Volvo 430 kVA

Image for guidance purposes.

PRP
CONTINUOUS POWER: 395 kVA

PRP "Prime Power" norma ISO 8528-1

LTP
STAND-BY POWER: 430 kVA

LTP "Limited Time Power" norma ISO 8528-1

ENGINE

MAKE	MODEL
VOLVO	TAD1382GE-SV

ALTERNATOR

MAKE	MODEL
STAMFORD	S4L1D-F

VOLTAGE	HZ	PHASE	COS Ø	PRP kVA/kW	LTP kVA/kW	AMP. (LTP)
400/230	50Hz	3	0,8	396,1/316,9	432,9/346,3	624,84

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DPX POWER
Heliotroopring 840
3316 KG Dordrecht

Volvo 430 kVA

ENGINE CHARACTERISTICS

MAKE	MODEL
VOLVO	TAD1382GE-SV

General Data

Power PRP (kWm)	340
Power LTP (kWm)	374
No. cylinders	6
Cylinder capacity (L)	12.78
Diameter per stroke (mm)	131 x 158
Compression ratio	16.8
Cooling system	LIQUID
Injection	COMMON RAIL
Suction	TURBO-INTERC.
Series regulator	ELECTRONIC
Fly wheel coupling	1-14

Lubrication system

Oil capacity (L)	
Oil consumption (%)	0.04
Min. alarm oil pressure (bar)	1.94

Ventilation system

Air cooling flow (m^3/h)	21600
Combustion air flow (m^3/h)	1518
Max. back pressure for fan (mbar)	

Exhaust system

Exhaust gas flow (m^3/h)	3174
Exhaust back pressure (mbar)	
Temp. exhaust gases (ºC)	463

Electrical system

VDC (V)	24
Battery (Ah)	2 x 180
Engine start-up (kW)	7

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ALTERNATOR CHARACTERISTICS

MAKE	MODEL
STAMFORD	S4L1D-F

General Data

Power PRP (kVA)	415
Power LTP (kVA)	465
Efficiency Alt. 100 %	93.2
Efficiency Alt. 110 %	92.6
No. Poles	4
Voltage regulator	AS440
No. wires	12
Insulation	H
Xd (%)	254
X'd (%)	17
X	13
Degree of protection	IP23

GENERATOR SET CONSUMPTION

% POWER USED	LITRES/HOUR
50%	42.1
75%	62.2
100%	83.7

DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT

Dimensions (mm)		
LENGTH	WIDTH	HEIGHT
4860	2060	2585

FUEL TANK (LITRES)	WEIGHT (KG)
1000	6000

NOISE LEVEL (dB (A))
68+/-2dB(A)@7m

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GENERATOR SET

GENERAL DESCRIPTION

The “INMESOL” generator set is an electrical energy generating machine which is used in places where there is **no mains supply** or when there is a MAINS failure.

The mobile elements, distribution belt, fan, etc., and those parts which reach high temperatures during operation, exhaust manifold, etc, include their corresponding protections, in compliance with the requirements of the Machinery Directive **2006/42**.

Europe regulations:

Inmesol power GENSET sets comply with European legislation and were given the CE marking which includes the following directives:

- 2006/42/EC on machinery safety.
- 2005/88/EC on NOISE EMISSIONS by equipment for outdoor use (amends the 2000/14/EC).
- 2014/30/UE on Electromagnetic Compatibility.
- 2014/35/UE on electrical safety, electrical equipment designed to be used within certain voltage limits

International regulations:

Upon request, INMESOL can supply equipment that complies with the International Legislation and Regulations:

- “Technical Regulation on Safety of Machinery & Equipment” No. 753, repealing GOST R standards for exports to Russia.
- Resolution nº 90708 dated August 30th 2013 “Reglamento Técnico de Instalaciones Eléctricas RETIE” issued by the Ministry of Mining and Energy, Section 20.21 Engines and power generators, for exports to Colombia.

Information:

The power ratings are for reference to environmental conditions: barometric pressure 100 kPa, 25°C and 30% relative humidity. These are defined by ISO 8528 and ISO 3046.

PrimePower (PRP) “Main Service” is applicable for power GENSETs that function as main electric power source. It may be overloaded by 10% in limited time points, maximum once every 12 hours.

StandbyPower (LTP) “Emergency Service” applies to power GENSETs that run during Electrical Grid failure. This power may NOT BE OVERLOADED.

Nevertheless, to obtain long engine life, it is recommended that the active power average load (kW) connected to the power GENSET set in any period of 24 hours of operation does not exceed the following values:

- In Main Service 70% of the PRP power.
- In Emergency Service during Electrical Grid failure 80% of the LTP power.

Volvo 430 kVA

- Engine/alternator assembly, coupled and installed on a heavy electric wilded steel profile base frame through antivibration pad, then treated with rust removing products for zink layer application and Polyester (QUALICOAT) painting, “special treatment for external and corresive environment.”.
- Soundproof canopy treated with rust removing products for zink layer application and Polyester (QUALICOAT) painting, “special treatment for external and corresive environment.” Then lined with rock wool material of high density.
- Liquid cooled engine with integraed mechanical radiator and blower fan.
- Residential exhaust silencer with -35 dB(A) attenuation, plus industrial silencer in line, with gases release protected by a cap.
- Lifting hook crane.
- Fork lift pockets for easy lifting from the bottom.
- Hook for towing.
- Radiator water filling cover register.
- Easy acces to radiator cleaning, and replacement.
- Integrated metalic fuel tank of 24 hours autonomy with liquid leakage protection.
- Large fuel tank register for cleaning.
- Fuel draining plug.
- Protection of heat, mobile, and live comoponents.
- Manual oil sump pump.
- Baseframe prepared to be mounted on a trailer.
- External emergency stop push button.
- Heavy-duty engine starting battery complete with wires connection, terminal protection and on-off switch.
- Alternator battery charger with earth plug.
- Self excited and auto regulated alternator.
- Manual control panel with a mircroprocessor for control , protection and generating set reading parameters as voltage, amperage, working hours, etc.
- Circuit breaker 4P and regulable earth leakage.
- Prepared for earth stud installation (earth stud not included).
- Vertical warm air release, except in engines with exhaust gas after-treatment systems.
- On/off battery switch.
- Documents Bag.
- Door retainer.
- Cables lock for fixing the power cables.
- Special anti vibration mounts fitted between the alternator/engine block and the frame, to decrease the amount of vibrations that are transmitted to the frame and to absorb all mechanical chocks from transportation.
- Step/s for making easier the access to the lifting hook.

OPTIONS

- Coolant preheating resistor.
- Battery charger.
- Automatic/manual fuel trasnfer pump.
- Alternator with enhanced protection against harsh environments.
- Diferent colour.
- External linkbox for armound cables.
- Kit of 3-way valves for external fuel tank connection (optional single lever).
- Fast fuel plug connection between external and internal fuel tanks.
- AMF/ATS panel to turn a manual gen set to automatic version.
- Voltage and frequency change selector (50 Hz - 60 Hz), according the model.
- Sockets kits integrated in the canopy.
- Soundproof canopy auxiliary internal lighting.
- Upgrades to switchboards from other brands.
- Internal fuel filler cap with security locable key.
- Synchronising control panels, for paralleling in island mode or with the utility.

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MANUAL CONTROL, PROTECTION AND DISTRIBUTION panel, assembled on the generator set in metal cabinet with a DSE 7310 MKII engine protection unit.

Image for guidance purposes.

It has the following:

1. EMERGENCY STOP PUSHBUTTON.

2. PROTECTIONS:

Magnetothermal Protection.
Earth Leak Protection
Protection fuses for control module

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3. DSE 7310 MKII PROTECTION CONTROL MODULE.

LCD SCREEN:

It has a digital LCD screen, which provides easy reading of the information regarding the ENGINE, ALTERNATOR and CHARGING.

ENGINE:	ALTERNATOR AND CHARGE:
Coolant temperature	Voltages between phases and between phases and neutral.
Oil pressure	Intensities
Turning speed (rpm)	Frequency
Fuel level	Active Power (kW)
Battery voltage	Reactive Power (kVAr)
Battery alternator voltage.	Apparent Power (kVA)
Operating hours	Cos phi
Number of start-ups	Active energy meter (kW-h)

CONTROL Of THE SET:

START AND STOP the set MANUALLY.

Possibility of doing it AUTOMATICALLY via START ON SIGNAL.

Dual Mutual Standby

PROTECTION Of THE ENGINE AND ALTERNATOR, wITH THE ALARMS ACTIvATED:

ENGINE:	ALTERNATOR:
Low oil pressure	Low and High Voltage
High coolant temperature	Low and High Frequency
Low and High battery Voltage	Overload due to Intensity (A)
Failure of the alternator to charge batteries	Short-circuit
Low fuel level.	Negative Phase Sequence.
	Power Overload (KW-kVA)
	Load control:
	▪ Connection and disconnection of artificial loads.
	▪ Disconnection of non-essential loads

OTHER CHARACTERISTICS:

The real-time clock provides an exact record of events	Possibility of SMS text messages
Extensive number of configurable inputs and outputs.	Ethernet communication and simultaneous use of RS232 and RS 485 ports
Configurable alarms and timers.	Programmer Clock with multiple maintenance events which can be configured for the optimal operation of the engine. Weekly and/ or monthly programming of up to 16 starts and stops per week.
USB connectivity	Enhanced PLC functionality.
Fully configurable via software and PC	Data logging function
Modbus RTU	The fuel consumption may be monitored on the screen and SMS messages with alarms and reports may be sent.

4. PROTECTIONS

MAGNETO. PROTECTION (A)	EARTH LEAK PROTECTION	DISTRIBUTION
630A, 4P	Electronic, adjustable	Power terminals