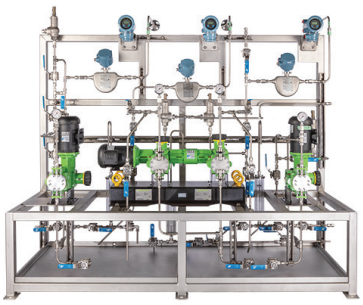
BROOKS BROOKS SPRAYING PUMPING FILTERING AND VALVES

ANOTHER PROBLEM SOLVED!

CHEMICAL METERING SYSTEM ELIMINATES CHEMICAL SPILLS AND IMPROVES SAFETY, QUALITY & EFFICIENCY



THE CHALLENGE

The customer was manually mixing chemicals which is dangerous for operators because the demulsifiers and fuel additives are hazardous. It is also a challenge to achieve precision and consistency between batches, especially if operators are called away during the mixing process. Without operators present and without level control, the mixing tanks can overflow, and chemicals will spill to the ground. Chemical spills pose physical threats to the operator due to slips or exposure-related injures and since the number one priority for the customer is operator safety needed this to be adressed immediately. Also, chemical spills can result in a day or more of downtime, which strains opertions, wastes chemicals, and ties up operators and administrators with internal reporting. The customer needed a system that could ensure high levels of metering accuracy and repeatability with spill containment measures, as well as an updated chem shack that would house the upgraded system.

THE SOLUTION

Our pump application and engineering team had multiple discussions with the customer and came up with a solution using Pulsafeeder PulsaPro API 675 pumps. These pumps met all of the petrochemical and gas industry requirements and the specifications of the customer's engineering team, and the safety provided by a double-diaphragm pump with leak detection capabilities are unmatched. We provided three separate hydraulically balanced diaphragm metering pump skids and work with the customer's engineering team to streamline the installation. We solved the facility issue using two 40-foot sea-cans stacked on top of each other. The three metering pump systems mix three different chemical additives from totes in the upper container. The chemicals gravity feed to calibrated mixing tanks in the lower container, which operate with automated actuated valves and level instrumentation to prevent overfill.

THE RESULTS

- Increased Safety
- Increased Efficency
- Increased Cost Savings

For more information on this solution or if you have a fluid handling challenge of your own - Contact a John Brooks Company Metering Pump Application Expert today!

PETROCHEMICAL | CHEMICAL MIXING

PULSAFEEDER METERING PUMP SKIDS & FACILITY FOR CHEMICAL MIXING

TECHNOLOGY UTILIZED

Pulsafeeder Pulsa-Pro Hydraulic Diaphragm Metering Pumps

- Flow: up to 270 GPH (1,022 LPH)
- Pressure: up to 5,100 PSI (350 bar)
- Temperature: 275°F (135°C)
- Viscosity: up to 1,000 cps
- Steady-State Accuracy of +/-0.5% Set Point
- Repeatability of +/-0.5% rated capacity
- Linearity of +/-0.5% of rated capacity
- API-675, CE and ATEX compliant
- Fluid temperatures from -10 to 275°F (-23 to 135°C)

HOW HYDRAULIC DIAPHRAGM PUMPS WORK

1. Diaphragm pumps have a reciprocating diaphragm in a liquid chamber that produces the pumping action.
2. The diaphragm is fitted to one side of the chamber and coupled with an actuator that moves the diaphragm.
3. When the actuator moves the diaphragm, it bulges in and out of the liquid chamber, which changes the pressure inside. When the diaphragm bulges in, the pressure increases, which opens the outlet valve and pumps out the fluids inside.
4. The diaphragm is reciprocated by the action of hydraulic fluid pumped by a reciprocating piston. The piston pumps the driving fluid, moving the diaphragm, which pumps the chemicals on the other side. This mechanism prevents contact between the pumping element and the liquid being pumped.

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