



Figure 7 – Segmental Wedge

Some advantages of segmental wedge flow elements are:

- permanent pressure loss is approximately 50% of a similar orifice installation
- viscous fluids measure accurately over a wide range of Reynolds numbers
- changing viscosities can be measured
- bi-directional flow

A. Elbow Meter

The elbow meter is simply a pipe elbow that is inserted into the pipe and a pressure differential is created by the centrifugal force between the inside diameter and the outside walls of the pipe. The only pressure losses are from the elbow itself.

One limitation of the elbow is that the pressure differential produced is very small. Elbow flow meters are usually used for balancing loads for multiple compressors or pumps in multi-unit unit service. They have also been used in the nuclear industry to detect the extremely high velocities associated with pipe breaks.

B. Variable Area Meters

Variable area meters, more commonly known as rotameters, are available as indicators, transmitters, recorders, and controllers in any combination.

Variable area meters measure a wide range in of flow rates and are suitable for most fluids including high-viscosity liquids and low concentration