



Image for guidance purposes.

PRP

CONTINUOUS POWER: 670 kVA

PRP "Prime Power" norma ISO 8528-1

LTP

STAND-BY POWER: 740 kVA

LTP "Limited Time Power" norma ISO 8528-1

ENGINE

MAKE	MODEL
VOLVO	TWD1683GE-SV

ALTERNATOR

MAKE	MODEL
STAMFORD	HCI544F

VOLTAGE	HZ	PHASE	COS Ø	PRP kVA/kW	LTP kVA/kW	AMP. (LTP)
400/230	50Hz	3	0,8	670,0/536,0	738,0/590,4	1.065,21

ENGINE CHARACTERISTICS

MAKE	MODEL
VOLVO	TWD1683GE-SV

General Data

Power PRP (kW)	568
Power LTP (kW)	627
No. cylinders	6
Cylinder capacity (L)	16.12
Diameter per stroke (mm)	144 x 165
Compression ratio	16.8
Cooling system	LIQUID
Injection	DIRECT
Suction	TURBO-INTERC.
Series regulator	ELECTRONIC
Fly wheel coupling	1-14

Lubrication system

Oil capacity (L)	
Oil consumption (%)	0.08
Min. alarm oil pressure (bar)	2.0

Ventilation system

Air cooling flow (m ³ /h)	41040
Combustion air flow (m ³ /h)	2580
Max. back pressure for fan (mbar)	

Exhaust system

Exhaust gas flow (m ³ /h)	5760
Exhaust back pressure (mbar)	80
Temp. exhaust gases (°C)	434

Electrical system

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

ALTERNATOR CHARACTERISTICS

MAKE	MODEL
STAMFORD	HCI544F

General Data

Power PRP (kVA)	670
Power LTP (kVA)	738
Efficiency Alt. 100 %	95
Efficiency Alt. 110 %	94.6
No. Poles	4
Voltage regulator	AS440
No. wires	12
Insulation	H
Xd (%)	262
X'd (%)	14
X	10
Degree of protection	IP23

GENERATOR SET CONSUMPTION

% POWER USED	LITRES/HOUR
50%	68
75%	100
100%	133

DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT

Dimensions (mm)		
LENGTH	WIDTH	HEIGHT
4860	2060	2585

FUEL TANK (LITRES)	WEIGHT (KG)
1000	6800

NOISE LEVEL (dB (A))
72dB(A)@7m

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 n° 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.

Engine/alternator assembly, coupled and installed on a heavy electric welded steel profile base frame through antivibration pad, then treated with rust removing products for zinc layer application and Polyester (QUALICOAT) painting, "special treatment for external and corrosive environment."

Soundproof canopy treated with rust removing products for zinc layer application and Polyester (QUALICOAT) painting, "special treatment for external and corrosive environment." Then lined with rock wool material of high density.

Liquid cooled engine with integrated mechanical radiator and blower fan.

Integrated exhaust residential silencer of -35 db (A) attenuation, with rain cap protection.

Lifting hook crane.

Fork lift pockets for easy lifting from the bottom.

Hook for towing.

Radiator water filling cover register.

Easy access to radiator cleaning, and replacement.

Integrated metallic fuel tank of 24 hours autonomy with liquid leakage protection.

Large fuel tank register for cleaning.

Fuel draining plug.

Internal fuel filler cap with security locable key.

Protection of heat, mobile, and live components.

Manual oil sump pump.

Baseframe prepared to be mounted on a trailer.

External emergency stop push button.

Engine starting battery "maintenance free" 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 microprocessor 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 outlet for hot air

On/off battery switch

Documents Bag

OPTIONS

Coolant preheating resistor.

Battery charger

Automatic/manual fuel transfer pump.

Total plus alternator protection.

Different colour.

External linkbox for armoured 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).

Electrical power socket kit

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

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
1000A, 4P	Electronic, adjustable	Power terminals