POWER GENERATORS
INMESOL

Code: IVI0550540T7310800M

Model: IV-550 - INDUSTRIAL RANGE | 400/230 V - THREE-PHASE | 1.500 R.P.M. | 50 Hz

Genset with manual control panel.

Image for guidance purposes.

PRP

CONTINUOUS POWER: 500 kVA

PRP "Prime Power" norma ISO 8528-1

LTP

STAND-BY POWER: 550 kVA

LTP "Limited Time Power" norma ISO 8528-1

ENGINE

MAKE	MODEL
VOLVO	TAD 1641 GE

ALTERNATOR

MAKE	MODEL
MECC-ALTE	ECO 40-3SN / 4

VOLTAGE	HZ	PHASE	COS Ø	PRP kVA/kW	LTP kVA/kW	AMP. (LTP)
400/230	50	3	0,8	500,0/400,0	550,0/440,0	794,8

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ENGINE CHARACTERISTICS

MAKE	MODEL
VOLVO	TAD 1641 GE

General Data

Power PRP (kWm)	430
Power LTP (kWm)	473
No. cylinders	6
Cylinder capacity (L)	16.12
Diameter per stroke (mm)	144 x 165
Compression ratio	16.50
Cooling system	LIQUID
Injection	COMMON RAIL
Suction	TURBO-INTERC.
Series regulator	ELECTRONIC
Fly wheel coupling	1 - 14"

Lubrication system

Oil capacity (L)	42
Oil consumption (%)	0.10
Min. alarm oil pressure (bar)	2.20

Ventilation system

Air cooling flow (m^3/h)	36360
Combustion air flow (m^3/h)	2130
Max. back pressure for fan (mbar)	0

Exhaust system

Exhaust gas flow (m^3/h)	5100
Exhaust back pressure (mbar)	100
Temp. exhaust gases (ºC)	443

Electrical system

VDC (V)	24
Battery (Ah)	2 x 180
Engine start-up (kW)	12

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ALTERNATOR CHARACTERISTICS

MAKE	MODEL
MECC-ALTE	ECO 40-3SN / 4

General Data

Power PRP (kVA)	500
Power LTP (kVA)	550.00
Efficiency Alt. 3/4 %	94.80
Efficiency Alt. 4/4 %	94.60
No. Poles	4
Voltage regulator	DER-1
No. wires	12
Insulation	H
Xd (%)	250.00
X'd (%)	21.00
X	11.40
Degree of protection	IP21

GENERATOR SET CONSUMPTION

% POWER USED	LITRES/HOUR
50%	52
75%	77
100%	102

DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT

Dimensions (mm)		
LENGTH	WIDTH	HEIGHT
4860	2060	2630

FUEL TANK (LITRES)	WEIGHT (KG)
1000	-

NOISE LEVEL (dB (A))
75 @ 7 m

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INMESOL 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**.

REGULATIONS

The machine holds the “CE” marking, and the corresponding Declaration of Conformity is issued with each of them, in which it specifies that the machine complies with **R.D 842/2002 Low Voltage Regulations and with the European Directives:**

- 2006/42 on Safety in Machinery.
- 2006/95/CE on Electrical Safety.
- 2004/108/CE on Electromagnetic Compatibility.
- 2005/88/CE on NOISE EMISSIONS by equipment for outdoor use (for SOUNDPROOF GENERATOR SETS).

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INMESOL

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IN **INDUSTRIAL** RANGE

Scope of supply

Engine/alternator monobloc directly connected and installed via silent blocks on a frame made from high tensile electro welded steel profiles that are treated with degreasing liquids and aplicated with a phosphate coat and polyester (QUALICOAT) paint.
Canopy of steel sheet sound proofed with fireproof rockwool, and treated with degreasing liquids and aplicated with a phosphate coat and polyester (QUALICOAT) paint.
Sealed chassis
Fuel tank integrated in the base frame provided with fuel level jauge and fuel connections to the engine.
Engine with mechanical engine driven pusher fan.
Residencial silencer with -35 db(A) noise reduction with exhaust tube and protection cap.
Electric control cubicle with control module including protection and reading of electrical meassures engine instrumentation fuel level and engine running hours, etc. remote start possibility
Termal and magnetic circuit breaker and termal and magnetic circuit breaker and earth fault relay.
Battery charge alternator.
Starter battery complete with cables to the engine and pole protection.
Installation prepared for earthing spike (spike not included).
Security protection for heat and moving parts as well as live electrical components.
External emergency stop push button.
Manual engine oil extraction pump.
Self excited and auto regulated alternator.
Integrated lifting hook for single point lifting with crane, gensets up to 450 kVA (Except in swing-out cover model)
Base frame is prepared for trailer kit installation.
Standard electronic speed governor on engines from 220 kVA (LTP) and up.
Horizontal outlet for hot air (till canopy 4200x1600x2245)

OPTIONS

Battery charger
Coolant preheating
AMF/ATS panel to turn a manual gen set to automatic version (consult the last page)
Integral additional socket panel from 20 kVA till 400 kVA PRP
Residential silencer

V1 PREWIRED VERSION FOR AMF

V2 GENSETS WITH AMF/ATS PANEL AND 4 POLE CIRCUIT BREAKER

V3 GENSET WITH AMF CONTROL PANEL BUT WITHOUT ATS PANEL AND SEPARATED ATS PANEL

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DSE 7310 MANUAL CONTROL PANEL

MANUAL CONTROL, PROTECTION AND DISTRIBUTION panel, assembled on the generator set in metal cabinet with a DSE 7310 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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POWER GENERATORS INMESOL

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DSE 7310 MANUAL CONTROL PANEL

3. DSE 7310 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.

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	Modbus RTU
Extensive number of configurable inputs and outputs.	Possibility of SMS text messages
Configurable alarms and timers.	Communications Ethernet, RS 232 and RS 485
USB connectivity	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.
Fully configurable via software and PC	

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DSE 7310 MANUAL CONTROL PANEL

4. PROTECTIONS

MAGNETO. PROTECTION (A)	EARTH LEAK PROTECTION	DISTRIBUTION
800A, 3P	Electronic, adjustable	Power terminals

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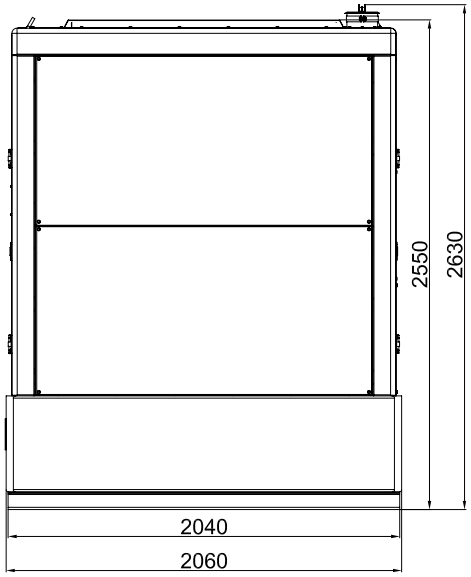

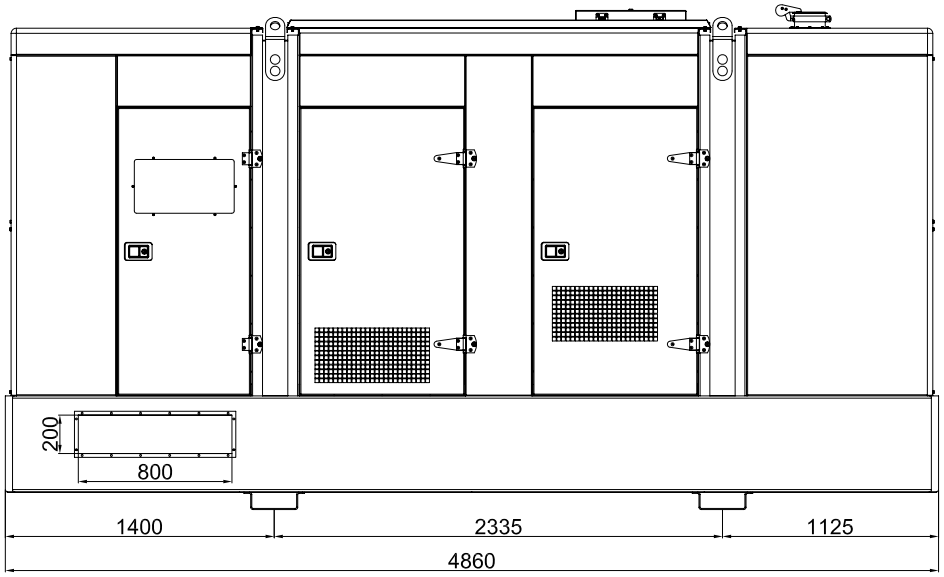

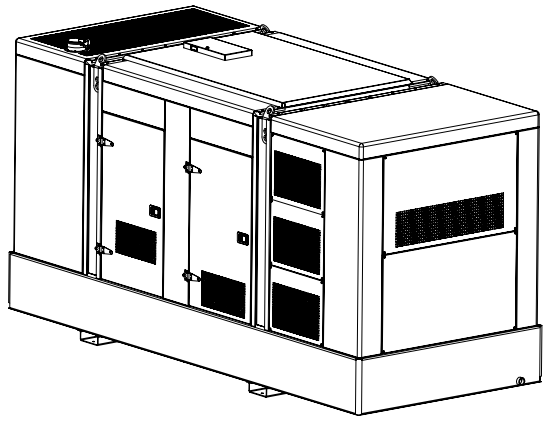

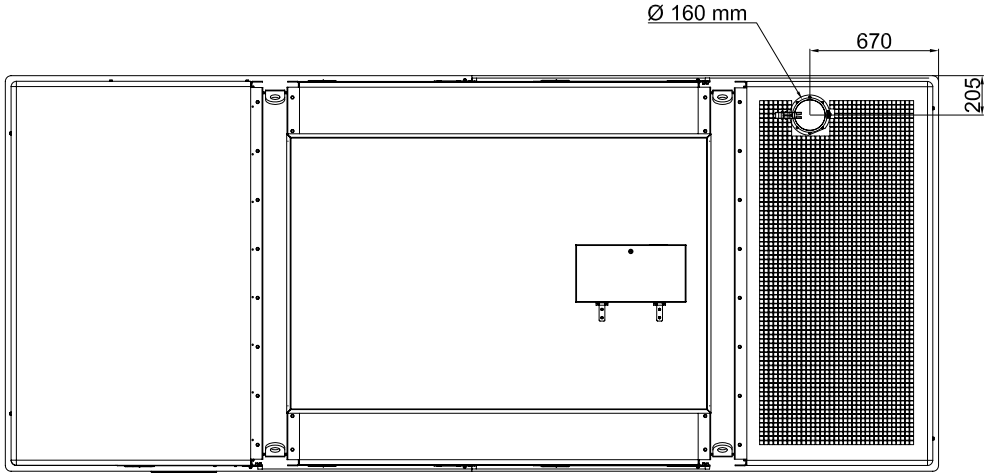

CAPACIDAD DE DEPOSITO = 1.000 LTS

INMESOL POWER SOLUTIONS	PROYECTO: G.E. EST-INS 500-650 Kva R13				
Las tolerancias a cumplir en espesores de chapa, ø de barras perforadas y/o redondos, medidas de pletina, tubo, perfiles, etc... así como cualquier elemento comercial, serán las estandar de dicho elemento. Estas tolerancias se tratarán con la misma importancia que las generales y específicas de cada plano.	MODIFICADO			MATERIAL	
	DIBUJADO	J.G.BEJAR	05-Feb-2013	TOLERANCIA GENERAL	
	COMPROBADO	J.L.SOLANO	05-Feb-2013	UDS.	Nº MOD.
CODIGO	DENOMINACION: G.E. EST-INS 500-650 Kva R13 DIMENSIONES GENERALES			EXPEDIENTE: IL-101C12	Nº PLANO / MARCA
PESO					
ESCALA					

NOMENCLATURA
1.- GRUPO ELECTROGENO
2.- HUECO ENTRADA DEL AIRE
3.- TUNEL EXPULSION DEL AIRE
4.- BANDEJA PASACABLES
5.- PUERTA DE ACCESO
6.- BASE HORMIGON ARMADO H-175
7.- TUBO DE ESCAPE

CALCULO ESPESOR LOSA DE HORMIGON

$$E = \frac{W}{d \times D \times C}$$

E = altura bloque de hormigón
W = peso total grupo electrógeno
d = densidad del hormigón (2400 kg/m3)
D = anchura bloque de hormigon (m)
C = longitud blo