POWER GENERATORS INMESOL

Code: IDI0415540T3110630M

Model: ID-415 - 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: 380 kVA

PRP "Prime Power" norma ISO 8528-1

LTP

STAND-BY POWER: 415 kVA

LTP "Limited Time Power" norma ISO 8528-1

ENGINE

MAKE	MODEL
DEUTZ	BF6M 1015 CP

ALTERNATOR

MAKE	MODEL
STAMFORD	HCI444F

VOLTAGE	HZ	PHASE	COS Ø	PRP kVA/kW	LTP kVA/kW	AMP. (LTP)
400/230	50	3	0,8	382,1/305,7	413,7/330,9	597,75

POWER GENERATORS INMESOL

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ENGINE CHARACTERISTICS

MAKE	MODEL
DEUTZ	BF6M 1015 CP

General Data

Power PRP (kWm)	327.30
Power LTP (kWm)	354.30
No. cylinders	6
Cylinder capacity (L)	4.76
Diameter per stroke (mm)	132 x 145
Compression ratio	16.50
Cooling system	LIQUID
Injection	DIRECT
Suction	TURBO
Series regulator	ELECTRONIC
Fly wheel coupling	1 - 14"

Lubrication system

Oil capacity (L)	34.00
Oil consumption (%)	0.30
Min. alarm oil pressure (bar)	3.00

Ventilation system

Air cooling flow (m^3/h)	24120
Combustion air flow (m^3/h)	1478.00
Max. back pressure for fan (mbar)	-

Exhaust system

Exhaust gas flow (m^3/h)	4272
Exhaust back pressure (mbar)	50
Temp. exhaust gases (ºC)	555

Electrical system

VDC (V)	24
Battery (Ah)	2 x 180
Engine start-up (kW)	5,4

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ALTERNATOR CHARACTERISTICS

MAKE	MODEL
STAMFORD	HCI444F

General Data

Power PRP (kVA)	400
Power LTP (kVA)	450.00
Efficiency Alt. 3/4 %	94.40
Efficiency Alt. 4/4 %	93.40
No. Poles	4
Voltage regulator	AS440
No. wires	12
Insulation	H
Xd (%)	2.45
X'd (%)	0.16
X	0.12
Degree of protection	IP23

GENERATOR SET CONSUMPTION

% POWER USED	LITRES/HOUR
50%	45.20
75%	68.10
100%	94.30

DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT

Dimensions (mm)		
LENGTH	WIDTH	HEIGHT
4200	1600	2245

FUEL TANK (LITRES)	WEIGHT (KG)
534	4460

NOISE LEVEL (dB (A))
72 @ 7 m

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Model: ID-415 - INDUSTRIAL RANGE 400/230 V - THREE-PHASE | 1.500 R.P.M. | 50 Hz

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

Inmesol, S.L. company with ISO 9001 quality management system certificate and ISO 14001 Environmental Management System Certificate for the:

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

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
- 2002/88/EC and 2004/26/EC amending the 97/68 on the emission of gases and pollutant particles from internal combustion engines that are installed in non-road mobile machinery.

International

It also complies with 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.

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

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POWER GENERATORS INMESOL

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Model: ID-415 - INDUSTRIAL RANGE

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

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.
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. 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 model)
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 (consult the last page)
Integral additional socket panel from 20 kVA till 400 kVA PRP
Residential silencer

V1 PREWIRED VERSION FOR AMF

V2 GENSETS WITH AMF/ATS PANEL AND 4 POLE CIRCUIT BREAKER

V3 GENSET WITH AMF CONTROL PANEL BUT WITHOUT ATS PANEL AND SEPARATED ATS PANEL

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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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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
630A, 3P	Electronic, adjustable	CEE5P16A+Schuko+bornero

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

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OPTIONS

OPTION 2:

FAILOVER TO DSE 6010 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:	ALTERNATOR AND CHARGE:
Coolant temperature	Voltages between phases and between phases and neutral.
Oil pressure	Intensities
Turning speed (rpm)	Frequency
Fuel level	
Battery voltage	
Battery alternator voltage	
Operating hours	
Number of start-ups	

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:	ALTERNATOR:
Low oil pressure	Low and High Voltage
High coolant temperature	Low and High Frequencya
Low and High battery Voltage.	Overload due to Intensity (A)
Failure of the alternator to charge batteries	
Low fuel level..	

OTHER CHARACTERISTICS:

The real-time clock records the last 50 events.s.	Fully configurable via software and PC.
Configurable inputs and outputs.	Communication via USB cable for remote control
Configurable alarms and timers.	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.
USB connectivity	ALTERNATIVE CONFIGURATIONS, which open up the working possibilities.

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