

# VL1180 Propulsion System Specifications

(VL1180 power system is recommended for compound-wing quadcopters with a takeoff weight of 140~150 kg)

## 一、Parameters

Motor Parameters	Item No.	VL1180
	Voltage (V)	24S
	KV (RPM/V)	KV60
	Idle Current (A/25V)	≤4.2A
	Idle RPM (RPM/25V)	1460±5%
	Interphase Resistance (mΩ)	14±3mΩ (Wire length: 150mm 0/+5mm)
	Max Current (A)	254A
	Max Power	25300W
	Wire length (mm)	150+5/0
	Wire Material, wire Gauge, Color	Power wires: Leads
	Ingress protection	IPX5
	Motor Weight (Incl. Cable) (g)	2680±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>VL1180 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	14895	88.50	17.99	86.3	9.4	
35	20089	88.62	27.47	89.8	8.3	

40	25049	88.34	37.84	90.4	7.5
45	29994	88.40	49.59	92.1	6.8
50	35126	88.32	62.60	91.1	6.4
55	40042	88.24	76.70	91.0	5.9
60	45031	87.84	91.75	91.7	5.6
65	50206	87.75	109.22	90.1	5.2
70	56425	88.29	130.14	89.9	4.9
75	61929	88.19	151.10	89.3	4.6
80	67253	88.10	172.96	88.3	4.4
85	70117	87.90	186.02	88.3	4.3
90	74845	87.99	208.04	86.6	4.1
95	78553	88.03	228.28	85.4	3.9
100	80681	88.00	239.96	84.7	3.8

**VL1180 KV60+100V+VL300A 24S+VZ45**

Ambient  
temperat  
ure

34°C

Throttle (%)	Thrust (gf)	Voltage (V)	Current (A)	Motor Efficiency (%)	Overall Efficiency (gf/W)
30	18906	100.00	22.97	85.9	8.2
35	25506	100.13	35.03	88.2	7.3

40	31653	99.88	48.40	89.2	6.5
45	37786	100.00	62.92	90.0	6.0
50	43856	99.57	78.91	90.7	5.6
55	49872	99.22	96.45	90.2	5.2
60	56223	99.75	116.54	89.1	4.8
65	62656	99.66	138.24	88.8	4.5
70	68731	99.17	160.88	87.2	4.3
75	74349	99.20	185.16	86.0	4.0
80	79136	99.17	207.41	84.6	3.8
85	82357	99.65	222.49	83.5	3.7
90	86610	99.49	244.10	82.0	3.6
95	88075	99.67	254.69	80.8	3.5
100	87610	99.68	254.24	80.5	3.5

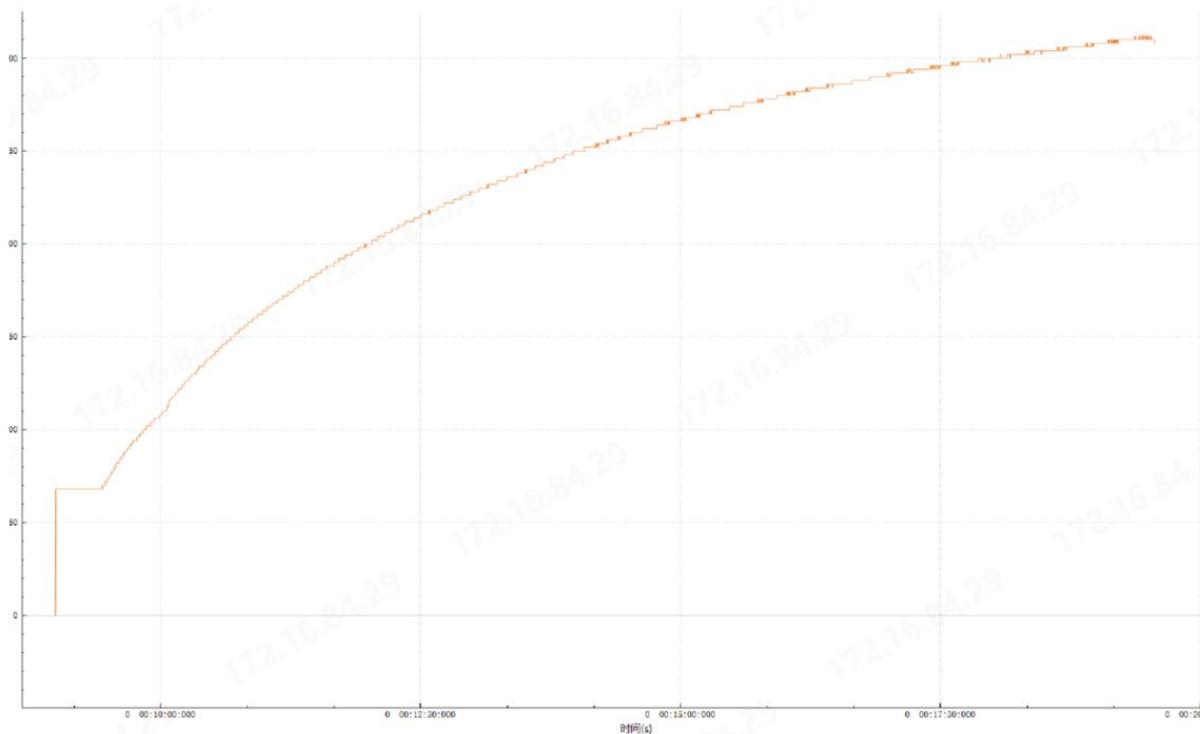
The above data are measured by the professional bench of the laboratory for reference  
for model selection only.

## 2-2、Temperature data

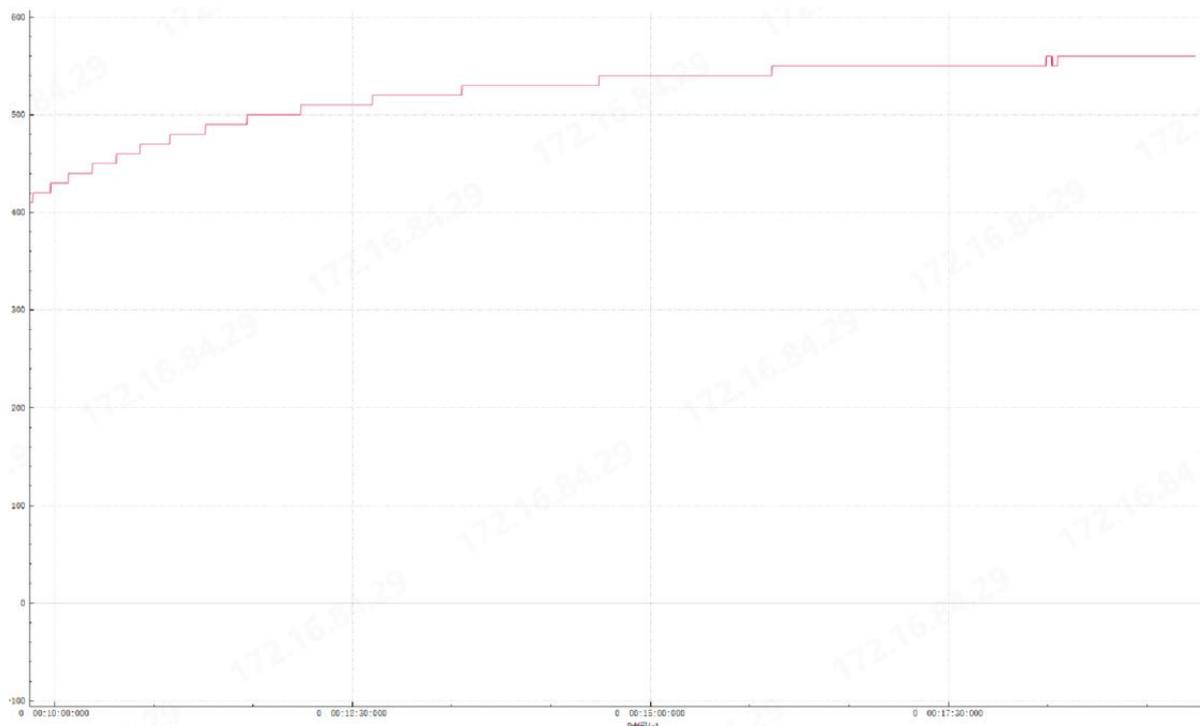
**Test Conditions: 88.8V, sustained 35kg thrust for 10 minutes (Graph temperature: x0.1°C),**

**Ambient Temperature: 34°C**

Motor Temperature (Coil Temperatur: 154°C)



ESC Temperature (ESC MOS Temperature: 56°C)



≡ Drawings (mm)

