

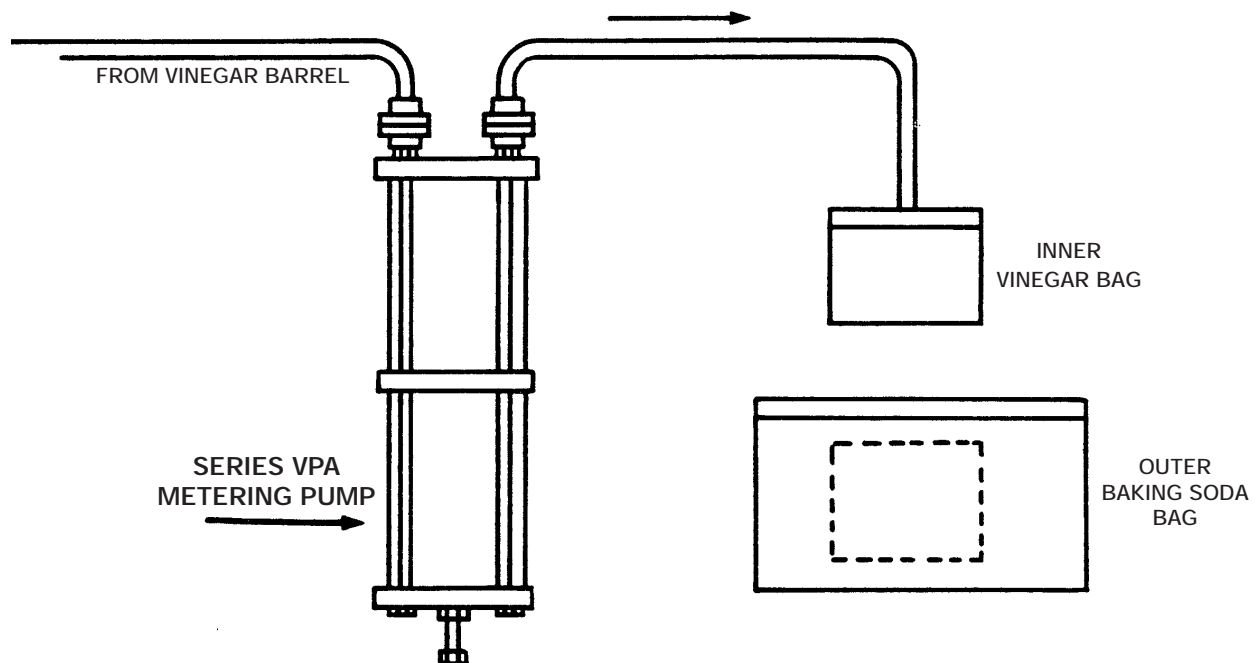
MARKET Mining Industry

PRODUCT(S) Series VPA Chemical Metering Pump

REQUIREMENT To provide precise volume (9 ounces) of fluid for filling heat sealed plastic bags.

PROCESS FLUID(S) Food Grade Vinegar (Acetic Acid), 10-20% Concentration

INLET PRESSURE/TEMPERATURE 20 PSI Discharge Pressure / Ambient



The Series VPA Chemical Metering Pump draws vinegar from the storage barrel and precisely delivers 9 ounce injections into special plastic bags. These bags are then heat sealed and placed inside a larger plastic bag that contains baking soda (sodium bicarbonate). When used in the field, the inner

(vinegar) bag is intentionally ruptured allowing the vinegar and baking soda to mix producing CO₂ (carbon dioxide) gas. The CO₂ gas swells the larger bag providing a tighter seal within the mine shaft. Therefore, once the explosive is detonated the full power is directed toward the desired location.