

Industry: Plastic extrusion precise vacuum control for sizing tubing

Typical Product applications: Extruded tubing of polyethylene, nylon, TPE, urethane, rubber and similar materials.

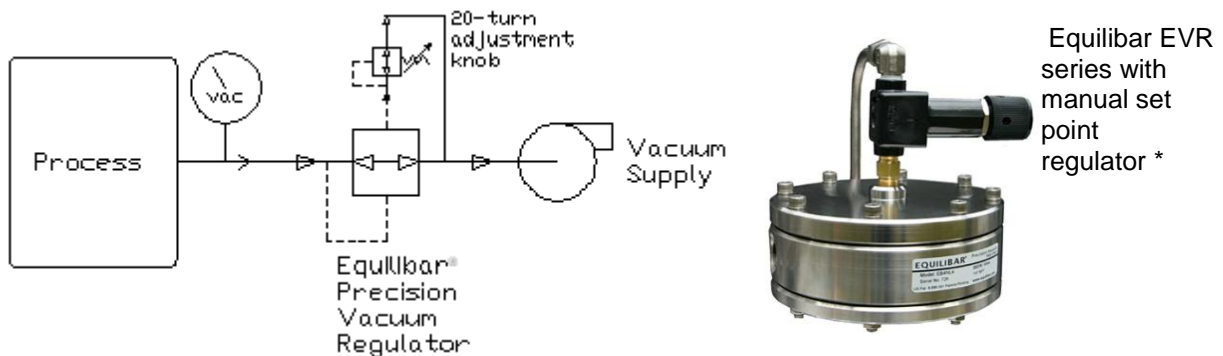
The Challenge:

Generally round hollow plastic and rubber profiles are extruded using vacuum sizing techniques. The vacuum is sometimes controlled by controlling the air bleed into the vacuum tank usually by a small hand operated needle or plug style valve. These valves are not very accurate in controlling air flow and do not compensate for water in the vacuum lines which can lead to fluctuations in tubing diameter or wall.

Solution:

The installation of an Equilbar® vacuum control regulator in the vacuum line will result in stable and precise vacuum control. The vacuum can be adjusted using a 20 turn adjustment control or an electro-pneumatic set point controlled remotely manually or by a computer system. Equilbar offers a broad range of sizes and materials plus complete electronic control system to control vacuum from the operator's station.

Schematic: Manual set point control:



* The manual adjustment knob and the gauge can be mounted in a panel convenient to the operator.

In a typical operation, the operator would establish the correct vacuum level empirically on the first run of that product, and record that value on a setup sheet for the product. On subsequent runs of that product, the operator simply dials in the value on the setup sheet and the Equilbar regulator maintains that level for the entire run.

How it works:

Our vacuum regulator uses the same patented technology as the Equilbar® precision back pressure regulators, namely a supple dome loaded diaphragm over multiple fluid passages which allows minute automatic flow adjustments to maintain the set pressure or vacuum. The multiple fluid passages enable the unit to handle air laden with sizing tank water while maintaining accuracy.