

6DWD- 200

DWD Series for Diesel Generator application

POWER RATING

Engine Speed	Type of Operation	Engine Gross Power	
		kW	PS
1500 rpm	Prime Power	160	218
	Standby Power	180	245
1800 rpm	Prime Power	172	234
	Standby Power	190	258

- 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 x stroke	114 x135 mm
○ Displacement	8.27 liter
○ Compression ratio	18 : 1
○ Firing order	1 – 5 – 3 – 6 – 2 – 4
○ Injection timing	6 °BTDC
○ Dry weight	Approx. 740 kg
○ Dimension(LxWxH)	1455 x 762 x 1273 mm
○ Rotation	Anti-clockwise (Face to the flywheel)
○ Fly wheel housing	SAE NO. 2
○ Fly wheel	SAE NO.11.5

Fuel Consumption Data

Speed Rating	(Liter/ Hour)			
	1500 rpm		1800 rpm	
	Prime 160 kW	Standby 180 kW	Prime 172 kW	Standby 190 kW
100% Load	40.6	45.9	43.3	48.2
75% Load	30.9	34.9	32.8	36.5
50% Load	21.5	24.3	23.1	25.7
25% Load	11.8	13.5	12.9	14.3

Fuel System

○ Injection pump	Direct Injection type
○ Governor	Electronic type
○ Feed pump	Mechanical type
○ Injection nozzle	Multi-hole type
○ Opening pressure	24.5 kg/cm ² (2450 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. 0.30 mm Exhaust 0.50 mm

Lubrication System

○ Lub. Oil Grade	CF-4 oil
○ Lub. Oil Pan Capacity	Max.19 / Min. 15 liter
○ Max. allowable Oil Temp	115 °C.
○ Low pressure warning	200 kPa
○ Low pressure Shutdown	160 kPa
○ Oil Consumption Rate	≤ 1.2 g/kWh

Cooling System

- Cooling method Fresh water forced type
- Water Pump Centrifugal, Belt driven
- Water capacity 12 liter (engine only)
- Max. Water Temp 90 °C
- Water Temp. Waring 95 °C
- Thermostat Open 80°C / Full 93°C
- Cooling Fan Ø762mm, steel 10 blades

Engineering Data

		1500 rpm		1800 rpm	
○ Media Flow		Prime	S/B	Prime	S/B
Combustion Air	m3/min	33.75	37.13	42.92	47.12
Exhaust Gas	m3/min	41.25	45.30	55.79	61.29
Cooling Fan	m3/min				

○ 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 x 55 A (1540 W)
- Voltage regulator Build-in type IC regulator
- Starting motor 24 V x 7.5 kW
- Battery Voltage 24 V
- Battery Capacity 180 AH

Conversion Table

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

Engine Layout & Dimension

