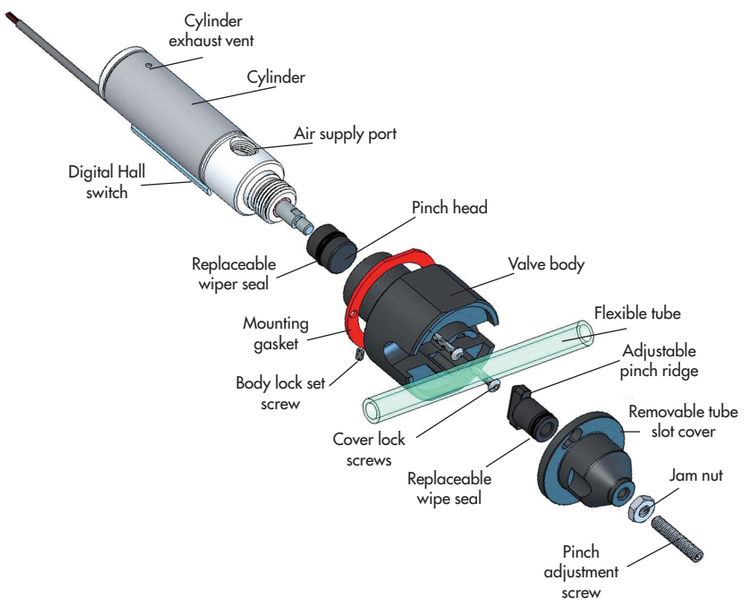
Pinch Valve Offers Compactness and Affordability

THE ACRO 600 Series of pneumatic pinch valves from Bimba Manufacturing Co. *(www.bimba.com)* eliminate media contamination and can withstand frequent washdowns, making them well suited for pharmaceutical, food and beverage, and adhesive applications.

The $165 valves are powered by 70 to 125 psi of compressed air, and consume about 0.25 in.^{3} per cycle. The valves can handle one cycle every three seconds. They use a black Acetal pinch head and ridge to exert about 24 lb of pinching force on the media. Pinch valves are control valves that use a pinching effect to obstruct the flow of fluid, gases, slurries, powders, or pellets in applications where the media must be completely isolated from any internal valve parts. Otherwise, corrosive media would degrade the internal workings of wetted valves, leading to frequent replacements. Pinch valves and disposable pieces of tubing eliminate these concerns and lower costs.

The valve comes in three sizes and they can ccommodate tubes ranging in size from 0.125 to 0.375 in. (OD), thanks to an adjustable pinch gap. The valves can be normally open or closed. Technicians can install the valves and have them fully operational within 10 minutes. The valves are also backed by an 18-month warranty. md



Piezoelectric Products Feature Flex Circuits

PIEZO CERAMICS ARE brittle, difficult to connect electrical leads to, and have no insulating protection to prevent electric shocks (piezos are often driven with 100s of volts). Mide's *(www.mide.com)* piezoelectric products offer piezo wafers sandwiched between thin flexible circuits to help solve these challenges. Called the **Piezo Protection Advantage** (PPA), Mide typically uses either FR4 (like those in a standard printed circuit board) or Polyimide for the flex circuits, but any circuit material can theoretically be used.

The graphic illustrates a PPA uni-morph (using one piezo) configuration (bi-morph and quad-morph are also available) where a layer of high-temperature polysulfone plastic is used to align the piezo wafers to the copper connections in the flex circuits. The flex circuit then runs the piezo connection out to a convenient electrical termination (connector or solder pads). Finally, a high temperature epoxy is used to adhere all the layers together in the packaging process to encapsulate the high-performance piezo ceramics between copper-clad insulating materials creating a robust, hermetically sealed, electrically insulated transducer with easy connection. md