

Generator Model:	<b>SDG20FS</b>	<b>FIRMAN FD490DY</b>	<b>FIRMAN FG20K</b>
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Frequency 50HZ	3Phase4Wire	Power Factor Cosφ=0.8
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RATINGS		PRIME POWER		STANDBY POWER	
		SDG20FS			
Voltage	Amps	kVA	kWe	kVA	kWe
380	30	<b>20</b>	16	<b>22</b>	18


**DEFINITION OF RATINGS**

**Prime power** is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24h of operation shall not exceed 70% of the PRP.

**Emergency standby power** is defined as the maximum power available during a variable electrical power sequence, under the stated operating conditions for up to 200h of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24h of operation shall not exceed 70% of the ESP.

**Standard Reference Conditions:** air inlet temperature 25°C (77°F), barometric pressure 100kPa [110m (361ft) altitude] and 30% relative humidity.

**Note:** The above ratings may be subject to derate at different operating conditions. Please see the Derate Guidelines on the SUMEC

	<p><b>Key Features:</b></p> <ul style="list-style-type: none"> <li>• Efficient water cooled diesel engine.</li> <li>• Radiator with pressure cap and drain point</li> <li>• Fully guarded engine-driven fan</li> <li>• Fully welded steel baseframe with lifting points</li> <li>• Various fuel system options</li> <li>• Heavy duty rubber anti-vibration mountings</li> <li>• 24V starter batteries and connecting cables</li> <li>• Engine-driven battery charging alternator</li> <li>• Spin on oil and fuel filters and dry type air filter element</li> <li>• Auto Start control with digital instrumentation</li> <li>• Factory Test Certificate</li> <li>• Operation &amp; Maintenance Manual</li> <li>• Optional extra features available</li> </ul>
	<p><b>Overall Dimensions</b></p> <p>Length (L1) = 1750mm  Width (W1) = 730mm  Height (H1) = 980mm  Weight=635kg</p>

Specifications and designs are subjected to change refer lastest version

ENGINE		FIRMAN FD490DY		
General Data		Units	PRIME      STANDBY	
	Engine Speed	r/min	1500	
	Gross Power	kWm	21      23.1	
	Governor/Class		Mechanical	
	Cylinder No.		4	
	Cycle		Four stroke	
	Cylinder arrangement		Vertical in-line	
	Type of injection		Direct injection	
	Aspiration		Naturally Aspirated	
	Cooling mode		Water cooled	
	Bore and stroke	mm	90x100	
	Compression ratio		18:1	
	Displacement	L	2.54	
	Battery capacity	A/hr	45	
	Direction of rotation(Facing output end)		Counter clockwise	
	Steady speed regulation	%	≤5	
	Lubricating Oil Capacity	L	8	
	Coolant Capacity	L	11.9	
	Fuel Tank Capacity	L	47L(≥8h)	
	Fuel Type		0# Diesel (Natural temperature)	
Filter system		Adopt lubricating oil , fuel and air filter		
Exhaust system		Adopt industrial high efficiency		
Fuel Consumption at	100% Load	L/h	6.36	
	75% Load	L/h	5.64	
	50% Load	L/h	4.71	
ALTERNATOR		FIRMAN FG20K		
General Data		Units		
	Alternator Type		A.C. Synchronous	
	Rated Voltage		220V/380V	
	Rated Frequency		50HZ	
	Rated Speed		1500 RPM	
	Poles		4	
	Alternator Voltage Regulation	%	≤±1	
	Waveform Distortion		no load ≤1.5%; Non-distorting	
	Telephone Interference	%	THF≤2	
	Exciting Mode		self exciting	
	Power Factor		0.8	
	Phase & Wires		3 phase 4 wires	
	Rated Current	A	30	
	Efficiency	%	82.20%	
	Insulation Class		H	
Protection Class		IP23		
Max. Ambient Temperature	°C	40		
CONTROLLER		FIRMAN HGM4020N		
Automatic Control System	<b>Panel Configure:</b>		<b>Warnings(W) and shut down alarm (S)</b>	
	1	Automatic control module×1	1	Low oil pressure (W+S)
	2	Emergency stop button×1	2	Coolant over temperature(W+S)
	3	AC main circuit breaker×1	3	Failed start (W)
	<b>Digital display:</b>		4	Battery over and under voltage(W)
	1	Mains and generator voltage	5	Battery charge failure(W)
	2	3-phase generator current	6	Engine over and under speed (W+S)
	3	Mains and generator frequency	7	Generator over and under voltage(W+S)
	4	Out put(kva,kW,kvar,cos(phi)	8	Generator over and under frequency (W+S)
	5	Battery voltage	9	KW overload trip (W)
	6	Engine speed	10	Delayed over current(W)
7	Fuel level	11	Emergency stop (W)	
8	Oil pressure			
9	Water temperature			
10	Run hours			

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