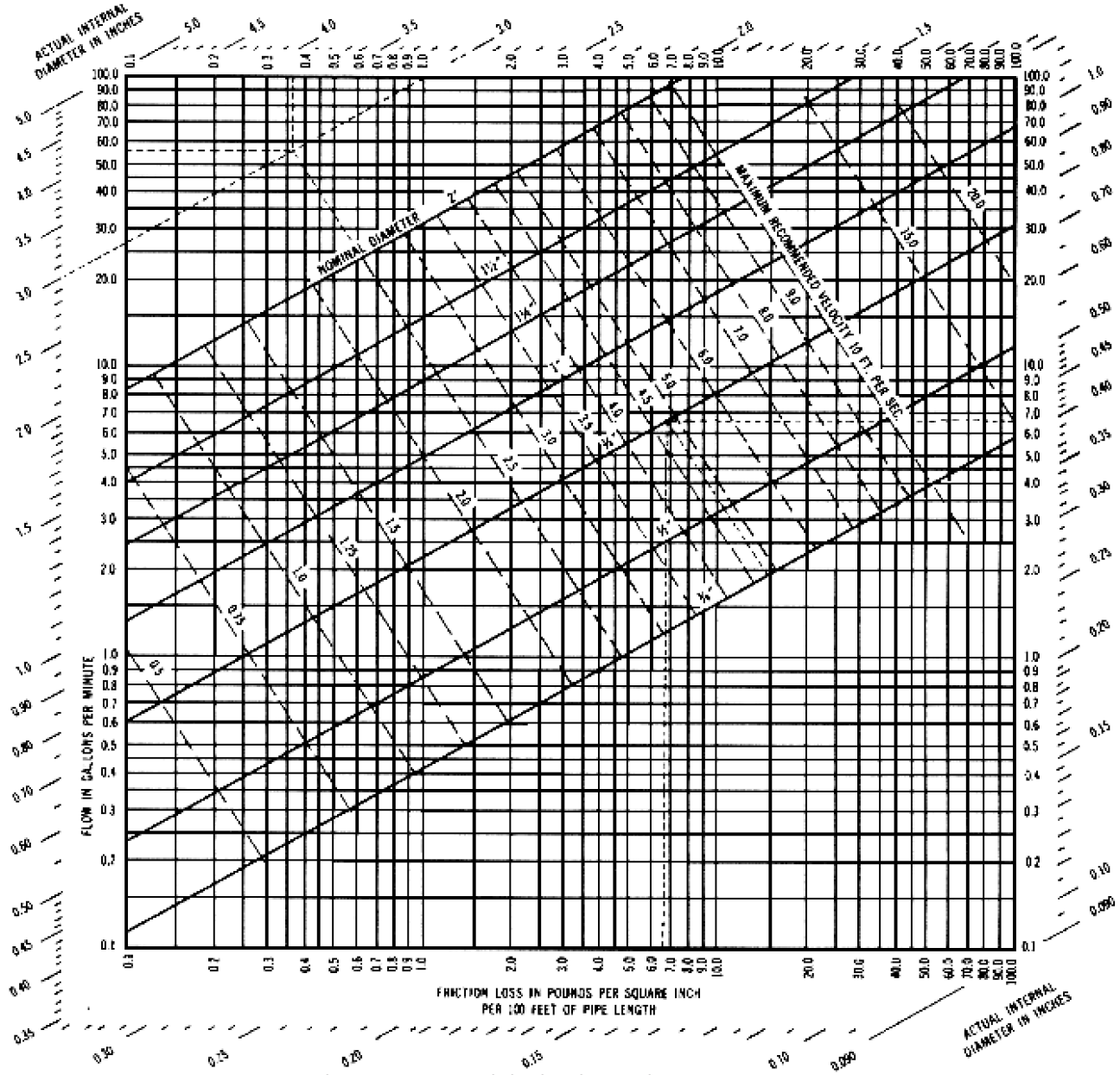
Mueller Co.

# ENGINEERING INFORMATION - COPPER TUBING FLOW CHART

## Flow chart for Type “K” copper tubing

Auxillary scale by inside diameters for use with other pipes of extremely smooth interiors.




## Curves plotted from formula

$$P = \frac{Q^{1.75}}{16.4\ d^{4.75}}$$

Where P = Friction loss in pounds per square inch 100 ft. of pipe length.

Q = Flow in gallons per minute.

d = Pipe I.D. in inches.

**Note: Flow formula and chart are accurate for Reynolds numbers of 200,000 or less; less accurate for higher Reynolds numbers.**

**Example 1.** Type “K” copper nominal size. The dotted lines above show that for 3/4" Type “K” copper pipe, a flow of 6.5" gallons per minute produces a friction loss of 6.7 p.s.i. per 100 feet of pipe length at an average velocity of 4.8 feet per second.

**Example 2.** Smooth pipe not Type “K” copper sizes. The dotted lines in the upper left hand corner show that for a 3" I.D. smooth pipe, a flow of 55 G.P.M. produces a friction loss of 0.36 p.s.i. per 100 feet of pipe length at an average velocity of 2.5 feet per second.