

GENERATING SET POWERED BY VOLVO PENTA

# SVP550- GENSET



At 1500rpm Prime Power 407KWe/509KVA, Standby Power 447KWe/559KVA

At 1800rpm Prime Power 461KWe/576KVA, Standby Power 518KWe/647KVA

## Reliable & Powerful

The **KVP550** Genset is a powerful, reliable and economical diesel Generating Set. This combination is built on dependable Volvo Penta engine and Stamford (CGT) first class alternator.

## Durability & Low Noise

Designed for easiest, fastest, and most economical installation. Approved combinations with engines coupled to single bearing alternators produce a smooth vibration free operation and low noise. Engine-Alternator is mounted on rigid steel base frame using Volvo Original Rubber Cushion for optimal vibration isolation.

## Engine Low Exhaust Emission

The state of the art, high-tech injection and charging system with low internal losses contributes to excellent combustion and low fuel consumption. Complies with EPA/CARB Tier 2 and TA-luft exhaust emission regulation.

## Alternator Control & Regulation

Continuous development of the automatic voltage regulators is to reach the ultimate reliability and control.

## Warranty

One year against all defects in material and / or workmanship, subject to the terms and conditions of the Manufacturer's warranty.

## Easy Service & Maintenance

Easily accessible service, maintenance points and terminals contribute to the ease of service of the genset.

## Maintained Performance

The standard genset may operate up to 1000m altitude and 40°C ambient air temperature without derating.

## General

### Engine

- Tropical cooling system (55° C)
- Fully electronic with Volvo Penta EMS2
- Turbo charged
- Emission compliant
- Low noise level
- CANBUS interface SAE J1939

### Alternator

- 12 wire reconnectable stator / terminal arrangement
- 2/3 pitch windings avoid excessive neutral currents.
- Single bearing construction with dynamically balanced rotor and sealed for life bearings.
- Class "H" insulation with severe environmental protection as standard.
- Built to confirm with all leading industrial and marine standards.

### General

- Digital controller with LCD display
- Auto Start
- 3 pole circuit breaker
- Battery disconnect switch
- Manual oil drain pump
- Stainless steel flexible
- Standard silencer
- Rigid steel base frame with lifting eyes
- Anti-vibration pads
- Fuel filter water separator
- Coolant "Ready Mix" (Volvo original)
- Oil VDS (Volvo original)

### Control Panel

- Deep Sea digital controller; (UK origin) CANBUS J1939
- Steel sheet enclosure with hinged and lockable cover
- Emergency push button
- Alternator mounted & fixed with anti-vibration rubber pads
- Warm up and cooling functions with built in exerciser
- Readings on LCD display
  - AC volts, AC currents, DC volts, frequency, rpm, hour counter, power factor
  - Oil pressure, water temperature, boost pressure and temperature, KW, KWh, KVA, KVAR, fuel consumption, relative load
- Fault indications are presented in plain English messages, along with errors related to engine controller
  - Low oil pressure, high coolant temperature, low oil level, high oil temperature
  - DC alternator failure, overspeed, over under voltage, over under current, over crank (Fail to start), any sensor failure
  - Low coolant level
- Configurable inputs & outputs.
- RS232 modem link to PC via GSM network, Signal SMS messages.



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## Features

<b>Engine</b>	<b>Volvo Penta</b>
Type	TAD1641GE
Origin	Sweden
No. of Cylinders	6
Configuration	In-line
SAE/Flexible coupling	1/14"
Cycle	4-stroke
Bore, mm	144
Stroke, mm	165
Displacement, l	16.12
Compression ratio	16.5:1
Aspiration	Turbocharged
Injection	Electronic
Starting	24V Electric
Alternator, amps	80/24V

<b>Alternator</b>	<b>Stamford</b>
Type	HCI544D
Origin	UK
Construction	single bearing
Insulation system	Class"H"
Temperature rise, °C	125
Excitation	Self excited
Voltage Regulator	AVRAS440
Protection	IP23
Rated power factor	0.8
Regulation	±1.0%
No. of Phases	3
No. of Poles	4
RPM	1500 1800
Frequency	50Hz 60Hz

### Performances

	1500rpm	1800rpm
<b>Engine</b>		
Efficiency		94%
Prime Power, KWm (hp)	430 (585)	485 (660)
Standby Power, KWm (hp)	473 (643)	546 (743)

	1500rpm	1800rpm
<b>Alternator</b>		
Prime Power, KWe	400	460

### Lubrication system

	1500rpm	1800rpm
<b>Oil consumption, l/hr:</b>		
Prime power	0.10	0.11
Standby Power	0.10	0.12
Oil sump capacity, l		42
Oil system capacity include filters,		48

### Fuel system

	1500rpm	1800rpm
<b>Specific fuel consumption at:</b>		
Prime Power, Litre/h		
50%	48.69	55.43
75%	71.23	81.09
100%	95.45	109.76

### Intake and exhaust system

	1500rpm	1800rpm
<b>Air consumption at Standby Power, m<sup>3</sup>/min</b>	35	45
<b>Heat rejection to exhaust at Standby Power, KW</b>	356	442
<b>Exhaust gas temperature after turbine at Standby Power, °C</b>	490	470
<b>Max allowable back-pressure in exhaust line, Kpa</b>	10	10
<b>Exhaust gas flow at Standby Power, m<sup>3</sup>/min</b>	84.9	106.6

### Cooling system

	1500rpm	1800rpm
<b>Heat rejection radiation from engine at Standby Power, KW</b>	34	33
<b>Heat rejection to coolant at Standby Power, KW</b>	176	199
<b>Cooling air flow, m<sup>3</sup>/min</b>	8.0	10.0
<b>Coolant capacity, l</b>		93

### Telephone interference

THF is better than	2%
TIF is better than	50

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### Circuit Breaker

3Pole series MCCB adjustable, amps	800
CT's	800/5
Steel sheet enclosure with bolted cover (European origin, ABB or equivalent)	

### Documentation

Engine instruction book-English
Warranty and service book- Multi-language
Alternator manual- English
Wiring diagram

### Dimensions and Weight

Length: 3.3m
Width: 1.4m
Height: 2.0m
Weight: 3530Kg

### Spare Parts Kit (Optional)

	(Genuine Volvo Penta)
Oil filter, full flow	2
Fuel filter water separator	1
Fuel filter	1
Fuel filter water separator	1
Coolant filter	1
Air filter	1
Fan belt set	1
Alternator belt set	

### International Standards

Engine confirm to ISO 9001: 2000, ISO 14001, ISO10054, ISO 3046, BS 5514, DIN 6271.  
 Alternator confirm to ISO 9001, ISO 14001, BS EN 60034, BS 5000, VDE 0530, NEMA MG1-32, IEC34 CSA C22.2-100, AS 1359, BS 6861-1, B En 61000-6-2:2001.

### Rating Guidelines

PRIME POWER rating to ISO Standard Power for continuous operation. It is applicable for supplying electrical power at variable load with 70% load factor for an unlimited number of hours as opposed to commercially purchased power. A 10% overload capability for governing purpose is available for this rating.

MAXIMUM STANDBY POWER rating corresponds to ISO Standard Fuel Stop Power. It is applicable for supplying standby electrical power at variable load in areas with well established electrical networks in the event of normal utility power failure. No overload capability is available for this rating.

1 hp = 1KW x 1.36

KWm = Kilo Watt mechanical, net with fan

KWe = Kilo Watt electrical = KWm\*gen.eff

KVA = Kilo Volt Ampere calculations based based on 0.8 power factor = KWe/0.8

### Optional Equipment

- **Engine**
  - Coolant heater
  - Extra fuel pre-filter water separator
  - Oversize batteries
- **Alternator**
  - Permanent magnet generator (PMG)
  - Upgrade to 3 phase sensing AVR
  - Anti-condensation heater
  - Quadrature droop kit
  - Air inlet filters
- **General**
  - Upgrade to modular controller for paralleling
  - Automatic transfer switch
  - Upgrade to 4 pole circuit breaker
  - Fuel tank base frame integrated for 8 hours operation
  - Fuel tank separate with customized capacity and shape
  - Fuel level switch High /Low for alarm and control
  - Fuel transfer pump Automatic / Manual
  - Fuel tank air filter
  - Residential grade silencer
  - Weather protective and or acoustic enclosure
  - Battery charger

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