



Virtual UPS Sizing Eaton 9395/9395P

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Virtual Sizing

- Virtual sizing refers to the ability to specifically size the capacity of a UPS to perfectly match a particular circuit ampacity. Virtual sizing can maximize the usage efficiency of available utility circuits, increasing computing capability of a given electrical circuit

Example #1

- Customer has an 800A circuit available (800A circuit breaker) for the UPS feed
- The need is to maximize the ampere usage of the circuit
- Calculations:
 - $800A \times (480 \times 1.732) \times .85 = \sim 565kW$ of load capacity
 - .85 refers to the 115% required on the input of the UPS to charge the battery and provide the power required to run the unit
- In this example the customer would be fitted to a 9395-565kW adding an additional 15kW of power over the 550kW we offer today
- Note: with current higher efficiencies at the UPS, the same battery re-charging can be accomplished with an input of 112.5% as we have improved UPS efficiencies by 2.5%. This would further allow for more delivered power in this example
- *582kW of output capacity can be delivered @ an input setting of 112.5%*

Example #2

- Customer has an 3000A circuit available (3000A circuit breaker) for the UPS feed
- The need is to maximize the ampere usage of the circuit
- Calculations:
 - $3000A \times (480 \times 1.732) \times .875 = \sim 2181kW$ of load capacity
- In this example the customer would be fitted to two 9395-1090kW adding an additional 180kW of power over the twin 1000kW units we offer today

Sizing Tool (available in Excel Spreadsheet)

Percent for UPS Losses and Battery Charging:			12%			Circuit Downsize: (headway)	95%	
UPS Size in KVA	Output Amps	Input Amps	Input Breaker Size	Usage		Circuit Breaker	UPS Output Size in KVA	
500	602	674	800	84.2%		800	556	Frame
550	662	741	800	92.7%		1000	695	
625	752	842	1000	84.2%		1200	834	Frame
750	903	1011	1200	84.2%		1600	1112	
800	963	1078	1200	89.9%		2000	1389	Frame
825	993	1112	1200	92.7%		2500	1737	
900	1083	1213	1600	75.8%		3000	2084	Frame
						4000	2779	Frame
1000	1203	1348	1600	84.2%		5000	3474	Frame
1100	1324	1483	1600	92.7%				
1200	1444	1617	2000	80.9%				
1300	1564	1752	2000	87.6%				
1400	1685	1887	2000	94.3%				
1500	1805	2022	2500	80.9%				

Allows for UPS to feeder sizing or feeder sizing to UPS output capacity

Customer Benefit

- Allows the customer to perfectly fit the UPS to the available utility current
- The flexibility of our products allows for this to be easily configured via computer interface and firmware settings
- Maximize critical power delivered to server racks without increasing infrastructure costs!

