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WARNING: Since we have no control over equipment or data which may be used with this program, no responsibility is implied or assumed for results obtained through its use. Input data and results may be incorrect or wrong. Therefore the use of this data for loading ammunition can cause serious injury to personnel and material. The computer-results had to be checked against data available in current loading manuals.

**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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<b>User Data:</b>	<b>Date:9-Apr-2015</b>	<b>Time:19:48:34</b>	<b>File: xpert 9.3 x 64 200gr.dat</b>	
<b>Cartridge / Caliber</b>	<b>9.3 x 64 Brenneke</b>	<b>Bullet</b>	<b>.366, 200GR XPERT TARGET</b>	
Maximum Average Pressure, allowed	63817 psi.	4406 bar (Piezo CIP)	with boattail	
Groove Caliber	0.366 in.	9.3 mm	Bullet Weight	200.0 gr. 12.96 gm
Case Capacity, overflow	88.0 gr. H2O	5.714 cm <sup>3</sup>	Bullet Length	1.303 in. 33.1 mm
Case Length	2.519 in.	63.98 mm	Bullet Seating Depth	0.594 in. 15.08 mm
Cartridge O.A. Length	3.228 in.	82.0 mm	Barrel/Tube Length	23.622 in. 600.0 mm
Shot Start / Init Pressure	3625 psi.	249.94 bar	Cross Section Area of Bore	0.1028 in. <sup>2</sup> 0.6632 cm <sup>2</sup>
<b>Propellant type</b>	<b>Somchem S341</b>			
Charge Weight	68.0 gr.	4.406 gm	Load Density	235.9 gr./in. <sup>3</sup> 0.933 gm/cm <sup>3</sup>
Heat of Explosion, Potential	237.2 J/gr.	3660 J/gm	Energy Density of Charge	55945 J/in. <sup>3</sup> 3414 J/cm <sup>3</sup>
Propellant Solid Density	409.68 gr./in. <sup>3</sup>	1.62 gm/cm <sup>3</sup>	Used Ratio of Specific Heats cp/cv	1.242
Burning Rate Factor Ba	0.56 1/s		Weighting Factor	0.5
Burning Function Limit Z1	0.45		Prog.-/ Degressivity Factor a0	0.74
Factor b	1.557		Bulk Density	250.4 gr./in. <sup>3</sup> 0.990 gm/cm <sup>3</sup>

**Calculated and Estimated Data:**

Bullet Shank Seating Depth	0.417 in.	10.58 mm	Capacity Displaced by Seated Bullet	0.0605 in. <sup>3</sup> 0.991 cm <sup>3</sup>
Useable Case Capacity	0.2882 in. <sup>3</sup>	4.723 cm <sup>3</sup>	Bullet Travel at Muzzle Exit	21.7 in. 551.1 mm
Loading Ratio("Density") / Filling	94.2 %		Charge Fraction Burnt at Shot Start	1.28 %

**Predicted Data:**

Maximum Chamber Pressure	49949 psi.	3444 bar	Bullet Travel at Pmax	1.53 in. 39.0 mm
<b>at Muzzle Exit:</b>				
Bullet Velocity	2823 fps.	860.4 m/s	Pressure at Muzzle	7765 psi. 535 bar
Bullet Energy	3539 ft.lbs.	4798 Joule	Bullet Barrel Time	1.129 ms
Propellant Burnt	96.6 %		Ballistic Efficiency	29.7 %

Check Loading Manuals for Safe Minimum Charge Weight to Avoid Hazardous Ignition Conditions like Secondary Explosion Effects !  
 Real maximum (peak) of pressure is reached while bullet moves within barrel.  
 End of combustion occurs after the bullet's base passes muzzle.

