

20DWG-3050

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DWG Series for Diesel Generator application

POWER RATING

Engine Speed	Type of Operation	Engine Gross Power	
		kW	PS
1500 rpm	Prime Power	2,442	3,321
	Standby Power	2,686	3,653
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

Mechanism

- Type Overhead valve
- Number of valve Intake 1, exhaust 1 per Cylinder
- Valve lashes at cold

Fuel Consumption Data

Speed	(Liter/ Hour)				
	Rating	1500 rpm		1800 rpm	
		Prime	Standby	Prime	Standby
	2442 kW	2686 kW	-	-	
100% Load	555	632			
75% Load	420	481			
50% Load	294	336			
25% Load	176	207			

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

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 128 kW @ 2220 kW

Engineering Data

		1500 rpm		1800 rpm	
		Prime	S/B	Prime	S/B
○ Media Flow					
Combustion Air	m3/min	268.6	295.4	-	-
Exhaust Gas	m3/min	671.5	738.6	-	-

○ Heat Rejection

to Exhaust	kW	1,563	1,719	-	-
to Coolant	kW	833	916	-	-
to Intercooler	kW	500	550	-	-
to radiation	kW	133	146	-	-

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

