

## Volume and Horsepower Formula

This formula is used to calculate volume for the HD-500 Pump

$$\text{Volume} = \frac{\text{Engine RPM} \times \text{Plunger Diameter}^2}{\text{Constant (514.7)} \times \text{Transmission Reduction} \times \text{Worm Gear Reduction}}$$

$$\text{Example: } \frac{1625 \times 4.5^2}{514.7 \times 1 \times 8} = \frac{32906.25}{4117.6} = 7.991 \text{ BPM}$$

This formula is used to calculate hydraulic horsepower requirements

$$\text{Hydraulic Horsepower (HHP)} = \frac{\text{Pressure} \times \text{Volume}}{\text{Constant (40.8)}}$$

$$\text{Example: } \frac{2500 \times 8}{40.8} = \frac{20000}{40.8} = 490 \text{ HHP}$$



**DEMAY INTERNATIONAL**

## Plunger Rate/Gallons

6" .9777 x 3 = 2.9331 Gal/Rev

5" .6787 x 3 = 2.0361 Gal/Rev

4 ½" .5499 x 3 = 1.6497 Gal/Rev

4" .4342 x 3 = 1.3026 Gal/Rev

3 ¾" .3092 x 3 = .9276 Gal/Rev

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