

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) shall 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/cm ² (228 psi) at 200rpm
○ Dry weight	Approx. 910 kg (2,006 lb)
○ Dimension (LxWxH)	1,405 x 854 x 1,072 mm (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

© COOLING SYSTEM

- Cooling method Fresh water forced circulation
- Water capacity 21 liters (5.55 gal.)
(engine only)
- Pressure system Max. 0.9 kg/cm² (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 m³/min @1,500 rpm
- Exhaust gas flow 23.0 m³/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 m³/min @1,800 rpm
- Exhaust gas flow 27.0 m³/min @1,800 rpm
- Exhaust gas temp. 566 °C @1,800 rpm

- Max. permissible restrictions
 - Intake system 220 mmH₂O initial
635 mmH₂O final
 - Exhaust system 600 mmH₂O 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 = m³/min x 35.336
- lb = kg x 2.20462 Nm³ = SCF x 0.0283
- Kg/hr = Nm³/hr x 0.732 (natural gas)
- Btu/ft³ = MJ/m³ x 26.8392 (natural gas)