User Data:

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Cartridge / Caliber	**.260 Rem**		**Bullet**	**.264, 98, XPERT**	
Maximum Average Pressure, allowed	60191 psi.	4150 bar (Piezo CIP)		with flatbase	
Groove Caliber	0.264 in.	6.71 mm	Bullet Weight	98.0 gr.	6.35 gm
Case Capacity, overflow	53.5 gr. H2O	3.474 cm³	Bullet Length	1.240 in.	31.5 mm
Case Length	2.030 in.	51.56 mm	Bullet Seating Depth	0.554 in.	14.07 mm
Cartridge O.A. Length	2.717 in.	69.0 mm	Barrel/Tube Length	24.0 in.	609.6 mm
Shot Start / Init Pressure	3625 psi.	249.94 bar	Cross Section Area of Bore	0.05385 in.²	0.3474 cm²
Propellant type	**Somchem S341**				
Charge Weight	40.0 gr.	2.592 gm	Load Density	220.3 gr./in.³	0.871 gm/cm³
Heat of Explosion, Potential	237.2 J/gr.	3660 J/gm	Energy Density of Charge	52242 J/in.³	3188 J/cm³
Propellant Solid Density	409.68 gr./in.³	1.62 gm/cm³	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.³	0.990 gm/cm³

Calculated and Estimated Data:

Bullet Shank Seating Depth	0.554 in.	14.07 mm	Capacity Displaced by Seated Bullet	0.0304 in.³	0.498 cm³
Useable Case Capacity	0.1816 in.³	2.976 cm³	Bullet Travel at Muzzle Exit	22.52 in.	572.11 mm
Loading Ratio("Density") / Filling	88.0 %		Charge Fraction Burnt at Shot Start	1.50 %	
Predicted Data:					
Maximum Chamber Pressure	46911 psi.	3234 bar	Bullet Travel at Pmax	1.85 in.	47.0 mm
at Muzzle Exit:					
Bullet Velocity	2975 fps.	906.7 m/s	Pressure at Muzzle	8334 psi.	575 bar
Bullet Energy	1926 ft.lbs.	2611 Joule	Bullet Barrel Time	1.160 ms	
Propellant Burnt	97.1 %		Ballistic Efficiency	27.5 %	

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.