



الصناعات الدقيقة
PRECISION INDUSTRIES®

PI 112P

Industrial Generating Set

POWERED BY Perkins

MODEL	rpm / Hz	VOLTAGE	PRIME ⁽¹⁾	STANDBY ⁽²⁾
PI112P	1500 / 50	400 / 230	100.0 kVA / 80kWe	110 kVA / 89.6 kWe

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⁾	93.6 kW _m
Rated Output (ESP) ⁽²⁾	103 kW _m
Engine Make & Model	Perkins 1104C-44TAG2
No. of Cylinders	4 Vertical In-line
Cycle	4 Strokes
Aspiration	Turbocharged
Cooling Method	Water
Governing Type	Electronic
Governing Class	G2 - ISO 8528 Part 5
Compression Ratio	18.23:1
Displacement	4.4 L (268.5in ³)
BorexStroke (mm/in)	105x127 / 4.1x 5
Battery and Charger Alternator	12V/24V options

AIR SYSTEM

Air Filter Type	cylonic/paper element
Combustion Air Flow (PRP)	6.01 m ³ /min
Combustion Air Flow (ESP)	6.27 m ³ /min
Radiator Air Flow	165.6 m ³ /min

COOLING SYSTEM

Total Coolant Capacity (L)	12.6L (3.3 US gal)
Water Pump Type	Centrifugal Eng-Driven
Radiator Fan Load	3.5 kW
Heat Radiation to Room (PRP)	6.8 kW
Heat Radiation to Room (ESP)	7.5 kW

LUBRICATION SYSTEM

Oil Filter Type	Spin on full flow filter
Total Oil Capacity	8 L (2.1 US gal)
Oil Pan	7 L (1.85 US gal)
Oil Type	API CH4/CI4; SAE 15W-40

FUEL SYSTEM

Fuel Filter: Ecoplus fuel filter	
Recommended Fuel	Class A2 Diesel
Fuel Consumption Standby	29.7 L/hr (7.84 US gal/hr)
Fuel Consumption 100% PRP	26.9 L/hr (7.1 US gal/hr)
Fuel Consumption 75% PRP	20.2 L/hr (5.33 US gal/hr)
Fuel Consumption 50% PRP	14.1 L/hr (3.72 US gal/hr)

EXHAUST SYSTEM

Muffler Type	Residential Grade
Max. Back Pressure	18 kPa
Exhaust Gas Flow (PRP/ESP)	15.2 / 16.3 m ³ /min
Exhaust Gas Temperature (PRP/ESP)	514 ⁰ C / 543 ⁰ C

ALTERNATOR SPECIFICATIONS

Rated Output (Prime) ⁽¹⁾	100 kVA
Rated Output (Standby) ⁽²⁾	110 kVA
Alternator Make & Model	Leroy somer TAL 044D
Number of Poles	4
Number of Winding Leads	6/12
Type of Bearing	Single
Insulation Class / Temp Rise	H/H
Efficiency @ Rated Voltage	90.4%
Ingress Protection Rating	IP 23
Excitation System	Shunt
AVR Model	R120

ALTERNATOR OPERATING DATA

Overspeed	2250 r.p.m
Voltage Regulation	± 1 %
Waveform distortion	No load < 2%, Linear load < 5%
NEMA = TIF	< 50
Cooling Air Flow	0.29 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 4520MKII
Operation Mode	MRS / AMF (optional)
Display	Graphic Back-lit LCD
Ingress Protection Rating	IP65
Binary Inputs/Outputs	4/4
Analog Inputs	3
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 9010
Baseframe RAL Color	RAL 9010
Noise Pressure level @ 7m	72 dB(A)

GENSET DIMENSIONS & WEIGHT

GENSET TYPE	Length (mm)	Width (mm)	Height (mm)	Fuel Tank Capacity (L)	Dry Weight (kg) Appx	Wet Weight (kg) Appx
OPEN	2195	900	1445	261	1295	1310
CLOSE	2977	1155	1693	269	1475	1500

Note: The following dimensions are for preliminary guidance. For more detailed and accurate dimensions, please refer to the General Arrangement Drawing (GAD).

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.

Residential Grade Muffler with rain cap.

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

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.

