



Where Innovation Flows

Asphalt

APPLICATION DOCUMENT

From road to roof, asphalt plays an indispensable role in everyone's life. Without it, most roads would be almost undriveable and most roofs would not be able to deliver the required protection against sun, rain, snow and wind that keeps homes, schools, offices and hospitals inhabitable. Therefore, it is imperative that the producers, transporters and users of asphalt identify and implement pumping technologies that can adequately and reliably satisfy its many unique handling characteristics.

The main challenge in the transfer and application of asphalt is that it has to be kept at an elevated temperature so that it does not thicken as it is being pumped; failure to keep the asphalt at its required temperature will harm pump internals and lead to catastrophic breakdowns. A second consideration is asphalt's high viscosity level, which can make it difficult to pump. Many grades of asphalt will also contain abrasive particles that can be harmful to the pump's internal components.

Positive displacement (PD) sliding vane pumps excel in asphalt-handling applications because they can be outfitted with heating jackets that help keep the asphalt at the desired temperature, while their self-adjusting vanes allow them to handle high-viscosity, particulate-laden liquids at varying pumping pressures. Sliding vane pumps can also run dry for short periods, which makes them ideal for applications that require self-priming and line stripping.



HXL

Blackmer offers three PD sliding vane pump models that are ideal for asphalt-handling applications. The HXL Series Pumps, which are part of the Heavy Duty Line, are available in 6-, 8-, 10-inch port sizes for use in high-volume transfer of asphalt, 150 to 2,080 gpm (577 to 7,874 L/min). They can be outfitted with a heating jacket (the HXLJ model) that maintains a temperature necessary to keep the asphalt in a liquid state. They are constructed of ASTM 536 ductile iron and fitted with replaceable casing, liners and end discs that allow easy rebuilding of the pump without needing to be removed from the piping. NP Series Pumps, from the Iron Line, feature self-lubricating sleeve bearings for use in applications with high temperature, pressure and viscosity, with flow rates ranging from 2 to 525 gpm (8 to 1,985 L/min). ML Series Pumps, part of the Heavy Duty Line, are constructed of ductile iron and feature internal self-lubricating sleeve bearings and PTFE-impregnated shaft packing that make them compatible with the handling properties of asphalt. ML Series Pumps offer flow rates of 35 to 590 gpm (132 to 2,233 L/min). If any of these models are outfitted with mechanical seals, the seal faces should be bronze, which prevents the asphalt from adhering and damaging the seal.



Asphalt

BLACKMER SOLUTIONS

- [HXL Series Sliding Vane Pumps](#)
– [HXLJ](#)
- [NP Series Sliding Vane Pumps](#)
- [ML Series Sliding Vane Pumps](#)

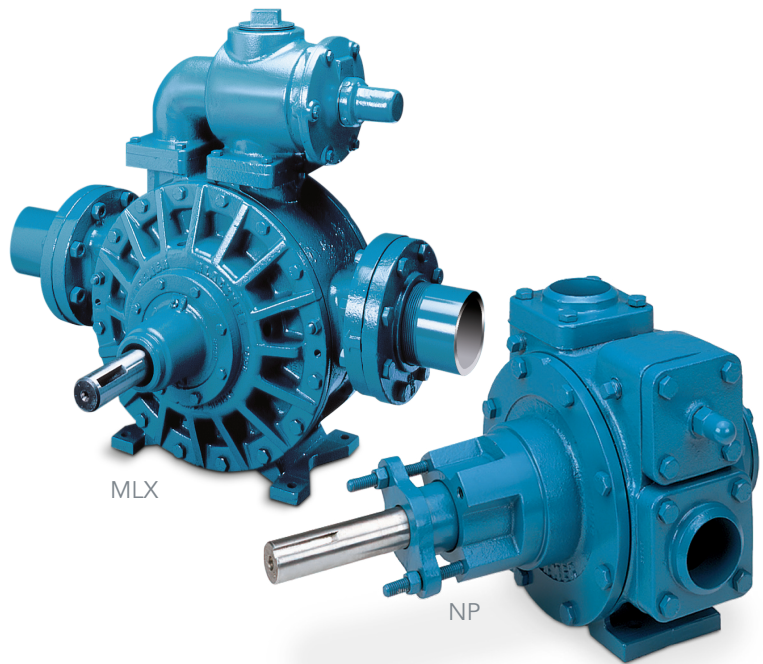
COMPETITION

- Gear Pumps

Gear pumps are not self-adjusting, which makes it difficult for them to maintain volumetric consistencies when handling high-viscosity materials at varying pressures. The constant meshing and grinding of the gears also means that they will wear down quicker with resultant maintenance or replacement costs.

- Air-Operated Double-Diaphragm (AODD)

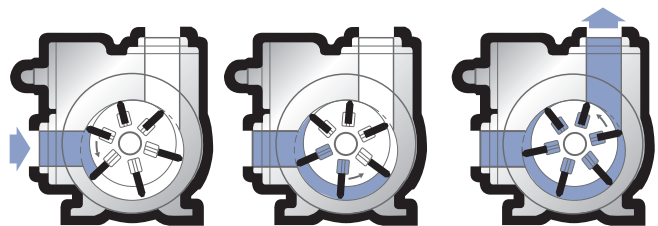
The AODD pump's diaphragms can be damaged when handling high-temperature liquids. Conversely, AODD pumps cannot be outfitted with heating jackets, which makes it harder for them to maintain the asphalt's required temperature.



GLOSSARY

Asphalt – a mixture of dark bituminous pitch – usually made by the distillation of crude oil – with sand or gravel, used for the surfacing of roads, flooring, roofing, etc.

HOW BLACKMER SLIDING VANE ACTION WORKS



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



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