

AV-110 - VOLVO - TAD 531 GE

1.500 R.P.M. | 50 Hz

TECHNICAL SPECIFICATIONS



Model:

AV-110

Stand-by automatic gen set.



Image for guidance purposes.

ENGINE	MAKE	MODEL
	VOLVO	TAD 531 GE

ALTERNATOR	MODEL
	MECC-ALTE ECP 34-2S / 4

(400 / 230 V)

CONTINUOUS POWER:
(PRP "Prime Power" norma ISO 8528-1) **100 kVA**

STAND-BY POWER:
(LTP "Limited Time Power" norma ISO 8528-1) **110 kVA**

Amperes in the different voltages:

VOLTAGE	HZ	PHASE	COS Ø	PRP KVA/KW	LTP KVA/KW	AMPERAGE
415/240	50	3	0,8	101,4/81,1	113,0/90,4	157,32
400/230	50	3	0,8	101,4/81,1	113,0/90,4	163,22
380/220	50	3	0,8	101,4/81,1	113,0/90,4	171,81
240/139	50	3	0,8	101,4/81,1	113,0/90,4	272,03
230/133	50	3	0,8	101,4/81,1	113,0/90,4	283,85
220/127	50	3	0,8	101,4/81,1	113,0/90,4	296,76

ELECTRO EXIM SRL

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ENGINE CHARACTERISTICS

MAKE	MODEL
VOLVO	TAD 531 GE

GENERAL DATA

Power PRP (kWm)	88
Power LTP (kWm)	98
No. cylinders	4
Cylinder capacity (L)	4.76
Diameter per stroke (mm)	108 x 130
Compression ratio	18
Cooling system	LIQUID
Injection	DIRECT
Suction	TURBO-INTERC.
Series regulator	MECHANICAL
Fly wheel coupling	2-11,5"

Lubrication system

Oil capacity (L)	13
Oil consumption (%)	0.41
Min. alarm oil pressure (bar)	2

Ventilation system

Air cooling flow (m3/h)	7200
Combustion air flow (m3/h)	342
Max. back pressure for fan (mbar)	0

Exhaust system

Exhaust gas flow (m3/h)	1002
Exhaust back pressure (mbar)	50
Temp. exhaust gases (°C)	544

Electrical system

VDC (V)	12
Battery (Ah)	96
Engine start-up (kW)	3.10

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ALTERNATOR CHARACTERISTICS

MODEL

MECC-ALTE ECP 34-2S / 4 (400 / 230 V)

GENERAL DATA

Power PRP (kVA)	105
Power LTP (kVA)	115.50
Efficiency Alt. 3/4 %	92.50
Efficiency Alt. 4/4 %	92.20
No. Poles	4
Voltage regulator	DSR
No. wires	12
Insulation	H
Xd (%)	230
X'd (%)	17.60
X	7.40
Degree of protection	IP21

GENERATOR SET CONSUMPTION

% POWER USED	LITRES/HOUR
50%	12
75%	17
100%	23

DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT AND NOISE

LENGTH	DIMENSIONS (MM)	
	WIDTH	HEIGHT
2050	930	1827
FUEL TANK (LITRES)		WEIGHT (KG)
212		1300.00
NOISE LEVEL (dB (A))		

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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.	✓	✓
Horizontal outlet for hot air	•	✓

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DSE 6020 MKII 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 6020 MKII. It also starts and stops the group manually via a pushbutton or remote start-up by contact



Imágenes orientativas.

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 6020 MKII AUTOMATIC CONTROL PANEL

- 4 DSE 6020 MKII PROTECCION CONTROL MODULE.** 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
- Reactive Power (kVAr)
- Voltages between phases and neutral (L1-N, L2-N, L3-N).
- Apparent Power (kVA)
- Cos phi
- Voltages between phases (L1-L2, L2-L3, L1-L3).

CONTROL of the set:

- STARTS and STOPS the set AUTOMATICALLY when mains failure is detected and when it is restored, respectively.
- Breaker control via fascia buttons
- It can also operate MANUALLY a REMOTE START

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

ENGINE:

- Low oil pressure
- Low fuel level
- High coolant temperature
- Engine maintenance alarms for fuel filter, air filter and oil filter
- Low and High battery Voltage.
- Failure of the alternator to charge batteries

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DSE 6020 MKII AUTOMATIC CONTROL PANEL

ALTERNATOR:

- Low and High Voltage
- Low and High Frequency
- Overload due to Intensity (A)
- Power Overload (KW)

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.
- Communication via USB cable for remote control
- Programmable clock with multiple maintenance events which can be configured for optimal motor functioning. Weekly and/or monthly programming for up to 8 startups and shutdowns 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 controller in the same metal cabinet.
- 4-Pole Switchboard in metal cabinet independent from the Automatic Panel

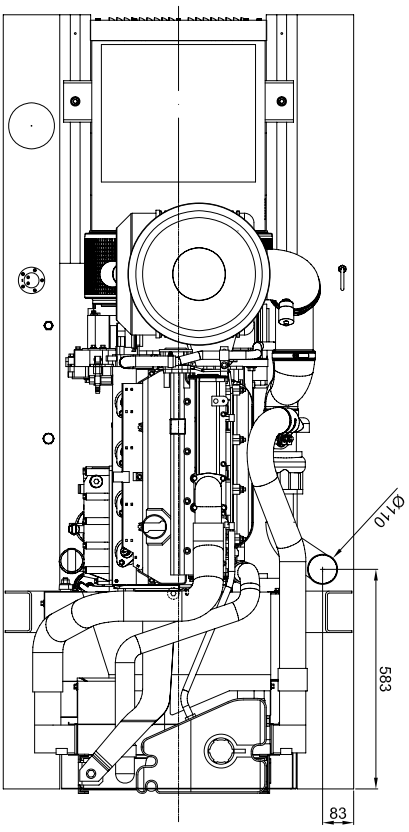
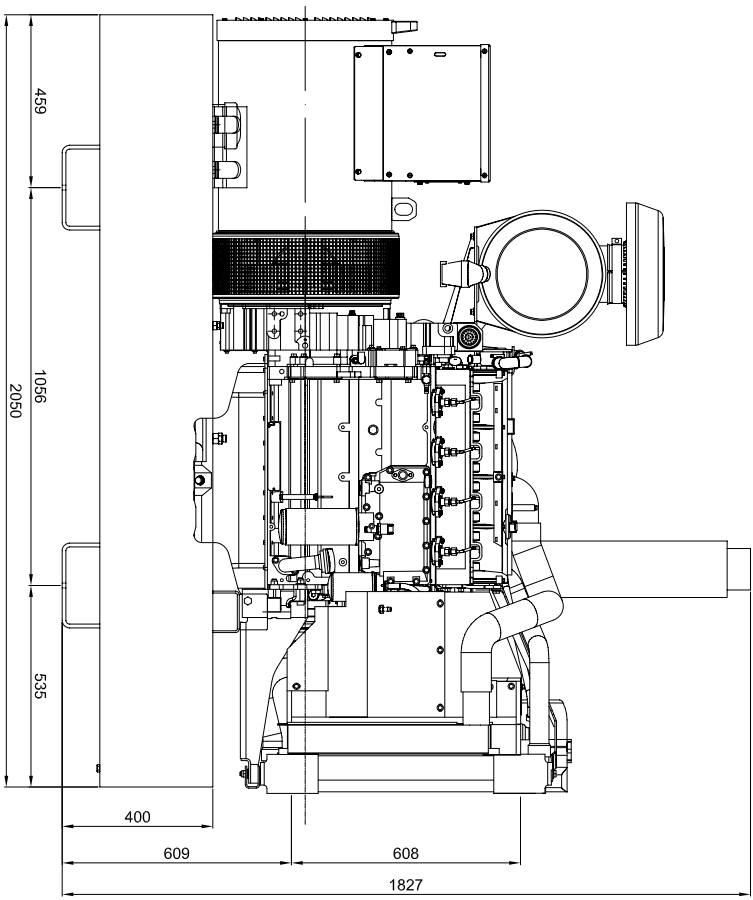
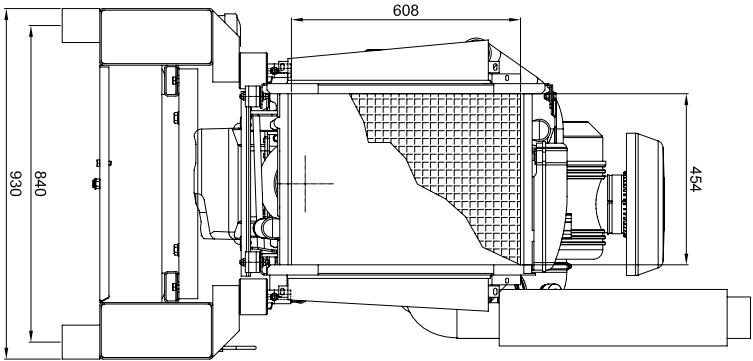
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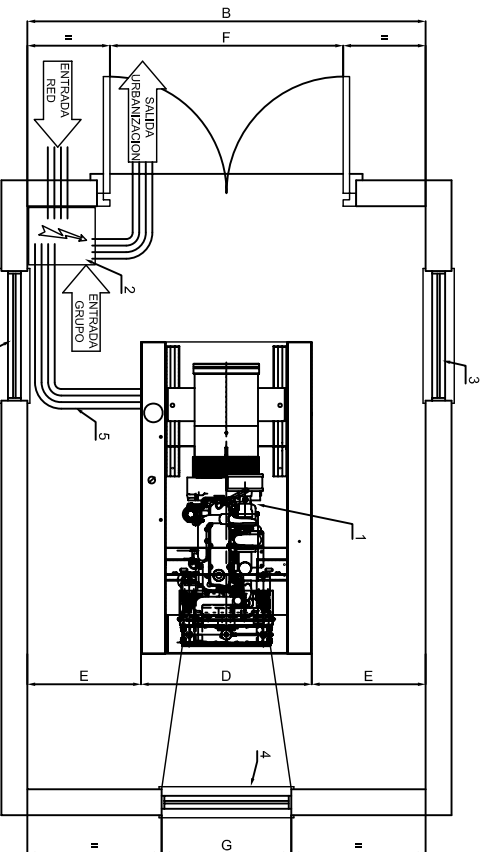
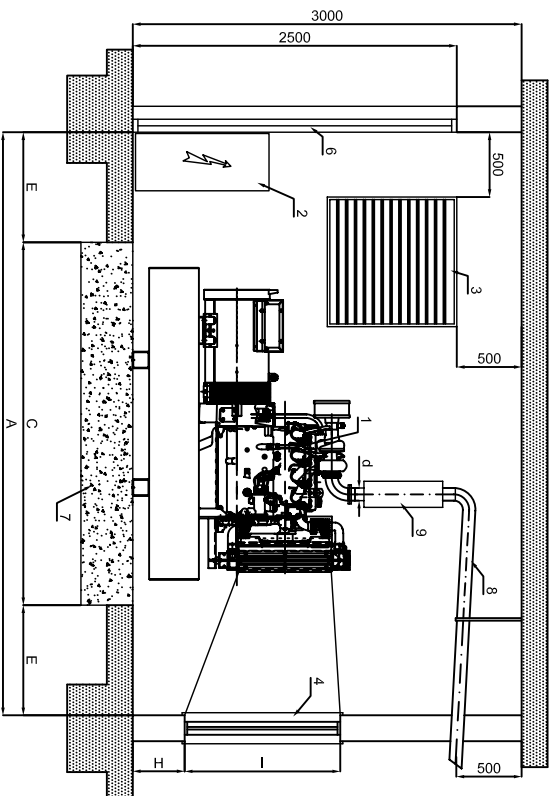
The following table shows the different amperages of the magnetothermal switches and the switchboards according to the set's power - Three-phase generators (single phase by request)::

CONT. POW.		CONTINUOUS POWER MAGNETOTHERMAL PROTECTION IV POLES (A)	SWITCHBOARD IV POLES (A)
SET'S POWER	10 kVA	16	25
	15 kVA	25	25
	20 kVA	32	30
	30 kVA	50	45
	40 kVA	63	60
	50 kVA	80	100
	60 kVA	100	100
	75 kVA	125	125
	80 kVA	125	125
	100 kVA	160	160
	125 kVA	250	260
	150 kVA	250	260
	160 kVA	250	260
	170 kVA	250	260
	200 kVA	400	400



CAPACIDAD DE DEPOSITO = 211,5 LTS

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										G.E. EST-STD 105 Kva VOLVO									
MODIFICADO		DESARROLLADO		COMPROBADO		CONCISO		PESO		ESCALA		MATERIAL		TOLERANCIA GENERAL		Nº MOD.		MARCAS	
		JLS/BEAR		JLS/SOLANO		21-Mar-2011													
DENOMINACION:										G.E. EST-STD 105 Kva VOLVO									
DIMENSIONES GENERALES																			



DIMENSIONES DE SALA SEGUN POTENCIA												
POTENCIA	A	B	C	D	E	F	G	H	I	d	PESO	SECCION HUECO ENTRADA AIRE
85 Kva	4050	2930	2050	930	1000	1430	800	450	800	80	1100	2x1.00 m2
105 Kva	4250	2930	2250	930	1000	1430	900	450	900	80	1320	2x1.00 m2
130 Kva	4250	3035	2250	1035	1000	1535	900	450	900	80	1460	2x1.00 m2
150 Kva	4500	3035	2500	1035	1000	1535	900	500	900	80	1620	2x2.00 m2
180 Kva	4500	3035	2500	1035	1000	1535	1000	500	1100	80	1608	2x2.00 m2
200 Kva	4500	3035	2500	1035	1000	1535	1000	500	1100	80	1780	2x2.00 m2
250 Kva	5000	3200	3000	1200	1000	1700	1200	500	1100	80	1950	2x2.50 m2
300 Kva	5000	3200	3000	1200	1000	1700	1300	650	1200	110	2770	2x2.50 m2
350 Kva	5000	3200	3000	1200	1000	1700	1400	650	1300	110	3295	2x3.00 m2
375 Kva	5000	3200	3000	1200	1000	1700	1400	650	1300	110	2770	2x3.00 m2
400 Kva	5000	3200	3000	1200	1000	1700	1500	650	1500	110	3295	2x3.00 m2
450 Kva	5490	3300	3490	1300	1000	1800	1500	725	1500	110	3295	2x3.00 m2
500 Kva	5490	3300	3490	1300	1000	1800	1700	725	1700	110	4030	2x3.50 m2
550 Kva	5490	3300	3490	1300	1000	1800	1700	725	1700	110	4240	2x3.50 m2
620 Kva	5500	3330	3500	1330	1000	1880	1900	725	1900	110	4440	2x4.00 m2

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

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

CALCULO ESPESOR LOSA DE HORMIGON

$$D = \frac{W}{d \times B \times L}$$

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

h = 20/100 mm

		PROYECTO:		GRUPO ESTATICO ESTANDAR VOLVO	
Las informaciones que aparecen en este documento son de carácter informativo y no constituyen una oferta de producto. El cliente debe verificar la idoneidad del producto para su uso y la conformidad de los datos técnicos con la realidad. El cliente es responsable de la correcta interpretación de los datos técnicos.		MODIFICADO		MATERIAL	
PESO		DIBUJADO		TOLERANCIA GENERAL	
ESCALA		COMPROBADO		UDS.	
		DENOMINACION:		EXPEDIENTE:	
		GRUPOS EST-STD VOLVO		Nº PLANO	
		DIMENSIONES DE SALA		MARCA	