



Sample Specifications for Inline Type PV Pumps

The following pump specifications include cast iron bronze fitted materials and all iron materials of construction. All *iron* construction *materials are printed in italics*. Select appropriate specification wording for desired construction materials.

Pump shall be Sterling Fluid Systems, (USA) Inc. type PV, radially split case inline centrifugal type capable of delivering _____ US GPM at a total head of _____ Feet with an efficiency of not less than _____ % at the specified condition. Pumped liquid will be at a temperature of _____ ° F with a specific gravity of _____

Pump casing shall be cast iron with smooth water passages and fitted with a (bronze)(*steel*) replaceable casing ring. Maximum casing working pressure shall be _____ Psi. The pipe connection flanges shall be of identical dimensions rated at 125 Lb ANSI (optional 250 Lb ANSI discharge flange on 1125 or 1140 pump sizes only) and displaced 180°, with centerlines concentric on the same horizontal plane. Pump shall be provided (with)(without) casing mounted cast iron pedestal support.

The impeller supplied for the specified conditions shall be one piece (bronze) (*iron*) casting of a diameter not greater than 90% of the casing cut water diameter. The impeller shall be in proper balance for smooth operation at _____ Rpm.

Sealing of the pump liquid cavity shall be accomplished with:

Bronze Fitted A face type mechanical seal with Ni-Resist stationary seat, carbon washer, Viton rubber flexible members, 18-8 stainless steel metal parts and 18-8 stainless steel spring. Seal shall be mounted over a bronze shaft sleeve and have a maximum temperature rating of 250° maximum.

All Iron *A face type mechanical seal with Ni- Resist stationary seat, carbon washer, Viton rubber flexible members and 18-8 stainless steel spring and metal parts. Seal shall be mounted over a 416 stainless steel shaft sleeve and have a maximum temperature rating of 250° maximum.*

Pump shall be close coupled to a HI-NEMA JMV frame (ODP) (TEFC) (Explosion Proof) electric motor rated _____ Hp., _____ RPM, _____ Volts, _____ Phase _____ Hz.. Motor shaft shall be carbon steel and of a size and design to limit shaft deflection at the stuffing box to no more than .002 inches. Motor bearings shall be grease lubricated and sized for a minimum of 20,000 hours L10 life which is equivalent to 100,000 hours average bearing life.



PUMP DATA

Standards for PV Inline Pumps:

Motor: Standard Hydraulic Institute-NEMA, C Face Mount, Round Body Footless Type JMV Shaft Extension
Rotation: Clockwise When Viewing Pump from Top of Motor.
Flanges: 125 Lb. ANSI Suction and Discharge (250 Lb. ANSI Discharge Flange available only on PV3x3x11 and 5x5x11)

Stuffing

Box: Mechanical Seal Type
Stuffing
Box Vent: Automatic through 1/4 NPT
Casing Drain: 3/8 NPT

Temperature/Pressure Limitations

Temperature		Maximum Working Pressure Psi for 125 Lb ANSI Discharge Flange	Maximum Working Pressure Psi for 250 Lb ANSI Discharge Flange ①	Type Mechanical Seal
°F.	°C.			
0 to 150	-17.8 to 65.6	175	250	Standard
151 to 200	66.1 to 93.3	165	235	Standard
201 to 225	93.9 to 107.2	155	225	Standard
226 to 250	107.8 to 121.1	155	215	Standard

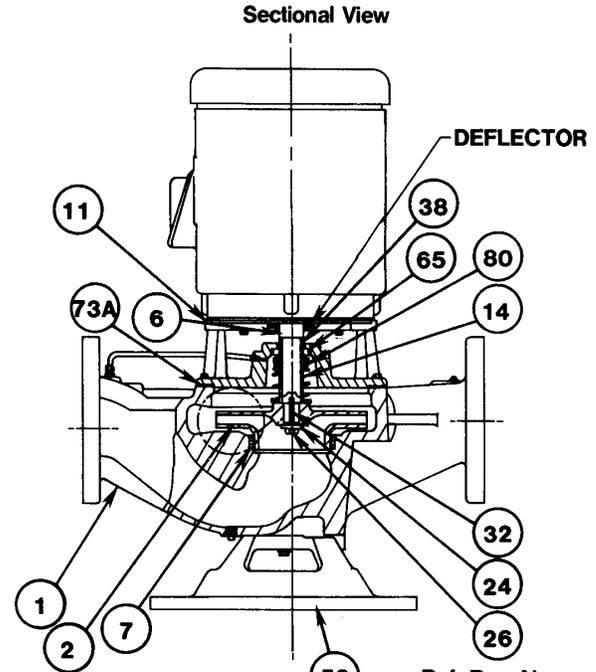
Maximum Suction Pressure 100 Psi All Models

Pump Data

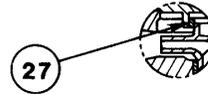
PV Pump Size	Max. RPM	Impeller Data			
		Max. Dia. Inches	Min. Dia. Inches	Eye Area In ²	Sphere Size Inches
2x2x6A	3500	6.00	4.00	3.52	.44
2½x2½x6B	3500	6.00	4.00	4.90	.62
2x2x8A	3500	8.00	6.00	3.14	.31
2½x2½x8A	3500	8.00	6.00	4.90	.31
3x3x8A	3500	8.00	6.00	6.52	.50
4x4x8A	3500	8.00	6.00	9.10	.62
4x4x8J	3500	7.00	5.00	7.64	.88
2x2x10A	3500	8.75	6.00	2.78	.28
2x2x10A	1750	10.00	6.00	2.78	.28
3x3x10B	1750	10.00	7.00	6.51	.47
3x3x11	3500	10.50	7.00	8.76	.38
4x4x10B	1750	10.00	7.00	8.29	.59
5x5x7	3500	7.00	5.50	14.32	.95
5x5x11	3500	10.50	7.00	15.34	.40

NOTES:

- ① PV 3x3x11, 5x5x11 only.
- ② All Iron Construction is not available on PV 3x3x11, 4x4x8J, 5x5x7 and 5x5x11 pumps
- ③ Silicon carbide or tungsten carbide mechanical seal seats are available as options at extra cost (substitution of these seats does not change the temperature/pressure limitations shown above).



Ref. Drg. No. 4851049B



3x3x8A, 3x3x11, 4x4x8A, 4x4x8J, 5x5x7 and 5x5x11 pumps with 254JMV through 365JPV motor frames only

Materials of Construction

Item No.	Part Description	Bronze Fitted Pump Material	All Iron Pump Material ②
1	Casing	Class 30 Cast Iron	Class 30 Cast Iron
2	Impeller	Bronze	Cast Iron
6	Shaft	Steel	Steel
7	Casing Ring	Bronze	Steel
11	Adapter	Class 30 Cast Iron	Class 30 Cast Iron
14	Shaft Sleeve	Bronze	AISI 416 SS
24	Impeller Washer	AISI 300 Series SS	AISI 300 Series SS
26	Impeller Screw	AISI 300 Series SS	AISI 300 Series SS
27	Adapter Ring	Bronze	Steel
32	Impeller Key	Steel	Steel
38	Sleeve Gasket	Viton Rubber	Viton Rubber
73A	Casing Gasket	Vegetable Fiber	Vegetable Fiber
80	Mechanical Seal Rotary	Carbon Washer, Viton Rubber Flexible Members, 18-8 SS Metal Parts and Spring	Carbon Washer, Viton Rubber Flexible Members, 18-8 SS Metal Parts and Spring
65	Mechanical Seal Seat	Ni-Resist ③	Ni-Resist ③
53	Pump Base (Optional)	Class 30 Cast Iron	Class 30 Cast Iron

File 4852836
Rev. 4-98



**INLINE PUMPS
Type PV**

IMPELLER CLEARANCE AND CUTWATER DIAMETERS IN INCHES

PV PUMP SIZE	100%	90%	85%	75%
2 x 2 x 6A	6.52	5.87	5.54	4.89
2-1/2 x 2-1/2 x 6B	6.60	5.94	5.61	4.95
2 x 2 x 8A	8.28	7.45	7.04	6.21
2-1/2 x 2-1/2 x 8A	8.62	7.76	7.32	6.47
3 x 3 x 8A	8.88	7.99	7.55	6.66
4 x 4 x 8A	8.88	7.99	7.55	6.66
4 x 4 x 8J	8.88	7.99	7.55	6.66
2 x 2 x 10A	11.05	9.94	9.39	8.29
3 x 3 x 10B	11.00	9.90	9.35	8.25
3 x 3 x 11	10.84	9.75	9.21	8.13
4 x 4 x 10B	10.84	9.75	9.21	8.13
5 x 5 x 7	7.50	6.75	6.38	5.62
5 x 5 x 11	11.12	10.00	9.45	8.34

NOTE:

The 100% column represents the equivalent casing cast tongue diameter. The 90 - 85 - 75% columns represent the impeller diameter to casing tongue diameter clearance ratio.

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