

# Generator JP180

## Description

### GENERATING SET MODEL (JP135)

Output Ratings	Prime	Standby
380-415 V, 3 ph, 50 Hz, 1500 rpm	180.0 KVA	200.0 KVA
	144.0 KW	160.0 KW

### GENERATING SET MODEL (JP150)

Engine Make	Perkins
Engine Model	1106A-70TAG3
Governing Type	Mechanical
Number of Cylinders	6
Cylinder Arrangement	Vertical in line
Bore and Stroke mm	105 x 135
Displacement / Cubic Capacity litres	7.01
Induction System	Turbocharged, air to air charge cooled
Cycle	4 stroke
System Combustion	Direct Injection
Compression Ratio	16:5:1
Rotation	Anti-clockwise, viewed on flywheel
Cooling System	Water “ cooled
Frequency and Engine Speed	50Hz & 1500rpm

	Prime	Standby
Gross Engine Power KW (hp)	168.8 (226.36)	185.7 (249.02)
Fuel Consumption @ 50% load L/hr	18.8	
@ 75% load L/hr	30.7	
@ 100% load L/hr	39.6	43.7
Total Lubrication System Capacity litres	18.0	18.0

Total Coolant Capacity litres	20.5	20.5
Exhaust Temperature: °C	487	487
Radiator Cooling Air Flow (Min): m <sup>3</sup> /sec	3.06	3.06
Combustion Air Flow: m <sup>3</sup> /min	12.74	13.45
Exhaust Gas Flow: m <sup>3</sup> /min	30.37	32.28

## DIMENSIONS AND WEIGHT

Length cm	Width cm	Height cm	Weight* Kg (wet)	Fuel Tank Litres
257	90	148	1702	261

## DIMENSIONS AND WEIGHT (CLOSED TYPE)

Length cm	Width cm	Height cm	Weight* Kg (wet)	Fuel Tank Litres
390	111	187	2310	320

## STANDARD SPECIFICATIONS

### 1 " ENGINE

Perkins four 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:

Silencer noise reduction level: 12(dB)

Maximum Allowable Back Pressure: 6.0 (kPa)

## 5 " CIRCUIT BREAKER TYPE

ABB 3 pole ACB / MCCB (4 pole is optional)

## 6. FUEL SYSTEM

On Generating Sets up to 650 KVA, 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 full 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.

### 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, when PMG option is fitted.

## 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.

### 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 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. DOCUMENTATIONS

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: 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.

### ALTERNATOR DATA

Make	Leroy Somer
Model	TAL 046A / TAL 044L
No. of bearings	1
Insulation class	H
Total Harmonic Content	at no load <2.5% / <2% at linear load <5% / <5%
Ingress Protection	IP23
Excitation System	SHUNT
Winding Pitch	2/3
AYR Model	R150 / R120
Overspeed	2250 min $\hat{A}^{-1}$
Voltage Regulation	$\hat{A}\pm 0.8\%$ / $\hat{A}\pm 1\%$
Short Circuit Capacity	$\hat{A}\epsilon$

AREP or PMG Excitation System Available as Optional.

### CONTROL PANEL

Make Deep Sea

Model DSE6120

The DSE6120 MKIII is an Auto Mains (Utility) Failure Control Module suitable for a wide variety of single diesel or gas genset applications. It includes a backlit LCD display which clearly shows the status of the engine all the times. This module can either be programmed using the front panel or by using the DSE configuration suite PC software.

**Metering and Alarm indications:**

Generator frequency  
Underspeed, Overspeed  
Generator volts (L-L, L-N)  
Generator current  
Engine oil pressure  
Engine coolant temperature  
Fuel level (Warning or shutdown) – Optional  
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 – Optional  
Low DC voltage  
CAN diagnostics and CAN fail/error

**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 temperatures (up to 55°C), humidity (up to 99%) and higher attitudes. De-rating may apply, please consult your dealer for specific site ratings.

**STANDARD SPECIFICATIONS**