

300WM 180gr Nosler Partition VV N165 78,8 grn

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 personnell 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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User Data:**Date:**3-iaé-2014**Time:**22:20:10**File:** 300wm 180gr nosler partition vv n165 78,8 grn.dat**Comment****300WM 180gr Nosler Partition VV N165 78,8 grn****Cartridge / Caliber****.300 Win. Mag.(W)****Bullet****.308, 180, Nosler PART SP 16331**

Maximum Average Pressure, allowed

4300 bar

62366 psi. (Piezo CIP)

with flatbase

Groove Caliber

7,82 mm

0,308 in.

Bullet Weight

11,66 gm

180,0 gr.

Case Capacity, overflow

6,09 cm?

93,8 gr. H2O

Bullet Length

32,0 mm

1,260 in.

Case Length

66,55 mm

2,620 in.

Bullet Seating Depth

10,03 mm

0,395 in.

Cartridge O.A. Length

88,52 mm

3,485 in.

Barrel/Tube Length

610,01 mm

24,016 in.

Shot Start / Init Pressure

250,0 bar

3626 psi.

Cross Section Area of Bore

0,4732 cm?

0,07335 in.?

Propellant type**Vihtavuori N165**

Charge Weight

5,106 gm

78,8 gr.

Load Density

0,911 gm/cm?

230,4 gr./in.?

Heat of Explosion, Potential

3500 J/gm

226,8 J/gr.

Energy Density of Charge

3187 J/cm?

52226 J/in.?

Propellant Solid Density

1,58 gm/cm?

399,57 gr./in.?

Used Ratio of Specific Heats cp/cv

1,241

Burning Rate Factor Ba

0,424 1/s

Weighting Factor

0,5

Burning Function Limit Z1

0,485

Prog.-/ Degressivity Factor a0

1,156

Factor b

1,741

Bulk Density

0,910 gm/cm?

230,1 gr./in.?

Calculated and Estimated Data:

Bullet Shank Seating Depth

10,03 mm

0,395 in.

Capacity Displaced by Seated Bullet

0,483 cm?

0,0295 in.?

Useable Case Capacity

5,607 cm?

0,3422 in.?

Bullet Travel at Muzzle Exit

553,49 mm

21,79 in.

Loading Ratio("Density") / Filling

100.1 % = compressed

Charge Fraction Burnt at Shot Start

1,38 %

Predicted Data:

Maximum Chamber Pressure

4004 bar

58067 psi.

Bullet Travel at Pmax

62,4 mm

2,46 in.

at Muzzle Exit:

Bullet Velocity

898,0 m/s

2946 fps.

Pressure at Muzzle

835 bar

12106 psi.

Bullet Energy

4704 Joule

3469 ft.lbs.

Bullet Barrel Time

1,199 ms

Propellant Burnt

99,5 %

Ballistic Efficiency

26,3 %

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.

