HOW TO SPECIFY

1. Size Pipe
2. Study Capacity Curve
3. Select Beta Ratio
4. Specify Part Numbers

The **HYSPAN** Venturi Flow Measurement System uses one or more venturis as primary measuring devices; one or more meters which translate the pressure differential into actual flow rates; and associated fittings, hoses, or piping.

At each point in any line where the flow rate should be checked a **HYSPAN** Venturi is installed. Two pressure taps are built into each venturi, one at a point near the narrowest part of the throat and one upstream. Each pressure tap includes a quick disconnect coupling and valve so that when portable meters are used they can be moved quickly from one venturi to another. If continuous indication, or recording of rate of flow is necessary, the **HYSPAN** Venturi can be combined with permanently mounted meters, recorders, totalizers, or similar instrumentation.

This section will provide all the information necessary for the proper selection of the venturis in the Flow Measurement System. For Meter Selection see pages 24–25.

1. Determine the flow requirements and establish each line size. In order to provide for various flow rates in each pipe size, venturis are available in several different "beta ratios" in each size. The beta ratio is a mathematical relationship between the throat I.D. and the pipe I.D. (e.g. see Figure 1 which shows a 1" venturi with a .705" throat, i.e., a 1" 705 venturi).

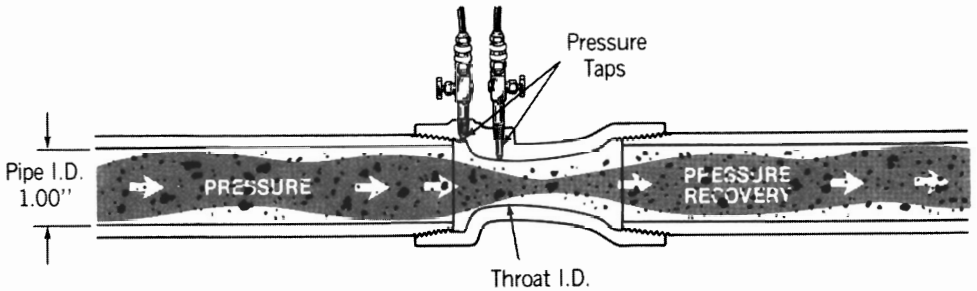

Figure 1 –1" 705 Venturi

2. Study the proper capacity curve.

Each separate beta ratio has its own capacity or flow curve. These capacity curves, shown on the following pages, indicate the differential pressure reading at various flow rates. Flow in gallons per minute is shown along the bottom of the chart. The corresponding differential pressure from 3 to 300 inches of water, is found along the left side of the chart. Since the graph is logarithmic, the curve appears as a straight line.

Because of space limitations in this catalog, these capacity curves are limited in size, and therefore, accuracy. They are suggested for use as venturi selection guidelines only and for applications where extreme accuracy is not needed. **HYSPAN** can provide larger charts where more accuracy is essential. Please also note the capacity curves are for water at +70°F. For conversion to other media, or other temperatures, see pages 26 & 27.

3. Select suitable beta ratios for each specific venturi required. It is important to select a beta ratio in each case that will produce a differential pressure reading in the middle range (between 20% and the full scale range) of the meter being used.

For example, if we wish to flow 20 gpm of water through a 1¼" pipe (see page 8) we select the 588 beta ratio venturi, which gives us a differential pressure of 30 inches of water on a 0–50" linear meter.

4. Specify proper part number for each venturi station. Detailed part numbers and dimensional information on all **HYSPAN** Venturis, along with temperature and pressure ratings and How to Order information are found on pages 18 thru 23.