

Formulation for calculating GPM of rectangular nozzle

Formulation for calculating the needed GPM for a nozzle based on a rectangular nozzle with the length of the nozzle equal to the width of the wheel:

$$\frac{\text{Nozzle height x wheel S.F.P.M. x 12}}{(231 \div \text{wheel "P" line})} \times 1.05$$

Where "P" line equals the width of the wheel to work contact
Where 231 equals the in³/Gal of H₂O at Seal level.

The multiplication of the entire formula by 5% or 1.05 is to allow for wear over time of the nozzle opening. The amount of cushion for nozzle growth can be added depending on nozzle material, pressure and abrasiveness of the coolant and nozzle material