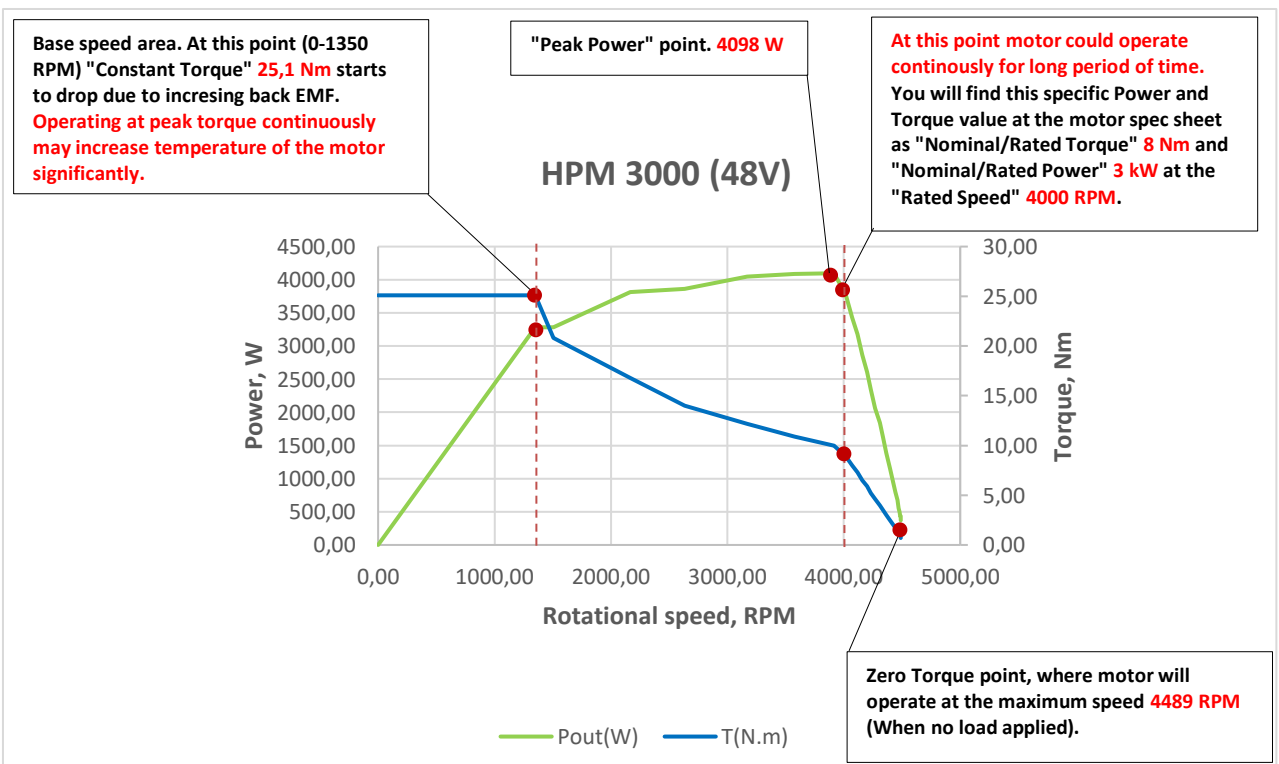


HPM 3000 (48V) Test report

Power	3KW			Rated voltage		48(V)	
				Rated current		85(A)	
Test	1			Rated power		3000(W)	
Test Date	2014-12-31			Rated speed		4000(r/m)	
No.	U(V)	I(A)	Pin(W)	T(N.m)	N(r/m)	Pout(W)	n(%)
001	48.0	14.87	715.3	0.7	4489	371	51.9
002	48.0	15.30	735.7	0.9	4487	433	58.9
003	48.0	16.07	773.0	0.9	4484	432	55.9
004	48.0	16.82	809.2	1.0	4480	494	61.0
005	48.0	18.10	870.5	1.1	4472	554	63.6
006	48.0	19.91	957.6	1.4	4461	676	70.6
007	48.0	22.67	1090	1.7	4445	796	73.0
008	48.0	26.16	1258	2.1	4421	975	77.5
009	48.0	30.02	1443	2.5	4396	1152	79.8
010	48.0	34.17	1643	3.0	4366	1384	84.2
011	48.0	38.39	1845	3.5	4339	1615	87.5
012	48.0	43.64	2097	4.0	4308	1841	87.8
013	48.0	49.07	2358	4.6	4267	2061	87.4
014	48.0	54.37	2613	5.2	4234	2338	89.5
015	48.0	59.81	2874	5.9	4200	2610	90.8
016	48.0	65.69	3157	6.5	4159	2866	90.8
017	48.0	71.96	3458	7.3	4119	3180	92.0
018	48.0	78.72	3783	8.0	4073	3425	90.5
019	48.0	87.20	4186	8.9	4017	3773	90.1
020	48.0	94.31	4527	10.0	3914	4098	90.5
021	48.0	94.55	4538	10.9	3578	4084	90.0
022	48.0	94.83	4551	12.2	3170	4050	90.0
023	48.0	94.60	4540	14.0	2632	3859	85.1
024	48.0	93.03	4465	16.8	2167	3812	85.4
025	48.0	92.81	4455	20.8	1508	3284	73.7
026	48.0	110.21	5290	25.1	1350	3558	67.3



Regarding Motor Supply Voltage / RPM and Power.

For example if motor is with windings 48V, this motor can also be run at lower (or Higher) voltages, such as 36V (or 72V). The difference is that you wouldn't get as much power output since a lower voltage is associated a lower max attainable rpm. As power (W or Nm/s) is the product of angular speed (1/seconds) and torque (nm), with the same amount of torque and a lower rpm, you would have a lower power output.

You can achieve the same amount of torque at any voltage as torque is directly dependent on current. You may see something called a torque constant, such as Nm/A or ft-lbs/A. Simply multiply by the current, and you'll get the torque output before accounting for mechanical and electrical losses.

The main limiting factor on the amount of current you can pump into a motor is heat, which can melt the insulating varnish if too high.

At respectively currents **the motor torque at any supply voltage (36V or 48V or 72V) will be the same.**

Duration of max Power / Torque is defined by motor (& controller) overheating.

Therefore, if motor (& controller) cooling is very good duration time of max Power / Torque can last for longer.

