The formula for calculating hydrant flows is:

$$GPM = 29.83 \times c \times d^2 \times vP$$

$$L/min = 0.0667766 \times c \times d^2 \times vP$$

Note: "d" is the diameter of the hydrant or nozzle orifice in inches. "P" is the pressure in psi (kPa) as read on the gauge of the pitot at the orifice. "c" is the coefficient of discharge.

The Coefficient will vary with the type of hydrant outlet or nozzle used. When using a hydrant, feel the inside contour of the orifice to determine which one of the three types will be used. The three types of hydrant discharges and their discharge coefficients are 0.70, 0.80, and 0.90.

Conduct a hydrant test on your department’s hydrant. Use the formulas above to calculate the hydrant’s flow. Then plug the information into the following website and see how close they are.

http://www.firehydrant.org/info/hycalc.html