

Scorpion SII-3020-780 Motor Propeller Data									
Motor Wind 12-Turn Delta		Motor Kv 780 RPM/Volt		No-Load Current I ₀ = 1.21 Amps @ 10v		Motor Resistance R _m = 0.030 Ohms		I Max 40 Amps	P Max (3S) 800 W
Outside Diameter 37.5 mm, 1.476in.		Body Length 45.7 mm, 1.799 in.		Total Shaft Length 74.5 mm, 2.933 in.		Shaft Diameter 4.98 mm, 0.197 in.		Motor Weight 166 gm, 5.81 oz	
Prop Manf.	Prop Size	Input Voltage	Motor Amps	Watts Input	Prop RPM	Pitch Speed	Thrust Grams	Thrust Ounces	Thrust Eff. Grams/W
APC	8x6-SF	11.1	14.03	155.7	8,317	47.3	732.2	25.83	4.70
APC	9x4.7-SF	11.1	10.69	118.6	8,516	37.9	791.6	27.92	6.67
APC	9x6-SF	11.1	20.91	232.1	7,893	44.8	1067.1	37.64	4.60
APC	9x7.5-SF	11.1	24.20	268.6	7,722	54.8	1048.3	36.98	3.90
APC	10x3.8-SF	11.1	18.22	202.3	8,069	29.0	1232.5	43.47	6.09
APC	10x4.7-SF	11.1	19.54	216.9	7,968	35.5	1272.9	44.90	5.87
APC	10x6-E	11.1	15.57	172.8	8,191	46.5	1050.6	37.06	6.08
APC	10x7-E	11.1	18.66	207.2	8,030	53.2	1092	38.52	5.27
APC	10x7-SF	11.1	28.09	311.8	7,481	49.6	1422.9	50.19	4.56
APC	10x10-E	11.1	27.38	304.0	7,513	71.1	987.4	34.83	3.25
APC	11x4.7-SF	11.1	24.74	274.6	7,672	34.1	1604.9	56.61	5.84
APC	11x5.5-E	11.1	19.55	217.0	7,958	41.4	1351.2	47.66	6.23
APC	11x7-E	11.1	23.33	259.0	7,752	51.4	1409.3	49.71	5.44
APC	11x7-SF	11.1	34.44	382.3	7,100	47.1	1818.3	64.14	4.76
APC	11x8-E	11.1	25.20	279.8	7,640	57.9	1443.1	50.90	5.16
APC	11x8.5-E	11.1	27.37	303.8	7,505	60.4	1447.2	51.05	4.76
APC	11x10-E	11.1	31.95	354.6	7,240	68.6	1307.9	46.13	3.69
APC	12x3.8-SF	11.1	31.45	349.1	7,263	26.1	1956.4	69.01	5.60
APC	12x6-E	11.1	25.54	283.5	7,610	43.2	1692.2	59.69	5.97
APC	12x6-SF	11.1	40.04	444.4	6,750	38.4	2139.7	75.47	4.81
APC	12x8-E	11.1	32.26	358.1	7,227	54.8	1540.9	54.35	4.30
APC	12x8-SF	11.1	45.77	508.0	6,368	48.2	2138.4	75.43	4.21
APC	12x10-E	11.1	36.79	408.3	6,955	65.9	1634.6	57.66	4.00
APC	12x12-E	11.1	42.17	468.1	6,612	43.8	1438.7	50.75	3.07
APC	13x4-E	11.1	22.38	248.4	7,807	29.6	1686.8	59.50	6.79
APC	13x4.7-SF	11.1	38.50	427.4	6,815	30.3	2277.3	80.33	5.33
APC	13x6.5-E	11.1	34.09	378.4	7,102	43.7	2048.2	72.25	5.41
APC	13x8-E	11.1	36.86	409.1	6,934	52.5	1540.9	54.35	3.77
APC	13x10-E	11.1	46.03	510.9	6,382	60.4	1798.4	63.44	3.52
APC	14x7-E	11.1	40.65	451.2	6,691	44.4	2354.1	83.04	5.22
APC	15x4-E	11.1	33.96	377.0	7,106	26.9	2370.3	83.61	6.29
GEM	10x4.5	11.1	18.00	199.8	8,094	34.5	1205.2	42.51	6.03
GEM	10x4.5-C	11.1	16.39	181.9	7,845	33.4	1123.1	39.62	6.17
GEM	11x4.7-C	11.1	24.02	266.6	7,704	34.3	1592.7	56.18	5.97
GEM	12x4.5-C	11.1	28.29	314.0	7,458	31.8	1691.5	59.67	5.39
GWS	10x6-DD	11.1	13.11	145.5	8,383	47.6	951.9	33.58	6.54
GWS	10x6x3-DD	11.1	17.49	194.1	8,108	46.1	1203.9	42.47	6.20
GWS	11x7-DD	11.1	20.54	228.0	7,896	52.3	1398	49.31	6.13
GWS	12x8-DD	11.1	30.45	338.0	7,344	55.6	1780.4	62.80	5.27
MAS	9x7x3	11.1	16.80	186.5	8,161	54.1	1000.8	35.30	5.37
MAS	10x5x3	11.1	14.83	164.6	8,265	39.1	1048.9	37.00	6.37
MAS	10x7x3	11.1	21.51	238.7	7,856	52.1	1337.9	47.19	5.60
MAS	11x7x3	11.1	25.95	288.1	7,591	50.3	1608.4	56.73	5.58
MAS	11x8x3	11.1	27.94	310.2	7,482	56.7	1639.6	57.83	5.29
MAS	12x6x3	11.1	28.92	321.0	7,429	42.2	1815.9	64.05	5.66
MAS	12x8x3	11.1	38.74	430.0	6,843	51.8	2172.3	76.62	5.05
MAS	13x8x3	11.1	41.73	463.2	6,653	50.4	2315.6	81.68	5.00
Prop Manf.	Prop Size	Input Voltage	Motor Amps	Watts Input	Prop RPM	Pitch Speed	Thrust Grams	Thrust Ounces	Thrust Eff. Grams/W
APC	8x8-E	14.8	23.89	353.6	10,626	80.5	1004.6	35.44	2.84
APC	9x6-E	14.8	19.45	287.9	10,896	61.9	1288.9	45.46	4.48
APC	9x7.5-E	14.8	30.04	444.5	10,264	72.9	1402	49.45	3.15
APC	9x9-E	14.8	34.16	505.5	10,021	85.4	1397.8	49.31	2.77
APC	10x5-E	14.8	23.02	340.6	10,680	50.6	1650.2	58.21	4.84
APC	10x6-E	14.8	26.43	391.1	10,479	59.5	1703.6	60.09	4.36
APC	10x7-E	14.8	30.82	456.1	10,215	67.7	1796.9	63.38	3.94
APC	10x10-E	14.8	44.17	653.7	9,406	89.1	785.9	27.72	1.20
APC	11x5.5-E	14.8	33.36	493.7	10,063	52.4	2290.5	80.79	4.64
APC	11x7-E	14.8	39.10	578.6	9,723	64.5	2363.6	83.37	4.08
APC	11x8-E	14.8	42.65	631.1	9,506	72.0	2226.1	78.52	3.53
APC	13x4-E	14.8	37.33	552.5	9,825	37.2	2803.1	98.88	5.07
Prop Manf.	Prop Size	Input Voltage	Motor Amps	Watts Input	Prop RPM	Pitch Speed	Thrust Grams	Thrust Ounces	Thrust Eff. Grams/W
APC	8x4-E	18.5	16.81	310.9	13,934	79.2	1304.1	46.00	4.19
APC	8x6-E	18.5	28.12	520.2	13,183	74.9	1550.6	54.70	2.98
APC	8x8-E	18.5	35.98	665.6	12,680	96.1	1436.8	50.68	2.16
APC	9x4.5-E	18.5	24.54	454.0	13,421	57.2	1944.2	68.58	4.28
APC	9x6-E	18.5	29.27	541.6	13,104	74.5	1883.9	66.45	3.48
APC	9x7.5-E	18.5	44.59	824.8	12,104	86.0	1955.3	68.97	2.37
APC	10x5-E	18.5	35.17	650.6	12,716	60.2	2354.3	83.04	3.62

Propeller Chart Color Code Explanation

- The prop is too small to get good performance from the motor. (Less than 50% power)
- The prop is sized right to get good power from the motor. (50 to 80% power)
- The prop can be used, but full throttle should be kept to short bursts. (80 to 100% power)
- The prop is too big for the motor and should not be used. (Over 100% power)

PLEASE NOTE:

The data contained in this prop chart is based on actual measurements taken in a controlled test environment. The test voltages used are based on a properly sized Li-Po battery for the current draw of the motor being tested. If you are using a larger than normal capacity battery, or a very high C-Rated battery, your actual voltages will be higher than those shown in this chart, and this will result in higher current draw for each prop used. You should always test your power system with a watt meter whenever a prop is used to ensure that you are not exceeding the recommended rating of the motor being used. The prop recommendations in this chart are based on the motor receiving adequate cooling throughout its operation. If your motor is being used inside a cowl, you must provide adequate cooling to the motor and make sure that the motor is not getting too hot during operation.