

Technical Specifications:- Mahindra Powerol DG 100/125KVA

GENSET TECHNICAL DATA		
GENSET PARAMETERS	Units	
KVA rating/kW rating	KVA	125/100
Voltage	Volts	415
Frequency	Hz	50
Current	Amps	174
Power Factor		0.8
ENGINE TECHNICAL DATA SHEET		
Engine model		S12-III
Rated Output	kW	114.7
No of Cylinders		6
Engine Configuration		Inline
Operating Cycle		4 Stroke
Displacement	Lit	7.12
Bore X Stroke	mm	105X137
Aspiration		TCA
Compression Ratio		16.8
Piston Speed	m/s	6.8
BMEP	bar	12.9
Firing Order		1-5-3-6-4-2
Flywheel housing	SAE	SAE-2
Flywheel dimensions	SAE	SAE-11.5
Starting System		Electrical
Rated Speed	rpm	1500
Overload capacity	%	10
Lube oil consumption % of fuel consumption	lit/hr	0.014
Lube oil change period	hrs	500
Alternator efficiency @ 75% load	%	Powerol
DG set noise @ 1m	dB	<75 dBA
Overall thermal efficiency of engine	%	42
Overall Dimension	mm	1727X932X1274.4
Engine Dry Weight	kg	598.6
Weight of radiator	Kg	47.5
Governor / Governor Class		A2
Fuel System		
Type		Rotary
Static Injection timing	Degree BTDC	20
Injectors holes Nos X size	mm	5X 0.21
Fuel Oil		High speed Diesel(HSD IS 1460:2005)

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Fuel Filter type		Spin-on type with paper element
Filtration Capacity	Micron	5
Fuel transfer line restriction	kPa	30
Maximum lift of fuel transfer pump	m	1.87
Nozzle Injection Pressure	bar	290
Fuel Consumption		
50%	Lit/Hr	14.54
75%		20.38
100%		27.45
Lube Oil system		
Recommended Lube Oil		15W40 API CH4/ CI4
Lube Oil Pump		G-Rotor type
Lube Oil sump Capacity (max)	Lit	18
Lube Oil Sump Capacity (min)	Lit	15
Lube Oil system Capacity	Lit	19.8
Sump angle front up	Deg	15
Sump angle front down	Deg	15
Sump angle side to side	Deg	15
Lube oil pressure at rated load	kPa	≥ 343.3
Lube Oil filter type		Full flow: Spin on cartridge type with Paper element
Filtration Capacity	Microns	15
Lube oil Flow rate	LPM	60
Lube oil change period	Hrs	500
Cooling System		
Type of cooling		Water Cooled
Engine coolant flow rate	LPM	140
Coolant pressure	kPa	68.64
Total quantity of coolant	Lit	25
Combustion air inlet flow	m3/min	8.9
Operating temperature of thermostat	deg	opening at 77-81,max open 94
Minimum coolant temperature allowed	deg	-10
Maximum engine out coolant temperature	deg	105
Heat Rejection Details		
Heat Rejection to coolant	kW	59.73
Heat Rejection to Exhaust	kW	82.39
Heat Rejection to after cooler (if applicable)	kW	12.1
Air Intake Details		
Intake air filter type		Dry type Air cleaner

Max allowable air restriction	kPa	6
Intake manifold pressure	bar	2.5 max
Maximum Intake manifold temperature	deg	55
Exhaust System		
Exhaust Silencer type		Residential type
Exhaust noise level at 1m	dB	<75
Max Permissible back pressure	kPa	9.99
Max Exhaust temperature	deg	600
Exhaust Gas flow	LPS	0.155
Governor Data		
Type		Mechanical
Whether adjustable droop provided		Yes
Transient speed increase for sudden decrease in load	%	As per IS10002
Transient speed decrease for sudden increase in load	%	
Recovery time	sec	
Valve Mechanism		
Type		4 valve/cylinder
Valve clearance cold, Intake/Exhaust	mm	0.4
Valve timing Inlet open/Inlet close	deg	3 deg ATDC/23 deg APDC
Valve timing outlet open/outlet close	deg	33 deg BBDC/1 deg ATDC
Other Information		
Max time to start engine from cold, attain rated speed & ready to take load	sec	6
Overload capacity		10%

Emission Details			
Parameters	Units		
	CPCB norms		Actual
Nox (gm/kW-hr)	9.2		7.54
CO (gm/kW-hr)	3.5		0.49
HC (gm/kW-hr)	1.3		0.18
PM (gm/kW-hr)	0.3		0.076
Smoke (m-1)	0.7		0.07
Average Sound level 1m from canopy	≤ 75 dBA		75
Overall Dimensions of Gensets			Units
Length		mm	3750
Width		mm	1300
Height		mm	2425
Height Including Silencer		mm	2425

Fuel Tank Capacity		Lit	250
Dry weight gensets		kg	2359
Dry weight gensetkg2359			

Note: Above specifications are subject to change without notice due to continuous technical developments. All the above engine models conform to IS 10000 specifications. Engine governing as per BS 5514. Alternator: Reputed make conforming to respective IS standards.