



Operating Instructions and Parts Manual

**Industrial Pump Models:
SP-PP, SP-PHT, SP-CPVC, SP-PVDF,
SP-SS & SP-AL Series**

**Pump Package Models:
9400, 9410, 9420, 9430, 9460, 9500,
9510, 9600 & 9610 Series**

**Industrial Pump Motors Series:
SP-280P, SP-ENC, SP-A1, SP-A2
SP-410, SP-420**

STANDARD PUMP INC.

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(OIPM-IND-1215)

STANDARD *Pump, Inc.*

Operating Instructions and Parts Manual

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Standard Drum Pumps

Description

Standard's Drum Pumps are designed to transfer a variety of materials from 55 gallon drums and tanks. Standard Pump offers several different pumps, each designed for specific applications. Before operating, please confirm that the pump's materials of construction are suitable for the application.

Unpacking

Cartons should be handled with care to avoid damage from dropping, etc. After unpacking, inspect carefully for any damage that may have occurred during transit. Check for loose, damaged or missing parts.

General Safety Information

The responsibility for safe assembly, installation, and operation ultimately rests with the operator. Read and understand ALL safety precautions and operating instructions before operation. Careless pump operation can result in serious injury.

1. Before operating the pump, read and understand these operating instructions.
2. The operator should wear suitable protective clothing including the following: face mask, safety shield or goggles, gloves, apron, and safety shoes.
3. Before operating, verify the materials being pumped are compatible with the pump's "wetted components."

4. All Federal, State, and local safety codes should be followed.
5. Verify that the motor voltage corresponds to proper electrical supply.
6. Before plugging motor into power supply, make sure the motor switch is in the OFF position. For Air Motors ensure inlet valve is closed before attaching air line.
7. Before operation, confirm all pump connections are properly tightened.
8. First pump clean water in order to familiarize yourself with the pump's operation, flow rate, discharge pressure and motor speed.
9. Before starting the pump, confirm the discharge hose is securely fastened to the receiving vessel in order to prevent splashing.
10. Never leave pump unattended during operation.
11. Do not submerge the motor in any liquid.
12. When finished using the pump, flush the pump by pumping water or an appropriate cleaning solution. Do not use flammable or combustible cleaning solutions.
13. Never carry the motor by the power cord.
14. Never store pump in a container or drum. Always rinse pump thoroughly and hang on wall bracket or ensure pump tube is stored in an upright and vertical position.

⚠ WARNING: The speed control should not be used as the main ON/OFF switch. Using the speed control switch in this manner causes excessive wear to the potentiometer and may result in premature failure. The use of the speed control switch does not cut power to the motor and inadvertent activation could result in injury or death if the motor is activated when not properly attended and secured. (Only applies to SP-280P and SP-ENC Series)

⚠ WARNING: When pumping flammable or combustible products or operating in a hazardous duty environment, the SP-AL or SP-SS Series pump must be used in conjunction with an explosion proof motor. Please contact the factory or an authorized distributor with any questions regarding this matter.

Electric Drum Pump Motor Specifications

Model	Voltage	Amps	Watts	HP	Phase	Hz	Enclosure	Variable Speed	Hazardous Duty	Shipping Wt lbs (kg)
SP-410EX	115V	2	230	0.30	1	50-60	Hazardous Duty	N	Y	17 (7,7)
SP-420EX	230V	2.6	600	0.80	1	50-60	EXP (IP54)	N	AtEx	17 (7,7)
SP-280P	110V	8.5	825	1	1	50-60	ODP (IP44)	N	N	9.0 (4,0)
SP-280P-V	110V	8.5	825	1	1	50-60	ODP (IP44)	Y	N	9.0 (4,0)
SP-280P-2	220V	5	825	1	1	50-60	ODP (IP44)	N	N	9.0 (4,0)
SP-280P-2-V	220V	5	825	1	1	50-60	ODP (IP44)	Y	N	9.0 (4,0)
SP-280-2NL	220V	5	825	1	1	50-60	TEFC (IP44)	N	N	9.0 (4,0)
SP-280-2-VNL	220V	5	825	1	1	50-60	TEFC (IP44)	N	N	9.0 (4,0)
SP-ENC	110V	8.5	825	1	1	50-60	TEFC (IP54)	N	N	12.7 (5,7)
SP-ENC-V	110V	8.5	825	1	1	50-60	TEFC (IP54)	Y	N	12.7 (5,7)
SP-ENC-2	220V	5	825	1	1	50-60	TEFC (IP54)	N	N	12.7 (5,7)
SP-ENC-2-V	220V	5	825	1	1	50-60	TEFC (IP54)	Y	N	12.7 (5,7)
SP-ENC-2NL	220V	5	825	1	1	50-60	TEFC (IP54)	Y	N	12.7 (5,7)
SP-ENC-2-VNL	220V	5	825	1	1	50-60	TEFC (IP54)	Y	N	12.7 (5,7)

The motor has thermal overload protection which stops the pump in case of overload. Immediately switching the motor off, position "0", and allowing the motor to cool down.

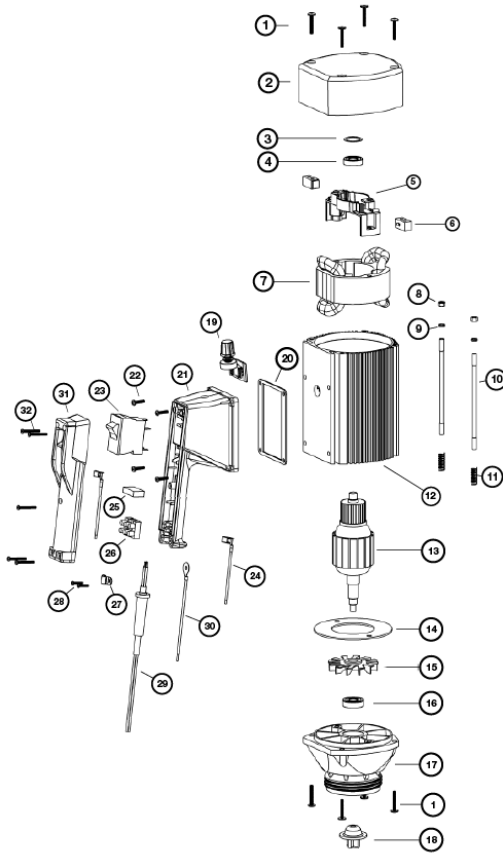
Warning: The motor automatically starts after cooling down, if the switch is left in position "1" (ON)

Air Drum Pump Motor Specification

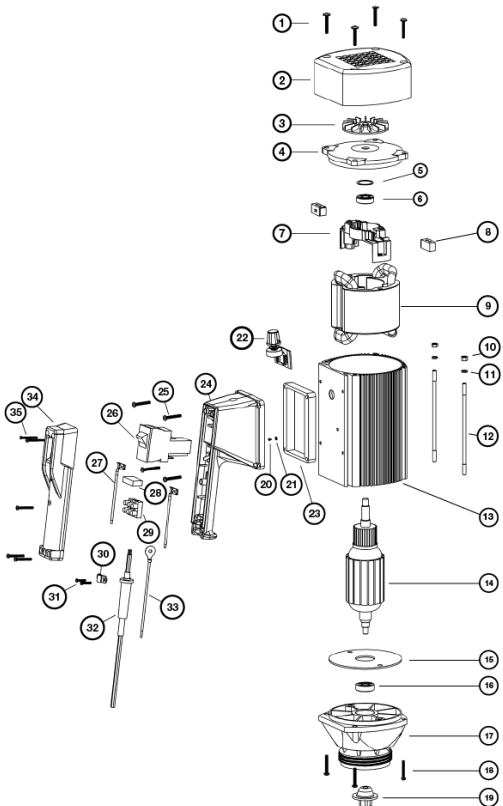
Model	HP	Watts	Max Inlet Pressure	Min Hose	Max dBA	Airline Size Inches	Hazardous Duty	Air Consumption	Shipping Wt lbs (kg)
SP-A1	1/2	370	100 psi(6,8 bar)	3/8"(10 mm)	109.50	1/8" NPT	Y	22 CFM (10,4 L/sec)@ 90 PSI (6,2 Bar)	2.7 (1,2)
SP-A2	3/4	560	100 psi(6,8 bar)	3/8"(10 mm)	109.50	1/4" NPT	Y	28 CFM (13,2 L/sec)@ 90 PSI (6,2 Bar)	3.4 (1,5)
SP-A2TL (Trigger Lock)	3/4	560	100 psi(6,8 bar)	3/8"(10 mm)	109.50	1/4" NPT	Y	28 CFM (13,2 L/sec)@ 90 PSI (6,2 Bar)	3.4 (1,5)

SP-280P & SP-ENC Spare Parts Lists

SP-280P



SP-ENC



SP-280 Series

Ref. #	Description	P/N for SP-280P	Qty
1	Screw, Motor Cover / Lower Housing	8130	8
2	Motor Cover	8000	1
3	Wave Washer	8125	1
4	Bearing, Upper	8331	1
5	Brush Holder	8508	1
6	Carbon Brushes (2 Required)		
	110v	8509	2
	220v	8703	2
7	Stator		
	110v	8503	1
	220v	8702	1
8	Hexagon Nut	8448	2
9	Lock Washer	8071	2
10	Rod Connector	8506	2
11	Pressure Spring	8507	2
12	Motor Housing	8510P	1
13	Armature		
	110v	8502	1
	220v	8701	1
14	Guide Disc	8504	1
15	Fan	8511	1
16	Bearing, Lower	8126	1
17	Lower Housing	8100	1
	110v	8360	1
	220v	8705	1
18	Motor Coupling	8333	1
19	Speed Potentiometer		
	110v	9802	1
	220v	9801H	1
20	Gasket		
	110v	8167	1
	220v	8167LVR	1
21	Switch Housing		
	Fixed Speed	8001	1
	Variable Speed	8010	1
22	Screw, Switch Housing		
	110v	8131	4
	220v	8131LVR	4
23	Overload Switch		
	110v	8611	1
	220v w/ LVR	8704LVR	1
	220v w/o LVR	8704	1
24	Switch Lead (2 Required)	8185	1
25	EMI Filter	8003	1
26	Terminal Block	8001-3	1
27	Cable Clamp	8001-1	1
28	Screw, Cable Clamp	8001-2	2
29	Power Cord		
	110v	8360	1
	220v	8705	1
30	Earthing Lead	8183	1
31	Switch Cover	8002	1
32	Screw, Switch Cover	8220	5
33	Repair Kit (Includes Items 6 & 18)		
	110v	9055	1
	220v	9056	1

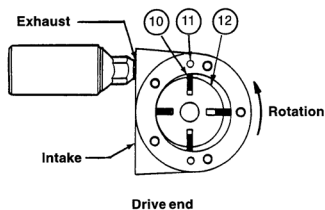
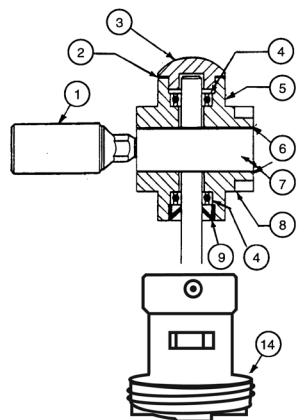
SP-ENC Series

Ref. #	Description	P/N for SP-ENC	Qty
1	Screw, Motor Cover	3130	4
2	Motor Cover	3000	1
3	Fan	3512	1
4	Bearing Cover	3511	1
5	Wave Washer	8125	1
6	Bearing, Upper	8331	1
7	Brush Holder	8508	1
8	Carbon Brushes		
	110v	8509	2
	220v	8703	2
9	Stator		
	110v	3503	1
	220v	3702	1
10	Hexagon Nut	8448	2
11	Lock Washer	8071	2
12	Rod Connector	3703	2
13	Motor Housing	3510	1
14	Armature		
	110v	3502	1
	220v	3701	1
15	Guide Disc	3504	1
16	Bearing, Lower	8126	1
17	Lower Housing	8100	1
18	Screw, Lower Housing	8130	4
19	Motor Coupling	8333	1
20	Ground Screw	8162	1
21	Star Washer	8511	1
22	Speed Potentiometer		
	110v	9802	1
	220v	9801H	1
23	Gasket		
	110v	8167	1
	220v	8167LVR	1
24	Switch Housing		
	Fixed Speed	8001	1
	Variable Speed	8010	1
25	Screw, Switch Housing		
	110v	8131	4
	220v	8131LVR	4
26	Overload Switch		
	110v	8611	1
	220v (w/ LVR)	8704LVR	1
	220v (w/o LVR)	8704	1
27	Switch Lead	8185	2
28	EMI Filter	8003	1
29	Terminal Block	8001-3	1
30	Cable Clamp	8001-1	1
31	Screw, Cable Clamp	8001-2	1
32	Power Cord		
	110v	8360	1
	220v	8705	1
33	Earthing Lead	8183	1
34	Switch Cover	8002	1
35	Screw, Switch Cover	8220	5
36	Repair Kit (Includes Items 8 & 19)		
	110v	9055	1
	220v	9056	1

SP-A1 & SP-A2 Spare Parts Lists

SP-A1

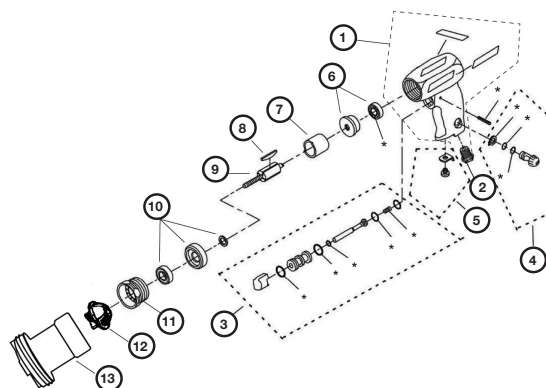
Ref. #	Description	P/N for SP-A1	Qty
1	Muffle	SAF350	1
2*	Gasket	SAC229	1
3	Dead end cap	SAC228A	1
4*	Bearing	SAG549	2
5	Dead end plate	SAC617	1
6*	Gasket	SAC527	2
7	Body	SAE899	1
8	Drive end plate	SAC616	1
9*	Shaft seal	SAC190A	1
10*	Vane	SAE893	4
11	Dowel pin	SD324A	4
12	Impeller	SAE896	1
13	Repair kit*	SK285	1
	Includes item numbers		1
	2, 4, 6, 9 and 10		1
14	A1 adapter	9007	1



SP-A1

SP-A2 Series


Ref. #	Description	P/N for SP-A1	Qty
1	Housing Assembly	317A-A40	1
2	Inlet Bushing (with Screen)	317A-3B	1
3	Trigger Assembly	317A-A93	1
4	Regulator Assembly	317A-A249	1
5	Muffler Kit	317A-AMK1	1
6	Rear-End Plate Assembly	317A-A12	1
7	Cylinder	317A-3	1
8	Vanes (Set of 4)	317A-42-4	4
9	Rotor	317A-53	1
10	Front-End Plate, Assembly	317A-A11	1
11	Motor Lock-Nut	317A-27	1
12	Motor Coupling	8333	1
13	Adaptor, Aluminum	9014	1



SP- A2 Series

DRUM PUMP SPECIFICATIONS

Model	Material of Construction	Maximum Liquid Temperature	Wetted Materials	Maximum Flow Rate	Discharge Pressure
SP-CPVC	CPVC	190° F (90° C)	CPVC, Carbon, Hastelloy C, PVDF, PTFE	35 gpm (132 l/min)	16 psi (1,1 bar)
SP-CPVC-HH	CPVC	190° F (90° C)	CPVC, Carbon, Hastelloy C, PVDF, PTFE	16 gpm (60 l/min)	32 psi (2,2 bar)
SP-PP	Polypropylene	130° F (55° C)	PP, Carbon, Hastelloy C, PTFE	35 gpm (132 l/min)	16 psi (1,1 bar)
SP-PP-HH	Polypropylene	130° F (55° C)	PP, Carbon, Hastelloy C, PTFE	16 gpm (60 l/min)	32 psi (2,2 bar)
SP-PHT	Polypropylene	175° F (80° C)	PP, Carbon, Hastelloy C, PTFE	35 gpm (132 l/min)	16 psi (1,1 bar)
SP-PHT-HH	Polypropylene	175° F (80° C)	PP, Carbon, Hastelloy C, PTFE	16 gpm (60 l/min)	32 psi (2,2 bar)
SP-PVDF	PVDF (Kynar®)	175° F (80° C)	PVDF, Carbon, Hastelloy C, PTFE	35 gpm (132 l/min)	16 psi (1,1 bar)
SP-PVDF-HH	PVDF (Kynar®)	175° F (80° C)	PVDF, Carbon, Hastelloy C, PTFE	16 gpm (60 l/min)	32 psi (2,2 bar)
*SP-S	SS316	175° F (80° C)	SS316, Carbon, PTFE	35 gpm (132 l/min)	16 psi (1,1 bar)
*SP-SS-HH	SS316	175° F (80° C)	SS316, Carbon, PTFE	16 gpm (60 l/min)	32 psi (2,2 bar)
*SP-AL	Aluminum	175° F (80° C)	Aluminum, Carbon, PTFE & SS316	35 gpm (132 l/min)	16 psi (1,1 bar)
*SP-AL-HH	Aluminum	175° F (80° C)	Aluminum, Carbon, PTFE & SS316	16 gpm (60 l/min)	32 psi (2,2 bar)

 * When operating in Hazardous Duty applications a pump must be used in conjunction with an explosion proof motor or air motor.

Pump Package Specifications

Electric Motor Pump Packages

Model	HP	Voltage	Phase	Meter	Wetted Components	Immersion Length	Hose Length	Nozzle Material
9400	1	110V	1	No	Polypropylene, Carbon, Hastelloy C, PVC, Viton®, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	Polypropylene
9401	1	220V	1	No	Polypropylene, Carbon, Hastelloy C, PVC, Viton®, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	Polypropylene
9402	1	110V	1	No	Polypropylene, Carbon, Hastelloy C, PVC, Viton®, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	Polypropylene
9403	1	220V	1	No	Polypropylene, Carbon, Hastelloy C, PVC, Viton®, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	Polypropylene
9414	1	110V	1	No	SS316, PTFE, Carbon, PVC, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	SS316
9415	1	220V	1	No	SS316, PTFE, Carbon, PVC, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	SS316
9416	1	110V	1	No	SS316, PTFE, Carbon, PVC, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	SS316
9417	1	220V	1	No	SS316, PTFE, Carbon, PVC, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	SS316
9420	1	110V	1	No	PVDF, Carbon, Hastelloy C, Alphasyn, Viton®, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	PVDF
9421	1	220V	1	No	PVDF, Carbon, Hastelloy C, Alphasyn, Viton®, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	PVDF
9422	1	110V	1	No	PVDF, Carbon, Hastelloy C, Alphasyn, Viton®, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	PVDF
9423	1	220V	1	No	PVDF, Carbon, Hastelloy C, Alphasyn, Viton®, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	PVDF
9430	1	110V	1	No	CPVC, Polypropylene, Carbon, Hastelloy C, PVC, Viton®, PVDF, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	Polypropylene
9431	1	220V	1	No	CPVC, Polypropylene, Carbon, Hastelloy C, PVC, Viton®, PVDF, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	Polypropylene
9432	1	110V	1	No	CPVC, Polypropylene, Carbon, Hastelloy C, PVC, Viton®, PVDF, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	Polypropylene
9433	1	220V	1	No	CPVC, Polypropylene, Carbon, Hastelloy C, PVC, Viton®, PVDF, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	Polypropylene
9500	1	110V	1	Yes	Polypropylene, Carbon, Hastelloy C, PVC, Viton®, Ceramic, PVDF, Halar, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	Polypropylene
9501	1	220V	1	Yes	Polypropylene, Carbon, Hastelloy C, PVC, Viton®, Ceramic, PVDF, Halar, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	Polypropylene
9502	1	110V	1	Yes	Polypropylene, Carbon, Hastelloy C, PVC, Viton®, Ceramic, PVDF, Halar, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	Polypropylene
9503	1	220V	1	Yes	Polypropylene, Carbon, Hastelloy C, PVC, Viton®, Ceramic, PVDF, Halar, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	Polypropylene
9510	1	110V	1	Yes	PVDF, Carbon, Hastelloy C, Alphasyn, Viton®, Ceramic, Halar, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	PVDF
9511	1	220V	1	Yes	PVDF, Carbon, Hastelloy C, Alphasyn, Viton®, Ceramic, Halar, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	PVDF
9512	1	110V	1	Yes	PVDF, Carbon, Hastelloy C, Alphasyn, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	PVDF
9513	1	220V	1	Yes	PVDF, Carbon, Hastelloy C, Alphasyn, Viton®, Ceramic, Halar, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	PVDF
9460	1	110V	1	No	Aluminum, Carbon, PTFE & SS316	39" (1000 mm)	6 ft. (1.83 meters)	Aluminum
9461	1	220V	1	No	Aluminum, Carbon, PTFE & SS316	39" (1000 mm)	6 ft. (1.83 meters)	Aluminum
9462	1	110V	1	No	Aluminum, Carbon, PTFE & SS316	47" (1200 mm)	6 ft. (1.83 meters)	Aluminum
9463	1	220V	1	No	Aluminum, Carbon, PTFE & SS316	47" (1200 mm)	6 ft. (1.83 meters)	Aluminum
9610	1	110V	1	No	SS316, Carbon, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	SS316
9611	1	220V	1	No	SS316, Carbon, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	SS316
9612	1	110V	1	No	SS316, Carbon, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	SS316
9613	1	220V	1	No	SS316, Carbon, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	SS316

Air Motor Pump Packages

Model	HP	Air Consumption	Meter	Wetted Components	Immersion Length	Hose Length	Nozzle Material
9604	0.5	22 CFM (10.4 L/sec) @ 90 psi (6,2 bar)	No	SS316, PTFE, Carbon, UHMWPE, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	SS316
9605	0.75	28 CFM (13.2 L/sec) @ 90 psi (6,2 bar)	No	SS316, PTFE, Carbon, UHMWPE, PTFE	39" (1000 mm)	6 ft. (1.83 meters)	SS316
9606	0.05	22 CFM (10.4 L/sec) @ 90 psi (6,2 bar)	No	SS316, PTFE, Carbon, UHMWPE, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	SS316
9607	0.75	28 CFM (13.2 L/sec) @ 90 psi (6,2 bar)	No	SS316, PTFE, Carbon, UHMWPE, PTFE	47" (1200 mm)	6 ft. (1.83 meters)	SS316
9464	0.75	28 CFM (13.2 L/sec) @ 90 psi (6,2 bar)	No	Aluminum, Carbon, PTFE & SS316	39" (1000 mm)	6 ft. (1.83 meters)	Aluminum
9465	0.75	28 CFM (13.2 L/sec) @ 90 psi (6,2 bar)	No	Aluminum, Carbon, PTFE & SS316	47" (1200 mm)	6 ft. (1.83 meters)	Aluminum

Assembly

1. Remove the pump and motor from packaging.
2. Inspect all contents for damage.
3. Couple the motor to the pump tube by using the Hand Wheel. (See figure 1).

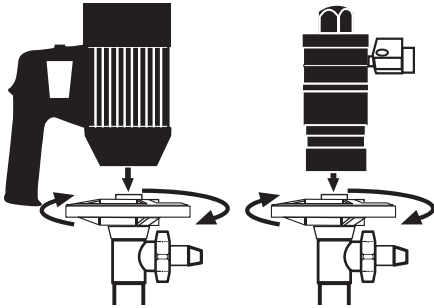


Figure 1

▲ WARNING When using an SP-A1 or SP-A2 Series motor, Standard Pump recommends the use of a Filter Lubricator Regulator (FLR) in order to ensure a moisture free supply of air to the motor.

▲ WARNING SP-A1 and SP-A2 Series motors must be lubricated daily to ensure proper functionality.

Operation

1. Once the pump is fully assembled and all connections are securely fastened, insert the pump into the drum or tank.
2. Turn the motor switch to the "ON" position or open air inlet valve.
3. If your package contains a flow meter (Package numbers 9500-9503 or 9510-9513) please reference the factory operating instructions which are located in your carton.
4. After use, clean the pump and store vertically.

Maintenance

DISASSEMBLY / CLEANING PROCEDURES

1. In order to clean a majority of the residue from the pump tube, immerse the pump into a 55 Gallon Drum of water. Allow the pump to circulate the water for 3 minutes.
2. For a more thorough cleaning remove the motor from the pump tube by loosening the hand wheel (see Figure 2).

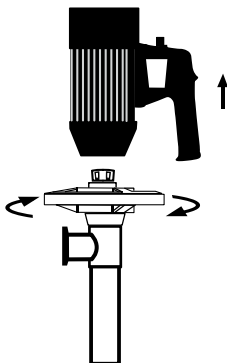


Figure 2

3. Remove the pump foot. (see Figure 3)

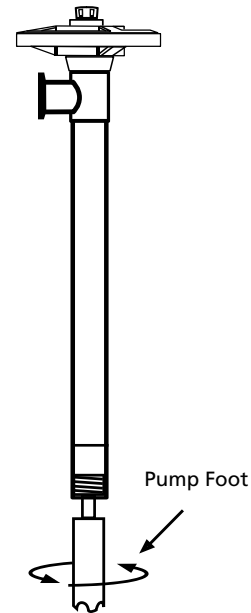


Figure 3

NOTE: Remove pump foot by turning clockwise.

4. While holding the drive shaft with pliers (factory suggests using grip-locks to avoid scarring shaft) remove the impeller by turning counter clockwise (see Figure 4).

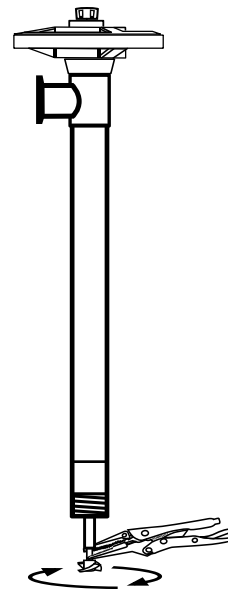


Figure 4

NOTE: Use grip lock pliers to hold shaft while removing impeller.

5. Remove the Pump Housing (see Figure 5).

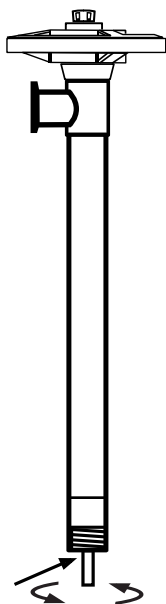


Figure 5

NOTE: Remove pump housing by turning clockwise.

6. For plastic and aluminum models remove outer tube and inner tube from discharge housing by turning clockwise (see Figure 6).

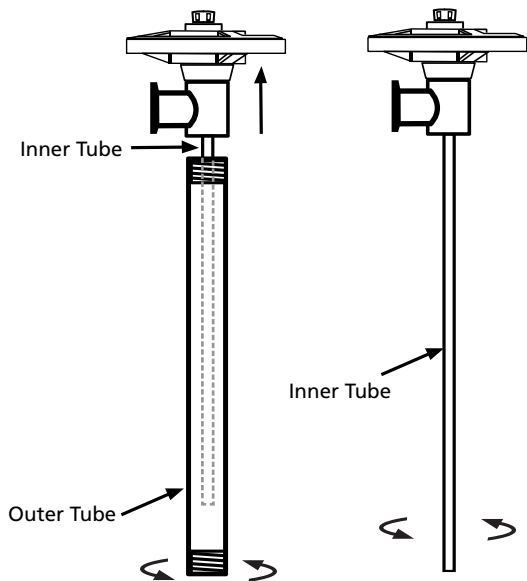


Figure 6

7. For stainless steel models (i.e. SP-SS Series, 9414-9417 & 9604- 9607), remove connection flange (P/N 8102) from inner/outer tube assembly by turning clockwise (see Figure 7).

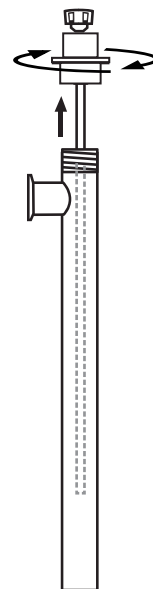


Figure 7

8. Remove pump coupling (P/N: 1004) from drive shaft by turning counterclockwise (see Figure 8). **NOTE:** Use grip-lock pliers to hold shaft while removing coupling.

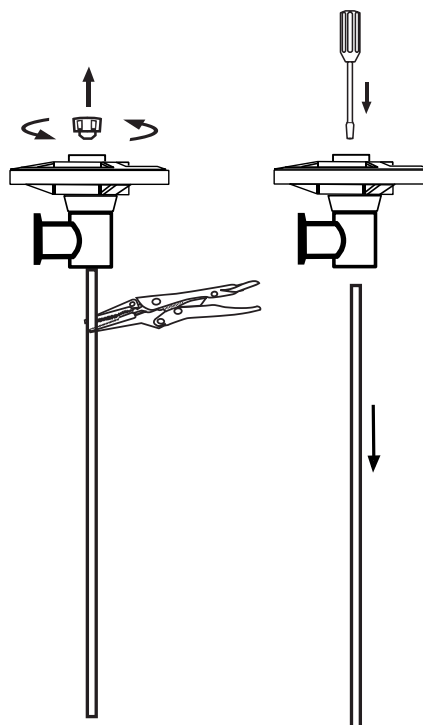


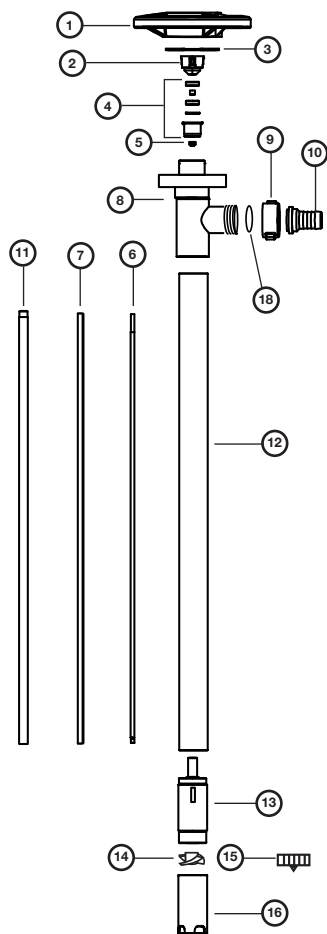
Figure 8

Figure 9

9. Pull drive shaft straight down removing it from the discharge housing or connection flange while inserting a screwdriver through bearing unit (P/N: 1038) (see Figure 9). **NOTE:** Ensure screwdriver is maintained inside bearing unit so spacer and seal are stationary and aligned properly for reassembly.

WARNING When replacing the drive shaft in the bearing unit (PIN1038) during reassembly, make sure the drive shaft is inserted through the spacer in between the bearings inside the bearing unit. Failure to do so could cause the bearing unit to prematurely fail.

SP-PP, SP-PHT, SP-CPVC, SP-PVDF Series Spare Parts List



Ref. Number	Description	P/N for SP-PP	P/N for SP-PHT	P/N for SP-CPVC	P/N for SP-PVDF	Qty
1	Hand Wheel, Polypropylene	1842	1842	1842	1842	1
2	Pump Coupling, Nylon	1004*	1004*	1004*	1004*	1
3	Snap Ring, Steel	1508	1508	1508	1508	1
4	Bearing Unit Assembled – 2 each Viton shielded bearings, spacer, snap ring, bearing can	1038*	1038*	1038*	1038*	1
5	V-Seal, Viton®	1000	-	-	-	1
	V-Seal, PTFE	-	4000	4000	4000	
6	Drive Shaft, Hastelloy					
	27" (700 mm)	1543	1543	1543	1543	1
	39" (1000 mm)	1544	1544	1544	1544	1
	47" (1200 mm)	1545	1545	1545	1545	1
	50" (1270 mm)	1549	1549	1549	1549	1
	60" (1500 mm)	1546	1546	1546	1546	1
	72" (1800 mm)	1547	1547	1547	1547	1
7	Guide Sleeve, PTFE					
	27"(700 mm)	1516	1516	1516	1516	1
	39" (1000 mm), 47" (1200 mm), 50" (1270 mm)	1514	1514	1514	1514	
	60" (1500 mm), 72" (1800 mm)	1661	1661	1661	1661	1
8	Discharge Housing	1028	6028	5028	4028	1
9	Wing Nut	1106	6106	5106	4106	1
10	Hose Barb					
	.75" (19 mm)	1051	6051	5051	4051	1
	1" (25 mm)	1082	6082	5082	4082	1
11	Inner Tube,					
	27" (700 mm)	1600	6600	5600	4600	1
	39" (1000 mm)	1601	6601	5601	4601	1
	47" (1200 mm)	1602	6602	5602	4602	1
	50" (1270 mm)	1623	6623	5623	4623	1
	60" (1500 mm)	1615	6615	5615	4615	1
	72" (1800 mm)	1616	6616	5616	4618	1
12	Outer Tube,					
	27" (700 mm)	1604	6604	5604	4604	1
	39" (1000 mm)	1603	6603	5603	4603	1
	47" (1200 mm)	1605	6605	5605	4605	1
	50" (1270 mm)	1624	6624	5624	4622	1
	60" (1500 mm)	1617	6617	5617	4617	1
	72" (1800 mm)	1618	6618	5618	4619	1
13	Pump Housing (Includes Carbon Bushing)	1524*	6524*	5524*	4607*	1
14	High Volume Impeller, Polypropylene	1608*	6608*	5608*	4608*	1
15	High Pressure Impeller, PTFE	4608 HH	4608 HH	4608 HH	4608 HH	1
16	High Volume Pump Foot, Polypropylene	1609*	6609*	-	-	1
	High Volume Pump Foot, PVDF	-	-	5609*	4609*	1
	High Pressure Pump Foot, Polypropylene & PTFE	1609 HH	6609 HH	-	-	1
	High Pressure Pump Foot, PVDF & PTFE	-	-	5609 HH	4609 HH	1
17	Repair Kit (*Includes Items 2, 4, 13, 14 & 16)	9050	9053	9052	9051	1
18	O-Ring, Viton®	-	6695	-	-	1

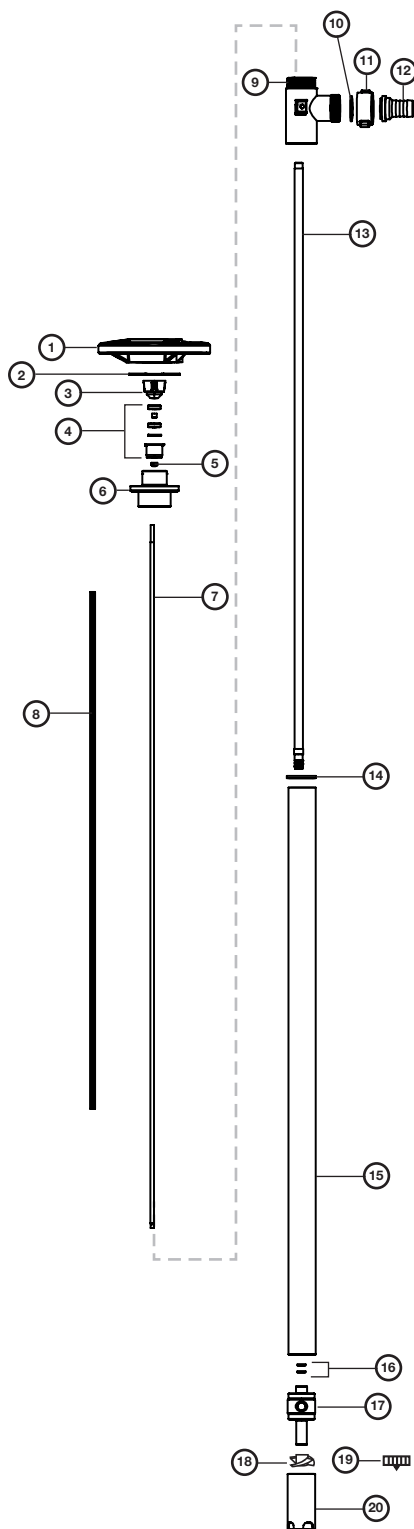


SP-PP, SP-PHT, SP-CPVC, SP-PVDF pumps should not be used to pump flammables.

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SP-AL Series Spare Parts List



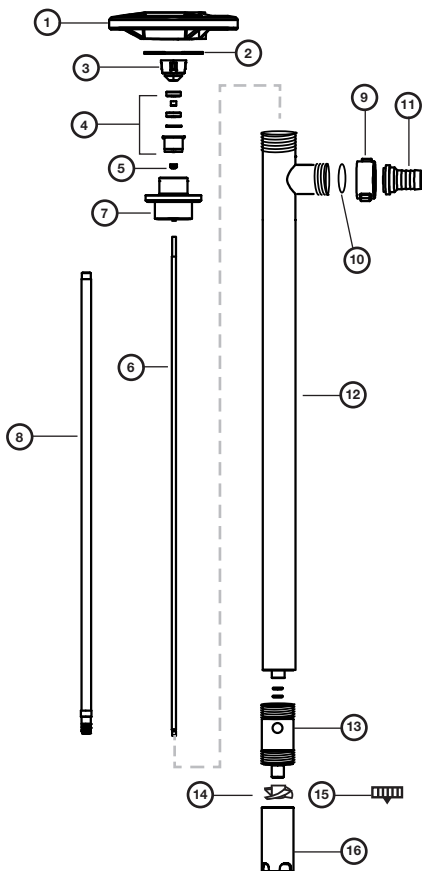
Ref. Number	Description	P/N for SP-AL	Qty
1	Hand Wheel, Polypropylene	1842	1
2	Snap Ring, Steel	1508	1
3	Pump Coupling, Nylon	1004*	1
4	Bearing Unit Assembled - 2 each Viton® Shielded Bearings, Spacer, Snap Ring, Bearing Can	1038*	1
5	V-Seal, PTFE	4000	1
6	Connection Flange, Aluminum	3723	1
7	Drive Shaft, SS316		
	27" (700 mm)	2027	1
	39" (1000 mm)	2028	1
	47" (1200 mm)	2029	1
	60" (1500 mm)	2709	1
	72" (1800 mm)	2710	1
8	Guide Sleeve, PTFE		
	27" (700 mm)	2031	1
	39" (1000 mm) / 47" (1200 mm)	2032	1
	60" (1500 mm)	2711	1
	72" (1800 mm)	2712	1
9	Discharge Housing, Aluminum	3724	1
10	Seal, PTFE	2195*	1
11	Wing Nut, Aluminum	3709	1
12	Hose Barb, Aluminum		
	.75" (19 mm)	3708	1
	1" (25 mm)	3707	1
13	Inner Tube, Aluminum		
	27" (700 mm)	3712	1
	39" (1000 mm)	3714	1
	47" (1200 mm)	3716	1
	60" (1500 mm)	3718	1
	72" (1800 mm)	3720	1
14	Seal, PTFE	730	1
15	Outer Tube, Aluminum		
	27" (700 mm)	3713	1
	39" (1000 mm)	3715	1
	47" (1200 mm)	3717	1
	60" (1500 mm)	3719	1
	72" (1800 mm)	3721	1
16	O-Ring, Viton (2 per set)	2707	1
17	Pump Housing, Aluminum	3725*	1
	(Includes Carbon Bushing)		
18	High Volume Impeller, PTFE	2706*	1
19	High Pressure Impeller, PTFE	4608HH	1
20	High Volume Pump Foot, Aluminum	3726	1
	High Pressure Pump Foot, Aluminum	3726HH	1
21	Repair Kit (*Includes Items 3,4,10,17 & 18)	9057	1



When pumping flammables or combustible liquids, this pump must be used in conjunction with an explosion proof motor.

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SP-SS Series Spare Parts List



Ref. Number	Description	P/N for SP-SS	Qty
1	Hand Wheel, Polypropylene	1842	1
2	Snap Ring, Steel	1508	1
3	Pump Coupling, Nylon	1004*	1
4	Bearing Unit Assembled – 2 each	1038*	1
	Viton® shielded bearings, spacer, snap ring, bearing can		
5	V-Seal, PTFE	4000	1
6	Drive Shaft, SS316		
	27" (700 mm)	2027	1
	39" (1000 mm)	2028	1
	47" (1200 mm)	2029	1
	60" (1500 mm)	2709	1
	72" (1800 mm)	2710	1
7	Connection Flange, SS316	8102	1
8	Guide Sleeve, PTFE		
	27" (700 mm)	2031	1
	39" (1000 mm) / 47" (1200 mm)	2032	1
	60" (1500 mm)	2711	1
	72" (1800 mm)	2712	1
9	Wing Nut, SS316	8068	1
10	Seal, PTFE	2195*	1
11	Hose Barb, SS316		
	.75" (19 mm)	2197	1
	1" (25 mm)	2196	1
12	Inner/Outer Tube Assembly, SS316		
	27" (700 mm)	2700	1
	39" (1000 mm)	2701	1
	47" (1200 mm)	2702	1
	60" (1500 mm)	2713	1
	72" (1800 mm)	2714	1
13	Pump Housing with Carbon Bushing, SS316	2704*	1
14	High Volume Impeller, PTFE	2706*	1
15	High Pressure Impeller, PTFE	4608 HH	1
14	O-Ring, Viton (2 per set)	2707	1
16	High Volume Pump Foot, SS316	2708	1
	High Pressure Pump Foot, SS316	2708 HH	1
17	Repair Kit (*Includes Items 3, 4, 10, 13 & 14)	9054	1



When pumping flammables or combustible liquids, this pump must be used in conjunction with an explosion proof motor.

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Hazardous Duty Operation

▲ WARNING *When pumping flammable or combustible products or operating in a hazardous duty environment an SP-AL or SP-SS Series pump must be used in conjunction with an explosion proof motor. Please contact the factory or an authorized distributor with any questions regarding this matter.*

SP-420 EX, SP-A1 & SP-A2 Series

When operating in Hazardous Duty applications SP-420EX or SP-A1 must be used in conjunction with an SP-SS or SP-AL Series pump and properly bonded and grounded. Refer to the Motor specification chart for motor information.

Special Conditions for Safety Use

- Only for conductive liquids (gases groups IIA and IIB).
- The flashpoint for the flammable media shall be 50°C higher than the maximum temperature T4 (135°C).
- The SP-AL versions may not be used in an area where rusty particles or rusty iron is present.
- The tube shall regularly be inspected for damage and corrosion, If there is any damage or corrosion, the equipment and the tube shall be taken out of service.
- The grounding clamp and wire on the pump shall be connected to the liquid container before and after pump start.
- The pumps must not be exposed to pumping hard solid particles which can create sparks.
- Inspect, maintain and repair equipment in accordance with the operating instructions.
- The pump is only for hand held operation and may not be run dry.
- The SP-AL version may only be used with the PTFE impeller parts no. 2706 and 4608HH.

Drum Pump Installation SP-410EX

- Install the Pump and Static Protection Kit as described in Figure 6 on page 12.
- Connect Ground Wire assembly to earth ground using supplied clamp.
- Connect Ground Wire between drum and earth ground.
- Connect Ground Wire between receiving container and earth ground (or use bonding wire to connect to drum).

▲ CAUTION *Check electrical continuity of all components before pumping. All should be one (1) ohm or less.*

Operation and Safety Guidelines

- Use only metallic pump tubes with explosion proof motors to transfer flammable or combustible liquids.
- Area for use must comply with NFPA 30 guidelines for safe storage and use of flammable and combustible liquids.
- All containers and other equipment must be metal and grounded.
- Follow NGPA 77 guidelines for control of static electricity.
- Avoid splashing. Splash filling can create static electricity and is extremely hazardous.
- Fluid velocity must be 3 feet/second (0.91 meters/second) maximum 7 GPM in 1" hose (26.5 LPM in 25 mm hose).

Use Of Air Motors In Hazardous Atmospheres

SP-A1 Series & SP-A2 Series

At the present time, there are no known standards governing the operation of air motors in hazardous atmospheres. However, there are several points regarding the safety of air motors.

First of all, an air motor is not a source of electric sparks. However, it is possible that an article which is not part of the air motor (e.g., wrenches, hammers, etc.) could create a spark by sharply impacting a cast iron or aluminum case or the steel shaft of the air motor. (Note that electric motor enclosures

for both class I and II hazardous locations can be made of "...iron, steel, copper, bronze, or aluminum..." (UL 674, Electric Motors and Generators – Hazardous Locations, June 23, 1989; paragraph 4.2, page 6). Second, an air motor housing is not designed to contain an internal explosion as is an explosion-proof electric motor. The only possible internal source of ignition in an air motor is a contact between the station housing components and the rotating elements that might create a spark. The likelihood of this occurring is reduced by the fact that the contact must be made at precisely the same time as a flammable or explosive gas is introduced into the air motor in a sufficient quantity to achieve a flammable or explosive mixture while overcoming the positive pressure of the driving gas. In other words, although highly improbable, an internal explosion in an air motor is possible. Finally, an air motor is designed to be operated by compressed air, the expansion of which in normal operation creates a cooling effect. As a result, the temperature of the air motor will not exceed the height of the temperatures of the surrounding atmosphere or the air delivered to the inlet.

We do not guarantee the safety of every application, but to ensure the safe operation of an air motor in your application, always follow the product direction and consult with a qualified engineer. (Source: Gast Manufacturing, Air Motors Handbook, page 2) Note: This statement is only applicable in North America.

▲ WARNING *When using an SP-A1 or SP-A2 Series motor, Standard Pump recommends the use of a Filter Lubricator Regulator (FLR) in order to ensure a moisture free supply of air to the motor.*

▲ WARNING *SP-A1 and SP-A2 Series motors must be lubricated daily to ensure proper functionality*

Grounding Procedures

⚠ WARNING *Transferring of flammables or use in hazardous duty. Bonding is an electrical connection between a primary metal vessel and a metal receiving vessel. See schematic.*

Grounding is an electrical connection between a metal vessel, pump, motor and a constant ground; i.e. a metal rod driven into the earth.

Bonding and grounding are required when pumping flammable materials or in hazardous duty environments. Failure to bond and ground properly can cause a discharge of static electricity resulting in fire, injury or death. Follow NFPA 77 and 30 procedures at all times. If in doubt, do not start pump! Be sure bonding and grounding wires are secure before starting operation. (Ground and bond wires must have less than one ohm resistance for safe usage. Check continuity

before starting). Always check with a safety engineer when any question arises and periodically check safety procedures with a safety engineer.

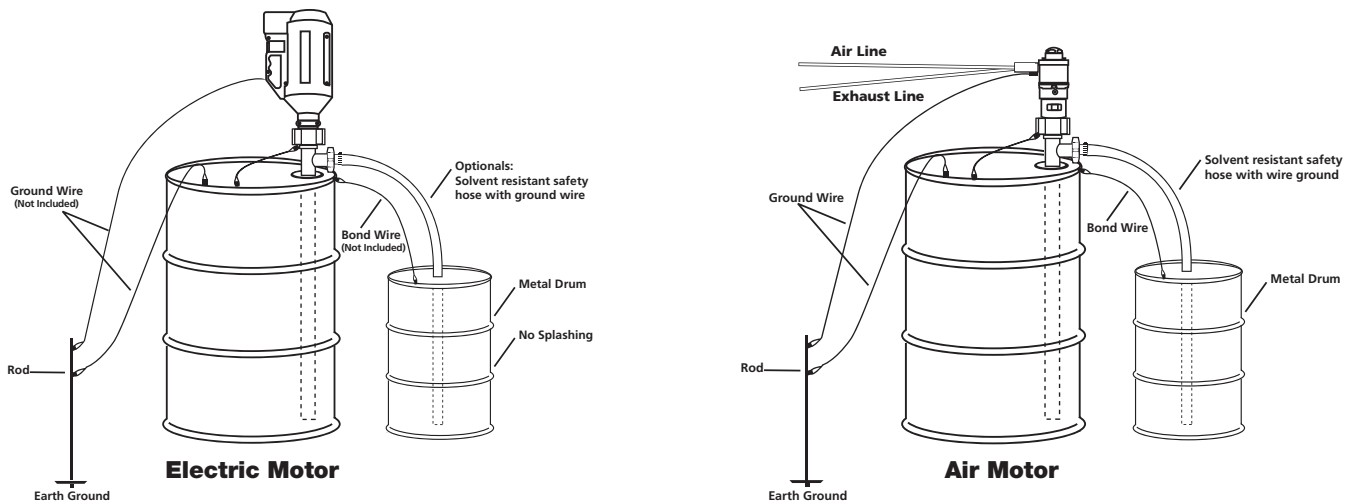


Figure 6 - Static Protection Kit

North America Declaration of Conformity

We herewith declare that the construction type

Designation: **SP-280P**
SP-280P-V
SP-ENC
SP-ENC-V

Machine type: Electric Motors for drum pumps

Item No: **SP-280P**
SP-280P-V
SP-ENC
SP-ENC-V

In the form as delivered by us complies with following applicable regulations:

Conforms to UL STD 1004-1
Certified to CSA STD C22.2 No. 100
ETL Control number 5003012

RECOGNIZED
COMPONENT



Intertek

Official responsible for documentation:
1 FEB 2016

Standard Pump, Inc.
Duluth, GA USA

Chris Murphy

Christopher Murphy
Director of Operations

EC Declaration of Conformity

We herewith declare that the construction type

Designation: **SP-280P-2** **SP-280P-2-NL**
 SP-280P-2-V **SP-280P-2-V-NL**
 SP-ENC-2 **SP-ENC-2-NL**
 SP-ENC-2-V **SP-ENC-2-V-NL**

Machine type: Electric Motors for drum pumps

Item No: **SP-280P-2** **SP-280P-2-NL**
 SP-280P-2-V **SP-280P-2-V-NL**
 SP-ENC-2 **SP-ENC-2-NL**
 SP-ENC-2-V **SP-ENC-2-V-NL**

In the form as delivered by us complies with following applicable regulations:

Machine Safety	2006/42/EC
Low Voltage Equipment	2006/95/EC
Electromagnetic Compatibility	2004/108/EC
RoHS Directive	2011/65/EU

Applied harmonized standards:


EN ISO 12100-1, -2	EN 60204-1
--------------------	------------

EC official responsible for documentation:

24 AUG 2015

Date

Standard Pump, Inc.
Duluth, GA USA


Christopher Murphy
Director of Operations

WARRANTY

Three year limited warranty

Standard Pump, Inc. warrants, subject to the conditions below, through either Standard Pump, Inc., its subsidiaries, or its authorized distributors, to repair or replace free of charge, including labor, any part of this equipment which fails within **three years** of delivery of the product to the end user. Such failure must have occurred because of defect in material or workmanship and not as a result of operation of the equipment other than in accordance with the instructions given in this material. Specific exceptions include:

- Consumable items such as motor brushes, bearings, couplings and impellers. (Motor brushes typically have a life span of approximately 700 hours. This will vary with the manner in which the motor is used)

Conditions of exceptions include:

- Equipment must be returned by prepaid carriage to Standard Pump, Inc., its subsidiary or authorized distributor.
- All repairs, modifications must have been made by or with express written permission by Standard Pump, Inc., its subsidiary or authorized distributor.
- Equipment which have been abused, misused, or subject to malicious or accidental damage or electrical surge are excluded.

Warranties purporting to be on behalf of Standard Pump, Inc. made by any person, including representatives of Standard Pump, Inc, its subsidiaries, or its distributors, which do not fall within the terms of this warranty shall not be binding upon Standard Pump, Inc. unless expressly approved in writing by a Director or Manager of Standard Pump, Inc. Information for returning pumps Equipment which has been contaminated with, or exposed to, bodily fluids, toxic chemicals or any other substance hazardous to health must be decontaminated before it is returned to Standard Pump, Inc, or its distributor. A returned goods authorization number (RGA #) issued by Standard Pump, Inc., its subsidiary or authorized distributor, must be included with the returned equipment. The RGA # is required if the equipment has been used. If the equipment has been used, the fluids that have been in contact with the pump and the cleaning procedure must be specified along with a statement that the equipment has been decontaminated.

STANDARD PUMP

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