

M1100

50Hz/1500 rpm/380V

POWER RATING (0.8 P.F.) **PRIME** 1000 kVA

DIESEL ENGINE: MITSUBISHI S12H-PTA-S

V-12, 4 stroke-cycle water-cooled, turbocharged and aftercooled

VOLTAGE VARIATION

3Phase 4 Wires Standard Voltage 380V Voltages Available 3Phase 4 Wires 380, 400, 415, 440, 190, 200, 208 and 220V

Note: Outputs for optional voltages may differ from standard output

mentioned above.

CONDITIONS & DEFINITIONS

Prime [PRP]:

Applicable for supplying power with varying load instead of the utility for an unlimited time. +10% overload is allowed in accordance with ISO3046/1. Prime power in accordance with ISO15550, ISO3046/1,-JIS8002-1,DIN6271 and BS5514. Prime power in accordance with ISO8528.

Conditions:

Engine ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046/1, DIN6271 and BS5514 standard conditions. Fuel rates are based on fuel oil of 35° API (16°C or 60° F) gravity having a LHV of 42,780 kJ/kg (18,390 Btu/lb.) when used at 29°C (85° F) and weighing 838.9 g/liter (7.001lbs./U.S. gal.).

Note: * Please consult with your nearest dealer for overload and additional rating requirements.

DIMENSION (Reference Data)

Lengt mm		Width (W)	Height (H)	Dry kg	Wet kg
410	0	1650	2545	8400	9000

Dry = With Lube Oil

Wet = With Lube Oil and Coolant

ENGINE STANDARD EQUIPMENT

Aftercooler Air filter, paper element type Structure steel base Crankcase breather Charging alternator Lubricating oil cooler

Fuel filters, full flow paper element

Fuel transfer pump, gear driven, plunger type 24V DC electric starting motor Electronic type governor

Jacket water heater Jacket water pump, gear driven Lubricating oil filter, full flow paper element Lubricating oil pump, gear driven Exhaust dry manifold Radiator, blower fan, fan drive Manual shutoff



ENGINE SPECIFICATIONS & TECHNICAL DATA

Bore	mm	150
Stroke	mm	175
Displacement	L	37.1
Piston speed	m/sec.	8.8
Compression ratio		14
Lubricating oil capacity	L	200
Coolant capacity without radiator	L	100
Coolant pump external resistance	m water	5.0
Coolant pump flow rate	L/min	1200
Cooling fan airflow rate	m³/min	1800
Cooling fan air flow restriction	kPa	0.1
Ambient air temperature	°C	40
Allowable exhaust back pressure	kPa	6.0
Exhaust flange size (internal diameter)	mm	200

ENGINE OPERATING DATA

Gross Engine Power*	kWm	890				
Brake mean effective pressure	MPa	2.0				
Regenerative absorption	kW	78				
Noise Level at 1 m	dB(A)	105				
(excluding: intake, exhaust & fan)						
Fuel consumption load	100%*	L/hr.	228			
Fuel consumption load	75%*	L/hr.	171			
Combustion air inlet flow rate	m³/min	78				
Exhaust gas flow rate	m³/min	206				
Exhaust gas temperature	°C	515				
Heat rejection to coolant	kW	568				
Heat rejection to exhaust	kW	707				
Heat rejection to atmosphere f	kW	68				
Heat rejection to atmosphere f	kW	44				

^{*} WITH FAN basis.

Deration for engine

Altitude: 2.5% per 300m (1000ft) above 1,500m Temperature: 2% per 5 (9°F) above 40°C





CONTROL PANEL

Type & Design

Deep Sea 6010MKII programmable microprocessor control-automatic start/stop panel, generator breaker control, indicating the operational status and fault conditions: automatically shutting down the engine and indicating the engine failure by means of LCD display and LEDs on the front panel.

Mounting Electrical Design

Fabricated cubicle mounted on individual bracket with anti-vibration isolator In accordance with BS EN 60950 Low Voltage Directive, BS EN 61006-2 and 61006-4 EMC Directive. The optional interface can provide real time diagnostic facilities.

GENERATOR CONTROL PANEL DESCRIPTION

- Manual button
- Auto button
- CB open button (Manual only)
- · CB close button (Manual only)
- Start engine button (Manual only)
- Stop/Reset button (Manual only)
- Mute/Lamp test button (Manual only)
- · Speed adjusting trimmer
- Emergency stop pushbutton

· LCD display accessed by scroll pushbutton

- -Generator volts L1-N, L2-N, L3-N
- -Generator volts | 1-| 2 | 2-| 3 | 3-| 1
- -Generator amps L1, L2, L3
- -Generator Phase Sequence
- -Generator Frequency Hz
- -Engine speed RPM
- -Engine oil pressure (PSI & Bar)
- -Engine cooling water temperature (°C & °F)
- -Battery volts
- -Engine hours run
- -Power Factor
- -Generator Load kW, kVA, kVar
- -Generator Load kWh, kVAh, kVarh

• Visual indicators on LCD display

-Shutdown alarm -Generator high current -Warning alarm -Over voltage (AC) -High coolant temperature -Under voltage (AC -Low oil pressure -Over voltage (DC) -Charge fail -Under voltage (DC) -Over-speed -Auxiliary indication

-Under-speed -Auxiliary alarm (warning or shutdown)

-Electrical trip -Common alarm -Fail to start -Over frequency -Fail to stop -Under frequency

· Visual indication alarm and automatically shutdown

-High engine temperature -Over frequency -Low oil pressure -Under frequency

-Fail to start -Oil pressure sender open circuit

-Loss of speed signal -Over-speed -High voltage -Low voltage

-Emergency Stop

· Operation status indicated by LED

-Remote start present -Lubrication oil filter clogged

-Generator ready -Electrical trip

• Pre-Programmed Starting Unit

Automatic start/stop sequence timing and delay systems configured via MS-Windows based software.

Warranty: All prime equipment carries a two years manufacturer's warranty. For details on full warranty cover please request for our warranty terms and conditions from your sales contact or email marketing@jmglimited.com

AC GENERATOR

Type & Design

Original design, single bearing, 4 pole, screen protected, self-exciting, self-regulating and brushless with fully connected damper windings, salient pole rotors, A.C. exciter and rotating rectifier unit. Direct coupled to engine and pre-lubricated maintenance free bearing, direct drive centrifugal blower. Enclosure: Drip-proof IP23

Winding System

Standard 12 wire reconnectable winding provides a wide range of 3 phase voltage. All windings are impregnated in vacuum pressure impregnated with a special polyester resin.

- Overspeed capability: 125% for 2 minutes
- Insulation: Class 'H' of IEC
- Temperature rise: Class 'F'

Voltage Regulator

Fully sealed, RMS sensing AVR with built-in protection against sustained over-excitation. This de-excites the generator after a minimum of 5 seconds.

- Voltage regulation: Less than +/- 0.5% from no load to full load at any power factor between 0.8 lagging and 1.0 allowing for a 4% engine speed variation
- Voltage adjustment: +/- 6%
- Wave form: Less than 5% deviation

Anti-Condensation Heater (ACH)

The alternator is equipped with anti-condensation heater, connected to grid power, to avoid moisture accumulation inside the alternator during genset stop period.

Electrical Design

- Telephone Influence Factor (TIF): Less than 50
- Telephone Harmonic factor (THF): Less than 2%

