

# Blackmer



Where Innovation Flows

## Lube Oil APPLICATION DOCUMENT

What was once a do-it-yourself exercise has become a required third-party expense – every three months or 3,000 miles – in ensuring that your vehicle continues to operate reliably and efficiently. Yes, we're talking about the oil change, with oil-change bays having become as ubiquitous on street corners in most U.S. cities as the specialty coffee shop.

The lifeblood of these oil-change businesses is the lube oil that is used to lubricate the vehicle's engine components. Though while oil-change services are the most obvious use for lube oil, they are hardly the only one. Most heavy machinery needs it to reduce friction and dissipate heat on moving parts. There have also been some changes in the makeup of lube oils. The most significant is the growth in synthetic oils, which can be as thick as 300 cP so they will last longer. The challenge in handling these thicker oils is eliminating the chance that viscosity breakdowns will occur if they are mishandled.

Positive displacement (PD) sliding vane pumps stand out when handling lube oils because their self-adjusting vanes allow them to handle high-viscosity liquids without compromising required flow rates. Unlike some competitive pumping technologies, sliding vane pumps can handle refined lube oils with some level of solids or abrasive particulates. If some wear does occur in these applications, the vanes are easy to replace without needing to remove the pump from the piping.

Blackmer offers a number of sliding vane pump models that hit the sweet spot in lube oil-handling applications. The HXL Series Pumps, which are part of the Heavy Duty



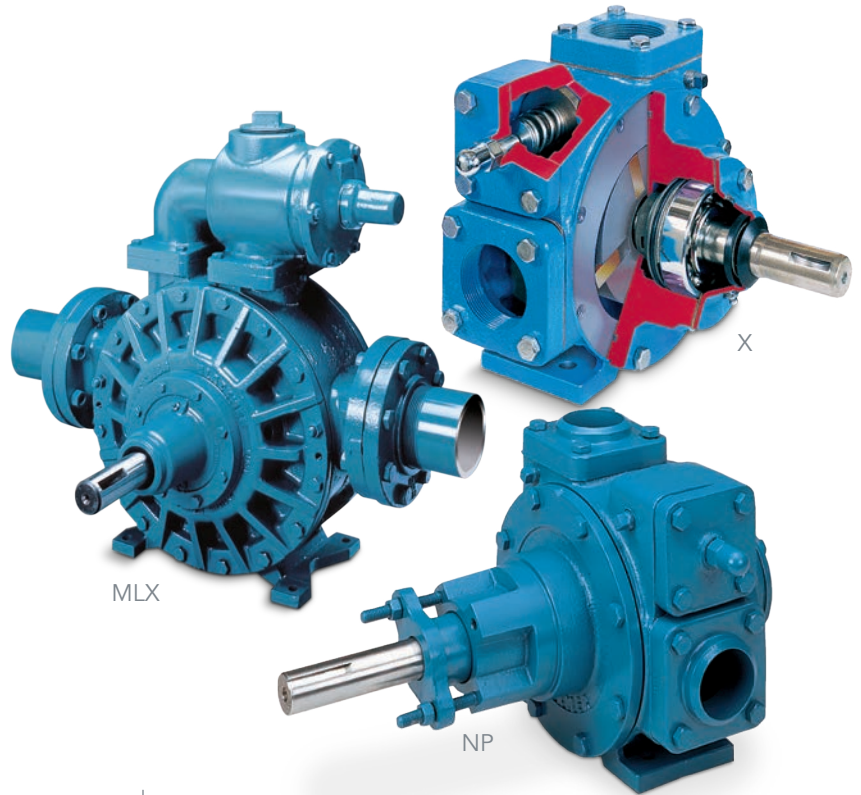
Line, are available in 6-, 8- and 10-inch port sizes for use in the high-volume transfer of lube oils, with flow rates up to 2,080 gpm (7,874 L/min). If necessary, they can be outfitted with a heating jacket (the HXLJ model) that can produce a temperature that is necessary to keep thicker oils in a liquid state. The GNX Series Pump – which is a member of the Iron Line – features a commercial-grade, single-stage gearbox that is positioned between the pump and motor and held in place by a permanent dowelled connection. The result is a pump that will not need to be realigned either at installation or after a maintenance procedure. GNX Series pumps can achieve flow rates from 7 to 500 gpm (26 to 1,893 L/min). X Series pumps, also in the Iron Line, are available in 2-, 2.5-, 3- and 4-inch flanged sizes with flow rates from 10 to 528 gpm (38 to 1,999 L/min). ML Series Pumps, part of the Heavy Duty Line, have flow rates from 35 to 590 gpm (132 to 2,333 L/min) and 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 lube oils. Finally, NP Series Pumps, part of the Iron Line and with flow rates from 2 to 525 gpm (8 to 1,987 L/min), are ideal for applications where high temperature, pressure, viscosity and/or specific shaft-sealing requirements demand the use of a sleeve-bearing pump. With that in mind, the NP Series pumps feature a unique head and bearing design that results in long bearing life.



# Lube Oil

## BLACKMER SOLUTIONS

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



## COMPETITION

- **Gear Pumps**

More difficult to seal than standard sliding vane pumps. Also, not as easily rebuildable because they have more wear parts (gears, head, casing, etc.).

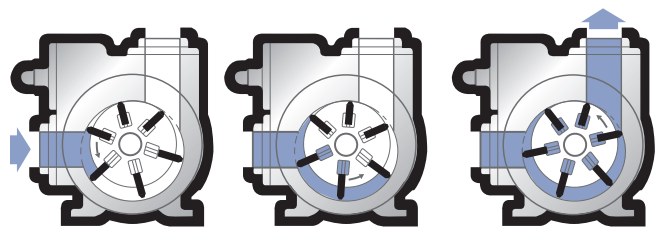
- **Screw Pumps**

Built to handle thicker lube oils, but are expensive to repair and will not maintain volumetric consistency if the lube oil contains particulates, which will wear the screws out.

## GLOSSARY

**Centipoise (cP)** – A unit of dynamic viscosity defined as the amount of force needed to move a layer of liquid in relation to another liquid; considered the standard unit of measurement for liquids of all types.

## HOW BLACKMER SLIDING VANE ACTION WORKS



For more information on these additional solutions, visit us at [blackmer.com](http://blackmer.com).



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