

IV-680 - VOLVO - TWD 1643 GE

1.500 R.P.M. | 50 Hz

TECHNICAL SPECIFICATIONS



Model:

IV-680

Gen set with manual control panel.

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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 21 Ialomicioarei St., sector 1, code 011277, BUCHAREST - ROMANIA
 Phone: 0040 21 2231347 - 0040 744 755 390 - FAX: 0040 21 2231201
 E-mail: office@electroexim.com - Web: www.electroexim.ro

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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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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 epoxi paint.	✓	✓
Canopy of steel sheet sound proofed with fireproof rockwool, and treated with degreasing liquids and aplicated with a phosphate coat and epoxi paint.	•	✓
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.	✓	✓
Industrial silencer with -15 db(A) noise reduction and exhaust outlet tube.	✓	•
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.	✓	✓
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)	•	✓
4 Lifting points for gen sets from 450 kVA and bigger.	✓	•
Preparate for extended fuel tank, fully bomded for leakage protection.	✓	✓
Base frame is prepared for trailer kit installation.	✓	✓
Standard electronic speed governor on engines from 220 kVA (LTP) and up.	✓	✓
Vertical outlet for hot air	•	✓

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DSE 7310 MANUAL CONTROL PANEL

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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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DSE 7310 MANUAL CONTROL PANEL

- 3 DSE 7310 CONTROL and PROTECTION CENTRE.** It has a digital LCD screen, which provides easy reading of the information regarding the ENGINE, ALTERNATOR and CHARGING.

READINGS that can be made:

ENGINE:

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

ALTERNATOR AND CHARGE:

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

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

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

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DSE 7310 MANUAL CONTROL PANEL

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.

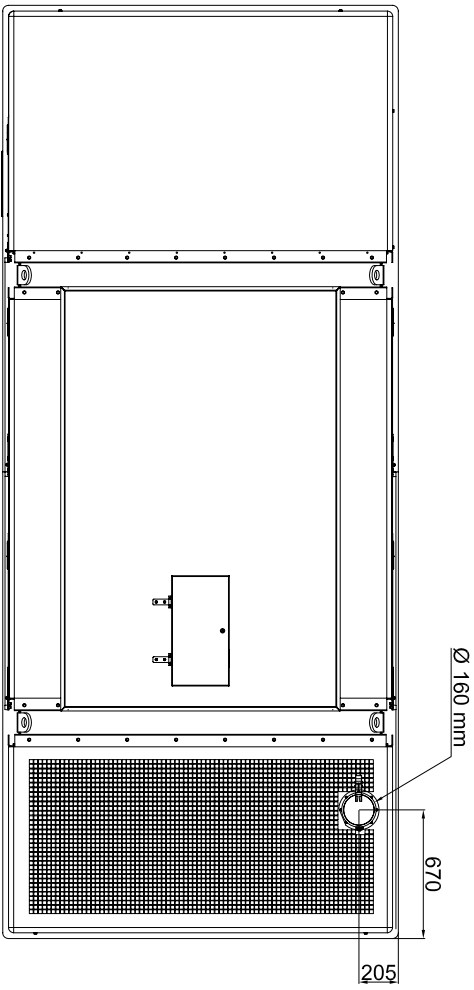
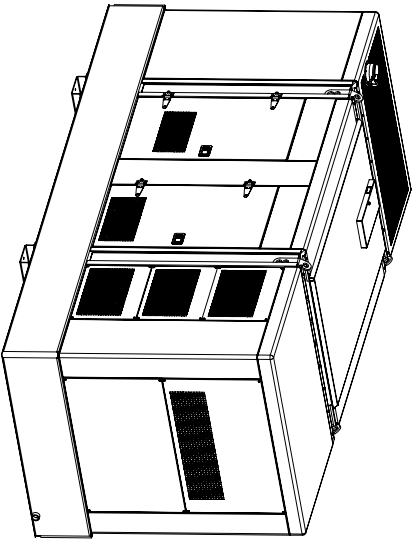
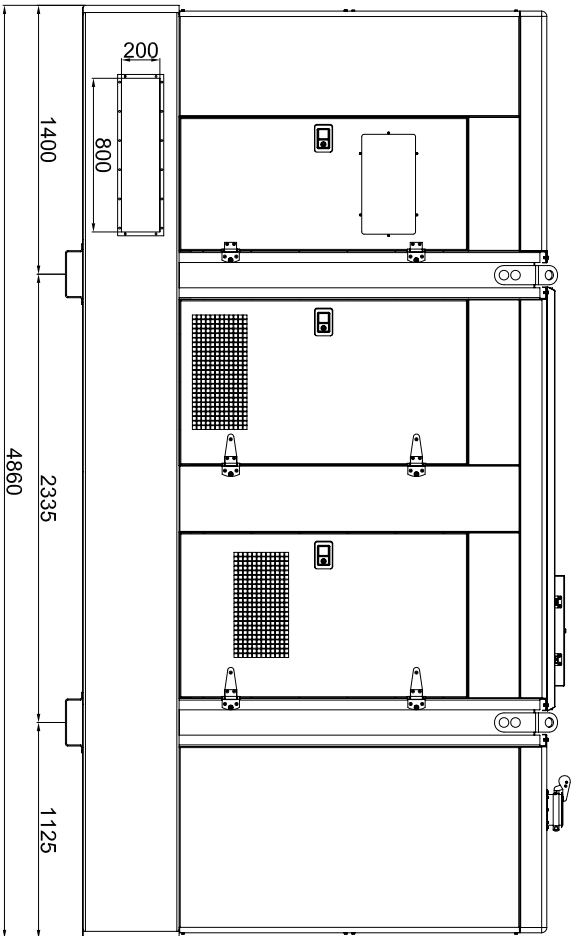
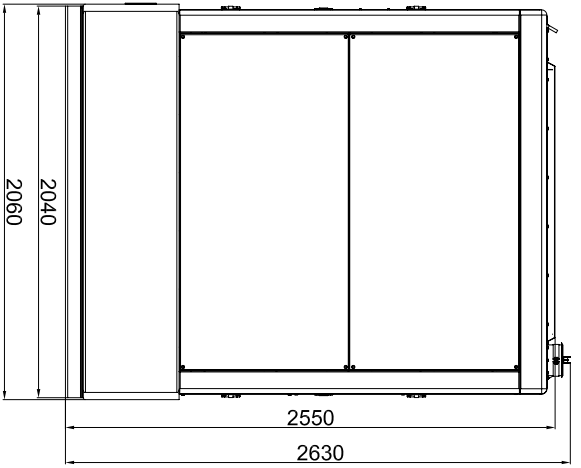
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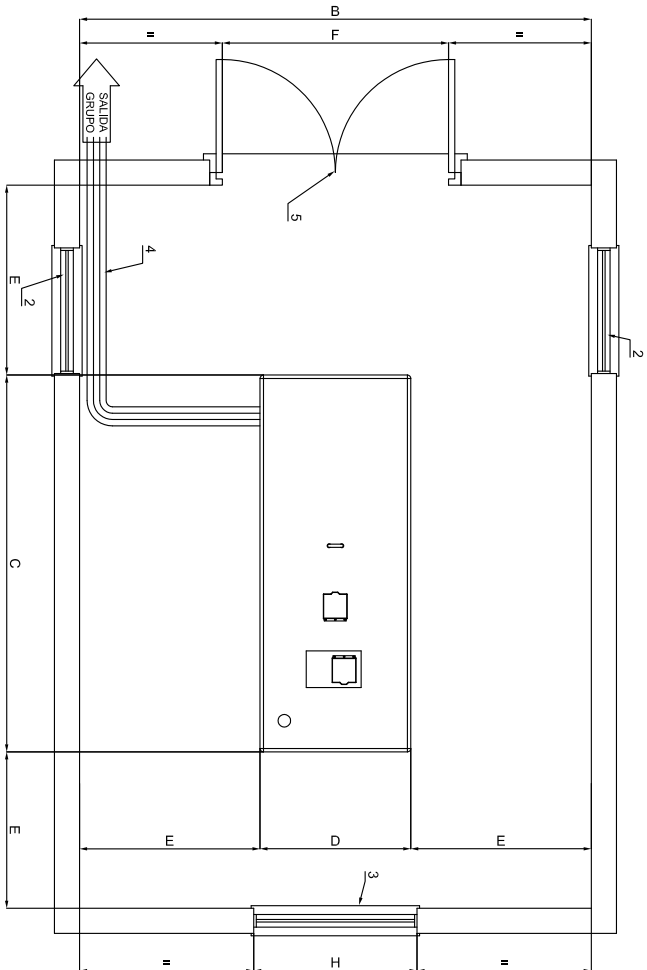
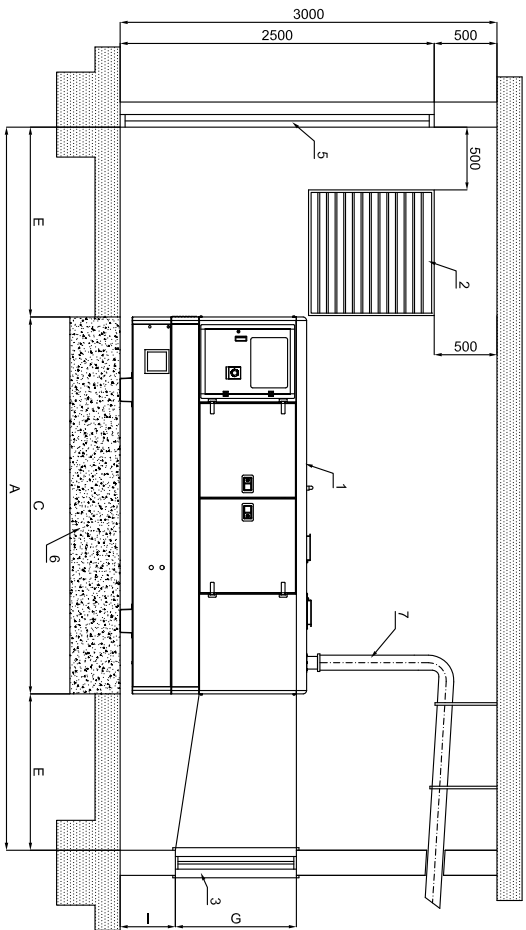
For OPEN sets - Three-phase generators (single phase by request):

CONT . POW.	MAGNETO. PROTECTION (A)	EARTH LEAK PROTECTION	DISTRIBUTION
10 kVA	4P, 16A (B)	Mod. 16A, 300 mA	1 B. CEE 3P+N+T 16A
13 kVA	4P, 20A (B)	Mod. 25 A, 300 mA	1 B. CEE 3P+N+T 32A
15 kVA	4P, 25A (B)	Mod. 25 A, 300 mA	1 B. CEE 3P+N+T 32A
20 kVA	4P, 32 A (B)	Mod. 32 A, 300 mA	1 B. CEE 3P+N+T 32 A
	1P+N 16 A (C)		1 B. CEE 2P+T 16 A
30 kVA	4P, 50 A (B)	Mod. 63 A, 300 mA	1 B. CEE 3P+N+T 63 A
	3P 16 A (C)		1 B. CEE 3P+N+T 16 A
40 kVA	1P+N 16 A (C)	Mod. 63 A, 300 mA	1 B. CEE 2P+T 16 A
	4P, 63 A (B)		1 B. CEE 3P+N+T 63 A
50 kVA	3P 16 A (C)	Electronic adjustable	1 B. CEE 3P+N+T 16 A
	1P+N 16 A (C)		1 B. CEE 2P+T 16 A
60 kVA	4P, 100 A (B)	Electronic adjustable	1 B. CEE 3P+N+T 125 A
	3P 16 A (C)		1 B. CEE 3P+N+T 16 A
75-80 kVA	1P+N 16 A (C)	Electronic adjustable	1 B. CEE 2P+T 16 A
	4P, 125 A (B)		1 B.CEE 3P+N+T 16 A
100 kVA	3P 16 A (C)	Electronic adjustable	1 B.SCHUKO 2P+T 16 A
	1P+N 16 A (C)		1 POWER TERMINALS
125-150 kVA	3P, 160 A (B)	Electronic adjustable	1 B. CEE 3P+N+T 16A
	3P 16 A (C)		1 B. SCHUKO 2P+T 16 A
200-275 kVA	1P+N 16 A (C)	Electronic adjustable	1 B. CEE 3P+N+T 16A
	3P, 400 A (B)		1 B. SCHUKO 2P+T 16 A
300-400 kVA	3P 16 A (C)	Electronic adjustable	1 B. CEE 3P+N+T 16A
	1P+N 16 A (C)		1 B. SCHUKO 2P+T 16 A
450 kVA VOLVO	3P, 800 A (B)	Electronic adjustable	1 B. CEE 3P+N+T 16A
	3P 16 A (C)		1 B. SCHUKO 2P+T 16 A
430 kVA DEUTZ	1P+N 16 A (C)	Electronic adjustable	1 POWER TERMINALS
	3P, 800 A (B)		1 POWER TERMINALS
450-500 kVA	3P, 630 A (B)	Electronic adjustable	1 POWER TERMINALS
570-650 kVA	3P, 1000 A (B)	Electronic adjustable	1 POWER TERMINALS



CAPACIDAD DE DEPOSITO = 1.000 LTS

		PROYECTO: G.E. EST-INS 500-650 Kva R13	
<small>Las tolerancias a cumplir en piezas de origen, a de fabricacion, y en las que se indique, se entendera que se han cumplido, salvo especificacion en contrario, segun el sistema de cotacion de medidas en milimetros, en sus decimales, segun las especificaciones de cada pieza.</small>			
CODIGO	DESCRIPCION	MATERIAL	EXPLICACION
RESO	MODIFICADO	J.S.BELAR	TOLERANCIA GENERAL
ESCALA	COMPROBADO	A.L.SOLANO	UDS.
	DENOMINACION:	G.E. EST-INS 500-650 Kva R13	
	DIMENSIONES GENERALES	IL-101C12	
		Nº MOD.	
		Nº PLANO	
		MARCA	



DIMENSIONES MINIMAS DE SALA SEGUN POTENCIA											
POTENCIA (Kva)	A	B	C	D	E	F	G	H	I	PESO	SECCION HUECO ENTRADA AIRE
8-15 ABATIBLE	3365	2800	1365	800	1000	900	700	850	450		2x0,50 m ²
10-15	3600	2900	1600	900	1000	1100	700	850	450	804	2x0,50 m ²
20-30	4000	2950	2000	950	1000	1200	750	850	450	980	2x0,50 m ²
40-60-75	4500	3100	2500	1100	1000	1400	900	1100	450	1680	2x0,90 m ²
85-105-130	5000	3200	3000	1200	1000	1400	900	1100	450	2120	2x1,00 m ²
150-180-200-250	5600	3350	3600	1350	1000	1550	1150	1300	500	2340	2x2,50 m ²
300-400	6200	3600	4200	1600	1000	1800	1250	1600	650	6340	2x3,00 m ²
450-470-500-510-600-650	6800	4000	4800	2000	1000	2200	1300	1800	725	6900	2x3,50 m ²

- 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 hormigon
 W = peso total grupo electrogeno
 d = densidad del hormigon (2400 kg/m³)
 D = anchura bloque de hormigon (m)
 C = longitud bloque de hormigon (m)

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

		GRUPO INSONORIZADO	
Una declaración de conformidad de conformidad con el Reglamento de Construcción de Edificios de Altura, emitido por el Ministerio de Vivienda, Urbanismo e Infraestructura de Chile, que garantiza la seguridad y la calidad de los trabajos de construcción que se ejecuten en el proyecto.	PROYECTO:	MODIFICADO:	A.GUILAR
CODIGO:	PESO:	DIBUJADO:	J.GEBELAR
ESCALA:	ESCALA:	COMPROBADO:	J.L.SOLANO
ESCALA:	ESCALA:	DENOMINACION:	GRUPO INSONORIZADO DIMENSIONES DE SALA
ESCALA:	ESCALA:	MATERIAL:	TOLERANCIA GENERAL
ESCALA:	ESCALA:	Nº MOD:	Nº PLANO
ESCALA:	ESCALA:	MARCA:	MARCA