

# Power Soak®

## Owner's Manual

PS-100



33474 611/22/2010

# Table of Contents

Introduction and Conventions .....	1
Product Introduction .....	2
Explanation of Warning Messages .....	3
Danger .....	3
Warning .....	3
Chemical Hazard .....	3
Personal Injury Hazard .....	3
Requirements for Detergents and Sanitizers .....	4
Detergents .....	4
Sanitizers .....	4
Factory Assistance .....	4
Operating Instructions .....	5
Understanding the Control Panel .....	6
“Start” Button .....	6
“Stop” Button.....	6
Standard Wash Cycle.....	7
Filling the System .....	7
Adding Detergents & Sanitizers .....	7
Manual Chemical Dispensing.....	7
Starting and stopping the wash action .....	8
Introducing Pots and Pans to the Power Soak.....	8
Properly Scrapping Pots and Pans .....	8
Loading and Using the Wash Sink.....	8
Loading and Washing Utensils .....	9
Unloading the Wash Sink.....	9
Rinsing Pots and Pans.....	10
Sanitizing Pots & Pans.....	10
Drying of Pots & Pans.....	10
Deep Cleaning Cycle.....	11
Filling the system .....	12
Adding Detergents & Sanitizers .....	12
Manual Chemical Dispensing.....	12
Starting and stopping the wash action .....	12
Introducing Wares to the Power Soak .....	12
Properly Scrapping Pots and Pans .....	12

Rinsing.....	13
Sanitizing.....	13
Drying of Pots & Pans.....	13
<b>Wash, Rinse and Sanitizer Clean-Up.....</b>	<b>14</b>
<b>Preventive Maintenance.....</b>	<b>15</b>
Daily.....	16
Monthly.....	16
<b>Troubleshooting.....</b>	<b>17</b>
<b>Facility Owner/Manager Section .....</b>	<b>18</b>
Wash Pump Will Not Operate.....	18
<b>Authorized Service Agency Section .....</b>	<b>19</b>
Wash Pump Will Not Operate.....	20
Overload trips .....	20
<b>Component Operation and Checks .....</b>	<b>21</b>
Push ON / Push OFF Start and Stop Buttons.....	21
Liquid Level Control and Sensor.....	21
Pump Contactor.....	22
Thermal Overload.....	22
<b>Installation .....</b>	<b>23</b>
Electrical Requirements.....	24
Plumbing Requirements.....	25

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# Power Soak<sup>®</sup>

## Introduction and Conventions

PS-100



## Product Introduction

Thank you for purchasing a Power Soak ware washing system.

Your new Power Soak pot, pan and utensil washing system will provide years of dependable, efficient and trouble-free service.

As a Power Soak owner, you will benefit in numerous ways:

- Your ware washing operation will be more efficient.
- Pots, pans and utensils will be cleaner.
- The overall level of sanitation in your scullery area will improve.
- Ware washing hours will decrease as employee morale increases.
- Chemical and water usage will decrease.

Every system is manufactured to last, with high-quality, heavy-duty, 14 gauge stainless steel used in its construction. All electrical components in a Power Soak system are of the highest quality. The faucets and drains are designed for quick filling and emptying of the system's sinks.

At Power Soak Systems, we take pride in manufacturing the Power Soak line and are committed to standing behind our customers and products 100%. Should you ever need assistance, please contact us directly at the factory by dialing (816)222-2400 or fax: 816-222-2419.

# Explanation of Warning Messages

Be sure to read, understand and follow all DANGER, WARNING, and CAUTION messages located in this guide and on the equipment.

## Danger

Personal Injury and Property Damage hazard.  
May result in serious injury or death.  
May cause extensive equipment damage



## Warning

Property Damage Hazard.  
May result in property or equipment damage.



## Chemical Hazard

May result in serious injury or death. Instructions, labels and Material Safety Data Sheets (MSDSs) should be supplied with all detergents and sanitizing chemicals. The manufacturers, importers and distributors of your cleaning chemicals are responsible for providing this information.



Power Soak Systems is not a chemical manufacturer, importer or distributor. Power Soak Systems, Inc. can assist your chemical representative but will not make specific brand recommendations.

## Personal Injury Hazard

Hazard from sharp objects.  
May result in serious injury or death.



# Requirements for Detergents and Sanitizers

## Detergents

Improper detergents may damage equipment! Use of the correct detergent in your Power Soak system is critical to its washing performance. If you are having problems with cleaning results, please contact Power Soak Systems.

The Power Soak wash tank requires a low-foaming, metal/aluminum-safe detergent that is safe for the hands. The detergent should have good grease cutting abilities but not have an excessively high pH level.



## Sanitizers

The method of sanitizing used in your Power Soak system is a "chemical sanitizing" method. There are a number of products on the market that work well. Your chemical sales representative should assist you in selecting the proper sanitizer for your application.

Check with your cleaning chemical provider to determine detergent concentration, sanitizer "parts per million" (ppm) and sanitizer submersion times to meet local health codes.

The Power Soak wash tank requires a low-foaming, metal/aluminum-safe chemical.



## Factory Assistance

If your chemical sales representative is having difficulty selecting a detergent or sanitizer, or if you are getting poor results with the chemicals your representative has recommended, please contact the Power Soak Systems at (816)222-2400.

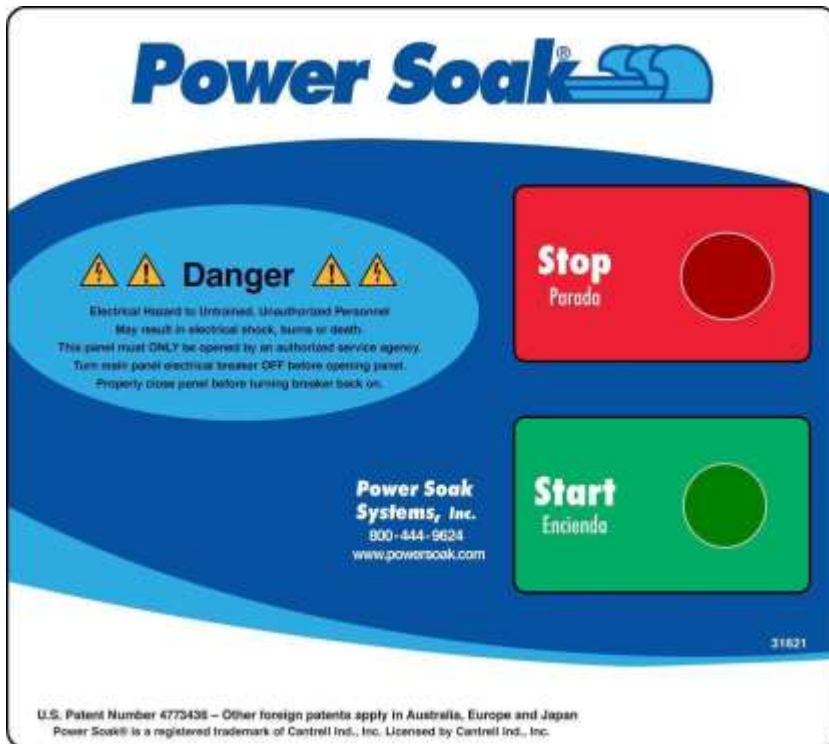
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## Operating Instructions

PS-100



# Understanding the Control Panel



## “Start” Button

The “Start” button is used to start the normal Power Soak wash cycle.



## “Stop” Button

The “Stop” button is used to stop the wash cycle.



## Standard Wash Cycle

The standard wash cycle should be used for general purpose washing during operation hours.

### Filling the System

At the beginning of each day, shift, or designated time fill the sinks with water that is metered to approximately the correct operating temperatures:

- Wash sink (115°F / 48°C)
- Rinse sink (75°F / 24°C)
- Sanitizer sink (75°F - 120°F / 24°C - 49°C)

All sinks should be filled to, but not above, the “waterline” marks.

Fill the wash sink (the sink with the water jets) with water that is approximately 115°F / 48°C. You can use the hot and cold taps on the faucet to adjust the water to the appropriate temperature. A good rule of thumb is that the water should be hot to the touch but not so hot that it is uncomfortable.

If your method for rinsing wares is of the “submersion” type, fill the rinse sink (middle sink) with water that is approximately room temperature, 75°F/24°C. There is no need to fill the rinse sink if your location uses a sprayer for rinsing wares.

Fill the sanitizer sink (the last sink) with water that is approximately room temperature, 75°F - 120°F / 24°C - 49°C.

## Adding Detergents & Sanitizers

### Manual Chemical Dispensing

After the sinks have been filled with water, add the proper amount of detergent and sanitizer. The detergent goes into the wash sink (the sink with the water jets) and the sanitizer goes into the sanitizer sink (the last sink).

Be sure to add the proper amount of chemicals to each sink. The amount to be used should be provided by your chemical supplier. Do not add the detergent or sanitizer to the sink prior to or during filling.

Most detergents and sanitizers lose effectiveness as time goes on. Some local health departments have requirements limiting the amount of time water can be used for cleaning before the water should be changed. Most chemical companies recommend changing wash water after a certain time frame. Those times vary, but are generally around four hours. Check with your chemical provider.

Check with your chemical provider on how often to replace your sanitizer.

## Starting and stopping the wash action

To start the wash action, press the green “START” button. A strong “rolling” action should be present.

To stop the wash action, press the red “STOP” button.

## Introducing Pots and Pans to the Power Soak

Dirty pots and pans should be brought to the Power Soak in a timely manner. Do not allow items to sit and air dry. The quicker that items are brought to the Power Soak and put in the wash tank, the easier they are to clean!

## Properly Scrapping Pots and Pans

Excess soils should be removed from the pots and pans prior to dropping them in the wash sink.

Deposit the excess soils into a garbage can.

Some systems may have an optional pre-scrapping area with a pre-rinse spray. If so, soils may be deposited into the scrapper sink.

## Loading and Using the Wash Sink

The Power Soak is a “random loading” system. This means that Power Soak items are not racked for washing. Instead, they are randomly loaded one at a time.

As items are brought to the system and scrapped, they should be immediately dropped into the wash sink.

If there is no movement of items in the wash sink, or if items are stationary above the waterline, the system has been overloaded and some items must be removed to maintain effective cleaning.

It is very important not to overload the wash sink, as it reduces the effectiveness of the wash action.

Some pots and pans stack for storage. This is referred to as “nesting” when it occurs during a Power Soak wash cycle. Make sure that nested items are separated and loaded one at a time. Nested items in the wash sink will not properly wash.

Power Soak is a “continuous motion” system. This means that the system does not operate on a set cycle time like cabinet-type washing systems. Instead, during normal operating hours where washing is required, the system is (normally) left running. The Power Soak is energy efficient, and it does not cause excessive wear to leave it running continuously.

Typically, it takes between three to fifteen minutes to wash items. Some heavily soiled or burnt-on items may take longer to clean.

## Loading and Washing Utensils

Each Power Soak system comes with a utensil basket that hangs in the wash sink. All utensils and other small wares should be loaded into and washed inside this basket.

Do not place knives or other sharp objects in the Power Soak. Allowing knives or other sharp objects to tumble freely in the Power Soak tank may cause bodily injury.

Knives and other sharp objects must be washed by hand with the pump motor turned OFF. Wash, rinse and sanitize the knives or sharp objects and immediately place them into proper storage.



## Unloading the Wash Sink

The employee responsible for pot washing should routinely pass by the Power Soak and remove clean items from the wash sink.

Items that are not 100% clean can be quickly finished off with a scrub pad or dropped back into the wash sink for additional cleaning.

Remember: it is not necessary to turn the wash action off to load or unload items from the wash sink. There are no moving parts within the wash sink that could cause bodily harm and tumbling action can assist in unloading items.

## Rinsing Pots and Pans

Clean items that have been removed from the wash sink should be thoroughly rinsed. This is achieved by spraying them off or dipping them in the rinse sink (center).

It is important that any remaining detergent residue is removed from the items prior to sanitizing.

If items are rinsed by the "dipping" method, it is important to keep the water "fresh" by frequently draining and filling the rinse sink.

Once items are rinsed, **immediately** place in sanitize tank. Do not allow items to sit in rinse tank.

## Sanitizing Pots & Pans

After items have been properly rinsed they must be sanitized in the sanitizing sink. (last).

It is necessary for each item to remain submersed in the sanitizing solution for a specific amount of time. The amount of time varies according to the type of sanitizer being used and local health codes.

Be sure to follow your chemical sales representative's instructions to ensure that all items are properly sanitized.

## Drying of Pots & Pans

After items have been sanitized, they should be thoroughly dried on a clean drain board or on adjacent drying shelves.

Be sure to adhere to all local health codes and recommendations for proper drying and stacking of items.

## Deep Cleaning Cycle

Extremely soiled items and cooking equipment components that require regular, intensive cleaning can be washed in the Power Soak system overnight.

The "Deep Cleaning" cycle is **not** suitable for standard washing. The operating temperature of the wash tank is above the temperature suitable for hands. Also, the chemicals used during a deep cleaning cycle may be harmful for extended human exposure.



Use your Power Soak as a "total cleaning system!" Remember, any item in your operation that can be submersed for cleaning and is not fragile can be washed in your Power Soak!

Here are some examples of items that are typically deep-cleaned overnight in the "Night Wash" cycle:

- Hood Filters
- Roasting Pans
- Stove Tops
- Frying Equipment
- Items with built up soils

Many other items in your operation may qualify. Be creative and set up a regular "Night Wash" program for improved sanitation.

## Filling the system

At the end of the day or during an operational break, you may fill the wash sink for a deep cleaning cycle.

- Wash sink (128°F / 53°C)
- Rinse sink – no fill needed
- Sanitizer sink – no fill needed

Fill the wash tank to the “waterline” marks.

Fill the wash sink (the sink with the water jets) with water that is approximately 128°F / 53°C. You can use the hot and cold taps on the faucet to adjust the water to the appropriate temperature.

There is no need to fill the rinse and sanitize tanks.

## Adding Detergents & Sanitizers

Chose a deep cleaning chemical that is appropriate for the soils on the items you are deep cleaning

### Manual Chemical Dispensing

After the sinks have been filled with water, add the proper amount of deep cleaning chemical into the wash tank.

Be sure to add the proper amount of chemicals to the wash sink. The amount to be used should be provided by your chemical supplier. Do not add chemicals to the sink prior to or during filling.

## Starting and stopping the wash action

To start the wash action, press the green “DEEP CLEANING CYCLE” button. A strong “rolling” action should be present.

To stop the wash action, press the red “STOP” button.

## Introducing Wares to the Power Soak

Add all items to the wash sink as desired. Be comfortable that your load is capable of tumbling or remaining in the Power Soak system unattended.

It is very important not to overload the wash sink as it reduces the effectiveness of the wash action.

## Properly Scrapping Pots and Pans

Excess soils should be removed from the items prior to dropping/placing them in the wash sink. Deposit the excess soils into a garbage can.

## Rinsing

Items that have been through the deep cleaning cycle may need to be rinsed. They can be rinsed by draining the wash tank and rinsing directly in the wash tank or any other appropriate method.

## Sanitizing

It may be desirable to sanitize items that have been through the deep cleaning cycle. Fill the sanitize sink, the proper chemical should dispense and the items can be sanitized using conventional methods.

## Drying of Pots & Pans

After items have been sanitized, they should be thoroughly dried on a clean drain board or on adjacent drying shelves.

Be sure to adhere to all local health codes and recommendations for proper drying and stacking of items.

## Wash, Rinse and Sanitizer Clean-Up

Between each water change and at the end of each night, all tanks and drain boards should be thoroughly cleaned with hot, soapy water and rinsed.

It is also recommended to wipe down all the tanks and drain boards with a sanitizing agent. Ask your chemical provider to recommend a sanitizer for this application.

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## Preventive Maintenance

PS-100



Your system requires minimal, routine preventive maintenance. The following procedures should be done on a routine basis to ensure that your system remains reliable:

## Daily

Clean the liquid level sensors. These sensors are located on the side walls of the wash and sanitizer tanks. They are the white plastic discs with metal centers. Clean the sensor faces thoroughly. If cleaned regularly, a washcloth and soapy water are all that is required.

If the liquid level sensors are not cleaned regularly, the machine may fail to operate; or it may be possible to run it without water, which may cause serious damage to the unit.



## Monthly

**IMPORTANT:** Turn off the power to the unit at the main breaker prior to performing the following task!



Clean the pump motor fan shroud with a damp, soapy rag. The motor shroud is the "vented" cover located at the end of the motor (closest to the control panel). This will prevent grease and dust from accumulating in the cover's openings, which can obstruct the airflow that cools the motor.

De-lime the wash sink. Simply add a de-liming agent to a sink of warm, fresh water and run the system overnight.

Ask your chemical sales representative to recommend a specific de-liming agent.

There are no other preventive maintenance procedures that you will need to perform on your Power Soak system. You need not be concerned about greasing the motor bearings as they are permanently sealed. If you have any questions regarding the preventive maintenance procedures, please contact the factory at (816)222-2400.

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## Troubleshooting

PS-100



## Facility Owner/Manager Section

The only troubleshooting procedure that the facility owner or manager can perform is listed immediately below. All other procedures must be performed by an authorized service agency. To obtain the name of a recommended service agent in your area, please call the Power Soak Service Department at (816) 222-2400.



### Wash Pump Will Not Operate

Refer to the following troubleshooting guidelines:

- Check to make sure the main electrical power breaker for the Power Soak system is in the “ON” position.
- Check to make sure the wash sink is filled to the waterline.
- Check to make sure that the liquid level sensors are clean and free of any debris or grease. The liquid level sensors are located on the side walls of the wash (the white plastic disc with a metal center).

If the above trouble shooting procedures do not correct the problem, you must contact Power Soak Systems, Inc., or an authorized service agency at (816)222-2400.

## Authorized Service Agency Section

Hazard to untrained or unauthorized personnel.

The following procedures are provided for use only by an authorized service agency. No facility owner, manager, employee or other unauthorized person should attempt to perform any of these procedures. To obtain the name of a recommended service agent in your area, please call the Metcraft, Inc. Power Soak Service Department at (816)222-2400.



When performing troubleshooting procedures, the authorized service agency will need to open the Power Soak system's main electrical enclosure.

Properly close the control panel before reconnecting the circuits.



## Wash Pump Will Not Operate

Refer to the previous checklist under the “Facility Owner / Manager Section” before proceeding to the following checklist items:



	<u>LOOK FOR</u>	<u>CORRECTION</u>
1	No water in sink	Fill sink with water
2	LIQUID LEVEL SENSOR dirty	Clean LIQUID LEVEL SENSOR
3	No incoming power to unit	Reset customer's breaker in breaker control panel
4	Loose wires	Tighten wires
5	LIQUID LEVEL SENSOR setting is too low	See page 21
6	Defective LIQUID LEVEL CONTROL	Check and replace as necessary

## Overload trips

	<u>LOOK FOR</u>	<u>CORRECTION</u>
1	Low voltage to unit	Check with Volt meter while running
2	Debris in PUMP intake	Clean
3	Debris in IMPELLER	Remove PUMP and clean
4	Defective CONTACTOR	Check and replace as necessary
5	Defective OVERLOAD	Check and replace as necessary
6	Defective PUMP MOTOR	If amp draw is greater than 10% of motor rating and all of above check out, then replace MOTOR

If the above troubleshooting guidelines do not correct the problem, contact Power Soak Systems at (816)222-2400.

## Component Operation and Checks

The following checks should only be performed by qualified technicians using extreme caution.



Electrical hazard to untrained personnel may result in electrical shock, burns, or death.

### Push ON / Push OFF Start and Stop Buttons

TURN POWER OFF AT BREAKER PANEL. The stop button should have continuity at rest and no continuity when pushed in. The start button should have no continuity at rest and continuity when pushed in. Remove the wires before checking for continuity.

### Liquid Level Control and Sensor

The liquid level control sends a trickle current (1/1000 amp) out terminal LCO to the liquid level sensor. If there is water in the wash sink, the current passes through it to the wash sink wall and back to the liquid level sensor to terminal GND. After the circuit is complete, the relay in the liquid level control will close sending current to operate the various components in the control panel. If the red indicator light is “on” the liquid level control senses water. A 10 second time delay is timed after the control has not sensed water. The purpose of this delay is to prevent rapid cycling of the relay should the water rise and fall below the sensor while the sink is filling or running. At the end of the time delay, the relay in the liquid level control will open to stop the pump.

## Pump Contactor

The thermal overload can be checked as follows:

If there is 208-230v across the coil (terminals A1 and A2) and the contactor does not pull in, the contactor is defective.

TURN POWER OFF AT BREAKER PANEL.

Remove the wires from terminals T1 and T2 on the thermal overload.

Push the contactor closed manually and check for continuity across pump contactor terminals L1 and T1, L2 and T2, L3 and T3. If no continuity on any of these, the contactor is defective.

## Thermal Overload

The blue reset button should be in the down position (automatic reset). The dial should be set at 13. The trip indicator is located between the dial and the symbols "LR2".

The thermal overload can be checked as follows:

TURN POWER OFF AT BREAKER PANEL. Remove the wires from terminals 95 and 96.

Make sure the thermal overload is not tripped. If the thermal overload is tripped, reset it. If the thermal overload has tripped recently, you may have to wait several minutes for it to cool down before it will reset.

Check for continuity across terminals 95 and 96. If no continuity, the thermal overload is defective or the reset is tripped.

Make sure the T1, T2, and T3 terminals on the pump contactor are tight.

Remove the wires from terminal T1 and T3 on the thermal overload.

Check for continuity across T1 on the pump contactor and T1 on the overload, T2 on the pump contactor and T2 on the overload, T3 on the pump contactor and T3 on the overload. If no continuity on any of these, the overload is defective.

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## Installation

PS-100



The installation and initial operational check of your new system must be performed only by licensed and certified plumbers and electricians.



Be sure to follow all applicable national and local electrical codes when installing the electrical supply and/or a new breaker. DO NOT connect the system using a power cord and plug or an extension cord of any kind.



Please refer to the detailed installation instructions that were sent with your Power Soak system.

## Electrical Requirements

The electrical requirements of your new system are on the serial number plate located on the front of the wash sink, adjacent to the control panel enclosure and inside the enclosure itself.

All Power Soak systems have a single point electrical connection, and a dedicated circuit is required.

The system is completely pre-wired and tested at the factory, and a hard-wired connection from an appropriate power source junction box is all that is required.

The installer is to provide a disconnect that should be incorporated in the fixed wiring.

Properly sized watertight conduit, fittings and parts are required, as well as the appropriate gauge wire.

If your system is a “left-to-right” unit, you should locate the power source junction box at the left end of the system. (The opposite would be true for a “right-to-left” system.)

Ideally, the junction box should be located on the wall directly behind the pump motor and control panel.

A wiring diagram is located in the system's control panel enclosure. Specific part numbers and part information can be obtained from the factory by calling (816)222-2400.

## Plumbing Requirements

Your unit requires the following plumbing connections:

- 3/4" (19mm) or 1/2" (12 mm) hot and cold water supply lines.
- One waste water connection for each sink (minimum 1 1/2" / 38mm).
- Installing PLUMBING PROFESSIONAL is responsible for complying with all local plumbing codes.



Power Soak is a registered trademark of Cantrell Industries, Inc.  
The Power Soak concept and design is fully patented.

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Part#: 33474  
Rev: Rev 2  
Rev Date: Joshua Huisenga1/22/2010