SSB HOSE
"Flexible Solutions for Today's Rigid Industries"
Phone: 905-755-9610
Toll Free: 877-755-9610
Fax: 905-755-9612
E-mail: sales@ssbhose.com

Flow Velocity

Liners
Liquid or gas applications conveying media at high velocity should incorporate an interlock liner in the hose assembly design. The liner will decrease the turbulence caused by the high velocity and reduce the resonant vibration that may occur. A liner is recommended if the velocity is greater than the following:

Media	Hose Alignment	Maximum Velocity without Liner (ft./sec.)
liquid	straight	75
liquid	45° bend	56
liquid	90° bend	37
gas	straight	150
gas	45° bend	112
gas	90° bend	75

Conversion Formulas

Definitions[a]	Feet Per Second (ft./sec.)
gph: gallons per hour	(gph ÷ ID^2) x 0.0068
gpm: gallons per minute	(gpm ÷ ID^2) x 0.4083
cfh: cubic feet per hour	(cfh ÷ ID^2) x 0.0509
cfm: cubic feet per minute	(cfm ÷ ID^2) x 3.0558
cfs: cubic feet per second	(cfs ÷ ID^2) x 183.35
[a]ID = nominal hose size in inches	

Example:

Given:
3" nominal hose size
500 gallons per minute flow
Media is water
Hose is installed in 90° bend

Computation:
From the formula above,
(gpm ÷ ID^2) x 0.4083 or
(500 ÷ 3^2) x 0.4083 = 22.68 ft./sec. flow velocity

Result:
Since the calculated flow velocity of 22.68 ft./sec. is less than 37 ft./sec., a liner is not required for this application.