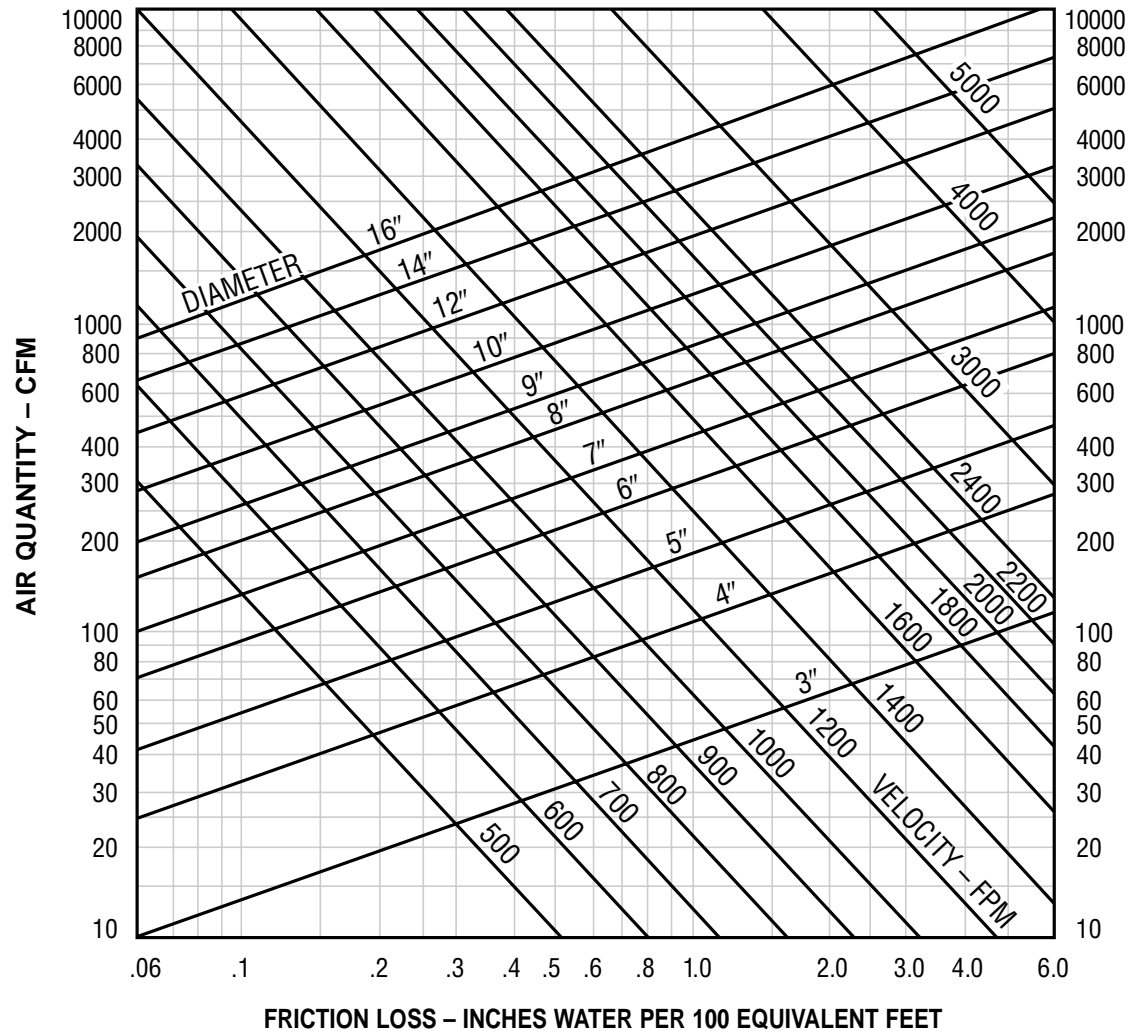


Technical Bulletin

Friction Loss in Clevaflex Duct



Clevaflex

Straight Runs of: Clevaform S-Series Clevaflex T12-Series

The straight run chart is used in the same manner as the ASHRAE Guide Friction Chart. Note the graph above shows air flow in cubic feet per minute at the left, and air velocity in feet per minute by a series of diagonal lines running from lower right to upper left. Duct diameters are represented by the diagonal lines running from lower left to upper right.

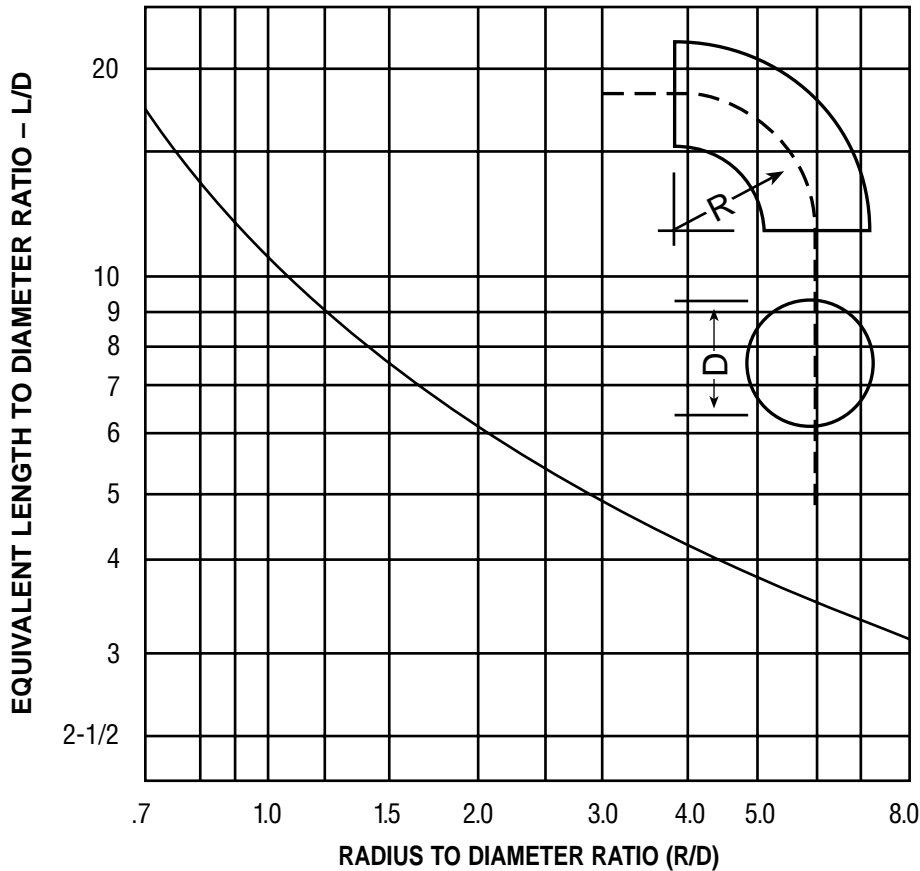
If flow in cubic feet per minute is known, locate this value on the scale at the left. Follow the line representing this value until it intersects the line representing the diameter of the duct you are using. Move directly down from the point of intersection to the scale at the bottom of the chart. This will give you the friction loss per 100 feet of duct, expressed in inches of water.

If the known figure is velocity in feet per minute, find the diagonal line representing this velocity. Follow it until it intersects the diagonal line representing duct diameter, then move down as before to the scale at the bottom.

The graph may also be used to convert CFM to FPM or vice versa. Find the point of intersection as before but move from this to the unknown quantity instead of to the scale at the bottom.

Technical Bulletin

Friction Loss in Clevaflex Duct



90° Bends: **Clevaform S-Series** **Clevaflex T12-Series**

To determine the friction loss in elbows of all diameters. Use the chart above following these steps:

1. Determine the radius ratio by dividing the centerline radius by the duct diameter.
2. Project vertically from R/D ratio to curve, and then horizontally to L/D ratio.
3. Multiply the L/D ratio by the duct diameter (in feet) to determine the additional equivalent length of straight duct.
4. Add this additional equivalent length to the straight duct length previously measured.
5. Determine the total friction loss of the flexible duct part of the system by using the total equivalent length from Step 4, with the friction chart for straight duct.

Note: For bends other than 90°, multiply the additional equivalent length obtained in Step 3, by the angle of bend and divide by 90. Then proceed with Steps 4 and 5 as described above.

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