

DIESEL ENGINE

MODEL 4DSG-24

Performances

Ratings		1500 rpm	
		PRIME	STAND-BY
Rated Output	kWm	22	24.2

Note:

PRIME POWER: The prime power is the maximum power available with varying loads for an unlimited number of hours. The average power output during a 24h period of operation must not exceed 80% of the declared prime power between the prescribed maintenance intervals and at standard environmental conditions. A 10% overload is permissible for 1 hour every 12 hours of operation.

STAND-BY POWER: The stand-by power is the maximum power available for a period of 500 hours/year with a mean load factor of 90% of the declared stand-by power. No kind of overloads is permissible for this use.

Specifications

Mechanical system

Engine model	4DSG-24 (50Hz)
Engine type	In-line, 4 stroke, water cooled
Combustion type	Direct Injection
Cylinder type	Wet liner
Air intake type	Normally Aspirated
Cylinder No.	4
Bore*Stroke(mm)	90*100
Total displacement(L)	2.544
Compression ratio	18:1
Firing order	1-3-4-2
Injection timing	15°±1°
Speed governor	Mechanical ≤5%
Exhaust temperature (°C)	≤550
Mean Effective Pressure (KPa)	539
Noise Level(dBA)	≤93
Exhaust gas back pressure(KPa)	3.5
Exhaust flow (m ³ /h)	403
Cooling air flow (m ³ /h)	220
Air for combustion flow (m ³ /h)	167
Piston Speed(m/s)	5
Dry weight (kg)	205
Dimension(L*W*H)(mm)	696*492*650 (without radiator)
Rotation	Counter clockwise viewed from flywheel
Flywheel housing/flywheel	SAE4/ 7.5"

Mechanism

Type	Over head valve
Valves per cylinder	2
Valve lash(cold state)	Air intake valve 0.30-0.35mm Exhaust valve 0.30-0.35mm

Valve timing (crankshaft rotating angel)

Air intake valve open	12° before top dead center
Air intake valve close	38° after bottom dead center
Exhaust valve open	50° before bottom dead center
Exhaust valve close	14° after top dead center

Specific fuel consumption

rpm	1500
Fuel consumption (g/kWh)	≤251.2

Oil consumption

Oil consumption(g/kWh)	≤0.754
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Fuel system

Fuel injector pump	No 1 pump
Governor model	RSV full range type
Feed pump	Mechanical type
Injection nozzle	multi holes type
Fuel filter	Spin-on type
Fuel	Diesel

Lubrication system

Type	Mixed type, pressure and splash lubrication
Oil pump Displacement/speed (L/min/r/min)	Inner and outer rotor type 25/1500
Oil filter	Spin-on type
Lube oil total system capacity	9L including pipes, filters etc.

Cooling system

Cooling method	Water cooled, forced circulation
Coolant capacity: engine only	6L
Engine + radiator	12L
Water pump type	Centrifugal type driven by belt
Water pump capacity(L/min)	≥100
Thermostat	Opening temp.73°C
Cooling fan	Φ420mm, 7blades, PA

Electronic system

Charging alternator	14v/350w
AVR	Built-in type
Starting motor	12v/3.0kW
Battery capacity	12v/100Ah