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

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 coil
○ 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
○ Heat rejection to coolant	70.7 kcal/sec @1,500 rpm
○ Heat rejection to CAC	4.3 kcal/sec @1,500 rpm
○ Air flow	23.9 m^3/min @1,500 rpm
○ Exhaust gas flow	38.8 m^3/min @1,500 rpm
○ Exhaust gas temp.	520 °C @1,500 rpm
○ Water flow	700 liters/min @1,800 rpm
○ Heat rejection to coolant	87.3 kcal/sec @1,800 rpm
○ Heat rejection to CAC	6.8 kcal/sec @1,800 rpm
○ Air flow	29.4 m^3/min @1,800 rpm
○ Exhaust gas flow	47.9 m^3/min @1,800 rpm
○ Exhaust gas temp.	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
Westen of 6thFl,3Bldg,Allay1128,Jindu Rd,Minhang District ,Shanghai
TEL : 86-21-5680-0810, FAX : 86-21-5680-9005
Shanghai Client Diesel Engine Co.,Ltd
Email : scdc@mtu-china.com
Web site : www.client-engine.com, www.mtu-china.com

※ Specifications are subject to change without prior notice

Printed in October 2005 PS-GV180TIC-D