

Design Fundamentals:

Battery: (continuous / max. C) ThunderPower 5000SX (22/50C)		# serial: 12 S	# parallel: 1 P	Capacity: 5000 mAh	Resistance: 0.0026 Ohm	Field Elevation: 100 m ASL	Air Temp: 10 °C	Pressure (QNH): 1020 hPa
Controller: Custom		Resistance: 0.0015 Ohm	Continuous Current: 170 A	max. Current: 170 A	Weight: 270 g	Volt per Cell: 3.7 V	Weight per Cell: 122 g	
Motor: Manufacturer - Type (Kv in rpm) Lehner 2250-16 HiAmp (744)		Kv (w/o torque): 783 rpV	Resistance: 0.022 Ohm	Idle Current: 1.9 A	Limit (up to 20s): 80 A	Case Length: 81 mm	Weight: 570 g	
Ducted Fan: Schuebeler DS-94 HDT (120mm)		thrust duct for: 100 % FSA	Flight Speed: 50 km/h	Gear: 1.00	<input type="button" value="clear"/>			

Approx. Values:

Warning: * the prediction of the motor case temperature is critical (>80°C/180°F). Please check! *

Battery:	Load: 15.7 C	Voltage: 41.95 V	Rated Voltage: 44.4 V	Flight Time*: 3.82 min	mixed Flight Time: 6.5 min	Weight: 1464 g
Motor:	max. Current: 78.463 A	Voltage: 41.83 V	Revolutions: 31405 rpm	el. Power (In): 3282.44 W	mech. Power (out): 3067.51 W	Efficiency: 93.5 %
Optimal Efficiency:	Strom: 61.19 A	Voltage: 43.35 V	Revolutions: 32887 rpm	el. Power (In): 2652.43 W	mech. Power (out): 2487.71 W	Efficiency: 93.79 %
Ducted Fan:	Static Thrust: 6183 g = 60.66 N	Thrust in Flight: 4993 g	Jet Speed: 260 km/h = 72.2 m/s	Revolutions: 31405 rpm		
Entire Drive:	Weight: 2534.4 g (Battery + Controller + Motor + 10%)	Fan Efficiency: 1.88 g/W	Efficiency: 71.1 %			

Important Note:

Before flight recheck the max. current! If your Current, el. Power or RPM are over the manufacturers limits **your motor, controller and/or battery may take damage!** Thrust reduction due long ducting are **not** considered!

for printing use Landscape format

* Flight Time @ Full Power

** Testdata with reduced accuracy

Motor Data:

mech. Power [W], Efficiency [%], wast Power [W],
Revolutions [rpm], Motor Case Temperature Prediction [°C]

Motor Cooling:

poor

Power Scale:

automatic

