

IV-680 - VOLVO - TWD 1643 GE

1.500 R.P.M. | 50 Hz

TECHNICAL SPECIFICATIONS

Model:

IV-680

Stand-by automatic gen set.



Image for guidance purposes.

ENGINE	MAKE	MODEL
	VOLVO	TWD 1643 GE

ALTERNATOR	MODEL
	MECC-ALTE ECO 40-1.5L/4

(400 / 230 V)

CONTINUOUS POWER:
(PRP "Prime Power" norma ISO 8528-1) **620 kVA**

STAND-BY POWER:
(LTP "Limited Time Power" norma ISO 8528-1) **680 kVA**

Amperes in the different voltages:

VOLTAGE	HZ	PHASE	COS Ø	PRP KVA/KW	LTP KVA/KW	AMPERAGE
415/240	50	3	0,8	620,0/496,0	682,0/545,6	949,93
400/230	50	3	0,8	620,0/496,0	682,0/545,6	985,55
380/220	50	3	0,8	620,0/496,0	682,0/545,6	1037,42
240/139	50	3	0,8	620,0/496,0	682,0/545,6	1642,58
230/133	50	3	0,8	620,0/496,0	682,0/545,6	1714
220/127	50	3	0,8	620,0/496,0	682,0/545,6	1791,91

ELECTRO EXIM SRL

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ENGINE CHARACTERISTICS

MAKE	MODEL
VOLVO	TWD 1643 GE

GENERAL DATA

Power PRP (kWm)	536
Power LTP (kWm)	596
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)	48
Oil consumption (%)	0.08
Min. alarm oil pressure (bar)	2.20

Ventilation system

Air cooling flow (m3/h)	46800
Combustion air flow (m3/h)	2640
Max. back pressure for fan (mbar)	0

Exhaust system

Exhaust gas flow (m3/h)	6096
Exhaust back pressure (mbar)	100
Temp. exhaust gases (°C)	450

Electrical system

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

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ALTERNATOR CHARACTERISTICS

MODEL

MECC-ALTE ECO 40-1.5L/4 (400 / 230 V)

GENERAL DATA

Power PRP (kVA)	620
Power LTP (kVA)	682.00
Efficiency Alt. 3/4 %	95.10
Efficiency Alt. 4/4 %	94.90
No. Poles	4
Voltage regulator	DER-1
No. wires	12
Insulation	H
Xd (%)	250.00
X'd (%)	18.40
X	9.80
Degree of protection	IP21

GENERATOR SET CONSUMPTION

% POWER USED	LITRES/HOUR
50%	59
75%	89
100%	120

DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT AND NOISE

LENGTH	DIMENSIONS (MM)	
	WIDTH	HEIGHT
4860	2060	2630
FUEL TANK (LITRES)		WEIGHT (KG)
1000.00		6480.00
NOISE LEVEL (dB (A))		
77 @ 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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SB STAND-BY 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 applied with a phosphate coat and epoxy paint.	✓	✓
Canopy of steel sheet sound proofed with fireproof rockwool, and treated with degreasing liquids and applied with a phosphate coat and epoxy paint.	•	✓
Fuel tank integrated in the chassis provided with fuel level gauge and fuel lines to the engine.	✓	✓
Engine with mechanical engine driven pusher fan.	✓	✓
Industrial silencer with -15 db(A) noise reduction and exhaust outlet tube.	✓	•
Residential silencer with -35 db(a) noise reduction with exhaust tube and protection cap.	•	✓
4 Pole thermal and magnetic circuit breaker.	✓	✓
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 belts and moving parts as well as on electrical component.	✓	✓
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)	•	✓
4 Lifting points for gen sets from 450 kVA and bigger.	✓	•
Prepared for extended fuel tank, fully bonded for leakage protection.	✓	✓
Base frame prepared for trailer kit	✓	✓
Standard electronic speed governor on engines from 220 kVA and up.	✓	✓
Electric control cubicle with digital control module, automatic mains failure, manual start or remote start on signal.	✓	✓
Battery charger for gen set with 12VCC battery (2A).	✓	✓
Battery charger for gen set with 24VCC battery (5A).	✓	✓
Electric engine coolant preheating on gen sets with automatic mains failure controller.	✓	✓
Vertical outlet for hot air	•	✓

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DSE 7320 AUTOMATIC CONTROL PANEL

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PROTECTION, DISTRIBUTION AND AUTOMATIC CONTROL panel which starts the generator set when it detects a mains failure and stops it when the mains is restored with the control unit DSE 7320.



Image for guidance purposes.

It has the following:

- 1** EMERGENCY STOP PUSHBUTTON
- 2** PROTECTIONS:
 - Magnetothermal switch (preheating resist.) 2P (16 A)
 - Protection fuses for control module
- 3** BATTERY CHARGER

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DSE 7320 AUTOMATIC CONTROL PANEL

- 4 DSE 7320 CONTROL and PROTECTION CENTRE.** It has a digital LCD screen, which provides easy reading of the information regarding the ENGINE, ALTERNATOR, MAINS and CHARGING.

READINGS that can be made:

ENGINE:

- Coolant temperature
- Fuel level
- Operating hours
- Oil pressure
- Battery voltage
- Number of start-ups
- Turning speed (rpm)
- Battery alternator voltage.

ALTERNATOR AND CHARGE:

- Voltages between phases and between phases and neutral.
- Reactive Power (kVAr)
- Intensities
- Apparent Power (kVA)
- Frequency
- Cos phi
- Active Power (kW)
- Active energy meter (kW-h)

MAINS:

- Frequency
- Voltages between phases and (L1-L2, L2-L3, L1-L3).
- Phase rotation order
- Earth current
- Voltages between phases and neutral (L1-N, L2-N, L3-N).

CONTROL of the set:

- STARTS and STOPS the set AUTOMATICALLY when mains failure is detected and when it is restored, respectively.
- It can also operate MANUALLY

Protection of the engine and alternator, with the ALARMS activated:

ENGINE:

- Low oil pressure
- Failure of the alternator to charge batteries
- High coolant temperature
- Low fuel level
- Low and High battery Voltage.

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DSE 7320 AUTOMATIC CONTROL PANEL

ALTERNATOR:

- Low and High Voltage
- Low and High Frequency
- Overload due to Intensity (A)
- Short-circuit
- Negative Phase Sequence.
- Power Overload (KW-kVA)
- Load control:
 - 1.Connection and disconnection of artificial loads.
 - 2.Disconnection of non-essential loads

MAINS:

- Low and High Voltage
- Low and High Frequency

OTHER CHARACTERISTICS:

- The real-time clock provides an exact record of events.
- Extensive number of configurable inputs and outputs.
- Configurable alarms and timers.
- USB connectivity
- Fully configurable via software and PC.
- Modbus RTU
- Possibility of SMS text messages
- Communications Ethernet, RS 232 and RS 485
- 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.
- ALTERNATIVE CONFIGURATIONS, which open up the working possibilities

5 DISTRIBUTION:

- Direct output of the magnetothermal switch.

6 OPTIONAL:

- 4-Pole Switchboard installed next to the Automatic Panel
- 4-Pole Switchboard in metal cabinet independent from the Automatic Panel

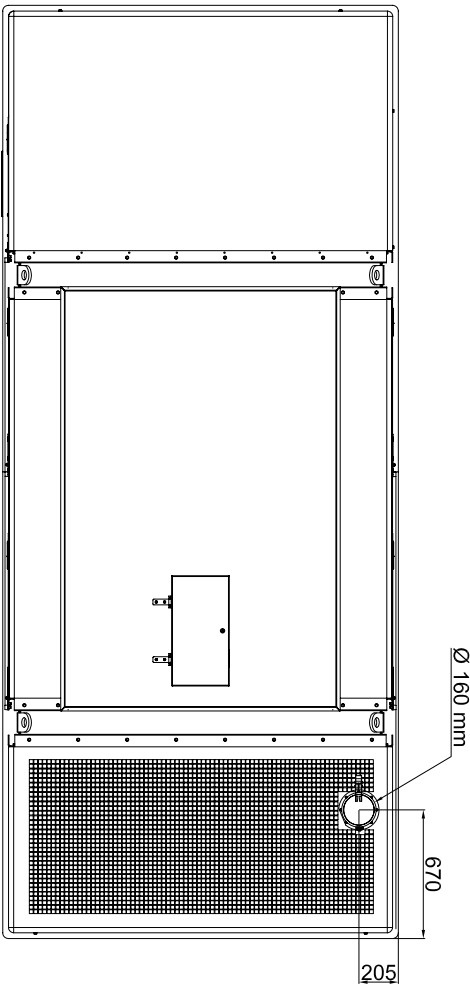
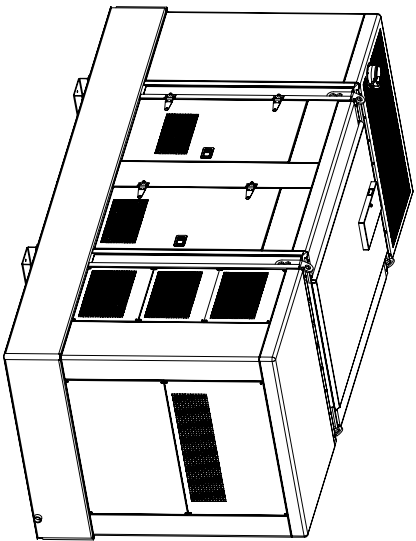
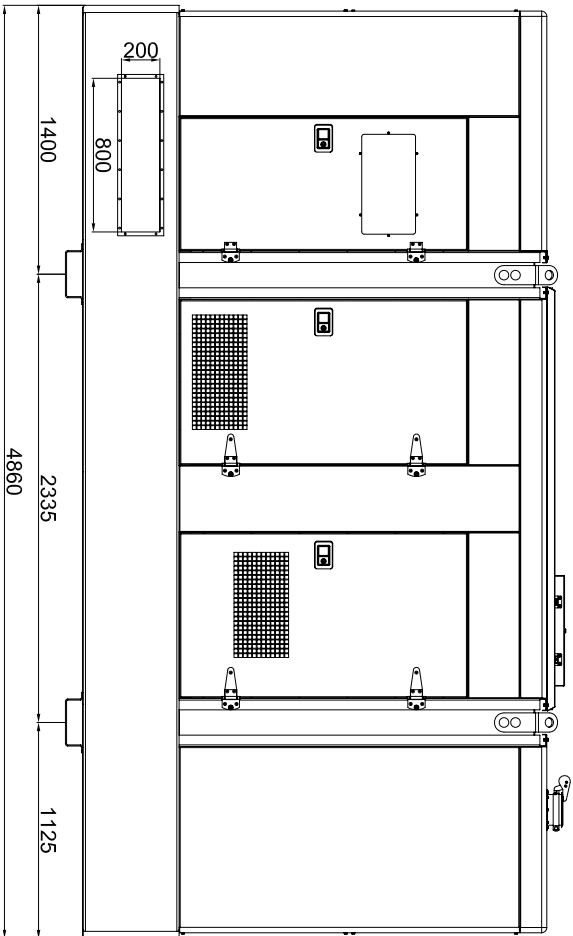
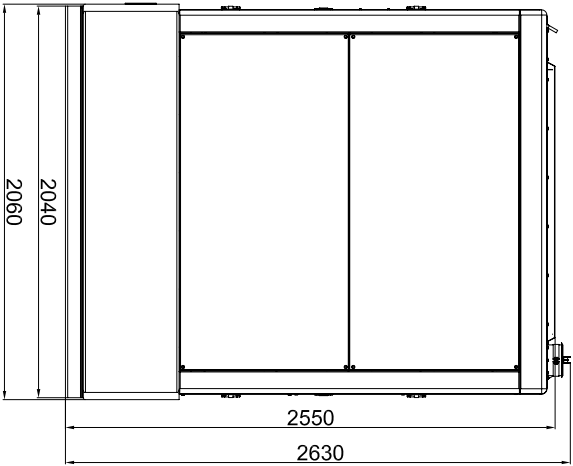
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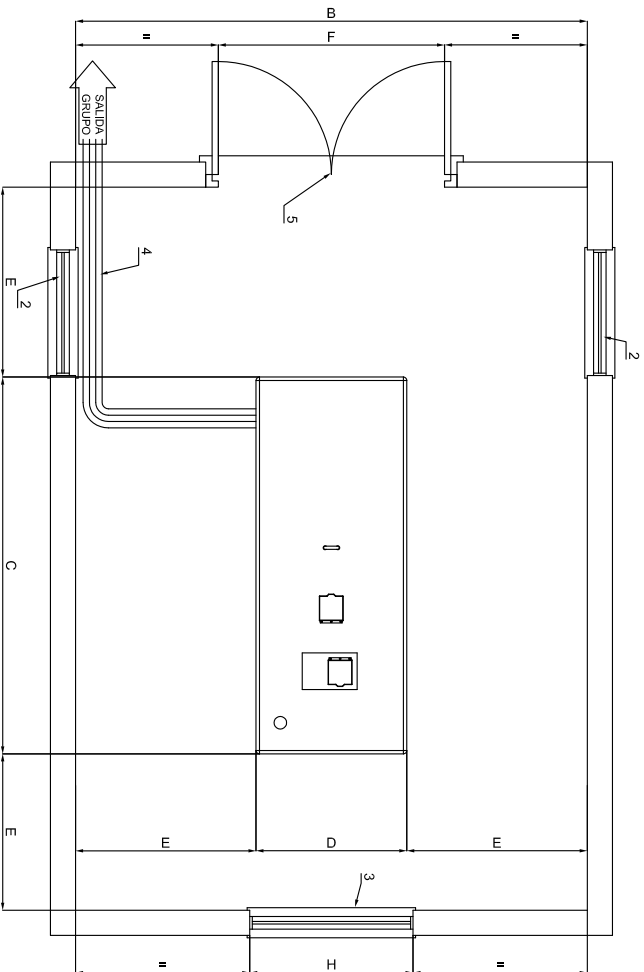
The following table shows the different amperages of the magnetothermal switches and the switchboards according to the set's power - Three-phase generators (single phase by request):

CONT. POW		MAGNETOTHERMAL PROTECTION IV POLES (A)	SWITCHBOARD IV POLES (A)
SET'S POWER	250 - 275 kVA	400	400
	300 - 430 kVA	630	630
	450 - 500 kVA	800	800
	570 - 650 kVA	1000	1250
	780 - 800 kVA	1250	1250
	915 - 1100 kVA	1600	1650
	1150 - 1300 kVA	2000	2000
	1400 - 1750 kVA	2500	2500
	1800 - 2100 kVA	3200	3200



CAPACIDAD DE DEPOSITO = 1.000 LTS

 INMIESOL INDUSTRIAL SOLUTIONS		PROYECTO:			
Las tolerancias o surtos en especificaciones de origen, a de los fabricantes, no excederán de 1/10% con respecto al valor nominal, salvo que se indique lo contrario. El fabricante se reserva el derecho de modificar las dimensiones y especificaciones de cada parte.		1 G.E. EST-INS 500-650 Kva R13			
CODIGO		MODIFICADO	DISEÑADO	MATERIAL	
PESO		COMPROBADO	IL-SEJAR	05-Feb-2013	TOLERANCIA GENERAL
ESCALA		DENOMINACION:	IL-SOLANO	05-Feb-2013	UDS.
		G.E. EST-INS 500-650 Kva R13		EXPEDIENTE:	Nº MOD.
		DIMENSIONES GENERALES		IL-101C12	Nº PLANO
					MARCA



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

EL Ø DE LA TUBERÍA DE EXTENSION DEL ESCAPE PUEDE SER EL MISMO QUE EL DEL SIENCAJOR HASTA 5 m. PARA DISTANCIAS MAYORES DE 5 m, DEBE AUMENTARSE EL Ø DE LA TUBERÍA 10 mm POR CADA 10 m MAS DE DISTANCIA ENTRE EL GRUPO ELECTROGENO Y LA SALIDA EXTERIOR

[illegible]