRAME

The complete Generating Set is mounted as a whole on a heavy duty fabricated steel Baseframe.

#### 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 Baseframe thus ensuring complete vibration isolation of the rotating assembly.  
The Fan & Fan Drive along with Battery Charging.

#### 8.4 - SAFETY GUARDS

The Fan & Fan Drive along with the Battery Charging Alternator are Safely Guard protected for personal protection.

### 9 - FACTORY TESTS

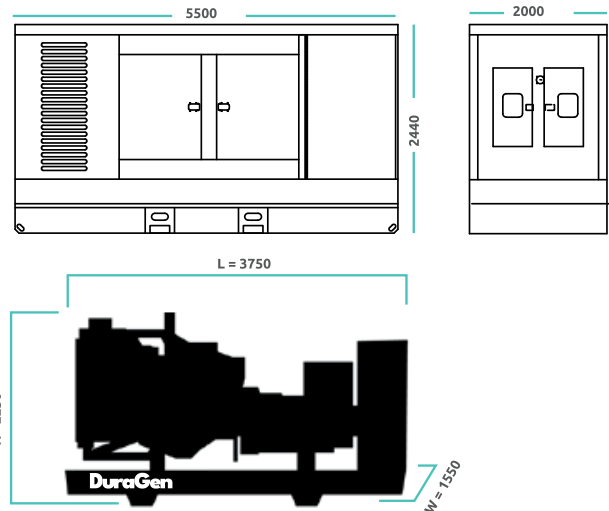
- The Generating set is load tested before dispatch.
  - All protective devices control functions and site load conditions are simulated.
- The generator and it's systems are checked before dispatch.

### 10 - EQUIPMENT FINISHING

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

## AVAILABLE OPTIONS & ACCESSORIES

We offer a range of optional features and accessories to tailor our generating sets to meet your power needs.



### OPTIONS

- Water jacket heater.
- A variety of generating set
- Additional protection alarms.
- Water fuel separator control and synchronizing and shutdowns.
- Panels.
- Battery charger.

### ACCESSORIES

- SWITCHES.
- LOAD BANKS.
- AUXiliary fuel tanks.
- Manual & automatic.
- Genuine spare parts transfer.

## STANDARD REFERENCE CONDITIONS

Output ratings are presented at 25°C air inlet temperature, barometric pressure 100 kPa, relative humidity 30%.

This generating set is designed to operate at high ambient temperature (up to 55°C), humidity (up to 99%) and altitudes.

De-rating may apply, please consult your dealer for specific site ratings.

**DURAGEN** generators are assembled some of the specifications are not standard on all genset models.  
in Facilities certified to ISO 9001 All information in this document is substantially correct at time of printing and may be altered subsequently.

Generating set pictured may include optional accessories.

**11. DOCUMENTATIONS** a set of Operation & Maintenance manual, Circuit wiring diagrams and Commissioning / Fault Finding instruction leaflets accompany the Generator.

**12. QUALITY STANDARDS** The equipment meets the following standards: BS4999, BS5000, BS5514 IEC 60034, VDE0530, NEMA MG 1.22 and ISO 8528.

**13. WARRANTY** All of the Generating Sets are covered under a warranty policy for a period of 12 months. 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.

For further information on all of the standard and optional features accompanying this product please contact your local dealer or visit:

[WWW.DURAGEN.NET](http://WWW.DURAGEN.NET)

