

X1 SLIDING VANE PUMPS

DUCTILE IRON MOTOR SPEED PUMPS | PRODUCT BROCHURE



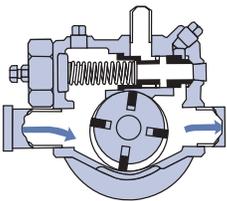
Where Innovation Flows

DURABLE, FAST,
QUIET PUMPS

Blackmer

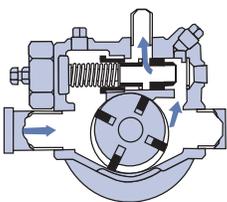


Combination relief/bypass valve



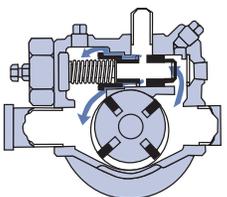
Normal Operation

Valve is completely closed during normal operation with discharge line open.



Back-to-Tank Bypassing

Discharge pressure exceeding the valve setting opens valve to second stage, returning all or part of pump flow back to supply tank.



Pressure Relief

If back-to-tank line is closed, valve opens to third stage, passing flow back to inlet side of pump.

Blackmer® X1 Sliding Vane Pump Shock-Resistant Ductile Iron Motor Speed Pumps for Tight Installation Requirements

QUALITY DESIGN AND CONSTRUCTION

The X1 Sliding Vane Pumps constructed from thermal shock-resistant ductile iron feature external ball bearings. The external bearings are isolated from the pumpage by mechanical seals, allowing for abrasive liquids, extended dry run, and solids handling. The X1 Pumps are direct drive, meaning it couples directly to standard electric motors. This reduces unit cost and meets tight installation requirements. XB1 and XB1P models are basemounted for portable or pad installations. XF1 and XF1P models have a rigid motor bracket that attaches directly to a NEMA C-face motor or IEC D-flange motor. All models feature an exclusive "combination" valve that acts as both a back-to-tank bypass valve and as an internal relief valve. This feature lowers installation costs by eliminating the need for a separate bypass valve. It also assures pressure relief if the back-to-tank bypass line is closed.

HIGH PERFORMANCE IS STANDARD

The X1 Sliding Vane Pumps have 1" NPT tapped ports and offer capacities in the range of 5 to 14 gpm (19-53 L/min) and operate at speeds up to 1,750 rpm, handling fluid viscosities up to 100 SSU (20cP). XF1P and XB1P models offer 50% greater capacity than the XF1 and XB1 models.

APPLICATIONS:

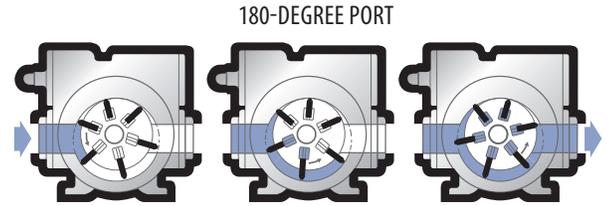
TRANSFER AND DISPENSING OF:

- Solvents
- Light oils
- Ethanol and other alcohols
- Flammable liquids
- Variety of other light, non-corrosive, zero NPSHA fluids

X1 Sliding Vane Pumps | Ductile Iron Motor Speed Pumps

ADVANTAGES OF SLIDING VANE TECHNOLOGY:

- Unique sliding vane pump design self-adjusts for wear to maintain flow rates
- Excellent self-priming and dry-run capabilities
- 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
- High suction lift and line-stripping capabilities
- Low maintenance and low life-cycle costs



MAXIMUM OPERATING LIMITS

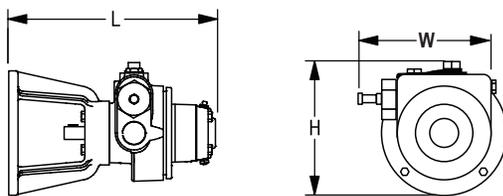
Pump Model	Nominal Flow Rate Range	Viscosity	Maximum Operating Temperature	Min./Max. Speed	Maximum Working Pressure	Maximum Differential Pressure
	gpm (L/min)					
XF1, XB1	5 - 9 (18.9 - 34)	24.88 - 114.88 (0.2 - 20)	-25 - 240 (-32 - 115)	950 - 1,750	125 (8.62)	350 (24.1)
XF1P, XB1P	8 - 14 (30.3 - 53)	24.88 - 114.88 (0.2 - 20)	-25 - 240 (-32 - 115)	950 - 1,750	125 (8.62)	350 (24.1)

PUMP PERFORMANCE DATA*

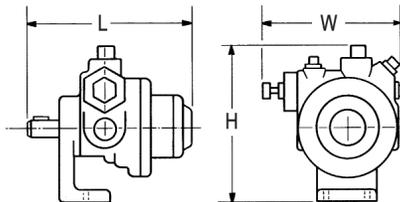
Pump Model	XF1, XB1				XF1P, XB1P			
Rated Pump Speed (RPM)	1,750	1,450	1,150	950	1,750	1,450	1,150	950
U.S.gpm	9.0	7.4	5.8	4.6	14.3	11.6	9.1	7.3
L/min	34.1	28.0	22.0	17.4	54.1	43.9	34.4	27.6
HP	.71	.58	.39	.23	1.0	.84	.63	.47
kW	.53	.43	.29	.17	.75	.63	.47	.35

* Approximate capacities and horsepower (HP) are based on a 100 SSU (22cP) fluid at a 50 psi (3.45 bar) differential pressure. Refer to Performance Curves documents for capacities and horsepower at other pressures and viscosities.

PUMP DIMENSIONS



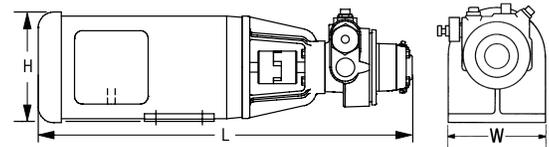
XF1 / XF1P Pump Models



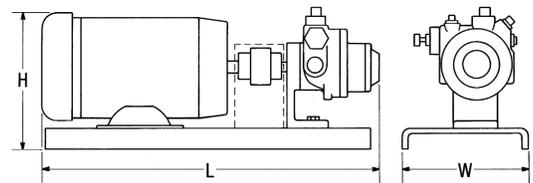
XB1 / XB1P Pump Models

Pump Model		L	W	H	Approx. Wt.
XF1, XF1P	in	11 ³ / ₁₆	6 ³ / ₄	8 ⁹ / ₁₆	39 lb
	mm	284	171	217	18 kg
XB1, XB1P	in	8 ³ / ₁₆	6 ³ / ₄	7 ⁹ / ₁₆	19 lb
	mm	208	171	192	9 kg

UNIT DIMENSIONS – DIRECT MOUNT



Flange Mounting – XF1 / XF1P



Base Mounting – XB1 / XB1P

Pump Model		L	W	H	Approx. Wt. with Motor
XF1, XF1P	in	27 ¹ / ₄	8 ¹ / ₂	9 ¹ / ₈	78 lb
	mm	692	216	232	35 kg
XB1, XB1P	in	25 ³ / ₈	10 ¹ / ₂	11 ¹ / ₈	130 lb
	mm	645	267	283	59 kg



PSG Grand Rapids
1809 Century Avenue SW
Grand Rapids, MI 49503-1530
USA

P: +1 (616) 241-1611

F: +1 (616) 241-3752

info@blackmer.com

blackmer.com



Where Innovation Flows

101-002 9/19

Authorized PSG® Partner:

Copyright 2019 PSG®, a Dover company