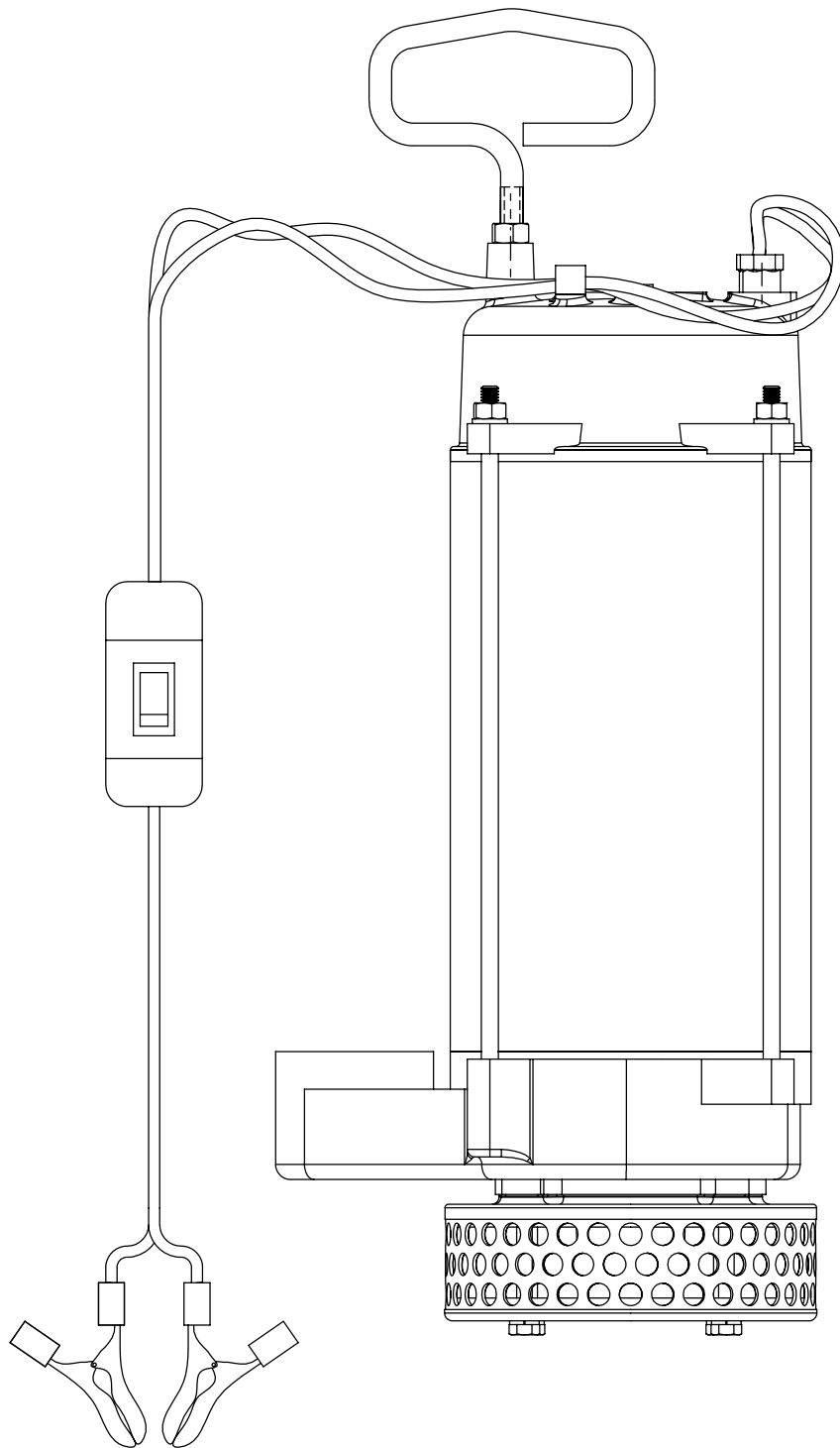


**Porta-Matic Model SPA15 Model SPA15-BSP**

Design Level 3



# Safety Information

## IMPORTANT



Read the safety warnings and instructions in this manual before pump installation and start-up. Failure to comply with the recommendations stated in this manual could damage the pump and void factory warranty.



When the pump is used for materials that tend to settle out or solidify, the pump should be flushed after each use to prevent damage. In freezing temperatures the pump should be completely drained between uses.

## WARNING



When used for toxic or aggressive fluids, the pump should always be flushed clean prior to disassembly.



Be certain that approved eye protection and protective clothing are worn at all times. Failure to follow these recommendations may result in serious injury or death.

## WARNING



Turn off before connecting battery clamps to battery. Arcing could result.



Take action to prevent static sparking. Fire or explosion can result, especially when handling flammable liquids. The pump, piping, valves, containers and other miscellaneous equipment must be properly grounded.



**DANGER:** Not for use with fluids that have a flash point below 100°F (38° C) [examples: gasoline, alcohol.] Sparking could result in death.



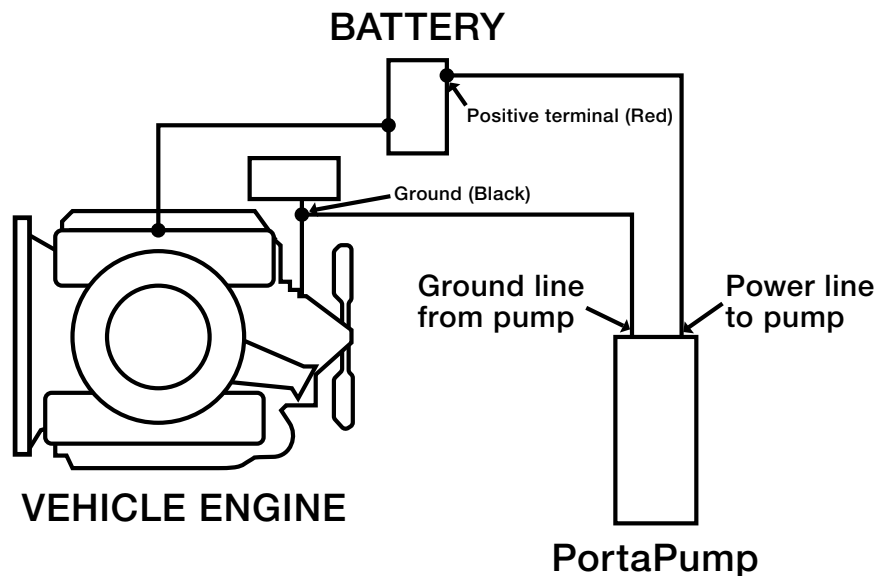
Use safe practices when lifting

# Safety Information

**THE PUMP:** This pump is a totally enclosed, submersible dewatering unit. It is powered by a 1/3 HP, 12 volt DC 30 AMP motor. Battery clips on the power cord allow easy connection to any 12 volt vehicle battery.

**SWITCHING:** The on-off switch is located on the power cord.

**CONNECTING TO BATTERY:** When connecting the clips to a battery, arcing is eliminated by keeping the on-off switch in the "off" position. Connect the red battery clamp to the positive (+) battery terminal. Connect the black battery clamp to ground: preferably on the vehicle's engine to a solid, metallic, stationary point. The connection should be at least 18 inches (480mm) from the battery.



# Safety Information

**HOSE:** Since the pump develops relatively low pressure, it is recommended that non-collapsible hose be used for maximum pumping rates.

**HOISTING & LOWERING:** An eye at the top of the unit is provided for attaching a line for hoisting or lowering. Do not use power cable for handling unit.

**TO OPERATE:** Lower unit into liquid to be pumped and activate switch. Pump can be run for a few minutes without liquid, however, do not run completely dry for extended periods. Damage to shaft seal may result.

**RUNNING TIME:** This unit draws about 30 amperes and can be operated about 1 hour on a fully charged 55 AMP-hour battery and still permit starting of vehicle under normal conditions. Caution should be used when running time exceeds 30 or 40 minutes without engine running to recharge battery, particularly in cold weather when battery efficiency is lowered. Battery size (AMP-hour rating) and the use of other accessories such as lights and radios, etc., must be taken into consideration for practical running periods without engine running.

**OVERLOAD PROTECTION** is provided by means of a 40 amp automatic reset circuit breaker, located under top cover.

## TROUBLESHOOTING

**NOTE:** Most common cause of failure to run is due to hardened mud and sand at impeller. Remove strainer to check.

### MOTOR WILL NOT RUN:

1. Poor connection at battery.
2. Impeller locked with foreign material.
3. Insufficient impeller clearance.
4. Damaged power cable or loose connection internally in motor assembly.
5. Bad switch or circuit breaker. Connect power leads direct to motor leads to check.
6. Worn motor brushes or out of position to make contact with armature.

### PERFORMANCE LOW:

1. Strainer screen partially plugged.
2. Impeller rubbing. Check freeness of rotation with screwdriver inserted through hole in base plated into slotted end of shaft.
3. Battery not fully charged.
4. Discharge restriction such as kinked hose or excessive discharge head.

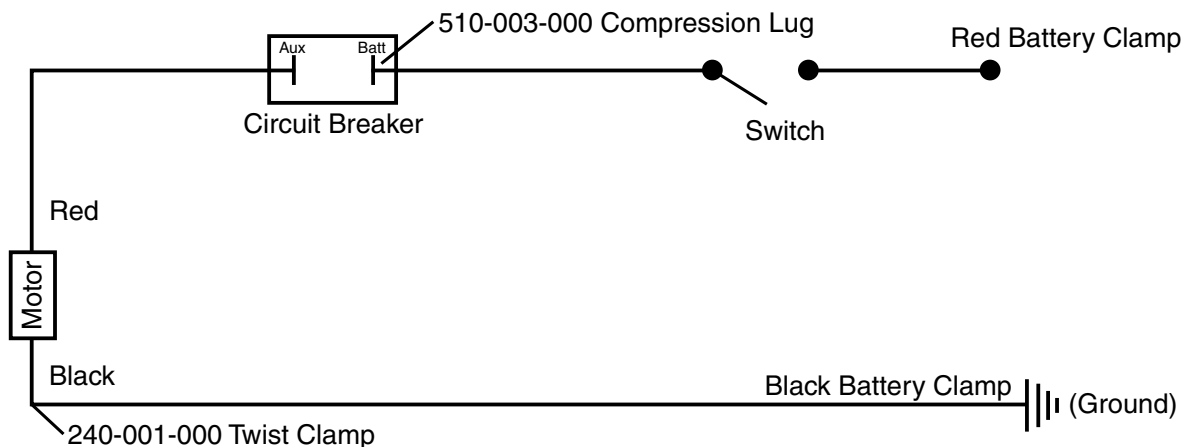
### SERVICE AND REPAIR INSTRUCTION DISASSEMBLY:

Impeller and shaft seal can be inspected and serviced from lower end of pump by removal of 4 capscrews securing base plate, strainer screen, and suction cover. Screwdriver slot is provided in end of motor shaft to turn shaft while holding impeller for removal. This permits removal of impeller without disassembly of upper motor housing to hold motor shaft.

To service motor remove 4 hex nuts and bump top cover free from housing tube. Raise sufficiently to disconnect power cable connections. Slide housing tube up from pump casing and motor will be exposed for service or removal.

**IMPORTANT:** Make certain that wire leads are installed per diagram below. Install top cover as indicated by arrow and instruction on top of cover.

1. Make sure the vehicle and the pump are not in contact during connection.
  2. Do not use power cable for handling unit.
  3. Do not run completely dry for extended periods. Damage to shaft seal may result.

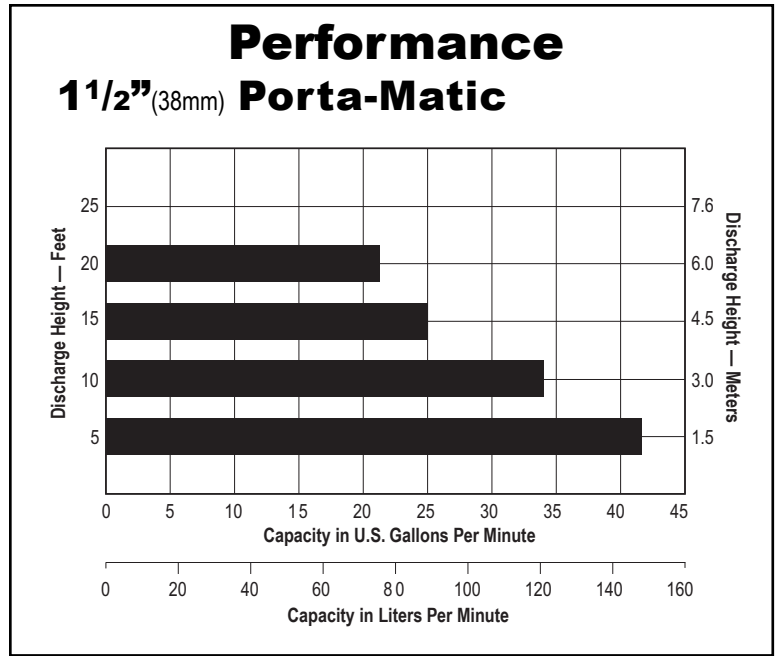
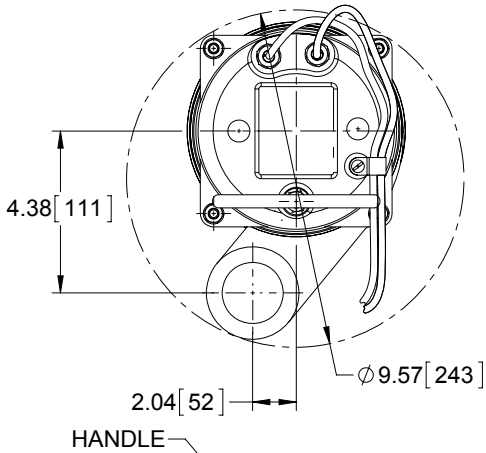


**WARRANTY:** This unit is guaranteed for a period of 5 years against defective material and workmanship.

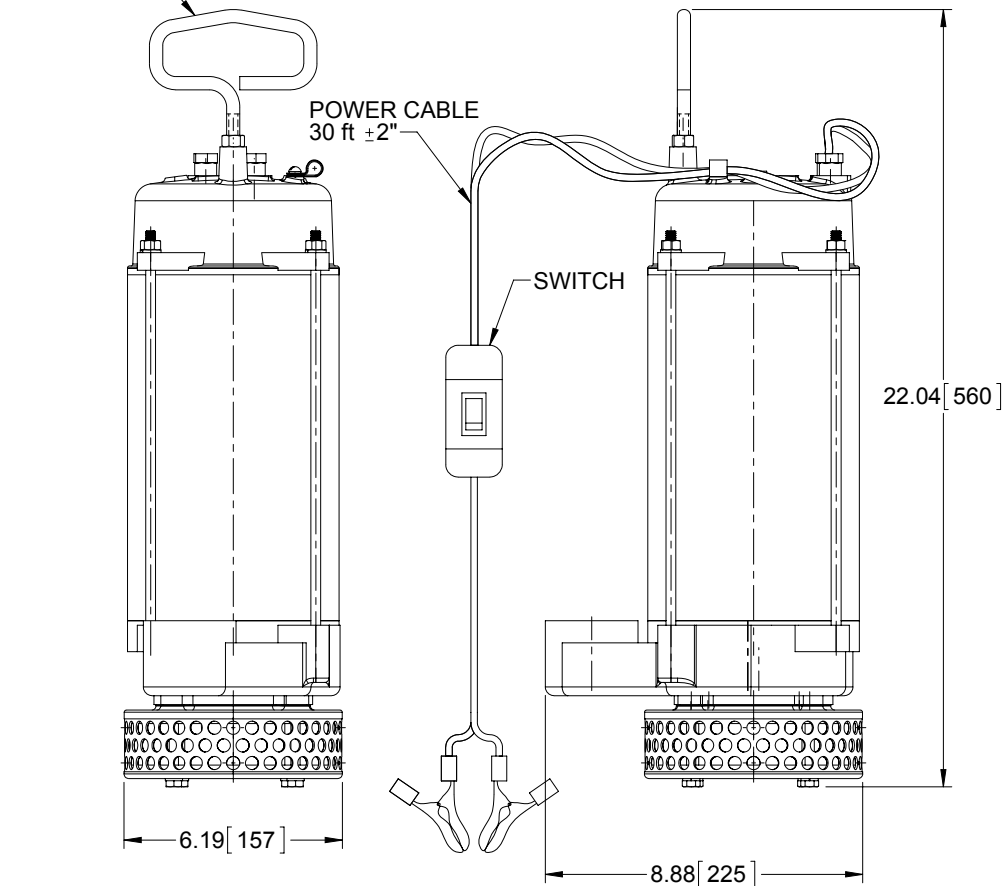
# Dimensional Drawings

## Porta-Matic Model SPA15 Model SPA15-BSP

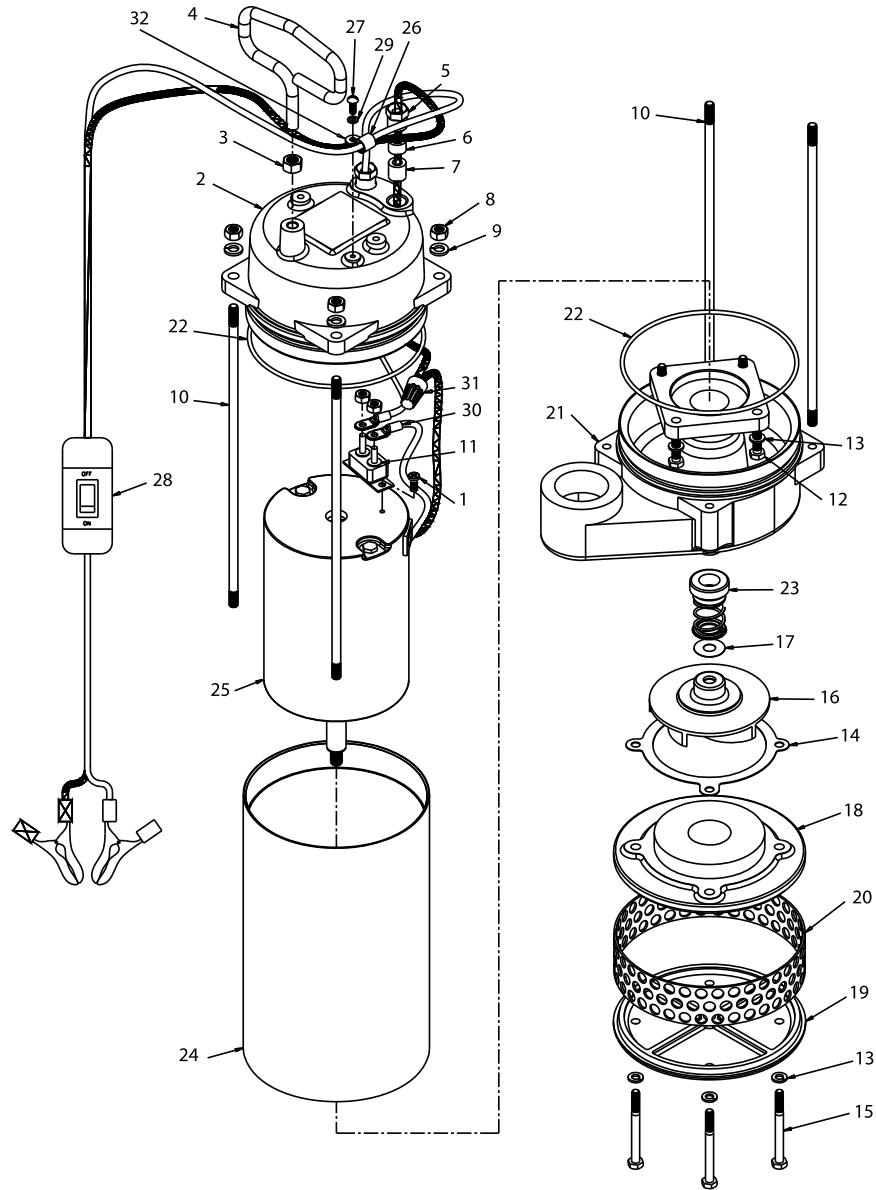
Dimensions in inches (mm dimensions in brackets)  
The dimensions on this drawing are for reference only.  
A certified drawing can be requested if physical dimensions are needed.



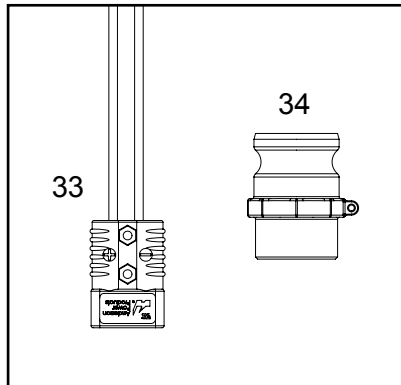
DIMENSIONAL TOLERANCE ±.13 [3mm]



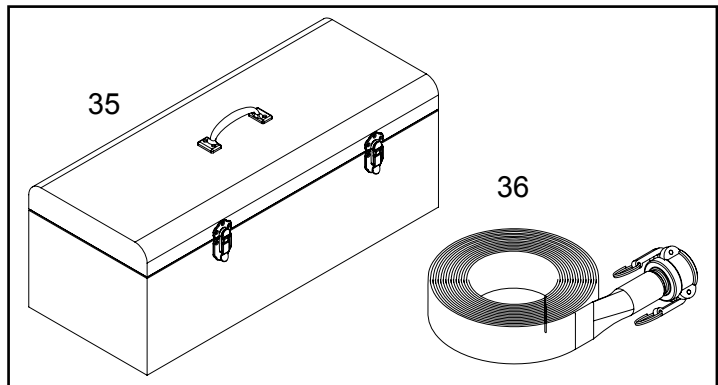
# Composite Repair Parts Drawing



Option .APP



Option KIT



# Material Codes List

000...Assembly, sub-assembly; and some purchased Items  
010...Cast Iron  
012...Powered Metal  
015...Ductile Iron  
020...Ferritic Malleable Iron  
025...Music Wire  
080...CarbonSteel AISI B-1112  
100...Alloy 20  
110...Alloy Type 316 Stainless Steel  
111...Alloy Type 316 Stainless Steel (Electro Polished)  
112...Alloy "C"  
113...Alloy Type 316 Stainless Steel (Hand Polished)  
114...303 Stainless Steel  
115...302/304 Stainless Steel  
117...440-C Stainless Steel (Martensitic)  
120...416 Stainless Steel (Wrought Martensitic)  
123...410 Stainless Steel (Wrought Martensitic)  
148...Hardcoat Anodized Aluminum  
149...2024-T4 Aluminum  
150...6061-T6 Aluminum  
151...6063-T6 Aluminum  
152...2024-T4 Aluminum (2023-T351)  
154...Almag 35 Aluminum  
155 or 156...356-T6 Aluminum  
157...Die Cast Aluminum Alloy #380  
158...Aluminum Alloy SR-319  
159...Anodized Aluminum  
162...Brass, Yellow, Screw Machine Stock  
165...Cast Bronze, 85-5-5-5  
166...Bronze SAE 660  
170...Bronze, Bearing Type, Oil Impregnated  
180...Copper Alloy  
310...Kynar Coated  
330...Zinc Plated Steel  
331...Chrome Plated Steel  
332...Electroless Nickel Plated  
335...Galvanized Steel  
336...Zinc Plated Yellow Brass  
337...Silver Plated Steel  
340...Nickel Plated  
342...Filled Nylon  
354...Injection Molded #203-40 Santoprene  
-Duro 40D ± 5; Color: RED  
355...Thermoplastic Elastomer  
356...Hytrel  
357...Rupplon (Urethane Rubber)Color coded: PURPLE

358...Rupplon (Urethane Rubber)Color coded: PURPLE  
(Some Applications, Compression Mold)  
359...Urethane Rubber  
360...Buna-N Rubber Color coded: RED  
361...Buna-N  
363...Viton (Fluorel) Color coded: YELLOW  
364...E.P.D.M. Rubber Color coded: BLUE  
365...Neoprene Rubber Color coded: GREEN  
366...Nitrile, USDA Approved  
368...EPDM, USDA Approved  
370...Butyl Rubber Color coded: BROWN  
371...Philthane (Tuftane)  
375...Fluorinated Nitrile  
378...High density Polypropylene  
405...Cellulose Fibre  
408...Cork and Neoprene  
425...Compressed Fibre  
426...Blue Gard  
440...Vegetable Fibre  
465...Fibre  
500...Delrin 500  
501...Delrin 570  
505...Acrylic Resin Plastic  
520...Injection Molded PVDF Natural Color  
540...Nylon  
541...Nylon  
542...Nylon  
544...Nylon Injection Molded  
550...Polyethylene  
551...Polypropylene  
552...Unfilled Polypropylene  
553...Unfilled Polypropylene  
555...Polyvinyl Chloride  
570...Rulon II  
580...Ryton  
590...Valox  
591...Nylatron G-S  
592...Nylatron NSB  
600...Virgin PTFE Tetrafluoroethylene (TFE)  
601...Virgin PTFE (Bronze and moly filled)  
602...Filled Virgin PTFE  
603...Blue Gylon  
604...Virgin PTFE  
606...Virgin PTFE  
610...Virgin PTFE Encapsulated Silicon  
611...Virgin PTFE Encapsulated Viton

Delrin, Viton and Hytrel are registered tradenames of E.I. DuPont.

Gylon is a registered tradename of Garlock. Inc.

Nylatron is a registered tradename of Polymer Corp.

Rulon II is a registered tradename of Dixon Industries Corporation.

Hastelloy-C is a registered tradename of Cabot Corp.

Ryton is a registered tradename of Phillips Chemical Company.

Valox is a registered tradename of General Electric Company.

# Composite Repair Parts List

Air Valve Assembly			
Item #	Qty.	Description	Part Number
1	3	Screw, Self-Tapping	710-004-330
2	1	Cover, Motor	258-017-157
3	1	Hex Nut	545-005-330
4	1	<b>Handle</b>	<b>405-001-000</b>
5	2	Nut, Gland	543-001-162
6	2	Spacer, Gland	770-007-162
7	2	<b>Ring, Sealing</b>	<b>675-016-360</b>
8	4	Hex Nut	545-004-330
9	4	Lock Washer	900-004-330
10	4	Stud	807-011-330
11	1	<b>Circuit Breaker</b>	<b>270-001-000</b>
12	4	Capscrew, Hex Head	170-028-330
13	8	Lock Washer	900-001-330
14	5	<b>Gasket, Casing</b>	<b>360-001-440</b>
15	4	Capscrew, Hex Head	170-003-115
16	1	<b>Impeller</b>	<b>444-001-010</b>
17	As. Req*	<b>Shim</b>	<b>740-001-115</b>
18	1	Cover, Suction	258-001-157
19	1	Plate, Strainer	612-001-156
20	1	Screen, Strainer	700-001-330
21	1	Casing, Volute, 1½ NPT	181-001-155
	1	Casing, Volute, 1½ BSPT (tapered)	181-001-155E
22	2	<b>O-Ring</b>	<b>560-022-360</b>
23	1	<b>Seal</b>	<b>720-005-000</b>
24	1	Tube, Casing	860-011-150
25	1	Motor	525-005-000
26	1	Clamp, Cable	200-063-000
27	1	Screw, Machine	706-007-330
28	1	Power Cable Assembly Complete	150-036-000
29	1	Washer, Lock	900-002-330
30	1	Lug, Compression	510-003-000
31	1	Nut, Insulated Wire	240-001-000
32	1	Flat Washer	901-001-330
For Models SPA153F, 12 DC3 and Spa15BSP3F, 12DC3: (Not Shown)			
Item #	Qty.	Description	Part Number
10	2	Stud	807-011-330
	2	Stud (replaces 2 807-011-330)	807-012-330
	2	Foot, Mounting	325-001-330
	2	Stop Nut 5/16-18 Vac	547-001-330
	2	Washer	904-001-330
		Design Level 2 to Design Level 3 Conversion Kit	475-220-000
Additional Options			
Item #	Qty.	Description	Part Number
33	1	Power Cable Assembly Complete (Connector SB175A, Gray)	150-043-000
34	1	1 1/2 NPT Cam & Groove, Male Adaptor	429-002-156
	1	1 1/2 BSPT Cam & Groove, Male Adaptor	429-004-156
35	1	10x9x24 Carrying Case, Aluminum	177-014-000
36	1	30' Standard Duty (Blue) Hose, 1 1/2 Cam & Groove	426-064-000

\* Typically 7 \*\* Items 10 & 24 available as a kit #475-132-000

Repair Parts shown in **bold face (darker)** type are more likely to need replacement after extended periods of normal use. They are readily available from most Warren Rupp distributors. The pump owner may prefer to maintain a limited inventory of these parts in his own stock to reduce repair downtime to a minimum.

**IMPORTANT:** When ordering repair parts always furnish pump model number, serial number and type number.