

GENSET MODEL
SGV 630PR / 700SR

STERLING
GENERATORS (P) LTD
(A Shapoorji Pallonji Company)



Powered by



ENGINE MODEL : TWD 1643 GE

ALTERNATOR : Leroysoner / Stamford

GENSET RATING with Radiator Cooled

	Prime - kVA/kWe	Standby - kVA/kWe
50 HZ	630/504	700/560

FEATURES

Volvo Diesel Engines

Founded in 1907
Acquired by Volvo in 1935 and renamed as Volvo Penta
Volvo is one of the worlds leading manufacturer of Diesel engines
Part of AB Volvo and Headquartered in Gothenburg, Sweden
Global presence with superior technology

VOLVO diesel engines are turbocharged and Air-to-Air charge cooled, 6 cylinder configuration. Its premium features like full authority electronics, frequency selector to switch between 1500 RPM (50 HZ) to 1800 RPM (60HZ), Electronically controlled unit fuel injection system provides economic and durable power resulting in exceptional fuel consumption, low emissions meeting global norms and single step block load acceptance

About Sterling Generators

A Shapoorji Pallonji Company
One of the **largest integrated genset manufacturing facility** in Asia with separate EOU & DTA unit
Facilities to test upto 3000 kW on 415V, 3.3 kV, 6.6 kV & 11 kV
Inhouse acoustic enclosure and control panel (LT/HT/C&R) manufacturing
Nationwide installation and network for Sales and Support

Rating Definitions

Performance based on ISO 8528/1, ISO 3046/1, BS 5000

Prime Power : Variable load not exceeding 75%. Overload of 10% permitted for 1 hour in every 12 hour of operation

Volvo Powered Sterling Gensets

Sterling provides the range of Volvo powered gensets which are recognized globally for reliability, better efficiency and eco-friendliness
Gensets are designed and tested as per Volvo guidelines
Single window responsibility for Sales, Service and Spares
Genset warranty : Standard 1 year with Unlimited hours of operation

Standby Power : 85% load factor with a maximum of 500 hours running per year



ISO 9001:2000



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ENGINE TECHNICAL SPECIFICATIONS

Description	Units	50 HZ
Manufacturer		
Type		Volvo
Cylinder Arrangement	In line	TWD1643GE
Displacement	Litres	6
Bore and Stroke	MM	144/165
Compression ratio	Ratio	16.5:1
Rated Speed	RPM	1500
Altitude Capability above MSL	Mtrs	1500
Lube oil & Filter change period	Hours	500
Minimum continuous load	%	20
Piston Speed	Mtrs/Sec	8.3
Engine kW at rated RPM	kW (HP)	553 kW (752 HP)
Fuel stop power as per ISO-3046	kW (HP)	613 kW (834 HP)
BMEP	MPa	2.7
Governor type	-	Volvo EMS II
Governor class	-	ISO 8528-5, better than Class A1
Engine overspeed shutdown	RPM	1800
Exhaust System		
Exhaust gas flow	m ³ /min	101.6
Exhaust gas temperature	Deg C	450
Exhaust back pressure - Design value/Maximum	kpa	10
Fuel System		
Type of Injection		Electronic Unit Injection
Fuel supply flow - Supply/Return	LPH	190/25
Fuel temperature at fuel inlet - Max	Deg C	60
Fuel pressure at return - Max	Bar	2
Maximum suction head at pump inlet	Mtrs	2
Fuel filter filtration capacity - Secondary	Microns	10
Fuel filter pressure differential - Max	Bar	1
Lube Oil System		
Total System Capacity	Litres	48
Normal Lube oil pressure	Bar	3 - 6.5
Normal Lube oil temperature	Deg C	130
Lube oil filter filtration capacity	Microns	40
Recommended Lube oil grade		Volvo VDS 3
Heat Balance @ 100% Load		
Energy to Coolant	kW	208
Energy to Charge air cooler	kW	116
Energy to radiation	kW	23
Combustion/Air intake		
Combustion air flow	m ³ /min	43.65
Air filter	Type	Dry paper type - 1 Nos.
Coolant System		
Total system capacity	Litres	95
Normal Coolant temperature - HT/LT	Deg C	92
Coolant flow - Engine/CAC	Liters/sec	4.8/1.5
Radiator Fan power	HP	23
Radiator Fan air flow (With 200 pa duct allowance)	CFM	
Cooling system ambient capability	Deg C	40
Recommended coolant		Volvo ready mix
Engine Electrical System		
Type		24V negative earth
Charging alternator volts / Current	VDC / Amps	24/80
Starter power	kW	7
Lube oil consumption	Liters/h	0.1

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Genset Controllers

SGDF-C2



SGDF-C3



SGDF-C2 : AMF Controller (Standard Supply)

Features:

- Auto Start /Stop.
- Local & Remote Start/Stop
- Engine Parameters Reading via CANBUS.
- Genset Breaker and Mains Breaker Control.
- Easily accessible.
- MODBUS for BMS connectivity.

Display

- Engine Parameters
- Running Status
- Event Recording
- Fault Code Display
- Hourmeter
- Voltage, Current, Hz, KW, KVA, Pf and KVAr
- Breaker Status
- Service Timer Indication
- Real Time Clock for Time and Date

Protection

- Under Voltage / Over Voltage
- Under Frequency / Over Frequency
- Reverse Power
- Over Current
- Engine Protections

SGDF-C3 Automatic Genset Controller (Optional).

Features:

- AMF & Synchronising Controller
- Synchronising upto 16 Genset each with Individual Controller
- Momentarily Mains Paralleling
- Auto Load Sharing
- Load Dependent Start /Stop
- Load Limiting Device
- Mains Power Export
- Simple Logic Configuration Tool
- Need based Priority changeover / Power Management (Programmable)
- Genset Breaker and Mains Breaker Controller
- Auto Start / Stop
- Local & Remote Start/Stop
- Engine Parameters & Protections Reading via CANBUS
- Easy accessibility
- MODBUS for BMS connectivity
- Utility Software for PC interface
- Grid Paralleling (**SGDF-C4 Mains Optional**)

Display

- Engine Parameters
- Running Status
- Event Recording
- Fault Code Display
- Service Timer Indication
- Hour Meter, Real Time Clock for Time and Date
- Voltage, Current, Hz, KW, KVA, Pf and KVAr
- Breaker Status
- Synchronous Scope

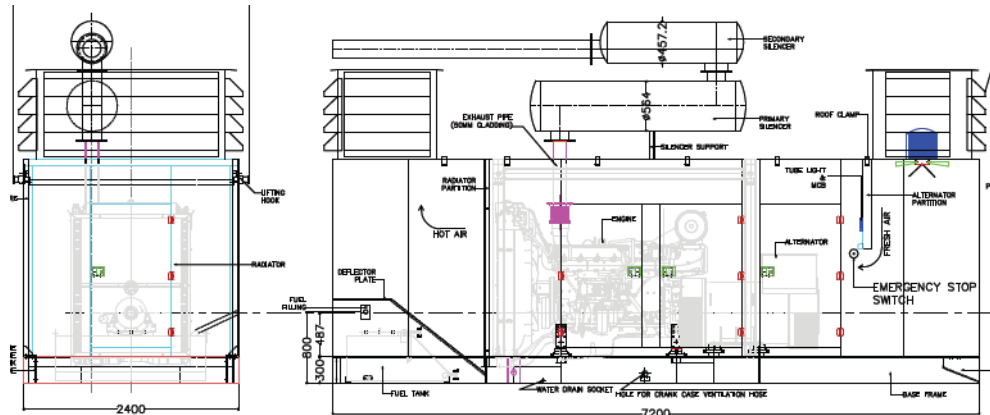
Protection

- Engine Protections
- Under Voltage / Over Voltage (27/59)
- Under Frequency / Over Frequency (81)
- Reverse Power (active and re-active) (32)
- Over Current (2 Level) (51)
- Peak Current (50)
- Loss of Excitation (40)
- Current Unbalance (46)
- Voltage Asymmetry (47)

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Sterling Standard Scope of Supply	OPTIONALS
Basic Engine Cylinder block Flywheel housing High inertia flywheel Oil pan Forged crankshaft & connecting rods Valve rotators Four-valve per cylinder, Individual cylinder head Aluminium Pistons Piston cooling via oil spray nozzle Dry exhaust manifolds Vibration damper Mounted air filter All necessary on-engine air, exhaust, coolant, fuel and oil pipework	Engine Jacket water heater - 110V/240V Lube oil heaters Dual electric starters Critical silencers Additional manuals
Starting System Electric starter Battery charging alternator, V-belt driven Battery, Battery stand & Leads Engine wiring harness and sensors	Control Panel Standard breaker panels Remote annunciators AMF panel Auto / Manual synchronising panel Auto load sharing / load dependant panel IP 54/55 enclosure Isolator panel Project specific / custom built panels H T panels for 1000 kVa & above ratings L T distribution boards PCC/MCC panels PLC panels
Fuel System Electronically controlled fuel injection with full authority electronics Fuel priming pump for initial system filling and venting Secondary Fuel Filter Fuel Water Separator	Alternator Space heaters RTD/BTD with scanners Oversized alternator IP 54/55 enclosure HT Alternators - 1000 kVa & above PMG Differential CT mounted on alternator Different cooling options
Lube Oil System Forced-feed lubrication system with piston cooling Lube oil circulation pump with safety valve Lube oil filter Lube oil cooler Oil filler neck and oil dipstick	Others Acoustic enclosures - Above 1010 kVA Additional spare parts manuals Additional O&M manuals Ni-Cd starting batteries & chargers Fuel level sensors Lube oil priming pump - Electric/Manual Heavy duty air cleaners Soot arrestors
Combustion Air System Exhaust turbochargers with insulation Intercooler, built in radiator Exhaust flexible bellows Exhaust Silencers - Residential Set of dry-type air filters with contamination indicator	Exhaust scrubbers Containerized gensets Duplex fuel filters Multi spring vibration Isolators DG Sets for special applications
Acoustic Enclosure ARAI/CPCB approved enclosure of 75 dB(A) @ 1 Meter Built in fuel tank with level indicator Engine alternator mounted on a common base frame housed inside the enclosure	Genset Controllers SGDF-C1 Controller - Digital display module SGDF-C3 Controller - Auto sync module SGDF-C4 Mains Controller - For grid paralleling PLC based load management system
Cooling System Coolant circulation pump for jacket water Coolant thermostat for jacket water cooling system Engine driven radiator with fan and guard	
Engine Mounting Set of engine mounting brackets at engine free end and driving end Engine and alternator mounts - placed between Engine-Alternator and base frame	
Genset Management System - SGDF-C2 (Supplied as standard) Electronic controller for indicating genset parameters Emergency stop push button Genset monitoring and display of Engine-alternator operating parameters and alarms Genset protection against critical operating parameters - Automatic start sequence control - Acquisition and display of plant-related measuring data - Communication with an external system	
Generator 415 Volts, 50 HZ, 1500 RPM, 4 pole, Single BEARING, 3 phase connected with IP23 protection. Alternator confirms to IS-4722 or equivalent	
Paintwork Standard paintwork, single-coat, water-based	
Documentation Standard Factory test report Engine alternator test certificate Warranty certificate Set of standard operating and maintenance documentation & Spare parts manual	

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Approved Enclosure		STD 20 Foot Container for Export	
Length	7200	Length	6096
Width	2400	Width	2438
Height	3500	Height	2591
Weight in Kgs (Wet)	9000(apprx.)	Weight in Kgs (Wet)	12000(apprx.)



Head Quarters	Works
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Marketing & Support offices			
Zonal Office - South Sterling & Wilson Powergen (P) Ltd., Sterling Towers, No. 4A/14, 4th Main Road, Chikka Adugodi New Layout Tavarekere Main Road, Bangalore - 560 029 Tel : 080 - 67178600 - 609 Fax : 080 - 67178675	Zonal Office - North Sterling & Wilson Powergen (P) Ltd., Sterling & Wilson House, C-56/38, Institutional Area, Sector 68, Noida - UP Tel : 0120 - 407 1000 Fax : 0120 - 407 1030	Zonal Office - East Sterling Generators (P) Ltd., BF - 164, Sector 1, Salt Lake City, Kolkata - 700 064 Tel : 033 - 2337 3933 Fax : 033 - 4005 5416	Zonal Office - West Sterling & Wilson Powergen (P) Ltd., 8, Sundaram Estate Govandi Station Road Govandi East Mumbai - 400 088 Tel : 022 - 2552 6100 Fax : 022 - 2552 6200

BRANCHES			
Hyderabad Chennai Coimbatore	Jaipur Chandigarh	Bhubaneshwar	Baroda Pune

Authorized Dealer

Technical specifications are subject to change from time to time due to Design improvements without notice	July 2009
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