PRESSURE

Maximum Rated Working Pressure
The maximum pressure that the hose should be subjected to on a continuous basis. OmegaFlex establishes this rating by multiplying the nominal rated burst pressure by 25%. Published pressure is calculated at 70°F.

Maximum Rated Test Pressure
The maximum pressure the hose should be subjected to during proof pressure or system testing. Hose corrugation deformation will occur if the maximum rated test pressure is exceeded. The maximum rated working pressure is multiplied by 150% to determine the maximum rated test pressure.

Nominal Rated Burst Pressure
The average pressure at which the core or braid will rupture at ambient temperature. Proper hose assembly fabrication techniques must be used to ensure the hose will meet OmegaFlex published pressures.

Pulsating or Shock Pressure
The performance of metal hose can be greatly reduced under this type of working pressure. Pressures are normally reduced by 50% in pulsating or shock pressure applications. Contact OmegaFlex for additional information on this application.

Pressure/Temperature Correction
Metal hose pressure capabilities decrease as the temperature increases. Consult the temperature correction factor table on page 28 to determine pressure rating at elevated temperatures.

Safety Factors
The maximum working pressure should not be greater than 25% of the nominal rated burst pressure after correcting for the application temperature. The safety factor is generally expressed as a ratio of 4:1.

Pressure Drop
Pressure drop occurs in long hose runs. The charts on page 35 list pressure drop in 100 feet of hose. Contact OmegaFlex if more information is required.

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

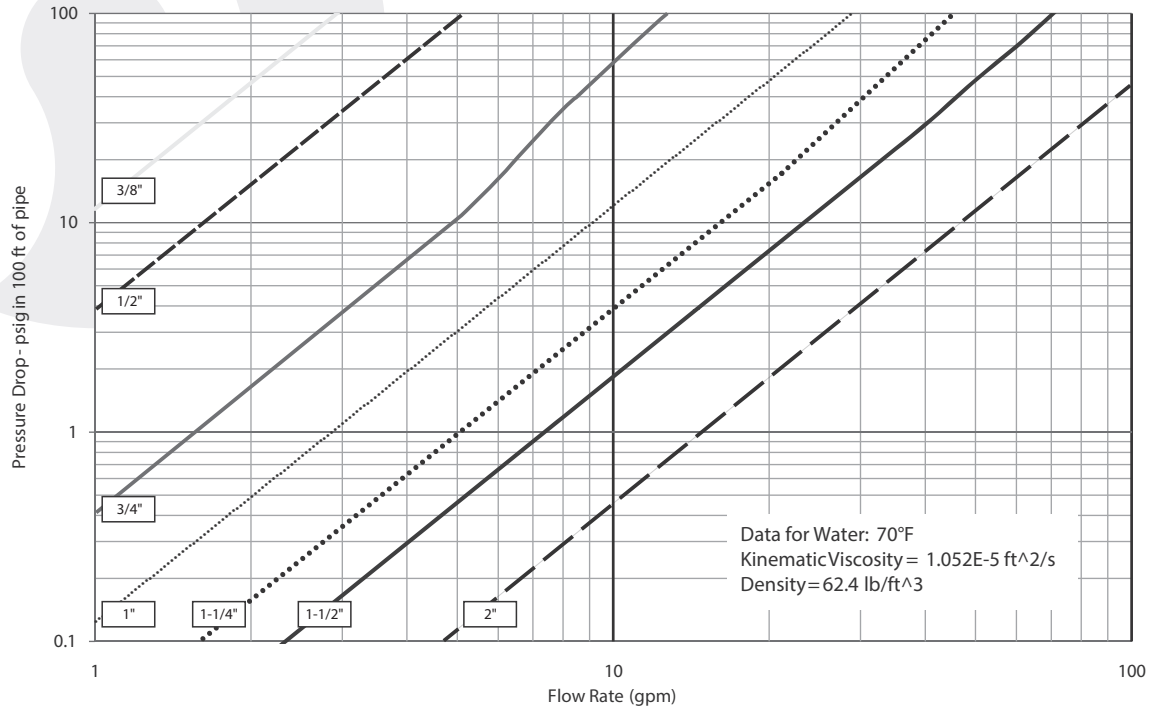
Example

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 ÷ 9) x 0.4083 = 22.68 ft./sec. flow velocity

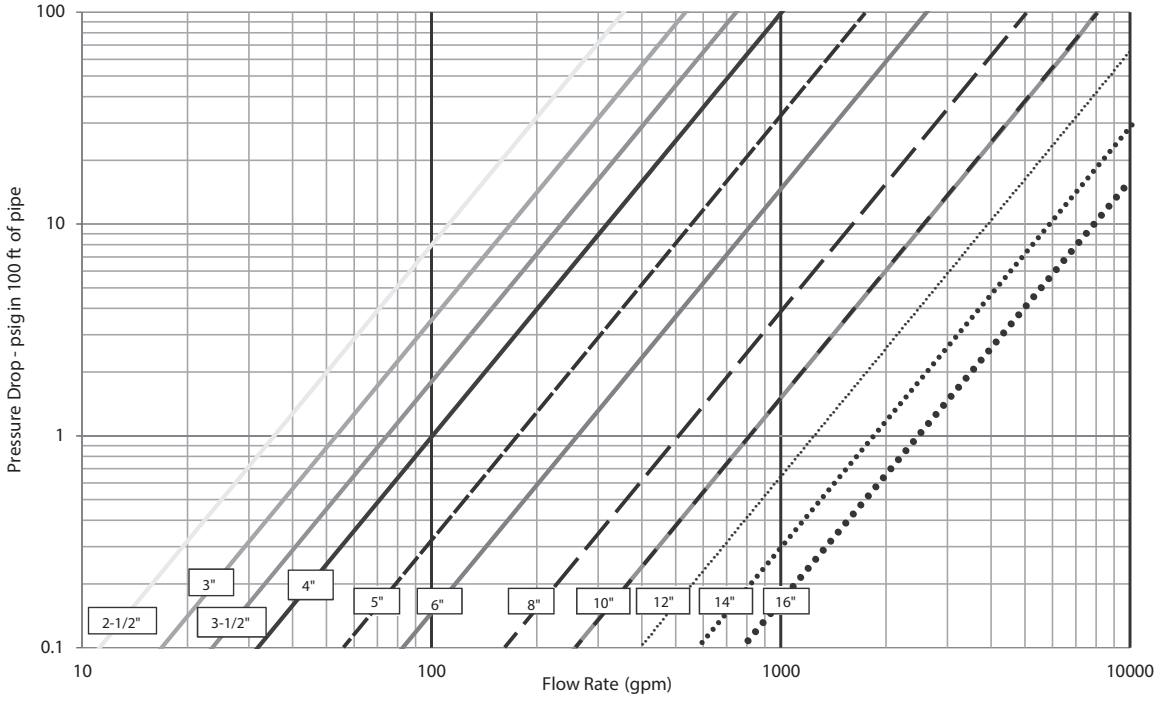
Result:
Since the calculated flow velocity of 22.68 ft./sec. is less than 37 ft./sec., a liner is not required for this application.

Pressure Drop in 100ft of Pipe



Data for Water: 70°F
Kinematic Viscosity = 1.08E-5 ft^2/s
Density = 62.4 lb/ft^3

Pressure Drop in 100ft of Pipe



Omega Flex, Inc.,
451 Creamery Way, Exton, PA 19341-2509 Tel:1-610-524-7272 FAX:1-610-524-6484 www.omegaflex.com

Call 1-800-355-1039