

**AV-200 - VOLVO - TAD 732 GE**

**1.500 R.P.M. | 50 Hz**

## TECHNICAL SPECIFICATIONS



Model:

**AV-200**

Stand-by automatic gen set.



Image for guidance purposes.

| ENGINE     | MAKE                 | MODEL      |
|------------|----------------------|------------|
|            | VOLVO                | TAD 732 GE |
| ALTERNATOR | MODEL                |            |
|            | MECC-ALTE ECO 38-1SN |            |

**(400 / 230 V)**

CONTINUOUS POWER:  
(PRP "Prime Power" norma ISO 8528-1) **180 kVA**

STAND-BY POWER:  
(LTP "Limited Time Power" norma ISO 8528-1) **200 kVA**

### Amperes in the different voltages:

| VOLTAGE | HZ | PHASE | COS Ø | PRP KVA/KW  | LTP KVA/KW  | AMPERAGE |
|---------|----|-------|-------|-------------|-------------|----------|
| 415/240 | 50 | 3     | 0,8   | 180,0/144,0 | 198,0/158,4 | 275,79   |
| 400/230 | 50 | 3     | 0,8   | 180,0/144,0 | 198,0/158,4 | 286,13   |
| 380/220 | 50 | 3     | 0,8   | 180,0/144,0 | 198,0/158,4 | 301,19   |
| 240/139 | 50 | 3     | 0,8   | 180,0/144,0 | 198,0/158,4 | 476,88   |
| 230/133 | 50 | 3     | 0,8   | 180,0/144,0 | 198,0/158,4 | 497,61   |
| 220/127 | 50 | 3     | 0,8   | 180,0/144,0 | 198,0/158,4 | 520,23   |

**ELECTRO EXIM SRL**

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## ENGINE CHARACTERISTICS

| MAKE  | MODEL      |
|-------|------------|
| VOLVO | TAD 732 GE |

### GENERAL DATA

|                          |               |
|--------------------------|---------------|
| Power PRP (kWm)          | 160           |
| Power LTP (kWm)          | 179           |
| No. cylinders            | 6             |
| Cylinder capacity (L)    | 7.15          |
| Diameter per stroke (mm) | 108 x 130     |
| Compression ratio        | 18            |
| Cooling system           | LIQUID        |
| Injection                | DIRECT        |
| Suction                  | TURBO-INTERC. |
| Series regulator         | ELECTRONIC    |
| Fly wheel coupling       | 2 -11,5"      |

### Lubrication system

|                               |      |
|-------------------------------|------|
| Oil capacity (L)              | 34   |
| Oil consumption (%)           | 0.35 |
| Min. alarm oil pressure (bar) | 2    |

### Ventilation system

|                                   |       |
|-----------------------------------|-------|
| Air cooling flow (m3/h)           | 14040 |
| Combustion air flow (m3/h)        | 684   |
| Max. back pressure for fan (mbar) | 0     |

### Exhaust system

|                              |      |
|------------------------------|------|
| Exhaust gas flow (m3/h)      | 1914 |
| Exhaust back pressure (mbar) | 50   |
| Temp. exhaust gases (°C)     | 529  |

### Electrical system

|                      |      |
|----------------------|------|
| VDC (V)              | 24   |
| Battery (Ah)         | 120  |
| Engine start-up (kW) | 5.50 |

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## ALTERNATOR CHARACTERISTICS

### MODEL

MECC-ALTE ECO 38-1SN (400 / 230 V)

### GENERAL DATA

|                       |        |
|-----------------------|--------|
| Power PRP (kVA)       | 180    |
| Power LTP (kVA)       | 198.00 |
| Efficiency Alt. 3/4 % | 92.60  |
| Efficiency Alt. 4/4 % | 92.40  |
| No. Poles             | 4      |
| Voltage regulator     | DSR    |
| No. wires             | 12     |
| Insulation            | H      |
| Xd (%)                | 197    |
| X'd (%)               | 9.70   |
| X                     | 5.50   |
| Degree of protection  | IP21   |

## GENERATOR SET CONSUMPTION

| % POWER USED | LITRES/HOUR |
|--------------|-------------|
| 50%          | 21          |
| 75%          | 31          |
| 100%         | 41          |

## DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT AND NOISE

| LENGTH               | DIMENSIONS (MM) |             |
|----------------------|-----------------|-------------|
|                      | WIDTH           | HEIGHT      |
| 2500                 | 1035            | 1845        |
| FUEL TANK (LITRES)   |                 | WEIGHT (KG) |
| 236                  |                 | 1850.00     |
| 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

### DSE 6020 MKII AUTOMATIC CONTROL PANEL

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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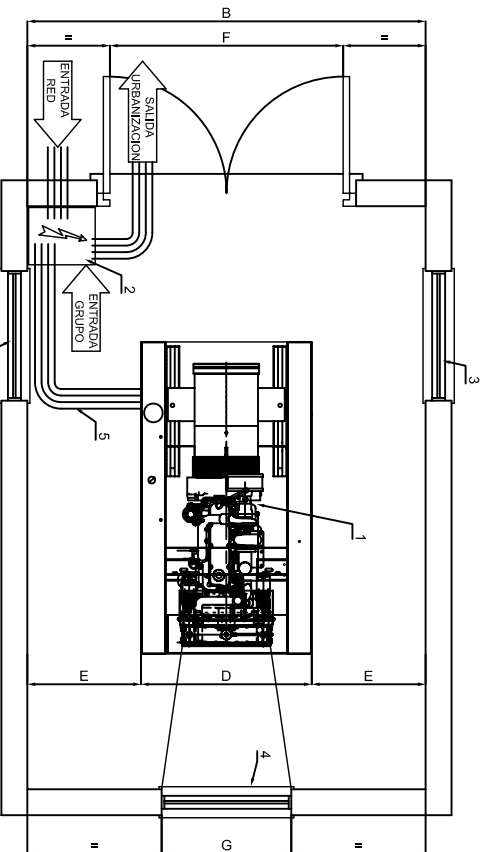
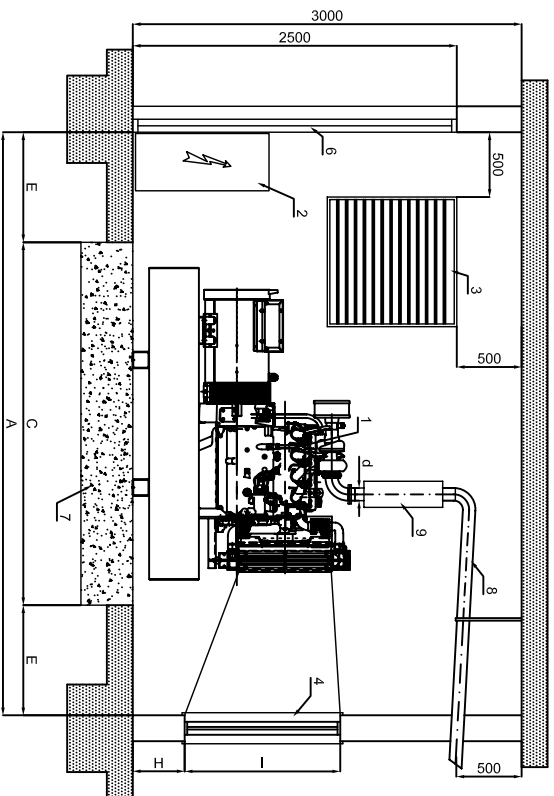
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## DSE 6020 MKII AUTOMATIC CONTROL PANEL

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                      |





| DIMENSIONES DE SALA SEGUN POTENCIA |      |      |      |      |      |      |      |     |      |     |      |                               |
|------------------------------------|------|------|------|------|------|------|------|-----|------|-----|------|-------------------------------|
| POTENCIA                           | A    | B    | C    | D    | E    | F    | G    | H   | I    | d   | PESO | SECCION HUECO<br>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/m<sup>3</sup>)  
B = anchura bloque de hormigon (m)  
L = longitud bloque de hormigon (m)

h = 20/100 mm

|                                                                                                                                                                                                                                                                                                                                                                              |  |                      |  |                               |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------|--|-------------------------------|--|
|                                                                                                                                                                                                                                                                                           |  | PROYECTO:            |  | GRUPO ESTATICO ESTANDAR VOLVO |  |
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