

## Scorpion SII-3020-890 Motor Propeller Data

Motor Wind 10-Turn Delta		Motor Kv 890 RPM/Volt		No-Load Current I <sub>o</sub> = 1.90 Amps @ 10v		Motor Resistance R <sub>m</sub> = 0.020 Ohms		I Max 45 Amps	P Max (3S) 780 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	9x4.7-SF	11.1	13.23	146.8	9,189	40.9	900.4	31.76	6.13
APC	9x6-SF	11.1	26.94	299.1	8,435	47.9	1219.5	43.02	4.08
APC	9x7.5-SF	11.1	30.38	337.2	8,239	58.5	1175.6	41.47	3.49
APC	9x9-E	11.1	26.17	290.5	8,479	72.3	973.7	34.35	3.35
APC	10x3.8-SF	11.1	23.30	258.7	8,628	31.0	1430.8	50.47	5.53
APC	10x4.7-SF	11.1	24.63	273.4	8,559	38.1	1466.6	51.73	5.36
APC	10x6-E	11.1	19.75	219.2	8,816	50.1	1217.4	42.94	5.55
APC	10x7-E	11.1	23.17	257.2	8,636	57.2	1262.2	44.52	4.91
APC	10x7-SF	11.1	35.86	398.0	7,950	52.7	1623.4	57.26	4.08
APC	10x10-E	11.1	34.60	384.0	8,020	75.9	1126.1	39.72	2.93
APC	11x3.8-SF	11.1	26.47	293.8	8,460	30.4	1658.8	58.51	5.65
APC	11x4.7-SF	11.1	31.11	345.3	8,205	36.5	1845.6	65.10	5.34
APC	11x5.5-E	11.1	25.02	277.8	8,526	44.4	1575.8	55.58	5.67
APC	11x7-E	11.1	29.71	329.8	8,281	54.9	1671.1	58.95	5.07
APC	11x7-SF	11.1	42.83	475.4	7,532	49.9	2044.4	72.11	4.30
APC	11x8-E	11.1	31.87	353.8	8,154	61.8	1635.5	57.69	4.62
APC	11x8.5-E	11.1	34.85	386.8	8,012	64.5	1649.6	58.19	4.26
APC	11x10-E	11.1	39.91	443.0	7,702	72.9	1474.1	52.00	3.33
APC	12x3.8-SF	11.1	39.71	440.8	7,714	27.8	2232.9	78.76	5.07
APC	12x6-E	11.1	32.50	360.7	8,129	46.2	1952.9	68.89	5.41
APC	12x6-SF	11.1	49.39	548.3	7,098	40.3	2371.7	83.66	4.33
APC	12x8-E	11.1	40.05	444.6	7,703	58.4	1724.9	60.84	3.88
APC	12x10-E	11.1	45.76	507.9	7,342	69.5	1842.9	65.01	3.63
APC	12x12-E	11.1	51.31	569.6	7,001	46.4	1603.6	56.56	2.82
APC	13x4-E	11.1	28.42	315.5	8,353	31.6	1950.2	68.79	6.18
APC	13x6.5-E	11.1	42.78	474.9	7,523	46.3	2316.8	81.72	4.88
APC	13x8-E	11.1	45.91	509.6	7,328	55.5	2285.8	80.63	4.49
APC	15x4-E	11.1	42.72	474.2	7,530	28.5	2718.3	95.88	5.73
GEM	9x4.7-C	11.1	13.63	151.3	9,176	40.8	928.5	32.75	6.14
GEM	10x4.5	11.1	22.65	251.4	8,662	36.9	1397.9	49.31	5.56
GEM	10x4.5-C	11.1	20.51	227.7	8,383	35.7	1301.3	45.90	5.72
GEM	11x4.7-C	11.1	27.53	305.6	8,013	35.7	1708.8	60.28	5.59
GEM	12x4.5-C	11.1	32.41	359.7	7,743	33.0	1831.7	64.61	5.09
GWS	10x6-DD	11.1	16.58	184.0	8,997	51.1	1106.1	39.02	6.01
GWS	10x6x3-DD	11.1	22.03	244.5	8,693	49.4	1396.4	49.26	5.71
GWS	11x7-DD	11.1	25.85	286.9	8,490	56.3	1609.3	56.77	5.61
MAS	10x5x3	11.1	18.51	205.5	8,895	42.1	1216.1	42.90	5.92
MAS	10x7x3	11.1	26.91	298.7	8,435	55.9	1532.5	54.06	5.13
MAS	11x7x3	11.1	32.42	359.8	8,130	53.9	1833.8	64.68	5.10
MAS	11x8x3	11.1	34.90	387.4	8,002	60.6	1870	65.96	4.83
MAS	12x6x3	11.1	35.95	399.1	7,951	45.2	2065.1	72.84	5.17
MAS	12x8x3	11.1	47.30	525.0	7,261	55.0	2422.8	85.46	4.61
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	30.33	448.9	11,329	85.8	1142.3	40.29	2.54
APC	9x4.5-E	14.8	20.70	306.4	11,897	50.7	1491.8	52.62	4.87
APC	9x6-E	14.8	24.62	364.3	11,659	66.2	1473.3	51.97	4.04
APC	9x7.5-E	14.8	38.02	562.7	10,875	77.2	1576.3	55.60	2.80
APC	9x9-E	14.8	42.18	624.3	10,650	90.8	1580	55.73	2.53
APC	10x5-E	14.8	29.38	434.8	11,384	53.9	1875.5	66.16	4.31
APC	10x6-E	14.8	33.38	494.0	11,151	63.4	1924.7	67.89	3.90
APC	10x7-E	14.8	38.27	566.4	10,874	72.1	2014.2	71.05	3.56
APC	11x5.5-E	14.8	41.67	616.7	10,668	55.6	2585.9	91.21	4.19
APC	13x4-E	14.8	46.76	692.0	10,420	39.5	3218	113.51	4.65
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	21.30	394.1	14,915	84.7	1504.3	53.06	3.82
APC	8x6-E	18.5	35.89	663.9	14,024	79.7	1760	62.08	2.65
APC	8x8-E	18.5	45.21	836.3	13,468	102.0	1639.1	57.82	1.96
APC	9x4.5-E	18.5	31.12	575.6	14,314	61.0	2269.2	80.04	3.94
APC	9x6-E	18.5	37.08	686.0	13,955	79.3	2163.2	76.30	3.15
APC	9x7.5-E	18.5	56.21	1039.9	12,796	90.9	2208.4	77.90	2.12
APC	10x5-E	18.5	44.57	824.6	13,494	63.9	2658.9	93.79	3.22

### 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.