

M13842 HighProt

Specification

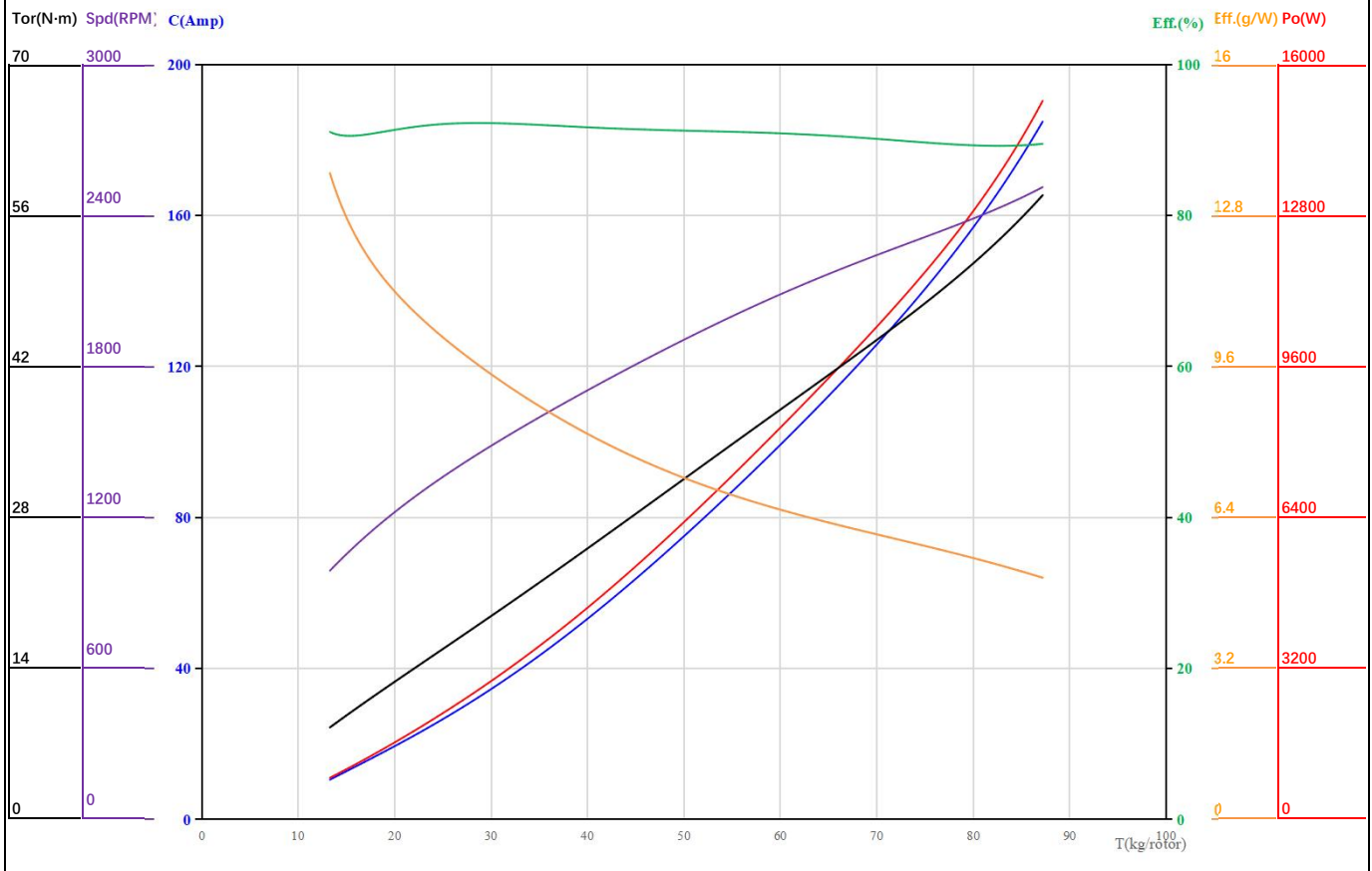
Model	M13842 HighProt	Protection level	IPX5
Motor Size	Φ150.2*H89.5mm	Slot& Pole	36N 42P
Stator Size	Φ138*H42mm	Dynamic balance	≤60mg
Stator process	High standard silicon steel sheet, rust proof, 180°C high temperature resistance paint-coat	Bearing	Water proof bearing
Enamelled wire	200°C	Motor axle diameter	Φ15mm
Magnet	180°C	Props mounting dimensions	6*M5@Φ40mm
Isolation test	1000V AC high voltage resistance test	Motor mounting dimensions	6*M6@Φ60mm
Rated power input	5100W	Rated power output	4335W

Specification

KV	34	38
Battery(LiPo)	LiPo-24S	LiPo-24S
No-load current	8.3A	10A
Maximum current (Non-hermetic Ambient Temperature ≤ 25°C)	241A	278A
Max power	22.1KW	25.5KW
Max thrust	105kg	108kg
Resistance	20.8mΩ	15.7mΩ
Wire Size	enamelledwireoutlet	enamelledwireoutlet
Wire length	200mm	200mm
Weight (With wire)	3900g	3930g

34KV+MSC 58x24 Load performance parameters

Graph



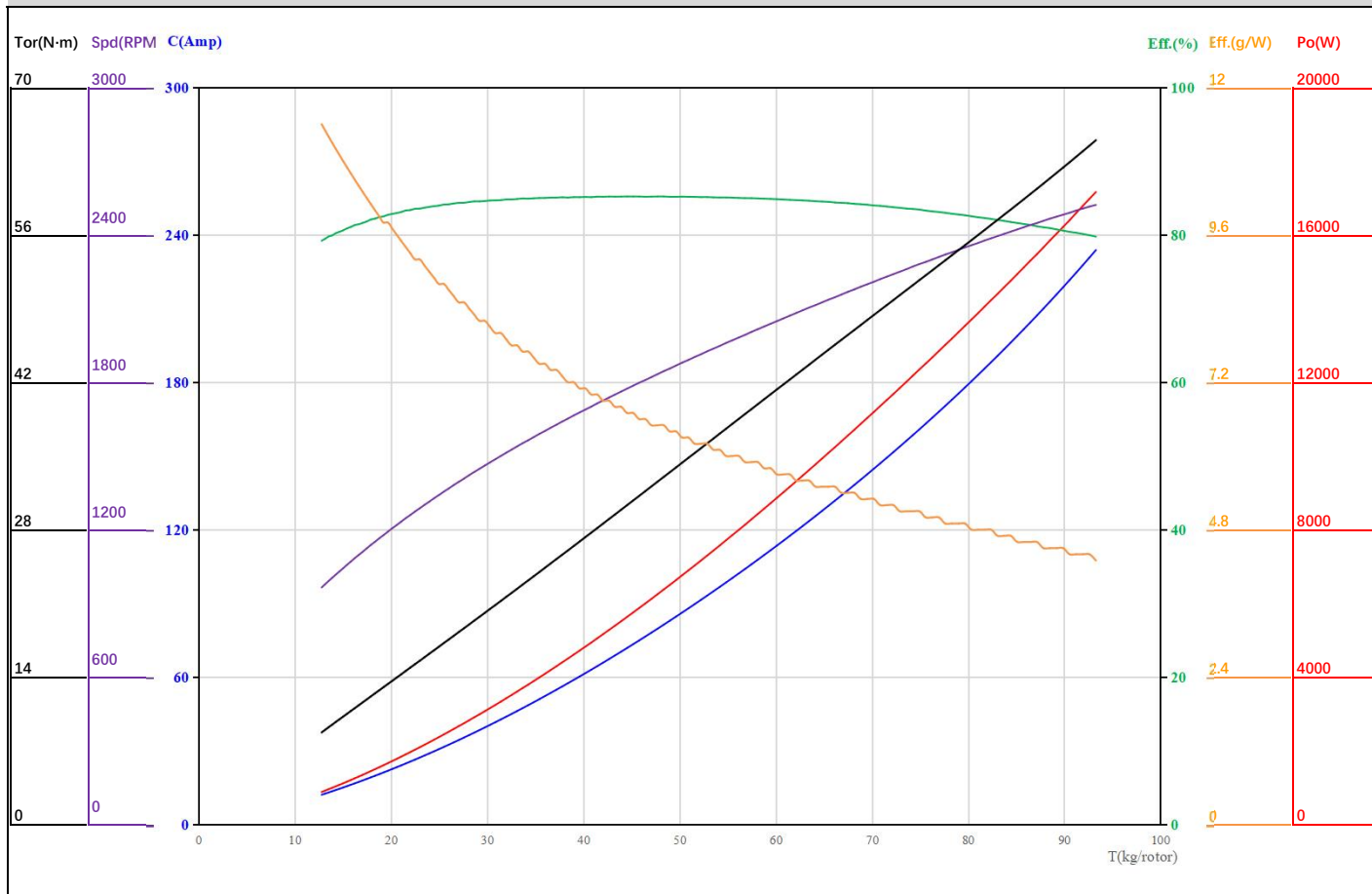
Motor Propeller Pull Test Data

Voltage(V)	Propeller	Throttle(%)	Thrust(g)	Current(A)	Power Input(W)	Speed(RPM)	Efficiency(g/W)	Torque(N-m)	Power Output(W)	Temperature(°C)
92V (24S LiPo)	MSC 58x24	33%	13594	10.9	1006.5	1001	13.5	8.73	855.5	83°C
		35%	14932	12.7	1167.3	1052	12.8	9.60	992.2	
		37%	16472	14.7	1352.6	1107	12.2	10.58	1149.7	
		39%	18172	16.9	1559.6	1164	11.7	11.64	1325.7	
		42%	20953	20.7	1907.8	1250	11.0	13.35	1621.6	
		45%	23937	25.0	2300.4	1333	10.4	15.16	1955.3	
		48%	27063	29.8	2738.6	1414	9.9	17.06	2327.8	
		51%	30295	35.0	3224.4	1492	9.4	19.04	2740.7	
		54%	33614	40.8	3760.0	1567	8.9	21.10	3196.0	
		57%	37015	47.2	4347.3	1642	8.5	23.23	3695.2	
		60%	40502	54.2	4988.4	1716	8.1	25.45	4240.1	
		63%	44087	61.8	5684.9	1790	7.8	27.75	4832.2	
		66%	47779	69.9	6438.0	1863	7.4	30.13	5472.3	
		69%	51588	78.7	7247.8	1937	7.1	32.60	6160.6	
		72%	55514	88.1	8113.4	2009	6.8	35.13	6896.4	
		75%	59546	98.1	9032.8	2079	6.6	37.72	7677.9	
		78%	63657	108.7	10003.4	2147	6.4	40.35	8502.9	
		81%	67800	119.7	11022.2	2210	6.2	43.03	9368.9	
		84%	71903	131.3	12085.5	2270	5.9	45.74	10272.7	
		87%	75864	143.2	13184.4	2327	5.8	48.48	11206.7	
		90%	79550	155.3	14295.8	2381	5.6	51.21	12151.4	
		100%	87196	184.9	17019.1	2513	5.1	57.88	14466.2	

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured after running for 10 minutes at 65% throttle, for reference only.

34KV+MSC 64x20 Load performance parameters

Graph



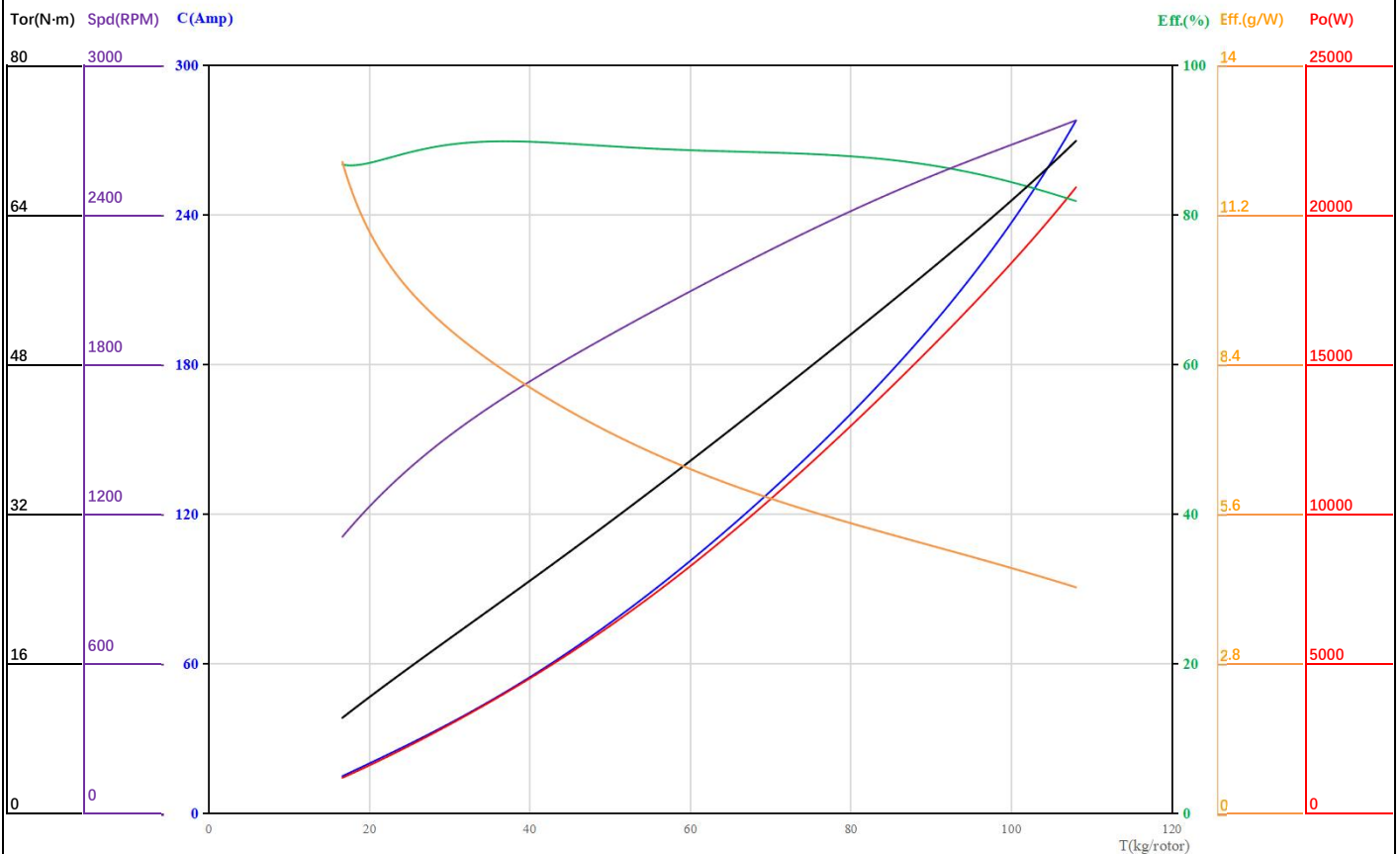
Motor Propeller Pull Test Data

Voltage(V)	Propeller	Throttle(%)	Thrust(g)	Current(A)	Power Input(W)	Speed(RPM)	Efficiency(g/W)	Torque(N·m)	Power Output(W)	Temperature(°C)
92V (24S LiPo)	MSC 64x20	33%	13483	13.1	1201.9	991	11.2	9.24	1021.6	80°C
		35%	14997	15.1	1388.7	1043	10.8	10.25	1180.4	
		37%	16609	17.4	1596.7	1097	10.4	11.32	1357.2	
		39%	18313	19.9	1826.8	1151	10.0	12.46	1552.8	
		42%	21037	24.1	2217.0	1233	9.5	14.27	1884.5	
		45%	23948	28.9	2663.3	1314	9.0	16.22	2263.8	
		48%	27031	34.4	3167.7	1395	8.5	18.29	2692.5	
		51%	30273	40.6	3733.7	1474	8.1	20.48	3173.6	
		54%	33657	47.4	4360.4	1552	7.7	22.79	3706.3	
		57%	37169	54.9	5049.7	1627	7.4	25.21	4292.2	
		60%	40794	63.0	5800.7	1701	7.0	27.72	4930.6	
		63%	44515	71.9	6612.4	1774	6.7	30.33	5620.5	
		66%	48320	81.3	7484.8	1845	6.5	33.01	6362.1	
		69%	52194	91.4	8415.2	1914	6.2	35.74	7152.9	
		72%	56124	102.2	9404.5	1982	6.0	38.52	7993.9	
		75%	60099	113.6	10451.8	2049	5.7	41.33	8884.1	
		78%	64108	125.6	11557.1	2114	5.5	44.15	9823.6	
		81%	68142	138.2	12721.3	2178	5.4	46.97	10813.1	
		84%	72192	151.6	13948.1	2240	5.2	49.80	11855.9	
		87%	76254	165.6	15241.1	2300	5.0	52.64	12954.9	
		90%	80324	180.4	16605.9	2358	4.8	55.50	14115.0	
		100%	93255	233.8	21518.5	2522	4.3	64.99	18290.7	

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured after running for 10 minutes at 65% throttle, for reference only.

38KV+MSC 58x24 Load performance parameters

Graph



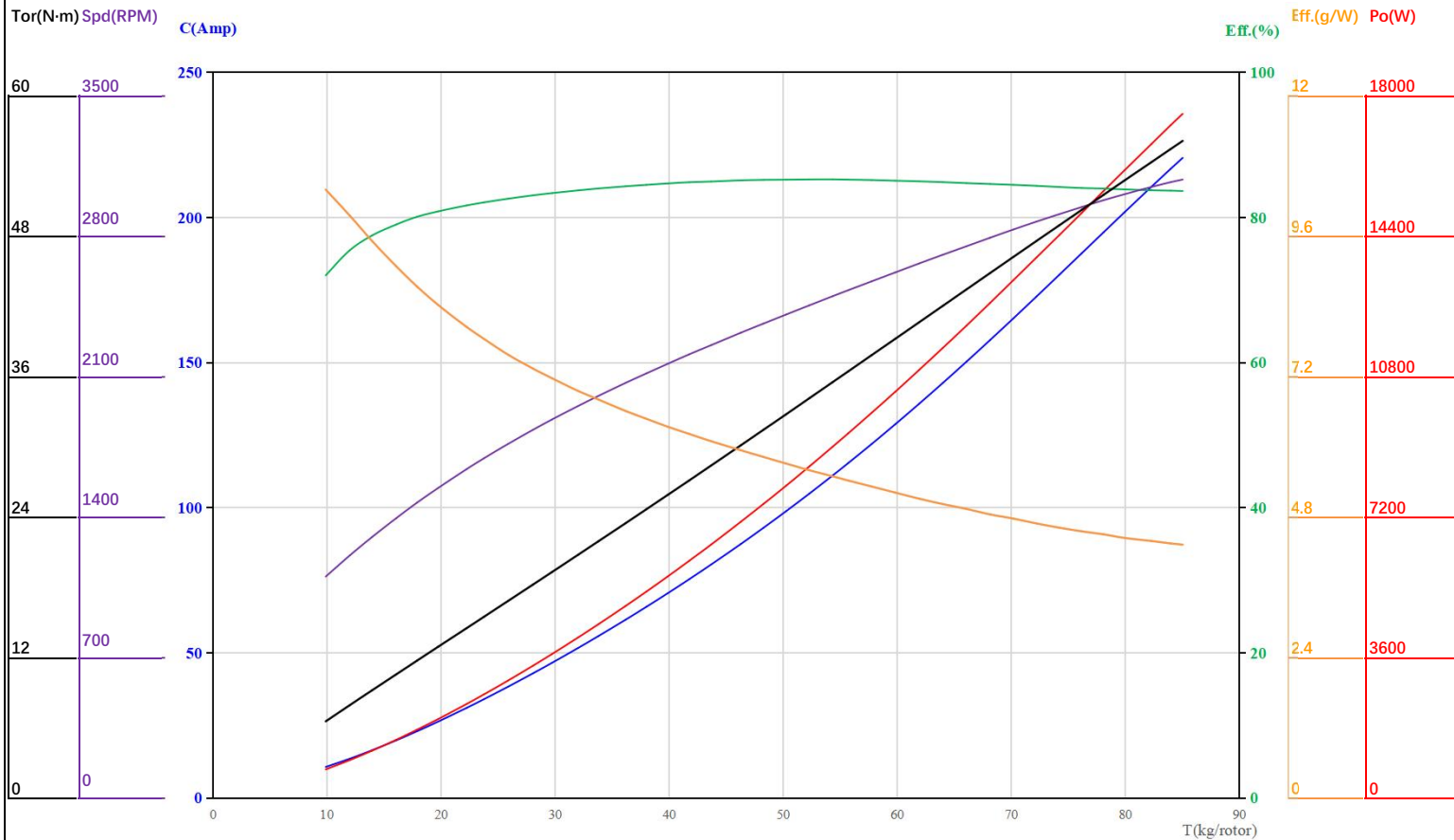
Motor Propeller Pull Test Data

Voltage(V)	Propeller	Throttle(%)	Thrust(g)	Current(A)	Power Input(W)	Speed(RPM)	Efficiency(g/W)	Torque(N-m)	Power Output(W)	Temperature(°C)
92V (24S LiPo)	MSC 58x24	33%	16980	15.4	1413.4	1121	12.0	10.43	1201.4	88.00
		35%	18505	17.7	1627.6	1177	11.4	11.44	1383.4	
		37%	20250	20.3	1873.1	1238	10.8	12.57	1592.2	
		39%	22187	23.3	2148.1	1300	10.3	13.81	1825.9	
		42%	25398	28.4	2614.0	1395	9.7	15.83	2221.9	
		45%	28911	34.2	3144.6	1487	9.2	18.01	2672.9	
		48%	32666	40.7	3742.7	1577	8.7	20.32	3181.3	
		51%	36613	47.9	4411.4	1663	8.3	22.75	3749.7	
		54%	40711	56.0	5153.5	1745	7.9	25.30	4380.5	
		57%	44927	64.9	5969.8	1826	7.5	27.94	5074.3	
		60%	49236	74.5	6859.8	1905	7.2	30.68	5830.9	
		63%	53618	85.0	7821.6	1983	6.9	33.50	6648.4	
		66%	58059	96.2	8852.3	2060	6.6	36.40	7524.4	
		69%	62547	108.1	9949.1	2136	6.3	39.38	8456.7	
		72%	67071	120.7	11109.9	2211	6.0	42.40	9443.4	
		75%	71624	134.0	12334.1	2285	5.8	45.48	10484.0	
		78%	76197	148.0	13623.4	2357	5.6	48.60	11579.9	
		81%	80778	162.8	14982.6	2426	5.4	51.75	12735.2	
		84%	85355	178.4	16419.7	2491	5.2	54.93	13956.8	
		87%	89910	195.0	17946.1	2553	5.0	58.14	15254.2	
		90%	94421	212.7	19575.9	2611	4.8	61.38	16639.5	
		100%	108030	277.7	25561.8	2778	4.2	71.88	21727.5	

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured after running for 10 minutes at 65% throttle, for reference only.

38KV+USC 54x23 Load performance parameters

Graph

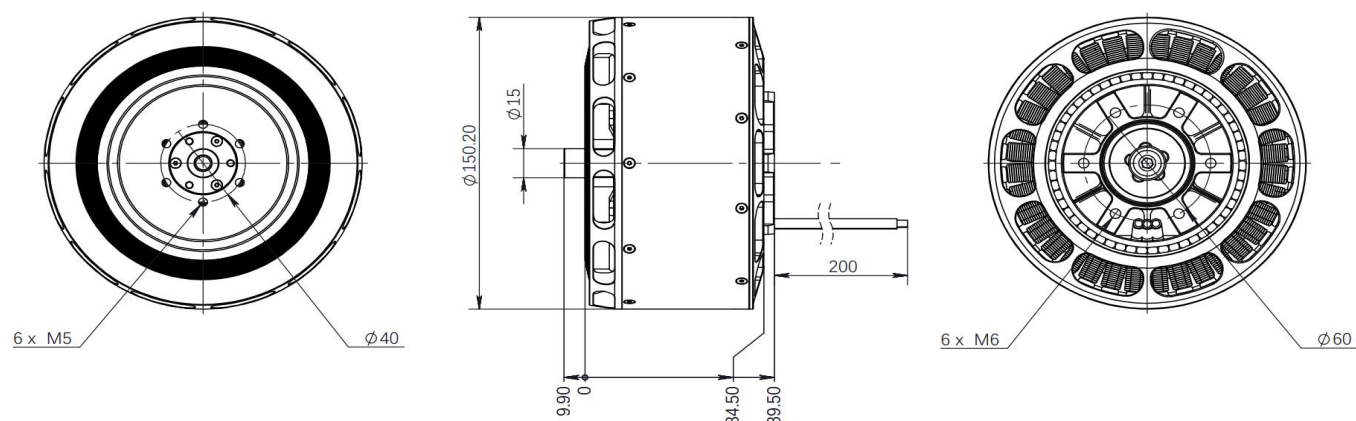


Motor Propeller Pull Test Data

Voltage(V)	Propeller	Throttle(%)	Thrust(g)	Current(A)	Power Input(W)	Speed(RPM)	Efficiency(g/W)	Torque(N-m)	Power Output(W)	Temperature(°C)
92V (24S LiPo)	USC 54x23	35%	9899	10.7	984.4	1068	10.1	6.34	836.7	\
		37%	12007	13.6	1246.6	1170	9.6	7.68	1059.6	
		39%	13966	16.5	1515.2	1259	9.2	8.91	1288.0	
		42%	16087	19.9	1829.9	1350	8.8	10.23	1555.4	
		45%	19774	26.4	2426.0	1496	8.2	12.52	2062.1	
		48%	22243	31.0	2855.7	1586	7.8	14.04	2427.3	
		51%	25891	38.4	3530.0	1708	7.3	16.30	3000.5	
		54%	28069	43.0	3952.3	1776	7.1	17.65	3359.5	
		57%	32033	51.7	4758.2	1891	6.7	20.12	4044.5	
		60%	36180	61.4	5650.6	2002	6.4	22.72	4803.0	
		63%	39872	70.5	6488.8	2094	6.1	25.06	5515.4	
		66%	43681	80.4	7400.5	2184	5.9	27.49	6290.4	
		69%	46281	87.5	8050.0	2244	5.8	29.16	6842.5	
		72%	50262	98.8	9093.3	2332	5.5	31.73	7729.3	
		75%	54324	111.1	10219.4	2420	5.3	34.38	8686.5	
		78%	59829	128.8	11848.7	2535	5.1	37.97	10071.4	
		81%	63987	143.0	13154.2	2620	4.9	40.69	11181.0	
		84%	68127	157.8	14513.0	2702	4.7	43.40	12336.1	
		87%	72203	172.8	15894.8	2780	4.5	46.06	13510.6	
		90%	76155	187.6	17262.0	2850	4.4	48.62	14672.7	
		100%	85011	220.5	20288.8	2983	4.2	54.33	17245.4	

*The above data was measured by HOBBYWING Laboratory at room temperature 25°C, at sea level, with varying throttle input. The motor temperature is measured after running for 10 minutes at 65% throttle, for reference only.

Dimension figure



Recommended application combinations

Motor	HM13842 HighProt
Propeller	MSC 58x24/MSC 64x20/USC 54x23
ESC	XRotor Pro H300A 24S
Battery	24S LiPo
Takeoff weight / rotor	35~40kg
Takeoff weight of quadrotor	140~160kg