AI-110 - FPT - N 45 TM 2A **1.500 R.P.M. | 50 Hz**

TECHNICAL SPECIFICATIONS

Image for guidance purposes.

Model:

AI-110

Stand-by automatic gen set.

(400 / 230 V)

ENGINE	MAKE	MODEL
	FPT	N45TM2A

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

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	100,8/80,7	110,9/88,7	154,43
400/230	50	3	0,8	100,8/80,7	110,9/88,7	160,22
380/220	50	3	0,8	100,8/80,7	110,9/88,7	168,65
240/139	50	3	0,8	100,8/80,7	110,9/88,7	267,03
230/133	50	3	0,8	100,8/80,7	110,9/88,7	278,64
220/127	50	3	0,8	100,8/80,7	110,9/88,7	291,3

ELECTRO EXIM SRL

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ENGINE CHARACTERISTICS

MAKE	MODEL
FPT	N45TM2A

GENERAL DATA

Power PRP (kWm)	87.50
Power LTP (kWm)	96.20
No. cylinders	4
Cylinder capacity (L)	4.50
Diameter per stroke (mm)	104 x 132
Compression ratio	17.50
Cooling system	LIQUID
Injection	DIRECT
Suction	TURBO
Series regulator	MECHANICAL
Fly wheel coupling	3-11,5"

Lubrication system

Oil capacity (L)	12.80
Oil consumption (%)	0.10
Min. alarm oil pressure (bar)	0.60

Ventilation system

Air cooling flow (m3/h)	7920
Combustion air flow (m3/h)	427
Max. back pressure for fan (mbar)	20

Exhaust system

Exhaust gas flow (m3/h)	1184
Exhaust back pressure (mbar)	50
Temp. exhaust gases (ºC))	535

Electrical system

VDC (V)	12
Battery (Ah)	100
Engine start-up (kW)	3

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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%	11
75%	16.20
100%	24.40

DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT AND NOISE

DIMENSIONS (MM)		
LENGTH	WIDTH	HEIGHT
1900	900	1966

FUEL TANK (LITRES)	WEIGHT (KG)
192	1100.00

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 conected 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 chassis provided with fuel level jauge 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.	✓	•
Residencial silencer with -35 db(a) noise reduction with exhaust tube and protection cap.	•	✓
4 Pole termal 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 blets 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.	✓	•
Preparate for extended fuel tank, fully bomded for leakage protection.	✓	✓
Base frame preparated 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

AI-110 - FPT - N 45 TM 2A 1.500 R.P.M. | 50 Hz

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
- 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)

MAINS:

- Frequency
- Voltages between phases and neutral (L1-N, L2-N, L3-N).
- Voltages between phases (L1-L2, L2-L3, L1-L3).
- Reactive Power (kVAr)
- Apparent Power (kVA)
- Cos phi

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 a REMOTE START
- Breaker control via fascia buttons

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
- Engine maintenance alarms for fuel filter, air filter and oil filter

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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 insalled next to the controler in the same metal cabinet.
- 4-Pole Switchboard in metal cabinet independent from the Automatic Panel

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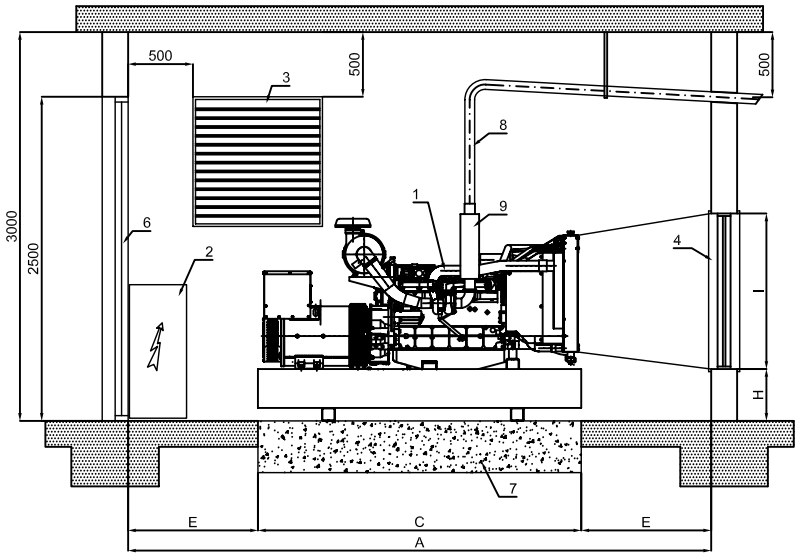
DSE 6020 MKII AUTOMATIC CONTROL PANEL

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

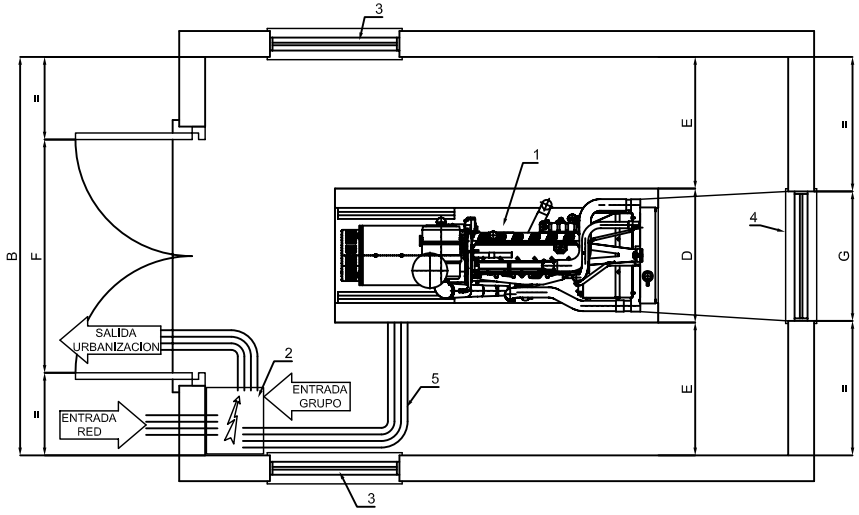


DIMENSIONES DE SALA SEGUN POTENCIA												
POTENCIA	A	B	C	D	E	F	G	H	I	d	PESO	SECCION HUECO ENTRADA AIRE
30 Kva	3700	2730	1700	730	1000	1230	700	500	600	50	630	2x0.50 m2
40 Kva	3700	2730	1700	730	1000	1230	800	500	700	50	720	2x0.60 m2
60 Kva	3900	2900	1900	900	1000	1400	800	500	800	80	1000	2x0.80 m2
75 Kva	3900	2900	1900	900	1000	1400	800	500	800	80	1080	2x0.80 m2
85 Kva	3900	2900	1900	900	1000	1400	800	500	800	80	1100	2x0.90 m2
105 Kva	3900	2900	1900	900	1000	1400	900	500	900	80	1400	2x1.00 m2
130 Kva	4360	3035	2360	1035	1000	1535	900	500	900	80	1440	2x1.00 m2
150 Kva	4360	3035	2360	1035	1000	1535	900	500	900	80	1460	2x1.00 m2
200 Kva	4360	3035	2360	1035	1000	1535	900	500	900	80	1608	2x1.00 m2
275 Kva	5000	3300	3000	1300	1000	1800	1000	500	900	110	1950	2x1.00 m2
300 Kva	5000	3300	3000	1300	1000	1800	1000	500	900	110	2770	2x1.00 m2
350 Kva	5000	3300	3000	1300	1000	1800	1000	500	900	110	3295	2x1.00 m2
400 Kva	5000	3300	3000	1300	1000	1800	1000	500	900	110	3295	2x1.30 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

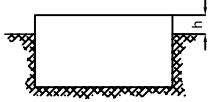
EL Ø DE LA TUBERIA DE EXTENSION DEL ESCAPE PUEDE SER EL MISMO QUE EL DEL SILENCIADOR HASTA 5 m. PARA DISTANCAS MAYORES DE 5 m, DEBE AUMENTARSE EL Ø DE LA TUBERIA 10 mm POR CADA 10 m MAS DE DISTANCIA ENTRE EL GRUPO ELECTROGENO Y LA SALIDA EXTERIOR



CALCULO ESPESOR LOSA DE HORMIGON

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

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



h = 20/100 mm

INMESOL POWER SOLUTIONS

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.

PROYECTO:	GRUPO ESTATICO ESTANDAR IVECO			
MODIFICADO	J.G.BEJAR	07-Sep-2011	MATERIAL	
DIBUJADO	J.G.BEJAR	03-Mar-2006	TOLERANCIA GENERAL	
COMPROBADO	J.L.SOLANO	07-Sep-2011	UDS.	Nº MOD.
CODIGO				
PESO				
ESCALA				
DENOMINACION:	GRUPOS EST-STD IVECO DIMENSIONES DE SALA		EXPEDIENTE:	Nº PLANO / MARCA