

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

Pro Series Chemical Resistant Pumps

Description

Pro Series submersible chemical resistant pumps are rated for continuous duty. Pumps are strong and dependable, and when used intermittently in a sump application, extends the life of the pump. PSC motor design saves energy, reduces operation costs and provides better service. Intended for pumping nonflammable fluids compatible with pump component materials.

Specifications

	C8050	C8100
HP	1/2	1
Motor Type	PSC	PSC
Voltage 60 Hz	115 VAC	115 VAC
Amps	4.7	11.3
Water Flow (GPM) at Total Feet of Head		
5 Ft.	74	90
10 Ft.	64	82
15 Ft.	51	69
20 Ft.	40	61
25 Ft.	27	53
30 Ft.	13	45
35 Ft.	--	37
40 Ft.	--	24
Max Head	36 Ft.	49 Ft.
Max Dia Solids	1/4"	3/8"

Dimensions

	C8050	C8100
HP	1/2	1
Pump Discharge	2"	2"
Materials of Construction		
Pump Housing	304 SS	304 SS
Impeller	304 SS	304 SS
Motor Casing	304 SS	304 SS
Inlet Screen	304 SS	304 SS
Motor Shaft	304 SS	304 SS
Mech. Seals (2)	Carbon/Ceramic/Viton	
Fasteners	304 SS	304 SS
Overall Dimensions		
Length	9.1"	10.4"
Width	6.3"	7.5"
Height	16.3"	18.1"
Weight (lbs.)	23.0	46.0



General Safety Instructions

SAVE THESE INSTRUCTIONS.

This manual contains important SAFETY WARNINGS and OPERATING INSTRUCTIONS for the C8050 & C8100 pumps. You will need to refer to it before attempting any installation or maintenance.

ALWAYS keep these instructions with the unit so that they will be easily accessible.

Failure to read and follow these warnings and instructions could result in property damage, serious injury, or death.

⚠ WARNING *Risk of electric shock. To reduce this risk, observe the following precautions.*

- **ALWAYS** disconnect the pump from the power source before servicing or making adjustments.
- **NEVER** handle the pump or motor with wet hands or when standing on a wet or damp surface while the pump is plugged into the power source.
- **MAKE SURE THERE IS A PROPERLY GROUNDED RECEPTACLE AVAILABLE.** This pump is wired with a 3-prong grounded plug. To

reduce the risk of electric shock, be certain that it is only connected to a properly grounded, 3-prong receptacle (preferably with ground fault circuit interrupt). If you have a 2-prong receptacle, have a licensed electrician replace it with a 3-prong receptacle according to local codes and ordinances.

- **NEVER** bypass grounding wires or remove the ground prong from the plug.
- **DO NOT** use an extension cord. The electrical outlet should be within the length of the pump's power cord, and at least 4 feet above the floor

Pro Series Chemical Resistant Pumps

General Safety Instructions (Continued)

level to minimize potential hazards from flood conditions.

- **DO** protect the electrical cord from sharp objects, hot surfaces, oil, and chemicals. Avoid kinking the cord.
- **MAKE SURE** the supply circuit has a fuse or circuit breaker rated to handle the power requirements noted on the nameplate of the pump.
- **NEVER** install the pump in locations classified as hazardous in accordance with the National Electrical Code, ANSI/NFPA 70.
- **ALWAYS** install the pump in accordance with the National Electric Code and all applicable local codes and ordinances. All wiring should be performed by a licensed electrician.

CAUTION *To reduce the risk of hazards that can cause injury or property damage, observe the following precautions.*

- **DO NOT** use the power cord or strain relief to carry the pump. Use the pump handle.
- **DO NOT** operate the pump if it has been damaged in any way.
- **ALWAYS** use a float switch that is compatible with the pumped fluid.
- **DO** drill an air bleed hole - 1/8" (3.2mm) - in the discharge pipe when a check valve is used. Drill the hole angled toward the bottom of the sump to avoid splashing fluid outside the sump pit. If a hole is not drilled above the pump, an air lock may prevent the pump from operating. The best location for the hole is above the normal fluid level. The hole must be drilled below the check valve.

- **DO NOT** use pump in pits handling fluids that are not compatible with the pump component parts. Refer to the chemical compatibility chart on page 4.
- **DO NOT** disassemble the pump. When service is required, contact your dealer for additional directions.

NOTE: After the initial installation, be sure to check the operation by filling the sump and observing the pump operation through one full cycle. For continuous duty operation, the pump must be submerged at least 3/4 of the depth of the pump at all times. In instances where the discharge line is exposed to freezing temperatures, the pipe must be sloped downward so any remaining water will drain out. Failure to do so will prevent water from exiting the sump and damage the pump if the line freezes.

Installation

PRIOR TO INSTALLATION

1. Visually inspect your pump. Products may be damaged during shipping. If the product has been damaged, contact your place of purchase.
2. Thoroughly read the instructions provided to learn specific details regarding installation and use. This manual should be retained for future reference.

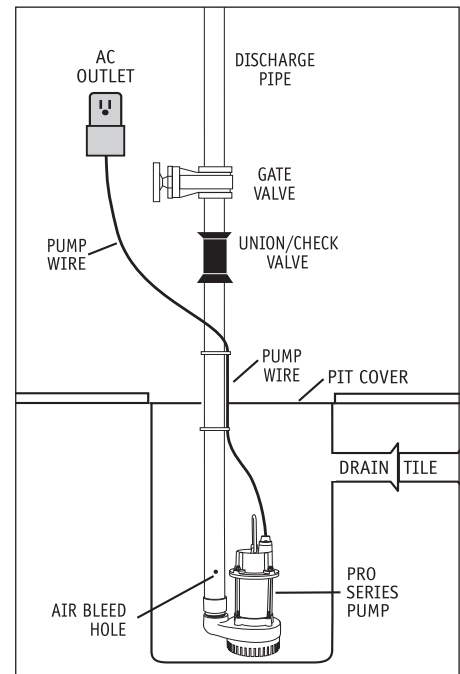
INSTALLING THE PUMP

WARNING *This installation must be in accordance with the National Electric Code and all applicable local codes and ordinances.*

1. Use a pit that conforms to all local codes and is large enough to

accommodate the pump and float switch.

2. Clean the pit of all debris. The pump's intake screen must be kept clear.
3. The pump should not be set directly onto a clay, earthen, or sand base. You may install bricks or blocks under the pump to provide a solid base.
4. The pump should be level.
5. Install discharge plumbing according to local, regional and state codes. Rigid PVC pipe is recommended.
6. The discharge outlets on the pumps are 2". Try to match the size of the discharge pipe to the size of the outlet on the pump to maintain the optimum pumping capacity.
7. An in-line check valve is recommended to prevent back-flow. This check valve is mandatory when sharing a discharge line with another pump (i.e. a back-up pump or a second primary pump).



Models C8050 and C8100

Installation (Continued)

NOTE: When using a check valve, an air bleed hole of 1/8" (3.2mm) needs to be drilled in the discharge pipe. The hole should be below the check valve, but above the water line. A small stream of water will escape through this air bleed hole when the pump is running, so the hole should be drilled at an angle toward the bottom of the sump pit.

8. Install a gate valve or ball valve as required by any codes.
9. Secure the power cord to the discharge pipe with wire ties or clamps to prevent interference with the float assembly (if used).
10. A pit cover is recommended for all installations as a safety measure, and to prevent debris from falling into the pit.
11. In instances where the discharge line is exposed to freezing temperatures, the pipe must be positioned in a downward slope so any remaining water will drain away. Failure to do this will prevent water from exiting the pit and damage the pump if the line freezes.

COMPLETING THE INSTALLATION

1. After the initial installation, be sure to check the pump operation by filling the sump with water and observing the pump through one full cycle.

NOTE: When the pump activates, it should have a "normal pumping" sound. Any abnormal sound, vibration, or lack of output is the signal of a problem. Stop the pump and refer to the troubleshooting guide.

2. Replace the pit cover making sure not to pinch or crimp the pump wire with the cover. The pit cover either has a 'hole punch' that will allow the cord to be passed through or one can be drilled.

6. While the pump is running, make sure a stream of water is escaping from the air bleed hole. If not, clear the hole of any deposits or debris.

Operation

OPERATING THE PUMP IN A CONTINUOUS DUTY APPLICATION

C8050 and C8100 pumps are rated for continuous duty and may be used in applications requiring continuous pumping including fountains, ponds, etc. For use in any continuous duty application the pump should be plugged directly into the wall outlet without the use of a controller. The outlet must be a single phase properly grounded 3-prong receptacle, 115V, 60Hz (preferably with ground fault circuit interrupt). For continuous duty operation, the pump must be submerged at least 3/4 of the depth of the pump at all times.

Maintenance

Maintenance should be performed 1-2 times per year.

1. Remove all debris from the bottom of the pit.
2. Remove all debris floating in the water.
3. Remove all debris from the float switch.
4. Fill the pit with water. Make sure pump turns on at the intended level.
5. While the pump is running, make sure pump is evacuating water at a good pace.

Pro Series Chemical Resistant Pumps

Chemical Compatibility Chart

Beer	Milk	Sodium Sulfate
Beet Sugar Liquids	Cotton Seed Oil	Sodium Sulfide
Calgon	Linseed Oil	Sodium Thiosulphate ("Hypo")
Carbonic Acid	Soybean Oil	Soy Sauce
Cider	Potassium Bromide	Stearic Acid
Coffee	Potassium Carbonate	Stoddard Solvent
Cream	Potassium Chloride	Tanning Liquors
Detergents	Sea Water	Tomato Juice
Epsom Salts (Magnesium Sulfate)	Sodium Bicarbonate	Vegetable Juice
Ethylene Glycol (Antifreeze)	Sodium Bisulfate	Vinegar
Formaldehyde	Sodium Bisulfite	Mine Acid Water
Fruit Juice	Sodium Carbonate	Fresh Water
Glycerine	Sodium Chlorate	Salt Water
Grape Juice	Sodium Chloride	Whiskey and Wines
Hydrogen Peroxide	Sodium Cyanide	White Liquor (Pulp Mill)
Lubricants	Sodium Silicate	White Water (Paper Mill)

Notes:

1. The above list of chemicals is based on the chemical resistance of the pump component materials (304 Stainless Steel pump housing, motor housing, impeller & hardware and with the carbon/ceramic/Viton mechanical shaft seal and PVC-jacketed line cord). It is based upon information from material suppliers and careful examination of available published information.
2. Since the resistance of metals, plastics and elastomers can be affected by concentration, temperature, presence of other chemicals and other factors, the above listing should only be considered as a general guide.
3. It is the responsibility of the user to determine the suitability of the pump with the pumped fluid.

Models C8050 and C8100

Troubleshooting Chart

Symptom	Possible Cause(s)	Corrective Action
The pump will not start or run	<ol style="list-style-type: none"> 1. Pump is not plugged in 2. Water is not high enough to activate the pump 3. Open circuit 4. Poor power source 5. Low voltage 6. Bad power cable 7. Locked impeller 8. Defective float switch (if used) 9. Defective pump 	<ol style="list-style-type: none"> 1. Plug pump in properly (see instructions) 2. Make sure float switch is positioned properly 3. Check circuit breaker or fuse, and GFI reset button 4. Check circuit line wires and cable* 5. Check line wires and source voltage* 6. Replace with new cable* 7. Remove strainer and clear obstruction 8. Replace float switch with new float switch 9. Replace pump with new pump
Thermal protector tripping or not functioning	<ol style="list-style-type: none"> 1. Locked impeller 2. Incorrect power supply 3. Overburdened due to heavy sand content in the water 4. Pump running continuously with no water present 	<ol style="list-style-type: none"> 1. Remove strainer and clear obstruction 2. Check power supply source and voltage 3. Use water filter or replace with a higher horsepower pump 4. Check float switch
Pump starts and stops too frequently	<ol style="list-style-type: none"> 1. Water flowing back from pipe 2. Float switch mounted too low (if used) 3. Malfunctioning float switch (if used) 	<ol style="list-style-type: none"> 1. Install or replace check valve 2. Raise float switch 3. Replace float switch with new float switch
Pump will not shut off	<ol style="list-style-type: none"> 1. Clogged or frozen discharge 2. Blocked inlet strainer 3. Defective float switch (if used) 4. Check valve installed with no air bleed hole in pipe or pump 5. Check valve is stuck or installed upside down 	<ol style="list-style-type: none"> 1. Clear blockage or thaw frozen line 2. Clear debris from inlet strainer 3. Replace float switch with new float switch 4. Drill a bleed hole in the discharge pipe, or clean debris from the existing hole in the pipe or pump 5. Reverse or replace check valve. Make sure the check valve is installed with the flow arrow pointing up and out of the pit.

*Consult a licensed electrician

Pro Series Chemical Resistant Pumps

Troubleshooting Chart (Continued)

Symptom	Possible Cause(s)	Corrective Action
Insufficient or no water volume	1. Check valve on secondary pump will not close and water re-circulates within the system	1. Replace the check valve on the secondary pump
	2. Worn impeller	2. Replace impeller & adjust spacing between impeller and cover
	3. Partially blocked impeller	3. Remove strainer and clear obstruction
	4. Clogged or frozen discharge	4. Clear blockage or thaw frozen line
	5. Broken or leaking pipe	5. Repair piping
	6. Low power voltage	6. Check power voltage, wires and cable condition
	7. Check valve installed with no air bleed hole in pipe or pump	7. Drill a bleed hole in the discharge pipe, or clean debris from the existing hole in the pipe or pump
	8. Check valve is stuck or installed upside down	8. Reverse or replace the check valve. Be sure check valve is installed with flow arrow pointing up and out of the pit
Abnormal sound or vibration	1. Check valve on secondary pump will not close and water re-circulates within the system	1. Replace the check valve on the secondary pump
	2. Blocked inlet screen	2. Clear debris from inlet screen
	3. Broken impeller	3. Replace impeller with new one

Models C8050 and C8100

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