Standby Power Generators & Electrical Services FZC

Genset 45 KVA

Mod. ST45

POWERED BY:

Perkins Diesel Power

LEROY SOMER

DSE

GENERATING SET MODEL (ST45)

Output Ratings	Prime	Standby
380-415 V, 3 ph, 50 Hz, 1500 rpm	45 KVA	50 KVA
	36 KW	40 KW
		Ratings at 0.8 Power Factor

ENGINE / TECHNICAL DATA

Engine Make	Perkins	
Engine Model	1103A-33TG1	
Governing Type	Mechanical	
Number of Cylinders	3	
Cylinder Arrangement	Vertical in line	
Bore and Stroke (mm)	105 x 127	
Displacement / Cubic Capacity litres	3.3	
Induction System	Turbocharged	
Cycle	4 stroke	
Combustion System	Direct Injection	
Compression Ratio	17.25:1	
Rotation	Anti-clockwise, viewed from flywheel	
Cooling System	Water - cooled	
Frequency and Engine Speed	**50Hz & 1500rpm**	
	Prime	**Standby**
Gross Engine Power kW (hp)	42.2 (56.6)	46.5 (62.4)
Fuel Consumtion @ 50% load L/hr	5.7	-
@ 75% load L/hr	8.2	-
@ 100% load L/hr	10.7	12
Total Lubrication System Capacity litres	7.9	7.9
Total Coolant Capacity (inc. radiator) litres	10.2	10.2
Exhaust Temperature: °C	492	537
Radiator Cooling Air Flow (Min): m^3/sec	0.88	0.88
Combustion Air Flow: m^3/min	2.9	3.1
Exhaust Gas Flow:m^3/min	7	7.7
Fuel Tank Capacity: litres	85	85

DIMENSIONS AND WEIGHT

Length mm	Width mm	Height mm	Weight* kg (wet)
Open Type - 1740	820	1300	949
Silent Type - 2200	1000	1500	1338

*For skid mounted genset without enclosure

wet weight - with lube oil and coolant

ALTERNATOR DATA

Make	Leroy Somer
Model	TAL 042F
Insulation Class	H
Winding Pitch	2/3
Number of wires	6 (12 option)
Protection	IP 23
Altitude	≤ 1000 m
Overspeed	2250 R.P.M
Excitation System	SHUNT
AVR type	R120
Voltage Regulation (**)	±1%
Total Harmonic Distortion THD - in no-load	< 2 %
Total Harmonic Distortion THD - in linear load	< 5 %

CONTROL PANEL

Make Deep Sea **Model** DSE 4510

This Auto Start Control Module has been designed and built to combine all the instruments control and the warning lights for engine and alternator. The sheet steel made panel is carefully painted for tropical climates and is designed for a dusty environment.

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) -
- Battery volts
- Fail to start/stop
- Emergency stop
- Failed to reach loading voltage
- Charge fail
- Loss of magnetic pick-up signal
- Low DC voltage

(Please refer to DSE4510 brochure for more details)

RATING DEFINITIONS

Prime Power

These ratings are applicable for supplying continous power (at variable end) in lieu of commercially purchased power.
There is no limitation to the annual hours of operation and this model can supply 10% overload power for 1 hour in 12 hours

Standby Power

These ratings are applicable for supplying continous 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

- Catridge type dry air filter.
- Catridge type fuel filter.
- 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-ration factors)

4. EXHAUST SYSTEM

Heavy duty Industrial Exhaust Silencer

Silencer noise reduction level	15 (dB)
Maximum allowable back pressure (kPa)	10.0 @ 50 Hz 15.0 @ 60 Hz

5. CIRCUIT BREAKER TYPE

ABB 3 pole MCCB. (4 pole is optional)

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 ± 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 TEST

- The Generating set is load tested before dispatch
- All protective devices control functions and site load conditions are simulated. The generator and it's system 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 above ratings represent the engine performance capabilities specified in ISO 8528/1, ISO 3046/1:1986, BS5514/1. ISO 9001:2008

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 our policy of continous product development, we reserve right to change specification without notice

STANDARD REFERENCE CONDITIONS

Output ratings are presented at 25^0C air inlet temperature, barometric pressure 100 kPa, relative humidity 30%. This generating set is designed to operate at high ambient temperatures (up to 55^0C), humidity (up to 99%) and higher altitudes. De-ration may apply, please consult your dealer for specific site ratings.

Some of the specifications are not standard on all Genset models.

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Standby Power Generators & Electrical Services FZC

For further information on all of the standard and optional features accompanying this product please contact your local dealer or visit **www.standbyfzc.com**

STANDBY GENSET are assembled in facilities certified to ISO 9001:2008

All information in this documents is subsequently correct at time of printing and may be altered subsequently