

Industry: Plastic and rubber extrusion

Application: Repeatable precise vacuum control for sizing round tubing

Typical Product applications

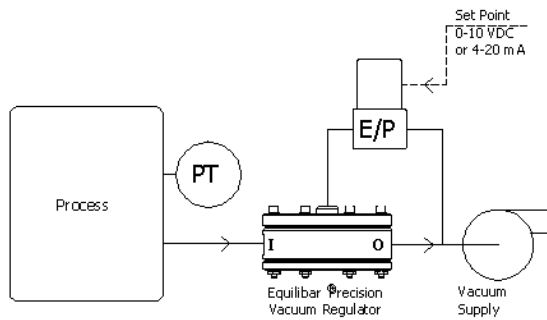
Extruded tubing of polyethylene, nylon, TPE, urethane, rubber and similar materials,

Background and need

Round hollow plastic and rubber profiles are generally extruded using vacuum sizing techniques. The vacuum is often controlled by varying the air bleed into the vacuum tank usually by a manual ball valve. These valves are not very accurate in controlling flow and cannot adjust for vacuum level perturbations caused by water flow changes. This situation can lead to fluctuations in tubing diameter or wall thickness. Additionally, Operators need a guide for vacuum level when setting up a job.

Solution

The installation of an Equilibar® electro-pneumatic extrusion vacuum control system will result in stable and precise vacuum control. The vacuum can be adjusted using a 20 turn potentiometer to establish an electro-pneumatic set point for vacuum level. The vacuum will be held at a steady level regardless of fluctuations from the process. Assuming that setup sheets are maintained for each product, the operator can dial the vacuum level to the value on the sheet and the control system will automatically adjust to that level, resulting in shorter setup times with less scrap.



This schematic shows simplicity of installation

The power for controlling the dome loaded Equilibar regulator is the extrusion sizing tank vacuum source

For this application, the Equilibar units are normally PVC; Stainless steel is also available



The Proportion-Air electro-pneumatic set point controller is directly mounted to vacuum regulator.

The set point can be adjusted from operator's station, downstream measuring equipment, or other electronic device.

