4DWD- 75

POWER RATING

Engine Speed	Type of Operation	Engine Gross Power	
		kW	PS
1500 rpm	Prime Power	54	73
	Standby Power	60	82
1800 rpm	Prime Power	62	84
	Standby Power	68	92
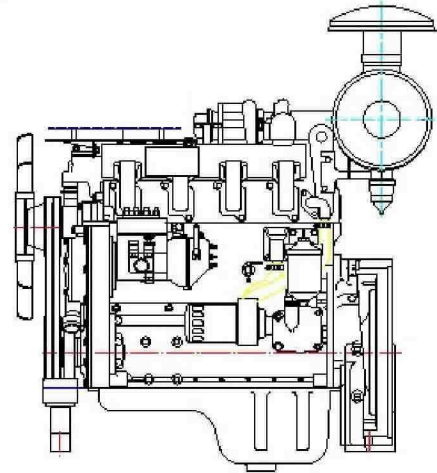
- The engine performance is as per ISO 3046. Type of operation is based on ISO 8528.

- Prime power is available for an unlimited number of hours per year in a variable load application.

- The permissible average power output over 24 hours of operation shall not exceed 80% of the prime power rating.

Engine Specifications

○ Engine Type	In-Line type, 4 strokes, water-cooled Turbocharged
○ Combustion type	Direct injection
○ Cylinder Type	Wet liner
○ No. of Cylinders	4
○ Bore × stroke	108 ×125 mm
○ Displacement	4.6 liter
○ Compression ratio	16 : 1
○ Firing order	1 – 3 – 4 – 2
○ Injection timing	18 °BTDC
○ Dry weight	Approx. 480 kg
○ Dimension(LxWxH)	1092 × 720 × 1113 mm
○ Rotation	Anti-clockwise (Face to the flywheel)
○ Fly wheel housing	SAE NO. 3
○ Fly wheel	SAE NO.11.5
○ Ring Gear Tooth	130 EA

Mechanism

○ Type	Overhead valve
○ Number of valve	Intake 1, exhaust 1 per Cylinder
○ Valve lashes at cold	Intake.　0.3 mm
	Exhaust　0.5 mm

Fuel Consumption Data

(Liter/ Hour)

Speed	1500 rpm		1800 rpm	
Rating	Prime	Standby	Prime	Standby
	54 kW	60 kW	62 kW	68 kW
100% Load	15.4	17.1	18.0	19.8
75%　Load	12.3	13.4	14.4	15.6
50%　Load	9.0	9.9	10.6	11.5
25%　Load	5.8	6.2	6.6	7.3

Fuel　System

○ Injection pump	Direct Injection type
○ Governor	Mechanical　type
○ Feed pump	Mechanical　type
○ Injection nozzle	Multi-hole type
○ Opening pressure	250 kg/cm2 (3556 psi)
○ Fuel filter	Full Flow, Cartridge Type
○ Used fuel	Diesel fuel oil

Lubrication　System

○ Lub. Oil Grade	CF-4 oil
○ Lub. Oil Pan Capacity	14　liter
○ Max. allowable Oil Temp	120 degree C.
○ Oil pressure	Min. 294 kPa
	Max. 490 kPa
○ Oil Consumption Rate	≤ 1.2 g/kWh

Cooling System

- Cooling method — Fresh water forced type
- Water Pump — Centrifugal, Belt driven
- Water capacity — 8 liter (engine only)
- Max. Water Temp — 99 degree C.
- Thermostat — Open 76°C / Full 90°C
- Water in/outlet Dia — 45 mm
- Cooling Fan — Blade 10EA - Ø 530 mm

Engineering Data

		1500 rpm		1800 rpm	
○ **Media Flow**		Prime	S/B	Prime	S/B
Combustion Air	m3/min	4.6	5.1	5.1	5.6
Exhaust Gas	m3/min	11.5	12.7	12.8	14.0
Cooling Fan	m3/min				

○ Heat Rejection

to Exhaust	kW	39	44	45	49
to Coolant	kW	33	34	39	42
to Intercooler	kW	-	-	-	-
to radiation	kW	9	10	11	12

Electric System

- Charging generator — 14V×65A (910W)
- Voltage regulator — Build-in type IC regulator
- Starting motor — 12V × 3.7 kW
- Battery Voltage — 12 V
- Battery Capacity — 120 AH

Conversion Table

in. = mm × 0.0394

PS = kW × 1.3596

psi = kg/cm2 × 14.2233

in^3 = lit. × 61.02

HP= PS x 0.98635

lb = kg x 2.20462

lb/ft = N.m × 0.737

U.S. gal = lit. × 0.264

kW = 0.2388 kcal/sec

lb/PS.h = g/kW.h × 0.00162

Cfm = m3/min x 35.336

Engine Layout & Dimension

546.5
302
85
746.5

535.5
240
277   288
670