PIPE AVERAGE VELOCITY CALCULATION

The average velocity in a pipe can be calculated based on the following formula where v is the velocity in feet/second, D the internal diameter in inches and q the flow rate in USgallons per minute.

$$v(ft/s) = 0.4085 \frac{q(USgal./\min)}{D^2(in)^2}$$

For example a 2 ½" inch schedule 40 pipe has an internal diameter of 2.469 in, what is the average pipe velocity for a flow rate of 105 gpm.

$$v(ft/s) = 0.4085 \frac{105}{2.469^2} = 9.98$$