EQUILIBAR
PRECISION PRESSURE CONTROL

5X MORE PRECISE than standard regulators

Industry: Plastic and rubber extrusion **Application: extrusion ID pressure control**

Typical Product applications: Fine gauge medical tubing, rubber sealing gaskets, custom profiles, thin wall drainage pipe

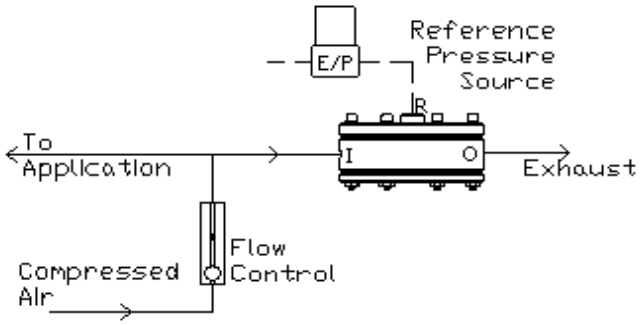
Background and need: In some tubing and similar profiles, maintaining dimensions is critical and difficult. This challenge is critical if the extruded material has little hot strength or is prone to sticking to itself. To increase control, air can be introduced into center space (lumen), but the pressure must be closely controlled and must self adjust to downstream perturbations such as caused by cutoff machines or saws and variations in windup processes.

Solution: The installation of an Equilibar® low pressure control system to control the pressure of the air inside the extrudate gives precise control of the dimensions and allows more repeatable process start-ups.

The complete system, to be mounted near the operator's station, contains all the fluid and electrical components needed for precise pressure control.

Schematic view

A variable area flow meter with needle valve (i.e. "rotameter") is typically recommended for the flow control device. The optimum setpoint for the rotameter is just greater than the maximum flow rate anticipated by the application. The overall consumption of air is approximately equal to the maximum requirement of the application.



Ease of set up: 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 the value into the pressure input on the control panel and the Equilibar regulator maintains that level for the entire run.

Results cost effectiveness: In one custom thin wall elastomeric extrusion, the major lumen (orifice) was held open using precisely controlled air pressure. Without this interior support, the material in soft stage would collapse inward and stick together. This extrusion has a second orifice with very thin wall which would be prone to rupture if the pressure was not precisely controlled, in this case by second system.

Please feel free to contact us for more information or to describe your question and application challenges. Equilibar is available by email at info@equilibar.com, web form on www.equilibar.com or phone at **(828)650-6590** (9:00 AM - 5:30) PM Eastern Time.