

IN MINING & MINERAL PROCESSING

peristaltic hose pumps

Mining operations challenge most conventional pumps. Handling abrasive and corrosive fluids typically used in mining operations presents a challenge to any pump manufacturer. High solids content and strong acidity create problems for diaphragm, centrifugal or other types of pumps where the product comes in contact with the working parts of the pump.

To overcome these problems, mine operators have had to purchase specialised pumps, often constructed from acid-resistant and wear-resistant materials or put up with frequent, costly pump maintenance or replacement. Often rotors or impellers on slurry pumps last only weeks, and diaphragm pumps clog, leak or fail after only a few months.

Replacing centrifugal slurry pumps with peristaltic hose pumps makes economic sense. High-density thickener underflow slurries are too high to allow centrifugal pumps to deliver the correct flow rate and abrasive wear causes regular costly repairs. Because abrasives in the slurry do not affect peristaltic hose pumps, mine operators are now able to reduce downtime and achieve dependable pump operation at the required flow rate. Often peristaltic hose pumps were overlooked as being "low flow". The AFX150 pump, however, has one of the highest flow rates in the world at 150m³/hr.



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Because peristaltic hose pumps contain the fluid entirely within the hose, the hose is the only wearing part. The rubber hose is highly abrasion-resistant, and pumps can easily pump abrasive fluids like tailings, metal slurries, and thickener underflow. Due to the high solids content of these slurries, other types of pumps often fail because the product comes into contact with the rotors, stators, impellers and seals of the pump. In a peristaltic hose pump, however, the hose never fails due to abrasion.



Unlike most rotary pumps, peristaltic pumps have no shaft seals to flush with water, coupled with the ability to handle slurries with high solids concentrations, plants use much less water with peristaltic hose pumps, saving the plant considerable amounts in both maintenance and water usage. In the mining industry, water is money, and the less you use, the better. Flushing pump seals and diluting thickened slurries is incredibly costly to a mine because the water added must be removed or treated.

AFX peristaltic pumps are designed to operate at slower speeds and have lower energy consumption than most traditional peristaltic hose pumps. Actual tests have seen up to 50% savings on power consumption.