

6.5 SAUM, 16.5"

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LOT-TO-LOT VARIATIONS OF POWDERS, PRIMER SUBSTITUTION AND COMPONENT CHANGE OFTEN RAISE PRESSURES TO UNSAFE LEVELS. THE USER MUST ASSUME THE ENTIRE RISK OF USING THIS DATA FOR LOADING PURPOSES.

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User Data:	Date:21-Feb-2022	Time:15:46:18	File: *.dat
Cartridge / Caliber	6.5 mm RSAUM	Bullet	.264, 123, Hammer AH
Maximum Average Pressure, allowed	65000 psi.	4482 bar (Piezo SAAMI)	with boattail
Groove Caliber	0.264 in.	6.71 mm	123.0 gr.
Case Capacity, overflow	72.0 gr. H2O	4.675 cm³	1.390 in.
Case Length	2.035 in.	51.69 mm	7.97 gm
Cartridge O.A. Length	2.825 in.	71.76 mm	35.31 mm
Shot Start / Init Pressure	2176 psi.	150.03 bar	0.600 in.
			15.24 mm
			16.5 in.
			419.1 mm
			0.05351 in.²
			0.3452 cm²
Propellant type	Hodgdon H4350 *T		
Charge Weight	56.7 gr.	3.674 gm	Load Density
Heat of Explosion, Potential	243.6 J/gr.	3760 J/gm	222.8 gr./in.³
Propellant Solid Density	409.68 gr./in.³	1.62 gm/cm³	Energy Density of Charge
Burning Rate Factor Ba	0.513 1/s		54290 J/in.³
Burning Function Limit Z1	0.45		Used Ratio of Specific Heats cp/cv
Factor b	1.422		1.2403
			Weighting Factor
			0.5
			Prog.-/ Degressivity Factor a0
			0.248
			Bulk Density
			227.6 gr./in.³
			0.900 gm/cm³
Calculated and Estimated Data:			
Bullet Shank Seating Depth	0.389 in.	9.88 mm	Capacity Displaced by Seated Bullet
Useable Case Capacity	0.2545 in.³	4.17 cm³	0.0308 in.³
Loading Ratio("Density") / Filling	97.9 %		0.505 cm³
			Bullet Travel at Muzzle Exit
			15.06 in.
			382.65 mm
			Charge Fraction Burnt at Shot Start
			0.86 %
Predicted Data:			
Maximum Chamber Pressure	64899 psi.	4475 bar	Bullet Travel at Pmax
			2.26 in.
			57.4 mm
at Muzzle Exit:			
Bullet Velocity	2874 fps.	876.0 m/s	Pressure at Muzzle
Bullet Energy	2256 ft.lbs.	3058 Joule	18458 psi.
Propellant Burnt	98.5 %		1273 bar
			Bullet Barrel Time
			0.910 ms
			Ballistic Efficiency
			22.1 %
Additional Data:			
Powder Lot		Primer Type and Lot	CCI 250
Bullet Lot		Case Manufacturer	ADG
Measured Muzzle Vel., StdDev.		Measured Pressure, StdDev.	

WARNING: Near Maximum Average Pressure - unknown tolerances may cause dangerous pressures !
Real maximum (peak) of pressure is reached while bullet moves within barrel.
End of combustion occurs after the bullet's base passes muzzle.

Table with predicted charges of different powders for a nominal pressure of about 448 MPa or 65000 psi or a maximum loading ratio or filling of 105 %

CAUTION! - D A N G E R ! : Table may exceed limits of recommended loads ! Pressures exceeding SAAMI or CIP specs are underlined!
Be aware that the powders listed may be totally unsuitable for the given cartridge !
In reality the order of loads may vary due to lot-to-lot variations of propellants and other components.

Propellant type	L.R./Filling %	Charge Weight Gramm	Grains	Muzzle Vel. m/s	fps	Max. Pressure bar	psi	Prop.Burnt %	B_Time ms
Alliant Reloder-26 *C	100	4.13	63.7	912	2992	4482	65000	99.9	0.929
Norma MRP *C	101	4.05	62.5	906	2974	4482	65000	98.8	0.921
Vihavuori N560 *C	103	4.04	62.3	905	2970	4482	65000	95.9	0.914
IMR 7828 SSC	102	4.01	61.8	905	2968	4482	65000	96.5	0.904
ReloadSwiss RS 70 *C	95	3.87	59.7	903	2962	4482	65000	99.9	0.910
ReloadSwiss RS 60 *T	92	3.70	57.0	902	2958	4482	65000	100.0	0.913
Accurate MAGPRO	103	4.21	64.9	901	2957	4482	65000	94.3	0.921
ADI AR 2213	103	3.98	61.5	901	2956	4482	65000	96.4	0.901
SNPE Vectan SP 12	105	4.30	66.4	901	2955	4400	63818	96.8	0.917
Bofors RP5/NP ~approximation	103	4.01	61.8	900	2951	4482	65000	97.7	0.918
Alliant Reloder-22 *C	103	4.01	61.8	900	2951	4482	65000	97.7	0.918
Raufoss RA15 *C	103	4.01	61.8	900	2951	4482	65000	97.7	0.918
PB Clermont PCL 517	105	4.30	66.4	899	2949	4372	63410	96.6	0.919
Alliant Reloder-16 *C *T	96	3.58	55.3	897	2941	4482	65000	100.0	0.908
Bofors RL16 TZ *C *T	96	3.58	55.3	897	2941	4482	65000	100.0	0.908
Ramshot Magnum	103	4.30	66.3	896	2939	4482	65000	98.4	0.913
Alliant Reloder-17 *T	91	3.66	56.5	895	2937	4482	65000	100.0	0.917
Elcho 17	91	3.66	56.5	895	2937	4482	65000	100.0	0.917
Rottweil R905	105	3.98	61.4	892	2927	4482	65000	95.9	0.915
Alliant Reloder-23 *C *T	105	3.94	60.8	892	2926	4476	64925	100.0	0.925
Bofors RP36 ZT *C *T	105	3.94	60.8	892	2926	4476	64925	100.0	0.925
ADI AR 2209	100	3.80	58.7	892	2926	4482	65000	97.6	0.904
Alliant Reloder-19 *C	100	3.85	59.4	890	2921	4482	65000	97.7	0.911
Vihavuori N555 *C*T	102	3.84	59.3	890	2920	4482	65000	100.0	0.941
PB Clermont PCL 518	97	3.82	59.0	890	2919	4482	65000	99.2	0.917
Winchester 760	91	3.67	56.7	889	2918	4482	65000	98.9	0.917

continued

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Propellant type	L.R./Filling %	Charge Weight Gramm Grains	Muzzle Vel. m/s fps	Max. Pressure bar psi	Prop.Burnt %	B_Time ms
Hodgdon H414	91	3.67 56.7	889 2918	4482 65000	98.9	0.917
PB Clermont PCL 511	93	3.79 58.5	889 2917	4482 65000	99.4	0.918
Ramshot Hunter	96	3.80 58.6	889 2916	4482 65000	99.4	0.918
ReloadSwiss RS 62	94	3.79 58.5	889 2916	4482 65000	99.9	0.931
Bofors RP14 ~approximation	101	3.87 59.8	889 2915	4482 65000	97.7	0.911
Bofors RP15	105	3.98 61.5	888 2915	4325 62728	97.2	0.935
Winchester WXR	105	3.98 61.5	888 2915	4325 62728	97.2	0.935
Somchem S365	97	3.71 57.3	886 2906	4482 65000	100.0	0.930
Bofors RP4 ~approximation	98	3.77 58.2	885 2904	4482 65000	97.5	0.909
Raufoss RA4	98	3.77 58.2	885 2904	4482 65000	97.5	0.909
Norma 204 *C	95	3.77 58.2	885 2904	4482 65000	97.5	0.909
Hodgdon LVR	93	3.57 55.1	885 2902	4482 65000	99.8	0.916
Norma URP *C	95	3.62 55.9	885 2902	4482 65000	99.9	0.921
Bofors RP19 ~approximation	95	3.62 55.9	884 2902	4482 65000	99.9	0.921
Hodgdon H4831 SC *T	101	3.93 60.7	884 2901	4482 65000	95.7	0.907
Vihtavuori N550 *C*T	93	3.64 56.1	884 2900	4482 65000	99.9	0.924
Accurate 4350	95	3.63 56.0	883 2896	4482 65000	99.9	0.938
ADI AP 2214	105	4.18 64.5	883 2896	4235 61427	95.9	0.924
ReloadSwiss RS 76 *C	105	4.34 66.9	882 2894	3897 56522	97.8	0.973
Somchem S385	100	3.90 60.1	880 2889	4482 65000	98.5	0.927
IMR 4831	100	3.68 56.8	880 2886	4482 65000	100.0	0.929
Hodgdon H4831 *T	105	3.91 60.4	879 2885	4412 63991	95.5	0.914
Bofors RP4 NT *C ~approximation	96	3.74 57.7	879 2884	4482 65000	98.8	0.919
IMR 7828	105	3.91 60.4	879 2883	4113 59648	95.2	0.942
Rottweil R904	99	3.75 57.9	878 2881	4482 65000	96.6	0.908
Winchester Supreme 780	99	4.00 61.7	878 2881	4482 65000	97.6	0.914
Bofors RP5 NT *C ~approximation	105	4.11 63.4	877 2876	4277 62034	93.4	0.922
Accurate 3100	104	3.97 61.3	877 2876	4482 65000	99.4	0.942
Shooters World SW4350	95	3.62 55.8	876 2873	4482 65000	99.1	0.923
Lovex S070	95	3.62 55.8	876 2873	4482 65000	99.1	0.923
IMR 4955 Enduron *C*T	103	3.84 59.2	876 2873	4482 65000	96.1	0.906
Vihtavuori N160 *C	93	3.63 56.1	875 2872	4482 65000	99.9	0.919
Hodgdon H380	88	3.47 53.5	875 2871	4482 65000	99.9	0.922
Hodgdon Hybrid 100V	98	3.63 56.1	875 2870	4482 65000	100.0	0.921
Rottweil R907	93	3.51 54.2	872 2861	4482 65000	98.6	0.914
Bofors RP7	93	3.51 54.2	872 2861	4482 65000	98.6	0.914
IMR 4007 SSC	90	3.51 54.2	872 2861	4482 65000	98.6	0.914
Vihtavuori N165 *C	105	3.98 61.5	871 2858	4391 63685	98.0	0.927
Bofors RP3	89	3.44 53.1	871 2858	4482 65000	100.0	0.934
Norma 203 old	89	3.44 53.1	871 2858	4482 65000	100.0	0.934
Shooters World Long Rifle	94	3.54 54.6	871 2856	4482 65000	99.6	0.920
Lovex S065	94	3.54 54.6	871 2856	4482 65000	99.6	0.920
Rottweil R903	91	3.44 53.1	870 2855	4482 65000	100.0	0.933
Somchem S355	91	3.41 52.7	870 2853	4482 65000	100.0	0.926
SNPE Vectan SP 7	84	3.44 53.1	869 2852	4482 65000	99.9	0.921
Somchem S361	98	4.01 61.8	869 2850	4482 65000	95.8	0.917
Vihtavuori N565 *C*T	105	4.14 63.9	868 2849	4058 58860	94.6	0.978
Alliant Reloder-25 *C	105	4.01 61.8	868 2847	3878 56243	99.1	0.977
Shooters World Match Rifle	84	3.32 51.3	862 2829	4482 65000	100.0	0.934
Accurate 2520	82	3.32 51.3	862 2829	4482 65000	100.0	0.934
Lovex D073.6	84	3.32 51.3	862 2829	4482 65000	100.0	0.934
Accurate 4064	88	3.32 51.2	859 2819	4482 65000	100.0	0.948
Rottweil R901	84	3.06 47.2	854 2802	4482 65000	100.0	0.924
Accurate 2495	83	3.12 48.2	852 2796	4482 65000	100.0	0.951
IMR 7977 Enduron *C*T	105	3.98 61.5	838 2750	4183 60672	87.1	0.935
Norma MRP 2 *C	105	4.03 62.2	837 2746	3552 51522	93.3	1.033
Bofors RP30	105	4.03 62.2	837 2746	3552 51522	93.3	1.033
ReloadSwiss RS 80 *C	105	4.37 67.4	836 2742	3481 50489	90.3	1.039
Lovex S071	105	3.81 58.8	834 2736	3848 55808	98.2	1.015
Vihtavuori N568 *C*T	105	4.20 64.9	833 2732	3478 50446	89.6	1.037
Vihtavuori N570 *C	105	4.25 65.6	831 2726	3414 49511	85.8	1.043
ADI AR 2217	105	3.98 61.5	824 2702	3491 50633	92.4	1.016
Hodgdon H1000 *T	105	3.98 61.5	824 2702	3491 50633	92.4	1.016
Alliant Reloder-33 *C	105	4.37 67.4	804 2638	3171 45995	84.3	1.083
Hodgdon Retumbo	105	4.05 62.5	797 2615	3048 44206	93.5	1.096
ADI AR 2225	105	4.05 62.5	797 2615	3048 44206	93.5	1.096
Lovex D100	105	4.34 66.9	797 2615	3502 50796	81.2	1.028
Shooters World BMG	105	4.34 66.9	797 2615	3502 50796	81.2	1.028
Ramshot LRT	105	4.34 67.0	789 2587	3198 46378	76.5	1.066
Vihtavuori 24N41 *C	105	4.29 66.2	782 2566	3206 46494	77.2	1.064
ADI AR 2218	105	4.29 66.2	779 2556	3019 43783	79.4	1.094
Vihtavuori N170 *C	105	3.98 61.5	775 2544	3177 46072	83.6	1.095
Norma 217 *C	105	3.97 61.2	761 2496	2665 38651	89.4	1.189
IMR 8133 Enduron *C*T	105	3.94 60.8	756 2480	2678 38843	86.3	1.180

continued

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Hodgdon H870	105	4.16 64.2	754 2472	2687 38966	82.1	1.177
Alliant Reloder-50 *C	105	4.36 67.2	733 2403	2497 36215	77.1	1.240
Bofors 12,7mmRA NC1214 Lot20115087	105	4.26 65.8	727 2386	2648 38409	70.5	1.229
Hodgdon 50BMG	105	4.09 63.1	720 2363	2595 37640	68.0	1.187
Hodgdon US 869	105	4.29 66.2	719 2358	2580 37422	71.9	1.195
Somchem 12.7-0	105	4.16 64.2	714 2344	2661 38589	68.4	1.167
SNPE Vectan SP 13	105	4.12 63.5	699 2294	2343 33989	75.7	1.260
Accurate 8700	105	4.20 64.9	689 2261	2302 33387	73.4	1.260
Vihtavuori 20N29 *C	105	4.34 66.9	679 2228	2204 31967	69.9	1.299
PB Clermont PCL 513/520/9520	105	4.12 63.5	679 2227	2196 31853	71.9	1.299
NC A3502 ,test only	105	3.94 60.8	631 2069	2069 30010	49.1	1.317
TLP A 502(RH) ,test only	105	3.94 60.8	621 2039	1928 27965	53.1	1.370
V1734 7-multiperf ,test only	105	3.94 60.8	441 1447	1026 14885	23.6	1.846