6DWD- 150

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DWD Series for Diesel Generator application

POWER RATING

Engine Speed	Type of Operation	Engine Gross Power	
		kW	PS
1500 rpm	Prime Power	**112**	152
	Standby Power	**122**	166
1800 rpm	Prime Power	**120**	163
	Standby Power	**125**	170

- 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	105 ×125 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 × 740 ×1274 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

(Liter/ Hour)

Speed	1500 rpm		1800 rpm	
Rating	Prime	Standby	Prime	Standby
	112 kW	122 kW	120 kW	125 kW
100% Load	30.5	32.9	33.3	34.4
75% Load	22.3	23.8	24.4	24.9
50% Load	16.3	17.5	17.8	18.3
25% Load	10.4	11.1	11.4	11.6

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 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

Intake & Exhaust System

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

Electric System

○ Charging generator	24 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

Engineering Data

		1500 rpm		1800 rpm	
○ **Media Flow**		Prime	S/B	Prime	S/B
Combustion Air	m3/min	9.1	9.9	9.7	9.8
Exhaust Gas	m3/min	22.7	24.6	24.1	24.4
Cooling Fan	m3/min				
○ **Heat Rejection**					
to Exhaust	kW	91	100	99	102
to Coolant	kW	51	56	55	58
to Intercooler	kW	19	20	20	21
to radiation	kW	9	10	9	11

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