



الصناعات الدقيقة
PRECISION INDUSTRIES®

PI 43Y /PI 48Y

Industrial Generating Set

POWERED BY



MODEL	rpm / Hz	VOLTAGE	PRIME ⁽¹⁾	STANDBY ⁽²⁾
PI 43Y /PI 48Y	1800 / 60	480 /277 V	43kVA / 34.4kWe	48 kVA / 38.4kWe

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⁾	44 kW _m
Rated Output (ESP) ⁽²⁾	48.4 kW _m
Engine Make & Model	Yuchai YC4D65-D20
No. of Cylinders	4 Vertical in-line
Cycle	4 Strokes
Aspiration	Turbocharged
Cooling Method	Water
Governing Type	Mechanical governor
Governing Class	ISO 8528 G2
Compression Ratio	17.5:1
Displacement	4.21 L
BorexStroke (mm)	108×115mm
Battery and Charger Alternator	24 V

AIR SYSTEM

Air Filter Type	Dry-type, filter cartridge of paper
Combustion Air Flow (PRP)	2.4 m ³ /min
Combustion Air Flow (ESP)	2.5 m ³ /min
Radiator Air Flow	142 m ³ /min

COOLING SYSTEM

Total Coolant Capacity (L)	22 L
Water Pump Type	Centrifugal Eng-Driven
Radiator Fan Load	2 kW
Heat Radiation to Room (PRP)	1 kW
Heat Radiation to Room (ESP)	1 kW

LUBRICATION SYSTEM

Oil Filter	
Total Oil Capacity	14L
Oil Pan	13 L
Oil Type	15W-40 in summer; 10W-30 or other environmentally suitable

FUEL SYSTEM

Fuel Filter:	
Recommended Fuel	Class A2 Diesel
Fuel Consumption Standby	13.5 L/hr
Fuel Consumption 100% PRP	11.5 L/hr
Fuel Consumption 75% PRP	8.6 L/hr
Fuel Consumption 50% PRP	5.9 L/hr

EXHAUST SYSTEM

Muffler Type	Residential
Max. Back Pressure	10 kPa
Exhaust Gas Flow (PRP/ESP)	2.62 / 2.88 m ³ /min
Exhaust Gas Temperature (PRP/ESP)	580 ⁰ C/650 ⁰ C

ALTERNATOR SPECIFICATIONS

Rated Output (Prime) ⁽¹⁾	48 kVA
Rated Output (Standby) ⁽²⁾	52.8 kVA
Alternator Make & Model	Stamford S1L2-K1/S1L2-N1
Number of Poles	4
Number of Winding Leads	12
Type of Bearing	Single
Insulation Class / Temp Rise	H/H
Efficiency @ Rated Voltage	89.30%
Ingress Protection Rating	IP 23
Excitation System	Self-Excited
AVR Model	AS540

ALTERNATOR OPERATING DATA

Overspeed	2250 r.p.m
Voltage Regulation	± 1.0 %
Waveform distortion	NO LOAD < 2% NON-DISTORTING BALANCED LINEAR LOAD < 5.0%
Radio Interface	EN 61000-6-2 & EN 61000-6-4
Cooling Air Flow	0.212 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 4520 MKII
Operation Mode	Autostart/Manual/AMF
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 2000
Baseframe RAL Color	RAL 9011
Noise Pressure level @ 7m	74 dBA

GENSET DIMENSIONS & WEIGHT

GENSET TYPE	Length (mm)	Width (mm)	Height (mm)	Fuel Tank Capacity (L)	Dry Weight (kg) Appx	Wet Weight (kg) Appx
OPEN	1900	750	1400	173	875	895
CLOSE	2307	1025	1450	183	1040	1075

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

Pre heating system

Static Battery Charger

Critical grade muffler

Electronic governor

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.

