

Generator Set Sizing

Project Cal am

Customer

Date 11 / 04 / 2013

Generator Set

Model No. 700REOZDE **Gensets** 1

Engine 12V2000 G45

Alternator 5M4032

Performance Summary

LN/LL Voltage	277/480 volts	Phase(s)	3 phase
Frequency	60 hertz	Altitude	100 feet
Fuel Type	Diesel	Ambient Temp.	70° F

Genset Rating @ 130C 685 kW

Genset Derated Rating 685.0 kW

Total Running Power 465.67 kW

Percent of Available kW Used 67.98 %

Alternator Starting kVA 1257.14 kVA @ 20.0 % dip

Peak Starting kVA 1098.0 kVA

Maximum Voltage Dip 18.65%

Maximum Frequency Dip 2.32% (20% Allowed)

Voltage THD 2.8 %

Load Profile

Step #1 -- Load Step #1	Qty	Run			Start		Volt Dip %	Freq Dip %	Harmonic (L-N) Dip %
		kW	kVA	pF	kW	kVA			
Lighting/receptacles and misc loads Lighting, Fluorescent, Electronic	1	85.00	89.47	0.95	85.00	89.47			
Step Totals:		85.00	89.47	0.95	85.00	89.47	1.65	0.56	2.7/2.7/2.7
Cum. Totals:		85.00	89.47	0.95					

Step #2 -- Load Step #2										
Motor Motor, Horsepower: 60, 3 Phase, Code F, Loaded Motor, Starting Method: Across the Line	1	48.00	59.00	0.81	111.30	318.00				
Step Totals:		48.00	59.00	0.81	111.30	318.00	5.44	0.84	2.7/2.7/2.7	
Cum. Totals:		133.00	148.47	0.90						

Step #3 -- Load Step #3										
VFD VFD, 3 Phase, Rating: 10, VFD Type: 6 Pulse	1	9.67	10.74	0.90	9.67	10.74				
Step Totals:		9.67	10.74	0.90	9.67	10.74	0.18	0.02	2.8/2.8/2.8	
Cum. Totals:		142.67	159.21	0.90						

Step #4 -- Load Step #4										
Motor Motor, Horsepower: 400, 3 Phase, Code G, Loaded Motor, Starting Method: Solid State	1	323.00	366.00	0.88	219.60	1098.00				
Step Totals:		323.00	366.00	0.88	219.60	1098.00	18.65	2.32	2.8/2.8/2.8	
Cum. Totals:		465.67	525.21	0.89						
Grand Totals:		465.67	525.21	0.89			18.65%	2.32%	2.8	

Frequency Dip information is based on estimated data.