



الصناعات الدقيقة
PRECISION INDUSTRIES

PI 550M

Industrial Generating Set

POWERED BY



Rev-00

MODEL	rpm / Hz	VOLTAGE	PRIME ⁽¹⁾	STANDBY ⁽²⁾
PI 550M	1500 / 50	400 / 230	500 kVA / 400 kW _e	550 kVA / 440kW _e

Full rated power available upto 100 meter elevation at ambient of 27degC, for other temperature and altitude limits please consult application team.

ENGINE SPECIFICATIONS

Rated Output (PRP) ⁽¹⁾	430 kW _m
Rated Output (ESP) ⁽²⁾	473 kW _m
Engine Make & Model	Mitsubishi S6A3-PTAA
No. of Cylinders	6 Vertical In-line
Cycle	4 Strokes
Aspiration	Turbocharged
Cooling Method	Water
Governing Type	Electrical
Governing Class	ISO 8528-5
Compression Ratio	14.5:1
Displacement	18.56 L (1133 in ³)
BorexStroke	150x175 mm
Battery and Charger Alternator	24 VDC , 30 Amp

AIR SYSTEM

Air Filter Type	Turbo Filter
Combustion Air Flow (PRP)	37 m ³ /min
Combustion Air Flow (ESP)	40 m ³ /min
Radiator Air Flow	431 m ³ /min

COOLING SYSTEM

Total Coolant Capacity (L)	70 litres
Water Pump Type	Centrifugal Eng-Driven
Radiator Fan Load	10 kW
Heat Radiation to Room (PRP)	35.57kW
Heat Radiation to Room (ESP)	35.42 kW

LUBRICATION SYSTEM

Oil Filter Type	Full Flow Paper Element
Total Oil Capacity	80 litres
Oil Pan	70 L (18.5 US gal)
Oil Type	SAE 10W/SAE 30W/SAE15W-40

FUEL SYSTEM

Fuel Filter: ***TBA	
Recommended Fuel	Class A2 Diesel
Fuel Consumption Standby	125 L/hr
Fuel Consumption 100% PRP	114 L/hr
Fuel Consumption 75% PRP	87 L/hr
Fuel Consumption 50% PRP	62 L/hr

EXHAUST SYSTEM

Muffler Type	Residential Grade
Max. Back Pressure	5.88 kPa
Exhaust Gas Flow (PRP/ESP)	97 /107 m ³ /min
Exhaust Gas Temperature (PRP/ESP)	550 ⁰ C/550 ⁰ C

ALTERNATOR SPECIFICATIONS

Rated Output (Prime) ⁽¹⁾	550 kVA
Rated Output (Standby) ⁽²⁾	590 kVA
Alternator Make & Model	HCI544D/S5L1D-C41
Number of Poles	4
Number of Winding Leads	12
Type of Bearing	Single
Insulation Class / Temp Rise	H/H
Efficiency @ Rated Voltage	94.1%/94%
Ingress Protection Rating	IP 23
Excitation System	Self -excited
AVR Model	Stamford - AS440

ALTERNATOR OPERATING DATA

Overspeed	2250 r.p.m
Voltage Regulation	± 1%
Waveform distortion	No load < 1.5%, Linear load < 5%
Radio Interface	EN 61000-6-2 &EN 61000-6-4
Cooling Air Flow	1.12 m ³ /sec

⁽¹⁾ **PRIME POWER RATING (PRP):** PRP is defined as the maximum power which a Generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year. The permissible average power output over 24 hours shall not exceed 70% of PRP unless otherwise agreed by RIC engine manufacturer. An overload capability of 10% of 100% of the prime rated electrical power is permitted for emergency use for a period of 1 hour within 12 hours of operation

⁽²⁾ **EMERGENCY STANDBY POWER RATING (ESP):** ESP is defined as the maximum power available during a variable electrical power sequence, under the stated operation condition, for which a generating set is capable of delivering power in the event of a utility power outage or under test condition for up to 200 Hours of operation per year. The permissible average output over 24 hour of operation shall not exceed 70 % of the ESP power rating noting that no over load is permitted.





CONTROLLER SPECIFICATIONS

Controller Make & Model	DeepSea 6120MKIII
Operation Mode	MRS / AMF (optional)
Display	Graphic Back-lit LCD (128x64) pixels
Ingress Protection Rating	IP65
Binary Inputs/Outputs	8 / 6
Analog Inputs	4
Measurement	Vac, A, Hz, kVA, kW, Vdc
Event Log	Alarms log, Hrs log
Communication	USB

ENCLOSURE SPECIFICATIONS

Enclosure Type	Acoustic & Weather Proof
Anticorrosive Protection	
Polyester Powder Coated Galvanized Sheet	
Ingress Protection Rating	IP22
Lifting	ISO Standard Lifting
Emergency	External Emergency Push Button
Canopy RAL Color	RAL 2000
Baseframe RAL Color	RAL 9011
Noise Pressure level @ 7m	85 dB(A)

GENSET DIMENSIONS & WEIGHT

GENSET TYPE	Length (mm)	Width (mm)	Height (mm)	Fuel Tank Capacity (L)	Dry Weight (kg)	Wet Weight (kg)
OPEN	4229	2100	2350	1150	3783	3963
CLOSE	5500	2250	2800	1150	6000	7000

Note: These dimensions are for preliminary guidance. Please refer to GA drawing.

STANDARD MECHANICAL FEATURES

Genset design provides a low noise level with an optimized performance of the ventilation and exhaust systems at 50 °C ambient temperature.

Robust structure design of Enclosure and Baseframe.

Heavy duty lifting lugs.

Multi doors for easy access & maintenance.

Ingress Protection Rating according to BS EN 60529.

Heavy Duty Baseframe with built-in tank & forklift pockets.

Industrial Grade Muffler with rain cap.

STANDARD ELECTRICAL FEATURES

An advance Control system is designed to provide a comprehensive protection and to monitor the parameters of generating set.

MCCB power circuit breaker.

Battery with charging alternator, cables, and tray.

Sealed harness & high resistant electrical connections.

Fast and accurate protection response.

Generating Set remote start function.

Numeric display with LED. Various languages capable.

OPTIONAL FEATURES

Advanced Controllers are available on request.

4 poles manual / Motorized Circuit breaker

Jacket water pre-heater

Static Battery Charger

Critical grade muffler

Fuel Filter / Water separator Fuel Filter

Remote Annunciator

Application

Infrastructure, Industrial, Residential, Telecom,
Defense, Mining, Agriculture

