

Model: IK-030 - INDUSTRIAL RANGE

400/230 V - THREE-PHASE | 1.500 R.P.M. | 50 Hz

Genset with manual control panel.



Image for guidance purposes.

## PRP

**CONTINUOUS POWER:** 27 kVA

PRP "Prime Power" norma ISO 8528-1

## LTP

**STAND-BY POWER:** 30 kVA

LTP "Limited Time Power" norma ISO 8528-1

## ENGINE

MAKE	MODEL
KOHLER	KDI2504M

## ALTERNATOR

MAKE	MODEL
MECC-ALTE	ECP 28-VL / 4

VOLTAGE	HZ	PHASE	COS Ø	PRP kVA/kW	LTP kVA/kW	AMP. (LTP)
400/230	50	3	0,8	25,4/20,4	28,0/22,4	40,42

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## ENGINE CHARACTERISTICS

MAKE	MODEL
KOHLER	KDI2504M

### General Data

Power PRP (kWm)	23.10
Power LTP (kWm)	25.40
No. cylinders	4
Cylinder capacity (L)	2.482
Diameter per stroke (mm)	88 x 102
Compression ratio	
Cooling system	LIQUID
Injection	DIRECT
Suction	NATURAL
Series regulator	-
Fly wheel coupling	4-7,5

### Lubrication system

Oil capacity (L)	11.50
Oil consumption (%)	0.10
Min. alarm oil pressure (bar)	

### Ventilation system

Air cooling flow (m <sup>3</sup> /h)	2100
Combustion air flow (m <sup>3</sup> /h)	132.00
Max. back pressure for fan (mbar)	

### Exhaust system

Exhaust gas flow (m <sup>3</sup> /h)	116
Exhaust back pressure (mbar)	70
Temp. exhaust gases (°C)	520

### Electrical system

VDC (V)	12
Battery (Ah)	70
Engine start-up (kW)	

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## ALTERNATOR CHARACTERISTICS

MAKE	MODEL
MECC-ALTE	ECP 28-VL / 4

### General Data

Power PRP (kVA)	30
Power LTP (kVA)	32.50
Efficiency Alt. 3/4 %	88.50
Efficiency Alt. 4/4 %	88.10
No. Poles	4
Voltage regulator	DSR
No. wires	12
Insulation	H
Xd (%)	165
X'd (%)	15.40
X	8.80
Degree of protection	IP23

## GENERATOR SET CONSUMPTION

% POWER USED	LITRES/HOUR
50%	3.20
75%	4.70
100%	6.20

## DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT

Dimensions (mm)		
LENGTH	WIDTH	HEIGHT
2000	950	1253
FUEL TANK (LITRES)		WEIGHT (KG)
85		950

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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**.



**INMESOL S.L company with ISO 9001 quality certification system for the:**

Design, manufacture, marketing and technical assistance of power GENSETS, lighting towers, welding GENSETS, tractor with PTO GENSET and hybrid generation systems.

### Europe regulations:

Inmesol power GENSET sets comply with European legislation and were given the CE marking which includes the following directives:

- 2006/42/EC on machinery safety.
- 2005/88/EC on NOISE EMISSIONS by equipment for outdoor use (amends the 2000/14/EC).
- 2014/30/UE on Electromagnetic Compatibility.
- 2014/35/UE on electrical safety, electrical equipment designed to be used within certain voltage limits

### International regulations:

Upon request, INMESOL can supply equipment that complies with the International Legislation and Regulations:

- “Technical Regulation on Safety of Machinery & Equipment” No. 753, repealing GOST R standards for exports to Russia.
- Resolution nº 90708 dated August 30th 2013 “Reglamento Técnico de Instalaciones Eléctricas RETIE” issued by the Ministry of Mining and Energy, Section 20.21 Engines and power generators, for exports to Colombia.

### Information:

The power ratings are for reference to environmental conditions: barometric pressure 100 kPa, 25°C and 30% relative humidity. These are defined by ISO 8528 and ISO 3046.

PrimePower (PRP) “Main Service” is applicable for power GENSETS that function as main electric power source. It may be overloaded by 10% in limited time points, maximum once every 12 hours.

StandbyPower (LTP) “Emergency Service” applies to power GENSETS that run during Electrical Grid failure. This power may NOT BE OVERLOADED.

Nevertheless, to obtain long engine life, it is recommended that the active power average load (kW) connected to the power GENSET set in any period of 24 hours of operation does not exceed the following values:

- In Main Service 70% of the PRP power.
- In Emergency Service during Electrical Grid failure 80% of the LTP power.

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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 polyester (QUALICOAT) paint.

Canopy of steel sheet sound proofed with fireproof rockwool, and treated with degreasing liquids and aplicated with a phosphate coat and polyester (QUALICOAT) paint.

Sealed chassis

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.

Residential 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. remote start possibility

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 mode)

Base frame is prepared for trailer kit installation.

Standard electronic speed governor on engines from 220 kVA (LTP) and up.

Horizontal outlet for hot air (till canopy 4200x1600x2245)

## OPTIONS

Battery charger

Coolant preheating

AMF/ATS panel to turn a manual gen set to automatic version

Integral additional socket panel from 20 kVA till 400 kVA PRP

Residential silencer

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## DSE 3110 MANUAL CONTROL PANEL

MANUAL CONTROL, PROTECTION AND DISTRIBUTION panel, assembled on the generator set in metal cabinet with a DSE 3110 engine protection unit.



Image for guidance purposes.

It has the following:

### 1. STARTER SWITCH

### 2. EMERGENCY STOP PUSHBUTTON

### 3. MEASURING INSTRUMENTS:

Analogue(s) ammeter(s)

Fuel level indicator.

Analogue voltmeter

Digital Hz display and hour meter (DSE 3110)

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**DSE 3110 MANUAL CONTROL PANEL**

**4. SET CONTROL AND ENGINE PROTECTION: DSE 3110, allows:**

START AND STOP the set MANUALLY.

Possibility of doing it AUTOMATICALLY via START ON SIGNAL

Digital readings of the operating hours and the Frequency

Controls the main characteristics of the engine, causing an alarm or stopping the machine:

- Low and High Voltage (STOP)
- Low and High Frequency and Speed (STOP)
- Low Oil Pressure and High Coolant Temperature (STOP)
- Failure of the Alternator Battery-Charger (ALARM)
- Low fuel level (ALARM)

**5. PROTECTIONS**

MAGNETO. PROTECTION (A)	EARTH LEAK PROTECTION	DISTRIBUTION
50A, 4P	Modular 63A, 30mA	CEE5P63A+CEE5P16A+Sc huko

## OPTIONS

### OPTIONAL 1:

#### AUTOMATIC PANEL FOR MANUAL GENERATOR: ATS DSE 334

This panel provides the manual control generator with a reserve operation from the Mains, as the ATS sends the command to start and stop the generator, when it detects a supply failure and when the Mains is restored.



Image for guidance purposes.

It has the following:

Change over switch made up of two contactors with mechanical and electrical latching.

Battery charger

Fuses

Mains and group input and charge output connection terminal block.

DSE 334 Automatic Transfer Control Module, providing the following functions and features:

- Output to voltage free relay.
- Automatic supply failover.
- Real time clock
- 10 inputs and 5 outputs can be customised
- Events log
- Customisable timers
- Setup can be completed through PC and/or through the panel itself.
- LED indicators.
- Four-line screen
- Input for generator set failure.
- Electric current monitoring (optional)
- Voltage levels can be adjusted to mains failure
- Generator availability indicator.
- Start signal to the engine



## OPTIONS

### OPTION 2:

### FAILOVER TO DSE 6110 MKII MANUAL DIGITAL CONTROL MODULE

#### LCD SCREEN:

It has a digital LCD screen, which provides easy reading of the information regarding the ENGINE, ALTERNATOR and CHARGING.

#### 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

#### 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)

#### OTHER CHARACTERISTICS:

The real-time clock records the last 50 events.s.

Configurable inputs and outputs.

Configurable alarms and timers.

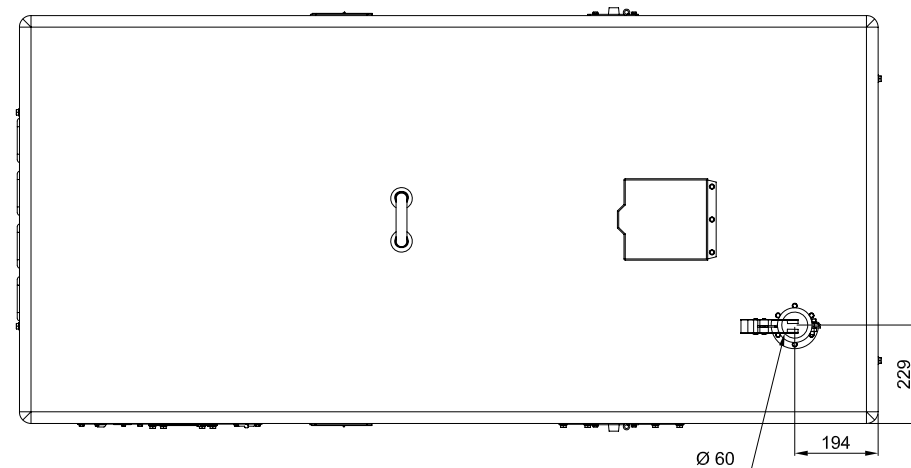
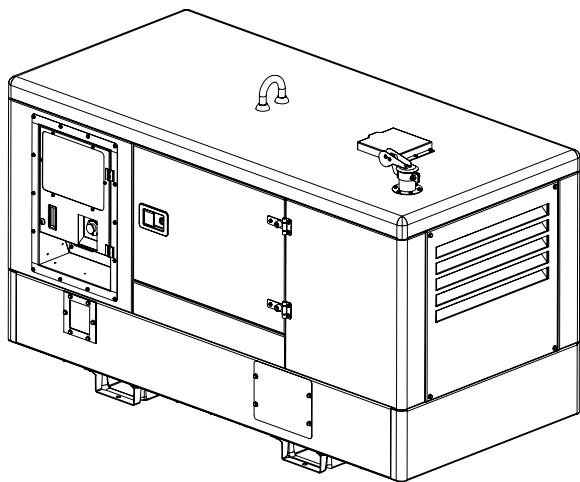
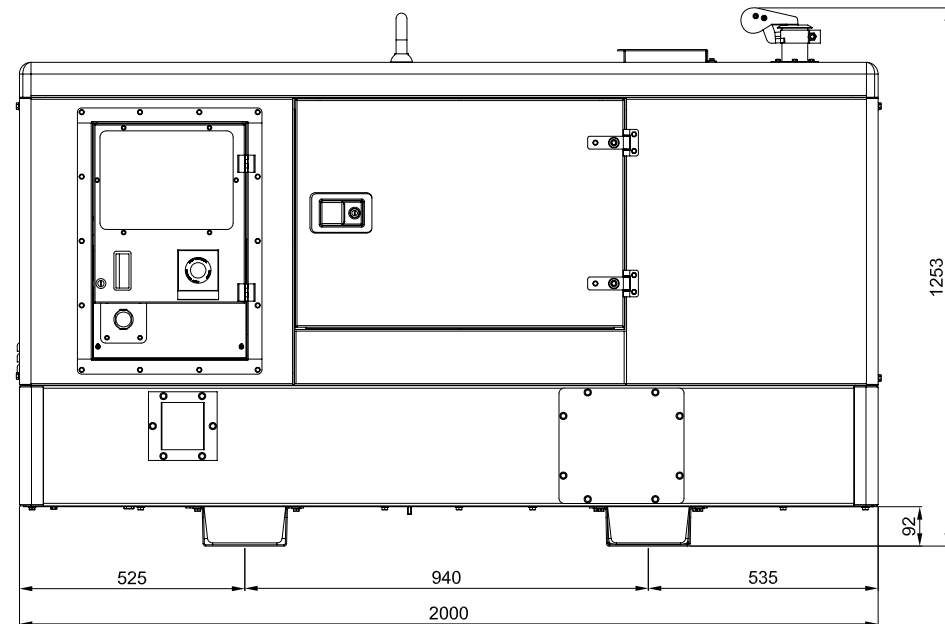
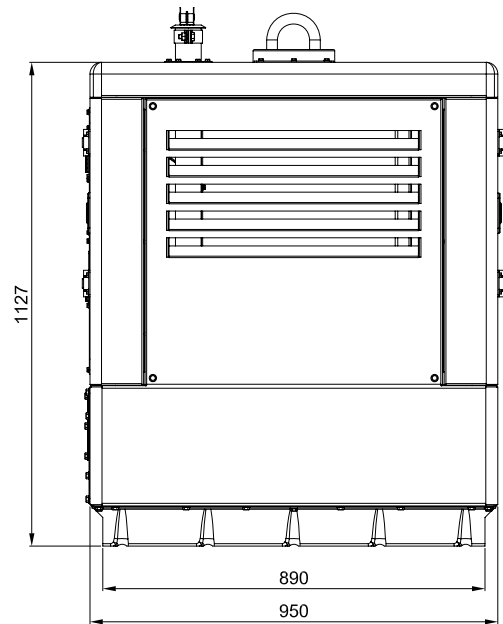
USB connectivity

Fully configurable via software and PC.

Communication via USB cable for remote control

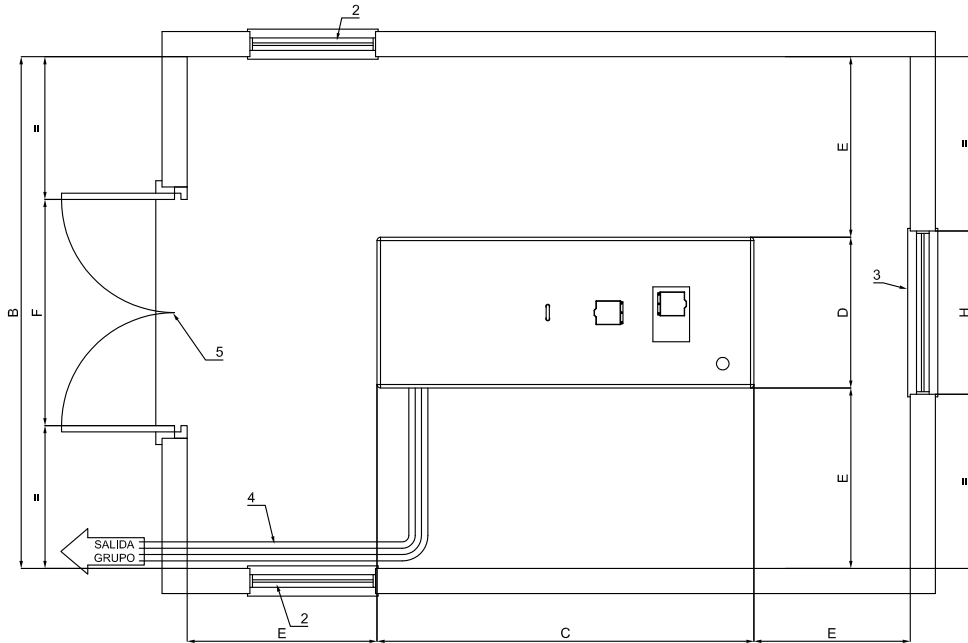
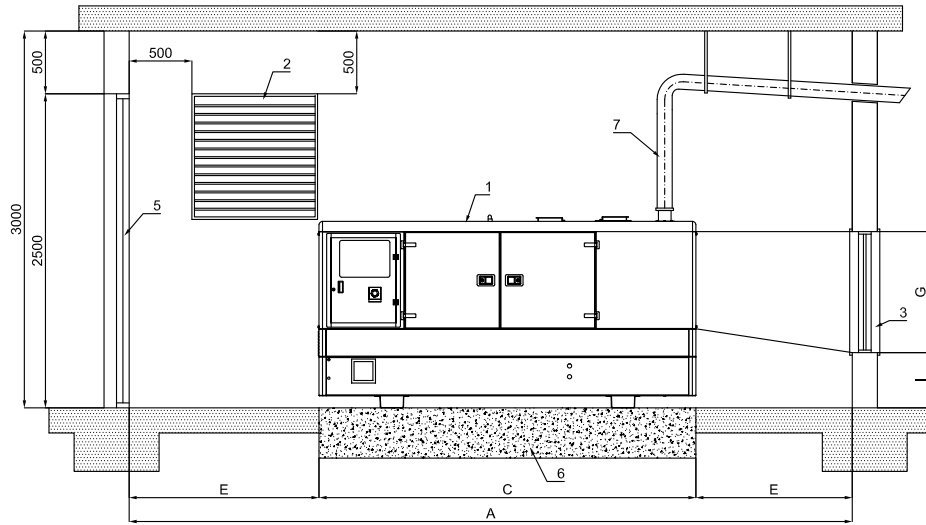
Programmable clock with multiple maintenance events which can be configured for optimal motor functioning. Weekly and/or monthly programming for up to 8 startups and shutdowns per week.

ALTERNATIVE CONFIGURATIONS, which open up the working possibilities.



CAPACIDAD DE DEPOSITO = 85 LTS

		PROYECTO: G.E. INSONORO 20-30 Kva R12				
		MODIFICADO	J.G.BEJAR	08-May-2012	MATERIAL	
<small>Las tolerancias a cumplir en espesores de chapa, e de barras perforadas y/o ranuras, medidas de perfilado, tubo, perfiles, etc... así como cualquier elemento comercial, serán los estándar de dicho elemento. Estas tolerancias se tratarán con la misma importancia que las generales y específicas de cada plano.</small>		DIBUJADO	J.G.BEJAR	08-Mar-2011	TOLERANCIA GENERAL	
		COMPROBADO	J.L.SOLANO	08-May-2012	UDS.	
CODIGO		DENOMINACION:		EXPEDIENTE:	Nº MOD.	
PESO		G.E. INSONORO 20-30 Kva R12			Nº PLANO	
ESCALA		DIMENSIONES GENERALES			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 m2
10-15	3600	2900	1600	900	1000	1100	700	850	450	804	2x0.50 m2
20-30	4000	2950	2000	950	1000	1200	750	850	450	980	2x0.50 m2
40-60-75	4500	3100	2500	1100	1000	1400	900	1100	450	1680	2x0.90 m2
85-105-130	5000	3200	3000	1200	1000	1400	900	1100	450	2120	2x1.00 m2
150-180-200-250	5600	3350	3600	1350	1000	1550	1150	1300	500	2340	2x2.50 m2
300-400	6200	3600	4200	1600	1000	1800	1250	1600	650	6340	2x3.00 m2
450-470-500-510-630-650	6800	4000	4800	2000	1000	2200	1300	1800	725	6900	2x3.50 m2

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

h = 20/100 mm

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

		<b>PROYECTO: GRUPO INSONORIZADO</b>			
MODIFICADO	A.AGUILAR	02-Ene-2015	MATERIAL		
DIBUJADO	J.G.BEJAR	27-Feb-2006	TOLERANCIA GENERAL		
COMPROBADO	J.L.SOLANO	04-Oct-2012	UDS.	Nº MOD.	
CODIGO	DENOMINACION:		EXPEDIENTE:	Nº PLANO	MARCA
PESO	GRUPO INSONORIZADO				
ESCALA	DIMENSIONES DE SALA				