

X Series

ROBUST GENERAL DUTY SLIDING VANE PUMP | PRODUCT BROCHURE



Blackmer

Where Innovation Flows



Pumps are often pushed to the limit, operating continuously, in difficult unrelenting environments. For those applications you need a workhorse pump that can take long hours, extreme conditions and continue to operate without missing a beat, you need Blackmer X Series Sliding Vane Pumps.

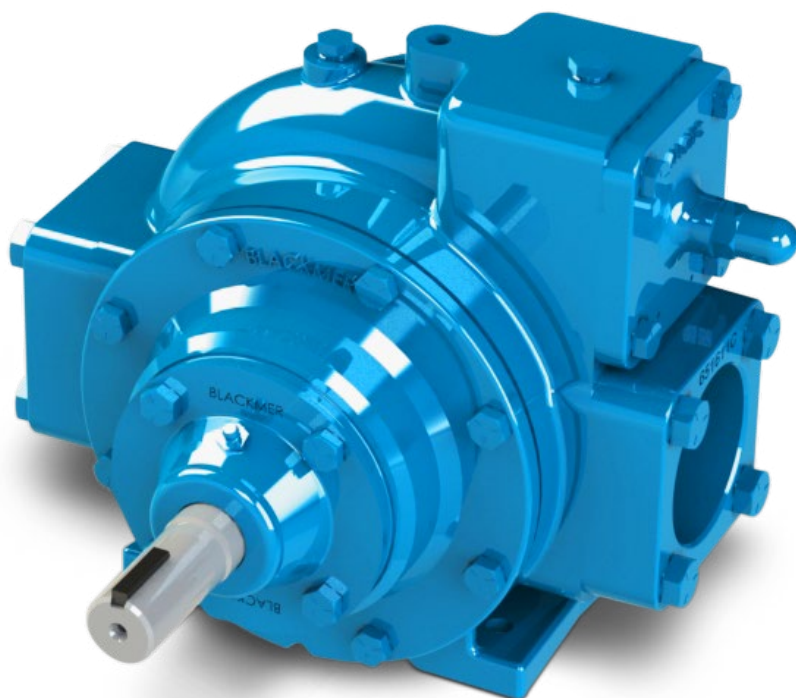
ROBUST,
GENERAL DUTY
CAST IRON
PUMP

Blackmer® X Series | Sliding Vane Pumps

The Blackmer X Series Sliding Vane Pumps are specially designed to offer reliable performance for general duty handling of non-corrosive, non-abrasive industrial liquids and petroleum products. The pumps are available in 2 to 4-in port sizes in 90° porting (X) or 180° porting (XH) orientation, with flow rates ranging from 10 to 528 gpm (38 to 2,000 L/min). X Series Sliding Vane Pumps handle fluid temperatures up to 300°F (149°C) and maximum viscosities up to 20,000 SSU (4,250 cP). Additionally all models feature external bearings, isolated from the pumpage by mechanical seals, allowing for abrasive liquids, extended dry run, and solids handling.

X Series Positive Displacement Rotary Pumps, utilize a unique sliding vane design to offer the best combined characteristics of sustained high level performance, energy efficiency, trouble-free operation and low maintenance cost. Also, the high suction lift capability of these pumps makes them especially suitable for pumping from underground tanks, bulk plant service and aircraft refueling.

The X 2-, 2.5-, and 3-in models all feature cast iron construction. While the XH models 2-, 2.5-, 3-, and 4-in and the X4 model are constructed with ductile iron. If you are looking for a motor speed X Series Sliding Vane Pump, the Blackmer X1 pump model is available.



XH2.5
SLIDING VANE
PUMP

Blackmer® X Series Sliding Vane Pumps | Design Features

Ports

90° porting features on X models and 180° porting on XH models features standard NPT or optional butt-welded or ANSI connections.

Single Mechanical Seal

Internal mechanical seals allow for extended dry run and continuous operation with non-lubricating liquids.

External Roller Ball Bearings

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

Casing

Cast iron construction for X2-, 2.5-, and 3-in models and XH2-, 2.5-, 3-, and 4-in and the X4 are constructed with ductile iron.

Relief Valve

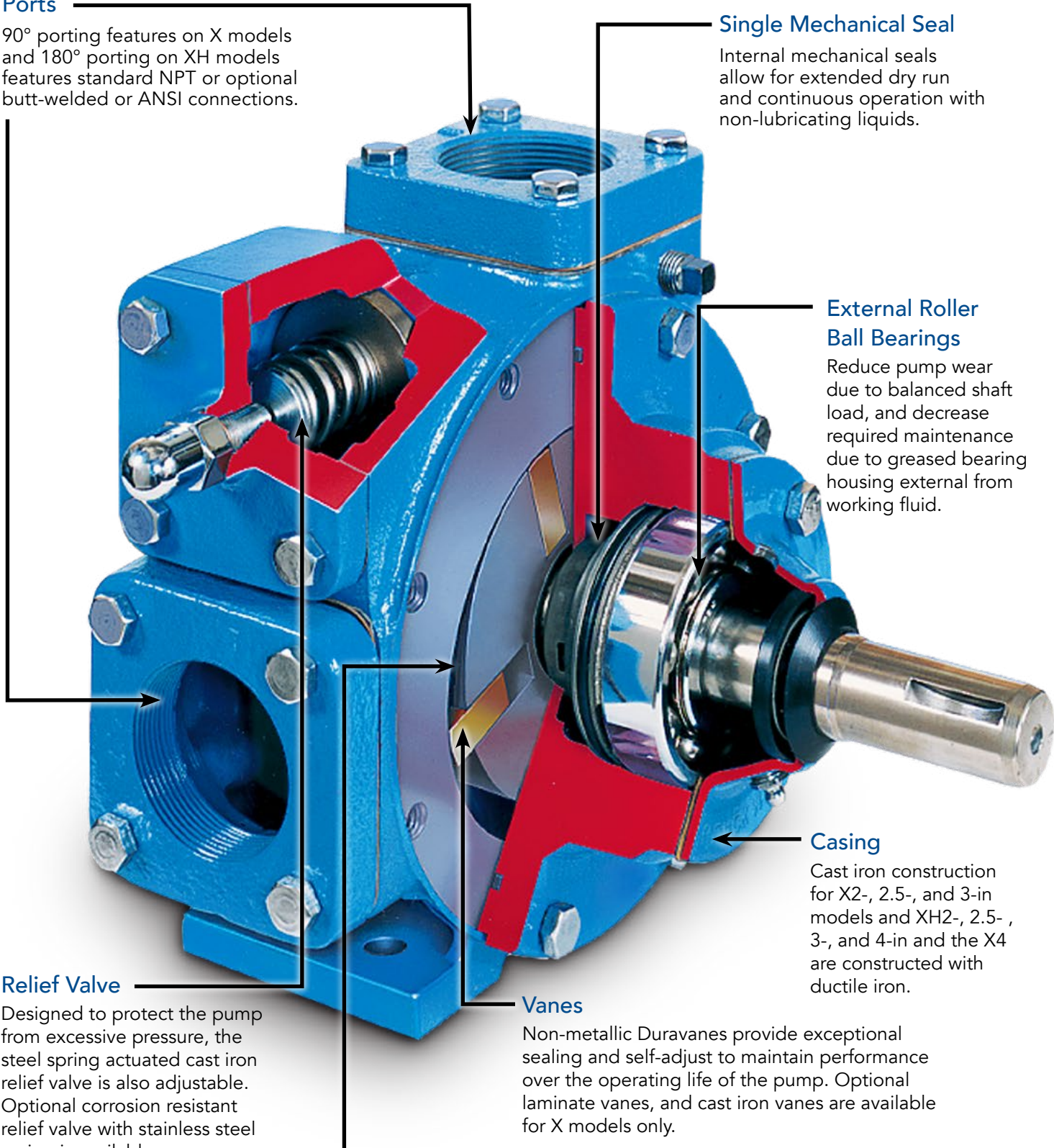
Designed to protect the pump from excessive pressure, the steel spring actuated cast iron relief valve is also adjustable. Optional corrosion resistant relief valve with stainless steel spring is available.

Vanes

Non-metallic Duravanes provide exceptional sealing and self-adjust to maintain performance over the operating life of the pump. Optional laminate vanes, and cast iron vanes are available for X models only.

Rotors

Developed with minimal clearance to improve inlet performance. The closed rotor design allows for line stripping, priming evacuated piping systems and vertical lift of fluid to the pump inlet.



BLACKMER® X SERIES SLIDING VANE PUMPS

Blackmer® X Series | Features and Benefits

Applications

Blackmer X Series Sliding Vane Pumps are designed to handle a wide range of non-corrosive, non-abrasive industrial liquids and petroleum products.

- Clean, non-corrosive viscous or shear sensitive fluids offering high level performance over a wide viscosity range
- Fuel oils, lube oils, jet fuels, gasoline, edible oils
- Solvents and thinners
 - Esters ketones, naphthas, ethers, amines, aromatics, alcohols, terpenes, glycols

X Series Advantage

The Blackmer X Series Sliding Vane Pumps are self-priming, and the self-adjusting vanes help maintain this capability. X Series Pumps can run dry for short periods of time for priming and line stripping.

- Durable pumps for fast and quiet operation
- Latest 6-vane design contributes to reduced noise levels in the pumps
- Blackmer mechanical seal and ball bearing construction provide maximum reliability
- Symmetrical bearing support assures even loading and wear for long life
- Adjustable relief valve protects pump against excessive pressures
- External ball bearings are isolated from pumpage by mechanical seals to maximize bearing life and minimize contamination risk

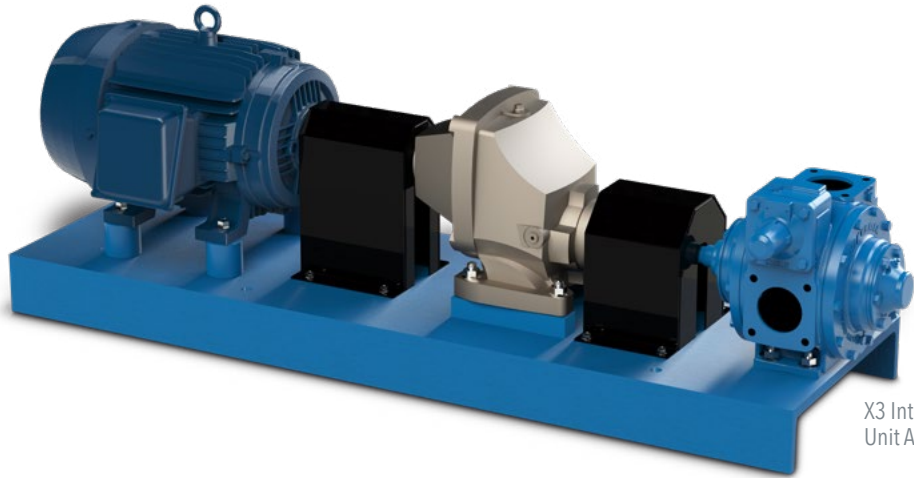
Fluid Connections

PUMP MODEL	STANDARD	OPTIONAL
X2 XH2	2" NPT	2" Blackmer Weld 2" ANSI**
X2.5 XH2.5	2.5" NPT	2.5" Blackmer Weld 3" ANSI**
X3 XH3	3" NPT	3" Blackmer Weld 3" ANSI**
X4 XH4	4" NPT	4" Blackmer Weld 4" ANSI**

** ANSI Compatible flanges are Raised Faced.

Integrated Unit Assembly

Blackmer® fully Integrated Unit Assemblies are the pre-engineered and pre-designed drop-in pumping solution. These unit assemblies, include motor, gearbox, baseplate, X(H) 2, 2.5, 3-inch Pump and coupling safety covers. No alignment required with these pre-configured fully Integrated Unit Assemblies as they are ready for immediate drop-in installation.

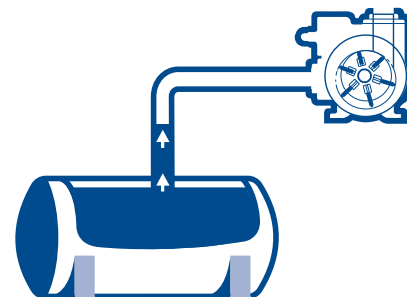
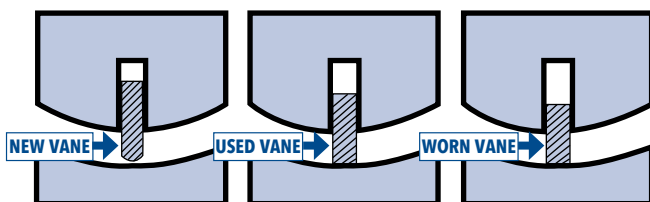


X3 Integrated Unit Assembly

Self-Priming, Dry Run & Other Benefits of Blackmer Vane Pumps

Blackmer positive displacement pumps have revolutionized the pumping industry with their unique sliding vane pump design. This revolutionary rotary vane design allows the pumps to self-adjust for wear to help maintain flow rates. This sliding vane pump design creates excellent self-priming and dry-run capabilities, while also providing sustained performance and trouble-free operation.

- Maintain consistent flow rates throughout the life of the pump due to unique sliding vane pump design that self-adjusts for wear
- Sliding vane design provides sustained performance and trouble-free operation
- Easy maintenance: vanes can be easily replaced without removing the pump from the piping system
- Low maintenance and low life-cycle costs, pumps are renewable and repairable
- 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
- Excellent at self-priming, eliminates expensive priming systems
- Extended dry-run capability, eliminates nuisance current monitoring systems
- High suction lift abilities that exceed 25 feet (7.6 meters)



Blackmer® X Series | Sliding Vane Pumps

MAXIMUM OPERATING LIMITS

Pump Model	Nominal Flow Rate Range ¹	Maximum Viscosity ²	Minimum Operating Temperature	Maximum Operating Temperature	Min./Max. Speed	Maximum Differential Pressure	Maximum Working Pressure
	gpm (L/min)	ssu (cSt) ³	°F (°C)	°F (°C)	rpm	psi (bar)	psi (bar)
X2 XH2	10 - 82 (38 - 311)	20,000 (4,250)	-25 (-32)	300 -(148)	70 - 780	125 (8.6)	175 (12.1)
X2.5 XH2.5	20 - 148 (76 - 562)	20,000 (4,250)	-25 (-32)	300 -(148)	70 - 780	125 (8.6)	175 (12.1)
X3 XH3	60 - 270 (227 - 1,022)	20,000 (4,250)	-25 (-32)	300 -(148)	70 - 640	125 (8.6)	175 (12.1)
X4 XH4	220 - 528 (833 - 2,000)	20,000 (4,250)	-25 (-32)	300 -(148)	70 - 520	125 (8.6)	175 (12.1)

¹ Flow is normal at 50 psi (3.45 bar) differential pressure.
² Viscosity listed is maximum. Blackmer X pump models are also well suited for viscosities less than 31 ssu (1 cSt).
³ Centipoise (cP) = Centistokes (cSt) at fluid specific gravity of 1.0
Note: Optional materials of construction may be required to meet specific application requirements – refer to Blackmer Material Specification Sheets.

Materials of Construction

MODEL(S)	PARTS	MATERIALS
X2, 2.5, 3 X4 and all XH	Cylinder, Relief Cover Valve	Cast Iron: ASTM A48 Ductile Iron: ASTM 536
X(H)2, 2.5, 3 X4, XH4	Head	Cast Iron: ASTM A48 Ductile Iron: ASTM 536
X(H)2, 2.5, 3 X(H)4	Bearing Covers	Steel Cast Iron: ASTM A48
All Models	Rotor & Shaft	Ductile Iron: ASTM 536
All Models	Shaft	High Strength Steel

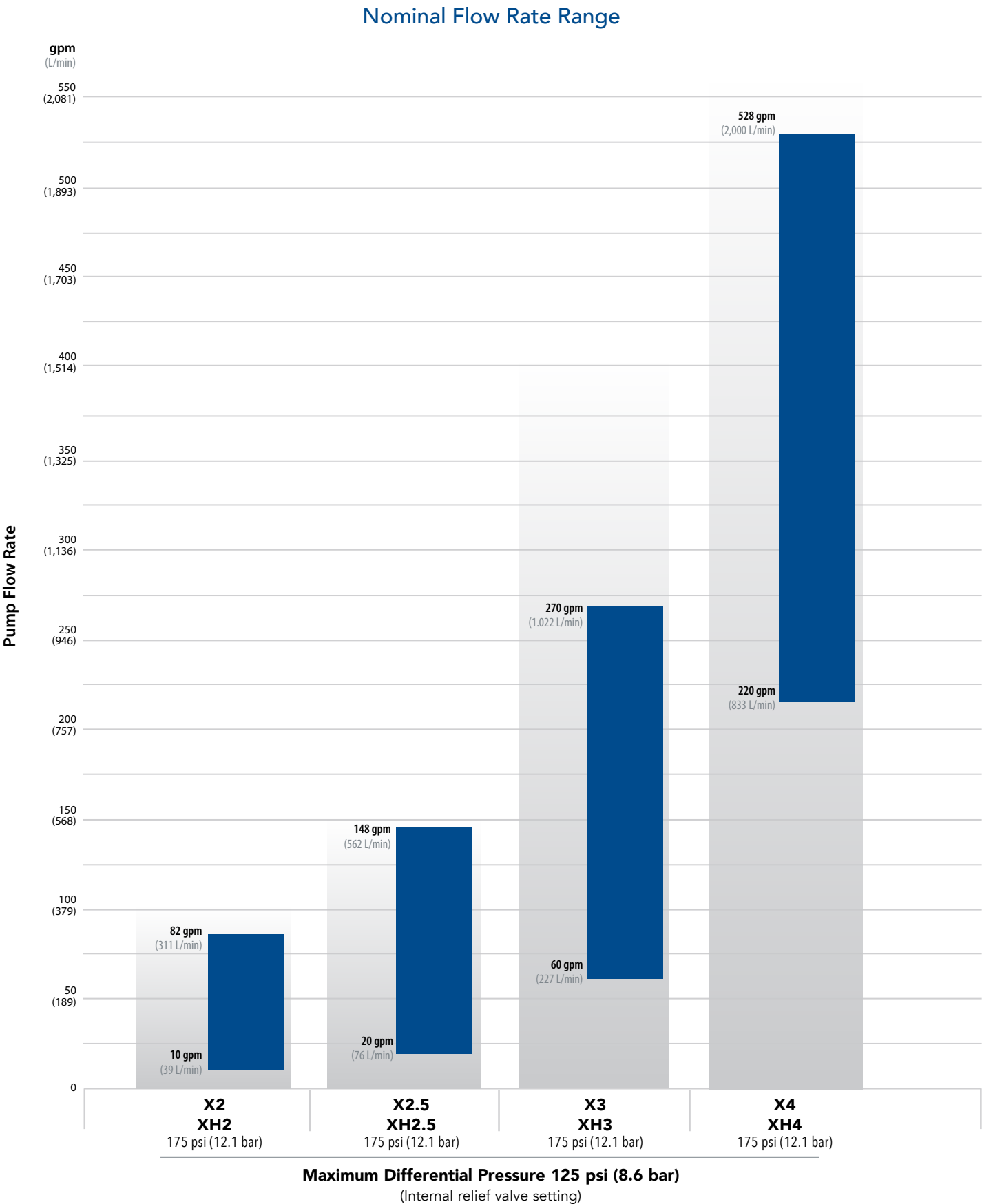
Maintenance Kits

MODEL(S)	DESCRIPTION	PART NUMBER
X2 XH2	Kit - Maintenance	898956
X2.5 XH2.5	Kit - Maintenance	898957
X3 XH3	Kit - Maintenance	898958
X4 XH4	Kit - Maintenance	898959



X4
SLIDING VANE
PUMP

Blackmer® X Series Sliding Vane Pumps | Performance





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