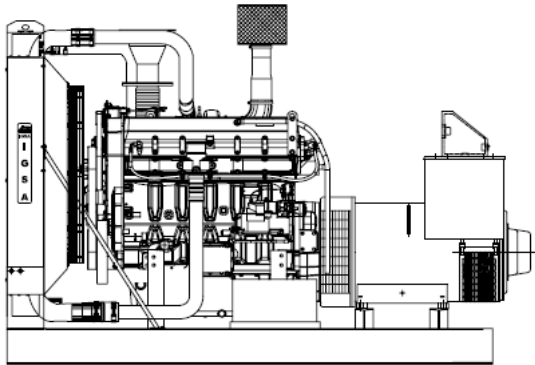




# MAQUINARIA IGSA POWER GENERATION SYSTEMS



**MODEL: GSJD20350M**  
**DIESEL ENGINE: JOHN DEERE**  
**MODEL: 6125HF070**  
**CAPACITY: 350kW; 1800 RPM TIER II**

RATINGS RANGE	
PRIME hp (kW)	STANDBY hp (kW)
426-445(318-332)	516-539(385-402)

Note: Gross power guaranteed within + or - 5%  
 ISO 3046 conditions:  
 77°F (25°C) Air inlet temperature  
 29.31 in.Hg(99KPa) Barometer  
 104 °F (40°C) fuel inlet temperature  
 0.853 fuel specific gravity @ 60°F (15.5 °C)

## STANDARD FEATURES

Complete system designed and built at ISO9001 certified facility

- Factory tested to design specifications at full load conditions.
- Fully engineered with a range of options and accessories.

**1 IGSA** Genset's are composed of 6 cylinders in line and four strokes diesel engine for industrial stationary applications. Those equipments are fully factory tested using a resistive load. (1) Hour ramp 100% load test.

**2** The controls and accessories are selected to work together to achieve the maximum operational performance and security.

**3** Exhaust gases silencer, and a section of flexible tube for connection purposes.

**4** Engine **JOHN DEERE 6125HF070 TIER II**

**5** Alternator Marathon or Stamford

**6** Radiator

**7** Control MEC 310 (panel USC300)

**8** Base of structural steel

## GENERAL FEATURES

- IGSA GENSET of, **350 kW to 480V, 440V, 380V, 220V, 208V, 190VAC**, 3 Phase, 4 Wire, 60 Hertz, is composed by an internal engine four strokes coupling with the alternator, controls and accessories totally assembled and tested in factory.
- The controls and accessories of the Genset are selected to provide the maximum in efficiency and Security
- The generator set its components are tested factory-built, and production-tested.
- The genset engine is certified by the Environmental Protection Agency (EPA) TIER II
- Electronic engine controls manage the engine (isochronous)
- Integrated complete system control and monitoring (JDEC)

**ENGINE SPECIFICATION DATA MODEL 6125HF070**  
**weight 1205 kg (2657Lb)**

General Data	
Model	6125HF070
Number of Cylinders	6
Bore and Stroke--in.(mm)	5.00 x 6.50 (127 x 165)
Displacement--in.3 (L)	763 (12.5)
Compression Ratio	17:01
Valves per Cylinder--Intake/Exhaust	2/2
Firing Order	1 - 5 - 3 - 6 - 2 - 4
Combustion System	Unit Injection
Engine Type	In-line, 4-Cycle
Aspiration	Turbocharged
Charge Air Cooling System	Air-to-Air
Engine Crankcase Vent System	Open
Maximum Crankcase Pressure--in.H2O (kPa)	2 (0.5)
Physical Data	
Length--in.(mm)	52.2 (1326)
Width--in.(mm)	31.8 (808)
Height--in.(mm)	48.8 (1239)
Weight, dry--lb (kg)	2657 (1205)
(includes flywheel housing, flywheel & electrics)	
Center of Gravity Location	
From Rear Face of Block (X-axis)--in.(mm)	21.5 (545)
Right of Crankshaft (Y-axis)--in.(mm)	0.63 (16)
Above Crankshaft (Z-axis)--in.(mm)	8.6 (218)
Max. Allow. Static Bending Moment at Rear Face of Flywhl Hsg w/ 5-G Load--lb-ft (N*m)	600 (814)
Thrust Bearing Load Limit (Forward)	
Continuous--lb (N)	1225 (5449)
Intermittent--lb (N)	1835 (8162)
Performance Data	
	<b>Prime</b> <b>Standby</b>
Rated Power--hp (kW)	426-44 (318-332)      516-539 (385-402)
Rated Speed--rpm	1800      1800
Low Idle Speed--rpm	1000      1000
BMEP--psi (kPa)	294 (2027)      353 (2436)
Friction Power	
At Rated Speed--hp (kW)	30 (22)      30 (22)
Altitude Capability--ft (m)	9000 (2745)      9000 (2745)
Ratio--Air : Fuel.	24.0:1      23.0:1
Noise--dB(A) @ 1 m	100.5      101.0
Air System	
	<b>Prime</b> <b>Standby</b>
Maximum Allowable Temp Rise--Ambient Air to Engine Inlet--°F (°C)	15 (8)      15 (8)
Maximum Air Intake Restriction	
Dirty Air Cleaner--in.H2O (kPa)	25 (6.25)      25 (6.25)
Clean Air Cleaner--in.H2O (kPa)	12 (3)      12 (3)
Engine Air Flow--ft3/min (m3/min)	1024(29)      1201(34)
Intake Manifold Pressure--psi (kPa)	29 (203)      38 (265)
Rec'd. Intake Pipe Dia--in.(mm)	5.5 (140)      5.5 (140)
Compress Discharge Temp °F (°C)	374(190)      439(226)
Max. press. Drop through	
Charge Air Cooler	52 (13)      52 (13)
Max. Temp. Out of Charge Air Cooler @ 77 °F (25°C) Ambient Air °F (°C)	140 (60)      140 (60)

Electrical System		
Recommended Battery Capacity (CCA)		
12 Volt System--amp		1800
24 Volt System--amp		900
Maximum Allowable Starting Circuit Resistane		
12 Volt System--Ohm		0.0012
24 Volt System--Ohm		0.002
Starter Rolling Current -- 12 Volt System		
At 32 F (0 C) -- amp		1280
At -22 F (-30 C) -- amp		1500
Starter Rolling Current -- 12 Volt System		
At 32 F (0 C) -- amp		600
At -22 F (-30 C) -- amp		970
Lubrication System	Prime	Standby
Oil Pressure at Rated Speed--psi (kPa)	40 (275)	40 (275)
Oil Pressure at Low Idle--psi (kPa)	20 (138)	20 (138)
In Pan Oil Temperature--°F (°C)	239 (115)	239 (115)
Oil Pan Capacity, High--qt (L)	42 (40)	42 (40)
Oil Pan Capacity, Low--qt (L)	40 (38)	40 (38)
Eng. Oil Capacity with Filters--qt(L)	44 (42)	44 (42)
Engie Angularity Limits		
(Continuous) Any Direction--degrees	20	20
Exhaust System	Prime	Standby
Exhaust Flow--ft3/min (m3/min)	2613(74.0)	3214(91.0)
Exhaust Temperature--°F (°C)	986 (530)	1040 (560)
Max. Allow. Back Press.--in.H2O (kPa)	30 (7.5)	30 (7.5)
Recm'd Exhaust Pipe Dia--in.(mm)	5 (127)	5 (127)
Cooling System	Prime	Standby
Engine Heat Reject.--BTU/min (kW)	8706 (153)	10242(180)
Air/Air Exchanger Heat Rejection Btu/min (kW)		
Btu/min (kW)	3926 (69)	6031 (106)
Coolant Flow--gal/min (L/min)	73 (276)	73 (276)
Thermostat Start to Open--°F (°C)	180 (82)	180 (82)
Thermostat Fully Open--°F (°C)	201 (94)	201 (94)
Engine Coolant Capacity--qt (L)	17 (16.2)	17 (16.2)
Recm'd Pressure Cap--psi (kPa)	7 (48)	7 (48)
Maximum Top Tank Temp--°F (°C)	212 (100)	221 (105)
Min. Coolant Fill Rate--gal/min (L/min)	3 (11)	3 (11)
Min. Air-to-Boil Temperature--°F (°C)	117 (47)	117 (47)
Fuel System	Prime	Standby
Fuel Injection Pump	Unit/E.C	Unit/E.C
Governor Type	Electronic	Electronic
Fuel Consumption--lb/hr (kg/hr)	176.9(80.4)	221.3(100.6)
Maximum Fuel Transfer Pump Suction ft (m) fuel	10 (3.0)	10 (3.0)
Fuel Filter Micron Size @ 98 % Efficiency	2	2
Fuel Consumption -- lb/hr (kg/hr)	Prime	Standby
25 % Power	50.8 (23.1)	59.8 (27.2)
50 % Power	89.3 (40.6)	105.8 (48.1)
75 % Power	129.6(58.9)	155.8 (70.8)
100 % Power	176.9(80.4)	221.3(100.6)
Electronic Engine Controls (JDEC)		
Governor Droop (Pin E)		
Isochronous		0%
Droop 1800 rpm		4%
Pins "C" and "d"		Not used



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# STAMFORD ELECTRIC ALTERNATOR MODEL HCI434E/444E

## weight 1046 kg (2307Lb)

<b>CONTROL SYSTEM</b>	<b>SEPARATELY EXCITED BY P.M.G.</b>		
<b>A.V.R.</b>	<b>MX321</b>	<b>MX341</b>	
<b>VOLTAGE REGULATION</b>	<b>(+/- 0.5%)</b>	<b>(+/- 1.0%)</b>	<b>WITH 4% ENGINE GOVERNING</b>
<b>SUSTAINED SHORT CIRCUIT</b>	<b>REFERENT TO SHOT CIRCUIT DECREMENT CURVES</b>		

<b>INSULATION SYSTEM</b>	<b>CLASS H</b>							
<b>PROTECTION</b>	<b>IP23</b>							
<b>RATED POWER FACTOR</b>	<b>0.8</b>							
<b>STATOR WINDING</b>	<b>DOUBLE LAYER CONCENTRIC</b>							
<b>WINDING PITCH</b>	<b>TWO THIRDS</b>							
<b>WINDING LEADS</b>	<b>12</b>							
<b>STATOR WDG. RESISTANCE</b>	<b>0.009 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED</b>							
<b>ROTOR WDG. RESISTANCE</b>	<b>1.19 Ohms at 22°C</b>							
<b>EXCITER STATOR RESISTANCE</b>	<b>18 Ohms at 22°C</b>							
<b>EXCITER ROTOR RESISTANCE</b>	<b>0.068 Ohms PER PHASE AT 22°C</b>							
<b>R.F.I. SUPPRESSION</b>	<b>BS EN 61000-6-2 &amp; BS EN 61000-6-4, VDE 0875G, VDE 0875N. refer to factory for others</b>							
<b>WAVEFORM DISTORTION</b>	<b>NO LOAD &lt; 1.5% NON-DISTORTING BALANCED LINEAR LOAD &lt; 5.0%</b>							
<b>MAXIMUM OVERSPEED</b>	<b>2250 Rev/Min</b>							
<b>BEARING DRIVE END</b>	<b>BALL. 6317 (ISO)</b>							
<b>BEARING NON-DRIVE END</b>	<b>BALL. 6314 (ISO)</b>							
<b>WEIGHT COMP. GENERATOR</b>	<b>1 BEARING</b>				<b>2 BEARING</b>			
	1024 kg				1030 kg			
<b>WEIGHT WOUND STATOR</b>	470 kg				470 kg			
<b>WEIGHT WOUND ROTOR</b>	400 Kg				377 kg			
<b>WR<sup>2</sup> INERTIA</b>	4.6331 kgm <sup>2</sup>				4.4343 kgm <sup>2</sup>			
<b>SHIPPING WEIGHTS in a crate</b>	1095 kg				1100 kg			
<b>PACKING CRATE SIZE</b>	155 x 87 x 107 (cm)				156 x 87 x 107 (cm)			
<b>TELEPHONE INTERFERENCE</b>	50 Hz				60 Hz			
<b>COOLING AIR</b>	THF<2%				TIF<50			
	0.8 m <sup>3</sup> /sec 1700 cfm				0.99 m <sup>3</sup> /sec 2100 cfm			
<b>VOLTAGE SERIES STAR</b>	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277
<b>VOLTAGE PARALLEL STAR</b>	190/110	200/115	208/120	220/127	208/120	220/127	230/133	240/138
<b>VOLTAGE SERIES DELTA</b>	220/110	230/115	240/120	254/127	240/120	254/127	266/133	277/138
<b>kVA BASE RATING FOR</b>	350	350	350	350	400	420	440	440
<b>REACTANCE VALUES</b>								
<b>Xd DIR. AXIS SYNCHRONOUS</b>	3.01	2.71	2.52	2.24	3.47	3.26	3.12	2.87
<b>X'd DIR. AXIS TRANSIENT</b>	0.20	0.18	0.17	0.15	0.21	0.20	0.19	0.17
<b>X''d DIR. AXIS SUBTRANSIENT</b>	0.14	0.13	0.12	0.11	0.15	0.14	0.13	0.12
<b>Xq QUAD. AXIS REACTANCE</b>	2.58	2.33	2.16	1.92	2.92	2.74	2.63	2.41
<b>X''q QUAD. AXIS SUBTRANSIENT</b>	0.36	0.32	0.30	0.27	0.41	0.38	0.37	0.34
<b>XL LEAKAGE REACTANCE</b>	0.07	0.06	0.06	0.05	0.08	0.08	0.07	0.07
<b>X2 NEGATIVE SEQUENCE</b>	0.24	0.22	0.20	0.18	0.28	0.26	0.25	0.23
<b>X0 ZERO SEQUENCE</b>	0.10	0.09	0.08	0.07	0.10	0.09	0.09	0.08
<b>REACTANCES ARE SATURATED VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED</b>								
<b>T'd TRANSIENT TIME CONST.</b>	0.08 s							
<b>T''d SUB-TRANSTIME CONST.</b>	0.019 s							
<b>T'do O.C. FIELD TIME CONST.</b>	1.7 s							
<b>Ta ARMATURE TIME CONST.</b>	0.018 s							
<b>SHORT CIRCUIT RATIO</b>	1/Xd							

**RATINGS:** All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. Standby Ratings: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS5514, AS2789, and DIN 6271. Prime Power Ratings: Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for a 12 hour period. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult the factory. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. **GENERAL GUIDELINES FOR DERATION:** Altitude: Derate 0.5% per 100 m (328 ft.) elevation above 1000m (3300 ft.). Temperature: Derate 1.0% per 10°C (18°F) temperature above 25°C (77°F).



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## CONTROLLER FOR GENSET: CONTROL MEC 310 PANEL USC300

The Generator Controller MEC 310 is a microprocessor-based control unit containing all necessary functions for protection and control of a power generator. Besides the control and protection of the diesel engine it contains a full 3-phase AC voltage and current measuring circuit. The unit is equipped with an LCD display presenting all values and alarms.



- USC 300C Unit Mount Control Panel, Black Nema 1 enclosure c/w rubber mounts
- MEC 310 Microprocessor Based Engine Generator Controller
- Graphic Display 128 X 64 pixels (STN) Super Twisted Nematic
- Digital AC Metering:
  - 3-Phase Volts (Phase to Phase and Phase to Neutral),
  - 3-Phase Amps
  - Frequency
  - kW, kVAR, KVA, pF, kWhr
- AC Protective Relaying:
  - 27/59 Under/Over Voltage
  - 32 Reverse Power
  - 51 Time Overcurrent
  - 81 O/U Under/Over Frequency
- Digital gauge display:
  - Oil Pressure (sender required by others)
  - Coolant Temperature (sender required by others)
  - Fuel Level (sender required by others)
  - Hourmeter
  - Tachometer
- 5 digital inputs for alarms / shutdowns
- Dedicated Output Contacts - Engine Crank; Run (30 VDC / 6 Amps)
- Three Programmable Output Contacts (30 VDC / 1 Amps)
- Event Logging (30 events)
- Pushbuttons:
  - Emergency Stop
  - Manual Start and Stop
  - Manual/Auto/Test
  - Lamp Test
  - Horn Silence
- Indicating Lights:
  - Common Alarm
  - Generator Ready (Voltage and Frequency Normal)

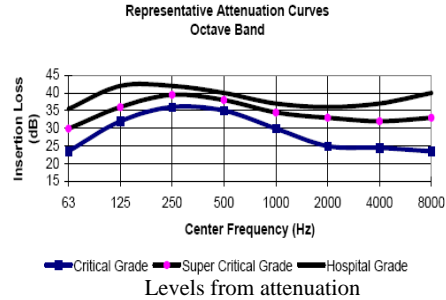
## FEATURES

- Electrical Rating:**
- Single or three phase, 600VAC maximum, 50/60HZ, 4 wire
  - 12 or 24Vdc (nominal) supply, negative ground.
  - Dedicated Output Contacts - Engine Crank; Run (30 VDC / 6 Amps)
  - Three Programmable Output Contacts (30 VDC / 1 Amps)
- Enclosure:**
- Black Nema 1 enclosure c/w rubber mounts
- Engine Senders:**
- Oil pressure (1/8" NPT), Temperature (1/4"NPT) (Supplied loose for engine mounting).
- Requirements:**
- Exceeds requirements of CSA 282 and NFPA 110 Level

## OPTIONAL SILENCER ACCORDING TO THE APPLICATION

Silencer with different levels from attenuation

- Critical Grade
- Super Critical Grade
- Hospital Grade



## DOCUMENTATION AND OTHERS

- Manual of operation and maintenance
- Spare parts
- Maintenance
- Consulting

## MISCELLANEOUS EQUIPMENT

- Batteries of 12 VDC with cables for battery connection with the Engine.

### GENSET OPTIONS

#### Control Panel

USC 300C Control Panel is standard on all units see page 4 of spec sheet for standard features.

Another Type \_\_\_\_\_

#### Fuel system

- Fuel Water Separator
- Day tank
- Auxiliary fuel pump
- Sub Base mounted Fuel Tank
  - Single Wall
  - Double Wall
  - UL listed
  - 150 L (39.6 gal)
  - 250 L (66 gal)

#### Diesel Fuel Tank

- 500 L (132 gal)
- 1000 L (264.1 gal)
- 5000 L (1320.8 gal)

#### Exhaust System

- Critical Grade
- Super Critical Grade
- Hospital Grade

#### Engine Electrical system

- Battery
  - Lead-Acid
  - NiCad
- Battery Rack
- Battery Charger Automatic

#### Generator

- Breaker in the alternator

### OPTIONAL ACCESSORIES AVAILABLE FOR THE EQUIPMENT

#### Vibration isolation

- Rigid Spring Mounting
- Resilient Mounting

#### Filters

- Air Filter for Medium Dust Environments
- Air Filter of Heavy Dust Environments

#### Drain

- Oil drain Extension

#### Enclosures

- Sound Attenuated
- Weather Proof
- Stainless steel cover
- Trailer Mounting
- Interior lights Ac or DC

#### Heaters

- Jacket Water Heater
- Crankcase Oil Heater

#### Insulation Blankets

- Features:  
( Temperature to 1260°C (2300°F), Non-Combustible, Highly Resistant to Vibration, Oil, Fuel, Grease, and Moisture Resistant Exterior, Personal Protection

#### Notes

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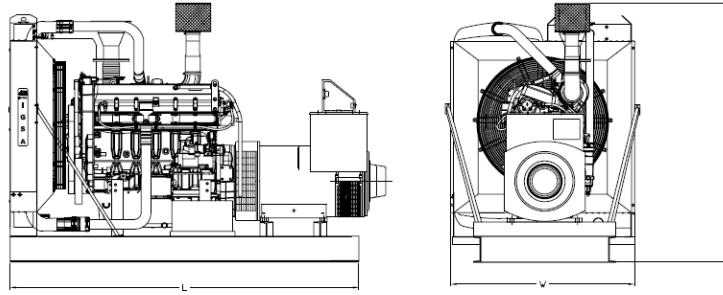
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## DIMENSIONS



LENGTH	WIDTH	HEIGHT
mm (in)	mm (in)	mm (in)
2700(106.30)	1425(56.10)	2010(79.13)

NOTE: General configuration not to be used for installation. See general dimension drawing for detail.

## SERVICES

- Development of the project.
- Development of engineering.
- Equipment's Installation
- Engineering for special applications.
- Synchronies with utility network or more Gensets.
- Attention and technical support

## INSTALLATION OPTIONS OF THE GENSET

- On-Site
- Acoustic Enclosure
- ISO Container
- Trailer

