

Engine Model **6DWD-358F**

DWD Series for Diesel Generator application

POWER RATING

Engine Speed	Type of Operation	Engine Gross Power	
		kW	PS
1500 rpm	Prime Power	286	389
	Standby Power	315	428
-	Prime Power	-	-
	Standby Power	-	-

- 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 air-to-air intercooled
○ Combustion type	Direct injection
○ Cylinder Type	Wet liner
○ No. of Cylinders	6
○ Bore × stroke	126 × 130 mm
○ Displacement	9.726 liter
○ Compression ratio	16 : 1
○ Firing order	1 – 5 – 3 – 6 – 2 – 4
○ Injection timing	14.5 °BTDC
○ Dry weight	Approx. 980 kg
○ Dimension(LxWxH)	1772 × 864 × 1220 mm
○ Rotation	Anti-clockwise (Face to the flywheel)
○ Fly wheel housing	SAE NO. 1
○ Fly wheel	SAE NO.14
○ Ring Gear Tooth	160 EA

Fuel Consumption Data

Speed	(Liter/ Hour)			
	1500 rpm		1800 rpm	
Rating	Prime	Standby	Prime	Standby
	286 kW	315 kW	-	-
100% Load	72.3	79.2	-	-
75% Load	52.9		-	
50% Load	37.4		-	
25% Load	24.2		-	

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. 0.3~0.4 mm Exhaust 0.4~0.5 mm

Lubrication System

○ Lub. Oil Grade	CF-4 oil
○ Lub. Oil Pan Capacity	28 liter
○ Max. allowable Oil Temp	115 degree C.
○ Low pressure warning	200 kPa
○ Low pressure Shutdown	160 kPa
○ Oil Consumption Rate	≤ 0.82 g/kWh

Cooling System

- Cooling method Fresh water forced type
- Water Pump Centrifugal, Belt driven
- Water capacity 28 liter (engine only)
- Max. Water Temp 99 degree C.
- Thermostat Open 71°C / Full 82°C
- Water in/outlet Dia 45 mm

Engineering Data

		1500 rpm		1800 rpm	
		Prime	S/B	Prime	S/B
○ Media Flow					
Combustion Air	m3/min	22.0	22.4	-	-
Exhaust Gas	m3/min	38.9	42.5	-	-
Cooling Fan	m3/min	412	412	-	-

○ Heat Rejection

to Exhaust	kW
to Coolant	kW
to Intercooler	kW
to radiation	kW

Intake & Exhaust System

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

Electric System

- Charging generator 28 V × 54 A (1500 W)
- Voltage regulator Build-in type IC regulator
- Starting motor 24 V × 7.5 kW
- Battery Voltage 24 V
- Battery Capacity 200 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 x 0.98635	Cfm = m3/min x 35.336
lb = kg x 2.20462	

Engine Layout & Dimension

