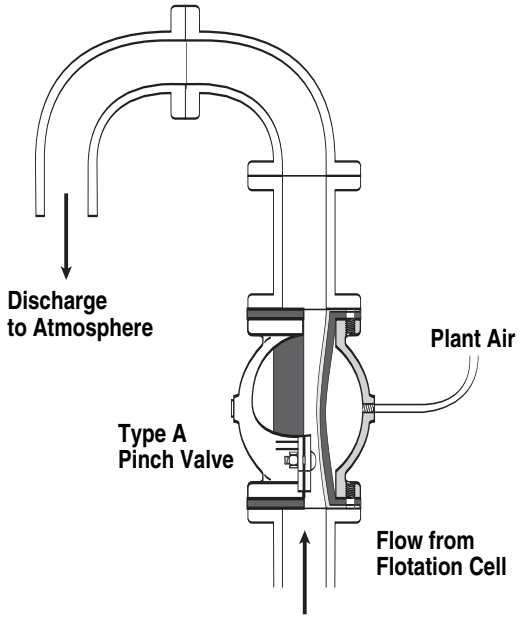
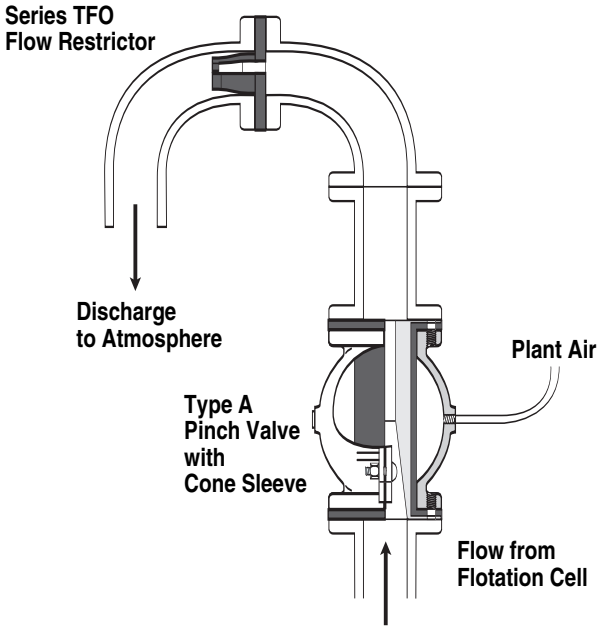
Mining application study

Floatation Cells • Type A Pinch Valve/TFO

System prior to installation of TFO and Cone Sleeve



System after installation of TFO and Cone Sleeve



While visiting the world's largest copper mine, Codelco's Chuauicamata Mine, Red Valve's products were widely seen. The most common valves were the Type A Pinch Valve on throttling service. Since the installation of these valves, numerous problems have been solved using Red Valve's patented Cone Sleeve and TFO.

Once the ore is crushed inside the mine, it is transferred to a series of cyclone separators. The separated metals then feed into a series of flotation cells. The flow of the heavy rock slurry at the flotation cells is controlled by Red Valve's Type A Valves.

Though satisfied with the performance and life of the sleeve, Red Valve successfully extended the customer's sleeve life by providing properly sized Cone Sleeves and TFOs. As is the case in many modulating applications of slurry, the Control Pinch Valves were oversized. To maintain the desired flow rate, each valve was throttled, usually between 60% and 90% closed. The combination of excess pressure drop across the valve and an increase in velocity shortened the sleeve life. the solution was to replace the 12" full port sleeve with a 12" x 8" Cone Sleeve. This reduced the velocity in the line, added better stability and control, and extended valve life due to the extra rubber on the downstream side of the sleeve.