

AEROTECH G78

CERTIFIED VALUES

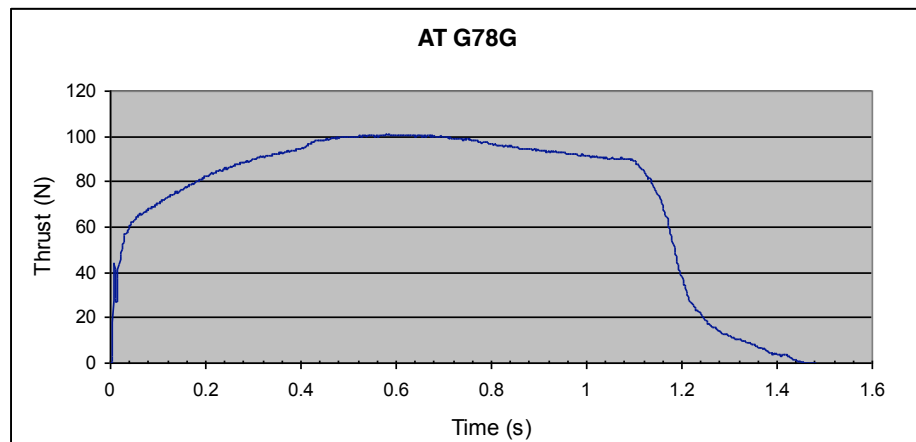
Total Impulse: 109.9 Newton-seconds
Delays: 4, 7, 10
Propellant Type: Mojave Green
Propellant Mass: 59.7 grams
Casing Dimensions: 29 mm × 146 mm
Certification Date: July 23, 2008
Certification Type: Model Rocket Motor

STATIC TEST DATA

Date Tested: July 18, 2008
Total Impulse: 109.94 Newton-seconds (σ 1.4)
Peak Thrust: 101.9 Newtons (σ 4.5)
Burn Time: 1.378 seconds (σ 0.08)
Average Thrust: 79.9 Newtons (σ 4.5)
Mass After Firing: 60 grams

Delay Time(sec.)	4	7	10
Average Measured Delay(sec.)	3.77	7.06	10.23
Initial Mass (gm.)	124	125	126

TYPICAL THRUST-TIME CURVE



REMARKS

Motor certified in both Single Use and LMS format.



Data File #	Engine	Total Impulse	Max Thrust	Avg. Thrust	Burn Time	Delay Time	Initial Weight	Fired Weight
0817W09	G78-4G	109.3	99.9	75.6	1.445	3.82	124	60
0817W11	G78-4G	113.4	109.5	81.2	1.388	4.08	124	61
0818W01	G78-4G	110.8	100.3	78.5	1.407	3.42	124	61
0817W12	G78-7G	109.6	100.9	82.9	1.321	6.69	125	60
0817W13	G78-7G	109.8	98.5	77.2	1.422	7.24	125	60
0817W15	G78-7G	108.3	99.9	87.5	1.236	8.05	125	60
0818W02	G78-7G	109.6	98.7	76.0	1.441	6.24	126	60
0817W16	G78-10G	109.7	97.8	74.3	1.476	10.04	126	60
0817W18	G78-10G	109.0	102.7	86.1	1.266	10.90	126	60
0817W20	G78-10G	109.8	110.6	79.6	1.378	9.75	126	60

Average		109.94	101.9	79.9	1.378		125.1	60.2
Std Dev		1.383	4.515	4.497	0.080			
Std Dev %		1.3%	4.4%	5.6%	5.8%			
Range	Indicated	Actual	Actual	Actual	Actual	Average		
4	2.5 to 5.5	3.82	4.08	3.42		3.77		
7	5.5 to 8.5	6.69	7.24	8.05	6.24	7.06		
10	8.0 to 12.0	10.04	10.90	9.75		10.23		

; @File: G78G_Typ.txt, @Pts-I: 1001, @Pts-O: 31, @Sm: 0, @CO: 5%
; @TI: 109.776, @Tla: 109.5639, @Tle: 0.0%, @ThMax: 102.242, @ThAvg: 79.5671, @Tb: 1.377
; Exported using ThrustCurveTool, www.ThrustGear.com
G78G 29 146 4-7-10, 0.0597 0.125 AT/RCS

0.0040 2.76203
0.0060 34.7707
0.0080 44.326
0.01 41.2789
0.012 28.5933
0.014 27.3926
0.016 38.0574
0.02 47.7036
0.022 48.2012
0.03 56.4344
0.042 61.4034
0.06 65.883
0.212 84.526
0.266 88.9218
0.404 95.5932
0.43 98.9746
0.466 100.5362
0.58 102.242
0.694 101.3187
0.86 95.4526
1.1 90.4186
1.132 82.5618
1.156 72.6383
1.168 64.903
1.194 42.3389
1.216 28.3424
1.226 24.9802
1.2559 17.40051
1.2859 13.04651
1.3819 5.05295
1.4719 0.0

Updated: July 23,2008