



الصناعات الدقيقة
PRECISION INDUSTRIES

PI 1608C / PI 1931C

Industrial Generating Set



MODEL	rpm / Hz	VOLTAGE	PRIME ⁽¹⁾	STANDBY ⁽²⁾
PI 1608C / PI 1931C	1800 / 60	400 / 230	1608 kVA / 1286 kW _e	1931 kVA / 1544 kW _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⁾	1384 kW _m
Rated Output (ESP) ⁽²⁾	1656 kW _m
Engine Make & Model	Cummins KTA50-G9
No. of Cylinders	16 Cylinder, 60° Vee
Cycle	4 Strocks
Aspiration	Turbocharged & Low Temp. Aftercooled
Cooling Method	Water
Governing Type	Electronic
Governing Class	G2 - ISO 8528 Part 1
Compression Ratio	13.9 : 1.0
Displacement	50.3 L / 3067 in ³
Bore/Stroke (mm / in)	(159/159)/(6.25/6.25)
Battery and Charger Alternator	24 VDC, 35 Amp

AIR SYSTEM

Air Filter Type	Dry Element
Combustion Air Flow (PRP)	115.8 m ³ /min
Combustion Air Flow (ESP)	124.5 m ³ /min
Radiator Air Flow	1692 m ³ /min

COOLING SYSTEM

Total Coolant Capacity	240.0 L / 63.40 US gal
Water Pump Type	Centrifugal Eng-Driven
Radiator Fan Load	33 kW
Heat Radiation to Room (PRP)	170 Kw
Heat Radiation to Room (ESP)	200 kW

LUBRICATION SYSTEM

Oil Filter Type	Spin on full flow filter
Total Oil Capacity	204.0 L / 54.0 US gal.
Oil Pan	178.0 L / 47.0 US gal.
Oil Type	API CH4/C14; SAE 15W-40

FUEL SYSTEM

Fuel Filter: Spin on full flow filter with water separator	
Recommended Fuel	Class A2 Diesel
Fuel Consumption Standby	392.0 L/hr / 103.6 US gal/hr
Fuel Consumption 100% PRP	330.0 L/hr / 87.3 US gal/hr
Fuel Consumption 75% PRP	257.0 L/hr / 68 US gal/hr
Fuel Consumption 50% PRP	180.0 L/hr / 47.6 US gal/hr

EXHAUST SYSTEM

Muffler Type	Residential Grade
Max. Back Pressure	6.8 kPa
Exhaust Gas Flow (PRP/ESP)	271.8 / 301.5 m ³ /min
Exhaust Gas Temperature (PRP/ESP)	470 / 515 °C

ALTERNATOR SPECIFICATIONS

Rated Output (Prime) ⁽¹⁾	1919 Kva
Rated Output (Stand by) ⁽²⁾	2000 kVA
Alternator Make & Model	Stamford S7L1D-D41 Wdg13
Number of Poles	4
Number of Winding Leads	12
Type of Bearing	Single
Insulation Class / Temp Rise	H / H
Efficiency	95.6%
Ingress Protection Rating	IP 23
Excitation System	Separately Excited by P.M.G
AVR Model	Stamford - MX341

ALTERNATOR OPERATING DATA

Overspeed	2250 r.p.m
Voltage Regulation	± 1.0 %
Waveform distortion	No load <1.5% Linear load <5%
Radio Interface	Standard EN61000-6-2:2001
Cooling Air Flow	3.16 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 6120
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	IP23
Lifting	ISO Standard Lifting
Emergency	External Emergency Push Button
Canopy RAL Color	RAL 2000
Baseframe RAL Color	RAL 9011
Noise Pressure level @ 7m	80 dB(A)

GENSET DIMENSIONS & WEIGHT

GENSET TYPE	Length (mm)	Width (mm)	Height (mm)	Fuel Tank Capacity (L)	Dry Weight (kg)	Wet Weight (kg)
OPEN	5830	2280	3065	2840	12700	13410
CLOSE	30 Feets HC container			-	18400	18700

Note: These dimensions are preliminary. For actual dimension refer to 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,
Defence, 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.

