HXL Series

SLIDING VANE PUMPS | PRODUCT BROCHURE

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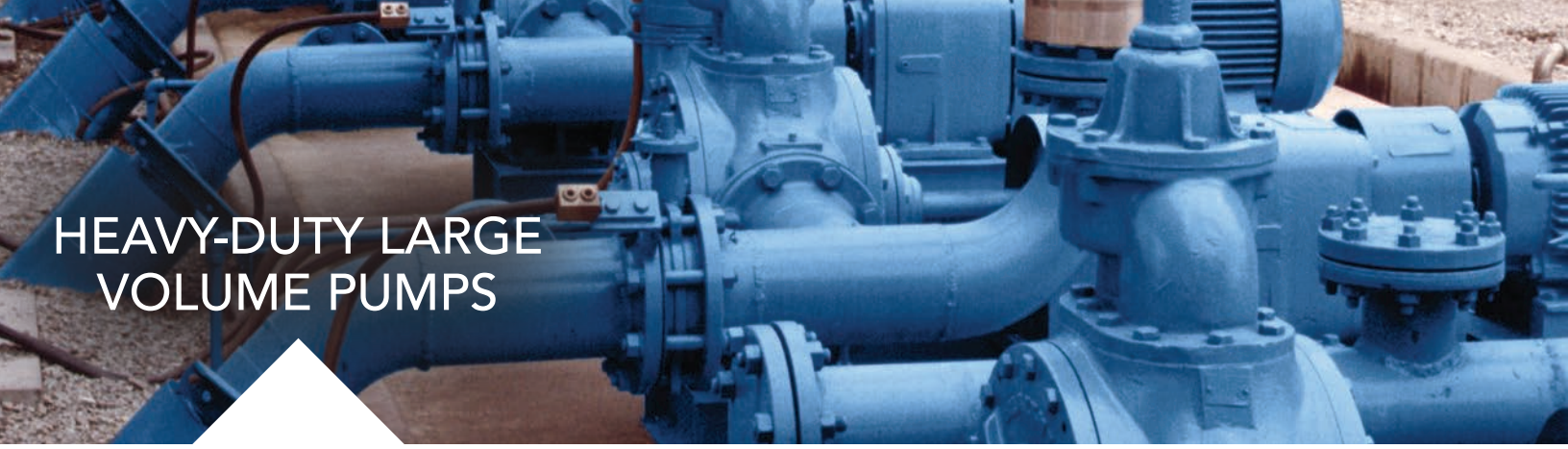
Blackmer®

Where Innovation Flows



HEAVY-DUTY LARGE VOLUME PUMPS

Blackmer® HXL Series Sliding Vane Pumps

High-Volume Transfer of All Viscosity Levels

The HXL Series Sliding Vane Pump is the solution for high-volume transfer applications. HXL pump models come in in 6-, 8- and 10-inch ANSI flanged port sizes with maximum rated capacities of 750, 1,190 and 2,080 gpm (170, 270, and 472 m^3/H) respectively.

Purpose built for heavy-duty applications, and continuous operation due to their ductile iron construction, HXL Series Sliding Vane Pumps will withstand sudden thermal shock and stress well beyond the capabilities of cast iron. Since HXL Sliding Vane Pumps are fitted with many replaceable wear parts like vanes, casing, liners and end discs, this allows for easy rebuilding of the pump to new condition, without removing the pump from the piping, preventing costly downtime.

With three different vane options, HXL Series Sliding Vane Pumps can handle a wide range of viscosity levels (0.2 to 22,000 cSt) allowing for pumping of everything from light petroleum products to asphalt and molasses. All HXL Series models offer optional bolt-on relief valves designed to protect the pump from excessive pressure. Base-mounted unit assemblies with commercial gear reduction drives, motors and baseplates are available for all HXL models. A jacketed version of the HXL Sliding Vane Pump is available in the 8-inch size. With its jacketed heads the HXLJ8 model maintains the high temperatures of fluids within the pump for high viscous and high temperature applications.

Due to the sliding vane design, and reduced motor speed, HXL Series Sliding Vane Pumps are capable of dry run, self-priming, high suction lift, product recovery, and line-stripping. With these capabilities HXL pumps stand apart from other high-volume pump technologies like screw pumps and centrifugal pumps that cannot provide those features. With their high-volume capacity, HXL pumps are commonly used in refineries, terminal operations, barge and ship loading, and many other off-loading applications that value these capabilities. In addition to moving low viscosity fluids, HXL pumps also excel at moving highly viscous fluids like asphalts, molasses, and heavy crude.

HXL Sliding Vane Pumps | Design Features

Optional Bolt On Relief Valve

Adjustable relief valve designed to protect the pump from excessive pressure.

Liner

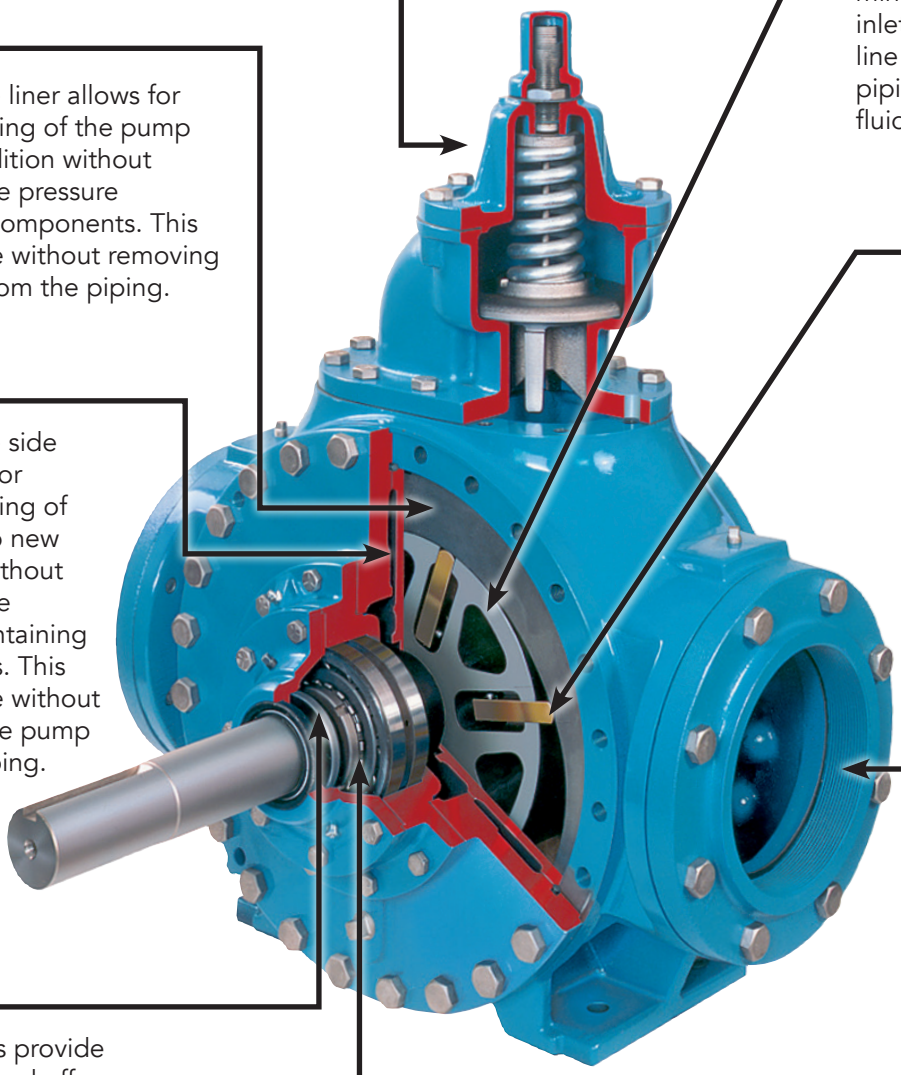
Replaceable liner allows for easy rebuilding of the pump to new condition without changing the pressure containing components. This can be done without removing the pump from the piping.

Discs

Replaceable side discs allow for easy rebuilding of the pump to new condition without changing the pressure containing components. This can be done without removing the pump from the piping.

O-ring

FKM O-rings provide strong seal and offer an impressive range of chemical compatibility.



Closed Rotor

Special closed rotor design has minimal clearance to improve inlet performance allowing for line stripping, priming evacuated piping systems and vertical lift of fluid to the pump inlet.

Vanes

Vanes provide exceptional sealing which maintains performance over the operating life of the pump. With three different self-adjusting and easily replaceable vane options – laminate, bronze and cast iron – you'll find the material ideal for your application.

Large Ports

Models are availble in 6-, 8- and 10-inch ANSI flanged port sizes allow for extremely large flow volumes.

External Bearings

Reduce pump wear due to balanced shaft load, and decrease required maintenance due to greased bearing housing external from working fluid.

Heating Jacket

The HXLJ8 model features jacketed heads (not shown) for high viscous and high temperature applications. This optional feature is only available on the 8-inch size model.

Maintenance and Rebuild Kit Part Numbers

Pump Model	Maintenance Kit	Rebuild Kit
HXL6	898912	899012
HXL8	898913	899013
HXJL8	898914	899014
HXL10	898915	899015

HEAVY-DUTY LARGE VOLUME PUMPS

Blackmer® | Sliding Vane Technology

About Sliding Vane Technology

Utilizing the unique sliding vane design of Blackmer, these positive displacement rotary vane pumps offer the best combined characteristics of sustained high level performance, energy efficiency, trouble-free operation and low maintenance cost.

How Blackmer Sliding Vane Pumps Achieve High Efficiency

Blackmer Sliding Vane Pumps use a rotor with sliding vanes that draw the liquid in behind each vane, through the inlet port and into the pumping chamber. As the rotor turns, the liquid is transferred between the vanes to the outlet where it is discharged as the pumping chamber is squeezed down. Each vane provides a positive mechanical push to the liquid before it.

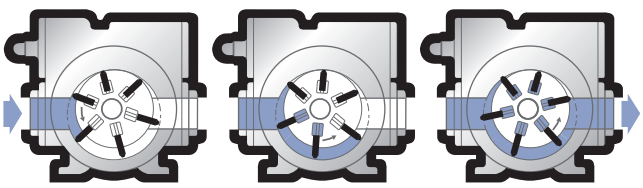
Vane contact with the chamber wall is maintained by three forces: (1) centrifugal force from the rotor's rotation, (2) push rods moving between opposing pairs of vanes, and (3) liquid pressure entering through the vane grooves and acting on the rear of the vanes.

Each revolution of a Blackmer Sliding Vane Pump displaces a constant volume of fluid. Variance in pressure has minimal effect. Energy-wasting turbulence and slippage are minimized and high volumetric efficiency is maintained.

Advantages Of Sliding Vane Technology:

- Unique sliding vane pump design self-adjusts for wear to maintain flow rates
- Excellent at self-priming, eliminates expensive priming systems
- Extended dry-run capability, eliminates nuisance current monitoring systems
- Sliding vane design provides sustained performance and trouble-free operation
- Easy maintenance: vanes, liners, and discs can be easily replaced without removing the pump from the piping system
- High suction lift abilities that exceed 25 feet (7.6 meters) and line-stripping capabilities to completely empty tanks, and piping of fluid
- Low maintenance and low life-cycle costs, pumps are renewable and repairable
- Solids handling, provided by large displacement and slow internal velocities
- Thin to thick fluid viscosity flexibility, eliminates expensive heating systems
- Highly efficient, sliding vane pumps require less horsepower than other pumps, meaning spending less on motors initially and less on electricity to power the pump

180-DEGREE PORTED DESIGN



HXL Series | Performance & Specifications

Performance Data

Pump Model		Viscosity						
		1.0 cSt (30 ssu)	110 cSt (500 ssu)	630 cSt (3,000 ssu)	2,200 cSt (10,000 ssu)	4,250 cSt (20,000ssu)*	10,500 cSt (50,000ssu)*	22,000 cSt (100,000 ssu)*
HXL6	rpm	350	350	300	230	155	100	68
	gpm	685	735	625	480	320	200	130
	m^3/h	156	167	142	109	73	45	30
	L/min	2,590	2,780	2,370	1,820	1,210	760	490
	hp	26	30	32	27	20	14	11
HXL8 HXLJ8	rpm	350	350	300	230	155	100	68
	gpm	1,150	1,180	1,010	740	515	327	220
	m^3/h	261	268	229	168	117	74	50
	L/min	4,350	4,470	3,820	2,800	1,950	1,240	830
	hp	33	43	40	40	28	21	15
HXL10	rpm	230	230	230	190	155	100	68
	gpm	1,990	2,075	2,075	1,700	1,385	885	595
	m^3/h	452	471	471	386	315	201	135
	L/min	7,530	7,850	7,850	6,440	5,240	3,350	2,250
	hp	90	97	115	115	89	60	40

Note: Approximate capacities and horsepower (hp) are for the conditions specified at 50 psi (3.45 bar) differential pressure. Refer to performance curves for capacities and horsepower at other operating conditions.

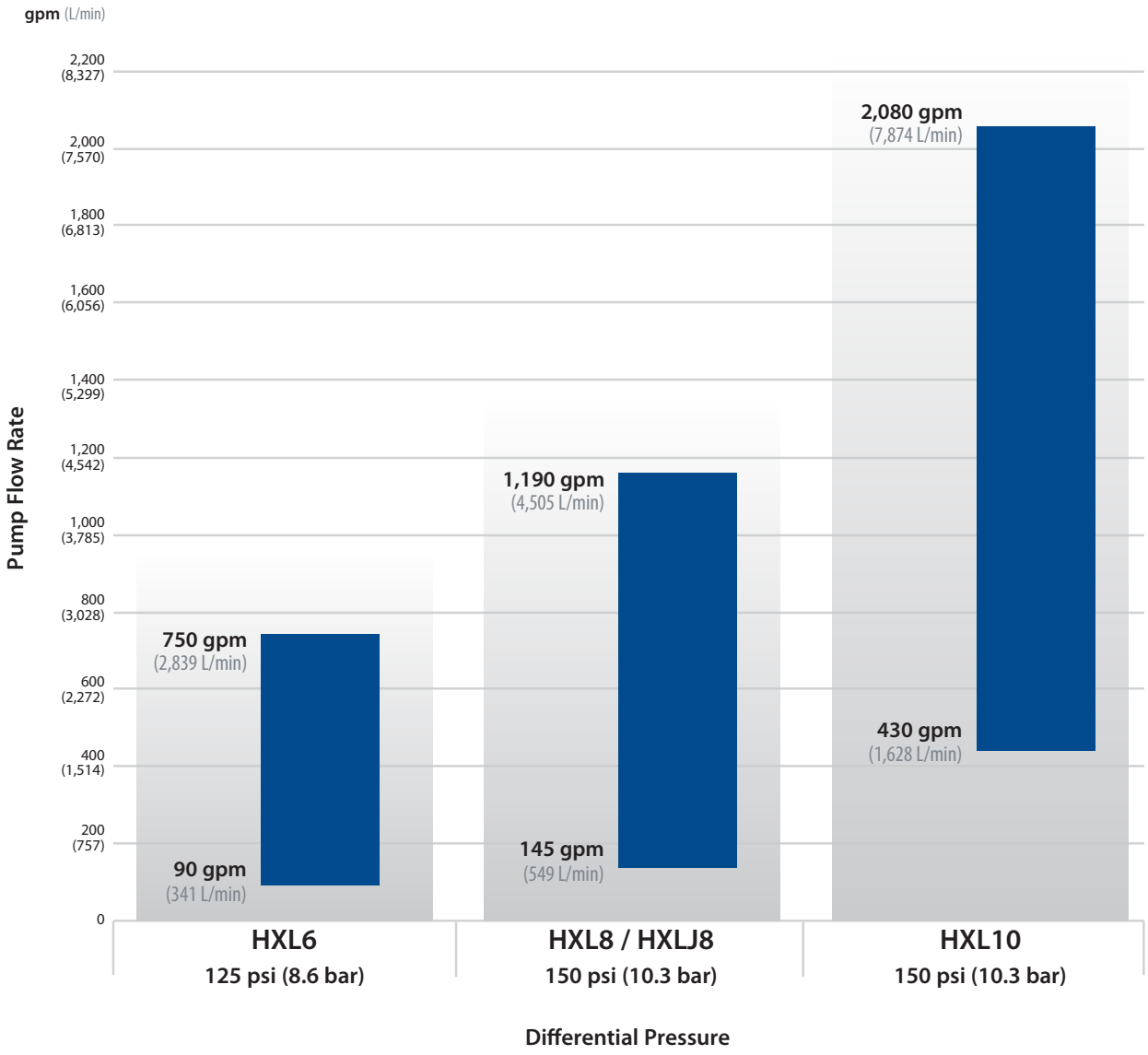
** For viscosities 4,250 cSt (20,000 ssu) and higher, use metal vanes.*

Operating Limits

Pump Model	Nominal Flow Rate Range	Viscosity	Maximum Operating Temperature	Min./Max. Speed	Maximum Working Pressure	Maximum Differential Pressure
HXL6	90 - 750 gpm (341 - 2,839 L/min)	22,000 cSt (100,000 ssu)	-25°F to 400°F (-32°C to 204°C)	45 - 350 rpm	150 psi (10.3 bar)	125 psi (8.6 bar)
HXL8 HXLJ8	145 - 1,190 gpm (549 - 4,505 L/min)	22,000 cSt (100,000 ssu)	-25°F to 400°F (-32°C to 204°C)	45 - 350 rpm	250 psi (17.2 bar)	150 psi (10.3 bar)
HXL10	430 - 2,080 gpm (1,628 - 7,874 L/min)	22,000 cSt (100,000 ssu)	-25°F to 400°F (-32°C to 204°C)	45 - 230 rpm	250 psi (17.2 bar)	150 psi (10.3 bar)

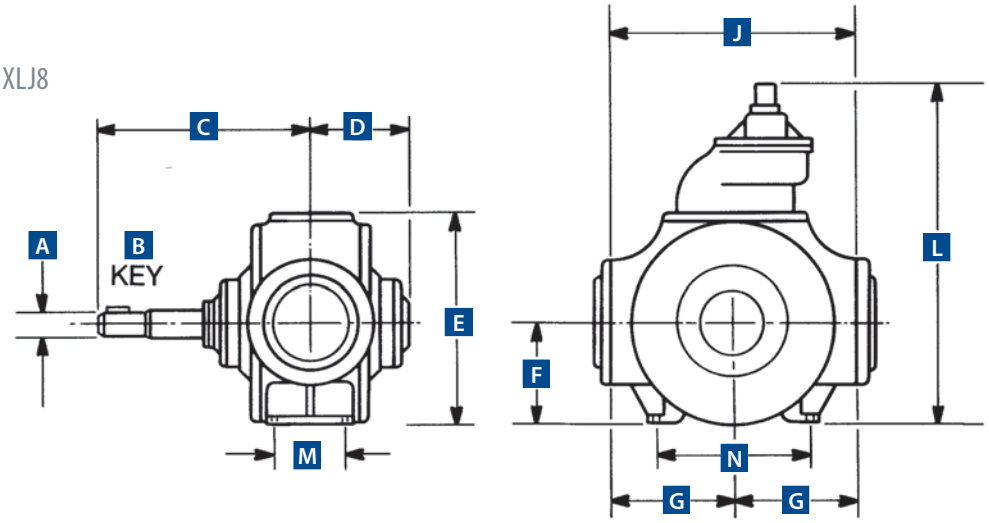
Note: Optional materials of construction may be required to meet specific application requirements – Refer to Blackmer Material Specification Sheets. For operating conditions that exceed those listed – Consult factory.

Nominal Flow Rate Range



HXL Series | Dimensions

HXL6, HXL8, HXLJ8

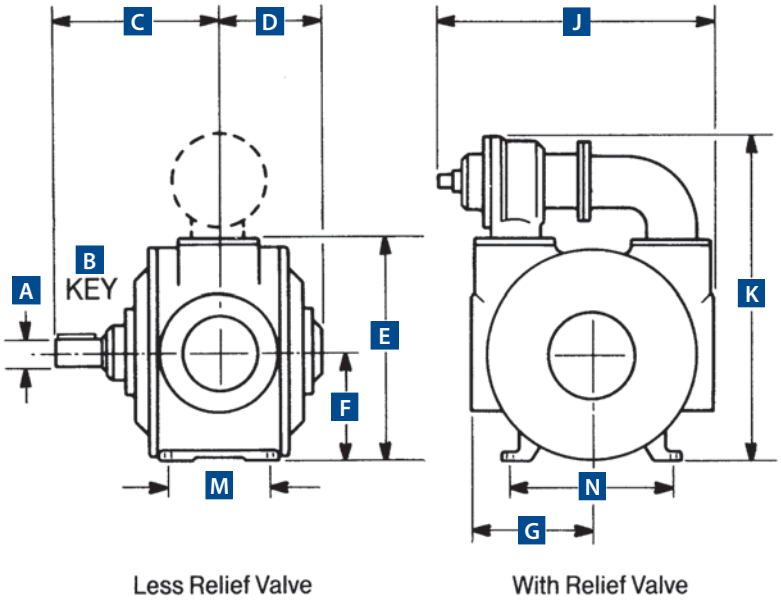


Less Relief Valve | With Relief Valve

Pump Model		A	B	C	D	E	F	G	J	L	M	N	Approx. Wt.
HXL6	in.	2 3/8	1/2	21	91 1/16	20 1/4	9 1/2	10 3/4	21 1/2	34 1/2	5 1/2	10 1/2	800 lbs.
	mm	–	–	533	246	514	241	273	546	876	138	267	364 kg
HXL8 HXLJ8	in.	2 5/8	5/8	22 1/4	9 11/16	22 3/4	10 3/4	12 13/16	25 5/8	36 7/8	6	15	1,010 lbs.
	mm	–	–	565	246	578	273	325	651	937	152	381	458 kg

Note: HXLJ8 is jacketed.
Note: ANSI compatible flanges.

HXL10



Less Relief Valve | With Relief Valve

Pump Model		A	B	C	D	E	F	G	J	K	M	N	Approx. Wt.
HXL10	in.	3 7/8	1	22 1/2	13 7/8	32 1/8	14 3/4	16 5/8	39 1/8	44 5/16	10	21	2,610 lbs.
	mm	–	–	572	352	816	375	422	994	1,126	254	533	1,184 kg

Note: ANSI compatible flanges.

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