

### Figure 3 – Venturi Tube Designs

A number of taps are often employed around the circumference of the high and low pressure areas which are connected together in what is known as a piezometer ring. This allows multiple pressure measurements in order to get a better average of the pressures. As with all differential pressure measurements, the flow rate varies as the square root of the differential pressure.

#### A. Flow Tubes

Flow tubes are primary elements with converging and diverging sections, similar to Venturi, whose design is usually proprietary.

Some advantages of flow tubes are:

- high differential pressure with high recovery
- low cost

Limitations include:

- inapplicability to low flows and small pipes
- sensitivity to viscosity variations
- erroneous readings in highly viscous or dirty liquids

Flow tubes require approximately the same piping runs as an orifice plate.

#### B. Pitot Tubes