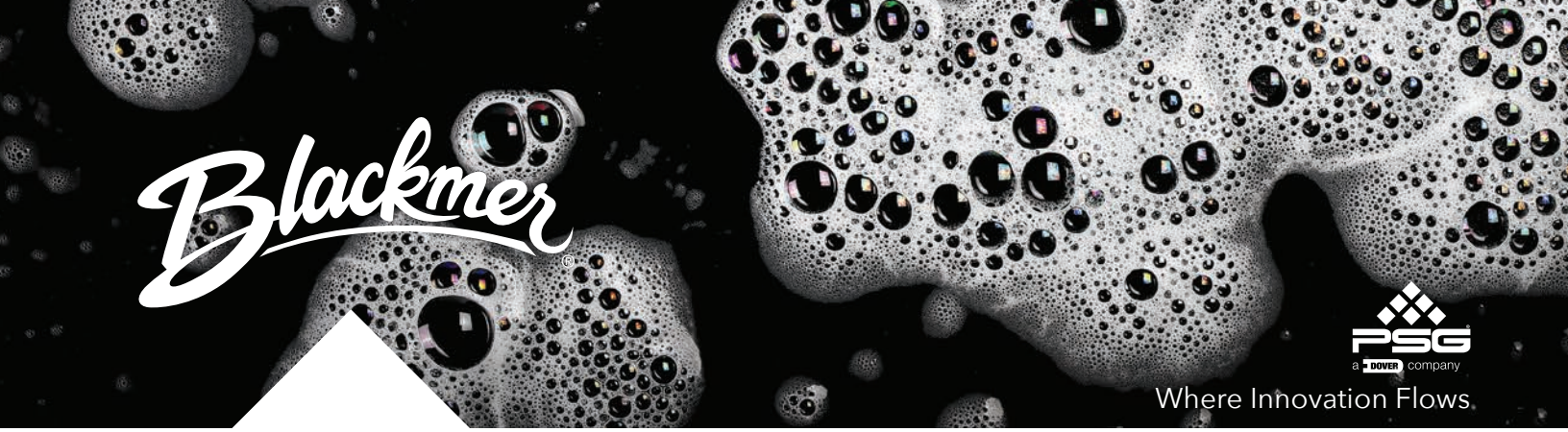


Soaps

APPLICATION DOCUMENT

Soaps are an indispensable part of everyday life, playing a huge role in both personal hygiene and the cleaning of innumerable objects, from clothes and kitchen counters to automobiles and pets. The production of soaps is rather straightforward – they are basically water-soluble products that combine fatty acids (usually derived from animal or vegetable oils) with an alkali, glycerin or sulfuric acid, with dyes and perfumes added as needed. The challenge in the soap-making process is unloading these raw materials – which have varying handling characteristics and requirements – at the manufacturing facility and then dosing them properly during the manufacturing process.

Positive displacement (PD) sliding vane pumps are a perfect choice for the many variables in the complete soap-manufacturing process because they excel when operating at varying pressures and with differing liquid viscosities, can perform self-priming and line-stripping duties, have unlimited dry-run capability and can handle particulate-laden liquids, which are common when disposing of waste fats.

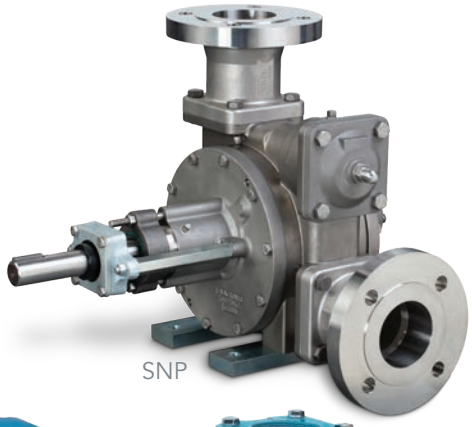
Blackmer offers a number of sliding vane pump technologies for use in soap manufacturing. For the offloading of raw materials from railcars and transport trucks, high-capacity ML Series Sliding Vane Pumps, which are part of the Heavy Duty Line, are capable of

ML

producing and maintaining the high flow rates (up to 590 gpm [2,233 L/min]), that are required when unloading large-volume transport vehicles. They are designed with hardened and replaceable wear surfaces that also make capable of handling liquids with suspended abrasive particles. XLW Series Pumps, also part of the Heavy Duty Line, are constructed of ductile iron, which makes them ideal for handling liquids with suspended particulates up to 250 microns in size with up to a 25% concentration. Within the actual manufacturing process, NP Series Pumps, part of the Iron Line, have flow rates from 2 to 525 gpm (8 to 1,987 L/min) and are ideal for applications where high temperature, pressure, viscosity and/or specific shaft-sealing requirements demand the use of a sleeve-bearing pump. For those manufacturers who must keep their operations hygienic, SNP Series Sliding Vane Pumps, part of the Stainless Line, are stainless-steel pumps that are available in 2- and 3-inch models with flow rates from 75 to 275 gpm (178 to 1,040 L/min) and operating temperatures up to 350°F (177°C).

Soaps


ML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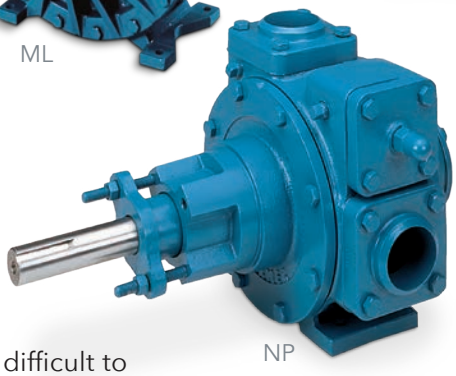
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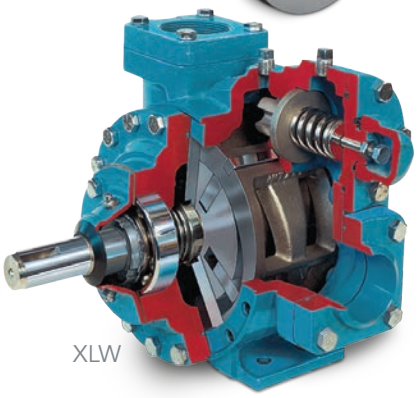

XLW

BLACKMER SOLUTIONS

- ML Series Sliding Vane Pumps
- XLW Series Sliding Vane Pumps
- NP Series Sliding Vane Pumps
- SNP Series Sliding Vane Pumps

COMPETITION

- Gear Pumps

They are not self-adjusting, which makes it difficult to maintain volumetric consistencies when handling high-viscosity materials at varying pressures. Also gear pumps are not as easy to maintain and rebuild because they have more wear parts (gears, head, casing, etc.), with that component wear accelerated when handling abrasive particulates.

- Centrifugal Pumps

Do not possess the line-stripping capabilities needed for operations that handle a wide variety of raw materials in soap manufacturing, which can lead to product cross-contamination. Also, if the liquid is particulate-laden the particulates will bounce violently off the pump's internal components, which can damage them.

- Air-Operated Double-Diaphragm (AODD)

The pump's diaphragms have operational limits that can hamper their ability to handle high-viscosity and particulate-laden liquids.

- Lobe Pumps

Overall, have reduced suction-lift and sealing ability. They are typically mechanically sealed and even when utilizing two mechanical seals, they will eventually fail – usually quite quickly – so they will need to be replaced frequently.

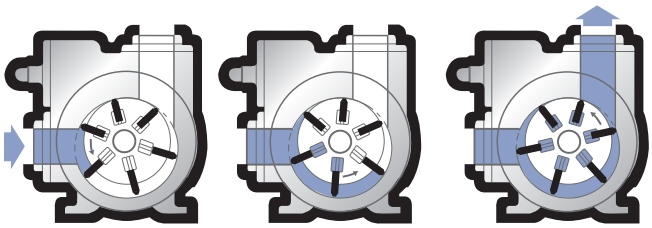
GLOSSARY

Alkali – a soluble salt obtained from the ashes of plants and consisting largely of potassium or sodium carbonate.

Glycerin – an organic compound known more formally as glycerol, it is an odorless, colorless, oily and slightly viscous liquid commonly used in the soap-making process.

Alkali – a colorless, odorless, viscous, corrosive and water-soluble mineral acid composed of the elements sulfur, oxygen and hydrogen commonly used in the production of detergents, dyes and pigments.

HOW BLACKMER SLIDING VANE ACTION WORKS



For more information on these additional solutions, visit us at blackmer.com.

Where Innovation Flows

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