



ENERGY SOLUTIONS (PVT) LIMITED

Engineering solutions for your power needs

Improving Fuel Consumption Of Our Generators

◆ Calibration of Fuel Pump and Injectors:

◆ One sure-fire method of improving the fuel consumption, which in Pakistan constitutes almost 90% of the total cost of generation, is to keep the fuel system clean and periodically calibrate the fuel pumps and injectors.

◆ Run close to advertised rating:

◆ Secondly, care must be exercised to run generator(s) at as close to the advertised rating for continuous, prime and standby use as possible. Operating generators at light loads not only results in wet stacking (discussed elsewhere in CustomerCare section) but also results in inefficient operation from the standpoint of fuel consumption.

◆ Perform major repairs / Overhauls on time:

◆ Similarly, it is imperative to undertake major repairs as and when they become due because delaying them can result in higher fuel consumptions, which as mentioned constitutes 90% of the total cost of generation including capex, opex etc

◆ The chart below approximates the fuel consumption of a diesel generator based on the size of the generator and the load at which the generator is operated. Please note that this table is intended to be used as an estimate of how much fuel a generator uses during operation and is not an exact representation due to various factors that can increase or decrease the amount of fuel consumed. To convert it into liters, please use a multiplier of 3.8. Remember the thumb rule for fuel consumption is 0.25 liters to 0.3 liters per kWh, depending upon the size and the condition of the machine.

Generator Size (kW)	1/4 Load (gal/hr)	1/2 Load (gal/hr)	3/4 Load (gal/hr)	Full Load (gal/hr)
20	0.6	0.9	1.3	1.6
30	1.3	1.8	2.4	2.9
40	1.6	2.3	3.2	4.0
60	1.8	2.9	3.8	4.8
75	2.4	3.4	4.6	6.1
100	2.6	4.1	5.8	7.4
125	3.1	5.0	7.1	9.1
135	3.3	5.4	7.6	9.8
150	3.6	5.9	8.4	10.9
175	4.1	6.8	9.7	12.7
200	4.7	7.7	11.0	14.4
230	5.3	8.8	12.5	16.6
250	5.7	9.5	13.6	18.0
300	6.8	11.3	16.1	21.5
350	7.9	13.1	18.7	25.1
400	8.9	14.9	21.3	28.6
500	11.0	18.5	26.4	35.7
600	13.2	22.0	31.5	42.8
750	16.3	27.4	39.3	53.4
1000	21.6	36.4	52.1	71.1
1250	26.9	45.3	65.0	88.8
1500	32.2	54.3	77.8	106.5
1750	37.5	63.2	90.7	124.2
2000	42.8	72.2	103.5	141.9
2250	48.1	81.1	116.4	159.6