Engine Model 6DWD- 275A

DWD Series for Diesel Generator application

POWER RATING

Engine Speed	Type of Operation	Engine Gross Power	
		kW	PS
1500 rpm	Prime Power	**220**	299
	Standby Power	**255**	347
1800 rpm	Prime Power	**240**	326
	Standby Power	**265**	360

- 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

(Liter/ Hour)

Speed	1500 rpm		1800 rpm	
Rating	Prime	Standby	Prime	Standby
	220 kW	255 kW	240 kW	265 kW
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/cm2 (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

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

Engineering Data

○ **Media Flow**		1500 rpm Prime	1500 rpm S/B	1800 rpm Prime	1800 rpm 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

Conversion Table

in. = mm × 0.0394	lb/ft = N.m × 0.737
PS = kW × 1.3596	U.S. gal = lit. × 0.264
psi = kg/cm2 × 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