

# Generator JP450

## Description

### GENERATING SET MODEL (JP450)

Output Ratings	Prime	Standby
400 V, 3 ph, 50 Hz, 1500 rpm	455 KVA 364 KW	500 KVA 400 KW
480 V, 3 ph, 60 Hz, 1800 rpm	513 KVA 410 KW	563 KVA 450 KW

### GENERATING SET MODEL (JP450)

Engine Make	Perkins
Engine Model	2506A-E15TAG1
Governing Class	ISO 8528-5 G3
Number of Cylinders	6
Cylinder Arrangement	Vertical in line
Bore and Stroke mm	137 x 171
Displacement / Cubic Capacity litres	15.2
Induction System	Turbocharged, air to air charge cooled
Cycle	4 stroke
System Combustion	Direct Injection
Compression Ratio	16:1
Rotation	Anti-clockwise, viewed on flywheel
Cooling System	Water “ cooled
Frequency and Engine Speed	50Hz & 1500rpm 60Hz & 1800rpm
	<b>Prime Standby Prime Standby</b>
Gross Engine Power KW (hp)	412 (552) 451 (605) 458 (615) 514 (689)

Fuel Consumption @ 50% load L/hr	50	â€“	53	â€“
@ 75% load L/hr	72	â€“	78	â€“
@ 100% load L/hr	95	104	102	116
Total Lubrication System Capacity litres	62	62	62	62
Total Coolant Capacity litres	58	58	58	58
Exhaust Temperature: Â°C	537	558		
Boost Pressure Ratio	2.94	2.97	3.00	3.25
Radiator Cooling Air Flow (Min): mÂ³/sec	11	11	13.7	13.7
Combustion Air Flow: mÂ³/min	14.1	15.0		
Exhaust Gas Flow: mÂ³/min	25.8	30.5	34.3	38
Fuel Tank Capacity: litres	650	650	650	650

## DIMENSIONS AND WEIGHT

Length cm	Width cm	Height cm	Weight* Kg (wet)
356	112	207.8	3777

## STANDARD SPECIFICATIONS

### 1 â€“ ENGINE

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

### 2 â€“ ENGINE FILTRATION SYSTEM

- Cartridge type dry air filter.
  - Cartridge type fuel filter.
  - Full flow lube oil filter.
  - Water filter.
- All filters have replaceable elements.

### 3 â€“ 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 â€“ EXHAUST SYSTEM

Heavy duty Industrial Exhaust Silencer:  
Silencer noise reduction level: 15 (dB)  
Maximum Allowable Back Pressure: 6.8 (kPa)

## 5 “ CIRCUIT BREAKER TYPE

3 pole ACB/MCCB. (supplied disconnected and without cables)

## 6. FUEL SYSTEM

On Generating Sets up to 700 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 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.

### 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 AREP or 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 047B / TAL 0473B
No. of bearings	1
Insulation class	H
Wires	6
Total Harmonic Content	<3.5% on load
Ingress Protection	IP23
Excitation System	SHUNT
Winding Pitch	2/3 (nÂ° 6)
AYR Model	R150
Overspeed	2250 minÂ°Â¹
Voltage Regulation	Â± 1%
Short Circuit Capacity	â€“
AREP or PMG Excitation System Available as Optional.	

## CONTROL PANEL

Make Deep Sea

Model DSE6110

The DSE6110 is an Auto Start Control Module for single 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 altitudes. De-rating may apply, please consult your dealer for specific site ratings.

Some of the specifications are not standard on all Genset models