

QUEST B4

CERTIFIED VALUES

Total Impulse: 3.84 newton-seconds
Delays: 4

Propellant Type: Black Powder
Propellant Mass: 10.4 grams

Casing Dimensions: 18 mm X 70 mm

Certification Date: 09-July-13

Certification Type: Model Rocket

STATIC TEST DATA

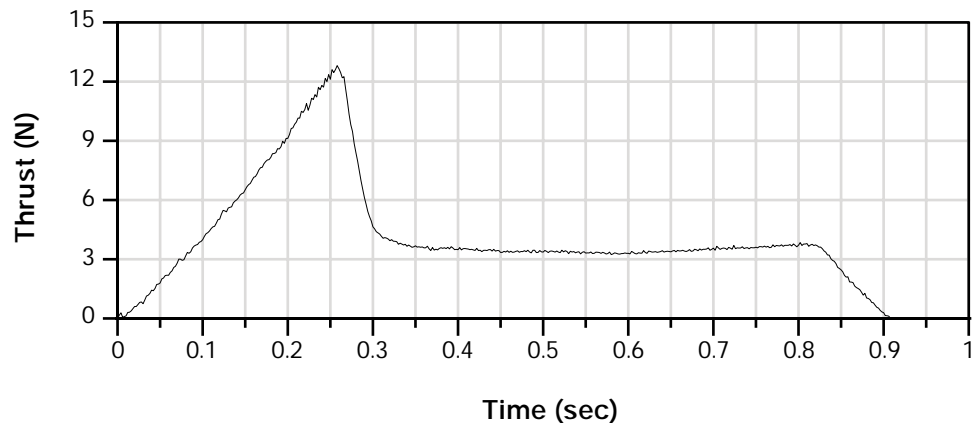
Date Tested: 09-July-12

Total Impulse: 3.84 newton-seconds (σ 0.20)
Peak Thrust: 12.81 newtons (σ 1.06)
Burn Time: 0.91 seconds (σ 0.03)
Average Thrust: 4.22 newtons

Mass After Firing: 7.98 grams

Delay Time	Average Measured Delay	Initial Mass	Mfg Recommended Max Liftoff Weight
4	386	16.6 g	

TYPICAL THRUST-TIME CURVE



REMARKS



FILE NO.	MOTOR TYPE	TOTAL IMPULSE	MAX THRUST	AVG THRUST	BURN TIME	DELAY TIME
Q621	B4-4	4.242	14.198	4.703	0.902	4.068
Q622	B4-4	3.887	11.246	3.95	0.984	4.104
Q623	B4-4	3.959	13.449	4.438	0.892	3.914
Q624	B4-4	3.763	12.883	4.081	0.922	4.15
Q625	B4-4	3.694	11.267	3.972	0.93	3.654
Q626	B4-4	3.791	11.953	4.067	0.932	4.616
Q627	B4-4	3.619	13.196	4.188	0.864	2.758
Q628	B4-4	4.063	14.581	4.575	0.888	3.79
Q629	B4-4	3.542	12.5	4.062	0.872	3.992
Q630	B4-4	3.832	12.778	4.12	0.93	3.524
	AVG	3.84	12.81	4.22	0.91	3.86
	STD	0.20	1.06	0.25	0.03	0.46
	STD %	5.18	8.30	5.91	3.69	12.03

;QUEST B4 RASP.ENG file made from NAR published data
; File produced SEPTEMBER, 2009
; The total impulse, peak thrust, average thrust and burn time are
; the same as the averaged static test data on the NAR web site in
; the certification file. The curve drawn with these data points is as
; close to the certification curve as can be with such a limited
; number of points (32) allowed with wRASP up to v1.6.

B4 19 70 4- 0.0104 0.0166 Q
0.033 1.091
0.061 2.250
0.104 4.228
0.138 6.002
0.184 8.457
0.222 10.504
0.258 12.810
0.275 9.412
0.289 6.070
0.298 4.842
0.309 4.228
0.329 3.751
0.359 3.546
0.444 3.410
0.550 3.274
0.646 3.478
0.723 3.615
0.787 3.751
0.814 3.751
0.831 3.478
0.843 2.796
0.862 1.773
0.882 0.818
0.904 0.136
0.910 0.0

