

Hardy Diesels & Equipment Inc.

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## HD-21Isuzu

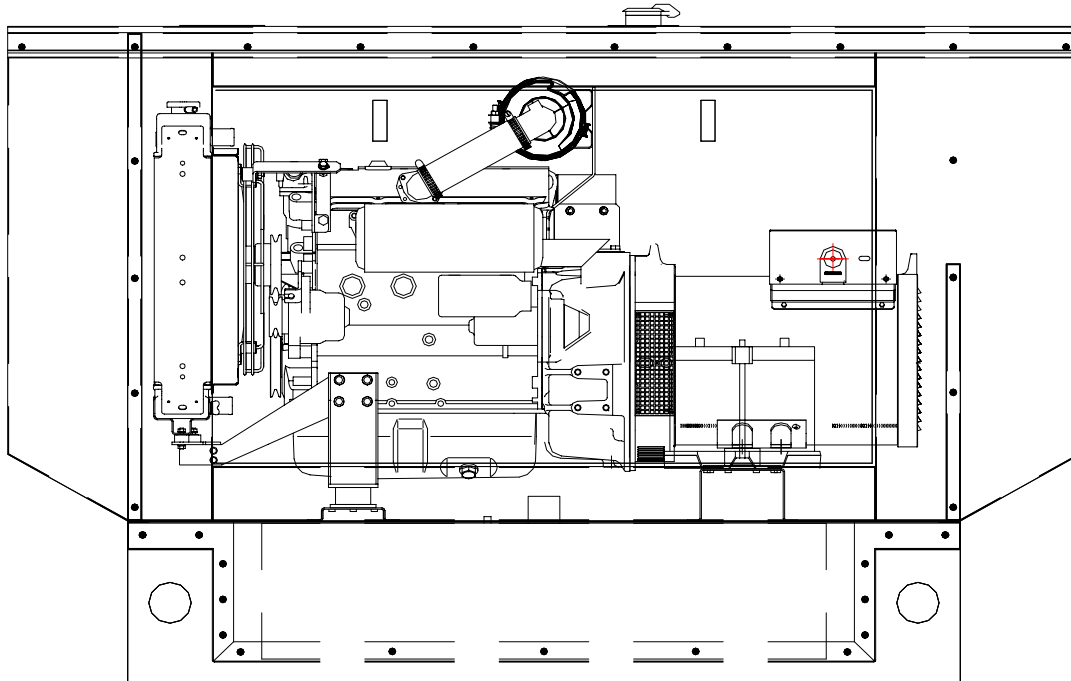
## Isuzu Powered Generator Set

### Stand By Power Rating

21 KW 60 Hz / 21 KVA 50 Hz

### Prime Power Rating

19 KW 60 Hz / 19 KVA 50 Hz



### **Genset Features:**

- State of the art design & testing for back up power applications. Great generator set for residential and industrial use.
- UL 2200 Compliance Available; Prototype tested; NEMA MG1 Evaluation; Motor starting ability; Short circuit testing.
- Reliable Isuzu diesel powered engine, Easy to service and get parts; longer engine life; low cost operation & better fuel utilization for real fuel savings.
- Totally self-contained fuel system with a 41 gallon plastic tank.
- Total containment base will contain fuel, coolant and engine oil.
- Extremely clean power under any loads for voltage/frequency sensitive applications. Electronic governor holds frequency to 0.25% and the solid state voltage regulator holds the voltage to 1%.
- Power & Electric Company can provide full service packages and trouble shooting for the entire unit. We can also provide any parts that you will need and they will always be available of the shelf.
- We can also provide you switchgear, transfer switches and accessories.

# **PE-21C**

## **Engine Specifications**

### Engine

Make	Isuzu	Model	4LE
Cylinders	4	Displacement	2.29 Liter (140 Cu.in)
Bore/Stroke	88 (3.5) x 94 (3.7)	Compression Ratio	21.5:1
Intake Air	Naturally Aspirated	Rated RPM	1800
Connecting Rods	3-Drop Forged Steel	Cylinder Head	Cast Iron
Pistons	3-Aluminum Alloy	Crankshaft	Forged Steel
Starter Motor	12V 580A @ 0° C	Electrical System	12V

### Valve Train

Lifter type	Solid
Intake Valve Material	High temp
Exhaust Valve Material	High temp

### Engine Governor

Electronic	Standard
Frequency Regulation No Load to Full	.5%
Steady State Regulation	±0.25%

### Lubrication System

Type of Oil Pump	Gear
Oil Filter	Full Flow Cartridge
Oil System Capacity	6-Liters

### Cooling System

Type of System	Pressurized Closed Recovery
Water Pump	Prelubed, Self Sealing
Type of Fan	Pusher
Number of Blades	10
Diameter of Fan	16
Coolant Capacity	Radiator – lit. (US Gal) 8 (2)
	Engine – lit. (US Gal) 6 (.9)
Coolant flow/min	60 Hz – lit. (US Gal) 101 (27)
	50 Hz – lit. (US Gal) 97 (24)
Heat Rejection to Coolant	BTU/hr. 1476
Inlet air	60 Hz – m /min. (cfm) 3800
	50 Hz – m/min. (cfm) 2700
Max operating air temp onto radiator	°C (°F) 43 (110)

### Exhaust

Exhaust Flow rated At 60 Hz m /min. (cfm)	154
	50 Hz m /min. (cfm) 135
Max recommended back Pressure Kpa (Hg)	3
Exhaust temp at rated output	°C (°F) 212(415)
Exhaust outlet size	NPT (female) 2"

### Combustion Air Requirements

Flow at Rated power 60 Hz – m /min. (cfm)	140
50 Hz – m /min. (cfm)	125

### Fuel System

Fuel	#2D Diesel Fuel
Fuel Check Valve	None Required
Fuel pump	Engine Driven Gear type
Fuel Shutoff Solenoid	12V 1.2 Amp
Fuel Line (Supply)	8 mm (0.3 in.) ID
Fuel line (Return)	8 mm (0.3 in.) ID

## **Generator Specifications**

Make	Mecc Alte	Model	ECO28-2L/4
Number of Leads	12	Generator Type	Rotating Field
Voltage Regulator	SR7	Rotor Insulation	Class H
Coupling	Direct, Flexible Disc		

Alternator	Self ventilated and Drip Proof
Telephone Interference Factor	<45
Total Harmonic Distortion	<2%
Voltage dip upon full load	20% for .6 of a second
Voltage Rise upon full load	24% for .6 of a second
Voltage regulation	
No-load to Full load-%	±1% Maximum

### Excitation System

Regulation	Solid State ±1% regulation
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### Generator Features

Generator is designed and built within NEMA IEEE and ANSI standards for temperature rise.

Single Phase: Brushless Exciter.

Skewed rotor for smooth voltage wave.

Sustain short circuit current at 300% of rated current up to 10 seconds.

Alternator is self ventilated and drip proof constructed.

Alternator has main line circuit breaker capable of handling full output capacity and overload protection.

All models are prototype tested for motor starting.

All our generators models meet temperature rise standards for class "H" insulation which is the highest in its class.

## **Generator Operation Systems Data**

	<b><u>Rated At</u></b>	
<u>Output Voltage/KW-60 Hz</u>		
240V 1-Phase @ 1 pF	21KW	85 Amps
120/208V 3-Phase @ .8 pF	21KW	70 Amps
120/240V 3-Phase @ .8 pF	21KW	60 Amps
277/480V 3-Phase @ .8 pF	21KW	31 Amps
<u>Output Voltage/KW-50 Hz</u>		
220/380V 3-Phase @.8 pF	21kVA	33 Amps
240/416V 3-Phase @.8 pF	21kVA	31 Amps

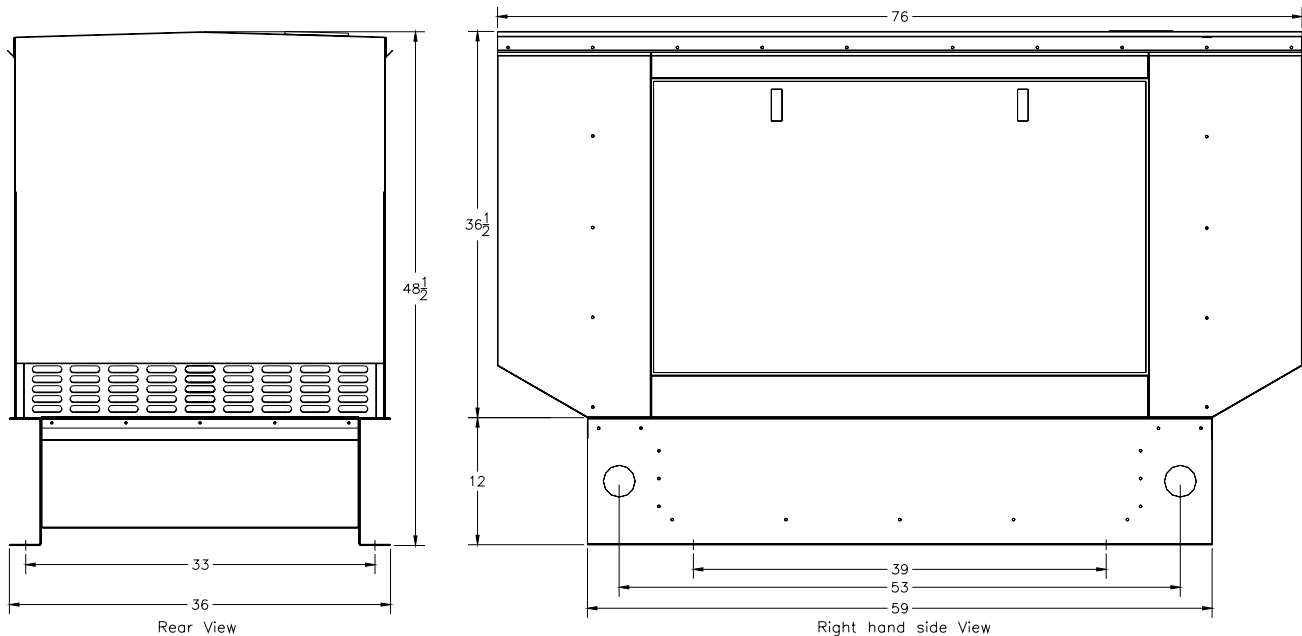
### Fuel Consumption

Fuel Consumption-60Hz @ Load	25%	50%	75%	100%
Gallons per Hour	.28	.61	1.13	1.65
Liters per Hour	1.05	2.30	4.27	6.24
Fuel Consumption-50Hz @ Load	25%	50%	75%	100%
Gallons per Hour	.21	.49	1.10	1.50
Liters per Hour	0.81	1.89	4.26	5.67

### Standard Engine and Safety Features for Genset

- \* Stainless Steel Exhaust Flex
- \* High coolant Temperature Shutdown
- \* Low oil Pressure Shutdown
- \* Crank Limiter (solid-state)
- \* Over speed Shutdown (solid-state)
- \* Oil Drain Extension
- \* Radiator Drain Extension
- \* Closed Coolant recovery System
- \* Control Console
- \* Main Line Circuit Breaker
- \* Critical Exhaust Silencer
- \* Battery Cables
- \* Battery Charger Alternator
- \* Battery Tray
- \* Vibration Mounts
- \* 12 volt, Solenoid-activated Starter
- \* Air Cleaner
- \* Fan Guard
- \* Radiator Duct
- \* Containment Pan

Specifications and Design are Subject to Change Without Notice.



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