Aqua Phase™

Medical Equipment Washing & Decontamination Systems

Medical Equipment Washer Operating Manual

AQ-1500

Your Aqua Phase Includes the Following Options:

- ☐ **Disinfectant Application System**
- ☐ **Utility Wash Trays**
- ☐ **Front Safety Window**
- ☐ **Lighted Wash Chamber**
- ☐ **Pressure Sensor**
- ☐ **Air Blower**
- ☐ **Digital Temperature Display**
- ☐ **Wheel Rotation System**
- ☐ **Multi-size Wheel Rotator**
- ☐ **Other** _____

READ ALL MATERIAL PRIOR TO OPERATION

Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

Aqua Phase™

Medical Equipment Washing & Decontamination Systems

Table of Contents

Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

Aqua Phase™

Medical Equipment Washing & Decontamination Systems

Table of Contents

Notes:

Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

CAUTION & NOTICES

DO: Read this operations manual and follow all instructions.

DO: Call your dealer, sales representative, or the factory with any questions, need for more information, or to order supplies for your *Aqua Phase Washer*.

DO: Wear Personal Protective Clothing

DO NOT: Operate the machine without all the filter screens in place.

DO NOT: Climb into the Wash Chamber.

DO NOT: Wash any item with unsealed electrical components unless IP 65 rated or higher.

DO NOT: Perform any type of service operation unless the machine is unplugged.

DO NOT: Use an extension cord between the wall outlet and the machine.

DO NOT: Try to modify the machine in any manner without factory approval.

DO NOT: Operate the machine in high foot traffic areas.

DO NOT: Use garden hoses for the fill and drain hoses.

DO NOT: Operate the machine unless you have been properly trained to do so.

Aqua Phase carries a complete line of supplies and parts and a variety of cleaning, rinse, and disinfectant solutions specifically formulated and chosen to work with your ***Aqua Phase*** machine.

Order your solutions, supplies, or parts by calling your dealer or ***Aqua Phase*** at 800-208-9274 or 715-463-5851.

GENERAL INFORMATION

Aqua Phase™

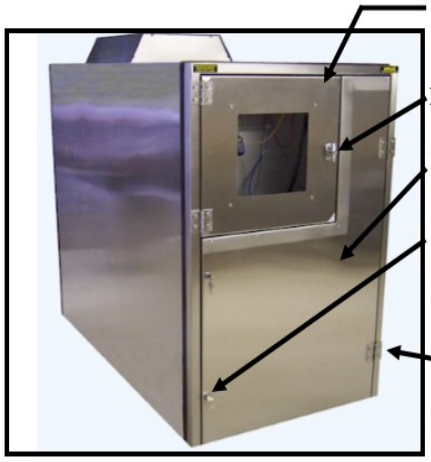
Medical Equipment Washing & Decontamination Systems

Front View

Control Panel

Window Option Shown

Rear View



Chemical Cabinet

Locking Handle

Mechanical Cabinet

Locking Latches
For Mechanical Cabinet

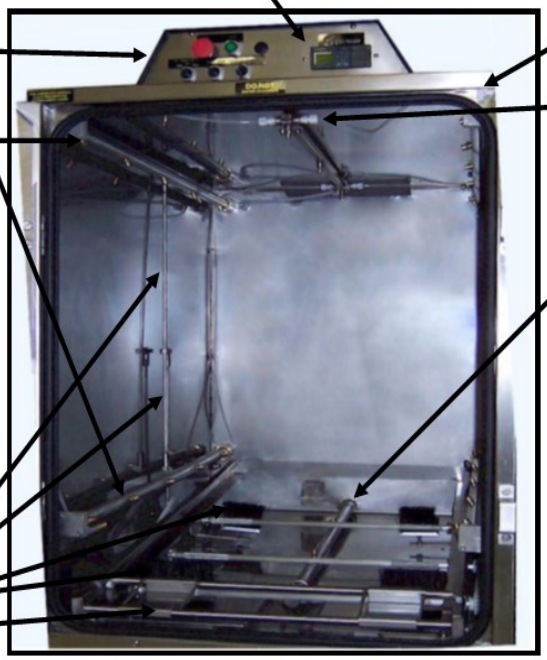
Fill & Drain Connections
Not Shown, located on side of Aqua Phase.

Inside Wash Chamber View

LED Cycle Display

Standard Components Include:

- Control Panel
- LED Cycle Display
- Front Door Safety Switch**
- Side Spray Arms (Two Each Side)
- Bottom Center Spray Arm ***



Front Door Safety Switch**

Disinfectant Spray Arm *
With feeder lines to Spray Arms' disinfectant spray nozzles.

Bottom Center Spray Arm***
For washing undercarriage of items.

OPTIONAL Wheel Rotation System Includes:

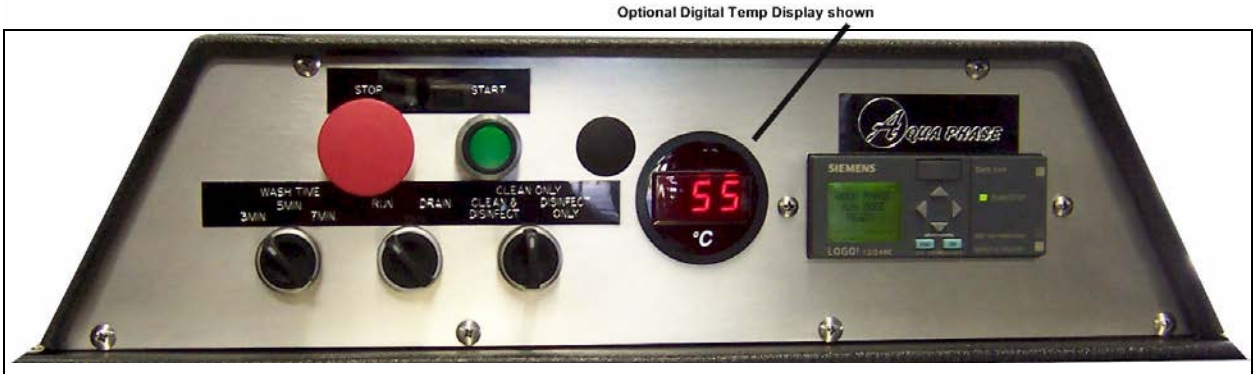
- Oscillating Spray Arms
- Long Linkage Arm
- Short Linkage Arm
- Wheel Rotation Shafts
- Wheel Brush Assemblies
- Wheelchair Loading Carriage

OPTIONAL Disinfectant Application System Includes:

- Disinfectant Spray Header
- Feed Lines (4) to Spray Arm Disinfectant Nozzles*

GENERAL INFORMATION
CONTROL PANEL SWITCHES & FUNCTIONS

Medical Equipment Washing & Decontamination Systems

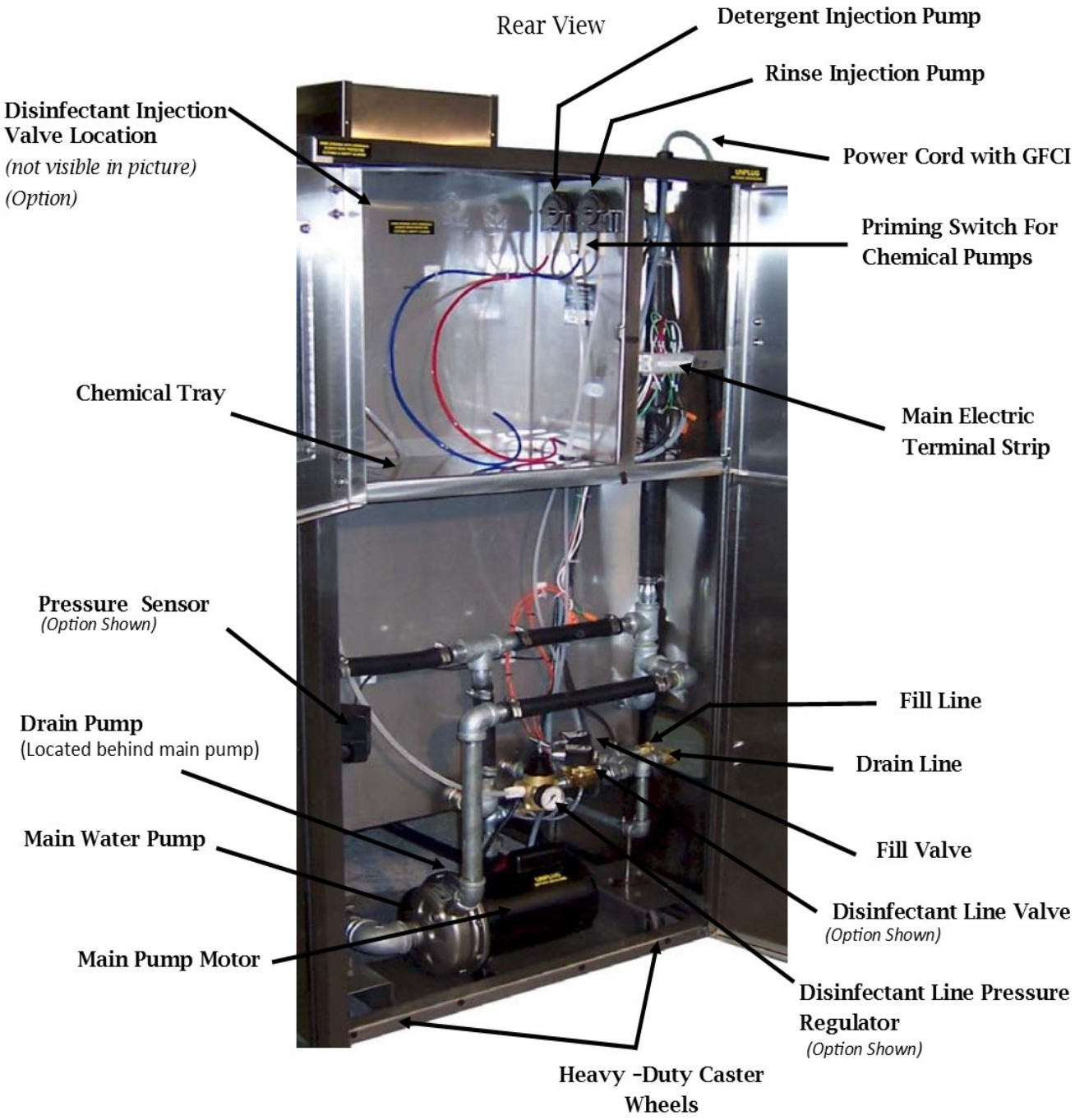


Switch	Options/Function
"**STOP**" Button	When pressed, will stop all **Aqua Phase** wash functions
"**START**" Button	Must be pressed to start any **Aqua Phase** wash function
WASH TIME Selector Switch	Allows you to select the length of wash: "**3 MIN**" = Three minute wash cycle "**5 MIN**" = Five minute wash cycle "**7 MIN**" = Seven minute wash cycle
"**RUN/DRAIN**" Selector Switch	**"RUN"**: Set to "**RUN**" to wash an item. "**DRAIN**": Set to "**DRAIN**" to drain the water in the machine. The water should be drained when you are done washing for the day or if you relocate the machine. In order for the "DRAIN" function to work, the Wash Mode switch must be set to "CLEAN & DISINFECT" or "CLEAN ONLY".
***WASH MODE** Selector Switch **Wash Mode selection is part of the **Disinfectant Application System** option if purchased.*	"**CLEAN & DISINFECT**": When this mode is selected, Aqua Phase will perform a complete wash and rinse for the time specified on the WASH TIME Selector Switch. It will then automatically apply disinfectant solution "**CLEAN ONLY**": When this mode is selected, ***Aqua Phase*** will perform a complete wash and rinse cycle for the length of time specified on the WASH TIME Selector Switch. It will not apply disinfectant. "**DISINFECT ONLY**": When this mode is selected, ***Aqua Phase*** **will apply disinfectant solution only. It will not wash or rinse.**

GENERAL INFORMATION

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

Mechanical Components

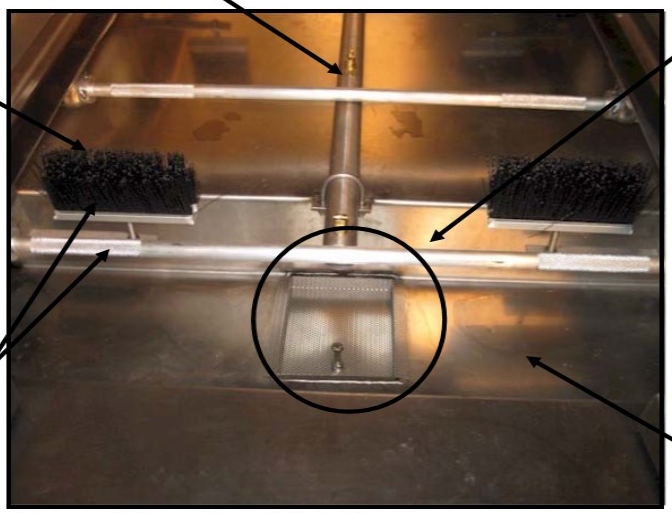


Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

GENERAL INFORMATION
FILTERS & SCREENS

Medical Equipment Washing & Decontamination Systems

IT IS RECOMMENDED THAT YOU CHECK THE FILTERS DAILY FOR DEBRIS AND CLEAN THEM OFTEN.



Picture of Aqua Phase Wash Chamber
Looking through the front door.

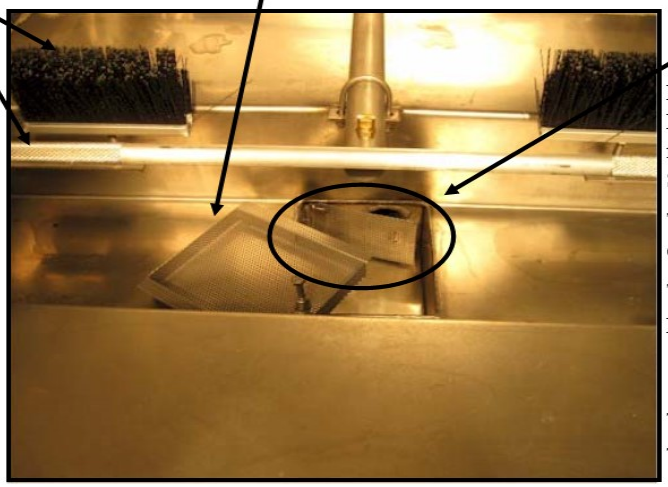
***Parts of Wheel Rotation System Option Shown*

Primary Filter Screen

Located in the center of the water reservoir cover.

If this becomes clogged and prevents water from getting to the pump, the Aqua Phase will make a "Growling" noise in addition to low pressure in the spray system.

THIS SCREEN MUST BE IN PLACE AT ALL TIMES OR PUMP DAMAGE MAY OCCUR!



Picture of Aqua Phase Wash Chamber.
Looking through the Front Door.

Secondary Filter Screen

Located in the center of the water reservoir, under the Primary Filter Screen. Primary Filter Screen must be removed first in order to access the Secondary Filter Screen.

This screen is hinged. It can be flipped to the side for cleaning.

This screen serves as protection to the Main Water Pump.

THIS SCREEN MUST BE IN PLACE AT ALL TIMES OR PUMP DAMAGE MAY OCCUR!

IF YOUR UNIT DOES NOT HAVE THE FILTER SCREENS SEATED PROPERLY, IN THEIR PLACE AT ALL TIMES, YOU CAN EXPECT THE SPRAY NOZZLES TO BECOME CLOGGED.

Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

GENERAL INFORMATION RECOMMENDATIONS & REQUIREMENTS

Medical Equipment Washing & Decontamination Systems

Recommendations:
Water Temperature: The Aqua Phase system will perform best when you supply hot water between 115-130°F (46-55°C). If the supplied water temperature is below 105°F (40°C) water spotting or a film may occur on the equipment:

Cleaning Solutions: It is highly recommended that you use the Aqua Phase, AQ-240 Cleaning Solution & AQ-260 Rinse Agent for the gross soil removed, and rinse processes performed in the unit.

Disinfectants: Use a concentrate disinfectant with a 1 ounce per gallon dilution rate (1:128). Hydrogen Peroxide base disinfectants are NOT recommended as these substance are detrimental to Aluminum. Disinfectants with other dilution rates can be used, however, the dilution setting of the Aqua Phase unit will need to be modified (it is not difficult).

Plumbing-Hoses: Use hose for the Fill and Drain connections to the Aqua Phase unit verse ridged piping. This will make access to the Chemical Cabinet and Mechanical Cabinet much easier if service is needed, as well as for periodic cleaning of the floor under the Aqua Phase unit.

Requirements:
Electrical: Aqua Phase requires a 120 volt, 20 ampere electrical circuit. This should be a circuit dedicated for the use of the Aqua Phase unit.

Water Volume: Aqua Phase requires approximately 5.5 gallons of hot water per cycle. See "Aqua Phase Wash Sequence Description" for more details.

Water Pressure: Aqua Phase requires a minimum of 35 PSI (Pounds per Square Inch) (2.42 Bar) of water supply pressure.

Cleaning Solutions: The use of Aqua Phase brand solutions is a requirement in order for the Aqua Phase warranty to remain intact, unless the use of other solutions have been approved for use by the Aqua Phase factory. See the Warranty page for details.

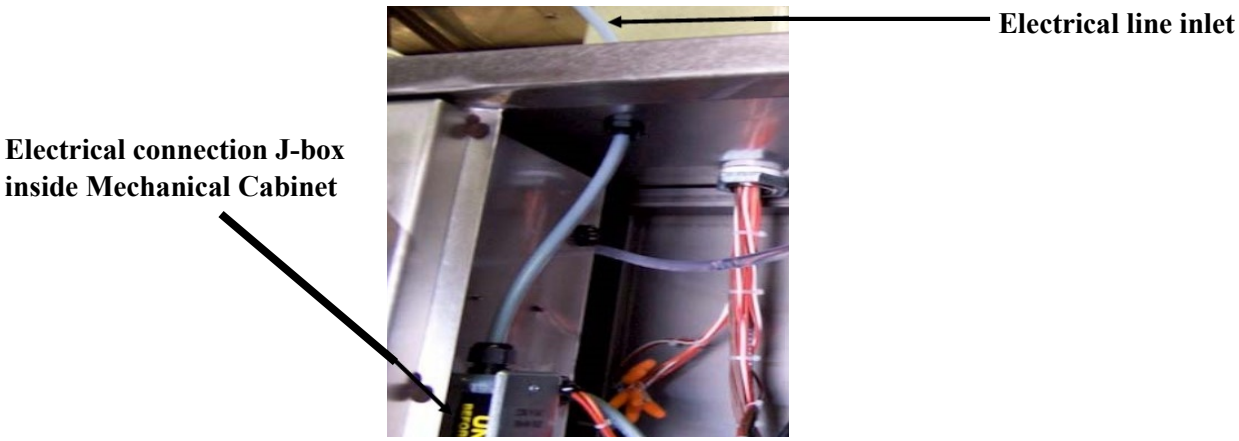
Plumbing-Hoses: The discharge end of the Drain Hose must be at least 18" above floor level.

BASIC SET-UP PROCEDURES

Medical Equipment Washing & Decontamination Systems

If Aqua Phase has been transported during freezing weather, allow the Aqua Phase to warm for 4-6 hours before running.

1. Read all Aqua Phase instructions and operations material
2. Remove Aqua Phase from pallet
3. Move Aqua Phase to location of operation. Ensure that Aqua Phase is level
4. Remove items packed inside the Wash Chamber for shipping (hoses, optional racks, trays, and chemical solutions will often be packed inside the Wash Chamber).
5. Connect the Fill Hose using supplied hose.
   - **DO NOT USE A GARDEN HOSE.**
   - Only use hoses rated for 150° F or higher for both fill and drain connections.
6. Connect the drain hose.
   - The **drain end of the hose MUST BE HIGHER than the drain hose connection on the washer.** See Fill and Drain Line page for information.
   - Drain hose must be securely fastened to the drain.
7. Once the Fill and Drain connections are secure, slowly turn on your hot water supply and inspect for loose connections.
8. For standard 120-volt operation, connect Aqua Phase to a standard 20 AMP electrical service
   - Press the reset button located on the Ground Fault Circuit Interrupter (GFCI) in the power cord.
   - **DO NOT** use a power extension cord between the wall outlet and the Aqua Phase
9. With Special Ordered **240-volt configuration, the end user must make the final connections and provide the cord plug.** Press the Ground Fault Circuit Interrupter (GFCI) reset button.



Due to the variety of receptacle and connection types as well as local codes and regulations, all electrical connections should be performed by a qualified electrician in accordance with local codes and regulations.

(Continued next page)

BASIC SET-UP PROCEDURES
(Continued)

Medical Equipment Washing & Decontamination Systems

Warning:
Wear Protective Clothing When Working With Any Chemicals.

Warning:
Consult the material safety data sheets located in the back of this manual and your company's hazardous substance policy before handling any chemicals.

Key to *Aqua Phase* chemical solution hoses:

- The **RED** hose is for **Detergent**/Cleaning Solution.
- The **BLUE** hose is for Rinse-Aid.
- The **CLEAR** hose is for Disinfectant, if installed.

1. Place Chemical Solutioins in the Chemical Tray (located inside the Chemical Cabinet at the rear of the Aqua Phase) as the locations marked **"DETERGENT"** and **"RINSE-AID".**

2. Remove chemcial bottle caps and place the appropriate colored hoses in bottle openings **RED** hose for Detergent/ **BLUE** hose for Rinse-Aid. **Do not dilute solutions.**

   NOTE: If Disinfection Application System is installed, the disinfectant injection rate is preset at the factory for a dilution rate of 1 oz. per gallon of water. Contact the factory if adjustment of the injection rate is necessary.

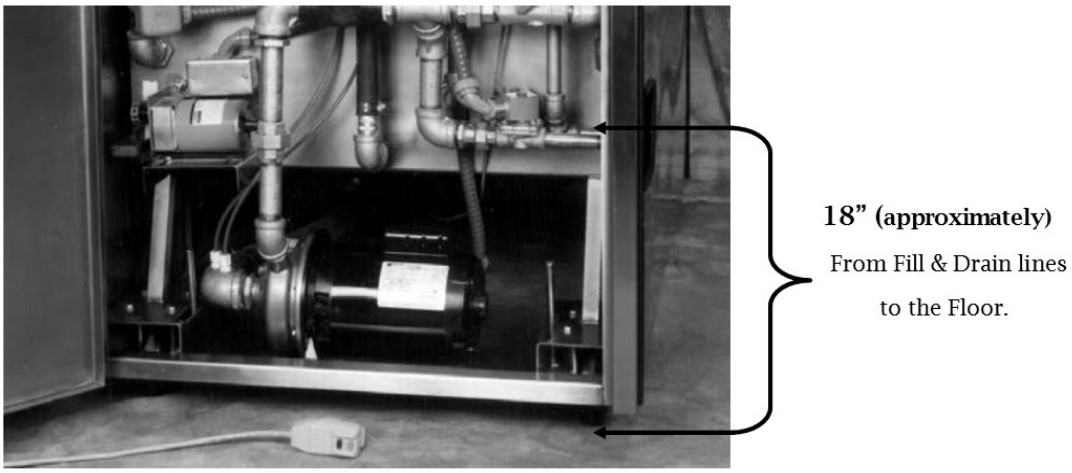
3. On the control panel at the front of the machine:
   - Set the "WASH TIME" switch to "3 MIN".
   - Set the "RUN/DRAIN" switch to "RUN".
   - Set the wash mode switch to "CLEAN & DISINFECT" or "CLEAN ONLY" if **no** disinfectant application system is installed.

4. Close the front door.
5. Press the "**START**" button. The "**START**" button is located on the control panel at the front of the machine.
   - Allow ***Aqua Phase*** to run a two complete cycles before washing any items.

If ***Aqua Phase*** does not start, see the **"TROUBLESHOOTING: Will not start**" section of this manual or call the factory for support.

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

FILL & DRAIN LINES



HOSES

A SET OF (2) 10' LONG HOT-WATER RATED HOSES ARE INCLUDED WITH YOUR AQUA PHASE WASHER SYSTEM. If needed, 25' hot-water rated hoses are available from Aqua Phase at additional cost.

- The Aqua Phase Washer System has female, garden hose style connectors.
- One hose is for filling the washer (Fill Line) and is connected to your water supply .
- One hose is for draining the washer (Drain Line).

FILL LINE CONNECTION

- The Aqua Phase System is designed with a built-in Fill Line Air-Gap.
- See "Fill Line Options" diagram page for Water Supply options/methods.

DRAIN LINE CONNECTION

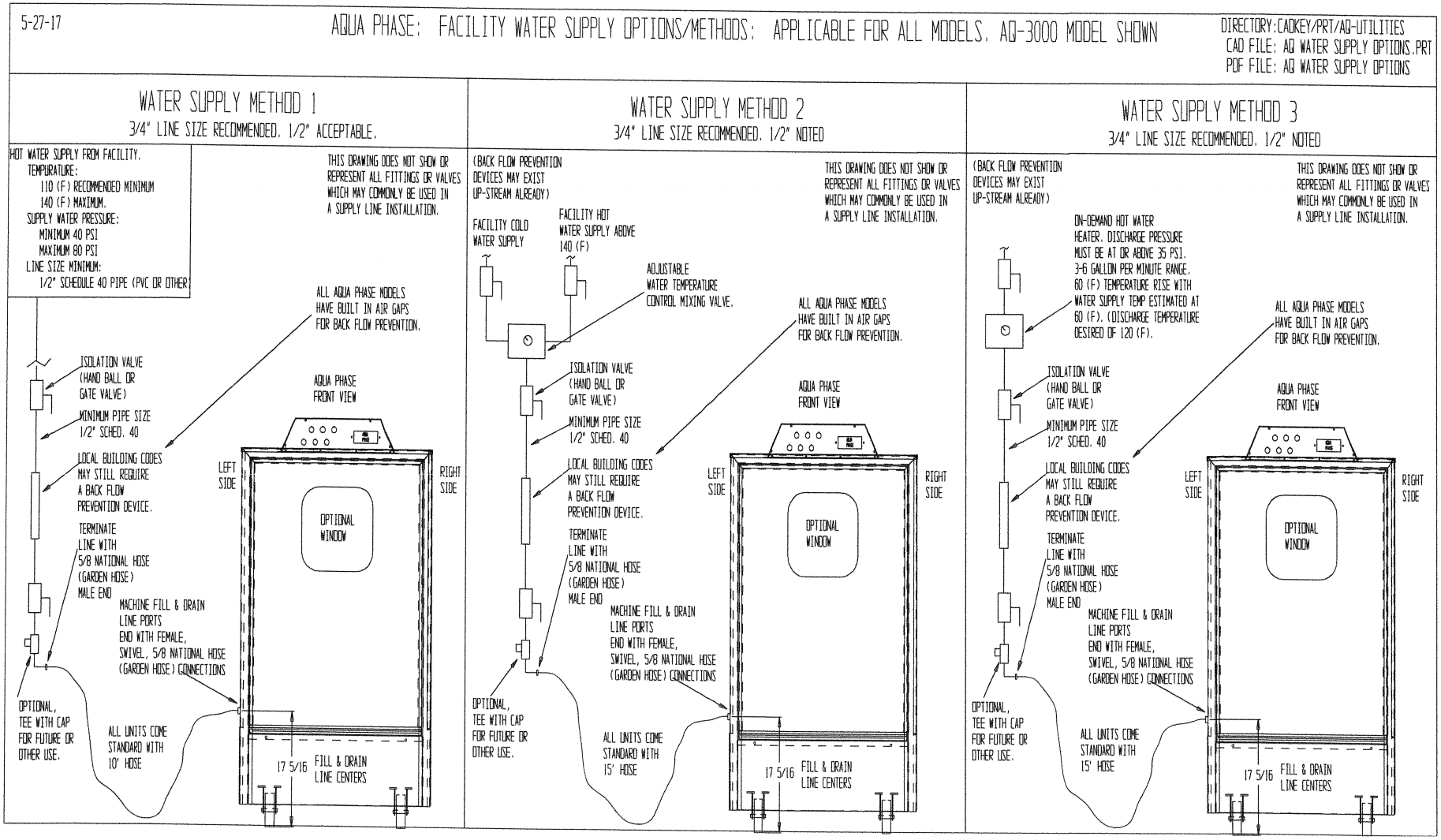
- The Aqua Phase System should be drained according to local plumbing codes.
  - **THE END OF THE DRAIN HOSE *MUST* BE HIGHER THAN THE DRAIN CONNECTION TO AQUA PHASE SYSTEM.**
  - If the Drain Hose is run directly to a floor drain, water will siphon out of the Aqua Phase during operation.
- Typically, the Drain Hose will run to a stand pipe or utility sink (similar to a home washing machine set-up). Use of standpipe is recommended. See "Drain Line Options" diagram page. Please check with your local building codes for stand-pipe requirements. A standpipe should be a minimum of 2" diameter with a minimum height of 32".
- The drain hose must be secured at the drain to prevent a whipping action.

PLEASE CALL TECHNICAL SERVICEAT 1-800-208-9274 WITH ANY QUESTIONS

Aqua Phase™

Medical Equipment Washing & Decontamination Systems

FILL LINE OPTIONS

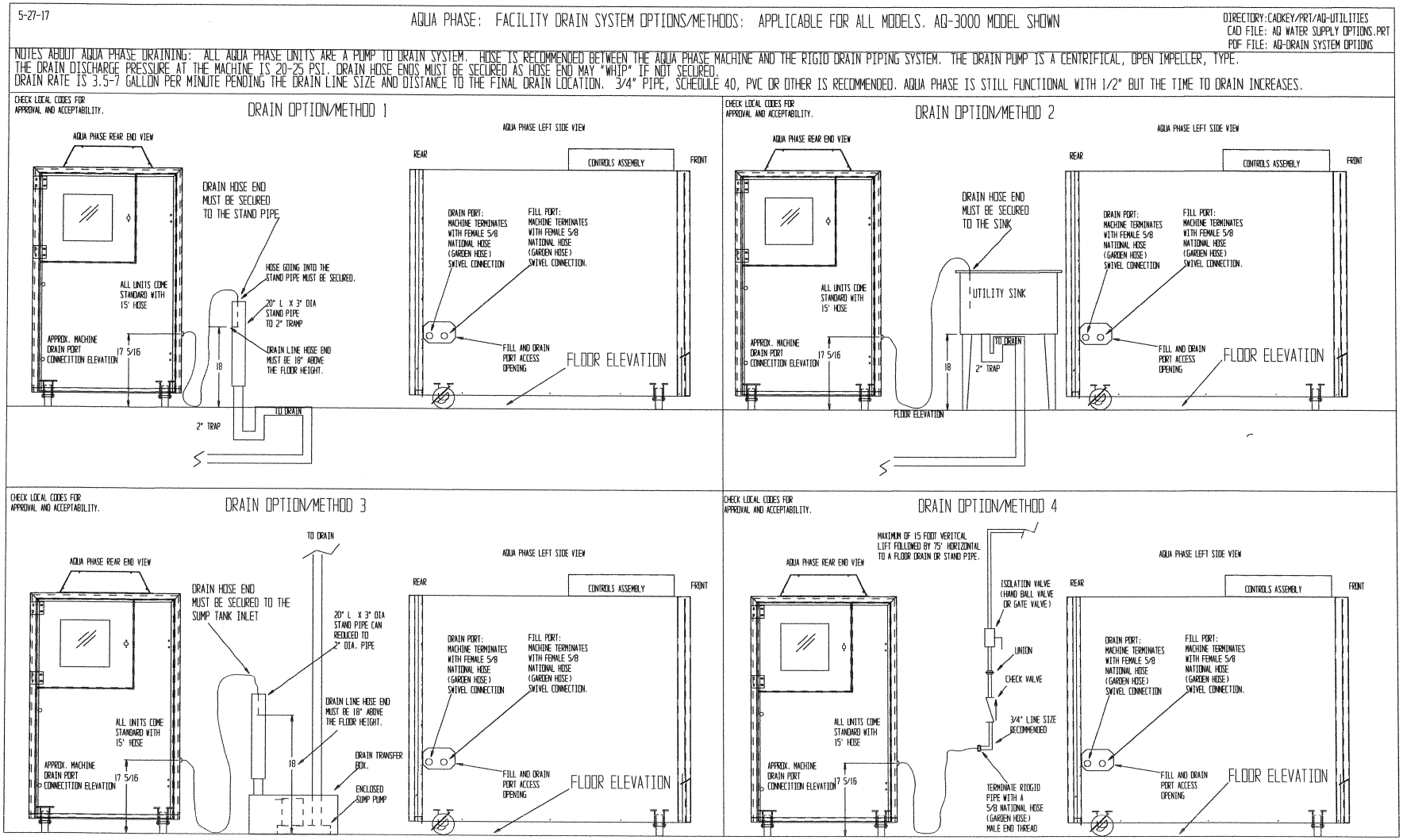


Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

Aqua Phase™

Medical Equipment Washing & Decontamination Systems

DRAIN LINE OPTIONS



Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

CONTROLLER INFORMATION

Message One **Run mode selected.**

	A	Q	U	A		P	H	A	S	E
		R	U	N		M	O	D	E	
			R	e	a	d	y			

- Doors closed.
- Ready to start.

Message Two **Drain mode selected.**

	A	Q	U	A		P	H	A	S	E
	D	R	A	I	N		M	O	D	E
			R	e	a	d	y			

- Doors closed.
- Ready to start.

Message Three **Machine filling for wash cycle**

	A	Q	U	A		P	H	A	S	E
	W	A	S	H		C	Y	C	L	E
		F	i	l	l	i	n	g		

- Run mode selected.
- Doors closed.
- "Start" button pushed.

Message Four **Machine is in Wash Cycle.**

	A	Q	U	A		P	H	A	S	E
	W	A	S	H		C	Y	C	L	E
	I	n		P	r	o	g	r	e	s	s

- Machine done filling for wash cycle.
- Detergent solution automatically injected.
- Wash cycle will be for time selected (3,5, or 7 minutes)

Message Five **Machine done with wash cycle.**

	A	Q	U	A		P	H	A	S	E
			D	r	a	i	n			
	I	n		P	r	o	g	r	e	s	s

- Wash water is being drained. **OR**
- Drain mode selected and "Start" button pushed.

Message Six **Machine beginning Rinse cycle.**

	A	Q	U	A		P	H	A	S	E
	R	I	N	S	E		C	Y	C	L	E
			F	i	l	l	i	n	g		

- Wash cycle complete
- Wash water drained. Machine is filling with fresh water for Rinse cycle.

Message Seven **Machine is in rinse cycle.**

	A	Q	U	A		P	H	A	S	E
	R	I	N	S	E		C	Y	C	L	E
	I	n		P	r	o	g	r	e	s	s

- Machine done filling for rinse cycle.
- Rinse solution automatically injected. Rinse cycle will be for approximately 1.5 minutes.

Message Eight **Disinfectant Application System Running *(Option)***

D	I	S	I	N	F	E	C	T	A	N	T
A	P	P	L	I	C	A	T	I	O	N	
	I	n	-	P	r	o	g	r	e	s	s

- Fresh water mixed with disinfectant solution.
- Item in Wash Chamber sprayed with solution.

1. "Clean & Disinfect" Selected before wash cycle started. **Wash & Rinse cycle done.**
2. "Disinfect Only" selected & "Start" button pushed.

Message Nine **Machine completed selected operation.**

	A	Q	U	A		P	H	A	S	E
			C	y	c	l	e			
		C	o	m	p	l	e	t	e	
	O	p	e	n		D	o	o	r	

Front door of Wash Chamber must be opened before next operation can begin.

- Item removed/loaded.
- Wash Chamber inspected for debris.Safety switches operational.

Message Ten **Check Low Level Float**

W	A	S	H		S	T	O	P	P	E	D
*	*	*	*	*	*	*	*	*	*	*	*
	C	h	e	c	k		L	o	w		
L	e	v	e	l		S	e	n	s	o	r

After Wash Cycle, prior to start of the draining of wash water.

- Is float is free of debris?
- Is float is operating properly?

Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

OPERATING PROCEDURES & WASH SEQUENCE

Medical Equipment Washing & Decontamination Systems

Operating Procedures

1. **Load the item** to be washed into wash chamber and close the front door.
   For Aqua Phase units equipped with the Wheelchair Wheel Rotation System:
   a. For washing wheelchairs - position the front, small diameter wheels into the Wheel Carriage loading rack, tip the wheelchair forward, and slide it into the wash chamber until the rear, large diameter wheels rest between the two drive bars closest to the door.
   b. For washing items other than wheelchairs - it is recommended that you use the Equipment Rack for easy loading, positioning, and unloading.
2. Select the "WASH TIME" (3, 5, or 7 minutes) on the control panel if your Aqua Phase is equipped with variable wash times. Choose the length of wash time based on the condition of the item to be washed.
3. Set the "RUN/DRAIN" switch on the control panel to "Run".
4. Select the wash mode ("Clean & Disinfect", "Clean Only," or "Disinfect Only") on the control panel if your Aqua Phase is equipped with the Disinfectant Application System.
5. Push the "START" button on the control panel.

Aqua Phase Wash Sequence Description

1. The current status of the Aqua Phase system ("Wash cycle", "Rinse cycle", "Cycle complete", etc.) will be shown on the LCD display of the control panel.

2. After pressing the "**START**" button, the computer will check to see if there is water in the water reservoir. If the reservoir is not full of water, ***Aqua Phase*** will automatically fill to the appropriate level. The reservoir holds approximately 5.5 gallons.

3. When the reservoir is full, the pump will start and begin the wash cycle, spraying the item being washed. AQ-240 Cleaning Solution is automatically injected shortly after the wash cycle begins.

4. The Aqua Phase will now be in the wash phase, and will continue for the wash time selected of 3, 5, or 7 minutes.

5. When the wash phase is complete, the dirty wash water will be pumped out of the Aqua Phase to the drain.

6. Aqua Phase will automatically refill to the appropriate level with fresh water.

7. After the reservoir is filled with water, the pump will start and the Aqua Phase will begin the rinse phase. The AQ-260 Rinse Agent is automatically injected shortly after the rinse phase begins. The rinse cycle will last for approximately 90 seconds.

8. If you have the Disinfectant Application System, the cycle will automatically begin if **CLEAN & DISINFECT** was selected.

To Drain the Machine Manually:

During normal automatic operation, the rinse water remains in the machine and will be the wash water for the next item placed in the chamber. If you choose, you may drain the rinse water prior to beginning the next wash cycle.

- Set the "RUN/DRAIN" switch to "DRAIN".
- Push the "START" button. The machine will drain the water.
- Prior to beginning the next wash cycle, set the "RUN/DRAIN" switch to "RUN".
- When the next wash cycle begins, the machine will automatically fill with fresh water for the wash phase

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

DISINFECTANT APPLICATION SYSTEM *(option)*

Follow all instructions provided by the manufacturer of the disinfectant solution that you choose to use including dwell time, application, removal, and proper handling of the disinfectant.

If Aqua Phase AQ-1000 has the Disinfectant Application System option installed. The Disinfectant Application System allows you to automatically apply a disinfectant solution. The disinfectant solution that you choose to use with the Aqua Phase Disinfectant Application System, and the proper use of that disinfectant solution is responsible for the level of disinfection results that you achieve.

Disinfectant Solution:

- The Disinfectant Application System is preset at the factory to apply disinfectant at the rate of 1 ounces per gallon of water.
- Your Aqua Phase uses 100 to 110 ounces of water per disinfectant cycle.
- Aqua Phase can provide disinfectant solutions specifically formulated or chosen to work with your Aqua Phase. You may order your solutions by calling your dealer or ***Aqua Phase*** at
  800-208-9274.

Disinfection Application System Operating Instructions:

- Be sure that you are using a 1-ounce per gallon disinfectant. If not, see the notes below.
- Place a one (1) gallon container of your disinfectant solution in the Chemical Tray (located inside the Chemical Cabinet at the rear of the Aqua Phase).
  - Insert the **CLEAR** hose into the disinfectant container.
  - Close the Chemical Cabinet door.
- At the front of the Aqua Phase, select the desired WASH MODE ("Clean Only", "Clean and Disinfect", or "Disinfect Only").

Note:

If you choose to use a disinfectant that calls for a different dilution rate, Aqua Phase can be modified to accommodate that rate. For information on how to accomplish this modification, please call the factory for assistance or review the "Dema" technical information included with this manual.

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

DAILY OPERATIONS PROCEDURES

Start-up Procedures:

1. Check that the Aqua Phase Washer is connected to a water supply and that the water supply is turned on. Then confirm the Aqua Phase Fill and Drain Hose Connections are properly connected and secure.
2. Check the Primary Filter Screen inside of the Aqua Phase Reservoir to make sure you have a clean Primary Filter Screen. Make sure that the screen is put back in place properly.
3. Check the chemical supply levels, by looking in the Chemical Cabinet – located in the back, or side, of your Aqua Phase Washer.
4. Plug in the Aqua Phase and press the 'Reset' button located on the GFCI plug.

Operating Procedures

1. Load the item to be washed into the Wash Chamber, then close and latch the front door.
2. Set the 'Wash Time' (3, 5, or 7 minutes) selector switch, located on the Control Panel, to the desired wash time.
3. Set the **'Run/Drain'** selector switch to **'Run'**.
4. Select the Wash Mode ← Only if your Aqua Phase Washer is equipped with the Disinfectant Application System feature.
5. Push the green **'Start'** button located on the Control Panel. Aqua Phase Washer will now fill with water & begin the cycle selected.
6. When cycle is complete, open door of washer.
   ***Cation when opening the door-steam will come out of the door. The door and the item washed may be hot to the touch right away.*
   ***Optional Step**: Place a drying mat on the floor by the Aqua Phase Washer Door to soak up water when you remove items from the washer.*
7. Take the items out of the washer. On drying mat, tip the wheelchair on its handles to let the water on the seat run off.
8. Push the red 'Stop' button at any time during the cycles if problems arise.

Shut-Down Procedures:

1. When you are finished for the day, set the **'Run/Dry'** selector switch to **'Drain'**.
2. Press the green **'Start'** button to completely drain the water out of the washer. Door has to be closed.
3. Open the door and clean the debris from the Primary Filter Screen – located just inside on the bottom of the Wash Chamber. Make sure the Filter Screen is put back in place properly.
4. Wipe clean the High Water Level Control (located inside, on the bottom of the Washer Chamber) clean.
5. Wipe the Low Water Level Control (located inside, on the bottom of the Wash Chamber) clean.
6. Turn off the water supply to the Aqua Phase Washer.
7. Un-plug the Aqua Phase Washer form the wall/power supply.
8. Open the front door of the Aqua Phase Washer if it will be a couple of days before next use.

Aqua Phase™

Medical Equipment Washing & Decontamination Systems

DAILY OPERATIONS LOG

	DATE														
DAILY START-UP:															
Water Supply On															
Fill & Drain Hoses Secure															
Primary Filter Screen Clean															
Primary Filter Screen in Place															
Wipe Reservoir Area Floor Clean															
AQ-240 Cleaning Solution Level															
AQ-260 Rinse Solution Level															
Disinfectant Solution Level (Option)															
GFCI is Set															
"READY" message Displayed															
DAILY SHUT DOWN:															
Aqua Phase Unit Drained															
Primary Filter Screen Clean															
Primary Filter Screen in Place															
Wipe Reservoir Area Floor Clean															
Wipe High Water Level Control															
Wipe Low Water Level Control															
Run "Disinfectant Only" Cycle (Option)															
Check AQ-240 Cleaning Solution Level															
Check AQ-260 Rinse Solution Level															
Check Disinfectant Solution Level (Option)															
WEEKLY:															
Primary Filter Screen Clean															
Secondary Filter Screen Clean															
Wipe Reservoir Floor Clean															
Wipe High Water Level Control															
Wipe Low Water Level Control															
Check AQ-240 Cleaning Solution Level															
Check AQ-260 Rinse Solution Level															
Check Disinfectant Solution Level (Option)															
Cycle Counter Reading															

Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

WEEKLY, MONTHLY & ANNUAL OPERATING PROCEDURES

Weekly (or as needed):

1. Inspect the front door gasket for wear or damage. Replace if necessary.
2. Check the Spray Nozzles & Level Sensors (located inside the Wash Chamber) for clogging. Clean if necessary.
3. Check that the Drain through Hinged Reservoir Screen is clean & in place. Located at the bottom, inside the Wash Chamber.
4. Check the Power Cord for any wear or damage. Test and reset the GFCI in the Aqua Phase Power Cord. *(If the Power Cord appears to be damaged in any way, do not operate the Aqua Phase.)*
5. Use deliming agent to reduce scale build-up if needed. Contact Aqua Phase to order **AQ-725 Deliming Solution.**

Monthly:

WARNING--*Wear Personal Protective Gear/Clothing when working with ANY chemicals.*

1. Perform the deliming process using the Aqua Phase, **AQ-725 Deliming Solution.** The instructions are in the Aqua Phase manual, and printed on the AQ-725 Deliming Solution bottle.
2. If included in the water supply line to your Aqua Phase, change the Filter Element that is inside the Water Filter Housing.
3. For Infection Control reasons, if possible change/switch the manufacture, brand, or type of concentrated disinfectant that you are using to Aqua Phase every 30-days.

Semi-Annual:

WARNING--*Wear Personal Protective Gear/ Clothing when working with ANY chemicals.*

1. Confirm the Disinfectant Concentrate Solution suction rate. *(This should be ¾ to 1 ounce of Disinfectant Concentrate Solution suctioned into the Aqua Phase per **'Disinfectant Only'** cycle performed.)*
2. Inspect, check and adjust the Drive Chains of the wheelchair, Wheel Rotation System.
3. Inspect, check and change (as needed) the Wheel Cleaning Brushes of the Wheel Rotation System.
4. Inspect and replace if needed, the Primary Filter Screen.

Annual:

Complete the Annual Aqua Phase Re-Validation Check Report. (The Check List/Report is available from Aqua Phase upon request). Re-Validation is completed for you as part of an Aqua Phase Service Agreement.

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

PERIODIC OPERATIONS LOG

	DATE															
MONTHLY:																
Test Ground Fault Circuit Interupter																
Inspect Door Gasket																
Inspect Spray Nozzels for Cloggs																
Run Deliming Process																
6-MONTH INTERVAL																
Inspect Chamber Disinfectant Nozzle Spray (Option)																
Inspect Drive Motor Chain Tension (Option)																
Inspect Spray Arm Timing (Option)																
Validate Disinfectant Consumption (Option)																
12-MONTH INTERVAL																
Replace Detergent Pump Hose																
Replace Rinse Pump Hose																
Inspect Pressure Regulator (Option)																

Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

AQUA PHASE
MEDICAL EQUIPMENT WASHER
LIMITED WARRANTY

Medical Equipment Washing & Decontamination Systems

Aqua Phase washers are warranted by Mid-State Stainless, Inc. (MSSI) to the original user against defects and workmanship or material under normal use:

(a) for one year on component parts.
(b) for five years on the stainless steel wash chamber.
(c) 90-days on labor for any of the above.

This limited warranty ensues on the day of purchase.

This warranty is valid only if Aqua Phase AQ-240 detergent and AQ-260 rinse-aid are used in the Aqua Phase washer. The use of cleaning and rinse agents other than those listed above without express written consent from Aqua Phase/Mid-State Stainless, Inc. shall void this warranty immediately.

If the Buyer notifies Mid-State of a warranty claim during the appropriate warranty period and the Buyer affords Mid-State a reasonable opportunity to inspect the product, and if the product is in fact found to be defective by reason of latent or inherent defect in material or workmanship and returned to an authorized service location, as Mid-State designates, shipping costs prepaid, then Mid-State will, at Mid-State's election, either repair such product or replace the product F.O.B. Factory. No product shall be returned without Mid-State's prior consent in writing.

Limitation of Liability: Disclaimer of Implied Warranties. The Buyer's sole and exclusive remedy on account of the furnishing of products or services by Mid-State shall be to secure the repair or replacement of the defective products from Mid-State on the terms and subject to the conditions specified above. Mid-State shall have no responsibility for any failure of the products or of related equipment or any loss, damage or injury resulting from: (a) the improper design, manufacture, maintenance or operation of any equipment into which the products are incorporated or in connection with which the products are used; or (b) the use of the products for other than their intended purpose; or use or operation outside the specified environmental conditions; or (c) the failure of the Buyer or any other party to maintain the products properly; or (d) any failure resulting from causes external to the products after delivery; or (e) any failure resulting from modifications to the products other than modifications made by Mid-State. Mid-State shall not in any event be liable for any costs incurred by Buyer, including, without limitation, the cost of any labor expended on any product.

MID-STATE MAKES NO WARRANTIES, OTHER THAN THE LIMITED WARRANTY SPECIFIED ABOVE, OR REPRESENTATIONS, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT OR ANY SERVICE, ADVICE, OR CONSULTATION, IF ANY, FURNISHED TO THE BUYER OR ANY OTHER PARTY BY MID-STATE OR ITS REPRESENTATIVE. MID-STATE SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE REMEDIES SET FORTH ABOVE ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON FOR BREACH OF ANY COVENANT, DUTY OR OBLIGATION ON THE PART OF MID-STATE HEREUNDER. MID-STATE SHALL NOT BE LIABLE FOR ANY LOSS, PERSONAL INJURY OR PROPERTY DAMAGE DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF SUCH PRODUCT, ADVICE OR SERVICE, OR FOR INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES OF ANY DESCRIPTION, WHETHER ANY SUCH CLAIM BE BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER TORT, OR OTHERWISE.

CONTROL PANEL CONTROLS & ELECTRICAL LAYOUT

Medical Equipment Washing & Decontamination Systems

Optional Digital Temp Display Shown

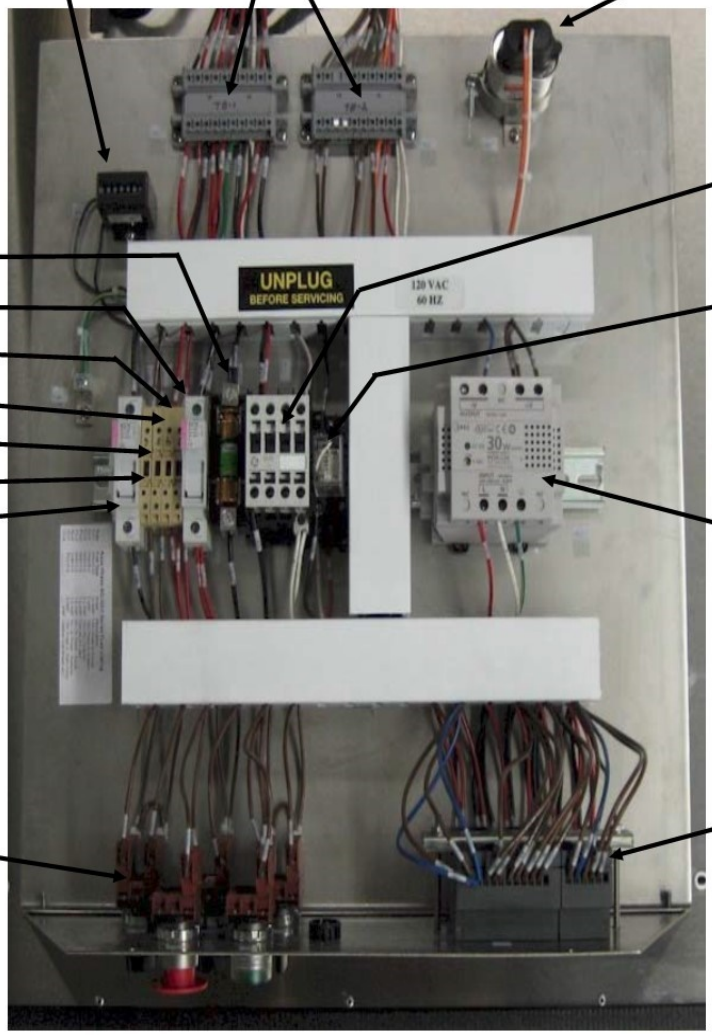
Front View of Control Panel

MALE / FEMALE WIRE CONNECTORS TO REMOTE DEVICES

Wash Cycle Counter

Depending on your year and model, it may be located in the Chemical Cabinet, under the Chemical Pumps.

Drive Motor Capacitor



Chamber Pump Motor Contractor

Drain Pump Motor Relay

FUSES: 120V Operation

FU-1: FRN-R-20

FU-2: FNQ-R-5

FU-3: GMD-2.5

FU-4: GMD-1.5

FU-5: GMD-1.5

FU-6: GMD-1.5

FU-7: FNQ-R-8

Power Supply 30 Watt, 24V DC

PLC

Control Switches

Top View of Control Panel, after cover has been removed.

Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

FUSES

Fuses protect the critical electrical devices on Aqua Phase from electrical anomalies. Without a properly fused electrical system, there would be risks to the critical (expensive) electrical devices and to a person operating the device.

IF YOU SUSPECT A FUSE MAY BE BLOWN, UNPLUG THE MACHINE BEFORE INVESTIGATING.

Seven fuses and a GFCI are located on ***Aqua Phase:***

Name	Fuse Type	Purpose	Location
FU-1	RFK 20A (FRN-R-20)	Pump Motor - Main Power	Control Panel
FU-2	CC 5A (FNQ-R-5)	Electronics System	Control Panel
FU-3	GMD 2.5A (GMD-2.5A)	PLC Outputs	Control Panel
FU-4	GMD 1.5A (GMD-1.5A)	*Optional* Drive Motor	Control Panel
FU-5	GMD 1.5A (GMD-1.5A)	Safety Switches & Probes	Control Panel
FU-6	GMD 1.5A (GMD-1.5A)	PLC Inputs (Switches)	Control Panel
FU-7	CC 8A (FNQ-R-8)	Drain Pump	Control Panel
FU-8	-	Optional (Lite, Blower, etc)	Control Panel
GFCI	GFCI	Ground Fault Protector	Power Cord

Effects of a blown fuse(s):

Name	Status	Condition
FU-1	If Blown	No power to Main Pump, no water spraying in Wash Chamber.
FU-2	If Blown	System will be dead.
FU-3	If Blown	No activity from pressing "**START**" button.
FU-4	If Blown	System will pump, but no sweeping spray action will be heard.
FU-5	If Blown	No activity from pressing "**START**" button.
FU-6	If Blown	No activity from pressing **"START"** button.
FU-7	If Blown	No Power to drain pump. Machine will not drain.
GFCI	If Tripped	System will be dead. No power to any devices.

Fuses listed above with the exception of the "GFCI" are located behind the control panel face.
To access fuses on the control panel:

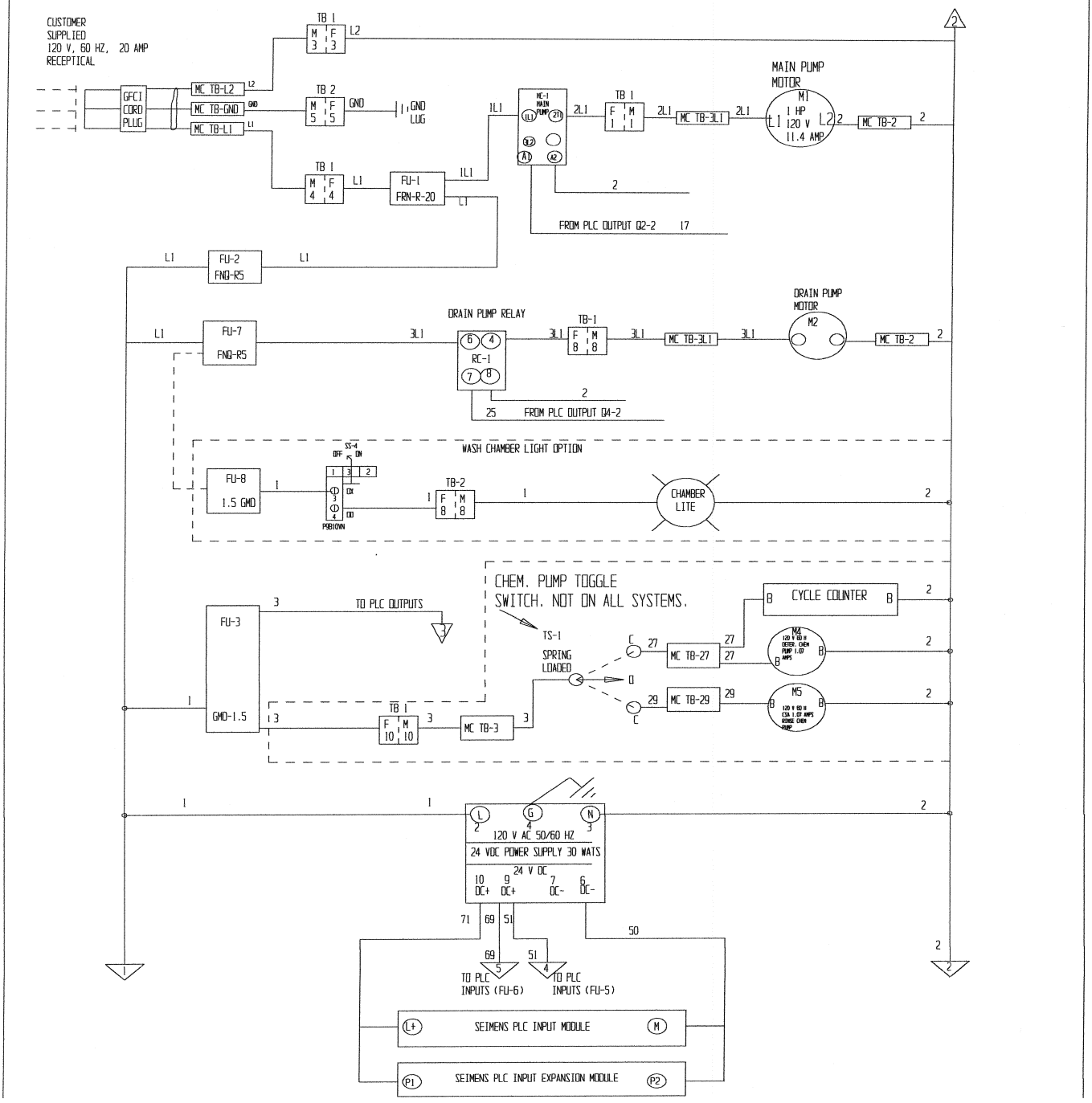
1. Remove the fasteners on the left and right of the control panel cover.
2. You need to **remove only the top two** screws on the control panel face.

WIRE DIAGRAMS

Aqua Phase™

Medical Equipment Washing & Decontamination Systems

MODEL	AQUA PHASE	Software	Codkey 97	OPTIONS SHOWN	OPTIONS SHOWN/SPECIAL
DATE	4-10-2013	Directory	AQ-CONTROLS & WIRING	DISINFECTANT APP. SYSTEM	120 VOLT 60 HZ SYSTEM
PAGE	1 OF 3	Levels	1	WHEEL ROTATION SYSTEM	
FILE	AQ WIRE DIAGRAM WITH OPTIONS-3K SIZE UNITS	Controller	LOGO 12/24RC & DM8 24R	LIGHT WASH CHAMBER	VERSION 8 HARDWARE
FEILD WIRING DIAGRAM #: 3K-7		REV: 5-2-2013 REV:5-25-2017			PDF FILE:NONE



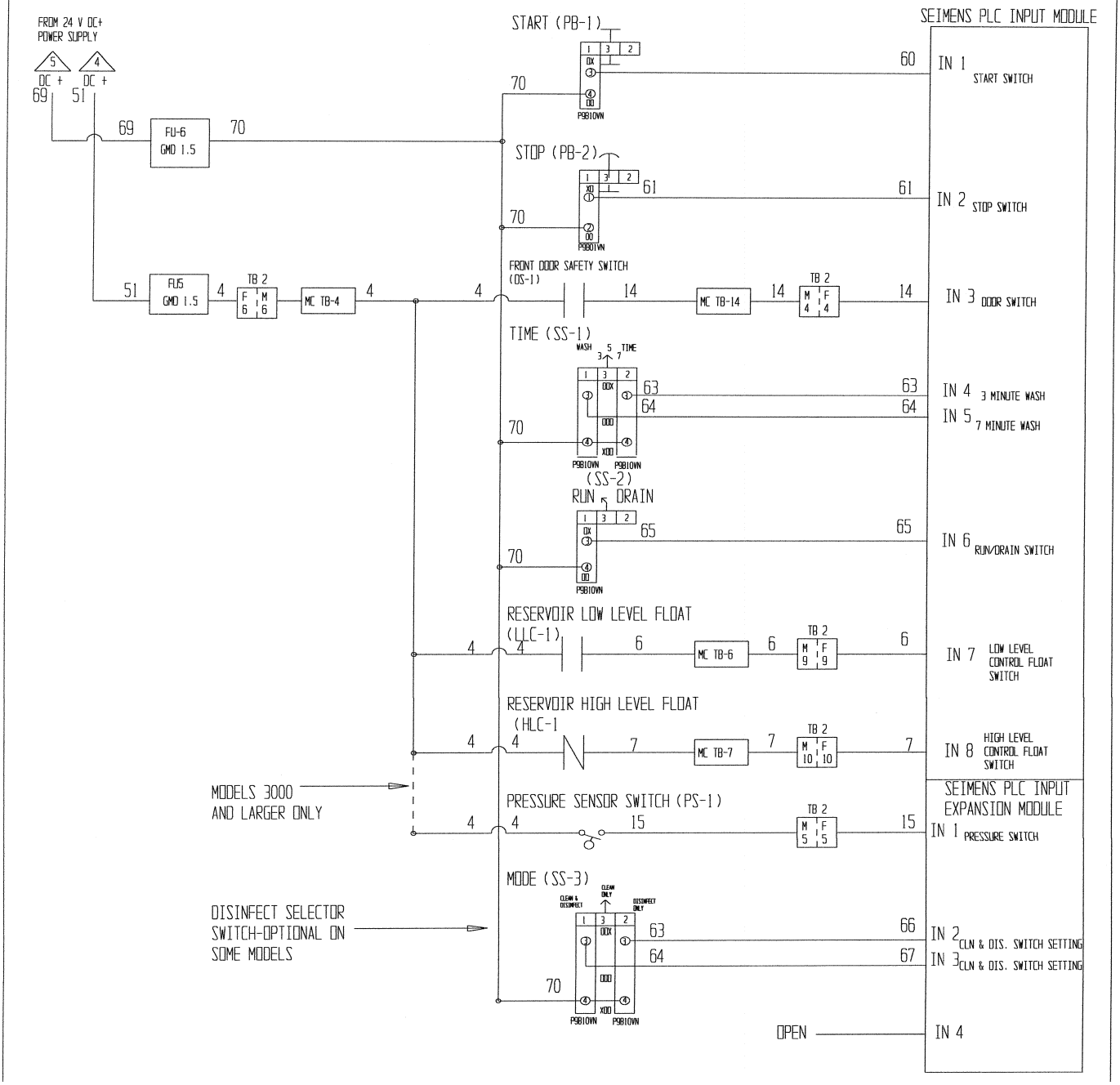
Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

WIRE DIAGRAMS

Medical Equipment Washing & Decontamination Systems

MODEL	AQUA PHASE	Software	Cadkey 97	OPTIONS SHOWN	OPTIONS SHOWN/SPECIAL
DATE	4-10-2013	Directory	AQ-CONTROLS & WIRING	DISINFECTANT APP. SYSTEM	120 VOLT 60 HZ SYSTEM
PAGE	2 OF 3	Levels	1	WHEEL ROTATION SYSTEM	
FILE	AQ WIRE DIAGRAM WITH OPTIONS-3K SIZE UNITS	Controller	LOGO 12/24RC & DM8 24R	LIGHT WASH CHAMBER	VERSION 8 HARDWARE
FEILD WIRING DIAGRAM #: 3K-7		REV: 5-2-2013 REV:5-25-2017			PDF FILE:NONE

PLC INPUTS

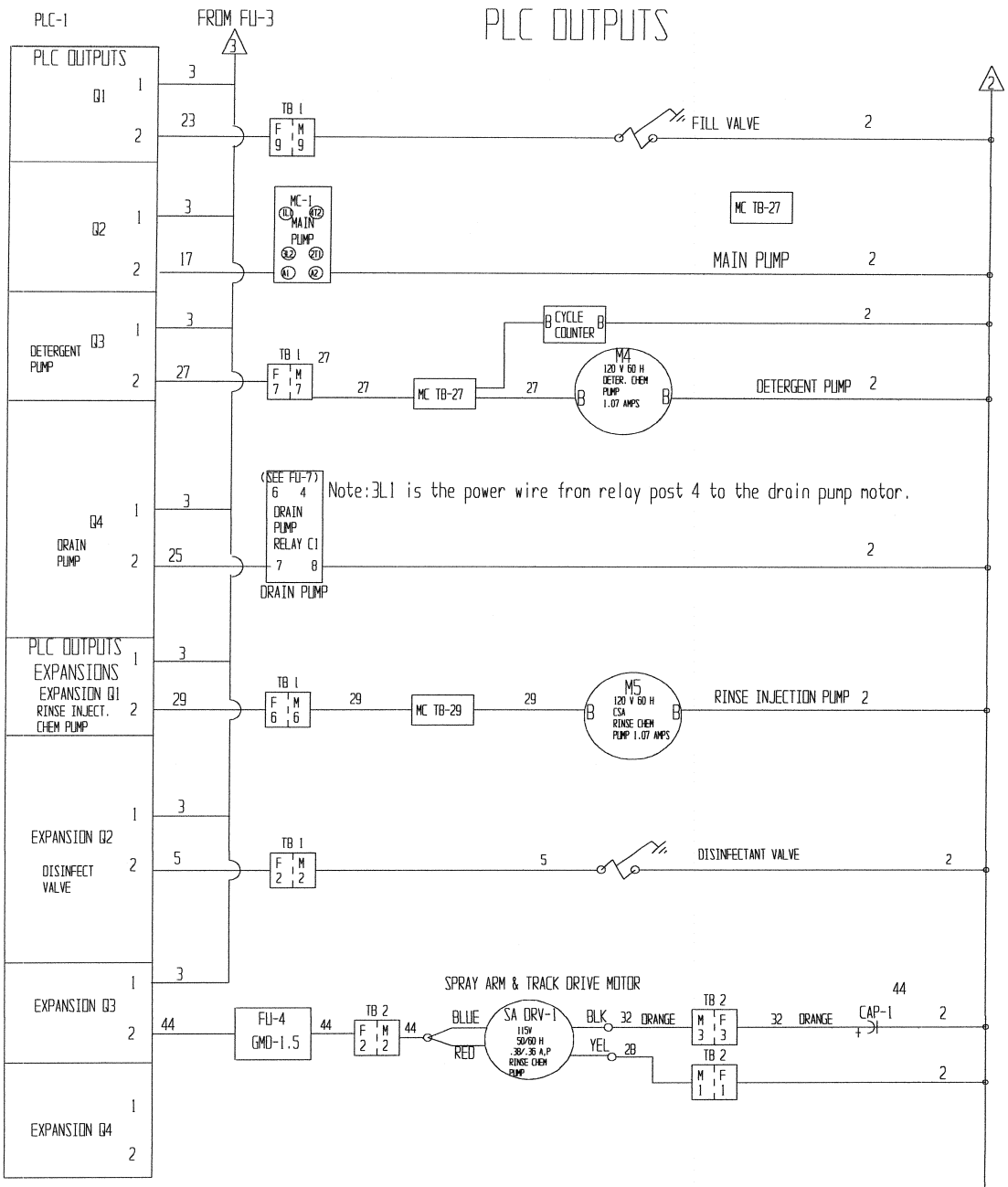


Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

WIRE DIAGRAMS

Medical Equipment Washing & Decontamination Systems

MODEL	AQUA PHASE	Software	Cadkey 97	OPTIONS SHOWN	OPTIONS SHOWN/SPECIAL
DATE	4-10-2013	Directory	AQ-CONTROLS & WIRING	DISINFECTANT APP. SYSTEM	120 VOLT 60 HZ SYSTEM
PAGE	3 OF 3	Levels	1	WHEEL ROTATION SYSTEM	
FILE	AQ WIRE DIAGRAM WITH OPTIONS-3K SIZE UNITS	Controller	LOGO 12/24RC & DM8 24R	LIGHT WASH CHAMBER	VERSION 8 HARDWARE
FEILD WIRING DIAGRAM #: 3K-7		REV: 5-2-2013 REV:5-25-2017			PDF FILE:NONE



Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

Aqua Phase™

Medical Equipment Washing & Decontamination Systems

DOMESTIC PARTS LISTING

Qty	Item	Description	UM	STATUS	YEAR	Notes - Where Used	Group
CHEMICAL INJECTOR PUMPS							Chem Pump
2	225-35718	CHEM PUMP & MOTOR-BETA-115V,50/60HZ	Each	Std		Chem pump - Beta brand (green covers).	Chem Pumps
2	225-59967	CHEM PUMP FRONT COVER: HSG,8 O	Each	Std		Chem pump - Beta brand (green covers).	Chem Pumps
2	225-22028	CHEM PUMP HOSE - YELLOW	Each	Std		Hose inside chemical pumps	Chem Pumps
2	225-3518M	CHEM PUMP MOTOR ONLY	Each	Std		Motor only for Beta pump head	Chem Pumps
2	225-38850	CHEM PUMP REAR COVER: HSG ASSY	Each	Std		Chem pump - Beta brand (green covers).	Chem Pumps
2	225-51189	CHEM PUMP ROLLER ASSEMBLY	Each	Std		Chem pump - Beta brand (green covers).	Chem Pumps
2	255-810-105-405	CHEM PUMP-ANKO 58 RPM	Each	Std	5/1/2017	AQ Units After 5-1-2017 (clear covers)	Chem Pumps
2	225-908-108	CHEM PUMP-ANKO HIGH RPM (108) (white pump head)	Each	Not-Std		Chemical Pump - Anko (white-semi clear)	Chem Pumps
2	225-800-101405(	CHEM PUMP-ANKO STD (58RPM) (white pump head)	Each	Not-Std		Chemical Pump - Anko (white-semi clear)	Chem Pumps
1	XM3-68-015	DETERGENT SUCTION HOSE-RED	Each	Std	5/1/2017	2017-Replaced with Yellow Hose-1/4" poly	Chem Pumps
1	XM3-68-005	RINSE SUCTION HOSE-BLUE	Each	Std		1/4" poly	Chem Pumps
DISINFECTANT APPLICATION SYSTEM-Standard and Optional							Dis. Sy
4	153-C9PMN-BB	ADP CHRM EL 1/4POLY X 1/4MNPT	Each	Std or Option		Disinfectant Chemical Line to Bottom Corner SA	Dis. Sys
1	151-50775K175	ADP POL BULKHEAD 3/8 POLY	Each	Std or Option		Disinfect line through chamber wall	Dis. Sys
1	151-5532K155	ADP POL EL 3/8POLY X 1/4FNPT	Each	Std or Option		Discharge end of Dema Injector Valve	Dis. Sys
1	151-5532K644	ADP POL EL 3/8POLY X 3/8MNPT	Each	Std or Option		Disinfect Ceiling Arm	Dis. Sys
4	151-5532K422	ADP POL STRT 1/4POLY X 1/4MNPT	Each	Std or Option		Disinfect Ceiling Arm & rod style level probe	Dis. Sys
4	151-5532K422	ADP POL STRT 1/4POLY X 1/4MNPT	Each	Std or Option		Disinfectant Ceiling Arm-Data Collection Sys.	Dis. Sys
1	151-5533K988	ADP POL STRT 3/8POLY X 1/4FNPT	Each	Std or Option	Pre-2004	Discharge end of Dema Injector Valve	Dis. Sys
1	151-5532K488	ADP POL STRT 3/8POLY X 1/4MNPT	Each	Std or Option		Inlet end of Dema Injection Valve	Dis. Sys
1	151-5532K444	ADP POL STRT 3/8POLY X 3/8MNPT	Each	Std or Option		Discharge end of Pressure Regulator	Dis. Sys
1	138-24.11MP	DEMA FOOT STRAINER	Each	Std or Option		Disinfectant Chemcial Tubing Hose Strainer	Dis. Sys
1	138-202CT	DEMA VALVE INJECTOR 1/4" THREAD	Each	Std or Option		Disinfectant Chemical Injector - 1/4"	Dis. Sys
4 to 8'	138-100.12	DEMA VINYL TUBING	Lin. Ft.	Std or Option		Disinfectant Chemical Suction Tubing	Dis. Sys
1	133-N18013208	PRESSURE GAUGE 0-60R 1/4NPT 2	Each	Std or Option		Disinfectant Line Pressure Gauge	Dis. Sys
1	133-R43301NNL	REGULATOR 3/8 NORGREN	Each	Std or Option		Disinfectant Line Volume Regulator - 3/8"	Dis. Sys
CONTROL PANEL ASSEMBLY COMPONENTS (2004 forward)							Elec-Device
1	277-P9B01VN	CONTACT BLOCK GE 1 NC-STOP BTN	Each	Std		Electrical Components	Elec-Devices
1	277-P9B10VN	CONTACT BLOCK GE 1 NO - 3POS	Each	Std & Option		Electrical Components	Elec-Devices
1	277-CL00A310T	MOTOR CONTACTOR GE 3HP/230	Each	Std		Electrical Components	Elec-Devices
4	277-BA9s242	PILOT LIGHT- BULB 24 V	Each	Not-Std		Electrical Components - Pilot Light Bulb	Elec-Devices
4	Specify Color	PILOT LIGHT-LENS	Each	Not-Std			Elec-Devices
1	256-21MD000BA	PLC-SIEMENS LOGO CONTROLLER	Each	Std		Version 8	Elec-Devices
1	256-51HB000BA	PLC-SIEMENS LOGO EXPANSION MODULE	Each	Std		Version 8	Elec-Devices
1	278-PS5R-C24	POWER SUPPLY 30 WATT 24VDC	Each	Std		Electrical Components	Elec-Devices
2	277-P9MSMD0N	SWITCH GE 2 POS BLK KNOB	Each	Std & Option		Run/Drain & Lighted Wash Chamber Switch	Elec-Devices
2	277-P9MSMZ0N	SWITCH GE 3 POS BLK KNOB	Each	Std & Option		Wash Time & Wash Mode Switch	Elec-Devices
1	277-P9MPLVGD	SWITCH GE START BUTTON - GREEN	Each	Std		Green Start Button	Elec-Devices
1	277-P9MEM4RN	SWITCH GE STOP BUTTON 40MM RED	Each	Std		Red Stop Button on Control Panel	Elec-Devices
4	238-9080GR6	TERM BLK M/C - LARGE BLOCK	Each	Std		Electrical Components	Elec-Devices
8	238-9080GM6	TERM BLK M/C - SMALL BLOCK	Each	Std		Electrical Components	Elec-Devices
CONTROL-FUSES							Elec-Fuse
3 to 5	237-GMD 1.5A	FUSE 1.5 AMP GLASS TUBE	Each	Std		SA Drv Mtr, C-Pumps Inputs, Switches, Floats	Elec-Fuses
1	237-FRN-R-2	FUSE 2 AMP FRN CARTTDGE	Each	Std		Control circuit-Drain Pump	Elec-Fuses
1 to3	237-6F057	FUSE 2 AMP GLASS TUBE	Each	Std		Chemical Pump Fuse	Elec-Fuses
1	237-GMA 2.5	FUSE 2.5 AMP GLASS TUBE	Each	Std		PLC Outputs	Elec-Fuses
1 or 2	237-FRN-R-20	FUSE 20 AMP FRN CRTRDGE (RFK)	Each	Std		Pump Motors & Main System Fuse	Elec-Fuses
1	237-FNQ-R-5	FUSE 5 AMP CC MINI CRTRDGE (kldr-5)	Each	Std or Option		Transf (240v) Elect Sys (110v)-Drain pump	Elec-Fuses
1	237-FRQ-R-8	FUSE 8 AMP CC MINI CRTRDGE (kldr-8)	Each	Std		Drain pump	Elec-Fuses
GFCI							Elec-GFC
1	234-14880R	GFCI-120V, 15 AMP NO POWER CORD	Each	Std		7728K11	Elec-GFCI
1	234-2000-0015	GFCI-120V, 15 AMP WITH POWER CORD	Assembly	Std			Elec-GFCI
1	234-54880R	GFCI-120V, 20 AMP NO POWER CORD	Each	Std			Elec-GFCI
1	234-2000-0050	GFCI-120V, 20 AMP WITH POWER CORD	Assembly	Std			Elec-GFCI

DOMESTIC PARTS LISTING

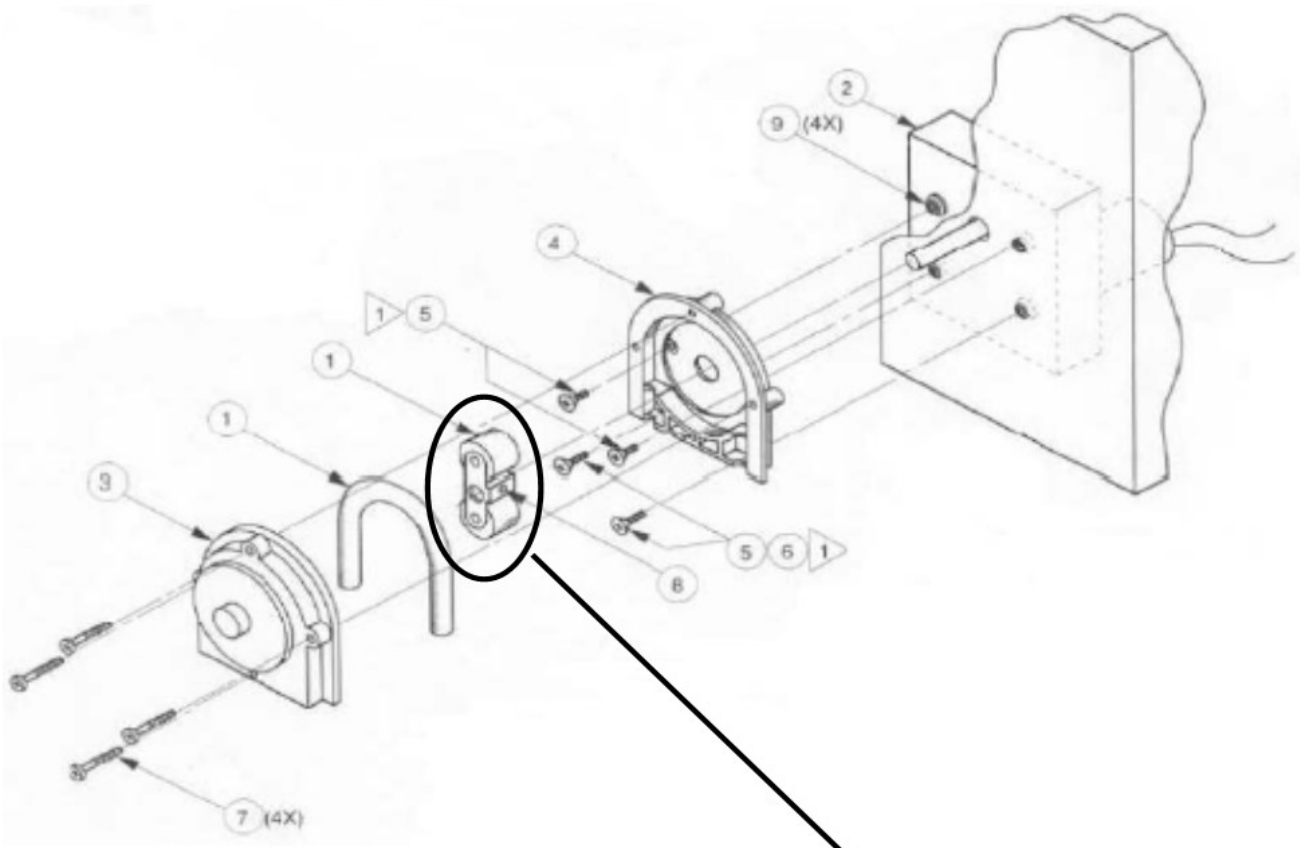
CONTROL PANEL ASSEMBLY COMPONENTS (PRE 2004)							Elec-pre-200
1	M3-3K FULL	CONTROL ASSEMBLY-2017 MODICON REPLACED	EA	Std			Elec-pre-2004
1	235-SL1-D	FRONT DOOR LIMIT SWITCH-HONEYWELL	Each	Not-Std	Pre-2004	Mounted in wash chamber	Elec-pre-2004
2	M321-201	LEVEL PROBE ASSM - ROD STYLE	Each	Not-Std	Pre-2004	Sump high & low probes - Metal Rod Style	Elec-pre-2004
2	277-0900	LEVEL PROBE SENSOR POD ORANGE	EA	Not-Std	Pre-2004	Sensor Pod for Rod Style Level Probes	Elec-pre-2004
1	254-110CPU311	MODICON PLC	EA	Not-Std	Pre-2004	Computer (old style)	Elec-pre-2004
4	277-BA9S130	PILOT LIGHT- BULB 130 V	Each	Not-Std	Pre-2004	Electrical Components - Pilot Light Bulb	Elec-pre-2004
CONTROLS- SWITCHES, SENSORS, LEVEL CONTROLS							Elec-Switche
1	217-4C445	AIR BLOWER-TIIMER DIGITAL AUTO OFF	Each	Option			Elec-Switches
1 or 2	235-2XC13	FLOAT SWITCH - HORIZONTL LEVEL	Each	Std		Water Level High Float - Plastic Float Style	Elec-Switches
1	235-B11-204	LIMIT SWITCH-FR/DR 80-348 XTRN	Each	Std		Front door -white switch (lever type)	Elec-Switches
1	136-41535K91	PRESSURE SWITCH 1/4NPT 5-65PSI	Each	Option		Low Pressure Cntrl Switch (Get Nipple too)	Elec-Switches
1	235-GSW-13	TOGGLE SWITCH 3POS CHEM PUMP	Each	Std		Chemical Pump Primer Switch	Elec-Switches
FILTERS & SCREENS							Filter
1	141-FGSH	FILTER BOWEL GASKET 1-1/4 & 1-1/2	Each	Not-std	Pre-2004	Gasket for Filter Cover Bowl	Filters
1	141-15839-75	FILTER CART HOUSING 1/2" NPT (CART 10 MIC FILTS)	Each	Option		Without Plumbing Fittings	Filters
1	141-EPM-10	FILTER CART-10 MICRONS	Each	Option			Filters
1	141-FCBH	FILTER COVER BOWL ONLY 1-1/4&1-1/2	Each	Not-std	Pre-2004	Filter Cover Bowl Only (clear/yellow tint)	Filters
1	141-FS40H	FILTER SCREEN, 1-1/4", 40 MESH TUBE SCREEN	Each	Not-std	Pre-2004	Filter Mesh Screen in Cover Bowl	Filters
1	141-FS80H	FILTER SCREEN, 1-1/4", 80 MESH TUBE SCREEN	Each	Not-std	Pre-2004	Filter Mesh Screen in Cover Bowl	Filters
1	170-10373	FILTER SCREEN, FILL PORT 1	Each	Std		Filter Screen located inside Fill Line Hose (washer	Filters
1	141-FTBH	FILTER T-BODY, 1-1/4	Each	Not-std	Pre-2004	Filter body only	Filters
1	M321-110-030	RESERVOIR FILTER SCREEN -3K RECT	Each	Not-std		SS, 2" Wide X 9" Long	Filters
1	M3-30-300	RESERVOIR FILTER SCREEN -3K SQUARE	Each	Std		SS, Approx. 4" x 4" Square	Filters
1	AQ-170	WATER FILTRATION ASSM 1/2 NPT	Assembly	Option		Housing W/Plumping & 2 10 mic carts	Filters
GASKETS							Gaskets-Seal
1	M3-75-001	FRONT DOOR GASKET KIT 3K	Each	Std		143" Long-Trim to fit.	Gaskets-Seals
1 or 2	XM4321-75-085	FRONT DOOR WINDOW GASKET	Each	Std or Option		Front Window Gasket	Gaskets-Seals
TUBING, HOSES, FITTINGS *(AND ACCESSORIES)*							Hose-Fittin
	151-5532K444	ADP POL STRT 3/8POLY X 3/8MNPT	Each	Std or Option			Hose-Fitting
1	151-5532K822	ADP POL TEE 1/4POLY X 1/4MNPT	Each	Std or Option		Chem hose connect at reservoir	Hose-Fitting
Varies	170-HPD-6 4166	HOSE 1 BLACK	Lin. Ft.	Std		Spray arm distrib., Drain pump suction	Hose-Fitting
4'	170-HPD-9 6166	HOSE 1-1/2 BLACK	Lin. Ft.	Std		Main pump suction	Hose-Fitting
	170-102-1000	HOSE 3/4 BLACK	Lin. Ft.	Not-Std		Drain pump suction	Hose-Fitting
2	176-689-4618	HOSE BARB STRGHT 1-1/2 X 1-1/2" MNPT	Each	Std		Main pump suction & Reservoir dischrg	Hose-Fitting
	176-5372K343	HOSE BARB 90 EL 3/4 X 3/4 FNPT	Each	Not-Std		Drain- pump & motor-Dayton suction	Hose-Fitting
	176-5372K333	HOSE BARB 90 EL 3/4 X 3/4 MNPT	Each	Not-Std		Plastic Hose Barb Connectors	Hose-Fitting
2	176-5372K336	HOSE BARB 90 EL 1 X 1-1/4 MNPT	Each	Std		AMT drain pump suction & Reservoir dischrg.	Hose-Fitting
10	176-5372K135	HOSE BARB STRGHT 1" X 1" MNPT	Each	Std		Spray arm distribution	Hose-Fitting
	176-5372K132	HOSE BARB STRGHT 3/4 X 1/2 MNPT	Each	Not-Std		Plastic Hose Barb Connectors	Hose-Fitting
	176-5372K133	HOSE BARB STRGHT 3/4 X 3/4 MNPT	Each	Not-Std		Plastic Hose Barb Connectors	Hose-Fitting
12	175-5413K54	HOSE CLAMP 1 SS #16 1-1.5 DIA	Each	Std		Spray arm distribution & AMT pump suction	Hose-Fitting
2	175-5413K57	HOSE CLAMP 1-1/2 SS #28	Each	Std		Main pump suction	Hose-Fitting
	175-5413K52	HOSE CLAMP 3/4 SS #10	Each	Not-Std		Drain pump suction	Hose-Fitting
2	170-70815T43	HOSE CONNECT 1/2 GARDEN FEMALE	Each	Std		Fill and Drain connections	Hose-Fitting
1	170-10031640	HOSE FILL OR DRAIN 10-FOOT LONG	Each	Std		Vulcanize hose ends 180 degree rating.	Hose-Fitting
1	170-62215T78	HOSE-WASHER-DRAIN LINE	Each	Std			Hose-Fitting
1	1110-GNBK	NIPPLE 1/4 X 2 GALVINIZED	Each	Std & Option		For Pressure Switch	Hose-Fitting
2'	172-1B02507	POLY TUBE 1/4 BLUE (SOFT)	Lin. Ft.	Std		Chemical Rinse Suction Hose	Hose-Fitting
40'	172-0140	POLY TUBE 1/4 NATURAL (SEMI RIDGID)	Lin. Ft.	Std		Chemical Injection Hose - Into Wash Chamber	Hose-Fitting
2'	172-1B02505	POLY TUBE 1/4 RED (SOFT)	Lin. Ft.	Std	Pre 6-2017	Was Detergent Suction Hose-Use Yellow	Hose-Fitting
	172-1B02508	POLY TUBE 1/4 YELLOW (SOFT)	Lin. Ft.	Std		Chemical Detergent Suction Hose	Hose-Fitting
2'	172-0340	POLY TUBE 3/8 NATURAL (SEMI RIDGID	Lin. Ft.	Std or Option		In Wash Chamber & from Dema device.	Hose-Fitting
MISC							Mis
1	AQ-195	AQ OPERATIONS MANUAL	Each	Std		AQ-4000 Operations Manual - Printed & Binded	Misc
4	321-6466K27	FRONT WHEELCARRIAGE BEARING-PVC	Each	Std or Option		Select PVC or SS Bearing for replacement	Misc
4	321-5908K18	FRONT WHEELCARRIAGE BEARING-SS	Each	Std or Option		Select PVC or SS Bearing for replacement	Misc
1	340-6X10-1/8	GLASS - LIGHTED CHAMBER WINDOW	Each	Std or Option		Lighted Wash Chamber Replacement Window	Misc
1	340-12X12X.030	GLASS-FRONT DOOR WINDOW	Each	Std or Option		Safety Glass Replacement Window	Misc
1	291-LAM100AR	LITE BULB -FOR CHAMBER FIXTURE	Each	Std or Option		Rough Service Bulb -Lighted Chamber Opt.	Misc
NOZZLES							Nozzle
	161-NBC1565	NOZZLE 1/4 1.5 GPM 60D FULL CONE	Each	Std		Staintionay Arm Units Only.	Nozzles
4	161-NBDIS	NOZZLE 1/4 .25 GPM FULL CONE DIS. SYS.	Each	Std		Disinfect System (Opt. Some Units)	Nozzles
17	161-NBF1565	NOZZLE 1/4 1.5 GPM 65D FLAT FAN	Each	Std		Current (Part of Wheel Rotation Sys. Opt.)	Nozzles
2	161-NBS.20120	NOZZLE 1/4 2.0GPM 120D SPIRAL JET	Each	Std		Bottom center spray arm (2) Current	Nozzles
3	161-NAF05120	NOZZLE 1/8 .5 GPM 120D HOL CONE DIS. SYS.	Each	Std		Disinfect System (Opt. Some Units)	Nozzles

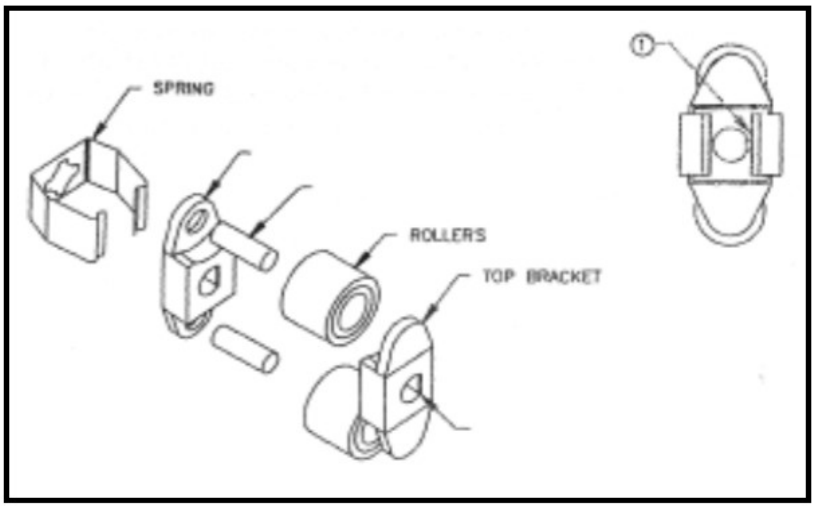
DOMESTIC PARTS LISTING

PUMPS & MOTORS							Pump & Motor
2	217-1XJX9	AIR BLOWER MOTOR 115V 4 SPD	Each	Option		Large AQ units up to 4K	Pump & Motors
1	217-4C445	AIR BLOWER MOTOR 495 CFM	Each	Option		Small AQ Units up to 37K	Pump & Motors
1	228-3201-96	DRAIN- PUMP & MOTOR-AMT-ALUM. CAST	Assembly	Std		Cast Alum. Pump head 1-1/4 x 1-1/4	Pump & Motors
0	228-3WY84	DRAIN- PUMP & MOTOR-DAYTON (Red or Black)	Assembly	Not-Std		Canned Pump-Discontinued-See AMT	Pump & Motors
1 TO 3	211-4Z062	GEAR MOTOR 14 RPM AC - 4K SA	Each	Std or Option		Spray Arm and/or Track Drive Motor	Pump & Motors
1	EBCDU120/1NB	PUMP - PUMP HEAD ONLY- KIT, 1 HP 120/1	Each	Std		Domestic 250 1K 1.5K, 2K,2.7K	Pump & Motors
1	EBCDU200/1NB	PUMP - PUMP HEAD ONLY- KIT, 1.5 HP 120/1	Each	Std or Option		Option. Standard=3k, 3.7k & 8K units	Pump & Motors
1		PUMP & MOTOR ASSEMBLY 1 HP EBARA	Assembly	Std		Domestic 250 1K 1.5K, 2K,2.7K	Pump & Motors
1	228-EBACDU200	PUMP & MOTOR ASSEMBLY 1.5 HP EBARA	Assembly	Std or Option		Option. Standard=3k, 3.7k & 8K units	Pump & Motors
1	222-251450788	PUMP IMPELLER ONLY 1 HP EBARA CDU 120/1	Each	Std		Domestic 1K, 2K, & 3K	Pump & Motors
1		PUMP IMPELLER ONLY 1.5 HP EBARA CDU 120/1	Each	Std or Option		Option. Standard=3k, 3.7k & 8K units	Pump & Motors
1	EBS625001	PUMP MECH SEAL	Assembly	Std		Internal Pump Mechanical Seal	Pump & Motors
1		PUMP MOTOR ONLY 1.5 HP 120V 60HZ 56J-FRAME	Each	Std or Option		Upgrades, 3K,3.7K & 8k Models	Pump & Motors
1	211-MAGB719	PUMP MOTOR ONLY 1HP 120V 60HZ 56J-FRAME	Each	Std		Domestic 1K, 2K, & 3K	Pump & Motors
1	222-340280085	PUMP MOUNTING FEET	Each	Std		All pumps	Pump & Motors
1	222-EB165X3	PUMP O-RING EBARA CDU70/5NB-2H	Each	Std		All pumps	Pump & Motors
SPRAY ARMS (See Nozzles Also)							Spray Arm
6 TO 10	M3-300-001	CLEVIS JOINT BUSHING	Each	Std			Spray Arms
2	M3-41	LINKAGE ARM LONG ASSEM. 3K	Assembly	Std or Option		Linkage from spary arm to spray arm.	Spray Arms
2	M3-43	LINKAGE ARM SHORT ASSM. 3K	Assembly	Std or Option		Linkage arm from track sprocket to long link arm	Spray Arms
8 TO 12	317-9452K39	O-RING BUNA DASH 219 B/HD I/S	Each	Std or Option		Interior Bulkhead O-Ring for spray arms	Spray Arms
4	317-9452K44	O-RING BUNA DASH 325 B/HD O/S	Each	Std		Bulkhead-exterior o-ring	Spray Arms
4 TO 8	M3-35-005	SA BEARING L/R SIDE	Each	Std		UHMW Material - SA Bearing - both Left & Right Si	Spray Arms
1 TO 4	M3-35-035	SPRAY ARM BEARING SUPPORT BRKT	Assembly	Option		FOR OLDER AQ UNITS	Spray Arms
THERMOMETERS							Tem
1	316-38675K13	THERMOMETER "C" CONTROL PANEL	Each	Std or Option		International, option	Temp
1	316-4141K11	THERMOMETER ECONOMY PANEL	Each	Not-Std		Control Panel Water Temperature Display - Optiona	Temp
1	316-3946K125	THERMOMETER RND DIAL 3" 1/2NPT	Each	Std or Option		Fill Line Thermometer - Optional	Temp
TRACK							Track Sys
4	321-6389K552	BEARING SLEEVE,FLNGD,NYLON,5/8	EA	Std or Option		Track drive bar (2) & Door handle (2)	Track Sys.
2	M32-55	BRUSH ASSEMBLY FRONT 4" - EACH	Assembly-Each	Std or Option		Track, requires two	Track Sys.
2	M32-56	BRUSH ASSEMBLY REAR 6" - EACH	Assembly-Each	Std or Option		Track, requires two	Track Sys.
1	M3-159	CHAIN OPENING SEAL	Each	Std or Option			Track Sys.
	324-FGSATL350	CHAIN-DELRIN-35 PITCH	Lin. Ft.	Std or Option			Track Sys.
1	324-35PC CL	CHAIN-SS CONNECTING LINK-35 PITCH	Each	Std or Option		Track drive chain - SS links	Track Sys.
	324-FT35PC	CHAIN-SS LINK-35 PITCH	Lin. Ft.	Std or Option			Track Sys.
6	322-6436K136	COLLAR-ALUM SET 5/8 BORE 2PC	Each	Std or Option		Track drive bars set collars (4)	Track Sys.
1	323-35BF101/2	DRIVE MOTOR SPROCKET 10 TOOTH FORGED 1/2:	Each	Std or Option		Track drive motor sprocket (1)	Track Sys.
2	321-11951-SS	DRIVE ROD END JOINT-SS	Each	Std or Option		Screws into Track Sprocket-Large 40 Tooth	Track Sys.
4	321-1F636	PILLOW BLOCK BEARING 5/8 W SS HOUSING	Each	Std or Option		Under side of Track Frame	Track Sys.
1	M3-49-200	TRACK CHAIN-LEFT PLAST 31-5/8	Assembly	Std or Option		Plastic chain on left side	Track Sys.
1	M3-49-220	TRACK CHAIN-MOTOR SS 54-11/16	Assembly	Std or Option		Plastic/SS chain from drive motor to large sprock	Track Sys.
1	M3-49-210	TRACK CHAIN-RIGHT PLAS 25-5/8	Assembly	Std or Option		Plastic chain on right side	Track Sys.
3	98355A160	TRACK COTTER PIN-1/8 X 2-1/4 STAINLESS	Each	Std or Option		Small sprocket pins	Track Sys.
2	5M125-0	TRACK COTTER PIN-3/16 X 3 STAINLESS	Each	Std or Option		Large sprocket pins	Track Sys.
3	M3-49-065	TRACK DRIVE BAR SHAFT-3K	Each	Std or Option		Drive bars for wheel rotation (3)	Track Sys.
2	M3-49-110	TRACK SPROCKET-LARGE 40 TOOTH 5/8" BORE	Each	Std or Option		Large sprockets on ends of front drive bar (2)	Track Sys.
3	M3-49-100	TRACK SPROCKET-SMALL 14 TOOTH 1/2" BORE	Each	Std or Option	Pre-2004	Small sprockets on ends of drive bars (3)	Track Sys.
3	M3-49-105	TRACK SPROCKET-SMALL 14 TOOTH 5/8 BORE	Each	Std or Option		Small sprockets on ends of drive bars (3)	Track Sys.
VALVES *(SOLENOID & MISC)*							Valve
1	15537-WYN1	CHECK VALVE-1-1/4"-FNPT-BRASS	Each	Std		Older Sys- Drain Pump-anti-syphon-Discontinue.	Valves
1 TO 3	131-08F22	SOLENOID VALVE-1/2"-PARKER 50/60HZ	Complete	Std & Option		Fill, Drain, & Disinfect Sys.Opt. (black coil)	Valves

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

TYPICAL CHEMICAL PUMP ASSEMBLY





Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

Medical Equipment Washing & Decontamination Systems

VALVE INSPECTION PROCEDURES

Valve inspection can be performed while the valve is still piped in line.

The Valves to be inspected may be:

- Fill Line Valve
- Disinfectant Line Valve *(Option)*
- Drain Valve (pre-2005)
- Main Chamber Valve (Pre-2005).

1. Unplug the Aqua Phase from the power Supply
2. Turn off the water supply to the Aqua Phase
3. Loosen the Fill Line connection (to release water pressure).
4. Remove the Retainer clip or Cap
5. Remove the Data Label Plate if an Asco Valve.
6. Lift the Unit Solenoid (electrical coil) up, off the Plunger Tube Assembly (*Do not miss place the spring or tension clip on the Plunger Tube assembly).*
7. Remove the bolts connecting the valve Cover/Solenoid Base to the valve Body.
8. Separate the valve Cover/Solenoid Base AND the Diaphragm from the valve Body. (*Be not to miss place the springs between the Cover/Solenoid Base and the Diaphragm). Pay attention to the location of the valve Body Gasket/O-ring.*
9. Look at/into the valve Body for and dirt or debris, and remove if any exists.
10. Carefully, separate the Diaphragm for the Cover/Solenoid Base.
11. Inspect the Diaphragm for any damage or wear such as cracking, blisters, or warps. The Diaphragm should have the same pliability/flexibility across its surface.
12. Locate the Bleed Hole (1/2" Valves) in the Diaphragm and make certain it is not plugged or clogged with debris or hard water particles.
13. Check that the Core Spring and Core Assembly moves freely inside the Cover/Solenoid base.

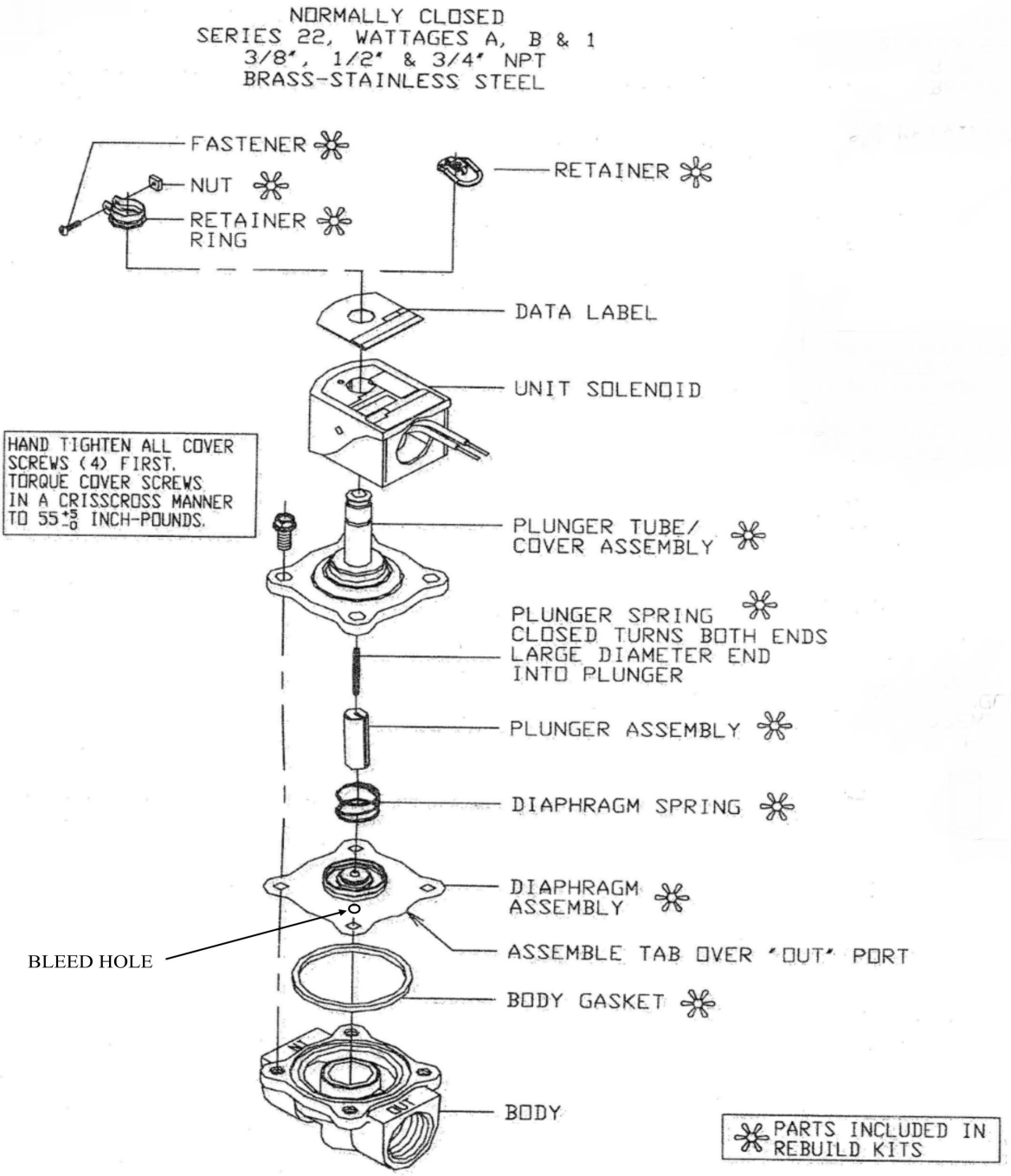
If you find there are issues with items 11, 12, or 13 from above, a valve rebuild kit may need to be ordered and installed.

When reassembling the valve:

IT IS CRITICAL TO VALVE OPERATIONS THAT THE BLEED HOLE be towards the "OUT" stamped into the valve Body *(the Bleed Hole will be at about 45 degree from the "OUT" stamp).*

IT IS CRITICAL TO VALVE OPERATIONS THAT BOTH THE Core Spring and Diaphragm Spring exist and are in position.

TECHNICAL DATA
1/2" VALVE (FILL & DISINFECT)



TECHNICAL DATA DISINFECTANT MIXING VALVE

If Disinfectant Application System Installed

DEMA SINGLE-STAGE INJECTOR MODELS 200-3C, 200C, 201C, 202C, 203C, 204C, 206C, 208C, 2012C

INSTALLATION INSTRUCTIONS

1. **PARTS**
   - A. Injector.
   - B. Drum protector disc.
   - C. Three brass nozzle bushings.
   - D. Plastic Tubing 8' long with foot strainer.
   - E. Backup washer (Models 204C & smaller).

2. **INSTALLATION**
   - A. Selecting the nozzle bushing:
     Find the appropriate APPLICATION under Section 4 and use the tables to select one of the three bushings supplied. Push the bushing into the injector inlet, small end first, as far as it will go. See Fig. 1.

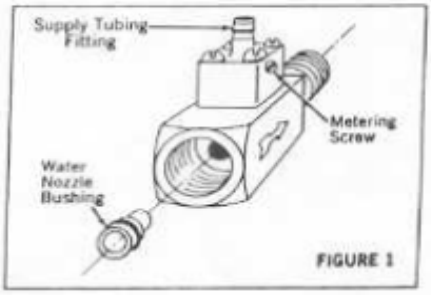


FIGURE 1

   - B. Back up washer:
     In some applications a flexible hose and shut off gun are used downstream from the injector. When the gun is shut off a momentary back flow can develop and push out the nozzle bushing. To prevent this, place the plastic backup washer behind the nozzle before screwing the injector onto the inlet pipe.
   - C. Placement in the water line:
     The injector may be installed in a horizontal or vertical line and with the knob in any position below, above, or to the side. Water flow must be in the direction of the arrow on the injector body. If the injector pipe size is different from the line size, use pipe bushings or reducers as required. (Injector selection is based on flow, not line size.)
   - D. Connection to chemical supply:
     Drop the end of the tubing with the strainer into the fluid product container. Cut the tubing to any convenient length and slip the open end over the injector fitting. The container may be more than 8 feet below the injector (extra tubing required) but injection capacity will be less. Do not place the container above the injector unless the injector is under pressure when not in use. This will prevent free siphoning.
     The metal drum protector disc may be used to cover the container opening and to hold the tubing in place. Twist the disc at the slit for easy application.

3. **CHEMICAL FEED ADJUSTMENT**
   See FIG. 1 for the location of the metering screw in the knob. The knob may be re-oriented for better accessibility by removing the 4 machine screws and turning it to the new position. Turn the metering screw to the left to increase the injection rate. Five turns provide the maximums shown in Table 1. These figures are with 8 feet of suction tubing, a lift of 4 feet from the fluid container to the injector, and for a maximum water temperature of 140°F. Injectors will operate at reduced injection rates up to 200°F or a lift up to 25 feet. If the chemical is viscous (above 75 cps) the maximum injection rates of injectors up to Model 204C can be as much as doubled by using ⅜" ID tubing. (Dema part 100-12L.) Use a 1" piece of regular tubing over the inlet barb as a bushing.
   Optional "T" type metering knob (see parts list on back page). Screw pre-selected metering tip (fixed orifice) into inlet barb before attaching plastic tubing.

4. **APPLICATIONS**
   SPRAYING SYSTEM AT LINE PRESSURE FIGURES 3 AND 4.
   Select the nozzle bushing to match your total spray nozzle flow and pressure as shown in Table 1 on page two. Spray nozzle catalog flow ratings are the most convenient method of determining water flow. Once an injector has been matched to a spray nozzle system, it will continue to function regardless of fluctuations in line pressure, as the water flow will also fluctuate in proportion. Therefore, if your line pressure is unknown, it is permissible to use spray nozzle ratings at any pressure for the purpose of selecting an injector. Flow ratings at 40 psi are the basis of the spray nozzle numbering system and are therefore most frequently used. If there are lengthy piping, hose, or other restrictions between the injector and nozzles, these pressure losses must be added to the rated pressure before entering Table 1 (see Table 12).

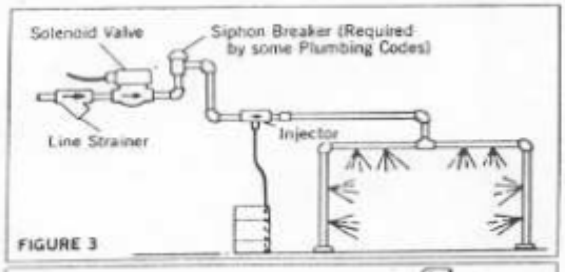


FIGURE 3

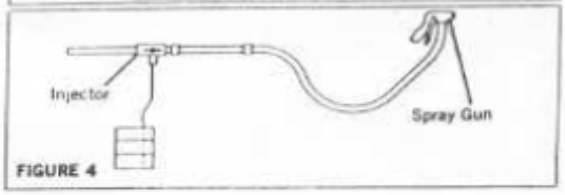
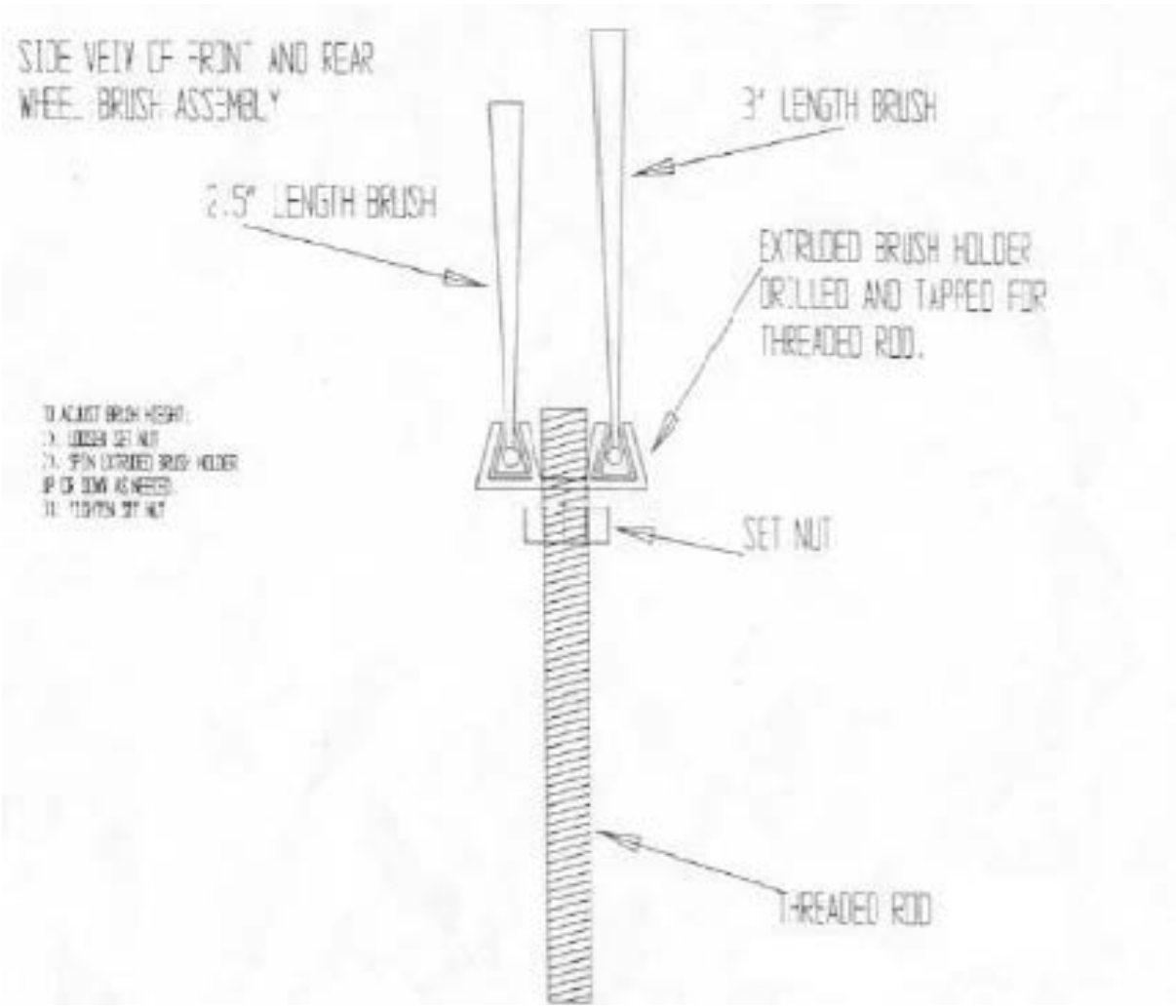


FIGURE 4

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

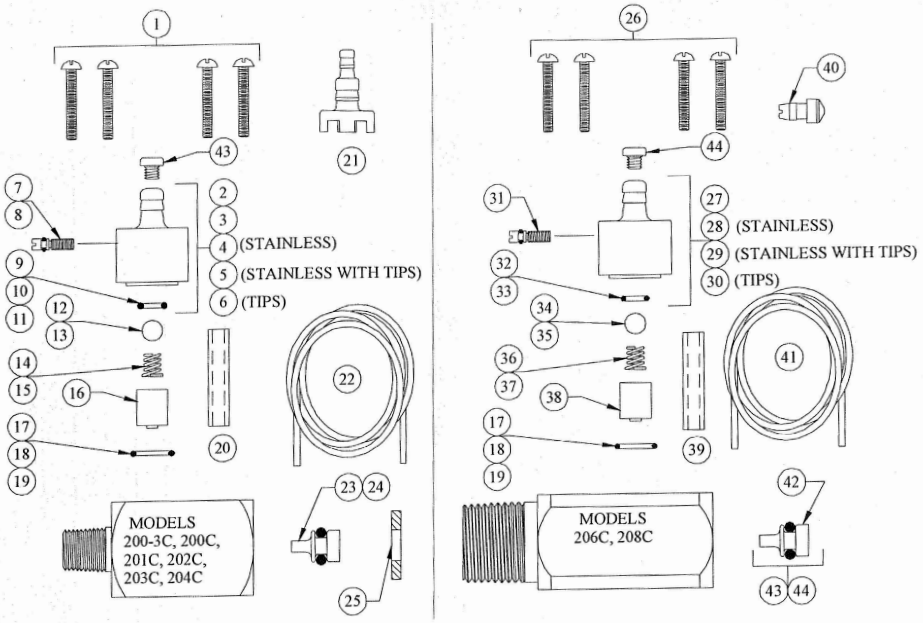
TECHNICAL DATA
WHEEL BRUSH ADJUSTMENT



TECHNICAL DATA
SINGLE-STAGE INJECTOR MODELS:
200-3C, 200C, 201C, 202C, 203C, 204C, 206C, 208C

Aqua Phase™

Medical Equipment Washing & Decontamination Systems



NO.	PART NO.	DESCRIPTION
1	24-33	Screw #8-32 x 7/8" Lg. (4-Reqd.)
2	24-32	Metering Knob Assy.
3	24-32PS	Metering Knob Assy. (-P Injectors)
4	24-32S	Metering Knob Assy. (Stainless)
5	24-32ST	Metering Knob Assy. (Stainless w/Tips)
6	24-32T	Metering Knob Assy. (Tips)
7	100-24	Metering Screw
8	100-24PS	Metering Screw (-P Injectors)
9	24-25	Check Valve O-Ring (EP)
10	24-25S	Check Valve O-Ring (Silicone)
11	24-25V	Check Valve O-Ring (Viton)
12	24-24P	Check Valve Ball (Teflon)
13	24-24S	Check Valve Ball (Stainless)
14	24-23	Check Valve Spring (Stainless)
15	24-23-2	Check Valve Spring (Hastelloy)
16	24-34-	Check Valve Core (Specify Model No.)
17	25-29	Metering Knob O-Ring (EP)
18	25-29S	Metering Knob O-Ring (Silicone)
19	25-29V	Metering Knob O-Ring (Viton)
20	61-107-2	Ceramic Weight for ¼" ID Tubing for 200-3C Thru 204C
21	24-11MP	Foot Strainer
22	100-12	Vinyl Tubing (3/8" OD x 8' Lg.)
23	24-8-	Water Nozzle & O-Ring Assy. (Brass) Add Num. Stamped on Nozzle
24	24-8S-	Water Nozzle & O-Ring Assy. (Stainless) Add Num. Stamped on Nozzle

NO.	PART NO.	DESCRIPTION
25	24-31	Back-Up Washer (Specify Model No.
26	23-7	Screw (1" Lg.) (4 Reqd.)
27	23-32	Metering Knob Assy.
28	23-32S	Metering Knob Assy. (Stainless)
29	23-32ST	Metering Knob Assy. (Stainless w/Tips)
30	23-32T	Metering Knob Assy. (Tips)
31	23-24	Metering Screw
32	23-11	Check Valve O-Ring (EP)
33	23-11V	Check Valve O-Ring (Viton)
34	23-10	Check Valve Ball (Stainless)
35	23-10P	Check Valve Ball (Teflon)
36	23-9	Check Valve Spring (Stainless)
37	23-9-2	Check Valve Spring (Hastelloy)
38	23-34-	Check Valve Core (Specify Model No.)
39	61-107	Ceramic Weight for 3/8" ID Tubing for 206C Thru 208C
40	24-11L	Foot Strainer
41	100-12L	Vinyl Tubing (1/2" OD x 8' Lg.)
42	23-8-	Water Nozzle & O-Ring Assy. (Brass) Add Num. Stamped on Nozzle

ACCESSORIES

NO.	PART NO.	DESCRIPTION
43	100-15-	Metering Tip (Specify Color)
	100-15K	Metering Tip Kit
44	61-9	Metering Tip (Specify Color)
	61-9K	Metering Tip Kit

PUMP IMPELLER INSPECTION PROCEDURES

Medical Equipment Washing & Decontamination Systems

WARNING

Unplug the machine from the power supply before performing any service procedures.

It is recommended that you contact the factory at 800-208-9274 before attempting to clear debris from the pump impeller. Removing debris from the pump impeller requires disassembly of the pump.

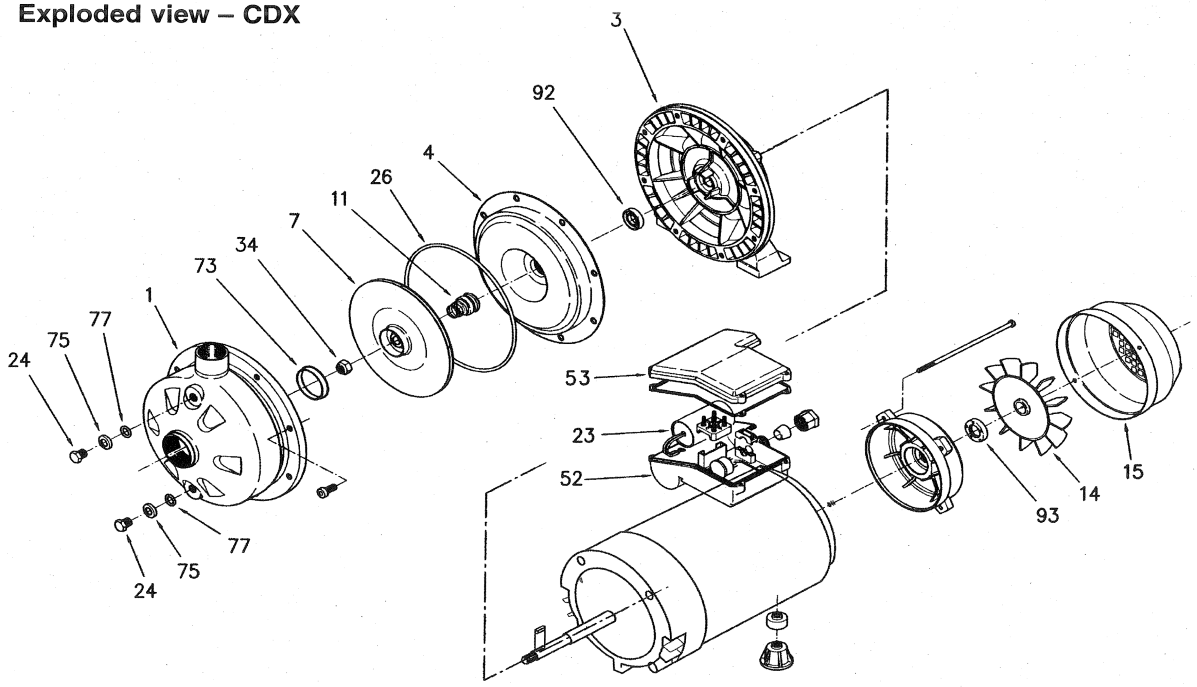
1. Unplug the Aqua Phase from the power supply.
2. Disconnect the electrical wires at the pump.
3. Disconnect the hose going to the inlet of the pump.
4. Disconnect the hose or piping from the pump outlet.
5. Remove the pump mounting bolts from the underside of the machine.
6. The pump is composed of two components: the pump head and the pump motor.
    - You do **not** need to remove the pump head from the pump motor.
    - You do need to take the pump head apart.
7. Remove the bolts holding the pump head together.
8. You may need to tap (hit) the pump head assembly to free the two halves.
9. Inspect the pump impeller.
    - Check the impeller housing and the inlet elbow for any obstructions.
    - Remove debris if necessary.
10. Inspect the pump seal/gasket.
    - Replace if damaged.
    - If your pump has an "O-Ring" seal, you may order a replacement from the factory.
11. Reassemble and reinstall the pump.

MAIN SYSTEM PUMP

Model CDU, CDX, 2CDU, 2CDX **EBARA End Suction Centrifugal / Two-stage Centrifugal**

Instructions and Operation

Exploded view – CDX



Location No.	Part Name	Material	No. for 1 Unit
001	Casing	304 Stainless	1
003	Motor bracket	Cast Aluminum	1
004	Casing cover	304 Stainless	1
007	Impeller	304 Stainless	1
011	Mechanical seal	Carbon/Ceramic	1
014	Fan	Polypropolene	1
015	Fan Cover	Steel	1
023	Capacitor	Single Phase only	1
024	Priming/Drain plug	303 Stainless	2
026	O-Ring	NBR	1
032	Key	304 Stainless	1
034	Impeller nut	304 Stainless	1
052	Terminal box	Plastic	1
053	Terminal cover	Plastic	1
073	Casing ring	NBR	1
075	Washer	304 Stainless	2
077	O-ring	NBR	2
092	Lip seal	–	1
093	Lip seal	–	1

Aqua Phase, A Division Mid-State Stainless Inc. ● 330 W. Benson Ave. ● PO Box 228 ● Grantsburg, WI 54840 ● USA
800-208-9274 ● 715-463-5851 ● FAX: 715-463-5853 ● Email: aquaphase@medwashers.com ● WEB: www.aqua-phase.com

TROUBLESHOOTING GUIDE

Medical Equipment Washing & Decontamination Systems

Note: This Guide may help you isolate a problem and, as a result, eliminate the need to contact technical support, allowing continued productivity.

Prior to attempting any suggested servicing procedures, **unplug Aqua Phase from the power source.**

Table of Contents

For additional information, contact ***Aqua Phase***.

AQUA PHASE WILL NOT START

Medical Equipment Washing & Decontamination Systems

Possible Causes/Solutions:

1. **NO MESSAGE ON LCD DISPLAY SCREEN.**
   - Aqua Phase not plugged in
   - GFCI not reset in power cord
   - Circuit breaker tripped
   - Blown fuse in Aqua Phase Control Panel Assembly

2. **GFCI WILL NOT RESET.**
   - Circuit breaker tripped.
   - Power outage to the area of the building.
   - Defective GFCI
   - Short in Aqua Phase system and GFCI doing its job.

3. **1 & 2 ARE OK**
   Then check:
   - Front door open
   - Front door out of adjustment/not contacting Front Door Safety Switch
   - Blown fuse in Control Panel Assembly
   - Defective Front Door Safety Switch
   - Defective Start Button

Medical Equipment Washing & Decontamination Systems

AQUA PHASE WILL NOT FILL WITH WATER

Possible Causes/Solutions:

1. **NO POWER TO THE AQUA PHASE**
   - Connect Aqua Phase to a standard 20 AMP electrical
   - Press the reset button located on GFCI on the Aqua Phase power cord

2. **WATER SUPPLY IN NOT TURNED ON**
   - Be certain the fill and drain connections are secure
   - Slowly turn on the water supply

3. **KINK IN THE WATER HOSE**
   - Inspect water supply hose to ensure there are no sharp bends in the hose

4. **FILL-LINE FILTER SCREEN/WASHER PLUGGED**
   - Turn off water supply. Disconnect Fill hose from "Fill" line connection at the Aqua Phase.
   - Inspect fill-line filter screen/washer. If plugged, contact Aqua Phase for a replacement. You may temporarily replace the fill-line filter screen/washer with a standard hose washer. However, long-term operation without this filter screen may damage the Fill valve.

5. **DEFECTIVE HIGH-LEVEL WATER CONTROL FLOAT SWITCH**
   - Unplug the Aqua Phase from the power supply
   - Call Aqua Phase factory for assistance

6. **WATER SUPPLY PRESSURE IS TOO LOW**
   - Turn-off water supply
   - Disconnect water supply hose from Aqua Phase
   - Determine if the water supply is adequate. Position end of hose in large bucket over drain and turn-on your water supply. If water fills a one-gallon pail in 20 seconds, the water supply is adequate. Reconnect hose to Aqua Phase and turn-on water supply.

7. **FILL VALVE SOLENOID IS DAMAGED OR HAS DEBRIS IN IT**
   - See "Valve Inspection Procedures" in the this Aqua Phase Operating Manual
   - Remove Fill hose from "Fill" line connection at the Aqua Phase. Check that the filter scree/washer is in in place, intact, and not plugged.
   - If problem persists, call the Aqua Phase factory

Medical Equipment Washing & Decontamination Systems

AQUA PHASE WILL NOT STOP DRAINING/ DRAINING TAKES TOO LONG.

Possible Causes/Solutions:

1. **PRIMARY FILTER SCREEN DIRTY**
   - Clean Primary Filter Screen (located in the Water Reservoir inside the Wash Chamber).

2. **SECONDARY FILTER SCREEN DIRTY**
   - Clean Secondary Filter Screen (located in the Water Reservoir under the Primary Filter Screen inside the Wash Chamber).

3. **KINK IN WATER DRAIN HOSE**
   - Inspect water Drain Hose to ensure no shard bends in hose.

4. **DIRT, DEBRIS, OR HARD WATER DEPOSITS ON LOW-LEVEL FLOAT SWITCH**
   - Unplug the Aqua Phase from the power supply.
   - Locate the Low-Level Float Switch in the Water Reservoir, inside the Wash Chamber.

   ***Inspect Float Switch to ensure that it is clear of debris and moves freely.*

5. **DAMAGED OR DEFECTIVE LOW-LEVEL FLOAT SWITCH**
   - Unplug the Aqua Phase from the power supply.
   - Inspect the Low-Level Float Switch for damage, such as a cracked fitting or binding.
   - Replace if damaged—you may order replacement parts by calling your dealer or the factory.

6. **DRAIN PUMP FUSE BLOWN.**
   - Test fuse in Control Panel Assembly.

7. **FAULTY DRAIN PUMP**

Medical Equipment Washing & Decontamination Systems

AQUA PHASE WILL NOT STOP FILLING/ERROR MESSAGE: *Fill Time Expired.*

Immediately:

- **Press the "STOP" button.**
- **Shut off the water supply.**

Possible Causes/Solutions:

1. **DOOR NOT PROPERLY CLOSED.**
2. **FRONT DOOR GASKET DAMAGED OR WORN.**
   - Inspect Front Door Gasket for wear or damage.
   - Replace if necessary—you may order replacement parts my calling your dealer or the factory.
3. **EXCESS BUILD-UP OF HARD WATER DEPOSITS ON HIGH-LEVEL FLOAT SWITCH**
   - Unplug the Aqua Phase from the power supply.
   - Locate the High-Level Float Switch in the Water Reservoir, inside the Wash Chamber.

   ***Inspect High-Level Float Switch to ensure that it is free of debris and moves freely.*
4. **DAMAGED OR DEFECTIVE HIGH-LEVEL FLOAT SWITCH**
   - Unplug the Aqua Phase from the power supply.
   - Inspect the High-Level Float Switch for damage, such as a cracked fitting or binding.
   - Replace if damaged—*you may order replacement parts by calling your dealer or the factory.*
   - Drain Hose end is submerged in water. (Water is syphoning back into the Aqua Phase).
5. **FILL VALVE HAS DEBRIS STUCK IN IT.**
   - See "Valve Inspection Procedure".
   - Remove the Fill Hose from the fill line connection at the Aqua Phase. Check that the filter screen/washer is in place and intact.
   - If problem remains, call the factory for assistance.

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

ITEMS WASHED HAVE WATER SPOTS OR CLOUDY FILM

Possible Causes/Solutions:

1. WATER TEMPERATURE BELOW 105°F:

- Check the temperature of the water reaching the Aqua Phase.
- Drain the Aqua Phase.
- Press the **"START"** button. Allow the Aqua Phase to fill.
- As soon as Aqua Phase begins to pump, press the **"STOP"** button.
- Open the front door, place a thermometer in the Water Reservoir to check the water temperature. Water temperature should be between 105°-130°.
- AQ-260 Rinse-Aid Solution requires a water temperature at or above 105°

2. THE WATER SUPPLY TO THE AQUA PHASE IS "HARD" WATER.

- The AQ-240 Cleaning Solution, in conjunction with the spray nozzles are in effect cleaning the water and taking the hard water particles out of suspension.
- A Water Fill Assembly (5-10 Micron Cartridge) from Aqua Phase factory, installed at the Fill Line may correct this depending on the water contaminants.
- It may be correctable, pending the pH of the water, and the totally dissolved solids of the water to alter the injection rate of the AQ-240 Cleaning Solution to reduce the amount of solids being taken out of suspension.

3. RINSE-AID SOLUTION CONTAINER EMPTY

- Check the level of rinse-aid solution, refill if necessary. The chemical solutions are located inside the Mechanical Cabinet at the rear of the Aqua Phase.

4. RINSE CHEMICAL INJECTOR HOSE OR FITTINGS ARE WORN.

- Inspect chemical hoses for cracks and inspect chemical hose fittings for cracks or if loose.
- Replace if damaged—you may order replacement parts by calling your dealer or Aqua Phase.

NOTES:

- The solution injection rates are preset at the factory for the worst possible water condition expected to be found.
- If spotting or clouding is present only on the first item washed, it is possible that you will need to run a "warm-up cycle" with Aqua Phase. Run a "3-minute" wash cycle with the Wash Chamber empty to allow the Wash Chamber to be warmed-up prior to commencing normal washing operations.
- If problem persists, call the factory for assistance.

Medical Equipment Washing & Decontamination Systems

ITEMS NOT CLEANED PROPERLY

Possible Causes/Solutions:

1. **ARE YOU USING AQUA PHASE DETERGENT & RINSE SOLUTIONS?**
    - Aqua Phase chemicals are specifically designed for use in the Aqua Phase systems. They are formulated to clean equipment virtually spot-free and speed drying time. *You may order cleaning chemicals by calling your dealer or the factory.*
2. **DETERGENT SOLUTION CONTAINER IS EMPTY.**
    - Check the level of detergent and refill if necessary. *The chemical solutions are located inside the Chemical Cabinet.*
3. **FILTER SCREEN(S) NOT CLEAN.**
    - Clean Primary Filter Screen (Primary Filter Screen is located in the bottom of the Water Reservoir located inside the Wash Chamber).
4. **SPRAY NOZZLES CLOGGED**
    - Virtually inspect spray nozzles for debris.
    - For spray nozzles that are clogged, note the position of the spray nozzle's relative spray angles.
5. **CHEMICAL PUMP HOSES ARE WORN.**
6. **LONGER WASH CYCLE REQUIRED.**
    - Set the wash cycle time to **"7 MINUTES"** or to the longest time cycle available.
    - Press the "Start" button, and allow Aqua Phase to run a complete cycle.
7. **WATER TEMPERATURE TOO LOW.**
    - Check the temperature of the water reaching the Aqua Phase.
    - Drain the Aqua Phase.
    - Press the **"START"** button. Allow the Aqua Phase to fill.
    - As soon as Aqua Phase begins to pump, press the **"STOP"** button.
    - Open the front door, place a thermometer in the water reservoir to check the water temperature. The recommended water temperature is 115-140°. (105° is functional).

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

"GROWLING" NOISE (pump cavitation) THE VOLUME OF SPRAY IS LOW

Possible Causes/Solutions:

The "growling" noise is caused by air getting into the pump impeller. Growling noise is normally heard at the end of the drain cycle. If you hear it continually, you have may one of the following problems.

1. **MACHINE NOT IN LEVEL OPERATING POSITION**
   - Ensure that the Aqua Phase unit is level
2. **PRIMARY OR SECONDARY FILTER SCREEN(S) NOT CLEAN**
   - Clean Filter Screen(s) located in the bottom of the wash reservoir inside the Wash Chamber
3. **HIGH-LEVEL FLOAT SWITCH COVERED WITH DEBRIS**
   - Unplug the Aqua Phase from the power supply
   - Locate the High-level float switch in the Water Reservoir inside the Wash Chamber.
   - Inspect for debris covering the probe
   - Remove debris, if present
4. **PUMP IMPELLER CLOGGED WITH DEBRIS**
   - See "Pump Impeller Inspection Procedures" in this Aqua Phase Operating Manual. It is recommended that you contact the factory before you attempt to clear debris from the pump impeller.
5. **CHEMICAL INJECTOR HOSE OR FITINGS ARE CRACKED OR LOOSE**
   - Inspect Chemical Hoses and fittings for cracks and if loose.
   - Replace if damaged. You may order replacement parts by calling your dealer or the factory
6. **CHEMICAL PUMP HOSE CRACKED**
   - Inspect hoses located inside the chemical pumps for cracks.
   - Replace if damaged. *You may order replacement parts by calling your dealer or the factory*
7. **FOAM IN WATER RESERVOIR AREA**
   - Caused by something on the item washed or by the use of a foaming detergent or rinse-aid. Foam may affect certain sensors that control the filling and draining of water.
     - Press the "**Stop"** button and wait a few minutes until the foam dissipates.
     - Remove the hose from all cleaning supply bottles in the Aqua Phase Chemical Cabinet.
     - Press **"Start"** Button and allow the Aqua Phase to do a complete cycle.
     - Repeat these steps until Aqua Phase starts draining normally.

"LOW PRESSURE INDICATOR LIGHT/MESSAGE IS ALWAYS ON

Medical Equipment Washing & Decontamination Systems

Possible Causes/Solutions:

The "Low Pressure" indicator light is to inform you that your Aqua Phase may not be spraying an adequate amount of water to achieve proper cleaning.

1. **FILTER SCREEN(S) NOT CLEAN**
    - Clean filter screen(s)
    - Clean Primary Filter Screen (Primary Filter Screen is located in the bottom of the water reservoir, located inside of the Wash Chamber).
    - See also Making "Growling" Noise
2. **DEFECTIVE PRESSURE SENSOR.**
    - Replace—you may order replacement parts by calling your dealer or the factory.
3. **PUMP IMPELLER CLOGGED WITH DEBRIS**
    - See **"Pump Impeller Inspection Procedures"** located in the ***Servicing Procedures Guide*** section of this Aqua Phase Operating Manual. It is recommended that you contact the factory before servicing the pump impeller.

Aqua Phase™
Medical Equipment Washing & Decontamination Systems

USING TOO MUCH AQ-240 CLEANING SOLUTION OR AQ-260 RINSE AGENT

Possible Causes/Solutions:

1. **CHEMICAL PUMP HOSE WORN.**
   - Inspect hoses located inside the chemical pumps for cracks
   - Replace if damaged—you may order replacement parts by calling your dealer or the factory.

2. **CHEMICAL PUMP ROLLER ASSEMBLY IS WORN.**
   - Inspect chemical pump hose roller and determine if chemical pump hose is being fully pinched. If not, replace both the chemical hose and the roller assembly.