

How to select a proportional valve for your application

iQ Valves offers a wide range and variety of proportional valves. Choosing the right valve for your application is important to give you better control over the valve and your process.

Valve selection is based on the pressure differential the valve will see and maximum flow expected at that pressure. Considering these parameters iQ Valves offers three different categories of valves:

1. Miniature valves for ultra low flows – IQ Nano
2. Mid range valves for moderate flows – IQ Mini, IQ Coral
3. Standard valves for high flows – Standard PFCV

The following four charts will guide you in selecting a valve (*based on air as the medium*). Each of them is divided into different sections by dividing lines. These sections correspond to the category of valve in chart 1 and give the required orifice sizes in charts 2, 3 and 4. Charts 2, 3 and 4 give the required orifice size in Miniature (Chart #2), Mid-range (Chart #3) and Standard valve (Chart #4) respectively.

The following examples illustrate valve selection using the charts.

Example 1: Pressure differential across the valve: 50 Psi

Medium: Air

Maximum required flow: 0.6 slpm

To find the valve category use chart 1. Locate a point in chart 1 with pressure and maximum required flow as the co-ordinates (*Note Chart 1 has flow in logarithmic scale*). In this example the point (with 50 psi and 0.6 slpm as co-ordinates) is in left most section on the chart, which corresponds to Miniature valves.

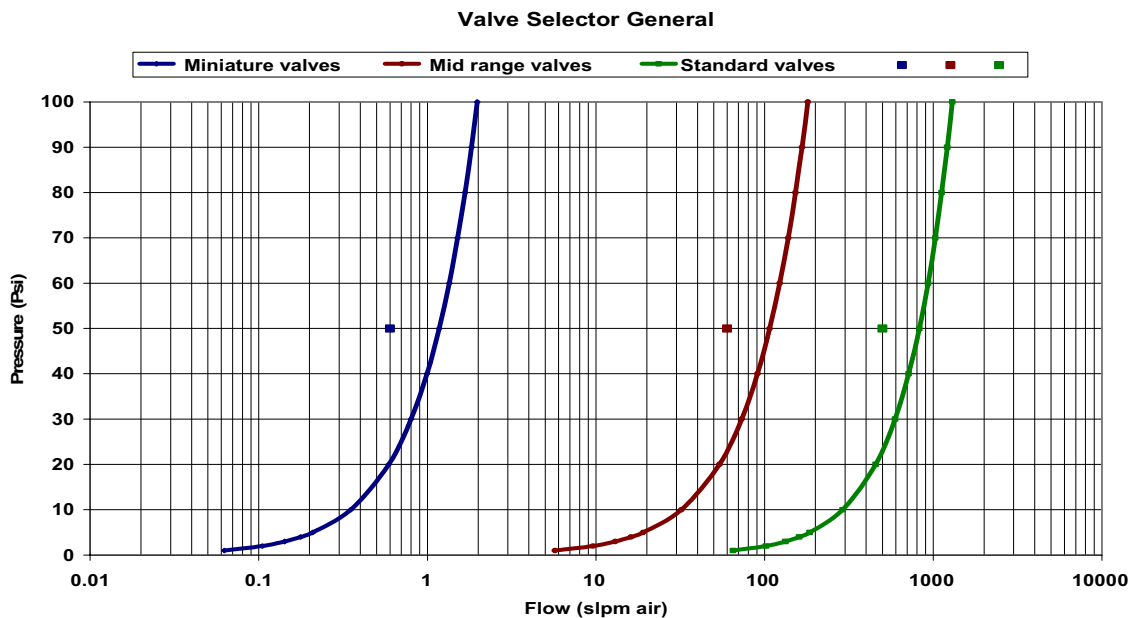


Chart 1

To find the required orifice size in the Miniature valve use chart 2. The point in this chart is in the 0.010 inch orifice size section. Thus appropriate valve for this application is 0.010 inch orifice size Miniature valve.

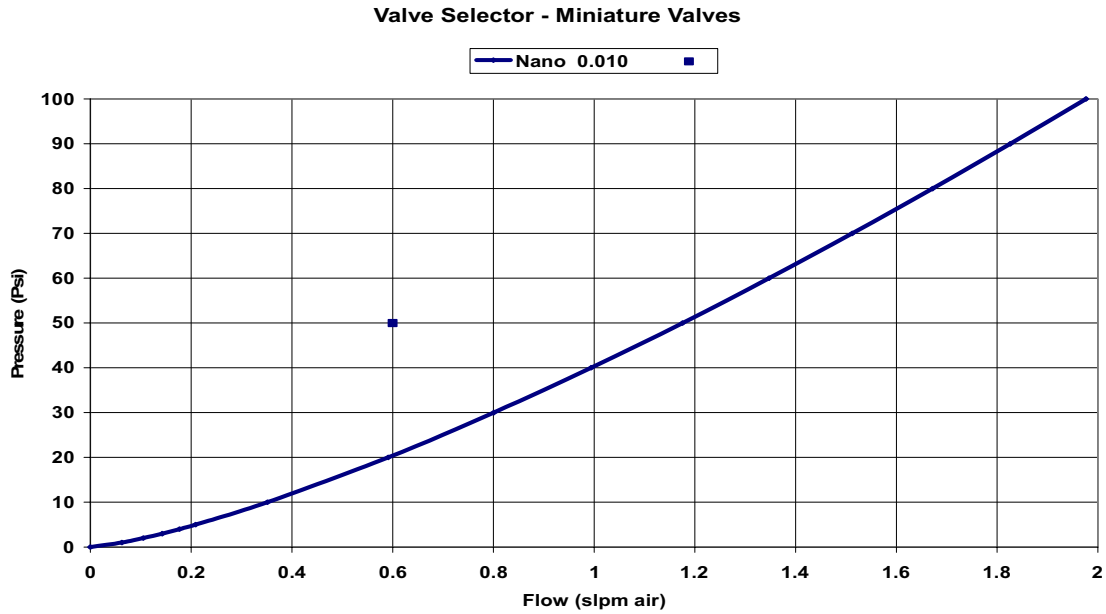


Chart 2

Example 2: Pressure differential across the valve: 50 Psi

Medium: Air

Maximum required flow: 60 slpm

To find the proper category of the valve use chart 1. In this example the point (with 50 psi and 60 slpm as co-ordinates) is in middle section on the chart, which corresponds to Midrange valve.

To find the required orifice size in the Midrange valve use chart 3. The point in this chart is in the 0.093 inch orifice size section. Thus appropriate valve for this application is 0.093 inch orifice size Midrange valve.

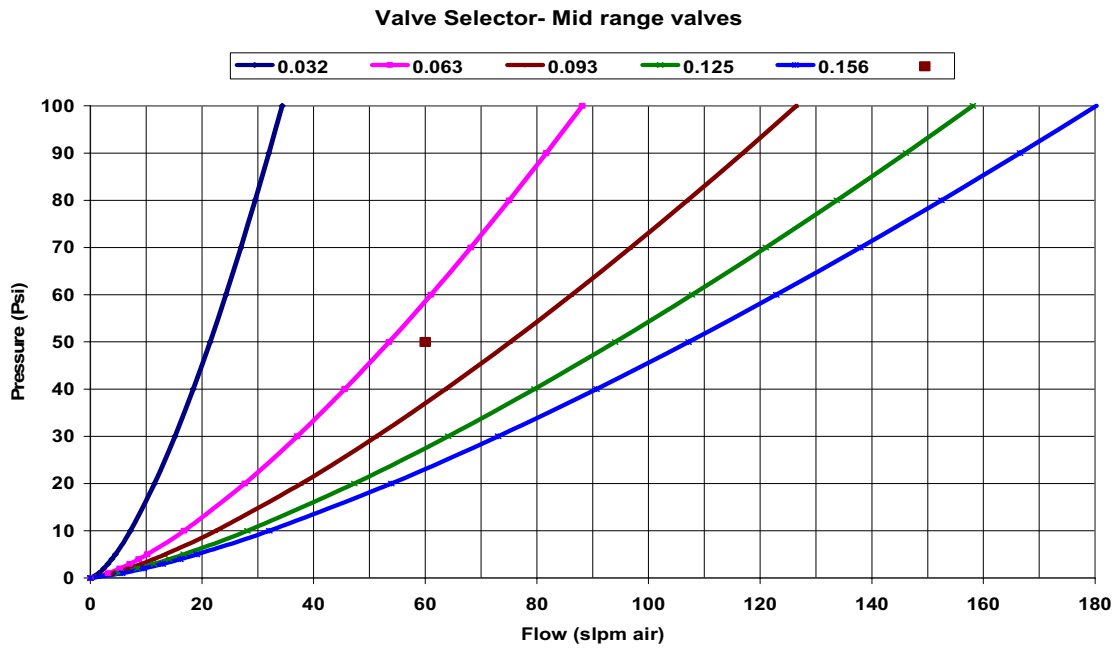


Chart 3

[For the same pressure differential of 50 psi and maximum flow requirement of 100 slpm the point will land in 0.156 orifice area, so the valve for this application will be 0.156 orifice size Midrange valve. Another example would be for 90 psi pressure and maximum required flow of 60 slpm the point will land in 0.062 orifice range, so the valve for this application will be 0.062 orifice size Midrange valve.]

Example 3: Pressure differential across the valve: 50 Psi

Medium: Air

Maximum required flow: 500 slpm

To find the valve category use chart 1. In this example the point (with 50 psi and 500 slpm as co-ordinates) corresponds to Standard valve.

To find the required orifice size in the standard valve use chart 4. The point in this chart is in the 0.375 inch orifice size section. Thus appropriate valve for this application is 0.375 inch orifice size Standard valve.

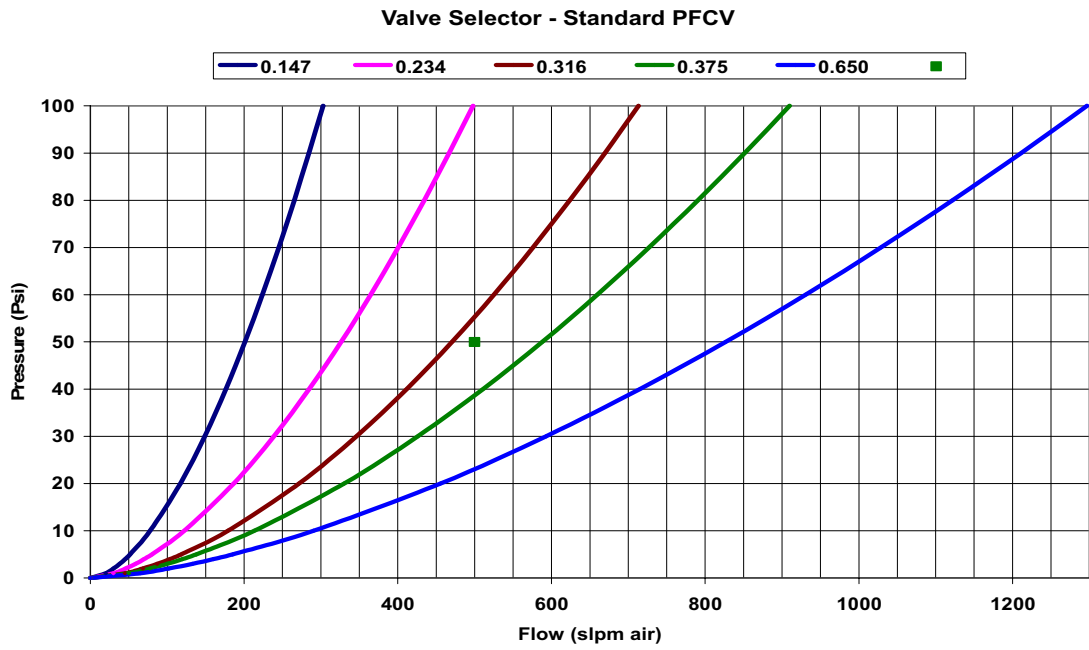


Chart 4

[For the same pressure differential of 50 psi and maximum flow requirement of 700 slpm the point will land in 0.650 orifice area, so the valve for this application will be 0.650 orifice size Standard valve. For 90 psi pressure and maximum required flow of 500 slpm the point will land in 0.316 orifice area, so the valve for this application will be 0.316 orifice size Standard valve.]