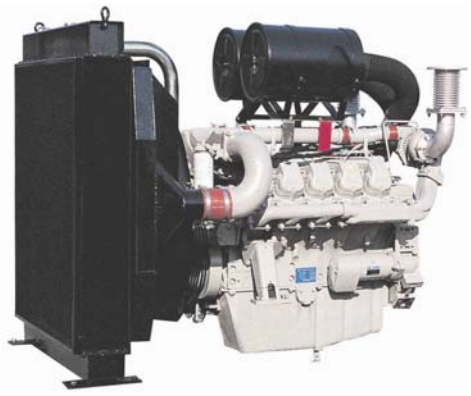
P180LE-S G-DRIVE

◎ POWER RATING

Engine Speed rev/min	Type of Operation	Engine Power	
		kWm	Ps
1800	Prime Power	519	705
	Standby Power	567	771
1500	Prime Power	452	615
	Standby Power	496	674



Note : -. The engine performance corresponds to ISO 3046, 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.

→ **Standby power** available in the event of a main power network failure. No overload is permitted. The permissible average power out put (during 24h period) shall not exceed 70% of the Standby power rating.

◎ MECHANICAL SYSTEM

○ Engine Model	P180LE-S
○ Engine Type	V-type 4 cycle, water cooled
	Turbo charged & intercooled (air to air)
○ Combustion type	Direct injection
○ Cylinder Type	Replaceable wet liner
○ Number of cylinders	10
○ Bore x stroke	128(5.04) x 142(5.59) mm(in.)
○ Displacement	18.273(1,115.02) lit.(in^3)
○ Compression ratio	14.6 : 1
○ Firing order	1-6-5-10-2-7-3-8-4-9
○ Injection timing	16° BTDC (60Hz) / 16° BTDC (50Hz)
○ Compression pressure	Above 28 kg/cm2(398 psi) at 200rpm
○ Dry weight	Approx. 1,188 kg (2,619 lb)
○ Dimension (LxWxH)	1,557 x 1,389 x 1,248 mm (61.3 x 54.7 x 49.1 in.)
○ Rotation	Counter clockwise viewed from Flywheel
○ Fly wheel housing	SAE NO.1
○ Fly wheel	Clutch NO.14

◎ FUEL CONSUMPTION

○ **Prime Power** (lit/hr)	**1,500 rpm**	**1,800 rpm**
25%	29.1	35.8
50%	54.5	65.2
75%	81.2	97.4
100%	108.9	132.1
○ **Standby Power** (lit/h	**1,500 rpm**	**1,800 rpm**
25%	31.7	37.7
50%	59.3	68.6
75%	89.1	102.1
100%	119.9	138.1

◎ FUEL SYSTEM

○ Injection pump	Bosch in-line “P” type
○ Governor	Electric type
○ Feed pump	Mechanical type
○ Injection nozzle	Multi hole type
○ Opening pressure	285 kg/cm^2 (4,054 psi)
○ Fuel filter	Full flow, cartridge type
○ Used fuel	Diesel fuel oil

◎ MECHANISM

○ Type	Over head valve
○ Number of valve	Intake 1, exhaust 1 per cylinder
○ Valve lashes at cold	Intake 0.3mm (0.0118 in.)
	Exhaust 0.4mm (0.0157 in.)

◎ VALVE TIMING

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

◎ 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 (9.2 gal.)
	Low level 28 liters (7.4 gal.)
○ Angularity limit	Front down 24 deg.
	Front up 20 deg.
	Side to side 15 deg.
○ Lub. Oil	Refer to Operation Manual

P180LE-S G-DRIVE

◎ COOLING SYSTEM

○ Cooling method	Fresh water forced circulation
○ Water capacity (engine only)	21 liters (5.54 gal.)
○ Pressure system	Max. 0.9 kg/cm^2 (12.8 psi)
○ Water pump	Centrifugal type driven by belt
○ Water pump Capacity	508 liters (134.2 GPM)/min at 1,800 rpm (engine only)
○ Thermostat	Wax – pellet type Opening temp. 71°C Full open temp. 85°C
○ Cooling fan	Blower type, plastic 915 mm diameter, 7 blade

◎ ELECTRICAL SYSTEM

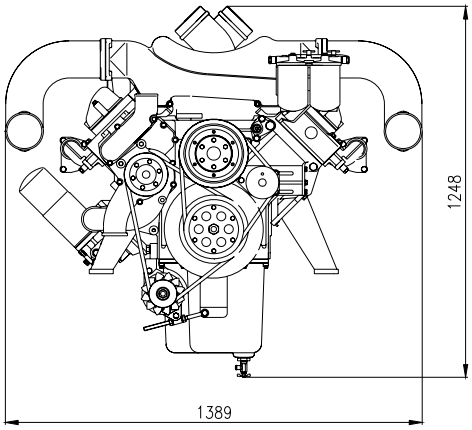
○ Charging generator	24V x 45A alternator
○ Voltage regulator	Built-in type IC regulator
○ Starting motor	24V x 7.0kW
○ Battery Voltage	24V
○ Battery Capacity	200 AH (recommended)
○ Starting aid (Option)	Block heater

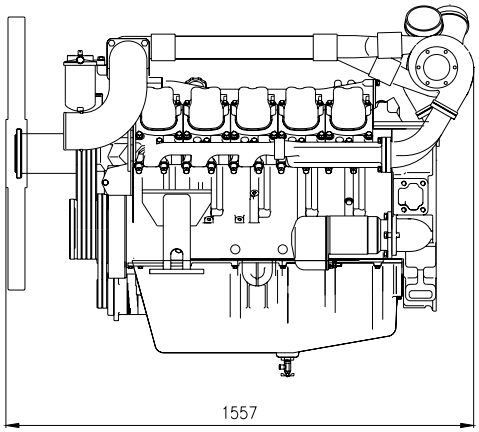
◎ ENGINEERING DATA

○ Water flow	433 liters/min @1,500 rpm
○ Heat rejection to coolant	50.5 kcal/sec @1,500 rpm
○ Heat rejection to CAC	16.3 kcal/sec @1,500 rpm
○ Air flow	30.3 m^3/min @1,500 rpm
○ Exhaust gas flow	83.5 m^3/min @1,500 rpm
○ Exhaust gas temp.	562 °C @1,500 rpm
○ Water flow	508 liters/min @1,800 rpm
○ Heat rejection to coolant	53.7 kcal/sec @1,800 rpm
○ Heat rejection to CAC	28.5 kcal/sec @1,800 rpm
○ Air flow	43.1 m^3/min @1,800 rpm
○ Exhaust gas flow	109 m^3/min @1,800 rpm
○ Exhaust gas temp.	500 °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	





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※ Speccifications are subject to change without prior notice

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