

## Can your water conditioning application handle automation and harsh conditions?



ChevronPhillips needed a skid in their water treatment system at their chemical plant in Baytown, Texas. The competitor pumps, made of anodized aluminum, could not accomplish the job, as they neither withstood the environment nor could be programmed as this application required constant monitoring. CheckPoint Pumps and Systems provided pneumatic pumps,



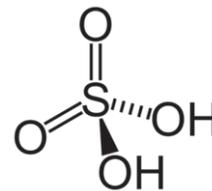
equipped with Hastelloy fluid ends, were mounted on a skid with Badger control valves and a sulfuric acid sludge filter pot. Additionally, the tubing and valves were Alloy 20; this was a safety standard required by the plant, and it also better protected the parts from the sulfuric acid.

The pH of the water was monitored by a pH analyzer, with results feeding into a closed loop PLC provided by the customer. A 4-20 mA signal went out to a I/P controller which in turn sent a pneumatic signal to the Badger valves to set the pump rate of the sulfuric acid pumps as required to maintain the set pH point. As input from the pH analyzer changed, the pump speed increased or decreased.

Since the location of the skid was ¼ of a mile away from the control room, the convenience of automated pumps versus the manual competitor pumps was quickly manifested. By automating the skids, the customer was able to vary the speed of the pumps as required by the pH monitor. The pump packing's structural integrity was prolonged by the sulfuric acid sludge pot, as the pot filters the skim out of the chemical, which occurs when sulfuric acid stands in a tank. The skid's reliability was paramount, as it remained untouched for over 3 years. Pleased with CheckPoint's solution, ChevronPhillips ordered five more skids for other locations in the plant.

### Sulfuric Acid Application

- PLC automated pumps eliminated need for crew to manually adjust in harsh environment
- Skimming issue filtered with sulfuric acid sludge pot



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