Brushlessgimbal.ca (Blackreaction.LLC)

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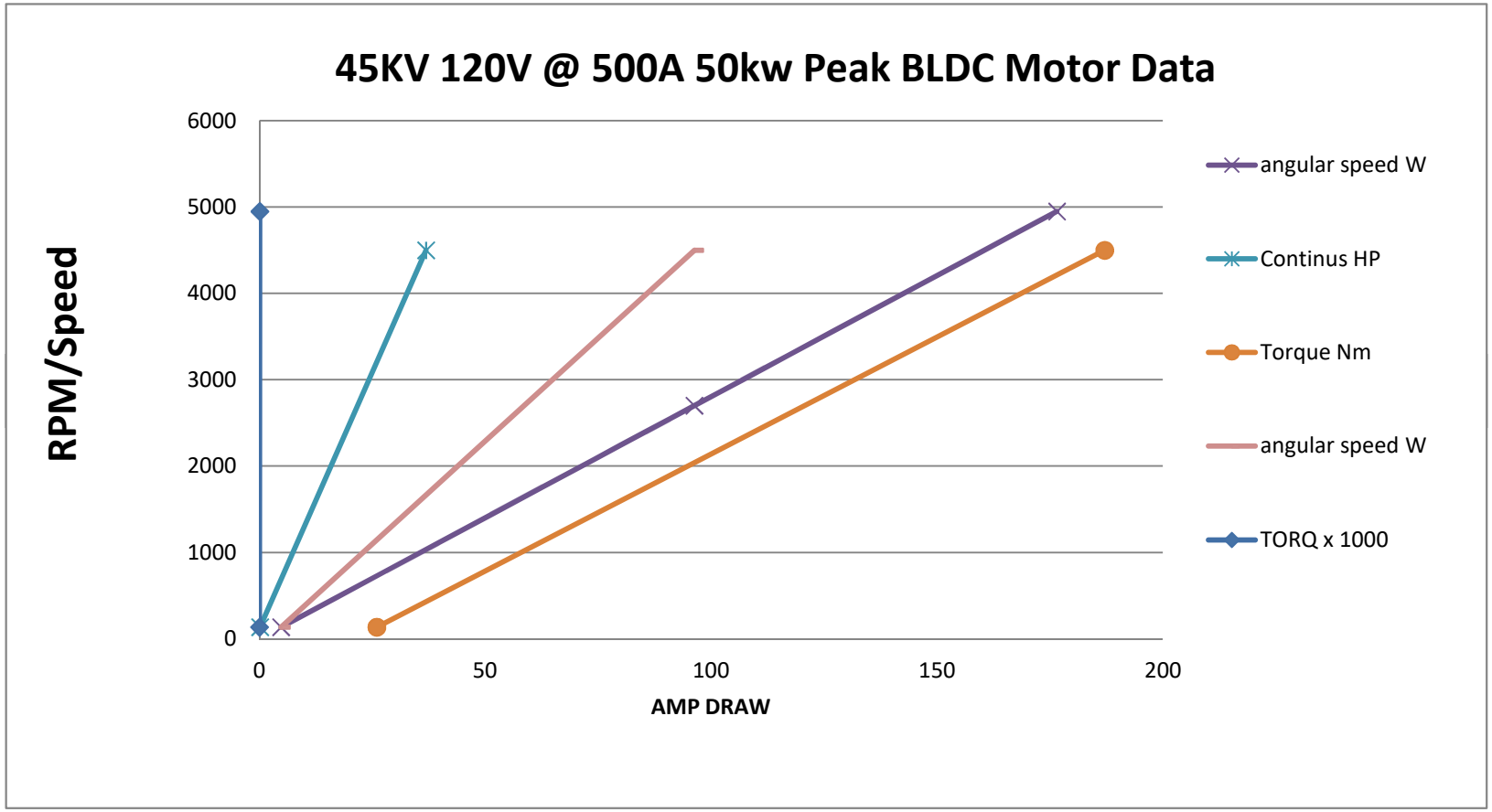
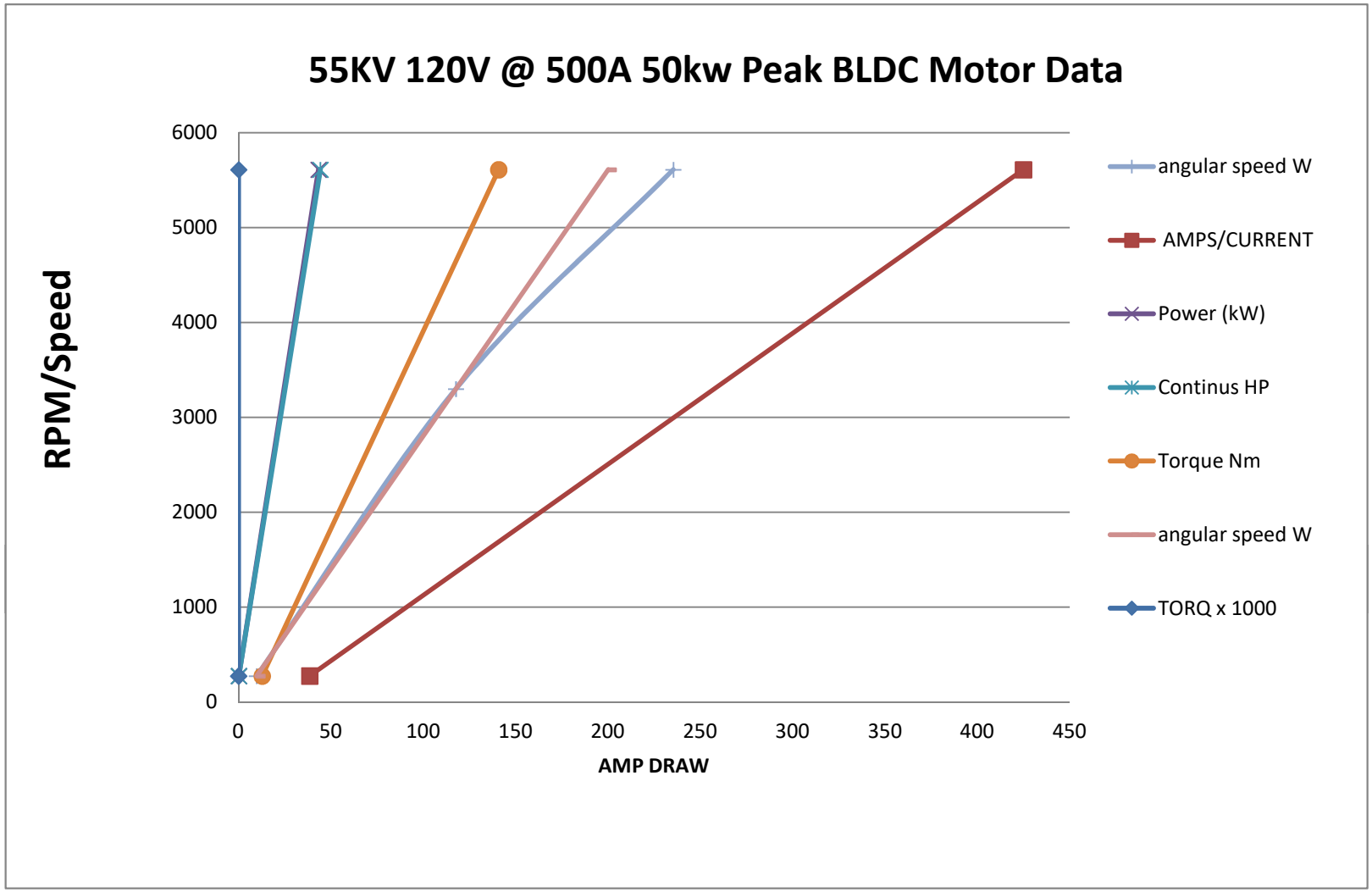
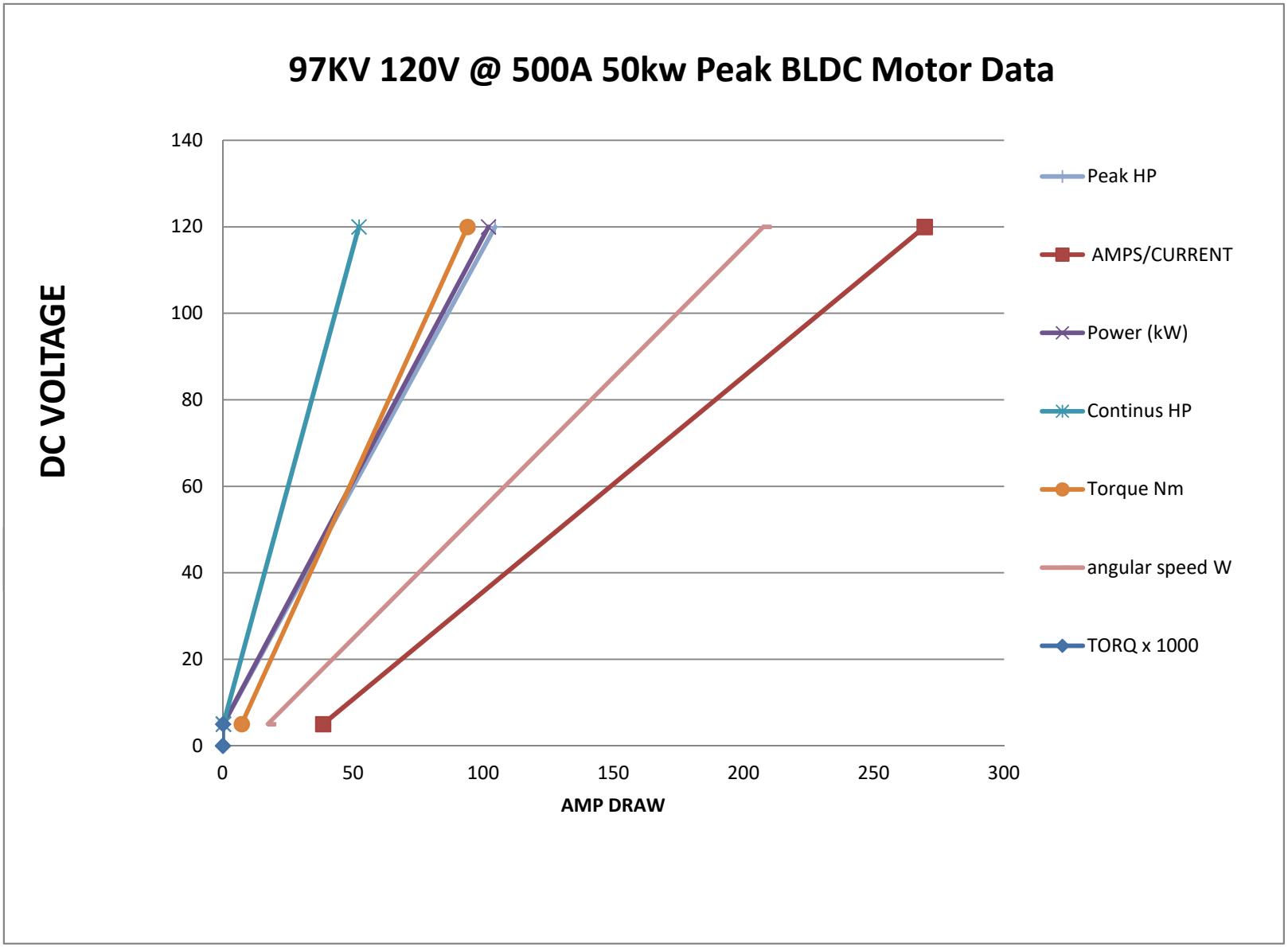
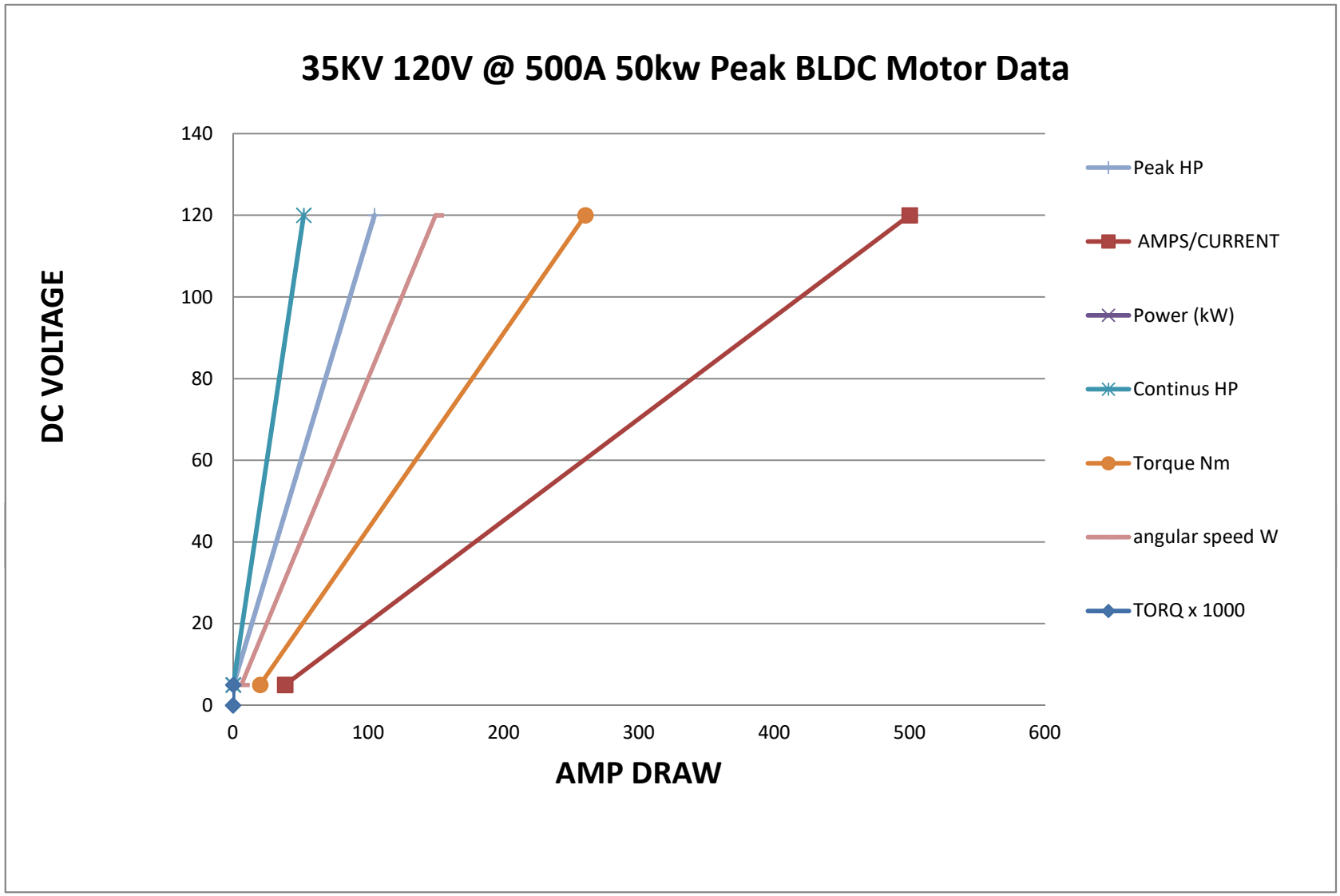
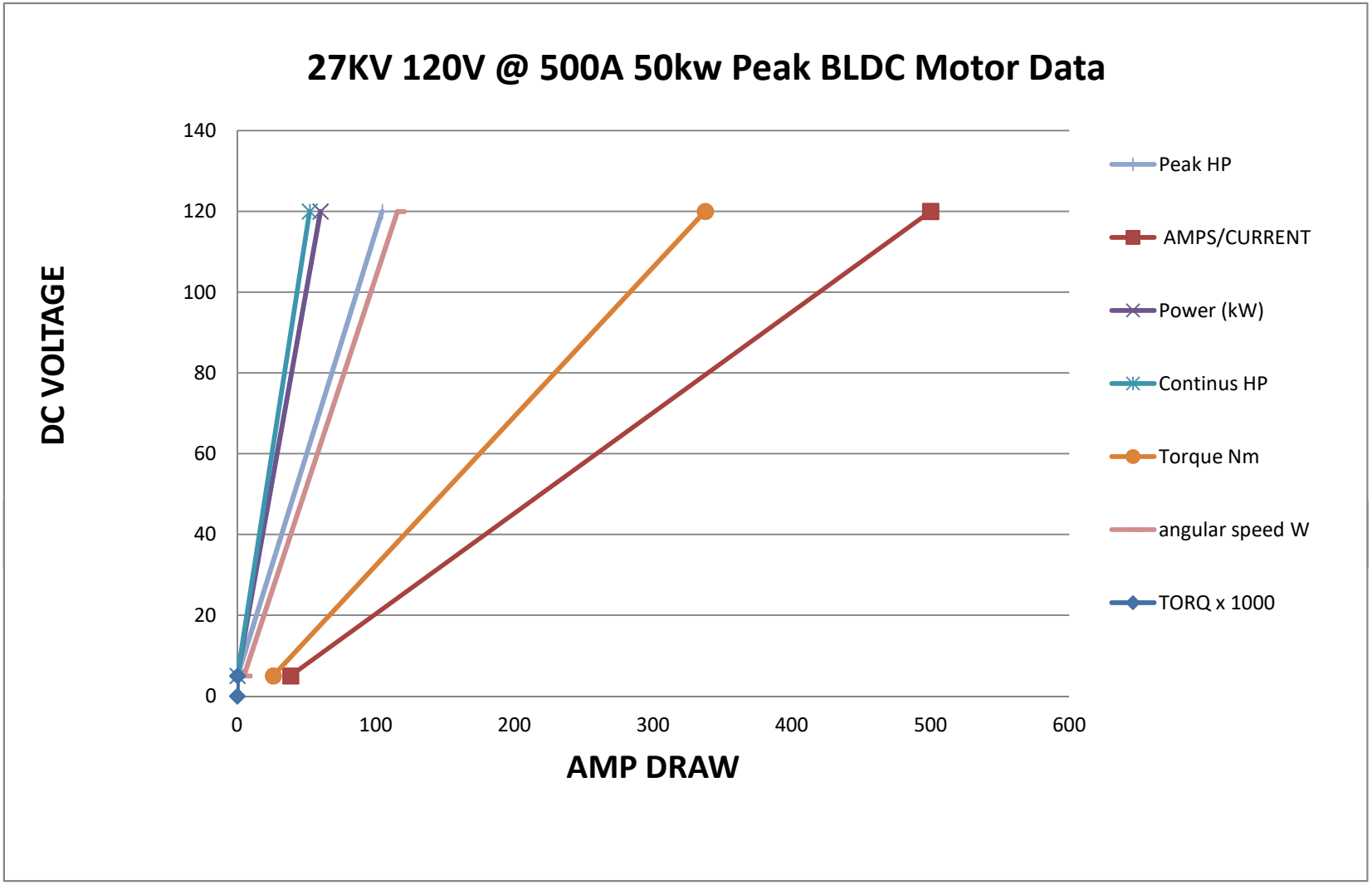



55KV 120V @ 500A 50kw Peak BLDC Motor Data
RPM/Speed
6000
5000
4000
3000
2000
1000
0
0
50
100
150
200
250
300
350
400
450
AMP DRAW
angular speed W
AMPS/CURRENT
Power (kW)
Continus HP
Torque Nm
angular speed W
TORQ x 1000


97KV 120V @ 500A 50kw Peak BLDC Motor Data
DC VOLTAGE
140
120
100
80
60
40
20
0
0
50
100
150
200
250
300
AMP DRAW
Peak HP
AMPS/CURRENT
Power (kW)
Continus HP
Torque Nm
angular speed W
TORQ x 1000


35KV 120V @ 500A 50kw Peak BLDC Motor Data
DC VOLTAGE
140
120
100
80
60
40
20
0
0
100
200
300
400
500
600
AMP DRAW
Peak HP
AMPS/CURRENT
Power (kW)
Continus HP
Torque Nm
angular speed W
TORQ x 1000


27KV 120V @ 500A 50kw Peak BLDC Motor Data
DC VOLTAGE
140
120
100
80
60
40
20
0
0
100
200
300
400
500
600
AMP DRAW
Peak HP
AMPS/CURRENT
Power (kW)
Continus HP
Torque Nm
angular speed W
TORQ x 1000

DC VOLTIGE	RPM/SPEED (	TORQ x 1000	AMPS/C	Input Power W	Power (kW)	Continus HP	Torque Nm	Peak HP	angular speed W
5	485	0.003789988	38.5	192.5	0.1925	0.167727882	7.233355815	0.3354558	17.29833333
10	970	0.007579975	77	770	0.77	0.670911528	14.46671163	1.3418231	34.59666667
20	1940	0.011369963	115.5	2310	2.31	2.012734584	21.70006744	4.0254692	69.19333333
30	2910	0.015159951	154	4620	4.62	4.025469169	28.93342326	8.0509383	103.79
40	3880	0.018989315	192.9	7716	7.716	6.7230563	36.24193082	13.446113	138.3866667
50	4850	0.022739926	231	11550	11.55	10.06367292	43.40013489	20.127346	172.9833333
60	5820	0.026529913	269.5	16170	16.17	14.08914209	50.6334907	28.178284	207.58
70	6790	0.030319901	308	21560	21.56	18.78552279	57.86684652	37.571046	242.1766667
80	7760	0.034109889	346.5	27720	27.72	24.15281501	65.10020233	48.30563	276.7733333
90	8730	0.037899876	385	34650	34.65	30.19101877	72.33355815	60.382038	311.37
100	9700	0.041689864	423.5	42350	42.35	36.90013405	79.56691396	73.800268	345.9666667
110	10670	0.045479852	462	50820	50.82	44.28016086	86.80026978	88.560322	380.5633333
120	11640	0.049220619	500	60000	60	52.27882038	93.9396859	104.55764	415.16
102	9894	0.098441237	1000	102000	102	88.87399464	187.8793718	177.74799	352.886

Torque = (I * V * E *60) / (rpm * 2π)
EFICENCY 0.65 Estmate
Torque = HP X 5252 / RPM OR
Torque (N.m) = 9.5488 x Power (kW) / Speed (RPM)
volts x amps = watts / 1000=kw
KV = RPM x Volts
I=V/R
BASED ON 500 Amp ESC or 1000amp ESC

DC VOLTIG	RPM/SPEED (35KV)	TORQ x 1000	AMPS/(	Input Power V	Power (kW)	Continus HP	Torque Nm	Peak HP	angular speed W
5	175	0.01050368	38.5	192.5	0.1925	0.16772788	20.04672897	0.3354558	6.241666667
10	350	0.02100736	77	770	0.77	0.67091153	40.09345794	1.3418231	12.48333333
20	700	0.03151104	115.5	2310	2.31	2.01273458	60.14018692	4.0254692	24.96666667
30	1050	0.04201472	154	4620	4.62	4.02546917	80.18691589	8.0509383	37.45
40	1400	0.052627529	192.9	7716	7.716	6.7230563	100.4419226	13.446113	49.93333333
50	1750	0.06302208	231	11550	11.55	10.0636729	120.2803738	20.127346	62.41666667
60	2100	0.07352576	269.5	16170	16.17	14.0891421	140.3271028	28.178284	74.9
70	2450	0.08402944	308	21560	21.56	18.7855228	160.3738318	37.571046	87.38333333
80	2800	0.09453312	346.5	27720	27.72	24.152815	180.4205607	48.30563	99.86666667
90	3150	0.1050368	385	34650	34.65	30.1910188	200.4672897	60.382038	112.35
100	3500	0.11554048	423.5	42350	42.35	36.900134	220.5140187	73.800268	124.8333333
110	3850	0.12604416	462	50820	50.82	44.2801609	240.5607477	88.560322	137.3166667
120	4200	0.136411429	500	60000	60	52.2788204	260.3471295	104.55764	149.8

Torque = (I * V * E *60) / (rpm * 2π)
EFICENCY 0.65 Estmate
Torque = HP X 5252 / RPM OR
Torque (N.m) = 9.5488 x Power (kW) / Speed (RPM)
volts x amps = watts / 1000=kw
KV = RPM x Volts
I=V/R
BASED ON 500 Amp ESC or 1000amp ESC

DC VOLTIGE	RPM/SPEED (27KV)	TORQ x 1000	AMPS/(	Input Power W	Power (kW)	Continus HP	Torque Nm	Peak HP	angular speed W
5	135	0.013615881	38.5	192.5	0.1925	0.167727882	25.98650052	0.3354558	4.815
10	270	0.027231763	77	770	0.77	0.670911528	51.97300104	1.3418231	9.63
20	540	0.040847644	115.5	2310	2.31	2.012734584	77.95950156	4.0254692	19.26
30	810	0.054463526	154	4620	4.62	4.025469169	103.9460021	8.0509383	28.89
40	1080	0.068220871	192.9	7716	7.716	6.7230563	130.2024922	13.446113	38.52
50	1350	0.081695289	231	11550	11.55	10.06367292	155.9190031	20.127346	48.15
60	1620	0.09531117	269.5	16170	16.17	14.08914209	181.9055036	28.178284	57.78
70	1890	0.108927052	308	21560	21.56	18.78552279	207.8920042	37.571046	67.41
80	2160	0.122542933	346.5	27720	27.72	24.15281501	233.8785047	48.30563	77.04
90	2430	0.136158815	385	34650	34.65	30.19101877	259.8650052	60.382038	86.67
100	2700	0.149774696	423.5	42350	42.35	36.90013405	285.8515057	73.800268	96.3
110	2970	0.163390578	462	50820	50.82	44.28016086	311.8380062	88.560322	105.93
120	3240	0.17682963	500	60000	60	52.27882038	337.4870197	104.55764	115.56

Torque = (I * V * E *60) / (rpm * 2π)
EFICENCY 0.65 Estmate
Torque = HP X 5252 / RPM OR
Torque (N.m) = 9.5488 x Power (kW) / Speed (RPM)
volts x amps = watts / 1000=kw
KV = RPM x Volts
I=V/R
BASED ON 500 Amp ESC or 1000amp ESC

DC VOLTIGE	RPM/SPEED (45KV)	TORQ x 1000	AMPS/C	Input Power V	Power (kW)	Continus HP	Torque Nm	Peak HP	angular speed W
5	135	0.013615881	38.5	192.5	0.1925	0.16772788	25.9865005	0.33545576	4.815
10	450	0.016339058	77	770	0.77	0.67091153	31.1838006	1.34182306	16.05
20	900	0.024508587	115.5	2310	2.31	2.01273458	46.7757009	4.02546917	32.1
30	1350	0.032678116	154	4620	4.62	4.02546917	62.3676012	8.05093834	48.15
40	1800	0.040932523	192.9	7716	7.716	6.7230563	78.1214953	13.4461126	64.2
50	2250	0.049017173	231	11550	11.55	10.0636729	93.5514019	20.1273458	80.25
60	2700	0.057186702	269.5	16170	16.17	14.0891421	109.143302	28.1782842	96.3
70	3150	0.065356231	308	21560	21.56	18.7855228	124.735202	37.5710456	112.35
80	3600	0.07352576	346.5	27720	27.72	24.152815	140.327103	48.30563	128.4
90	4050	0.081695289	385	34650	34.65	30.1910188	155.919003	60.3820375	144.45
100	4500	0.089864818	423.5	42350	42.35	36.900134	171.510903	73.8002681	160.5
110	4950	0.098034347	462	50820	50.82	44.2801609	187.102804	88.5603217	176.55
120	5400	0.106097778	500	60000	60	52.2788204	202.492212	104.557641	192.6

Torque = (I * V * E *60) / (rpm * 2π)
EFICENCY 0.65 Estmate
Torque = HP X 5252 / RPM OR
Torque (N.m) = 9.5488 x Power (kW) / Speed (RPM)
volts x amps = watts / 1000=kw
KV = RPM x Volts
I=V/R
BASED ON 500 Amp ESC or 1000amp ESC

DC VOLTIG	RPM/SPEED (55KV)	TORQ x 1000	AMPS/	Input Power W	Power (kW)	Continus HP	Torque Nm	Peak HP	angular speed W
5	275	0.00668416	38.5	192.5	0.1925	0.167727882	12.75700935	0.33546	9.808333
10	550	0.01336832	77	770	0.77	0.670911528	25.51401869	1.34182	19.61667
20	1100	0.02005248	115.5	2310	2.31	2.012734584	38.27102804	4.02547	39.23333
30	1650	0.02673664	154	4620	4.62	4.025469169	51.02803738	8.05094	58.85
40	2200	0.033490246	192.9	7716	7.716	6.7230563	63.91758709	13.4461	78.46667
50	2750	0.04010496	231	11550	11.55	10.06367292	76.54205607	20.1273	98.08333
60	3300	0.04678912	269.5	16170	16.17	14.08914209	89.29906542	28.1783	117.7
70	3850	0.05347328	308	21560	21.56	18.78552279	102.0560748	37.571	137.3167
80	4400	0.06015744	346.5	27720	27.72	24.15281501	114.8130841	48.3056	156.9333
90	4950	0.0668416	385	34650	34.65	30.19101877	127.5700935	60.382	176.55
100	5500	0.07352576	423.5	42350	42.35	36.90013405	140.3271028	73.8003	196.1667
102	5610	0.073786182	425	43350	43.35	37.77144772	140.8241291	75.5429	200.09
102	5610	0.08020992	462	47124	47.124	41.05978552	153.0841121	82.1196	200.09
120	6600	0.086807273	500	60000	60	52.27882038	165.675446	104.558	235.4

Torque = (I * V * E *60) / (rpm * 2π)
EFICENCY 0.65 Estmate
Torque = HP X 5252 / RPM OR
Torque (N.m) = 9.5488 x Power (kW) / Speed (RPM)
volts x amps = watts / 1000=kw
KV = RPM x Volts
I=V/R
BASED ON 500 Amp ESC or 1000amp ESC