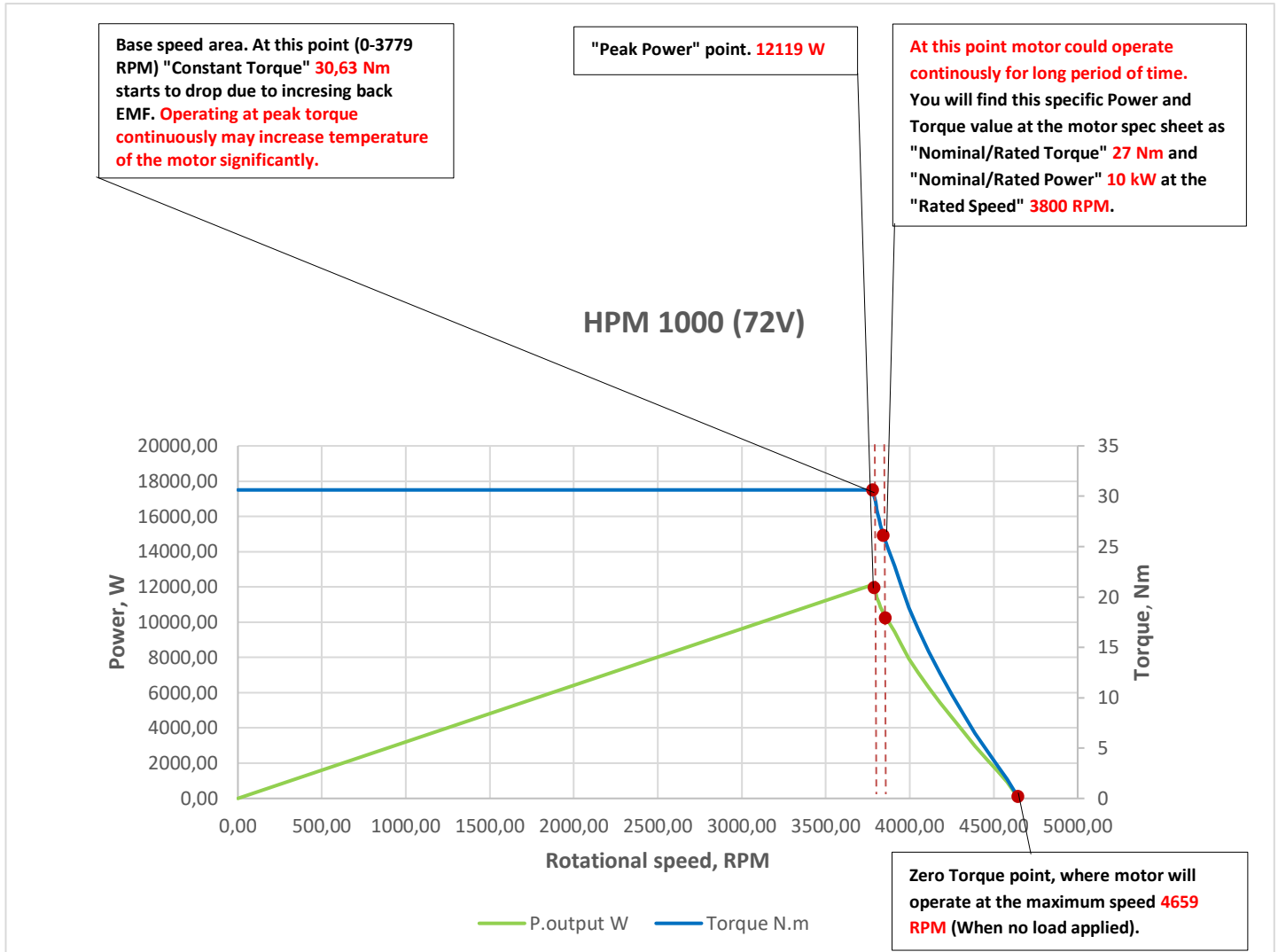


## HPM 10000 (72V) Test report

**Company:**

**Type:** HPM48-10000 **rated U:** 72 V  
**No.:** G20130522003 **rated I:** 250 A  
**Operator:** 001 **rated P.:** 10000 W  
**Date:** 2013-5-22 **rated N:** 3800 RPM

Items NO.	Voltage V	Current A	P.input W	P. factor PF	Frequency Hz	Torque mN.m	Rotate Rpm	P.output W	Efficiency %
1	71.83	7.297	524.11	1.000	0.00	468.0	4659	228.32	43.6
2	71.82	7.606	546.28	1.000	0.00	357.5	4658	174.37	31.9
3	71.81	9.103	653.73	1.000	0.00	147.5	4647	71.77	11.0
4	71.79	12.522	898.97	1.000	0.00	805.0	4621	389.52	43.3
5	71.75	18.159	1302.97	1.000	0.00	1917.5	4580	919.60	70.6
6	71.70	25.740	1845.49	1.000	0.00	3242.5	4525	1536.37	83.3
7	71.64	34.868	2497.87	1.000	0.00	4772.5	4460	2228.83	89.2
8	71.58	45.202	3235.65	1.000	0.00	6460.0	4388	2968.22	91.7
9	71.52	56.724	4056.79	1.000	0.00	8327.5	4320	3766.99	92.9
10	71.45	68.855	4919.31	1.000	0.00	10315.0	4251	4591.53	93.3
11	71.38	81.549	5820.60	1.000	0.00	12427.5	4181	5440.77	93.5
12	71.30	94.671	6750.04	1.000	0.00	14587.5	4114	6284.08	93.1
13	71.23	107.898	7685.30	1.000	0.00	16797.5	4052	7127.06	92.7
14	71.21	121.197	8630.78	1.000	0.00	18967.5	3996	7936.56	92.0
15	71.27	134.038	9552.52	1.000	0.00	21112.5	3949	8730.18	91.4
16	71.30	146.140	10419.78	1.000	0.00	23077.5	3910	9448.48	90.7
17	71.26	156.545	11155.40	1.000	0.00	24825.0	3872	10065.17	90.2
18	71.22	165.043	11754.33	1.000	0.00	26172.5	3842	10529.29	89.6
19	71.24	171.080	12187.74	1.000	0.00	27107.5	3825	10857.19	89.1
20	71.27	175.565	12512.52	1.000	0.00	27762.5	3816	11093.37	88.7
21	71.29	178.693	12738.54	1.000	0.00	28297.5	3809	11286.41	88.6
22	71.30	181.525	12942.28	1.000	0.00	28692.5	3803	11425.92	88.3
23	71.34	184.110	13134.41	1.000	0.00	29087.5	3800	11574.08	88.1
24	71.34	186.195	13284.08	1.000	0.00	29415.0	3797	11695.16	88.0
25	71.34	188.323	13433.99	1.000	0.00	29770.0	3791	11817.60	88.0
26	71.33	190.278	13572.49	1.000	0.00	30065.0	3787	11922.11	87.8
27	71.34	192.378	13724.21	1.000	0.00	30357.5	3783	12025.38	87.6
28	71.32	194.243	13854.35	1.000	0.00	30627.5	3779	12119.51	87.5



## 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.**