SPX 352

Metering pumps for paints and coatings

Within the paints, coatings and finishing industries there are many applications that involve single and multiple streams where the liquids need to be metered accurately to ensure product consistency. The individual components that comprise these applications often require careful handling as they can be both flammable and hazardous to health. They are also expensive commodities so need to be handled efficiently and economically to avoid waste.

The production of PVA emulsion is a perfect example of where multi-headed dosing pumps come into their own and it is an application where Bran + Luebbe pumps have a strong reputation. In this application units using three multi-headed double diaphragm pumps operate at a high pressure to combine vinyl acetate and monomer. Final product consistency is maintained through the use of electric stroke length adjustment, which allows for fine tuning of the components within this fully automated production process.

In the automotive industry there are many applications, including the blending of base coats and formulating of colours, where this type of pump has a high international operating base. In one specific UK plant, the Bran + Luebbe pumps are being used within the topping-up systems for base coats. Handling

pigment and resin, each pumphead operates independently and delivers product at varying pressures and flows according to production requirements.

Elsewhere, single headed pumps are being used for handling passivator, accelerator, cleaner surfactant and phosphate on a pre-treatment line. Pump speed/flowrate and process pressure vary at line on a car to car basis depending on the colour required. In all cases, the proportion of each component is an essential requirement in order to ensure a uniform final product.

Based on extensive experience within the paints and coatings industry, SPX Process Equipment is in a position to offer a wide range of mechanically and hydraulically actuated Bran + Luebbe diaphragm pumps. Through innovation and the ability to use a wide range of materials, current diaphragm pump designs can accommodate a wide range of flows and other process variables such as pressure and temperature.

The main advantage of double diaphragm pumpheads is their ability to provide leak-free operation and prevent the safety and environmental problems associated with the escape of dangerous chemicals into the atmosphere. The solution employed by the Bran + Luebbe pump, in combination with a rupture detection device, has been shown to be highly effective. Should one diaphragm rupture, the second will continue to function without any detriment to the pumping operation. In such an event the rupture device will alert operating personnel and appropriate remedial action can

either be implemented immediately or at a convenient time in the manufacturing process.

Improvements in speed and stroke control parameters allow greater pump flexibility as well as contributing to very high levels of accuracy and consistency, ensuring efficient use of the expensive raw materials. Positive displacement pump technology has been shown to be one of the most effective methods for the inline proportioning and metering of liquids. Such pumps display high levels of accuracy, repeatability, safety and economy particularly if they provide leak-free performance. Developments have kept pace with industry requirements and the continuing introduction of new manufacturing processes and materials will ensure that these pumps will maintain their position as an integral part of the processes employed in paints, coatings and finishes processing.

Caption

SPX Process Equipment offers a wide range of mechanically and hydraulically actuated Bran + Luebbe diaphragm pumps.

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