

6DWD- 115

DWD Series for Diesel Generator application

POWER RATING

Engine Speed	Type of Operation	Engine Gross Power	
		kW	PS
1500 rpm	Prime Power	90	122
	Standby Power	99	135
1800 rpm	Prime Power	95	129
	Standby Power	102	139

- 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	6
○ Bore x stroke	105 x125 mm
○ Displacement	6.49 liter
○ Compression ratio	16 : 1
○ Firing order	1 – 5 – 3 – 6 – 2 – 4
○ Injection timing	15 °BTDC
○ Dry weight	Approx. 650 kg
○ Dimension(LxWxH)	1381 x 740 x1274 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

Fuel Consumption Data

Speed Rating	(Liter/ Hour)			
	1500 rpm		1800 rpm	
	Prime 90 kW	Standby 99 kW	Prime 95 kW	Standby 102 kW
100% Load	25.2	27.4	27.1	28.8
75% Load	18.7	20.2	20.1	21.2
50% Load	13.6	14.8	14.7	15.6
25% Load	8.7	9.4	9.4	9.9

Fuel System

○ Injection pump	Direct Injection type
○ Governor	Electronic type
○ Feed pump	Mechanical type
○ Injection nozzle	Multi-hole type
○ Opening pressure	250 kg/cm ² (3556 psi)
○ Fuel filter	Full Flow, Cartridge type
○ Used fuel	Diesel fuel oil

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

Lubrication System

○ Lub. Oil Grade	CF-4 oil
○ Lub. Oil Pan Capacity	16 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 13.8 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 560 mm

Engineering Data

		1500 rpm		1800 rpm	
○ Media Flow		Prime	S/B	Prime	S/B
Combustion Air	m3/min	7.5	8.3	7.7	8.2
Exhaust Gas	m3/min	18.8	20.7	19.1	20.4
Cooling Fan	m3/min				
○ Heat Rejection					
to Exhaust	kW	67	73	70	75
to Coolant	kW	52	57	55	59
to Intercooler	kW	-	-	-	-
to radiation	kW	14	16	15	17

Intake & Exhaust System

- Max air restriction Clean 2 kPa / Dirty 5 kPa
- Exhaust back pressure Max 6 kPa

Electric System

- Charging generator 28 V × 36 A (1008 W)
- Voltage regulator Build-in type IC regulator
- Starting motor 24 V × 7.5 kW
- Battery Voltage 24 V
- Battery Capacity 120 AH

Conversion Table

in. = mm × 0.0394	lb/ft = N.m × 0.737
PS = kW × 1.3596	U.S. gal = lit. × 0.264
psi = kg/cm ² × 14.2233	kW = 0.2388 kcal/sec
in ³ = lit. × 61.02	lb/PS.h = g/kW.h × 0.00162
HP= PS × 0.98635	Cfm = m3/min × 35.336
lb = kg × 2.20462	

Engine Layout & Dimension

