TUV NORD

OHSAS 18001 | ISO 14001 | ISO 9001

UAE
صنع في الإمارات
MADE IN UAE

Mechancial Power driven by Perkins

- Manufactured in facilities certified with ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007.
- Manufactured in accordance to 8528-1 to 12.
- Engine performance according to ISO 3046, BS 5514, DIN 6271.
- Alternator performance according to NEMA-MG1, BS 5000, DIN EN, relevant ISO, IEC60034.
- Breaker complise with IEC – 60947-2.

PI
الصناعات الدقيقة
PRECISION INDUSTRIES

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PI 100.3P

Industrial Generating Set

POWERED BY Perkins

MODEL	rpm / Hz	VOLTAGE	PRIME (1)	STANDBY (2)
PI 100.3P	1800 / 60	480 / 277	91.3 kVA / 73kWe	100.3 kVA / 80.2kWe

ENGINE SPECIFICATIONS

Rated Output (PRP) (1)	84.5 kW_m
Rated Output (ESP) (2)	93 kW_m
Engine Make & Model	Perkins 1104A-44TG2
No. of Cylinders	4 Vertical In-line
Cycle	4 Strokes
Aspiration	Turbocharged
Cooling Method	Water
Governing Type	Mechanical
Governing Class	G2 - ISO 8528 Part 1
Compression Ratio	17.25:1
Displacement	4.4 L (268.5in^3)
BorexStroke (mm/in)	105x127 / 4.1x 5
Battery and Charger Alternator	12 VDC , 65 Amp

AIR SYSTEM

Air Filter Type	Dry Element
Combustion Air Flow (PRP)	6.2 m^3/min
Combustion Air Flow (ESP)	6.5 m^3/min
Radiator Air Flow	111 m^3/min

COOLING SYSTEM

Total Coolant Capacity (L)	13L (3.43 US gal)
Water Pump Type	Centrifugal Eng-Driven
Radiator Fan Load	2.8 kW
Heat Radiation to Room (PRP)	14 kW
Heat Radiation to Room (ESP)	15 kW

LUBRICATION SYSTEM

Oil Filter Type	Spin on full flow filter
Total Oil Capacity	8 L (2.11 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	24.4 L/hr (6.44 US gal/hr)
Fuel Consumption 100% PRP	22.3 L/hr (5.89 US gal/hr)
Fuel Consumption 75% PRP	16.9 L/hr (4.46 US gal/hr)
Fuel Consumption 50% PRP	11.9 L/hr (3.14 US gal/hr)

EXHAUST SYSTEM

Muffler Type	Industrial Grade
Max. Back Pressure	10 kPa
Exhaust Gas Flow (PRP/ESP)	15 / 15.85 m^3/min
Exhaust Gas Temperature (PRP/ESP)	535^{0}C / 560^{0}C

ALTERNATOR SPECIFICATIONS

Rated Output (Prime) (1)	103.8 kVA
Rated Output (Standby) (2)	113.8 kVA
Alternator Make & Model	Stamford UCI224G
Number of Poles	4
Number of Winding Leads	12
Type of Bearing	Single
Insulation Class / Temp Rise	H/H
Efficiency @ Rated Voltage	90.8%
Ingress Protection Rating	IP 23
Excitation System	Self Excited
AVR Model	Stamford - SX460

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	0.281 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.

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CONTROLLER SPECIFICATIONS

Controller Make & Model	DeepSea 4520
Operation Mode	MRS / AMF (optional)
Display	Graphic Back-lit LCD (128x64) pixles
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	IP23
Lifting	ISO Standard Lifting
Emergency	External Emergency Push Button
Canopy RAL Color	RAL 2000
Baseframe RAL Color	RAL 9011
Noise Pressure level @ 7m	70 dB(A)

GENSET DIMENSIONS & WEIGHT

GENSET TYPE		Length (mm)	Width (mm)	Height (mm)	Fuel Tank Capacity (L)	Dry Weight (kg)	Wet Weight (kg)
OPEN		2175	760	1485	225	1048	1100
CLOSE		2977	1155	1693	225	1600	1650

STANDARD MECHANICAL FEATURES

- Genset design provides a low noise level with an optimized performance of the ventilation and exhaust systems at 50 ºC ambient temperature.
- Robust structure design of Enclosure and Baseframe.
- Hevy 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 comperhensive 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
- Residential / Critical grade muffler
- Fuel Filter / Water seperator Fuel Filter
- Remote Annunciator

Application

Infrastructure, Industrial , Residential , Telecom, Defense , Mining , Aggriculture

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