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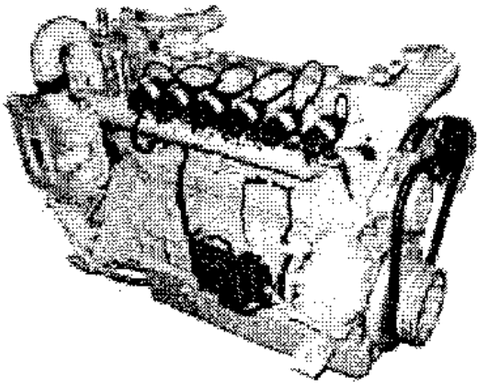
GE08TIC

◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Prime Power	150	204
	Standby Power	165	224
1500	Prime Power	128	174
	Standby Power	141	192



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.

→ **Standby power** available in the event of a main power network failure. No overload is permitted.

◎ MECHANICAL SYSTEM

○ Engine Model	GE08TIC
○ 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	111(4.37) x 139(5.47) mm(in.)
○ Displacement	8.071 (492.52) 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. 750 kg (1,654 lb)
○ Dimension (LxWxH)	1,224 x 760 x 973 mm (48 x 30 x 38 in.)
○ Rotation	Counter clockwise viewed from Flywheel
○ Fly wheel housing	SAE NO.2
○ Fly wheel	Clutch NO.11 1/2

◎ 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	16 deg. BTDC	34 deg. ABDC
○ Exhaust valve	46 deg. BBDC	14 deg. ATDC

◎ FUEL CONSUMPTION

○ **Prime Power** (Nm^3/h	**1,500 rpm**	**1,800 rpm**
25%	13.3	13.9
50%	17.8	21.8
75%	24.3	29.9
100%	31.8	38.5

◎ FUEL SYSTEM

○ Carburetor	Impco 200 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 23 liters (6.08 gal.)
	Low level 17 liters (4.49 gal.)
○ Angularity limit	Front down 25 deg.
	Front up 25 deg.
	Side to side 25 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

JUMP to Top

GE08TIC

◎ COOLING SYSTEM

○ Cooling method	Fresh water forced circulation
○ Water capacity (engine only)	18 liters (4.76 gal.)
○ Pressure system	Max. 0.9 kg/cm^2 (12.8 psi)
○ Water pump	Centrifugal type driven by belt
○ Water pump Capacity	240 liters (63.4 gal.)/min at 1,800 rpm (engine)
○ Thermostat	none

◎ ELECTRICAL SYSTEM

Charging generator	24V x 45A alternator
○ Voltage regulator	Built-in type IC regulator
○ Starting motor	24V x 4.5kW
○ 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 c
○ Trigger system	Magnetic pick-up sensor and trigger wheel and Hall-effect (0.75 ~ -0.25mm air gap)

◎ ENGINEERING DATA

○ Water flow	200 liters/min @1,500 rpm
	240 liters/min @1,800 rpm
○ Heat rejection to coolant	29.4 kcal/sec @1,500 rpm
	35.3 kcal/sec @1,800 rpm
○ Heat rejection to CAC	1.2 kcal/sec @1,500 rpm
	2.3 kcal/sec @1,800 rpm
○ Air flow	10.3 m^3/min @1,500 rpm
	12.5 m^3/min @1,800 rpm
○ Exhaust gas flow	16.5 m^3/min @1,500 rpm
	20.3 m^3/min @1,800 rpm
○ Exhaust gas temp.	540 °C @1,500 rpm
	560 °C @1,800 rpm
○ Max. permissible restrictions	
-.Intake system	220 mmH_2O initial
	635 mmH_2O final
-.Exhaust system	600 mmH_2O 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 × 0.0283

Kg/hr = Nm^3/hr × 0.732 (natural gas)

Btu/ft^3= MJ/m^3 × 26.8392 (natural gas)

Head office
7-11, Hwasu-Dong, Dong-Gu, Incheon, Korea
TEL : 82-32-760-1413 FAX : 82-32-762-7384
Seoul Office
Daewoo Heavy Industries & Machinery Bldg,
14-34 Youido-Dong, Youngdungpo-Gu, Seoul
150-010, Korea
TEL : 82-2-2167-3281~9 FAX : 82-2-2167-3299
Web site : www.dhiltd.co.kr

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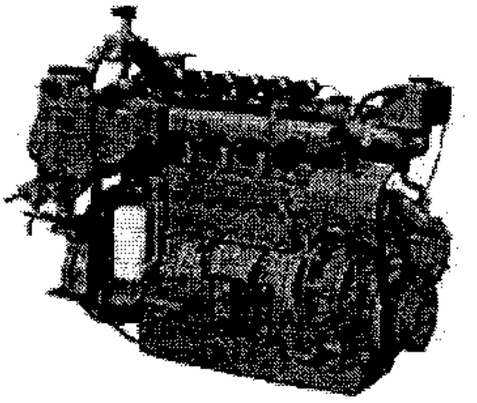
GE12TIC

◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Prime Power	200	272
	Standby Power	225	306
1500	Prime Power	175	238
	Standby Power	187	254



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.

→ **Standby power** available in the event of a main power network failure. No overload is permitted.

◎ 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 (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/h)	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

JUMP to TOP

GE12TIC

◎ 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 1FR7B-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 c
○ 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 310 liters/min @1,800 rpm
○ Heat rejection to coolant	39.0 kcal/sec @1,500 rpm 46.5 kcal/sec @1,800 rpm
○ Heat rejection to CAC	1.8 kcal/sec @1,500 rpm 3.1 kcal/sec @1,800 rpm
○ Air flow	14.5 m^3/min @1,500 rpm 16.7 m^3/min @1,800 rpm
○ Exhaust gas flow	23.0 m^3/min @1,500 rpm 27.0 m^3/min @1,800 rpm
○ Exhaust gas temp.	545 °C @1,500 rpm 566 °C @1,800 rpm
○ Max. permissible restrictions	
-.Intake system	220 mmH_2O initial 635 mmH_2O final
-.Exhaust system	600 mmH_2O 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 × 0.0283

Kg/hr = Nm^3/hr × 0.732 (natural gas)

Btu/ft^3= MJ/m^3 × 26.8392 (natural gas)

Head office
7-11, Hwasu-Dong, Dong-Gu, Incheon, Korea
TEL : 82-32-760-1413 FAX : 82-32-762-7384
Seoul Office
Daewoo Heavy Industries & Machinery Bldg,
14-34 Youido-Dong, Youngdungpo-Gu, Seoul
150-010, Korea
TEL : 82-2-2167-3281~9 FAX : 82-2-2167-3299
Web site : www.dhiltd.co.kr

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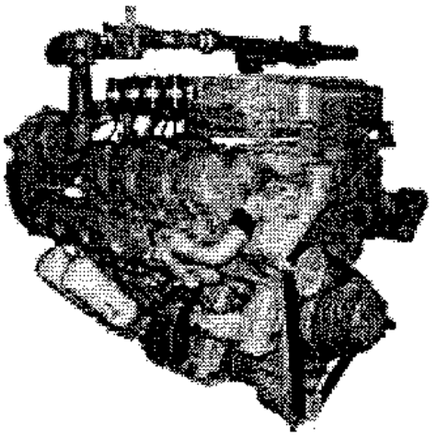
GV158TIC

◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Prime Power	270	367
	Standby Power	300	408
1500	Prime Power	230	313
	Standby Power	253	344



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.

→ **Standby power** available in the event of a main power network failure. No overload is permitted.

◎ MECHANICAL SYSTEM

○ Engine Model	GV158TIC
○ Engine Type	V-type 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	8
○ Bore x stroke	128(5.04) x 142(5.59) mm(in.)
○ Displacement	14.618 (892.05) lit.(in^3)
○ Compression ratio	10.5 : 1
○ Firing order	1-5-7-2-6-3-4-8-1
○ Ignition timing	14° BTDC
○ Compression pressure	Above 28 kg/cm2(398 psi) at 200rpm
○ Dry weight	Approx. 1,300 kg (2,866 lb)
○ Dimension (LxWxH)	1,389 x 1,222 x 1,070 mm (55 x 48 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 0.25mm (0.0098 in.)
	Exhaust 0.35mm (0.0138 in.)

◎ VALVE TIMING

	Opening	Close
○ Intake valve	24 deg. BTDC	36 deg. ABDC
○ Exhaust valve	63 deg. BBDC	27 deg. ATDC

◎ FUEL CONSUMPTION

○ **Prime Power** (Nm^3/h	**1,500 rpm**	**1,800 rpm**
25%	22.7	30.1
50%	33.6	43.1
75%	45.8	55.3
100%	57.0	70.6

◎ FUEL SYSTEM

○ Carburetor	Impco 200M Varifuel carburetor (2EA
○ Gas regulator	Maxitrol RV61 (2EA)
○ 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 31 liters (8.19 gal.)
	Low level 25 liters (6.60 gal.)
○ Angularity limit	Front down 20 deg.
	Front up 20 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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GV158TIC

◎ COOLING SYSTEM

○ Cooling method	Fresh water forced circulation
○ Water capacity (engine only)	36 liters (9.51 gal.)
○ Pressure system	Max. 0.9 kg/cm^2 (12.8 psi)
○ Water pump	Centrifugal type driven by belt
○ Water pump Capacity	660 liters (174.4 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	200 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 CPU-95 unit (24V DC)
○ Ignition coil	Altronic 501 061 blue epoxy individual c
○ Trigger system	Magnetic pick-up sensor and trigger wheel and Hall-effect (0.5/ 0.5/ 1.0mm air gap)

◎ ENGINEERING DATA

○ Water flow	550 liters/min @1,500 rpm 660 liters/min @1,800 rpm
○ Heat rejection to coolant	55 kcal/sec @1,500 rpm 68 kcal/sec @1,800 rpm
○ Heat rejection to CAC	3.1 kcal/sec @1,500 rpm 4.7 kcal/sec @1,800 rpm
○ Air flow	18.5 m^3/min @1,500 rpm 22.9 m^3/min @1,800 rpm
○ Exhaust gas flow	30.0 m^3/min @1,500 rpm 37.8 m^3/min @1,800 rpm
○ Exhaust gas temp.	495 °C @1,800 rpm 520 °C @1,800 rpm
○ Max. permissible restrictions	
-.Intake system	220 mmH_2O initial 635 mmH_2O final
-.Exhaust system	800 mmH_2O 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 × 0.0283
Kg/hr = Nm^3/hr × 0.732 (natural gas)	
Btu/ft^3= MJ/m^3 × 26.8392 (natural gas)	

Head office
7-11, Hwasu-Dong, Dong-Gu, Incheon, Korea
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Seoul Office
Daewoo Heavy Industries & Machinery Bldg,
14-34 Youido-Dong, Youngdungpo-Gu, Seoul
150-010, Korea
TEL : 82-2-2167-3281~9 FAX : 82-2-2167-3299
Web site : www.dhiltd.co.kr

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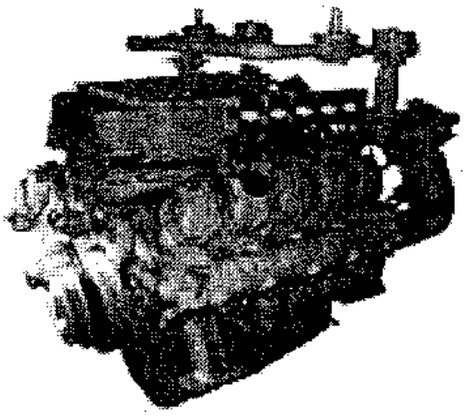
GV180TIC

◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Prime Power	340	462
	Standby Power	375	510
1500	Prime Power	290	394
	Standby Power	319	434



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.

→ **Standby power** available in the event of a main power network failure. No overload is permitted.

◎ MECHANICAL SYSTEM

○ Engine Model	GV180TIC
○ Engine Type	V-type 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	10
○ Bore x stroke	128(5.04) x 142(5.59) mm(in.)
○ Displacement	18.273 (1,115.09) lit.(in^3)
○ Compression ratio	10.5 : 1
○ Firing order	1-6-5-10-2-7-3-8-4-9
○ Ignition timing	14° BTDC
○ Compression pressure	Above 28 kg/cm2(398 psi) at 200rpm
○ Dry weight	Approx. 1,520 kg (3,351 lb)
○ Dimension (LxWxH)	1,495 x 1,222 x 1,169 mm (59 x 48 x 46 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 0.25mm (0.0098 in.)
	Exhaust 0.35mm (0.0138 in.)

◎ VALVE TIMING

	Opening	Close
○ Intake valve	24 deg. BTDC	36 deg. ABDC
○ Exhaust valve	63 deg. BBDC	27 deg. ATDC

◎ FUEL CONSUMPTION

○ Prime Power (Nm^3/h)	1,500 rpm	1,800 rpm
25%	25.8	32.5
50%	40.8	51.2
75%	56.5	72.0
100%	73.4	90.5

◎ FUEL SYSTEM

○ Carburetor	Impco 200M Varifuel carburetor (2EA
○ Gas regulator	Maxitrol RV61 (2EA)
○ 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 35 liters (9.25 gal.)
	Low level 28 liters (7.40 gal.)
○ Angularity limit	Front down 20 deg.
	Front up 20 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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GV180TIC

◎ COOLING SYSTEM

○ Cooling method	Fresh water forced circulation
○ Water capacity (engine only)	42 liters (11.1 gal.)
○ Pressure system	Max. 0.9 kg/cm^2 (12.8 psi)
○ Water pump	Centrifugal type driven by belt
○ Water pump Capacity	700 liters (184.9 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	200 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 CPU-95 unit (24V DC)
○ Ignition coil	Altronic 501 061 blue epoxy individual c
○ Trigger system	Magnetic pick-up sensor and trigger wheel and Hall-effect (0.5/ 0.5/ 1.0mm air gap)

◎ ENGINEERING DATA

○ Water flow	580 liters/min @1,500 rpm
	700 liters/min @1,800 rpm
○ Heat rejection to coolant	70.7 kcal/sec @1,500 rpm
	87.3 kcal/sec @1,800 rpm
○ Heat rejection to CAC	4.3 kcal/sec @1,500 rpm
	6.8 kcal/sec @1,800 rpm
○ Air flow	23.9 m^3/min @1,500 rpm
	29.4 m^3/min @1,800 rpm
○ Exhaust gas flow	38.8 m^3/min @1,500 rpm
	47.9 m^3/min @1,800 rpm
○ Exhaust gas temp.	520 °C @1,500 rpm
	530 °C @1,800 rpm
○ Max. permissible restrictions	
-.Intake system	220 mmH_2O initial
	635 mmH_2O final
-.Exhaust system	800 mmH_2O 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 × 0.0283

Kg/hr = Nm^3/hr × 0.732 (natural gas)

Btu/ft^3= MJ/m^3 × 26.8392 (natural gas)

Head office
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TEL : 82-32-760-1413 FAX : 82-32-762-7384
Seoul Office
Daewoo Heavy Industries & Machinery Bldg,
14-34 Youido-Dong, Youngdungpo-Gu, Seoul
150-010, Korea
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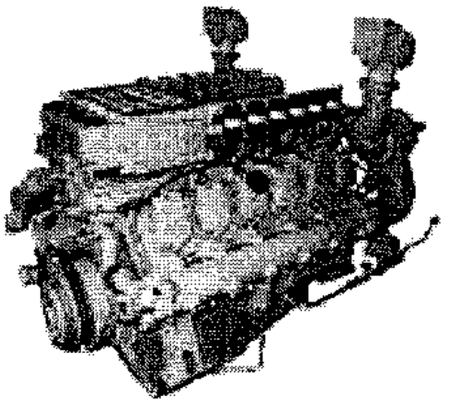
GV222TIC

◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Prime Power	410	557
	Standby Power	451	613
1500	Prime Power	350	476
	Standby Power	385	523



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.

→ **Standby power** available in the event of a main power network failure. No overload is permitted.

◎ MECHANICAL SYSTEM

○ Engine Model	GV222TIC
○ Engine Type	V-type 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	12
○ Bore x stroke	128(5.04) x 142(5.59) mm(in.)
○ Displacement	21.927 (1,338.0) lit.(in^3)
○ Compression ratio	10.5 : 1
○ Firing order	1-12-5-8-3-10-6-7-2-11-4-9
○ Ignition timing	12° BTDC
○ Compression pressure	Above 28 kg/cm2(398 psi) at 200rpm
○ Dry weight	Approx. 1,750 kg (3,858 lb)
○ Dimension (LxWxH)	1,717 x 1,222 x 1,195 mm (68 x 48 x 47 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 0.25mm (0.0098 in.)
	Exhaust 0.35mm (0.0138 in.)

◎ VALVE TIMING

	Opening	Close
○ Intake valve	24 deg. BTDC	36 deg. ABDC
○ Exhaust valve	63 deg. BBDC	27 deg. ATDC

◎ FUEL CONSUMPTION

○ **Prime Power** (Nm^3/h	**1,500 rpm**	**1,800 rpm**
25%	32.2	40.6
50%	51.5	64.9
75%	72.8	86.5
100%	90.9	109.3

◎ FUEL SYSTEM

○ Carburetor	Impco 200M Varifuel carburetor (2EA
○ Gas regulator	Maxitrol RV61 (2EA)
○ 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 40 liters (10.6 gal.)
	Low level 33 liters (8.7 gal.)
○ Angularity limit	Front down 20 deg.
	Front up 20 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

JUMP to Top

GV222TIC

◎ COOLING SYSTEM

○ Cooling method	Fresh water forced circulation
○ Water capacity (engine only)	44 liters (11.62 gal.)
○ Pressure system	Max. 0.9 kg/cm^2 (12.8 psi)
○ Water pump	Centrifugal type driven by belt
○ Water pump Capacity	760 liters (200.8 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	200 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 CPU-95 unit (24V DC)
○ Ignition coil	Altronic 501 061 blue epoxy individual c
○ Trigger system	Magnetic pick-up sensor and trigger wheel and Hall-effect (0.5/ 0.5/ 1.0mm air gap)

◎ ENGINEERING DATA

○ Water flow	630 liters/min @1,500 rpm 760 liters/min @1,800 rpm
○ Heat rejection to coolant	90.1 kcal/sec @1,500 rpm 108.2 kcal/sec @1,800 rpm
○ Heat rejection to CAC	6.1 kcal/sec @1,500 rpm 9.1 kcal/sec @1,800 rpm
○ Air flow	29.6 m^3/min @1,500 rpm 35.5 m^3/min @1,800 rpm
○ Exhaust gas flow	47.8 m^3/min @1,500 rpm 57.4 m^3/min @1,800 rpm
○ Exhaust gas temp.	490 °C @1,500 rpm 515 °C @1,800 rpm
○ Max. permissible restrictions	
-.Intake system	220 mmH_2O initial 635 mmH_2O final
-.Exhaust system	800 mmH_2O 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 × 0.0283
Kg/hr = Nm^3/hr × 0.732 (natural gas)	
Btu/ft^3= MJ/m^3 × 26.8392 (natural gas)	

Head office
7-11, Hwasu-Dong, Dong-Gu, Incheon, Korea
TEL : 82-32-760-1413 FAX : 82-32-762-7384
Seoul Office
Daewoo Heavy Industries & Machinery Bldg,
14-34 Youido-Dong, Youngdungpo-Gu, Seoul
150-010, Korea
TEL : 82-2-2167-3281~9 FAX : 82-2-2167-3299
Web site : www.dhiltd.co.kr

※ Specifications are subject to change without prior notice

DHIM Gas Engine Heat Balance Data_50Hz

	GV222TIC		GV180TIC		GV158TIC		GE12TIC		GE08TIC		GE06TIC	
Power [continous/prime]												
[kW]	350	34.2%	290	35.1%	230	35.9%	172	35.2%	128	35.8%	81	34.3%
[PS]	476.2		394.6		312.9		234		174		110	
[rpm]	1500		1500		1500		1500		1500		1500	
Ignition Timing [BTD]	12		14		14		13		13		12	
[BSFC]	156.0		152.1		148.9		151.8		149.4		155.8	
FUEL CONSUMPTION												
[kW]	**1023**	100	**826**	100	**641**	100	**489**	100	**358**	100	**236**	100
[kg/hr]												
100%	74.3		60.0		46.6		35.5		26.0		17.2	
75%	59.5		46.1		37.5		28.0		19.8		13.7	
50%	42.1		33.3		27.5		21.5		14.5		10.1	
25%	26.3		21.1		18.6		13.7		10.9		6.8	
[Nm3/hr]												
100%	90.9		73.4		57.0		43.4		31.8		21.0	
75%	72.8		56.5		45.8		34.3		24.3		16.8	
50%	51.5		40.8		33.6		26.3		17.8		12.4	
25%	32.2		25.8		22.7		16.8		13.3		8.3	
(25'C 1atm) [m3/hr]												
100%	99.2		80.1		62.2		47.4		34.7		22.9	
75%	79.5		61.6		50.0		37.4		26.5		18.3	
50%	56.2		44.5		36.7		28.7		19.4		13.5	
25%	35.1		28.1		24.8		18.3		14.5		9.1	
Water flow												
[l/min]	630		580		550		260		200		160	
Heat rejection to coolant												
[kcal/s]	90.1		70.7		55		39.0		29.4		20.7	
[kW]	378.4	37.0%	296.9	36.0%	231.0	36.0%	163.8	33.5%	123.5	34.5%	86.9	36.8%
Heat rejection to intercooler												
[kcal/s]	6.1		4.3		3.1		1.8		1.2		0.4	
[kW]	25.6	2.5%	18.1	2.2%	13.0	2.0%	7.6	1.5%	5.0	1.4%	1.7	0.7%
Heat rejection to exhaust gas												
[kcal/s]	49.9		39.3		30.6		26.4		18.6		11.9	
[kW]	209.6	20.5%	165.1	20.0%	128.5	20.0%	110.9	22.7%	78.1	21.8%	50.0	21.2%
etc												
[kcal/s]	14.0		13.3		9.2		8.2		5.5		4.0	
[kW]	58.9	5.8%	55.7	6.7%	38.8	6.0%	34.3	7.0%	23.2	6.5%	16.6	7.0%

* Nm3 : 0'C, 1atm
* LHV of fuel : 11796 kcal/kg
9641 kcal/Nm3

DHIM Gas Engine Heat Balance Data_60Hz

	GV222TIC		GV180TIC		GV158TIC		GE12TIC		GE08TIC		GE06TIC	
Power [continous/prime]												
[kW]	410	33.4%	340	33.4%	270	34.0%	200	34.6%	150	34.6%	100	33.5%
[PS]	557.8		462.6		367.3		272		204		136	
[rpm]	1800		1800		1800		1800		1800		1800	
Ignition Timing [BTD	12		14		14		13		13		12	
[BSFC]	160.1		160.0		157.1		154.5		154.5		159.6	
FUEL CONSUMPTION												
[kW]	1229	100	1018	100	794	100	578	100	434	100	299	100
[kg/hr]												
100%	89.3		74.0		57.7		42.0		31.5		21.7	
75%	70.7		58.8		45.2		33.6		24.4		16.3	
50%	53.0		41.8		35.3		24.6		17.8		12.3	
25%	33.2		26.6		24.6		16.7		11.4		8.2	
[Nm3/hr]												
100%	109.3		90.5		70.6		51.4		38.5		26.6	
75%	86.5		72.0		55.3		41.1		29.9		20.0	
50%	64.9		51.2		43.1		30.2		21.8		15.0	
25%	40.6		32.5		30.1		20.4		13.9		10.0	
(25°C 1atm) [m3/hr]												
100%	119.3		98.8		77.1		56.1		42.1		29.0	
75%	94.5		78.6		60.3		44.9		32.6		21.8	
50%	70.8		55.8		47.1		32.9		23.8		16.4	
25%	44.4		35.5		32.8		22.3		15.2		10.9	
Water flow												
[l/min]	760		700		660		310		240		190	
Heat rejection to coolant												
[kcal/s]	108.2		87.3		68		46.5		35.3		25.6	
[kW]	453.0	36.9%	365.0	35.8%	285.0	35.9%	195.3	33.8%	148.3	34.2%	107.5	36.0%
Heat rejection to intercooler												
[kcal/s]	9.1		6.8		4.7		3.1		2.3		1.0	
[kW]	38.0	3.1%	28.0	2.7%	20.0	2.5%	13.0	2.3%	9.7	2.2%	4.2	1.4%
Heat rejection to exhaust gas												
[kcal/s]	61.4		53.4		39.7		33.5		23.8		16.1	
[kW]	257.0	20.9%	223.0	21.9%	166.0	20.9%	140.7	24.3%	100.0	23.1%	67.6	22.6%
etc												
[kcal/s]	16.9		14.9		12.6		6.9		6.1		4.6	
[kW]	71.0	5.8%	62.4	6.1%	53.1	6.7%	29.0	5.0%	25.6	5.9%	19.3	6.5%

* Nm3 : 0°C. 1atm
* LHV of fuel : 11796 kcal/kg
9641 kcal/Nm3

GF12TI/GF12TI-S GAS ENGINE SPECIFICATION

Core engine

- High grade cast iron cylinder block
- Liners in centrifugally cast iron, controlled plateau honing for quick ring bedding and excellent oil control
- Forged steel crankshaft
- Forged camshaft with induction hardening for in-line engine, carburised treatment for v-type engine
- High grade cast iron cylinder heads, each with two valves per cylinder
- Improved thermal durability, lower wear rate of valve seat ring by adapting metal powder alloy
- Wear resistance material valves with stellite armored face
- Excellent oil controlling valve stem seals
- Aluminum alloy pistons with three-ring pack, controlled profile and open dish type combustion chamber
- Split cap connecting rods, forged & shot peened steel with 2 bolt fixing
- Turbocharger with water cooled bearing housing and turbine housing

Gas/Ignition system

- Low pressure regulator and air/fuel mixer with mixture adjustment screw
- Altronic CPU-95 or CD1 ignition system and wiring harness
- Individual cylinder ignition coils

Lubrication system

- Gear driven lubricating oil pump, internally mounted
- Spin-on type replaceable lubracating oil filter
- Multi-plate type oil cooler, jacket water cooled
- Crankcase closed circuit ventilation (option)

Cooling system

- Pressurised fresh water jacket water cooling system
- Centrifugal type pump driven by V-belt or gear for GF12TI
- Air to water charge cooler, secondary water cooled (depend on customers' specification)
- Secondary water pump, centrifugal type, belt driven (depend on customers' specification)

Exhaust system

- Cast iron jacket water cooled exhaust manifold
- Vertical exhaust outlet, adjustable

Governing system

- Electronic controlled throttle valve and speed governing system, conforming to ISO 8528 Part 5 Class G3

Drive system

- Cast iron or ALDC flywheel housing and flywheel
- Viscosity type torsional vibration damper

Engine protection system

- 24 Volt high coolant temperature and low oil pressure switches
- Overspeed switch and probe(V type only)

Packing/Preservation

- All engines are preserved after test running, suitable for containerised shipment