

Engine Model **6DWD-310A**

DWD Series for Diesel Generator application

POWER RATING

Engine Speed	Type of Operation	Engine Gross Power	
		kW	PS
1500 rpm	Prime Power	248	337
	Standby Power	273	371
1800 rpm	Prime Power	273	371
	Standby Power	300	408

- 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
100% Load	55.2	64.5	60.5	67.5
75% Load	39.5		43.8	
50% Load	28.2		32.5	
25% Load	18.5		20.7	

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	
○ Media Flow		Prime	S/B	Prime	S/B
Combustion Air	m3/min	16.0	18.5	17.5	18.9
Exhaust Gas	m3/min	31.4	36.4	34.2	37.8
Cooling Fan	m3/min	346	346		

○ 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 × 0.98635	Cfm = m3/min × 35.336
lb = kg × 2.20462	

Engine Layout & Dimension

