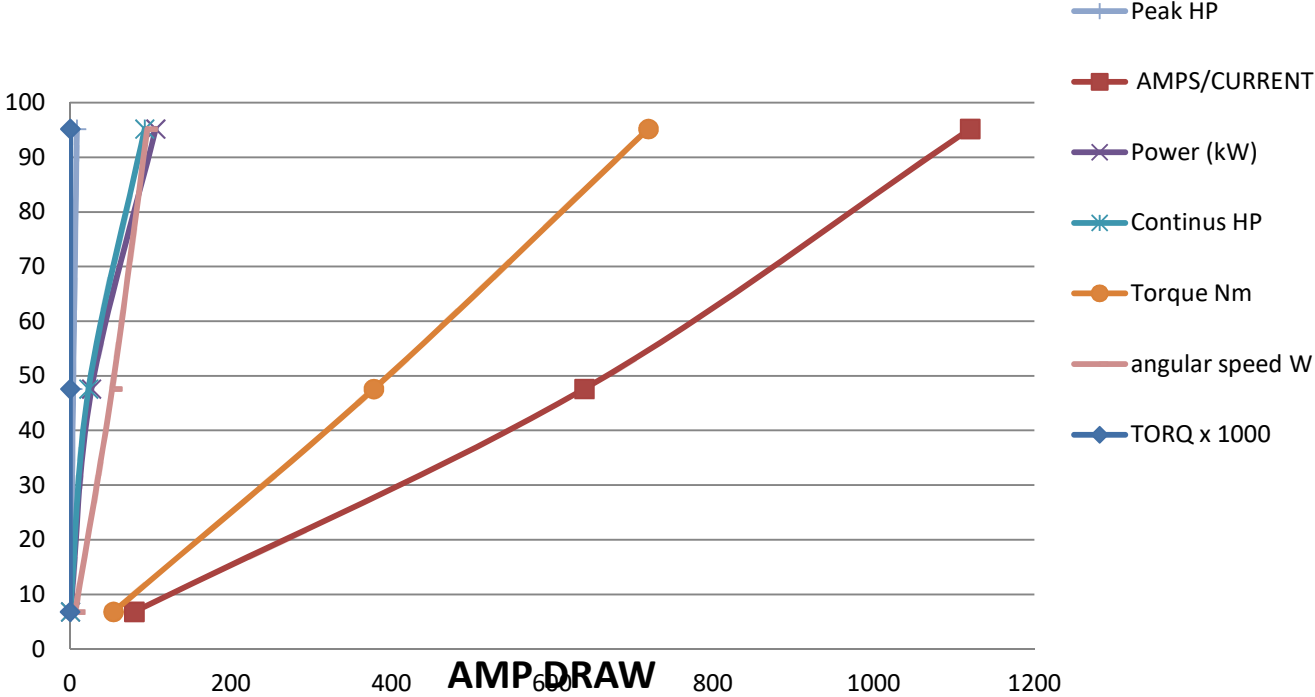
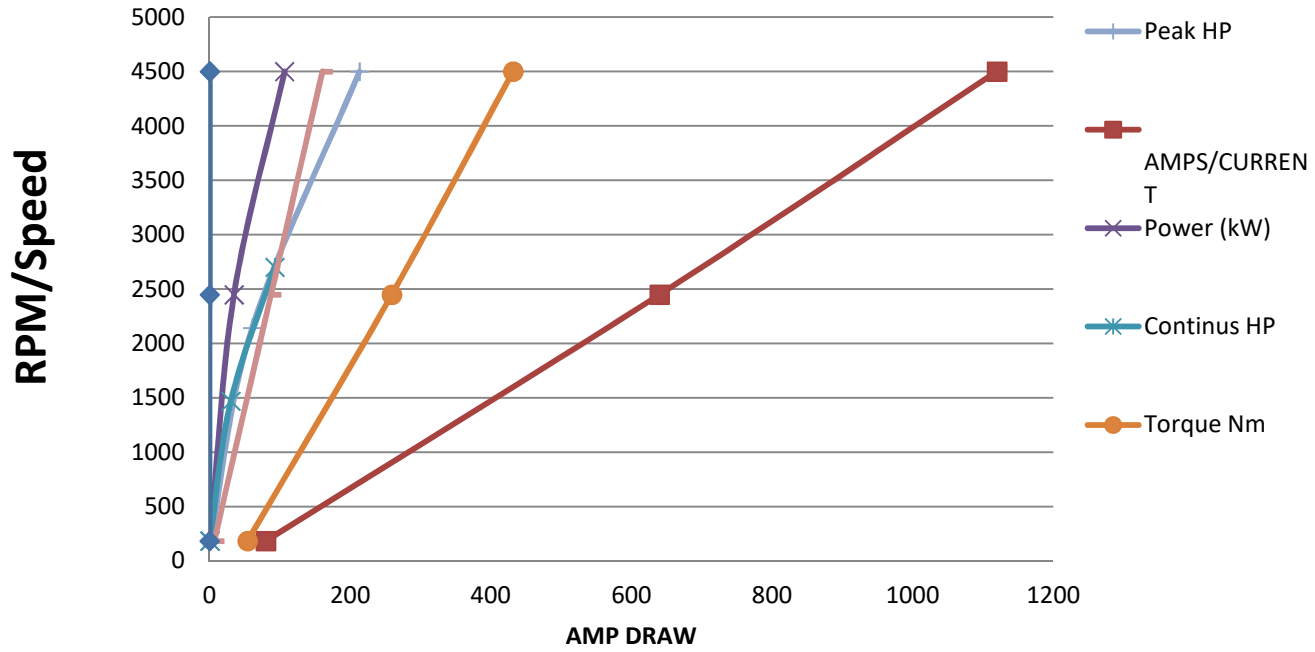


27KV 102V @ 1200A 100kw Peak BLDC Motor Data

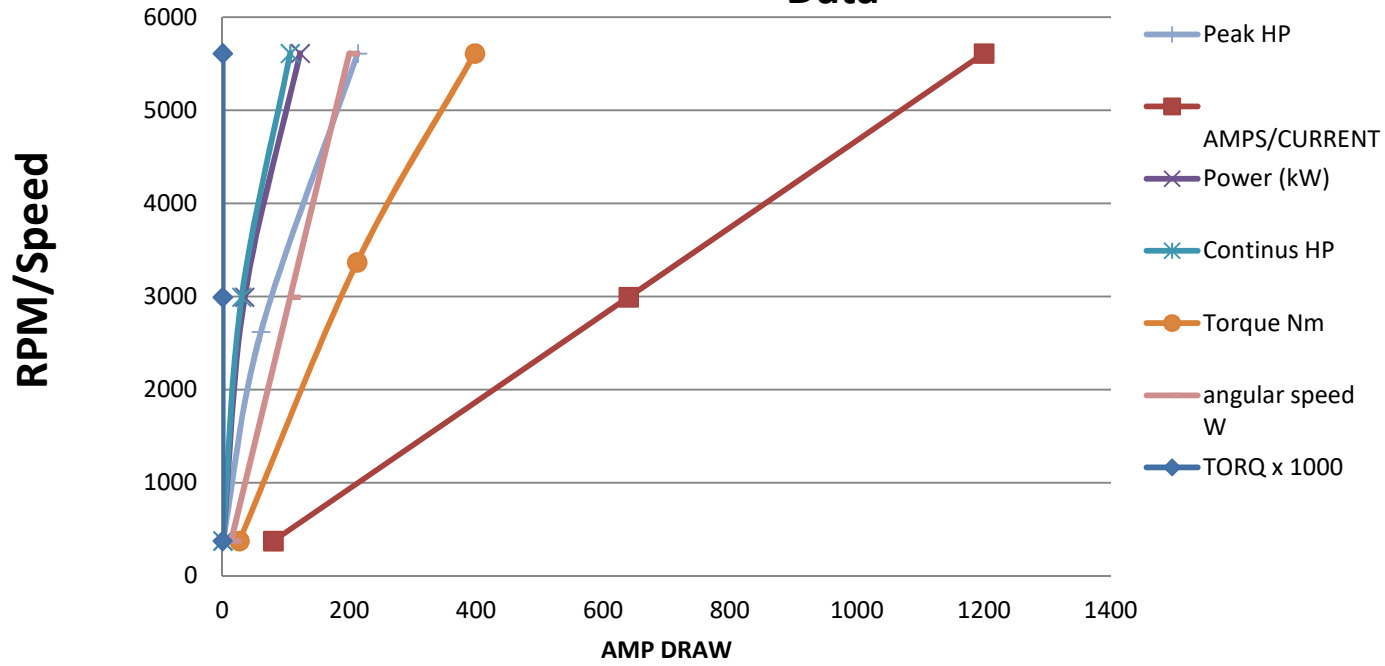
DC VOLTAGE



45KV 102V @ 1200A 100kw Peak BLDC Motor Data



55KV 102V @ 1200A 100kw halbach array BLDC Motor Data



DC VOLTAGE	RPM/SPEED (45KV)	TORQ x 1000	AMPS/C	Input Power	Power (kW)	Continus HP	Torque Nm	Peak HP	angular speed W
6.8	183.6	0.028292741	80	544	0.544	0.47399464	53.9979232	0.94798928	6.5484
13.6	612	0.033951289	160	2176	2.176	1.89597855	64.7975078	3.7919571	21.828
20.4	918	0.050926933	240	4896	4.896	4.26595174	97.1962617	8.53190349	32.742
27.2	1224	0.067902578	320	8704	8.704	7.58391421	129.595016	15.1678284	43.656
34	1530	0.084878222	400	13600	13.6	11.849866	161.993769	23.6997319	54.57
40.8	1836	0.101853867	480	19584	19.584	17.063807	194.392523	34.1276139	65.484
47.6	2142	0.118829511	560	26656	26.656	23.2257373	226.791277	46.4514745	76.398
54.4	2448	0.135805156	640	34816	34.816	30.3356568	259.190031	60.6713137	87.312
61.2	2754	0.1527808	720	44064	44.064	38.3935657	291.588785	76.7871314	98.226
68	3060	0.169756444	800	54400	54.4	47.3994638	323.987539	94.7989276	109.14
74.8	3366	0.186732089	880	65824	65.824	57.3533512	356.386293	114.706702	120.054
81.6	3672	0.203707733	960	78336	78.336	68.2552279	388.785047	136.510456	130.968
88.4	3978	0.220683378	1040	91936	91.936	80.1050938	421.183801	160.210188	141.882
95.2	4500	0.226251389	1120	106624	106.624	92.9029491	431.810592	185.805898	160.5
102	4500	0.25972736	1200	122400	122.4	106.648794	495.700935	213.297587	160.5

$Torque = (I * V * E * 60) / (rpm * 2\pi)$

EFICENCY 0.65 Estimate

$Torque = HP * 5252 / RPM$ OR

$Torque (N.m) = 9.5488 * Power (kW) / Speed (RPM)$

$volts * amps = watts / 1000 = kW$

$KV = RPM * Volts$

$I = V / R$

BASED ON 500 Amp ESC or 1000amp ESC

recomended prop size 42x12 50x12 60x12

DC VOLTIGE	RPM/SPEED (35KV)	TORQ x 1000	AMPS/C	Input Power V	Power (kW)	Continus HP	Torque Nm	Peak HP	angular speed W
6.8	238	0.021825829	80	544	0.544	0.47399464	41.65554072	0.947989	8.488666667
13.6	476	0.043651657	160	2176	2.176	1.89597855	83.31108144	3.791957	16.977333333
20.4	714	0.065477486	240	4896	4.896	4.26595174	124.9666222	8.531903	25.466
27.2	952	0.087303314	320	8704	8.704	7.58391421	166.6221629	15.16783	33.95466667
34	1190	0.109129143	400	13600	13.6	11.849866	208.2777036	23.69973	42.443333333
40.8	1428	0.130954971	480	19584	19.584	17.063807	249.9332443	34.12761	50.932
47.6	1666	0.1527808	560	26656	26.656	23.2257373	291.588785	46.45147	59.42066667
54.4	1904	0.174606629	640	34816	34.816	30.3356568	333.2443258	60.67131	67.909333333
61.2	2142	0.196432457	720	44064	44.064	38.3935657	374.8998665	76.78713	76.398
68	2380	0.218258286	800	54400	54.4	47.3994638	416.5554072	94.79893	84.88666667
74.8	2618	0.240084114	880	65824	65.824	57.3533512	458.2109479	114.7067	93.375333333
81.6	2856	0.261909943	960	78336	78.336	68.2552279	499.8664887	136.5105	101.864
88.4	3094	0.283735771	1040	91936	91.936	80.1050938	541.5220294	160.2102	110.3526667
95.2	3500	0.290894643	1120	106624	106.624	92.9029491	555.1850467	185.8059	124.833333333
102	3500	0.333935177	1200	122400	122.4	106.648794	637.329773	213.2976	124.833333333

$Torque = (I * V * E * 60) / (rpm * 2\pi)$

EFICENCY 0.65 Estimate

$Torque = HP * 5252 / RPM$ OR

$Torque (N.m) = 9.5488 * Power (kW) / Speed (RPM)$

$volts * amps = watts / 1000 = kW$

$KV = RPM * Volts$

$I = V / R$

BASED ON 500 Amp ESC or 1000amp ESC

recomended prop size 42x12 50x12 60x12

DC VOLTAGE	RPM/SPEED (27KV)	TORQ x 1000	AMPS/	Input Power W	Power (k	Continus HP	Torque Nm	Peak HP	angular speed W
6.8	183.6	0.028292741	80	544	0.544	0.473994638	53.99792316	0.947989276	6.5484
13.6	367.2	0.056585481	160	2176	2.176	1.895978552	107.9958463	3.791957105	13.0968
20.4	550.8	0.084878222	240	4896	4.896	4.265951743	161.9937695	8.531903485	19.6452
27.2	734.4	0.113170963	320	8704	8.704	7.583914209	215.9916926	15.16782842	26.1936
34	918	0.141463704	400	13600	13.6	11.84986595	269.9896158	23.6997319	32.742
40.8	1101.6	0.169756444	480	19584	19.584	17.06380697	323.9875389	34.12761394	39.2904
47.6	1285.2	0.198049185	560	26656	26.656	23.22573727	377.9854621	46.45147453	45.8388
54.4	1468.8	0.226341926	640	34816	34.816	30.33565684	431.9833853	60.67131367	52.3872
61.2	1652.4	0.254634667	720	44064	44.064	38.39356568	485.9813084	76.78713137	58.9356
68	1836	0.282927407	800	54400	54.4	47.39946381	539.9792316	94.79892761	65.484
74.8	2019.6	0.311220148	880	65824	65.824	57.35335121	593.9771547	114.7067024	72.0324
81.6	2203.2	0.339512889	960	78336	78.336	68.25522788	647.9750779	136.5104558	78.5808
88.4	2386.8	0.36780563	1040	91936	91.936	80.10509383	701.973001	160.2101877	85.1292
95.2	2700	0.377085649	1120	106624	106.62	92.90294906	719.6843198	185.8058981	96.3
102	2700	0.432878933	1200	122400	122.4	106.6487936	826.1682243	213.2975871	96.3

DC VOLTIGE	RPM/SPEED (55KV)	TORQ x 1000	AMPS/(Input Power	\Power (Continus HP	Torque Nm	Peak HP	angular speed W
6.8	374	0.013889164	80	544	0.544	0.473994638	26.50807137	0.9479893	13.33933
13.6	748	0.027778327	160	2176	2.176	1.895978552	53.01614274	3.7919571	26.67867
20.4	1122	0.041667491	240	4896	4.896	4.265951743	79.5242141	8.5319035	40.018
27.2	1496	0.055556655	320	8704	8.704	7.583914209	106.0322855	15.167828	53.35733
34	1870	0.069445818	400	13600	13.6	11.84986595	132.5403568	23.699732	66.69667
40.8	2244	0.083334982	480	19584	19.584	17.06380697	159.0484282	34.127614	80.036
47.6	2618	0.097224145	560	26656	26.656	23.22573727	185.5564996	46.451475	93.37533
54.4	2992	0.111113309	640	34816	34.816	30.33565684	212.0645709	60.671314	106.7147
61.2	3366	0.125002473	720	44064	44.064	38.39356568	238.5726423	76.787131	120.054
68	3740	0.138891636	800	54400	54.4	47.39946381	265.0807137	94.798928	133.3933
74.8	4114	0.1527808	880	65824	65.824	57.35335121	291.588785	114.7067	146.7327
81.6	4488	0.166669964	960	78336	78.336	68.25522788	318.0968564	136.51046	160.072
88.4	4862	0.180559127	1040	91936	91.936	80.10509383	344.6049278	160.21019	173.4113
95.2	5236	0.194448291	1120	106624	106.62	92.90294906	371.1129992	185.8059	186.7507
102	5610	0.208337455	1200	122400	122.4	106.6487936	397.6210705	213.29759	200.09

Array only

$$\text{Torque} = (I * V * E * 60) / (\text{rpm} * 2\pi)$$

EFICENCY 0.65 Estimate

$$\text{Torque} = \text{HP} * 5252 / \text{RPM OR}$$

$$\text{Torque (N.m)} = 9.5488 * \text{Power (kW)} / \text{Speed (RPM)}$$

$$\text{volts} * \text{amps} = \text{watts} / 1000 = \text{kW}$$

$$\text{KV} = \text{RPM} * \text{Volts}$$

$$I = V / R$$

BASED ON 500 Amp ESC or 1000amp ESC

recomended prop size 42x12 50x12 60x12