

# VL1380 Propulsion System Specifications

(VL1380 power system is recommended for compound-wing quadcopters with a takeoff weight of 140~150 kg)

## 一、Parameters

Motor Parameters	Item No.	VL1380
	Voltage (V)	24S
	KV (RPM/V)	KV60
	Idle Current (A/25V)	≤4.8A
	Idle RPM (RPM/25V)	1430±5%
	Interphase Resistance (mΩ)	13mΩ±5mΩ (Wire length: 150mm 0/+5mm)
	Max Current (A)	230A
	Max Power	23300W
	Wire length (mm)	150±5mm
	Wire Material, wire Gauge, Color	Power wires: Leads
	Ingress protection	IPX5
	Motor Weight (Incl. Cable) (g)	2400±5%
	Ambient Temperature (°C)	-30 ~ 50°C
	Model No.	VL300A 24S
	Throttle Pos. Range	1100~1940us
	Protocol	CAN

ESC	Control	PWM/CAN
Parameters	Max Voltage (V)	108V
	Max Continuous Current (A)	150A
	Max Current (A)	300A (Open environment and temperature ≤ 60°C)
	Weight (Excl. Cable) (g)	825±5%g
Propeller Parameters	Model No.	VZ45*18
	Length (mm)	1148.9±2
	Weight (g)	285±12g

## 二、 Test report

### 2-1、 Thrust data

<b>VL1380 KV60+88.8V+VL300A 24S+VZ45</b>					Ambient temperature	34°C
Throttle (%)	Thrust (gf)	Voltage (V)	Current (A)	Motor Efficiency (%)	Overall Efficiency (gf/W)	
30	14032	88.50	17.73	81.3	8.9	
35	19108	88.59	26.93	84.8	8.0	

40	24240	88.30	37.22	87.5	7.4
45	29121	88.28	48.66	89.0	6.8
50	34422	88.38	62.00	89.4	6.3
55	39550	88.27	76.39	90.3	5.9
60	44430	88.04	91.61	89.6	5.5
65	50700	88.39	111.47	89.3	5.1
70	55969	88.21	130.78	88.9	4.9
75	61670	88.17	153.04	88.2	4.6
80	66814	88.19	175.10	86.9	4.3
85	69354	88.13	185.95	87.7	4.2
90	73596	88.07	207.84	85.6	4.0
95	77287	88.15	228.85	83.5	3.8
100	79141	88.12	240.83	82.7	3.7

**VL1380 KV60+100V+VL300A 24S+VZ45**

Ambient  
temperat  
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34°C

Throttle (%)	Thrust (gf)	Voltage (V)	Current (A)	Motor Efficiency (%)	Overall Efficiency (gf/W)
30	17954	100.12	21.82	85.2	8.2
35	24465	100.15	33.47	89.1	7.3

40	30662	99.95	46.23	88.8	6.6
45	37026	99.96	60.91	90.0	6.1
50	43436	99.90	77.64	89.9	5.6
55	49515	99.90	95.24	89.7	5.2
60	56497	100.00	116.45	89.3	4.9
65	62920	99.84	139.20	89.0	4.5
70	68898	99.36	162.90	86.8	4.3
75	74257	99.31	187.79	84.7	4.0
80	78560	99.31	209.52	83.0	3.8
85	80635	99.65	220.30	81.8	3.7
90	83024	99.58	234.24	80.5	3.6
95	81762	99.63	231.82	80.3	3.5
100	80822	99.71	229.19	79.6	3.5

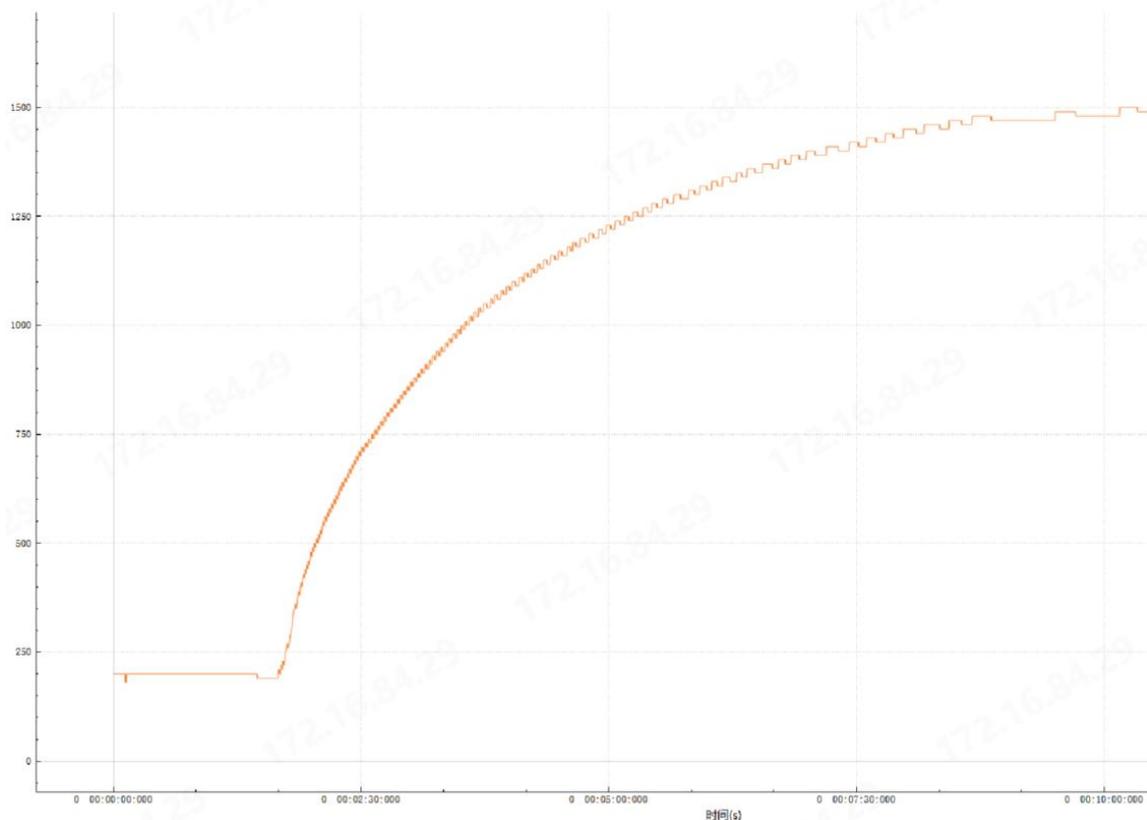
The above data are measured by the professional bench of the laboratory for reference  
for model selection only.

## 2-2、Temperature data

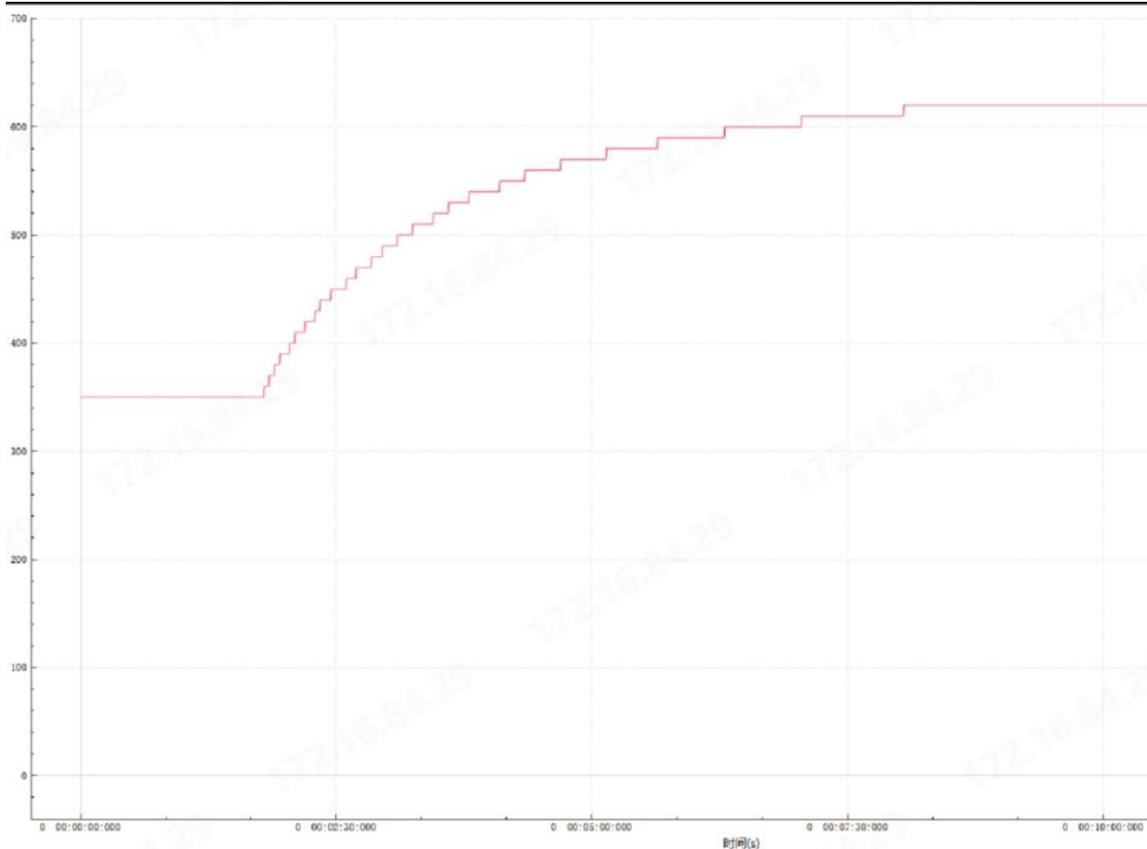
**Test Conditions: 88.8V, sustained 40kgthrust for 10 minutes (Graph temperature: x0.1°C),**

**Ambient Temperature: 34°C**

Motor Temperature (Coil Temperatur: 148.5°C)



ESC Temperature (ESC MOS Temperature: 63°C)



≡ Drawings (mm)

