

20DWG-3330

DWG Series for Diesel Generator application

POWER RATING

Engine Speed	Type of Operation	Engine Gross Power	
		kW	PS
1500 rpm	Prime Power	2,664	3,623
	Standby Power	2,930	3,985
1800 rpm	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	V-type, 4 strokes, water-cooled Turbocharged air-to-air intercooled
○ Combustion type	Direct injection
○ Cylinder Type	Wet liner
○ No. of Cylinders	20
○ Bore × stroke	170 × 195 mm
○ Displacement	88.5 liter
○ Compression ratio	13.5 : 1
○ Firing order	
○ Injection timing	14.5 °BTDC
○ Dry weight	Approx. 7900 kg
○ Dimension(LxWxH)	4110 × 1459 × 1820 mm
○ Rotation	Anti-clockwise (Face to the flywheel)
○ Fly wheel housing	SAE NO. 00
○ Fly wheel	SAE NO. 21
○ Ring Gear Tooth	218 EA

Fuel Consumption Data

Speed	(Liter/ Hour)			
	1500 rpm		1800 rpm	
Rating	Prime	Standby	Prime	Standby
	2664 kW	2930 kW	-	-
100% Load	605	693		
75% Load	458	531		
50% Load	320	372		
25% Load	192	229		

Fuel System

○ Injection pump	Direct Injection type
○ Governor	Electronic type
○ Feed pump	Mechanical Type
○ Injection nozzle	Multi-hole type
○ 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	

Lubrication System

○ Lub. Oil Grade	AFI - CF-4 oil
○ Lub. Oil Pan Capacity	300 liter
○ Max. allowable Oil Temp	110 degree C.
○ Oil pressure, Warning	≤ 300 kPa
○ Oil pressure, Shut-down	≤ 200 kPa
○ Oil Consumption Rate	≤ 1.2 g/kWh

Cooling System

- Cooling method Fresh water forced type
- Water Pump Centrifugal, belt driven
- Water capacity 200 liter (engine only)
- Max. Water Temp 98 degree C.
- Thermostat Open 71°C / Full 90°C
- Cooling fan loss 142 kW @ 2220 kW

Engineering Data

		1500 rpm		1800 rpm	
○ Media Flow		Prime	S/B	Prime	S/B
Combustion Air	m3/min	293.0	322.3	-	-
Exhaust Gas	m3/min	732.5	805.6.	-	-

○ Heat Rejection

		1500 rpm		1800 rpm	
to Exhaust	kW	1,705	1,875	-	-
to Coolant	kW	909	1008	-	-
to Intercooler	kW	545	605	-	-
to radiation	kW	145	161	-	-

Intake & Exhaust System

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

Electric System

- Charging generator 28 V × 55 A
- Voltage regulator Build-in type IC regulator
- Starting motor 24 V × 13 kW – 2set
- Battery Voltage 24 V
- Battery Capacity 4 ea x 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

