BSM AUTOMATIC REVERSING VANE PUMPS

PRINCIPLE OF OPERATION

Vanes sliding in a rotor are held against the internal surface of an eccentric by springs and hydraulic pressure. The vanes alternately create suction and pressure as the rotor turns. The pump discharges a constant flow of liquid in one direction regardless of the direction of rotation of the driving shaft.

MAINTAINS SAME DIRECTION OF DELIVERY WHEN ROTATION OF THE DRIVING SHAFT IS REVERSED

This is an essential feature in any operation where liquids must be pumped in a machine whose driving shaft reverses. BSM Vane Pumps feature a simple, rugged design, a wide range of capacities, and three different mounting arrangements to provide you with the greatest convenience and efficiency in meeting your liquid handling requirements.

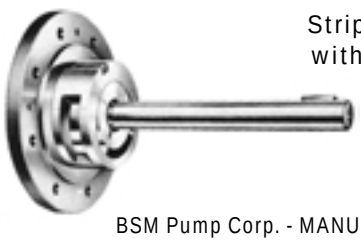
THREE MOUNTING ARRANGEMENTS TO FIT ANY APPLICATION

Regular models

Suction and discharge can be positioned most conveniently for piping because these pumps can be installed in the original position or at any 90 degree or 180 degree position from the original by merely removing bolts and turning housing to desired position on stand.

Stripped models with housing

These pumps simplify installation, particularly where internal discharge and suction ports are not readily incorporated in the machine design, or where outside piping is desirable. A minimum number of easy concentric boring and turning operations are required with readily located tapped holes.



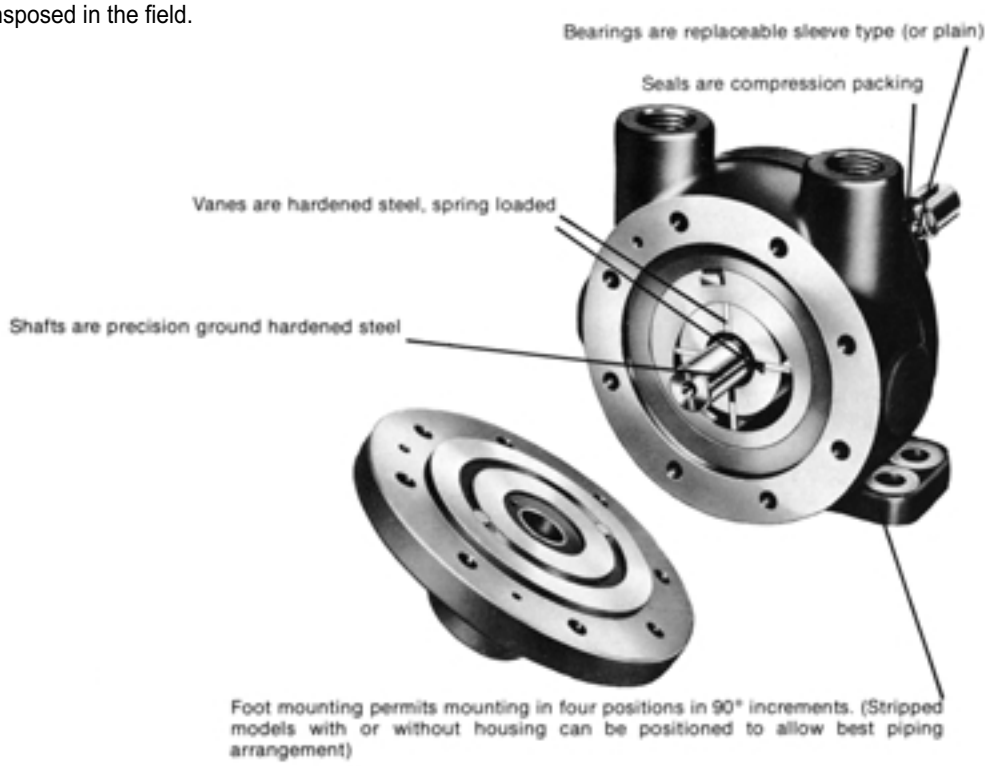
Stripped models without housing

Made for manufacturers who wish to utilize pumps as integral parts of machines with suction and discharge ports incorporated in the machine castings. Provide compact installation and minimum projection from machine surfaces. Furnished with mounting holes and cap screws to simplify installation.

BSM AUTOMATIC REVERSING VANE PUMPS

PRECISION MADE FOR RELIABLE SERVICE

Springs and hydraulic pressure hold the four hardened steel sliding vanes in the rotor against the internal surface of an eccentric and compensate automatically for any wear resulting from contact with the eccentric. Discharge port can be readily transposed in the field.



Bearings — Replaceable sleeve type and plain bearings are especially adapted for normal pump service to provide long life. Special bearings for unusual or difficult conditions are available.

Seals — Compression packing provides an ample safeguard against oil leakage and the entrance of air and is suitable for use with a wide variety of liquids. Special seals for handling corroding liquids are available.

Shafts and vanes — Drive shafts are precision ground hardened steel. Vanes are hardened steel, spring loaded to provide snug fit against the eccentric and to compensate automatically for any wear resulting from contact with the eccentric.

Typical applications — Lubrication of gear cases where reversing cycle is employed; used as a hydraulic brake in mechanical transmissions; general transfer, lubrication, low pressure hydraulic and industrial service.

BSM AUTOMATIC REVERSING VANE PUMPS

MODELS 8 WITH 2 VANES
8021, 8061, 8101 REGULAR WITH 4 VANES
8022, 8062, 8102 STRIPPED WITH 4 VANES WITH HOUSING
8023, 8063, 8103 STRIPPED WITH 4 VANES WITHOUT HOUSING

Design Rating: Up to 1140 RPM; up to 100 PSI; up to 11.5 GPM

Material: Gray iron casings and hardened steel vanes and shafts

Bearings: Replaceable sleeve type (plain bearings are furnished with model No. 8)

Seal: Compression packing

Lubrication: Self-lubricating using liquid being pumped

Mountings: Foot – Models 8, 8021, 8061, 8101;
Flange, front connected – Model 8022, 8062, 8102
Flange, back connected – Models 8023, 8063, 8103

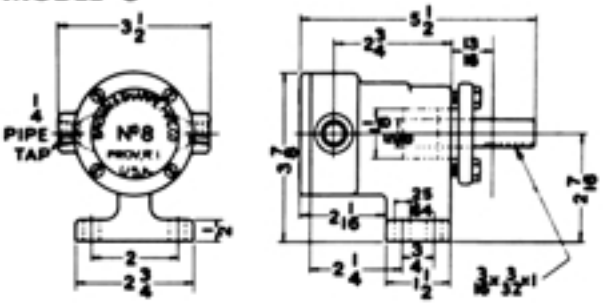
Liquid Viscosities: Clean, lubricating liquids recommended

Inlet Suction: To obtain best results, pump should be located as near as possible to liquid level (up to 20" Hg possible)

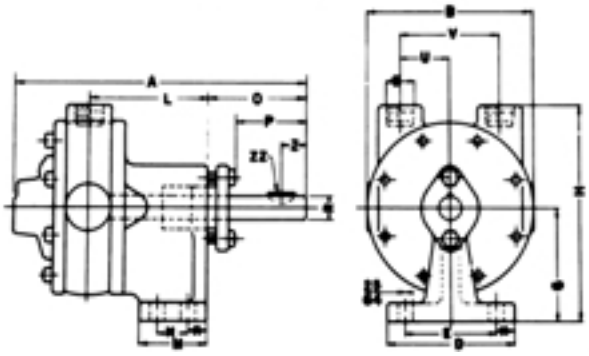
Drives: Direct recommended (outboard permissible)

Rotation: Reversible. Either port may be used for discharge. Normally furnished with right hand discharge (facing shaft end of pump)

MODEL 8



MODELS 8021, 8061, 8101



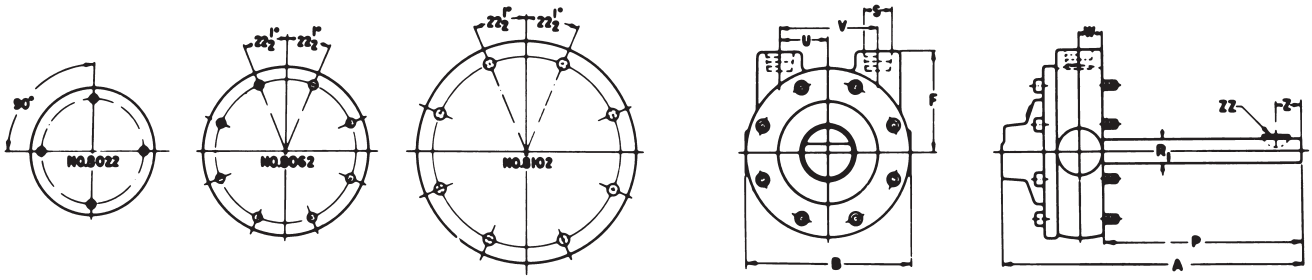
DIMENSIONS (INCHES)

Model	A	B	D	E	G	H	L	M	N	O
8	5 1/2	3 1/2	2 3/4	2	2 7/16	3 7/8	2 3/4	1 1/2	3/4	NA
8021	6 5/8	3 1/2	2 3/4	2	2 3/8	4 3/8	2 39/64	1 1/2	3/4	2 5/16
8061	8 1/8	4 5/8	3 1/2	2 1/2	3	5 3/4	3 5/16	1 7/8	7/8	2 3/4
8101	9 1/16	6	4	3	3 7/8	7 1/2	3 13/16	2 1/4	1 1/4	2 3/4

Model	P	R	S (P.T.)	U	V	X	Z	ZZ
8	1 1/8	5/8	1/4	NA	NA	3/8	NA	3/16 x 3/32
8021	1 9/16	.500	3/8	1	2	3/8	1/2	1/8 x 1/2
8061	1 15/16	.625	1/2	1 3/8	2 3/4	1/2	1/2	3/16 x 3/4
8101	1 15/16	.750	3/4	1 3/4	3 1/2	1/2	3/4	3/16 x 3/4

BSM AUTOMATIC REVERSING VANE PUMPS

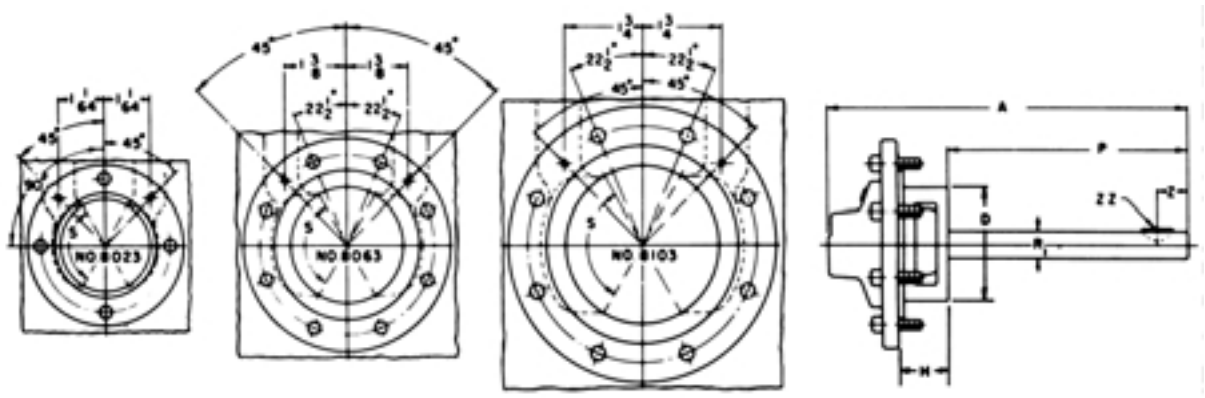
MODELS 8022, 8062, 8102



DIMENSIONS (INCHES)

Model	A	B	F	P	R	S (P.T.)	U	V	W	Z	ZZ
8022	6 5/8	3 1/2	2	4 13/32	.500	3/8	1	2	17/32	1/2	1/8 x 1/2
8062	8 1/8	4 5/8	2 3/4	5 9/16	.625	1/2	1 3/8	2 3/4	5/8	1/2	3/16 x 3/4
8102	9 1/16	6	3 5/8	5 15/16	.750	3/4	1 3/4	3 1/2	3/4	3/4	3/16 x 3/4

MODELS 8023, 8063, 8103



DIMENSIONS (INCHES)

Model	A	P	R	S	Z	ZZ	D	H
8023	6 5/8	4 1/2	.500	Min. 90º - Max. 120º	1/2	1/8 x 1/2	2	27/32
8063	8 1/8	5 9/16	.625	Min. 90º - Max. 120º	1/2	3/16 x 3/4	2 1/2	1
8103	9 1/16	5 15/16	.750	Min. 90º - Max. 120º	3/4	3/16 x 3/4	3 3/8	1 1/4

OPERATING CHARACTERISTICS

Model	Displmnt gals. per rev.	Slip gpm/psi	Drive Speed rpm	0 psi gpm	0 psi hp	25 psi gpm	25 psi hp	50 psi gpm	50 psi hp	100 psi gpm	100 psi hp
8	.0023	.0075	600	1.3	.08	1.2	.12	1.0	.15	---	---
			1140	2.7	.15	2.5	.22	2.3	.28	---	---
8021			300	.6	.02	.4	.04	.3	.06	---	---
8022	.0022	.0065	600	1.2	.05	1.1	.09	.9	.12	.6	.20
8023			1140	2.5	.08	2.3	.15	2.1	.21	1.8	.35
8061			300	1.4	.02	1.2	.09	.9	.16	.4	.30
8062	.0045	.0100	600	2.7	.04	2.5	.12	2.2	.20	1.7	.36
8063			1140	5.2	.08	4.9	.18	4.7	.27	4.2	.47
8101			300	2.9	.07	2.7	.25	2.6	.40	2.2	.75
8102	.0099	.0080	600	5.9	.15	5.7	.35	5.5	.55	5.1	.95
8103			1140	11.3	.30	11.1	.55	10.9	.77	10.5	1.25

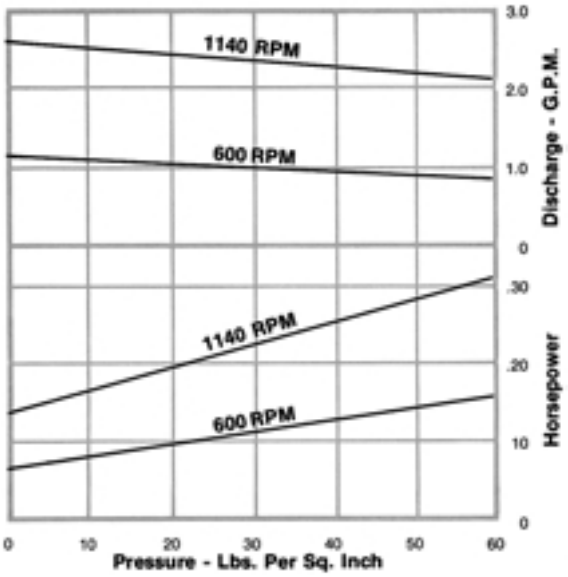
* Delivery and input horsepower are based on liquid viscosity of 300 ssu at speed and pressure shown.

MODELS 8, 8021, 8022, 8023, 8061, 8062, 8063, 8101, 8102, 8103

OPERATING CHARACTERISTICS

CHARACTERISTICS OF No. 8 PUMP

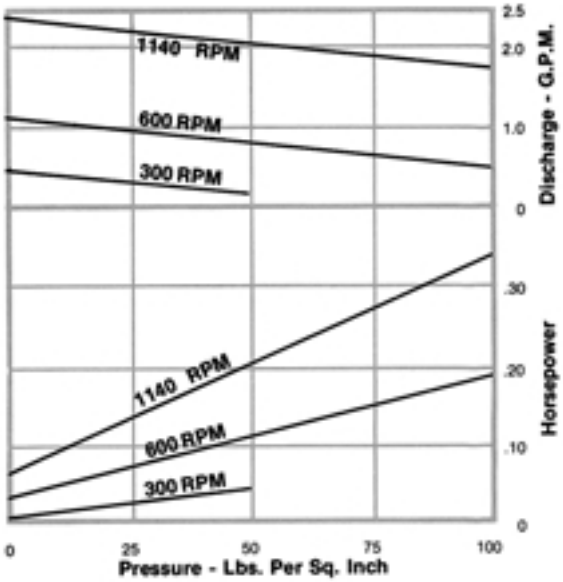
Based on 300 S.S.U. Liquid



For operating characteristics at other viscosities and pressures, consult factory.

CHARACTERISTICS OF NO. 8021, 8022, and 8023 PUMPS

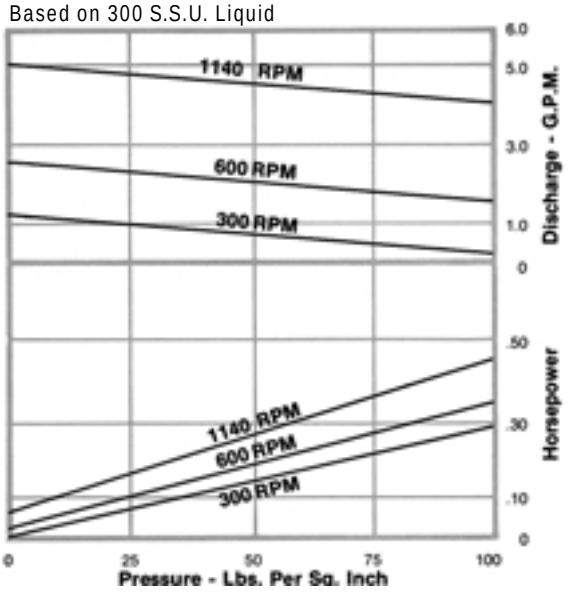
Based on 300 S.S.U. Liquid



For operating characteristics at other viscosities and pressures, consult factory.

CHARACTERISTICS OF NO. 8061, 8062 and 8063 PUMPS

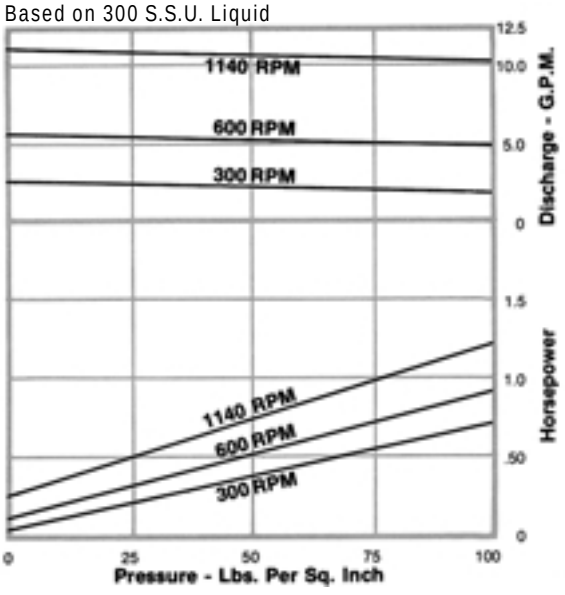
Based on 300 S.S.U. Liquid



For operating characteristics at other viscosities and pressures, consult factory.

CHARACTERISTICS OF NO. 8101, 8102 and 8103 PUMPS

Based on 300 S.S.U. Liquid



For operating characteristics at other viscosities and pressures, consult factory.