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The Pitotless Nozzle™ Coefficients and Constants to Calculate Flow Rate

For the purpose of using existing software that uses the pitot formula to calculate flow rates, we have developed the following “coefficients”. These are designed to trick the software into producing the correct results.

If the pitot formula is used:

$$Q = 29.84 * D^2 * P^{(sqrt)} * C$$

Q = flow rate in GPM

D = orifice diameter in inches

P = pitot pressure in PSI

C = coefficient

Size	Coefficient Substitute
1”	0.925
1.125”	0.991
1.75”	1.166
2”	1.381

If the existing software doesn't allow coefficients greater than 0.99 then the diameter used in the calculations must be changed.

PN Size	Calc. size	Coefficient
1.75”	1.90	0.99
2”	2.36	0.99

The simplest and most accurate way is as follows

$$Q = \sqrt{\text{(pressure reading)}} * K$$

PN size = K

PN1.75 = 1.90

PN2 = 2.36