GE12TIC

POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Prime Power	200	272
	Standby Power	*	*
1500	Prime Power	175	238
	Standby Power	*	*

Note : -. The engine performance corresponds to ISO 3026, BS 5514 and DIN 6271.

-. Ratings are based on ISO 8528.

Prime power available at variable load. The permissible average power out put (during 24h period) shell not exceed 70% of the prime power rating.

MECHANICAL SYSTEM

Engine Model	GE12TIC
Engine Type	In-line 4 cycle, water cooled
	Turbo charged & intercooled (water to air)
Combustion type	Stoichiometric, Premixed and spark ignited
Cylinder Type	Replaceable wet liner
Number of cylinders	6
Bore x stroke	123(4.84) x 155(6.1) mm(in.)
Displacement	11.051 (674.5) lit.(in^3)
Compression ratio	10.5 : 1
Firing order	1-5-3-6-2-4
Ignition timing	13° BTDC
Compression pressure	Above 16 kg/cm2(228 psi) at 200rpm
Dry weight	Approx. 910 kg (2,006 lb)
Dimension	1,405 x 854 x 1,072 mm
(LxWxH)	(55 x 34 x 42 in.)
Rotation	Counter clockwise viewed from Flywheel
Fly wheel housing	SAE NO.1
Fly wheel	Clutch NO.14

MECHANISM

Type	Over head valve
Number of valve	Intake 1, exhaust 1 per cylinder
Valve lashes at cold	Intake 0.30mm (0.0118 in.)
	Exhaust 0.30mm (0.0118 in.)

VALVE TIMING

	Opening	Close
Intake valve	18 deg. BTDC	34 deg. ABDC
Exhaust valve	46 deg. BBDC	14 deg. ATDC

FUEL CONSUMPTION

Prime Power (Nm^3/hr)	1,500 rpm	1,800 rpm
25%	16.8	20.4
50%	26.3	30.2
75%	34.3	41.1
100%	43.4	51.4

FUEL SYSTEM

Carburetor	Impco 200M Varifuel carburetor
Gas regulator	Maxitrol RV61
Max. inlet pressure	1.0 psi at the engine inlet

LUBRICATION SYSTEM

Lub. Method	Fully forced pressure feed type
Oil pump	Gear type driven by crankshaft
Oil filter	Full flow, cartridge type
Oil pan capacity	High level 25 liters (6.60 gal.)
	Low level 19 liters (5.02 gal.)
Angularity limit	Front down 25 deg.
	Front up 25 deg.
	Side to side 15 deg.
Lub. Oil	Refer to Operation Manual
	Low ash type(0.5wt%) natural gas engine oil
	API service grade CD or higher
	SAE 15W-40

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COOLING SYSTEM

Cooling method	Fresh water forced circulation
Water capacity (engine only)	21 liters (5.55 gal.)
Pressure system	Max. 0.9 kg/cm^2 (12.8 psi)
Water pump	Centrifugal type driven by belt
Water pump Capacity	310 liters (81.9 gal.)/min at 1,800 rpm (engine)
Thermostat	Wax – pellet type Opening temp. 71°C Full open temp. 85°C

ELECTRICAL SYSTEM

Charging generator	24V x 45A alternator
Voltage regulator	Built-in type IC regulator
Starting motor	24V x 7.0kW
Battery Voltage	24V
Battery Capacity	150 AH (recommended)
Ignition controller	12 or 24V DC (min 8V DC at start, 32V DC max)

IGNITION SYSTEM

Spark plug	NGK IFR7B-D, 0.4mm air gap Champion RC78PYP, 0.38mm air gap
Ignition controller	Altronic CD 1 unit (12 or 24V DC)
Ignition coil	Altronic 501 061 blue epoxy individual coil
Trigger system	Magnetic pick-up sensor and trigger wheel and Hall-effect (0.75 ~ -0.25mm air gap)

ENGINEERING DATA

Water flow	260 liters/min @1,500 rpm
Heat rejection to coolant	39.0 kcal/sec @1,500 rpm
Heat rejection to CAC	1.8 kcal/sec @1,500 rpm
Air flow	14.5 m^3/min @1,500 rpm
Exhaust gas flow	23.0 m^3/min @1,500 rpm
Exhaust gas temp.	545 °C @1,500 rpm
Water flow	310 liters/min @1,800 rpm
Heat rejection to coolant	46.5 kcal/sec @1,800 rpm
Heat rejection to CAC	3.1 kcal/sec @1,800 rpm
Air flow	16.7 m^3/min @1,800 rpm
Exhaust gas flow	27.0 m^3/min @1,800 rpm
Exhaust gas temp.	566 °C @1,800 rpm
Max. permissible restrictions	
-.Intake system	220 mmH$_2$O initial 635 mmH$_2$O final
-.Exhaust system	600 mmH$_2$O max.

CONVERSION TABLE

in. = mm x 0.0394	lb/ft = N.m x 0.737
PS = kW x 1.3596	U.S. gal = lit. x 0.264
psi = kg/cm2 x 14.2233	kW = 0.2388 kcal/s
in3 = lit. x 61.02	lb/PS.h = g/kW.h x 0.00162
hp = PS x 0.98635	cfm = m^3/min x 35.336
lb = kg x 2.20462	Nm^3= SCF $\times$ 0.0283

Kg/hr = Nm^3/hr $\times$ 0.732 (natural gas)

Btu/ft^3= MJ/m^3 $\times$ 26.8392 (natural gas)

Specifications are subject to change without prior notice