SPEC SHEET 108-001
Section: 108
Effective: May 2005
Replaces: July 2002

MVP and SMVP Series

Magnetically Coupled and Seal-less Vane Pumps

Sliding Vane Efficiency, Seal-less Reliability

The sliding vane design combined with a seal-less magnetic coupling is ideal for meeting the growing need of zero shaft leakage when handling expensive, hazardous or hard-to-seal fluids.

Operating Advantages

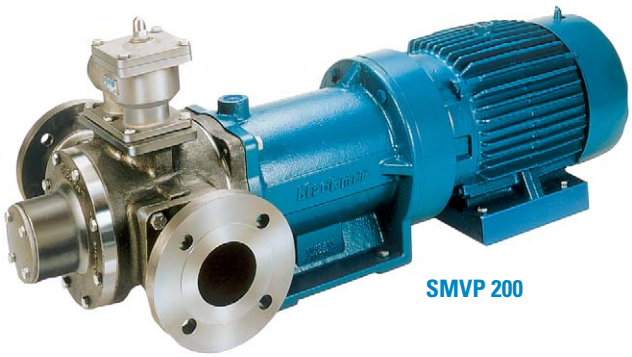
- Samarium-cobalt magnets
- Extended bearing life
- Dry-run capability
- Cooling Passages
- Sustained high level performance
- Containment can
- Drain Plugs

Flow Rates and Temperature Capabilities

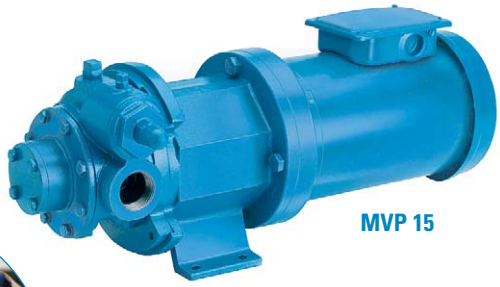
The MVP and SMVP pumps have flow rates of 4 to 333 U.S. gpm (15 to 1,260 lpm) and operating temperatures of -40°F to 200°F (-40°C to 96°C).

Construction

The magnetically-coupled pumps are available in either ductile iron (MVP) or stainless steel (SMVP). Both the MVP and SMVP pumps offer the best combined characteristics of sustained high level performance, energy efficiency, trouble-free operation and low maintenance cost.



SMVP 200



MVP 15

TYPICAL APPLICATIONS

Acetaldehyde, 100%
Acetophenone
Acrylic Acid
Arsenic Acid
Benzyl Chloride, 100%
Cumene
Cyclohexane
Dichlorobenzene, Ortho
Diisocyanate
Ethanol
Formaldehyde
Hexane, dry
Hydrogen Peroxide
Hydrogen Sulfide
Methyl Ethyl Ketone
Phenol
Toluene
Xylene/Xylol

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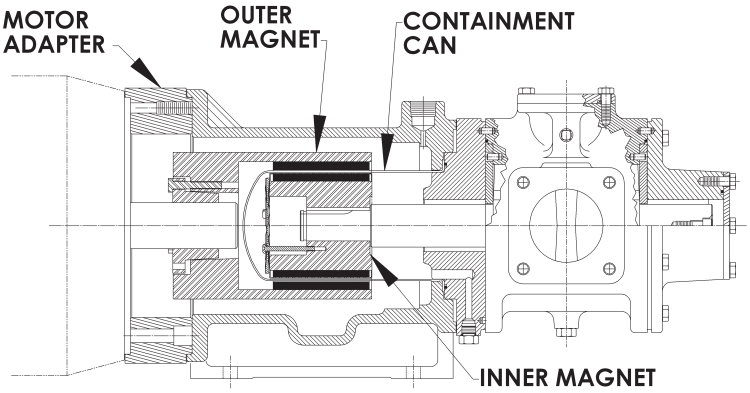
MVP and SMVP Series Magnetically Coupled and Seal-less Vane Pumps

Reliable Technology

Blackmer rotary vane pumps have long been the preferred technology for handling Volatile Organic Compounds (VOC's), and a wide range of other thin to viscous fluids. Blackmer has now combined this proven sliding vane design with a seal-less magnetic coupling to meet the growing need for zero shaft leakage when handling expensive, hazardous or hard-to-seal fluids.

Environmental concerns, workplace safety, EPA requirements and local government agencies are now demanding the Best Available Control Technology (BACT) to prevent fugitive emissions. And that's precisely the control technology that the Blackmer MVP and SMVP pumps deliver.

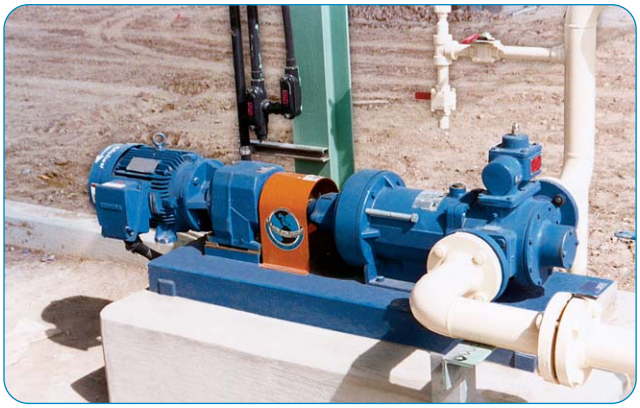


Samarium-Cobalt Magnet

World-Class Quality From Start To Finish

The MVP/SMVP pumps are manufactured and tested in conformance with ISO 9001 certification. Blackmer's world-wide reputation for superior product quality begins with extensive research and development, computer aided design, integrated manufacturing capabilities and excellent application assistance.

In some applications, selecting the right seal-less pump may require more detailed information than is presented here. Your Blackmer representative can help you find the correct equipment to help ensure the best performance possible for your specific application.



Models Available

Ductile Iron Models

- MVP15
- MVP20
- MVP30
- MVP50
- MVP100

Stainless Steel Models

- SMVP15
- SMVP30
- SMVP50
- SMVP100
- SMVP200
- SMVP300

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Sliding Vane Pumps

Options and Specifications

Casing: available in thermal shock resistant ductile iron (MVP models), or corrosion resistant stainless steel (SMVP models).

Drain Plugs: allow for easy draining, standard on all SMVP models.

End Discs: MVP models – cast iron, SMVP15 and 30 models – carbon, SMVP50, 100, 200 and 300 models – Chem Disc or carbon.

Rotor & Shaft: MVP15, 20 and 30 models – cast iron rotor with high strength steel shaft. MVP50 and 100 models - integral hardened ductile iron. SMVP models - 316 stainless steel.

Vanes: Duravane or optional extra-clearance laminate.

Elastomer: PTFE.

Bearings: metal impregnated graphite.

Magnets: samarium-cobalt.

Coupling Housing: ductile iron with NPT tapped temperature probe hole.

Containment Can: (S)MVP15 through (S)MVP30 models – 316 stainless steel. MVP50, 100, SMVP50, 100, 200 and 300 models – Alloy C.

Flanges: MVP15, 20 and 30 models – 1 1/2-inch NPT tapped casing ports. MVP50, 100, SMVP15, 30, 50 and 100 models – ANSI 150 lb. compatible. SMVP200 model – ANSI 150 lb. compatible; optional DIN80 mm compatible. SMVP300 model – ANSI 150 lb. compatible or optional DIN100 mm compatible.

Motor Coupling Adapter Option: allows baseplate mounting of a NEMA foot mounted motor or gearbox to the pump assembly.

Design Parameters

Flow Rates:
4 to 333 U.S. gpm (15 to 1,260 lpm).

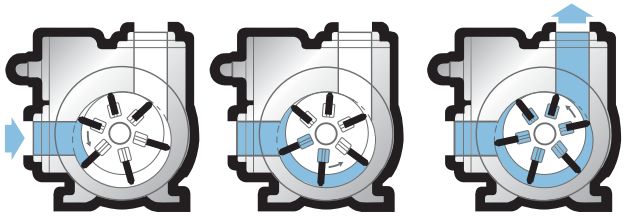
Operating Temperatures:
-40°F to 200°F (-40°C to 96°C) For operating temperatures above 200°F (96°C), consult factory.

Viscosity Range:
(S)MVP15, 20, 30 models – to 5,000 SSU (1,050 cP). (S)MVP50 and (S)MVP100 models – to 10,000 SSU (2,200 cP). SMVP200 and SMVP300 models – to 25,000 SSU (5,250 cP).

Maximum Differential Pressure:
All MVP models; SMVP15, 30, 50 and 100 models – 125 psi (8.62 bar). SMVP200 and SMVP 300 models - 100 psi (6.89 bar).

Maximum Working Pressure:
All MVP models; SMVP15, 30, 50 and 100 models – 175 psi (12.07 bar) SMVP200 and SMVP 300 models – 150 psi (10.34 bar).

How Blackmer's sliding vane action works



Pump Performance Data

Model	RPM	At 22cP (100SSU) and 50 PSI (3.45 bar)		Maximum Differential Pressure	Maximum Viscosity*	Maximum Temperature*	Maximum Working Pressure*
		Flow Rate	Power				
		GPM (LPM)	HP (kW)	PSI (bar)	SSU (cP)**	°F (°C)	PSI (bar)
MVP15 SMVP15	1,750	17 (64)	1.2 (.9)	125 (8.6)	5,000 (1,050)	200 (93.3)	175 (12.1)
	1,450	14 (52)	0.8 (0.6)				
MVP20	1,750	25 (93)	1.7 (1.3)				
	1,450	20 (76)	1.2 (0.9)				
MVP30 SMVP30	1,750	37 (142)	2.2 (0.9)				
	1,450	31 (117)	1.5 (1.1)				
MVP50 SMVP50	1,750	66 (251)	4.2 (3.1)	125 (8.6)	10,000 (2,200)	200 (93.3)	175 (12.1)
	1,450	55 (207)	3.2 (2.4)				
MVP100 SMVP100	1,750	110 (416)	6.2 (4.6)				
	1,450	91 (344)	4.6 (3.4)				
SMVP200	1,150	215 (813)	9.2 (6.9)	100 (6.9)	25,000 (5,250)	200 (93.3)	150 (10.3)
	780	144 (544)	5.6 (4.2)				
SMVP300	1,150	333 (1,260)	13.2 (9.8)				
	780	224 (849)	8.1 (6.0)				

* *For applications that require fluid viscosities, operating temperatures or working pressures, please consult the factory.*

** *Centipoise (cP) = centistrokes (cSt) at fluid specific gravity of 1.0*

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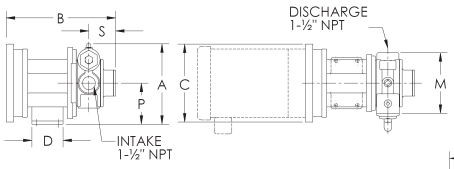
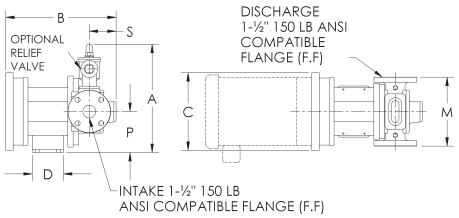
Magnetic Coupling Data

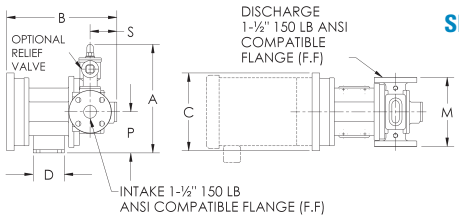
Pump Model	Coupling Size	Torque (ft/lb)	Nema Mot or Frame Size
MVP15 MVP20 MVP30 SMVP15 SMVP30	MC10	10	143TC-145TC 182TC-184TC
	MC20	20	182TC-184TC 213TC-215TC
MVP50 MVP100 SMVP50 SMVP100	MC60	60	182TC-184TC 213TC-215TC 254TC-256TC
SMVP200 SMVP300	MC130	130	254TC-256TC 284TC-286TC



MVP15/MVP20/MVP30 Model



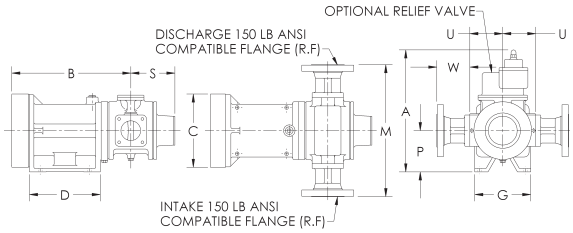
SMVP15/SMVP30 Model



MVP50/MVP100 SMVP50/SMVP100 Model

Pipe Companion Flanges and Dimensions

Description			W	W
SMVP200	3" ANSI 150 lb.[2] Raised Face	in.	5	20
		mm	127	508
	3" WELD	in.	1¼	12½
		mm	32	318
	DIN 80 MM[3] PN16	in.	5	20
		mm	127	508
SMVP15 SMVP30	4" ANSI 150 lb.[2] Raised Face	in.	5	20
		mm	127	508
	DIN 100 MM[3] PN16	in.	5	5
		mm	127	127



SMVP200/SMVP300 Model

Pump Dimensions

Pump Model	Units	A	B[1]	C[1]	D	G	M	P	S	U	Approx. Wt. Less Motor
MVP15 MVP20 MVP30	in.	9⅜	12⅞	9	3⅝	—	7	4¾	3⅛	—	75 lbs.
	mm	238	327	229	92	—	178	121	79	—	34 kg.
SMVP15 SMVP30	in.	12⅝	12⅞	9	3⅝	—	8	4¾	3⅛	—	79 lbs.
	mm	321	327	229	92	–	203	121	79	–	36 kg.
MVP50 MVP100 SMVP50 SMVP100	in.	15⅜₁₆	11½	9	7½	–	11	5½	4⅜	–	125 lbs.
	mm	386	292	229	191	–	279	140	111	–	57 kg.
SMVP200 SMVP300	in.	18½	17⅝	11⅛	10¾	8½	See Table	6¼	6¹¹⁄₁₆	5	340 lbs.
	mm	470	448	283	273	216	See Table	159	170	127	140 kg.

[1] *Dimension shown is for 213TC-215TC motor frame for the (S)MVP15 through SMVP100 models, and 254TC-256TC motor frame size for the SMVP200 and SMVP300 models*
[2] *ANSI compatible*
[3] *DIN compatible*

Sales Information and Equipment Application Assistance

Blackmer has a world wide distribution network to assist you in specifying any of our family of pumps, compressors and other equipment for your application.

For more information or to find the distributor nearest to you, please contact us at the telephone, fax or internet address listed below.

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