HYDR*IM* C61wd G4

INSTRUMENT WASHER-DISINFECTOR

- Service Manual

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For all service and repair inquiries:

In Canada	1-800-870-7777
United States:	1-800-572-1211
Germany:	+49 (0)7561 98343 - 0
International:	(416) 446-4500
Email:	techservice.ca@scican.com

Manufactured by:
SciCan
1440 Don Mills Road,
Toronto ON M3B 3P9
CANADA
Phone: (416) 445-1600
Fax: (416) 445-2727
Toll free: 1-800-667-7733

CE
0123

EU Representative
SciCan GmbH
Wangener Strasse 78
88299 Leutkirch GERMANY
Tel.: +49 (0)7561 98343 - 0
Fax: +49 (0)7561 98343 - 699

SciCan Inc.
701 Technology Drive
Canonsburg, PA 15317 USA
Phone: +1 724 820 1600
Fax: +1 724 820 1479
Toll free: 1-800-572-1211

SciCan Medtech
Alpenstrasse 14
CH-6300 ZUG SWITZERLAND
Phone: +41 (0) 41 727 7027
Fax: +41 (0) 41 727 7029

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1 Introduction

1.1 Cycle description chart

HYDR*IM* C61wd G4 instrument washer/disinfector

Cycle	Prewash	Wash	Rinse	Dry
P0 – Machine Cleaning Cycle No initial draining.	<30°C (cold) 2-10 minutes (default 2 minutes)	N/A	<30°C (cold) 2 minutes	N/A
P1 – Rinse and Hold Cycle **(no disinfection)** - Use to prevent soil from drying on instruments when they will not be washed within one hour. Please note that this cycle does not provide disinfection as it is only intended as a pre-wash for instruments.	<30°C (cold) 2-10 minutes (default 2 minutes)	N/A	30°C 1 minute	N/A
P2 - Regular Cycle* **(no disinfection)** - Use for moderately soiled loose instruments. Please note that this cycle DOES NOT provide disinfection which may not be acceptable in certain regions and we advise that you consult your local regulatory authority before activating.	<30°C (cold) 2 minutes	50°C 5 minutes	60°C 1 minutes	1-25 minutes (default 10 minutes)
P3 – Heavy Duty Cycle with disinfection Use for heavily soiled instruments and cassettes.	<30°C (cold) 2-10 minutes (default 2 minutes)	50°C 9-15 minutes	90-95 °C 5 minutes	1-25 minutes (default 8 minutes)
P4 - custom* (A_o between A_o= 3,500 (rinse) and A_o = 6,000	<30°C (cold) 2 minutes	50°C 5-9 minutes	90-95 °C 1-5 minutes	1-25 minutes (default 8 minutes)
P5 – Special Cycle 93°C 10 minutes. Technician access only. This cycle has a different profile, there is no draining of until after disinfection; disinfection is performed during wash.	N/A	90-95°C 10 minutes	70°C 5 minutes	1-25 minutes (default 8 minutes)

* to be activated by a technician

The P3, P4 and P5 disinfection temperature reflects the minimum guaranteed temperature at any time during disinfection anywhere in the wash chamber. However, the disinfection temperature is set to be around 93°C, with an upper switch point of the heater at 94°C and a lower switch point of 92°C.

The disinfection time of P4 can be increased by 1 minute incremental intervals from 1 to 5 minutes. The minimum disinfection time is 1 minute with a minimum A0 value of 3500. The minimum A0 value for disinfection time of 5 minutes is 6000. The final rinse time has to be set and validated by a technician after installation in the office.

Note: ISO 15883-1 describes the time-temperature relationships for moist heat disinfection as follows:

"For a moist heat disinfection process, a particular time at a particular temperature can be expected to have a predictable lethal effect against a standardized population of organisms. Definition of moist heat disinfection process may be achieved by means of the A_0 method, which uses knowledge of the lethality of the particular process at different temperatures to assess the overall lethality of the cycle and express this as the equivalent exposure time to a specified temperature."

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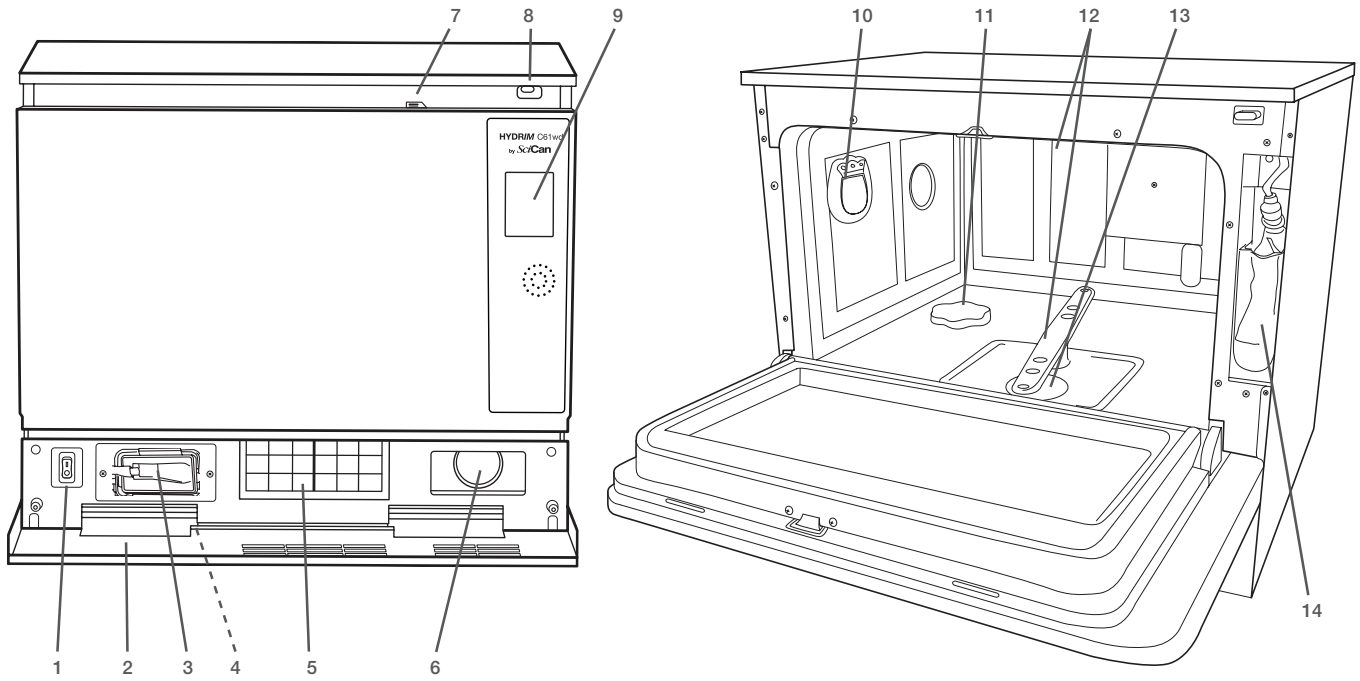
1 Introduction

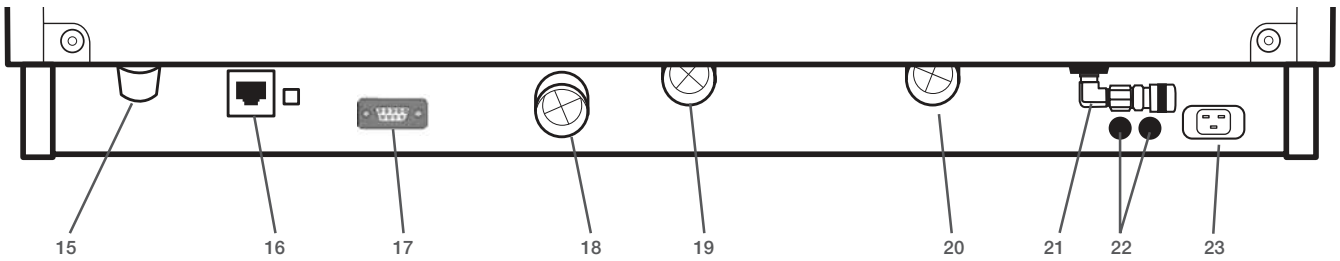
1.2 HYDRIM Unit at a glance

Figure 1



Rear Connections

Figure 2



1. Power switch
2. Kickplate
3. Bacteriological air filter (if fitted)
4. Drain Tube (behind kickplate)
5. HEPA filter
6. Dryer exhaust
7. Door latch
8. USB port
9. LCD touchscreen
10. Dryer outlet
11. Water softener
12. Wash arms (top not shown)
13. Coarse filter
14. Cleaning solution and drawer
15. Drain outlet
16. Ethernet port
17. RS232 port
18. Cold water inlet
19. Hot water inlet
20. R/O water inlet
21. Air line outlet (LCS model only)
22. Fuses
23. Power cable connection

The following symbols appear in the margins of this book.

A potential hazard to the operator.

A situation that may lead to a mechanical failure.

Important information

The following symbols appear on the unit:

Caution: Hot Surface and/or Hot Steam

Caution: Risk of electrical shock. Disconnect supply before servicing.

Caution: Refer to manual for details.

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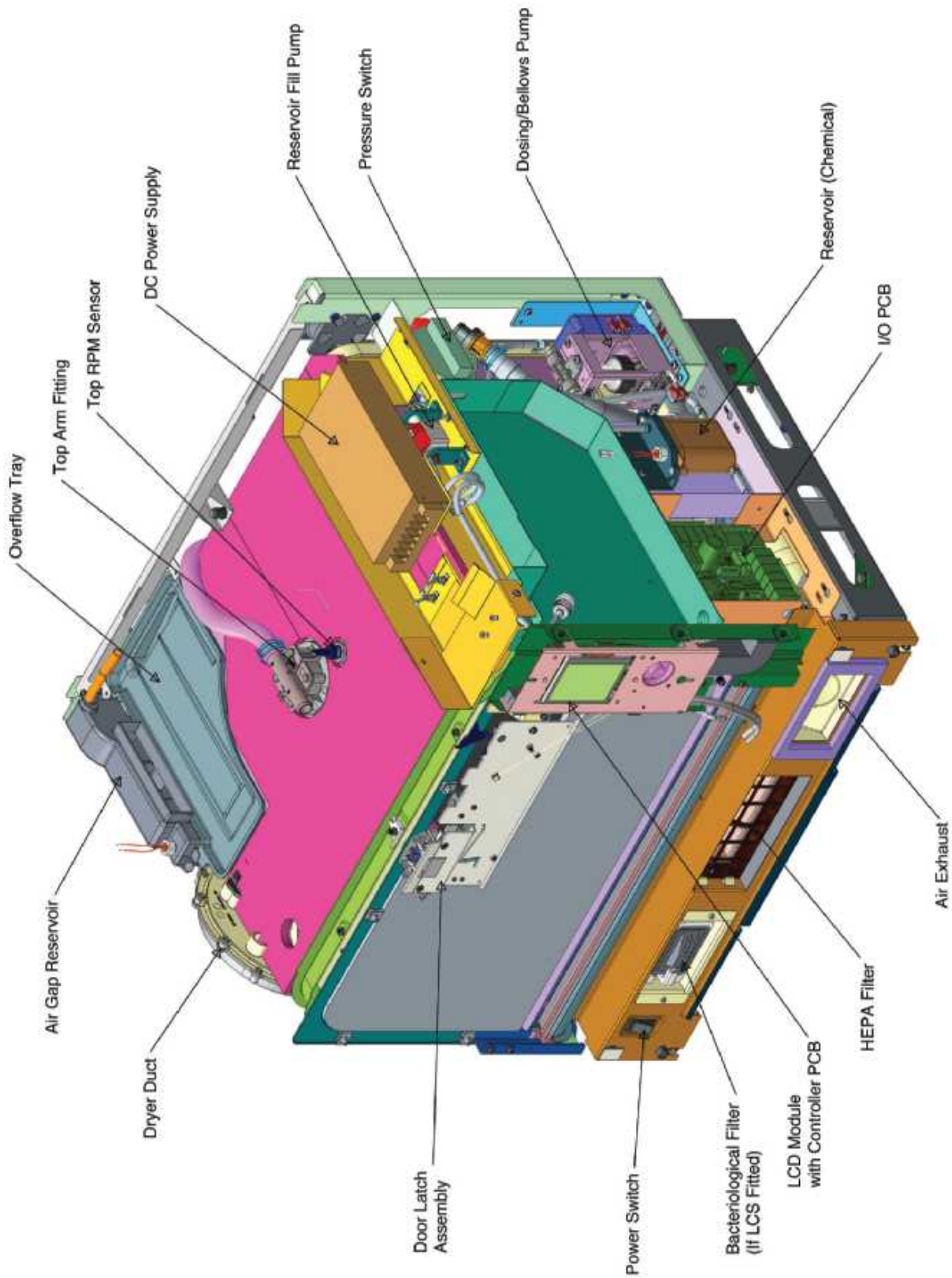
With cover and panels removed

- **Top View (from front right)**

Figure 3



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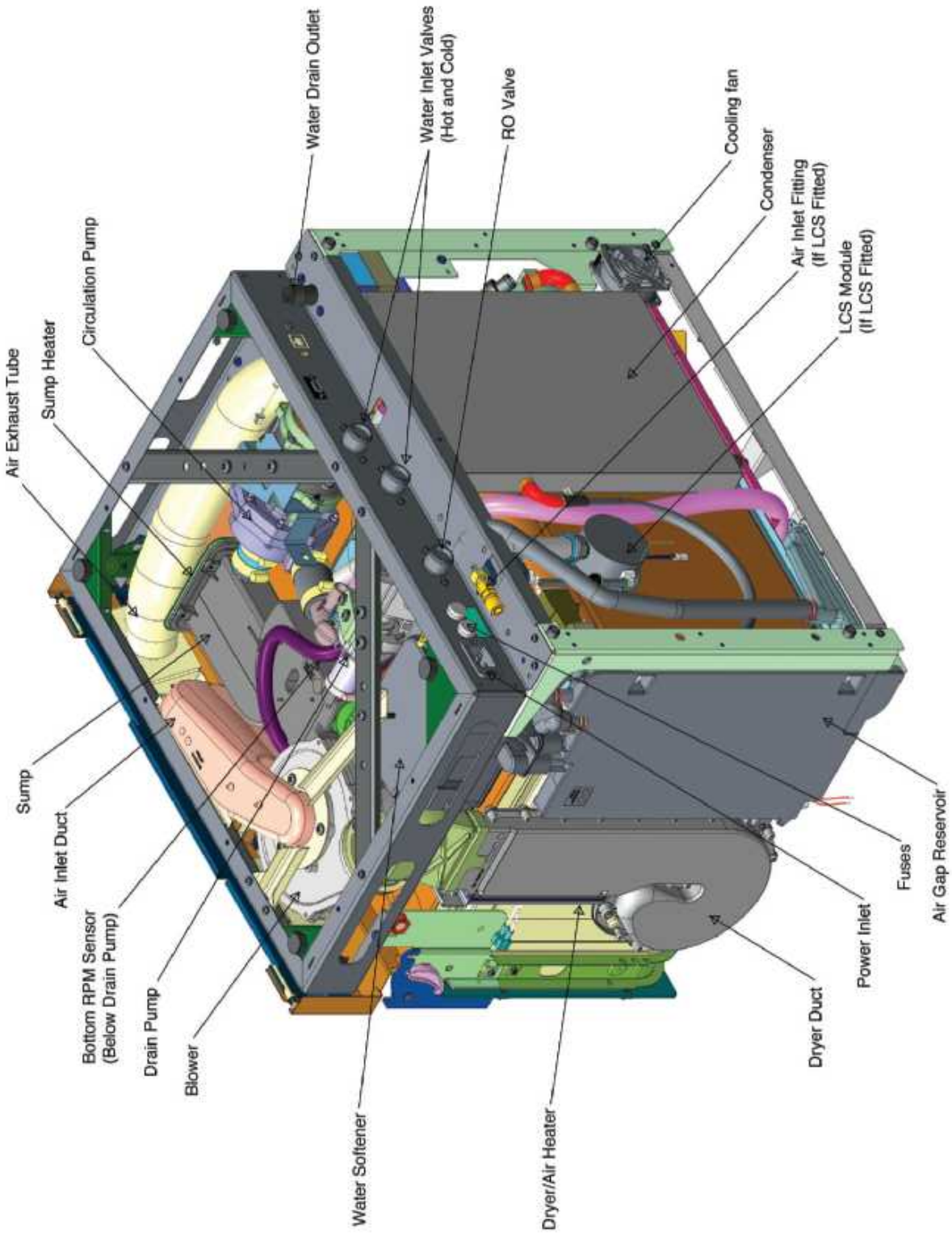
1 Introduction

- **Bottom View (from back left)**

Figure 4



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1 Introduction

1.3 Specifications

Electrical supply **Refer to model number for specific requirements**							
HYDR*IM* C61wd G4 (including LCS models)	Model Number Ending	Current (See Note 1)	Voltage	Frequency	Maximum power supply location for installation site	Rated Load	✔/✗
	-D01	12A	208-240V	60 Hz	1.50 m / 5 ft	2.7kW	
	-D06	12A	200-230V	60 Hz	1.50 m / 5 ft	2.7kW	
	-D11	12A	200-230V	60 Hz	1.50 m / 5 ft	2.7kW	
	-D02	12A	200-230V	50 Hz	1.50 m / 5 ft	2.7kW	
	-D04	12A	200-230V	50 Hz	1.50 m / 5 ft	2.7kW	
	-D05	12A	200-230V	50 Hz	1.50 m / 5 ft	2.7kW	
	-D12	12A	200-230V	50 Hz	1.50 m / 5 ft	2.7kW	
	-D13	12A	200-230V	50 Hz	1.50 m / 5 ft	2.7kW	

NOTE 1: The HYDR*IM* G4 is supplied with a domestic fused plug as standard.
A dedicated hard wired supply can also be used.

NOTE 2: Due to the power requirements of the HYDR*IM*, (see rated load) especially during drying, it is advised that no other equipment is connected to the same supply outlet.

NOTE 3: Power supply outlet should be adjacent to the machine and NOT behind it.
The cable shoud be routed away from the back panel and hot water inlet hose.

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Technical Specification Summary C61wd G4	
Applicable Standards	ISO 15883-1/2
Height	520 mm
Width	598 mm
Depth (Door closed)	526 mm
Depth (Door open)	829 mm
Weight	44 kg
Floor loading per support when full	152 N
Required clearance on top and sides	>10 mm
Running Noise	65 dB(A)
Inlet water connections	G 3/4"
Inlet water pressure	1-10 bar
Maximum incoming water temperature	70°C / 158°F
Drain	3/4"
Maximum water flow to drain	47 L/min
Maximum water discharge temperature to drain	95ºC
Maximum water hardness	30.3ºdH, 31.6 US GPG, 540 PPM
Maximum water conductivity	844 µS/cm
pH range	>6.8 and <8.5
Water volume per process stage	3.8 L ± 0.5
Total water consumption per cycle with drying	P1 & P2: 11.4 L ± 1.5 L P3: 30.3 L ± 2.5 L
Maximum heat transmitted through fascia	1200 W
Voltage*	208 - 240 VAC, OR 200 - 230 VAC ± 10%
Frequency*	50 Hz or 60 Hz
Rated load	2.7 kW
Current	12A
Operating temperature range	5ºC - 40ºC
Maximum relative humidity	80% for temp up to 31ºC 50% for temp up to 40ºC
Maximum operating altitude	2000 m
Equipment polution degree	2
Maximum deviation from plane horizontal surface	2 mm
Suitable porcess chemicals for each stage	HIP Ultra
Total amount of process chemical	43.5 ml
Material Safety Data Sheet	Refer to www.scican.com
Cycle recording options	USB, G4 web portal, external printer
Air supply pressure	1-10 bar (For LCS units only: 15-145 psi)
***Refer to Electrical Supply table**	

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1.4 Safety information

The following symbols appear in the margins of this book.

A potential hazard to the operator.

A situation that may lead to a mechanical failure.

Important information

The following symbols appear on the unit:

Caution: Hot Surface and/or Hot Steam

Caution: Risk of electrical shock. Disconnect supply before servicing.

Caution: Refer to manual for details.

Safe operation

The following apply to both operators and service technicians:

- Exercise caution and seek assistance when lifting or carrying the unit.
- Cleaning solutions may irritate. Avoid contact with eyes, skin and mouth.
- Never lean on the open door. The unit may tip forward causing injury.
- Always turn the unit OFF before adding softener salt or solutions. Before performing routine maintenance or servicing the unit, turn the unit OFF and unplug the power cord from the power source.
- The operator should never remove the cover of the unit or insert objects through holes or openings in the cabinetry. Doing so may damage the unit and/or pose a hazard to the operator.
- If the unit is used in a manner other than that specified, the protection provided by the equipment may be impaired.

Safe servicing

- The HYDR*IM* C61wd G4 Instrument Washer-Disinfector should only be installed and serviced by a qualified contractor as it is an Installation Category 2 device. The contractor should be experienced in installing equipment that requires electrical hook-up as well as plumbing.
- SciCan shall not be liable for incidental, special or consequential damages caused by any maintenance or services performed on the HYDR*IM* C61wd G4 by a third party or for the use of equipment or parts manufactured by a third party, including lost profits, any commercial loss, economic loss, or loss arising from personal injury.
- All local, regional, state, and national regulations regarding the servicing of this class of device and safety requirements must be observed.

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When the cover and panels are removed:

- Hazardous voltages are accessible. Disconnect the power cord before removing the cover or any panels.
- Sharp metal edges are exposed. Be careful, and wear long sleeves and gloves.

Power main

- If the cover or panels are removed, a dielectric strength test (hi-pot) must be performed on the unit once the cover or panels are reinstalled.

Ground

- If the cover or panels are removed, a protective bonding impedance test (ground continuity) must be performed on the unit once the cover or panels are reinstalled.

Reporting

- It is vital for SciCan to learn of any problem in the field. This information will help SciCan solve the problem quickly and improve product reliability in new units.

Biological waste

- Waste water in the unit may contain biological contaminants; use a mechanical means to siphon the contents. Wear disposable rubber gloves. Dispose of absorbent material according to biological waste disposal regulations.

1.5 Tools and hardware

Tools required for servicing include:

- Needle-nose pliers
- Wrench
- Nut driver
- Hose clamp pliers
- Screwdriver Philips
- Wire stripper
- Screwdriver slot
- Spring clamp pliers
- Silicone applicator with silicone
- Service door (to view chamber during cycle) – part # 01-1144025

Electrical Safety test equipment:

- Hi-Pot tester
- Ground continuity tester
- Static strap
- Static bags

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The unit contains the following types of hardware:

- Phillips pan head self-tapping metal screws
- Phillips pan head stainless steel machine screws
- Spring clamps
- Band / Gear clamps
- Cable ties

1.6 Shipping instructions

The unit should be serviced on site. If it is necessary to send the unit back to the dealer, follow these instructions:

- Disconnect and remove the cleaning solution container and then drain the dosing reservoir.
- Run the ‘Prepare for Shipping’ cycle in the setup menu to remove most of the water from the system before shipping the unit.
- Use the tube clipped under the front of the unit to drain any residual water from the air gap.
- If there is standing water in the chamber, siphon or ladle as much water as possible and use an absorbent cloth to remove the rest.
- Screw in the leveling legs.
- Specify upright, heated, and insured shipping.
- Ensure unit is returned on a pallet with at least two banding straps securing the box to the pallet. If original packaging is unavailable packaging can be ordered with part # 01-113317S.
- Shipping outside of these conditions can affect warranty.

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1.7 Installation

IMPORTANT INFORMATION

- To open the wash chamber door if the door is locked and the unit is not functional, release the lever located on the top edge of the door and pull the door open.
- Ensure that HIP™ Ultra cleaning solution (instrument wash chemical) is available. All other supplies are included with your unit.
- The HYDR*IM* C61wd G4 is heavy (44 kg). Exercise caution when moving it.
- The HYDR*IM* C61wd G4 must be properly grounded.
- The HYDR*IM* C61wd G4 is equipped with an air gap / anti-suction device and a type EA check valve to prevent backflow of dirty water into the water supply. No other air gap device is necessary.

Detailed installation instructions are available in a separate document. Installation should only be undertaken by a manufacturer approved technician. The use of an unapproved installer may invalidate the warranty. A separate pre-installation checklist should have been supplied to the user by the dealer. Please review this prior to approving installation.

If the HYDR*IM* C61wd G4 is installed in a sterilization center, the manufacturer of the sterilization center should allow enough space at the top, back and both sides of the unit to facilitate installation, leveling, and service access to the unit.

During installation, all consumables should have been added to the machine as appropriate. It is important to check that this has been undertaken before starting the machine.

IMPORTANT PLUMBING INFORMATION

SciCan recommends the installation of shut-off valves on the hot and cold water lines connected to the HYDR*IM*. These valves should be closed when there is no staff in the office.

If a water shut-off valve cannot be installed, SciCan recommends leaving the HYDRIM powered ON at all times. This will allow the drain pump to activate if water leaks into the chamber as a result of any faulty circumstances.

Some regions and/or offices may experience pressure differential between the hot and cold water supply lines. If you suspect this could be a problem in your installation, you must install check valves on both the hot and cold water supplies to avoid the possibility of cross contamination. For your installation, use part number 01-114760S, which includes check valves, supply hoses and instructions.

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1.8 Setting the water softener

The HYDR*IM* C61wd G4 is equipped with a built-in water softening system that must be adjusted according to the local water hardness. To read local water hardness, proceed as follows:

1. The water test kit included with your HYDR*IM* contains three water hardness test strips in bags. Take a water sample from the location where the machine will be installed.
2. Open one of the bags, remove the test strip and dip it into the water.
3. Compare the color of the strip with the chart on the back of the bag Determine the water hardness according to the chart on the water test kit envelope.
4. Power the unit on and select the Settings key from the main menu.
5. Go to the Setup Menu, Cycle Settings, and select “Set Regeneration”.
6. Using the up and down arrows, set the water softener regeneration level according to the water hardness table in this section. If your water hardness falls between two settings, select the higher setting.
7. Unscrew the water softener container lid from the bottom left of the chamber and pour 0.5 litres of water into the water softener container.
8. Add 0.5 kg of water softening salt to the water softener container, using the supplied funnel to prevent any salt from spilling into the chamber, and close by screwing the lid **tightly** back into place. An improper seal can lead to corrosion.

Water hardness and salt regeneration levels

	°dH	US GPG	PPM	Regen.
Very Soft	1	1.0	18	1
	2	2.1	36	
	3	3.1	54	
	4	4.2	71	
Soft	5	5.2	89	
	5.6	5.8	100	2
	6	6.3	107	
	6.2	6.4	110	
	7	7.3	125	
	8	8.3	143	
Slightly Hard	8.4	8.8	150	3
	9	9.4	161	
	10	10.4	178	
	10.1	10.5	180	
	11	11.5	196	
	11.2	11.7	200	4
	11.8	12.3	210	
	12	12.5	214	
Moderately Hard	13	13.6	232	
	14	14.6	250	
	15	15.6	268	5
	16	16.7	286	
	16.8	17.5	300	6
	17	17.7	303	
	18	18.8	321	
Hard	19	19.8	339	
	19.6	20.5	350	
	20	20.9	357	
	20.2	21.0	360	
	21	21.9	375	7
	22	22.9	393	
	22.4	23.4	400	
	23	24.0	411	
	24	25.0	428	
	25	26.1	446	
	25.2	26.3	450	
	26	27.1	464	
	27	28.2	482	
	28	29.2	500	
	28.6	29.8	510	
	29	30.2	518	
	30	31.3	535	8
Very Hard	30.3	31.6	540	
Extremely Hard	>30.3	>31.6	>540	Additional Water treatment required

*Please note: The water test strip is only accurate up to 250 ppm. If the reading on the test strip exceeds 250 ppm and/or if the location in which the HYDR*IM* is installed has known water quality problems, having a more detailed and accurate water test done by a test lab is strongly recommended.

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IMPORTANT: The HYDR*IM*'s water softening system reduces the water hardness by taking out Calcium Carbonate. If the water testing results show that the water hardness is outside the unit's range of adjustment, or if other dissolved solids in the water cause stains or deposits on the instruments or chamber, an external water treatment system may be required.

1.9 Setting the language

The messages displayed by your HYDR*IM* can be presented in a number of different languages. To change the current language, follow these steps:

1. 
2. Scroll to **Language Selection** and select.
3. From the LANGUAGE screen, press  to scroll through the list of languages. When you have found the desired language, press  to save your selection and return to the Setup menu.

1.10 Setting the country

1. 
2. Scroll to **Country** and select.
3. Using the keypad, type the name of the country and press **EN** to select. Press  to save and return to the Setup menu.

1.11 Setting the time

1. 
2. Scroll to **Date / Time** and select Time Setup.
3. From the TIME screen, use the keypad to set the time. Press **EN** to save and  to return to the Setup menu.

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NOTE: If the HYDR*IM* is connected to a network, it is important to also enter the correct Time Zone. Enter the Time submenu, select Time Zone and scroll and select your local time zone.

4. To change your unit to display 12-hour time format (24-hour time format is the default setting), go to the Setup menu and use to scroll to TIME 12/24, select it and toggle to 12. Press to save and return to the Setup menu.
5. To activate daylight savings time (DST), go to the Setup menu and use to scroll to DST ON/OFF and select. Use to toggle DST ON or OFF and press the to save and return to the Setup menu.

1.12 Setting the date

1. 
2. Scroll to **Date / Time** and select Date Setup.
3. From the DATE screen, use the keypad to set the date. Press **EN** to save and to return to the Setup menu.
4. To change the format in which the date appears, return to the Setup menu and use to scroll to DATE FORMAT. Select it, and follow the prompts to have the date displayed in the desired format. Press to save and return to the Setup menu.

1.13 Assigning unit identifier number

1. 
2. Scroll to **Unit No** and select.
3. Using the keypad, select a maximum of 3 digits to be used as the unit's identifier number. Press **EN** to save and to return to the Setup menu.

1.14 Resetting the drying counter

The drying counter must be reset when the HEPA filter is changed. User will be prompted every 750 cycles to do preventative maintenance, which is triggered by the reminder to change the HEPA filter. To reset the drying counter, follow these steps:

1. 
2. Scroll to **Reset Drying Counter** and select.
3. Select Default 0 to reset. This will stop the reminder to the end user.

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1.15 Resetting the LCS counter

If the unit is fitted with a lumens cleaning system (LCS), the LCS counter must be reset when the LCS system is used and the biological filter is changed. To reset the LCS counter, follow these steps:

1. 
2. Scroll to **Reset LCS Counter** and select.
3. Select Default 0 to reset.

1.16 Adjusting the screensaver delay

To change the length of time before the screensaver is activated, follow these steps:

1. 
2. Scroll to **Screensaver** and select.
3. Use  to scroll through your time options. When you have found the amount of time you require, press it. Press  to save and return to the Setup menu.

1.17 Adjusting the temperature display

1. 
2. Scroll to **Temperature C/F** and select.
3. Use  to choose between having information displayed in degrees Celsius or Fahrenheit. Press  to save and return to the Setup menu.

1.18 Turning the button sound ON or OFF

The HYDR/*M* is preset to beep when a button is pressed. If you would like to turn the button sound off, follow these steps:

NOTE: Turning OFF the button sound does NOT turn off other alarms and cycle notification beeps.

1. 
2. Scroll to **Beep ON/OFF** and select.
3. Use  to scroll through your ON or OFF options and select it by pressing it. Press  to save and move back to the Setup menu.

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1.19 Adjusting the button beep volume

If you would like to adjust the beep volume, follow these steps:

1. 
2. Scroll to **Beep Volume** and select.
3. Use to scroll through the volume settings. Select the one you want by pressing it. Press to save and move back to the Setup menu.

1.20 Adjusting the salt regeneration

Salt regeneration should be set according to the local water hardness. See section 1.8 Setting the water softener for instructions on determining correct settings. To set salt regeneration, follow these steps:

1. 
2. Scroll to **Set Regeneration** and select.
3. Use to change the value. The default setting is 1. Press to save and return to the Setup menu.

1.21 Adjusting the screen contrast

The touchscreen is calibrated for the lighting condition of most sterilization centers. Should you need to adjust the contrast for your office, follow these steps:

1. 
2. Scroll to **LCD Contrast** and select.
3. Use to scroll through your contrast options. When you have found the contrast you require, press it. Press to save and return to the Setup menu.

1.22 Changing the touchscreen display themes

The touchscreen themes (i.e. icons and background colours) can be changed to one of the preset options. To change themes follow these steps:

1. 
2. Scroll to **Theme** and select.
3. In the **Change Theme** screen, use to scroll through your available options. As you scroll, each theme will display on the touchscreen. Press to select your theme and return to the Setup menu.

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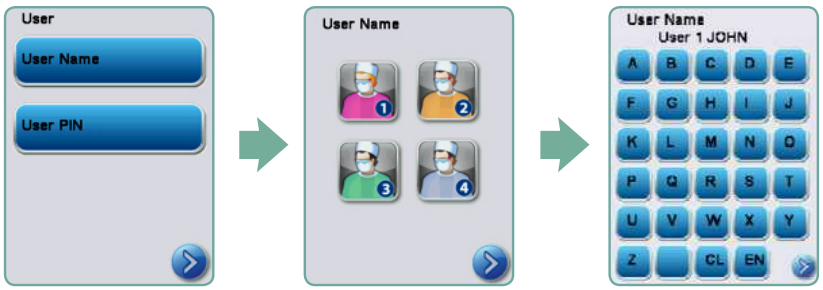
1.23 Creating a User Name

Up to four unique User Names can be created. To assign a User Name follow these steps:

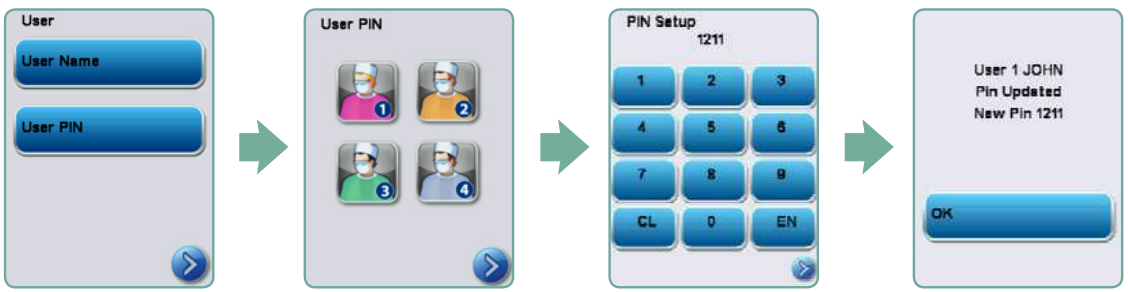
1. 
2. Scroll to **User** and select.
3. To assign a user name, select **User Name** and use the alphabetic keypad to enter a name (up to 12 characters) and press **EN** to save.



1.24 Creating a User PIN

From the User PIN screen, you can assign up to four PINs. To assign a PIN, follow these steps:

1. 
2. Scroll to **User** and select.
3. To assign a user PIN, select **User PIN** and use the numeric keypad to enter a number (up to 4 digits) and select **EN** to save and  to move to the confirmation screen.



4. If all of the information presented in the confirmation screen is correct, press OK to be returned to the User PIN screen. To make a correction, select the User PIN you want to change and repeat the process described above.

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1 Introduction

1.25 Setting up process enforced usage

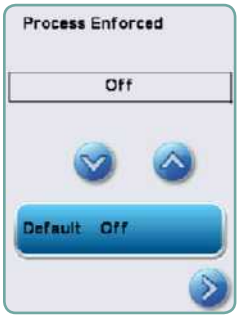
When process enforced usage is activated, users are required to enter a PIN at the end of a cycle. For process enforced usage to function, User IDs and PINs must first be assigned. To set up User ID and PINs, refer to sections 1.23 and 1.24 on creating a user name and PIN. To activate process enforced usage, follow these steps:

1. 

2. Scroll to **Process Enforced** and select.

3. Use  to toggle process enforced function ON or OFF. Press  to save your selection and return to the Setup menu.

NOTE: Any user can stop a cycle even with process enforced usage ON. However, the cycle data will record that an unauthorized user has stopped the cycle.



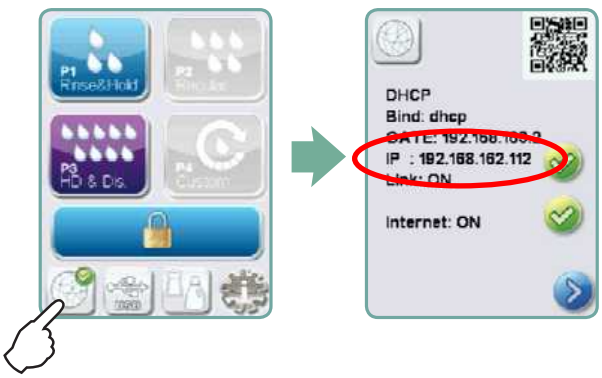
1.26 Connecting to a network

The HYDR*/M* C61wd G4 has a 10/100Base-T Ethernet port located at the back of the unit. To connect your HYDR*/M* to a network using a router, follow these steps:

1. Connect your network cable to the Ethernet port at the back of the unit. If your office uses a router, the router should automatically assign the unit an IP address. A red X on the network icon means the unit is not connected. A yellow check mark means the unit has an IP address but is not connected to the Internet and cannot send emails. A green check mark means the Internet connection is set up properly and the unit can send out emails.

NOTE: In some circumstances, where you do not have a router, for example when using Windows Network Sharing, you may have to assign a dedicated or 'static' IP address. To assign a static IP address, contact your local network administrator.

2. From the main screen, press the Network icon. The Network screen displays information about your HYDR*/M*'s connectivity, including its IP address.



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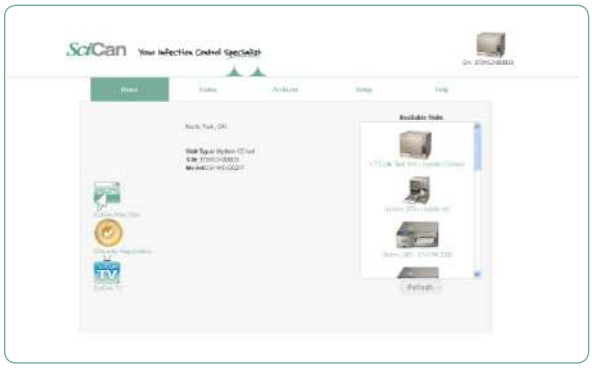
3. Type the IP address displayed on the touchscreen into the browser of any web enabled device to access your unit's web portal. When the Network icon is active (for example when sending email) it will turn green.

NOTE: Use QR code if connecting to a mobile device.

NOTE: Connection time will vary depending on your network speed, and making an initial connection can take longer.



1.27 Connecting to a wireless network

The HYDR*IM* can be configured for wireless use by connecting the Ethernet port to an external wireless bridge / access point. SciCan currently recommends the use of the D-Link® DAP-1522 Xtreme N® Duo Wireless Bridge. Contact your network administrator to learn more about setting up a wireless bridge.

1.28 Activating the new customer Intro and connectivity screen

The first time the unit is powered on, the LCD displays a sequence of screens that begins with an introduction and guides the user through connecting the unit to a network. This sequence can be reset to launch on the next power up by following these steps:

1. From the service menu, select FACTORY DEFAULT.
2. Select INTRO
3. Use the arrows to select ON
4. Power off the unit. The next time it is powered on, it will launch the INTRO sequence.

1.29 Setting option for chemical on final rinse

Some users may want to add HIP ULTRA chemical (part# CS-HIPL-U) during the final rinse for additional instrument protection. To enable this option, access the service menu (See 3.1 Using the Service Menu) to scroll to CYCLE SETTINGS and select CHEMICAL SETUP.

In this screen scroll to HIP option and select.

Correct setting for part # CS-HIPL-U

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1.30 Copying contacts from other G4 units on same network

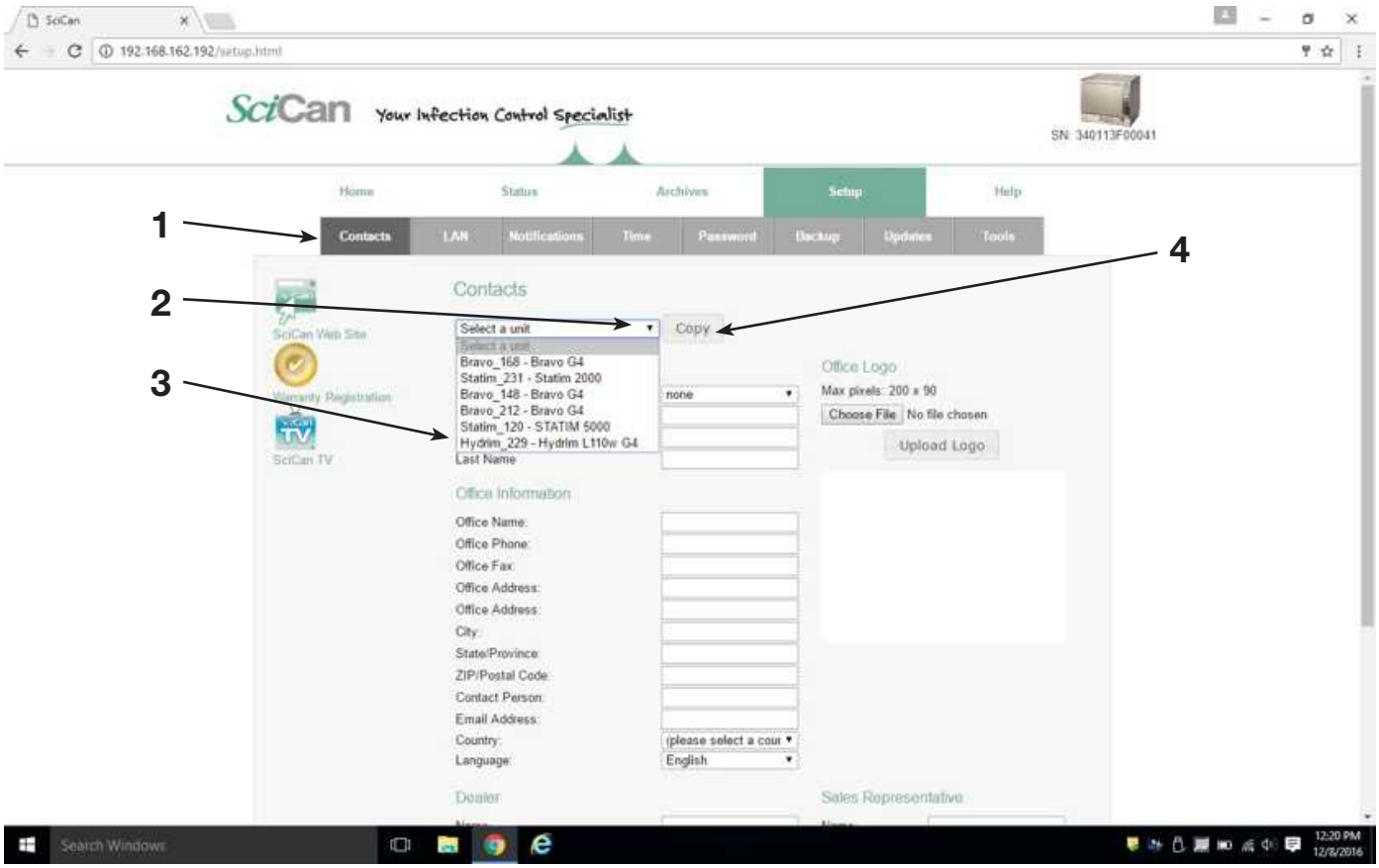
Contact settings can be copied over from other G4 units on the same network.

1. From your unit's G4 web portal, select the CONTACTS tab. (To access your unit's G4 portal, see 1.26 Connecting to a network.)

2. Click on the drop down menu at the top to see other units on the network.

3. Select the unit whose contact information you would like to copy.

4. Click COPY.



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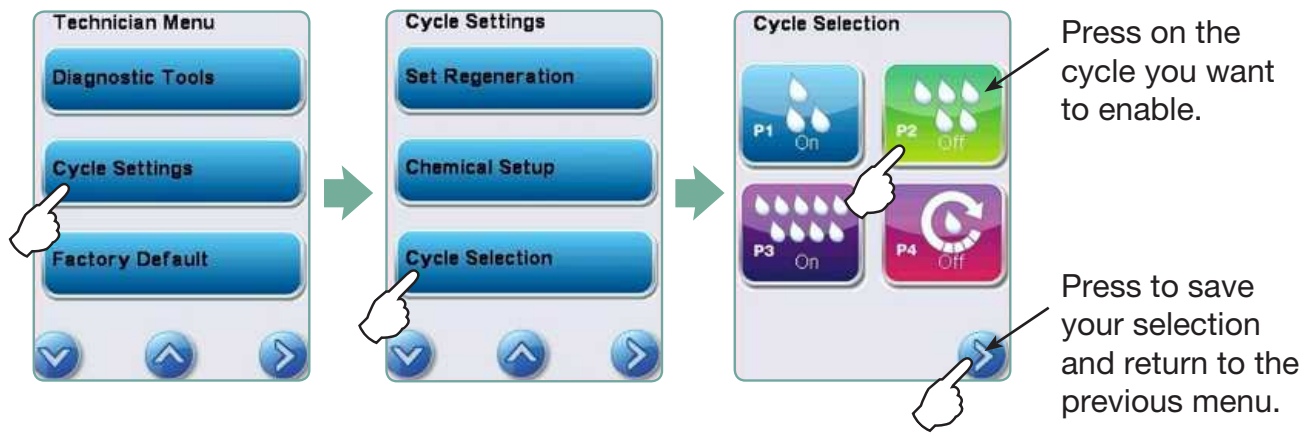
1.31 Enabling P2 Regular Cycle

Cycle	Prewash	Wash	Rinse	Dry
P2 – Regular Cycle (no disinfection)	<30˚C (cold) 2 minutes	50˚C 5 minutes	60˚C 1 minute	1-25 minutes (default 10 minutes)

The P2 - Regular Cycle is for cleaning moderately soiled, loose instruments. This cycle DOES NOT provide disinfection and may not be acceptable in certain regions. Consult with your local regulatory authority before enabling this cycle.

To enable this cycle, access the service menu (See 3.1 Using the Service Menu) to scroll to CYCLE SETTINGS and select CYCLE SELECTION.



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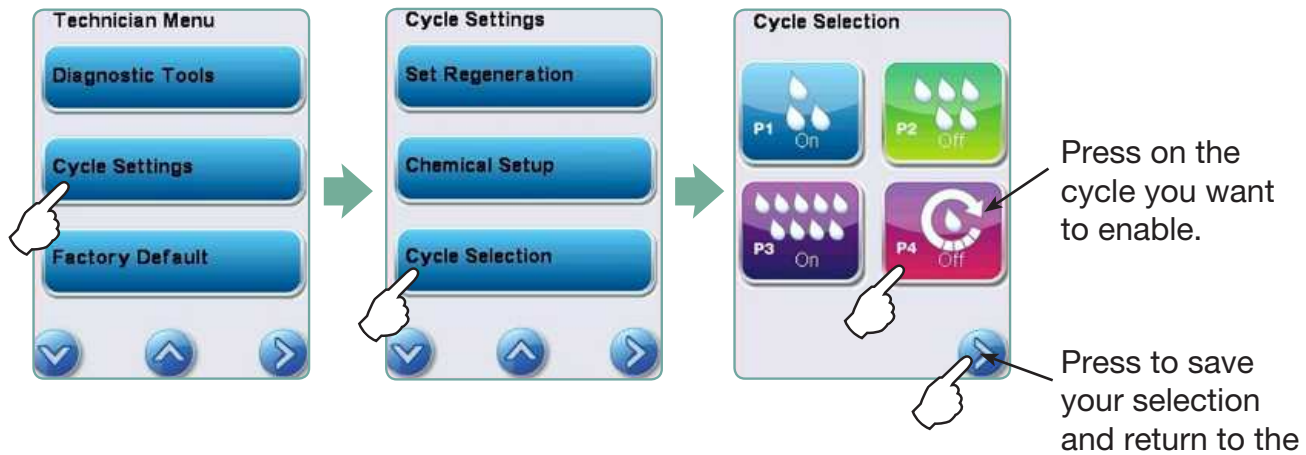
1.32 Enabling P4 Custom Cycle

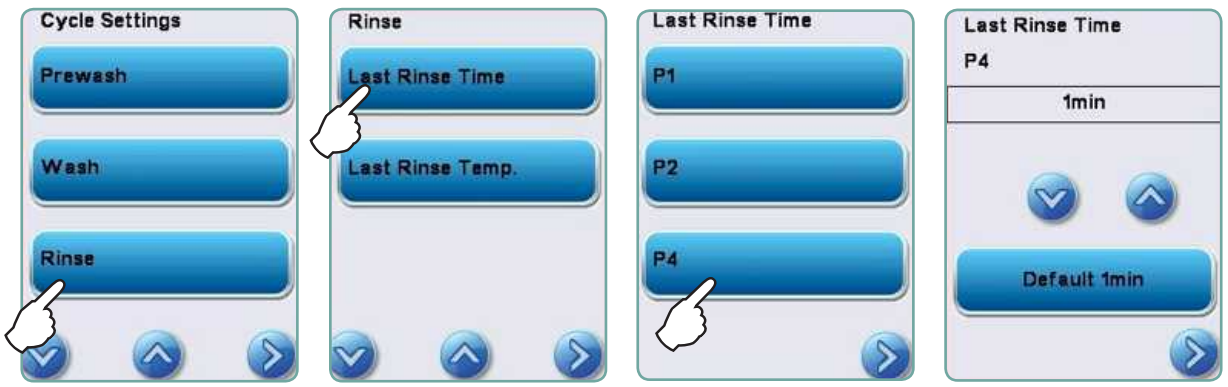
Cycle	Prewash	Wash	Rinse	Dry
P4 – Custom (A_0 between A_0 = 3,500 (rinse) and A_0 = 6,000)	<30˚C (cold) 2 minutes	50˚C 5-9 minutes	90-95˚C 1 -5 minutes	1-25 minutes (default 8 minutes)

The disinfection time at the rinse stage of P4 can be increased in 1-minute increments from 1 to 5 minutes. The minimum disinfection time is 1 minute with a minimum A0 value of 3500. The minimum A0 value for disinfection time of 5 minutes is 6000. The final rinse time must be set and validated by a technician after installation in the office.

To enable this cycle, access the service menu (See 3.1 Using the Service Menu) and follow the steps below.



To adjust the disinfection time or temperature at the rinse stage, select Cycle Settings from the service menu and follow the steps below:



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1.33 Accessing the Special Cycle

Cycle	Prewash	Wash	Rinse	Dry
Special Cycle	N/A	90-95˚C 10 minutes	70˚C 5 minutes	1-25 minutes (default 8 minutes)

This is a technician access only cycle. It is designed for use in contamination situations when there are concerns over draining contaminants into local sewage systems.

This cycle does not use a prewash and washes at a very high temperature to disinfect during the wash phase. The unit will not drain until after disinfection.

To use this cycle, access the service menu (See 3.1 Using the Service Menu) and select SPECIAL CYCLE.

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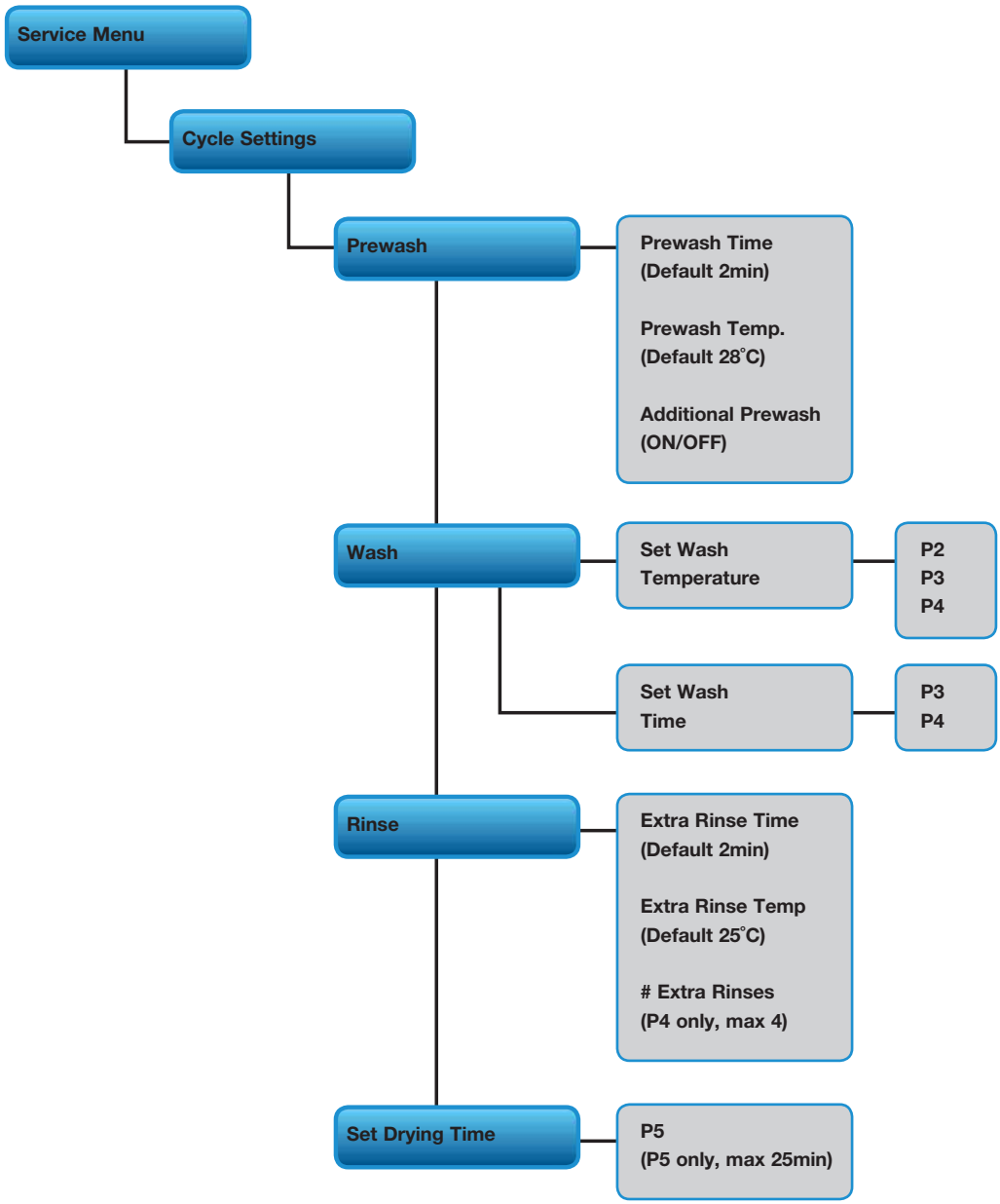
1.34 Adjusting Cycle Settings

Prewash, wash, rinse and drying parameters can be adjusted on some cycles. To adjust cycle settings, access the service menu (See 3.1 Using the Service Menu) and select CYCLE SETTINGS. Use the chart below to navigate to the settings you wish to adjust.



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2 Routine Procedures and Maintenance

2.1 Replacing the HIP™ Ultra cleaning solution

IMPORTANT! HIP ULTRA CLEANING SOLUTION MUST BE USED INSTALLED IN THE HYDRIM'S CHEMICAL DETERGENT DRAWER. Using the chemical drawer protects the unit from any potential detergent leak that could cause damage.

IMPORTANT INFORMATION ABOUT HIP ULTRA DETERGENT SPILLS! LONG-TERM EXPOSURE OF WIRING TO HIP ULTRA MAY CAUSE DAMAGE TO WIRE INSULATION. In the event of a HIP ULTRA detergent spill in the unit's chemical drawer, inspect for any possible contact with the wiring, focusing on connectors and wire insulation. To retain safety certifications on HYDRIM units with damage to wiring or wiring insulation, arrange a repair according to the options below:

- **For partial repairs to wiring:** Send to SciCan's Toronto Technical Services Department (partial repairs must be conducted at a specially-approved facility)
  Address: SciCan Ltd.
  1440 Don Mills Rd.
  Toronto, ON M3B 3P9 Canada

- **Complete wire harness replacement can be done at SciCan repair facilities:**
  - Germany: +49 (0)7561 98343 - 0
  - International: (416) 446-4500
  - Email: techservice.ca@scican.com

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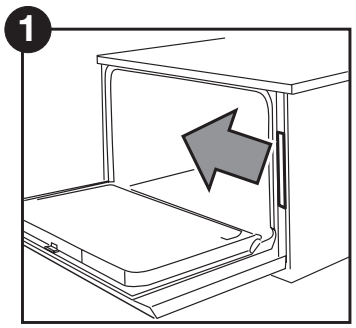
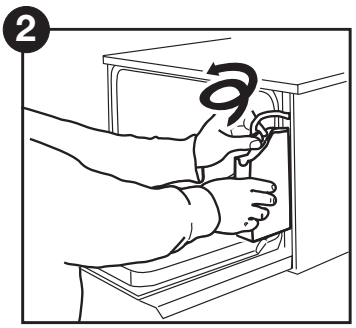
2 Routine Procedures and Maintenance

2.1 Replacing the HIP™ Ultra cleaning solution

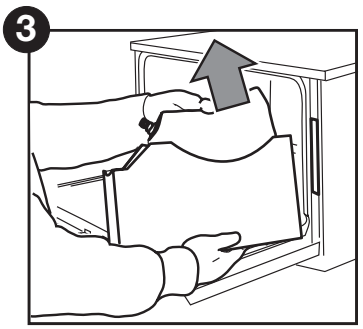
To replace the cleaning solution, follow these steps:



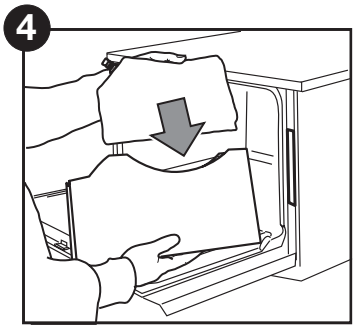
Turn the power OFF, open the door and pull out the chemical drawer.



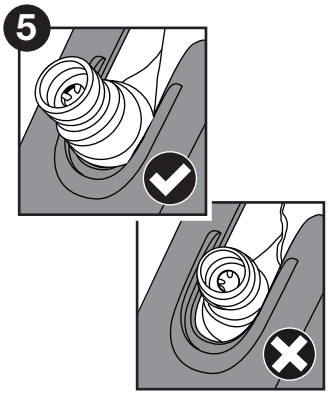
Disconnect the cleaning solution connector.



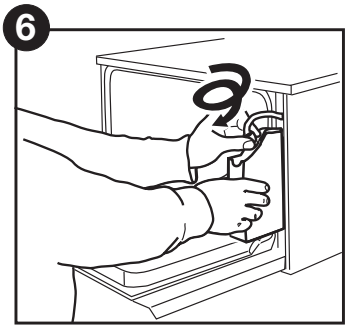
Remove the empty cleaning solution bag and discard or recycle it.



Place a new bag in the chemical drawer.

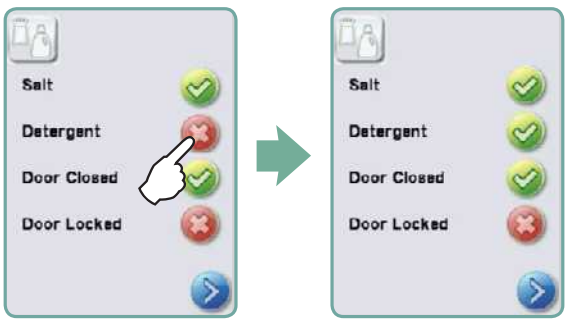


Ensure the nozzle is in the correct position.



Connect the new bag, close the door and power ON the unit.

To prime the cleaning solution dosing pump, press the water softener/detergent icon on the main screen. In the water softener/detergent screen, press the red X next to “Detergent”. The unit will prime the dosing system and a green check mark will appear in place of the red X when it is ready for use.



NOTE: The system can also be primed by simply starting a cycle and selecting “Detergent Replaced”, when prompted.

NOTE: A cycle will not start with the red X next to the “Detergent” indicator.

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2.2 Changing the air filter and bacteriological filter (LCS units only)

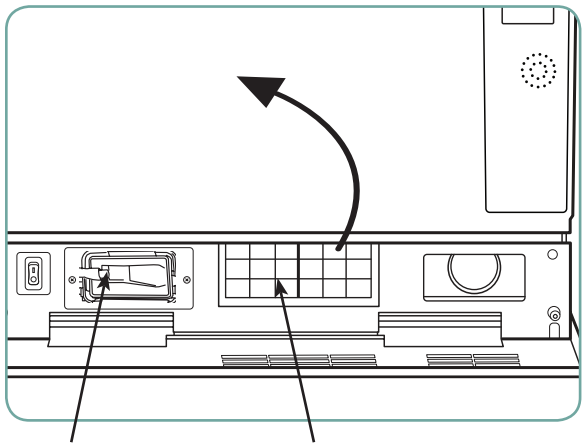

Figure 5

When the message “Replace air filter” appears, the HEPA filter is in need of changing.

1. Turn the power off.
2. Pull open the ventilation panel below the front door of the unit.
3. Make note of the direction of the arrow and remove the old filter by pulling it from the centre.
4. Install the new air filter – placing the arrow in the correct orientation – and close the ventilation panel.
5. After replacing the filter, go to the “Reset Drying Counter” screen in the Setup menu and reset the drying counter to zero. (See Section 1.14)

The filter must be replaced every 750 drying cycles. The unit will continue to run if the filter is not replaced, but you will notice less than optimal drying performance.
Spare part#: 01-113277S Filter-Air, C61

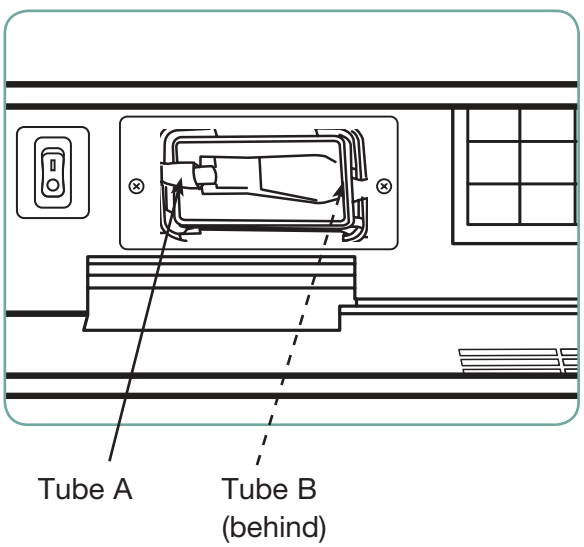

Figure 6

Bacteriological filter

Models fitted with a lumens cleaning system (LCS) have a biological filter that must be replaced every 500 cycles or if dirty. To change the biological filter, follow these steps:

1. Power the unit OFF and disconnect tube A from the bacteriological filter and remove the filter from the filter bracket.
2. Note the orientation of the arrow mark on the filter before removing. When the filter is free of the bracket, carefully disconnect tube B from the back of the filter.

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3. Before installing the replacement bacteriological filter (SciCan order no. 01-102119S) check that the arrow mark on the filter matches the direction of the arrow on the bracket. Push the right hand filter fitting into tube B.
4. Gently press the replacement filter into the filter bracket. The arrow mark of the filter should be facing out and pointing to the right.
5. Re-connect tube A to the left hand filter fitting.
6. After replacing the filter, go to the "Reset LCS Counter" screen in the Setup menu and reset the LCS counter to zero. (See Section 1.15)

2.3 Filter and wash arm maintenance

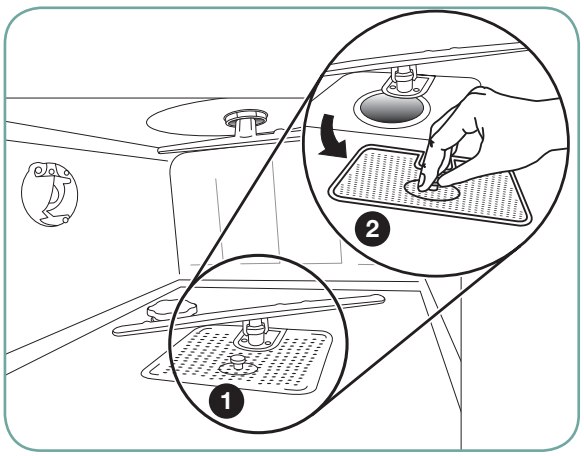

Figure 7 a

Cleaning the chamber's coarse and fine filters

Inspect the coarse and fine filters in the bottom of the chamber daily for debris and clean if necessary. To clean, remove the filter (turn the metal nut at the centre front of the filter to release it), rinse under a tap and reassemble. Ensure that the filter is firmly locked into position when replaced.

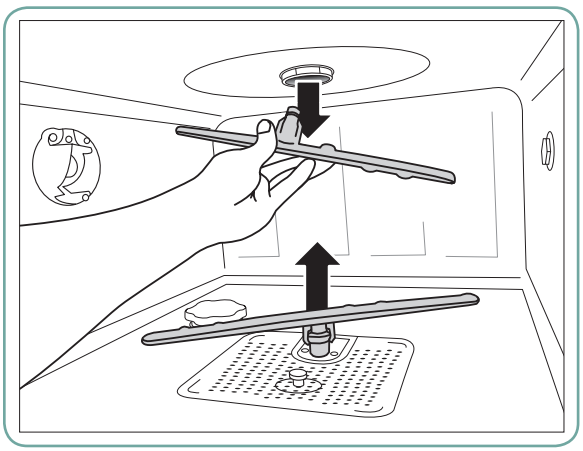

Figure 7 b

Removing and checking the wash arms

If you see that the wash arms are not turning easily, remove them. Both the upper and lower arms are pressure mounted.
To remove the upper arm, pull down and to remove the lower arm, pull up. Rinse under a tap, clear obstructions from outlet holes and reassemble.

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2.4 Cleaning the chamber

The HYDR*IM* C61wd G4 chamber can be cleaned using the “Cleaning” program in the User menu. This cycle is used to periodically remove hardwater deposits from the chamber walls and racks. Pour 0.5 litres of vinegar into the chamber before starting the cycle. From the User menu, select “Cleaning” and a cleaning cycle, similar to a normal wash cycle, will run. The user will be prompted to clean the chamber every 25 cycles. Reminder frequency can be changed to 25, 50, 75 or 100 cycles. To do this, enter the Technician menu.

2.5 Draining the unit for service or shipping

To drain the unit prior to shipping, or before tipping it onto its back for servicing, run the “Prepare for Shipping” cycle. Once complete, drain any water remaining in the air gap using the silicone tube located under the centre of the unit’s kickplate.

2.6 Upgrading the firmware/user interface software

Download the latest G4 firmware/software at: updates.scican.com to a USB drive and insert the drive into the G4 unit to upgrade.

NOTE: Upgrading firmware/software will take approximately 30-35 minutes.

Using a USB drive with the software already loaded onto it:
Please start at step 3.

Using a blank USB drive:
To use this method you must already have a zipped file with the appropriate files on your computer. The zipped file may have been provided to you via email. You can download the latest firmware/software at: updates.scican.com.

1. Insert a new or blank (no files attached) USB drive into your computer.
2. Save the HYDRIM G4 software upgrade zip files (SHYYMRXXX.zip) to your USB and extract the files contained in the zip files directly to the clean/blank USB drive. Once the files are successfully unzipped to the USB drive, it is ready. Remove the drive from the computer.

! **IMPORTANT! DO NOT INSERT THE USB DRIVE INTO THE HYDRIM G4 YET.**

3. Power the HYDRIM G4 unit OFF.
4. Remove any USB drive being used for data storage from the unit data logger USB port and insert the software upgrade USB drive in the same port.
5. Power the HYDRIM G4 unit ON.
6. Wait for approximately 10 minutes while the Interface software is being upgraded.

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NOTE: During this process the screen will be blank. The HYDRIM G4 will restart automatically to complete the upgrade.

! **IMPORTANT! DO NOT REMOVE THE USB DRIVE UNTIL THE END OF STEP 12**

7. You will know the firmware/software has been upgraded when the home screen appears. If the unit shows the home screen after only a short time (approximately 1 - 2 minutes) then the unit HAS NOT recognized the USB flash drive data and the procedure should be started again.
8. Once you see the home screen, go to the Technician menu, enter the password 7919 followed by EN to access the Technician options.
9. Scroll to "SW Upgrade" and select. When prompted, enter password 5849 followed by EN.
10. Press "Upgrade".
11. Wait for process to complete (could take up to 25 minutes).
    NOTE: DURING THIS STEP, TEXT WILL SCROLL IN A BOX ON THE SCREEN.
12. Once the process is complete, the screen will display “Done” and it will automatically return to the home screen.
13. Remove the USB drive.
14. Switch the unit OFF.
15. Remove the ‘upgrade’ USB flash drive and replace the data USB flash drive if appropriate.
16. Switch the unit ON – the unit should now reboot and after a short time the main, home screen should appear. The unit is now ready to use.

Upgrading further units using the same USB flash drive

The upgrade procedure REMOVES the ‘firmware.ini’ file from the root directory of the drive. This is to avoid accidentally restarting the upgrade procedure if the upgrade USB flash drive is inadvertently left in the unit.

This ‘firmware.ini’ file will need to be restored to the root directory of the drive before another unit can be successfully upgraded using the same drive.

To use the same USB drive to upgrade another HYDRIM G4 unit, follow these steps:

1. Plug the USB drive into the computer.
2. Double click the FIRMWARE folder on the USB drive. (e.g. Z:\FIRMWARE).
3. Copy the file ‘firmware.ini’ file into the root directory of the USB drive. (e.g. copy and paste the file ‘firmware.ini’ from Z:\FIRMWARE\ to Z:\).
4. The USB drive is now ready to be reused to upgrade other HYDRIM G4 devices.

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2.7 Using the HYDR*IM* remote access function

Users can allow offsite technicians to remotely access the LCD touchscreens and web portals of HYDR*IM* C61wd units connected to a network. This can be done either from within a network or from outside a network.

From within a network:

For local network remote access, the unit must be connected to a network. See Connecting to a network in section 1.26 of this manual for more details. From the unit's web portal, proceed as follows:

From the TOOLS page, click on the LOCAL CONTROL tab.

Log in using the following credentials:

Username: scican

Password: s23can173

Click on the start button to start a local connection. It will open up a page that mirrors the HYDR*IM* unit's touchscreen so that it can be controlled remotely within a local network.

From outside a local network:

For remote access of a HYDR*IM* web portal or touchscreen from outside a local network, proceed as follows:

1. Someone onsite with the unit or from within the network must provide access to an outside user by generating a 'token' (or access code).
2. To generate a unique token using the web portal, go to the TOOLS page and click on the REMOTE ACCESS tab.
3. To generate a unique token using the unit's LCD touchscreen, go to the USER menu and scroll to ONLINE ACCESS.
4. The technician attempting to access the unit from outside the network will need to go to the following URL: http://updates.scican.com and enter their registered email address, password, token and HYDR*IM* Serial Number (optional).
5. To create a new account to enable remote access for a HYDR*IM*, click on the CREATE NEW ACCOUNT link, complete the form, and click on the SUBMIT FORM link. The system will send a confirmation email to verify the account. Once confirmed, the account will be ready to use.
6. Use the valid user name and password to enter Updates.scican.com and enter the token when prompted. This will bring you to the HYDR*IM* unit's web portal page.

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7. Click on SETUP. A username and password prompt will appear. Log in using the following credentials:
   - Username: scican
   - Password: s23can173
8. Upon authentication, go to TOOLS and click on REMOTE ACCESS. Click on the start button to start a connection. It will open up a page that mirrors the HYDR*IM* unit's touchscreen so that it can be controlled remotely from outside its local network. Use your mouse to click and select touchscreen elements.

2.8 Annual Service Requirements

The HYDR*IM* C61wd G4 is designed to be maintenance free; however, it is recommended that a SciCan-approved service technician perform a check annually.

Installation, commissioning, annual servicing MUST be undertaken by SciCan approved technicians. Failure to maintain this equipment may invalidate the results of the following testing regime.

The recommended periodic testing protocols are listed in the table below:

When	Who	What Tests
Upon installation	By a SciCan-approved technician	• Commissioning/Installation testing as outlined in the installation document included with the unit. • First validation if required by local regulations.
Daily tests and checks	By the user	• door lock check • wash arm rotation check • door seal check • load carrier check • check and clean chamber filters • visual examination (inspection under magnification) of each load for residual soil.
Annually	By a SciCan-approved technician	• Re-validation if required by local regulations. • Annual maintenance as outlined in the service manual

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2 Routine Procedures and Maintenance

The following checks are recommended in order to maintain optimum performance of the unit.

Annual Service Schedule

- Check integrity of incoming and outgoing services (power, water supply, drain)
- Check water supply in line filters and clean as appropriate
- Check general condition of machine
- Replace dryer filter and reset dryer counter (only if required)
- Inspect and replace main chamber seal (only if required)
- Inspect and replace lower door seal (only if required)
- Check solution container connection for leaks
- Check salt level and replenish as required
- Check water hardness (test strips) and adjust salt regeneration settings if required
- Inspect and clean sump filters (check sump for debris, inspect drain pump priming connection hole for obstructions)
- Check wash arms for blockages and remove them for cleaning if required
- Review error history
- Software upgrade (if necessary)
- Check individual component functionality. Go to the technician menu (enter access code 7919) and select ‘Diagnostic Tools’ then select ‘Component Tests’. From here you can scroll through and check the functionality of the following components:
    - Cooling fans
    - Air gap pump
    - RO valve (if fitted)
    - Condenser valve (if fitted)
    - Chamber heater
    - Door latch
    - Salt regeneration valve
    - Dosing pump
    - Dryer
    - Hot water valve
    - Cold water valve
    - Air solenoid valve (if fitted)
    - Waste pump
    - Recirculation pump
- Check program selection

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- Check that dosing pump is dispensing. To verify:

  1.  **code 7919**
  2. Scroll to **Diagnostic Tools** and select. Then scroll to **Component Test** menu.
  3. From this menu, scroll to **Dosing Pump** and select ON. The dosing pump will be activated and the predefined number of pulses will be dispensed (the screen will display a countdown counter).
  4. With the door open, check to see if the detergent is dispensing.

     NOTE: The dosing pump is pre-calibrated and the volume cannot be adjusted. Selecting the OFF button on this screen will activate the chemical reservoir filling pump. This pump will automatically stop when the chemical reservoir level switch is activated.

- Check thermocouple calibration. To calibrate:

  1.  **code 7919**
  2. Scroll to **Diagnostic Tools** and select. Then scroll to **Set Calibration** and select.
  3. From **Set Calibration**, press  or  to enable Calibration.
  4. Insert external temperature reading device into sump of HYDR*IM* and close door.
  5. Run P3 / P4 / P5 Disinfection cycle. When the temperature sensor reaches 90°C use  on the touchscreen to match the values displayed on the external temperature reading device.

     IMPORTANT: All local, regional, state and national regulations regarding the servicing of this class of device and safety requirements must be observed.

- Reset the service counter.

  1.  **code 7919**
  2. Scroll to **Preventative Maintenance** and select. Then scroll to **Reset Service Counter** and select.

- Clean machine
- Conduct electrical safety tests (hi-pot and ground continuity)

Equipment and parts requirements for annual service

- Dryer filter (HEPA) (Part number 01-113277S)
- Main chamber seal (Part number 01-107786S)
- Lower door seal (Part number 01-113661S or 01-114826S)
- Service Manual (Part number 95-113588)
- Electrical safety test equipment
- Water hardness test strips (Part number 01-108305S)
- Calibrated independent temperature measuring device

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Service door kit option

SciCan offers a Service Door Kit (part # 01-114402S) for diagnosis of internal components while the HYDRIM is in operation. Installation instructions are included in the kit. Once fully installed, you will be able to view the internal operations during cycle or test setting.

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2.9 Cleaning the chamber sump screen

1. Pull up on the lower wash arm to remove it.

2. Unscrew the metal nut at the centre of the chamber filter to remove it.

3. Remove the wash arm base by removing the two screws.

4. Remove the screw at the center of the sump screen.

5. Using a flat-blade screwdriver, carefully pry out an edge of the screen's rubber flange.

6. Remove the sump screen for inspection and cleaning.

To reinstall, reverse procedure.
If the screen is beyond cleaning, order Fixed Sump Screen – part # 01-113387S.

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2.10 Checking and cleaning the drain pump priming hole

Occasionally, debris can clog the drain pump priming connection hole located in the sump block, sometimes prompting a CF 4. This hole should be checked at regular maintenance intervals. To do this:

1. Remove the chamber sump screen (See section 2.9 Cleaning the Chamber Sump Screen).
2. Inspect the small hole directly above the drain for obstructions.

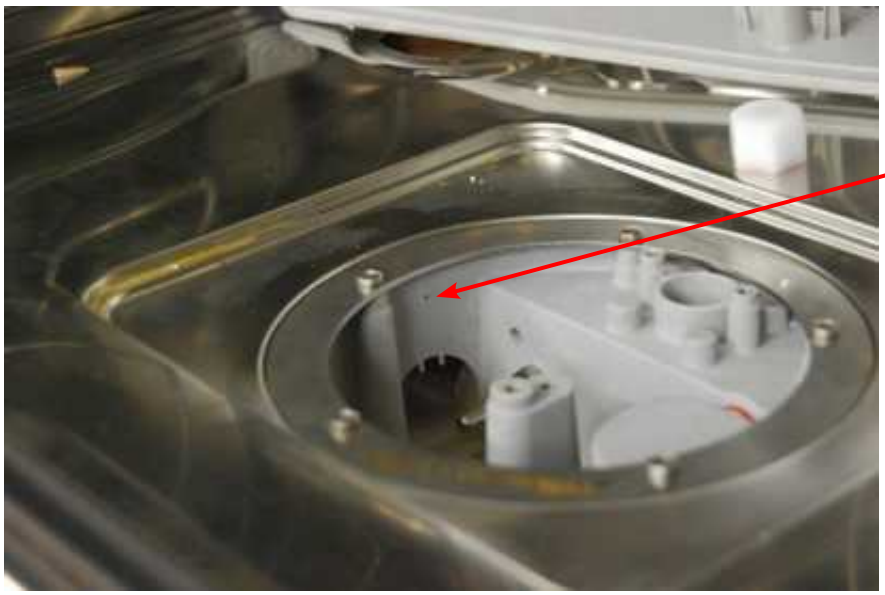

Figure 2.10-1

Figure 2.10-2

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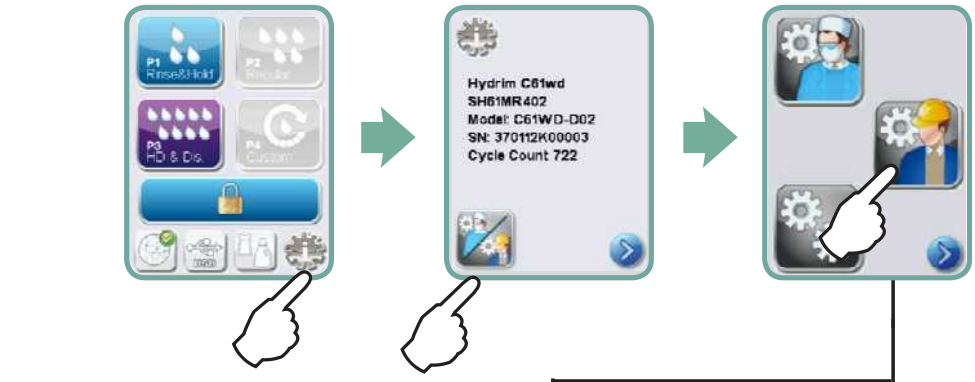
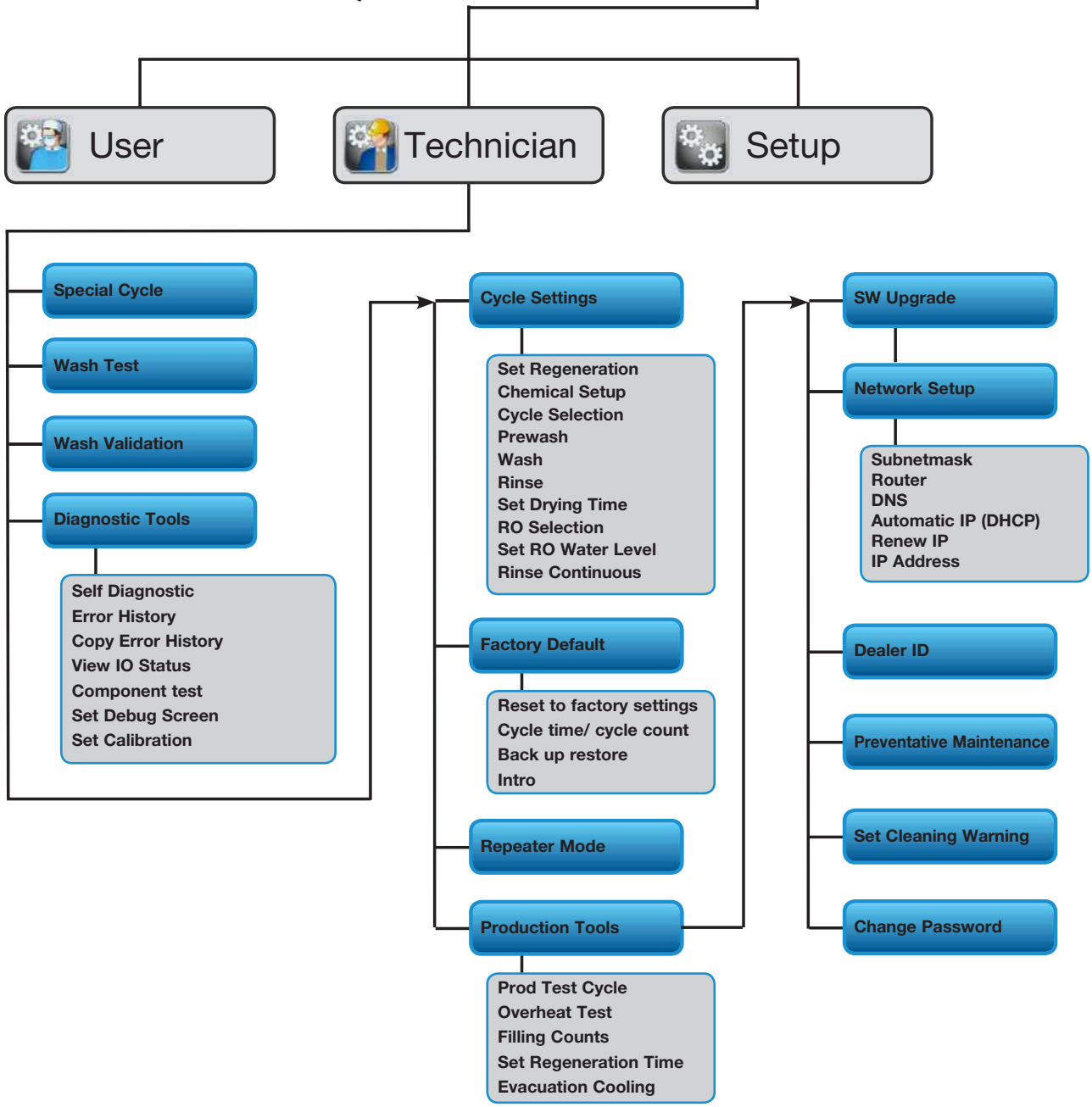
3 Diagnostics and Troubleshooting

3.1 Using the service menu

To access the service menu, select the image of the technician and enter the service code 7919 on the keypad.





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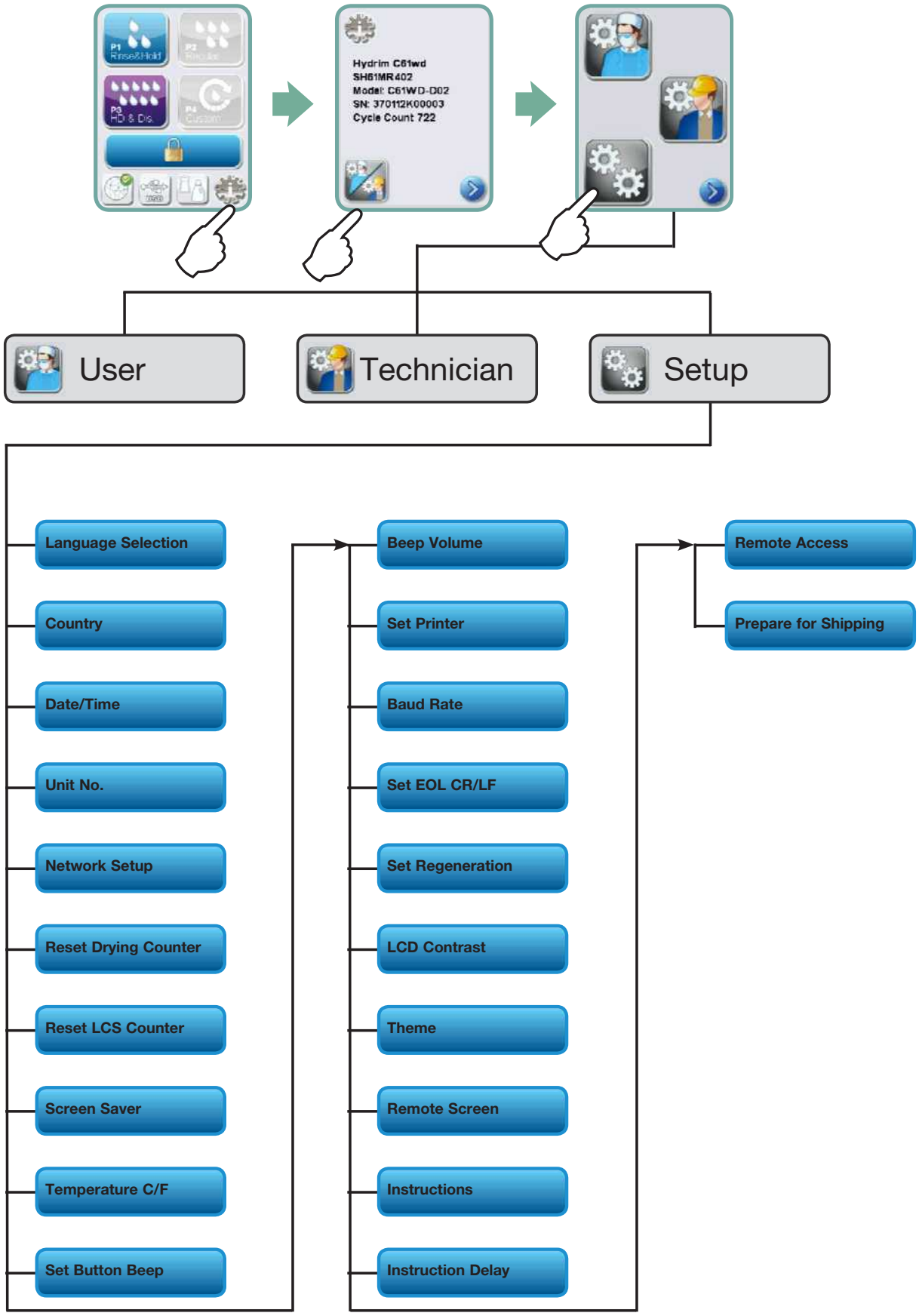
3 Diagnostics and Troubleshooting

3.2 Using the setup menu

To access functions and settings on the setup menu, proceed as follows:



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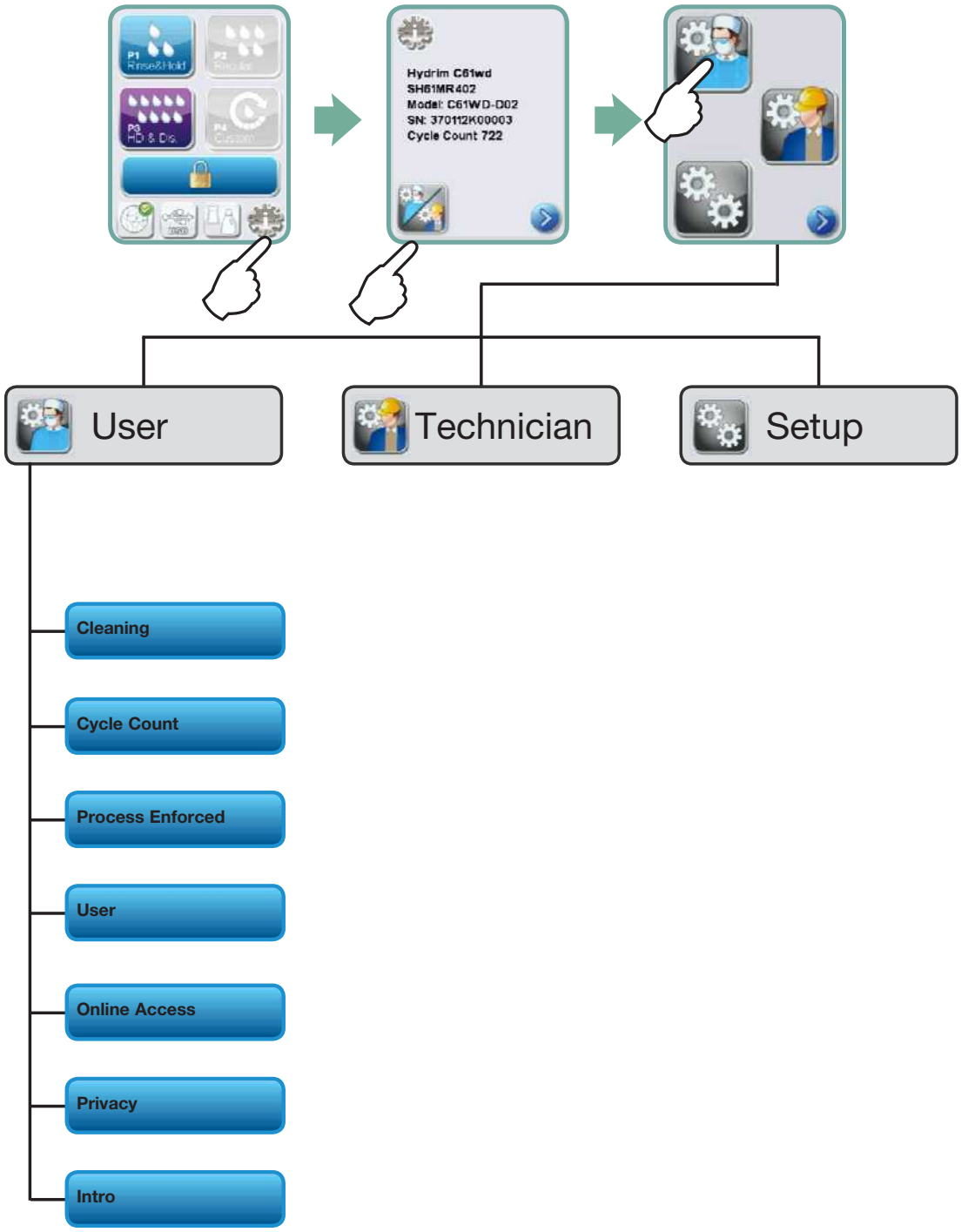
3 Diagnostics and Troubleshooting

3.3 Using the user menu

To access functions and settings on the user menu, proceed as follows:



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3 Diagnostics and Troubleshooting

3.4 Using software tools for diagnostics

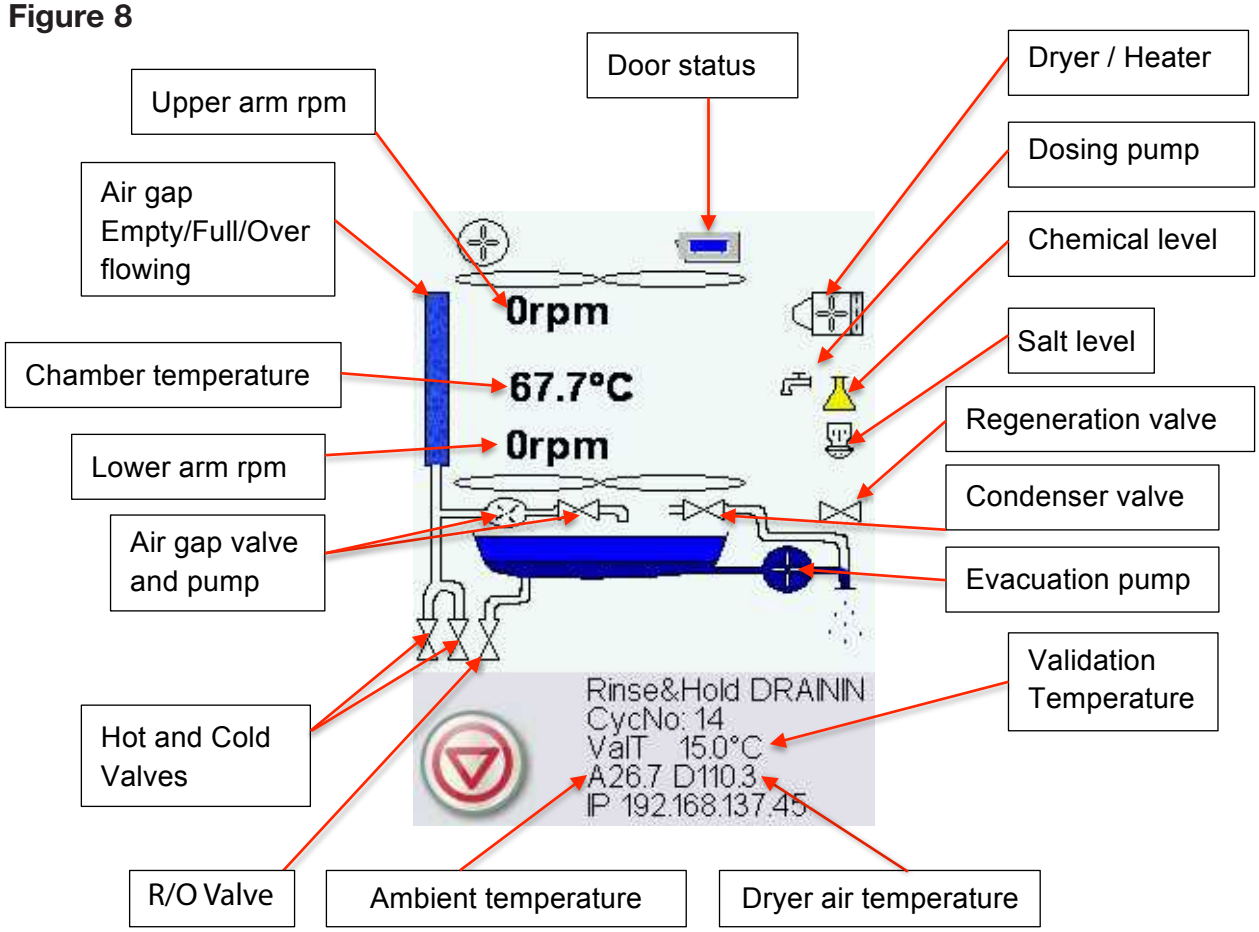
Within the service menu, there are two useful tools for troubleshooting: Debug screen and IO status screen.

Debug Screen

The Debug screen is used when running a cycle to view the I/O status of components.

To access the debug screen, select Diagnostic Tools from the service menu and select Set Debug Screen, switch debug screen 'on' by using the up/down arrows, then scroll back to the main menu and select a cycle.

Figure 8



NOTE: When a cycle is started (P1, P2, P3) the air gap is filled four times before the circulation pump starts.

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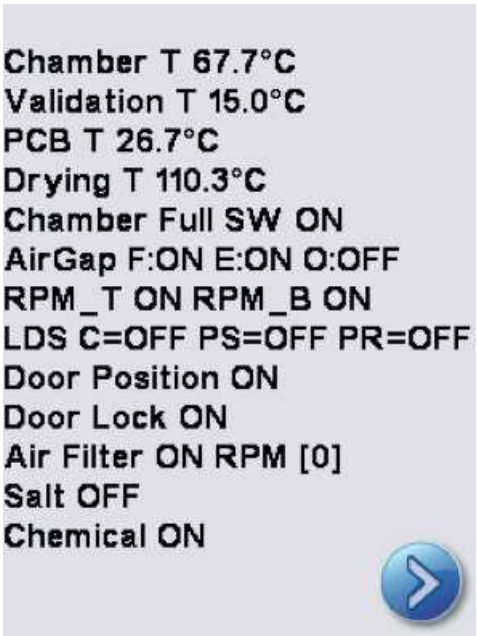
I/O status screen

The IO status screen is used when testing components and wires for functionality without the cycle running.



Using the Self Diagnostic mode

The Self Diagnostic Test will run a series of test sequences organized by phases. Information and troubleshooting for these phases is available in the Self Diagnostic Test Matrix in the Appendix of this service manual. To run a Self Diagnostic, follow these steps:

1. Ensure the unit has a USB key inserted into the USB port. Insert a USB key if the USB port is empty. NOTE: When the unit detects a new USB key it will automatically download all its cycle data.
2. Select Diagnostic Tools from the Technician Menu and scroll to Self Diagnostic.
3. Select Run.
4. The unit will conduct a diagnostic sequence displaying information for each phase of test on the LCD touchscreen.
5. If the unit fails at a particular phase of the test, the unit will stop and a report is stored in the DIAGNOSTIC folder on the USB key.
6. Remove the USB key from the unit and insert it into a computer to read the stored file.
7. Open the DIAGNOSTIC folder and select the RESULTS file according to date and time.
8. Use the Self Diagnostic Test Matrix in the Appendix D of the service manual to troubleshoot.

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3 Diagnostics and Troubleshooting

3.5 Troubleshooting cycle faults

Cycle Fault	Effect	Problem	Possible Causes
CF 1 Water Heating Failure	Improper wash, cycle aborted	Chamber temperature less than a set point after a timeout, or a temperature increase rate of 1°C per 2 minutes was not achieved during “Circulation and heating” phase	This is caused by a water heater malfunction: • Check water heater wire harness for loose contacts. • Check for open thermal cut-off switch due to high temperature. • Check that the heater element is not interrupted. • Check I/O PCB water heater relay output.
CF 2 Chamber Filling Failure	Improper wash, cycle aborted	Timeout on filling up the chamber	• Water supply issue • Water valves failure • Air gap water pump failure • Air gap valve failure • Air gap Full/Empty level switches failure • Chamber water level pressure switch malfunction • Overflow switch malfunction triggering evacuation pump
CF 3 Chamber Temperature Reading Failure	Improper wash, cycle aborted	Temperature reading outside acceptable range for primary or secondary sensor	This is caused by a temperature sensor malfunction: • Check temperature sensor wires for loose contacts. • Replace sensor with a good one and verify if the CF persists. • Replace I/O PCB.
CF 4 Water Evacuation Failure	Cycle interrupted	Timeout on water evacuation from the chamber Water in the chamber	• Blocked drain tube. • Drain pump vent tube clogged. • Chamber water level switch malfunction. • Chamber water evacuation pump failure. • Drain pump priming connection hole in the sump blocked. (See section 2.10 Checking and cleaning the drain pump priming hole) • Chamber sump screen is blocked. (See section 2.9 Cleaning chamber sump screen) • Salt reservoir sensor activated when evacuation pump is active (due to EM noise). Solution: upgrade software to ver. 416 or higher. Call SciCan if problem persists.

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Cycle Fault	Effect	Problem	Possible Causes
CF 5 Disinfection Failure	Cycle interrupted	Temperature dropped below target temperature during the disinfection phase.	The chamber or the validation temperature sensor is malfunctioning or the water heater cannot maintain the disinfection temperature: • Check calibration • Verify temperature sensors • Verify water heater • Verify I/O board (hardware failure)
CF 7 Cycle Aborted or Interrupted	Cycle interrupted	Stop button pressed or power failure	• Cycle aborted due to loss of power.
CF 8 Air Heater Failure	Drying aborted	Air temperature less than a set point after a timeout	This is caused by a heater malfunction: • Check air heater wire harness for loose contacts. • Check that the heater element is not interrupted. • Check I/O PCB air heater relay output.
CF 9 Program Timeout	Cycle interrupted	The unit is running a cycle for more than 3h ±3 min.	• Defective PCB and/or software failure • Replace Color LCD controller.
CF 10 Drying System Error	Cycle interrupted	Air Dryer RPM zero when Dryer motor should be activated	Electronics – motor driver failure (I/O board) • Check Dryer motor wiring. • Verify that motor stops when in non drying phase. • Replace I/O board. • Replace dryer motor.
CF 12 Water Filter Clogged (for models equipped with LCS only)	Cycle interrupted	Problem with Lumens Cleaning System	• Check that LCS adaptor is properly seated in chamber • You selected LCS at program start but LCS is not installed. • If LCS is not in use, check to see that LCS port is correctly plugged. • When using LCS, all unused ports must be plugged. • Replace water filter: Unscrew endcap from the LCS handpiece adapter to remove/replace the water filter. • Check water filter sensor.

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3 Diagnostics and Troubleshooting

Cycle Fault	Effect	Problem	Possible Causes
CF 13 Temperature Validation Error	Cycle interrupted	Water temperature rose above the maximum allowed temperature	The temperature sensor out of range: • Check temperature sensor wires for loose contacts. • Run cycle to monitor that the water temperature is below 96°C. • Replace sensor and verify if the CF persists. • Replace I/O PCB.
CF 14 Water Too Hot	Cycle interrupted	During the Prewash phase the water temperature in the chamber is 5ºC higher than the target for more than 1 sec	• Check water connections. • Ensure hot and cold water inlets are not swapped.
CF 15 Water Reservoir Overflow	Cycle interrupted	Airgap full switch or empty switch malfunction	The water reservoir overflow switch was triggered: • Check the water reservoir Full switch. • If full switch functional, replace airgap
CF 16 Ambient Temperature Error	Cycle interrupted	Operating temperature for one or both logic boards is too high	The room or enclosure is too warm and not allowing the unit to adequately cool: • Check that fans are working.
CF 17 Drying Error	Drying system overheated	Drying Air temperature above a set point	The air temperature in the air duct is too high: • Check dryer motor. • Verify that the air heater is not always ON. • Verify air temperature sensor. • Verify I/O PCB.
CF 18 Water Filter Pressure Sensor Stuck (for models equipped with LCS only)	Cycle interrupted	Problem with Lumens Cleaning System	Pressure switch is stuck: • Verify LCS pressure sensor (stuck). • Verify LCS wiring. • Check I/O board (hardware failure).
CF 21 Dosing System Error	Dosing System failure Cycle interrupted	Dosing system failed to dispense the preset amount in a pre-defined time (timeout is 3.5s/pulse). Dosing reservoir level switch does not change from Full ON to OFF by the end of dosing (no chemical dispensed)	Dosing pump or switch error: • Check voltage to pump. • Check chemical pump. • Check dosing reservoir switch. • Check bellows pump.

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3 Diagnostics and Troubleshooting

Cycle Fault	Effect	Problem	Possible Causes
CF 22 Air Temperature error	Cycle cannot start or cycle interrupted	Ambient temperature sensor broken	Temperature sensor reading error: • Check air temperature sensor wires for loose contacts. • Replace sensor with a good one and verify if the CF persists. • Replace I/O board.
CF 23 Top Wash Arm RPM error	Cycle interrupted	Top RPM lower than 10 while washing or disinfecting	• Instrument blocking upper wash arm • Chamber water level too low • Water pump failure • Wash arm directional jets clogged
CF 24 Low Wash Arm RPM error	Cycle interrupted	Low RPM lower than 25 while washing or disinfecting	• Instrument blocking lower wash arm • Chamber water level too low • Water pump failure • Wash arm directional jets clogged
CF 25 Vref Error	Cycle cannot start or cycle interrupted	Vref and VCC drift, post CF 25 if VCC and Vref are more than 3% apart (power supply error)	The power supply 5V output voltage is fluctuating: • Check power supply 5V output. • Replace I/O board.
CF 26 Air Valve Error (For models equipped with LCS only)	Cycle interrupted	Problem with air pressure in air line	The air valve is malfunctioning: • Verify air valve (stuck). • Check Verify I/O board (hardware failure).
CF 27 Memory Error	Hardware failure	Color LCD control board failure	The internal memory of the Color LCD Controller is malfunctioning: • Replace Color LCD controller board.
CF 30	Improper wash, cycle aborted	LCS 'present' switch Off while running the circulation phase when LCS option was selected by the user at the beginning of the cycle	Verify LCS present switch. Check that LCS adapter trolley does not become disengaged during the cycle.
CF 31 Chamber Filling RO Failure	Cycle Interrupted	Time out filling chamber with RO	• Water supply issue • Water valve failure • Chamber water level pressure switch malfunction • Overflow switch malfunction triggering evacuation pump

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3 Diagnostics and Troubleshooting

Problem	Possible Cause	Solution
LCD screen frozen	Software defect in revision R411. Can occur in units operating in French and German	Download software fix at Scicanupdates.com. Temporary solution: switch operating language to English
Water leaking from lower door sides	Lower chamber seal requires replacement	Replace lower chamber door seal. See section 6.10 Removing and replacing lower chamber seal
LCD screen is blank (white)	No power	Check power source.
	LCD controller failure	Replace LCD controller. See section 6.4 Removing and reinstalling LCD and LCD controller.
	LCD controller failure	Unit has not been upgraded with LCD back cover.
Water leak left side	Possible dryer seam leak	Remove chamber-side dryer outlet cover and inspect. See Section 8.3 Removing and reinstalling dryer assembly.
Water remaining in chamber	Lower sump screen blocked	Remove chamber coarse filter screen and inspect fine filter screen.
Blown fuse	Short in unit wiring. Wiring insulation compromised by an internal detergent leak.	Open door and check chemical bracket for detergent leak. Remove right side panel to inspect wiring and replace as needed. See section 2.1 Replacing the HIP Ultra cleaning solution for electrical service centre information.
USB storage device does not contain the last printout	USB device defective	Re-insert the USB storage device and wait for the data to copy over again. If problem persists, back up all the information on the USB device and reformat it. NOTE: the web portal allows access to all of the unit's cycle information.
Unit is not sending emails	Problem with IP address	Check email settings by using the TEST button on the unit's web portal. From the SETUP web page, select the TOOLS tab. Click on TEST to check your router, unit, and Internet connections. If all settings appear to be OK, go to the unit's touchscreen and renew the IP address by following these steps: 1. Scroll through the setup menu and select NETWORK SETUP. 2. Select RENEW IP.
Not receiving emails from the unit	Spam filter	Check user's spam filter. Be certain the unit has been identified as an accepted email source.

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4. Removing and Replacing Panels

WARNINGS AND PRECAUTIONS

If you have questions about the unit you are repairing, please do not hesitate to contact your local SciCan representative for information. Also, the HYDR*IM* is heavy. Exercise caution and seek assistance when lifting or carrying units.

EXERCISE CAUTION

- Hazardous voltages are accessible when the cover is removed.
- Disconnect the power cord before servicing the power mains portion of the controller board and associated devices.
- Removing the panels will expose some sharp metal edges. Be careful and wear long sleeves and gloves.

PERFORM TESTS

- If you service or replace parts associated with the power main, perform a dielectric strength test (Hi-Pot) on the HYDR*IM*. Perform a second Hi-Pot test once the cover has been returned to the unit.
- If components of the protective earthing system are changed or if connections are broken and remade, perform a protective bonding impedance test (ground continuity). Perform both a second Hi-Pot test and a second ground continuity test once the cover has been returned to the unit.
- If any panel is removed, perform a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) on the HYDR*IM* when the work is completed and after the panel has been returned to the unit.

PROTECT THE UNIT

- The HYDR*IM* contains electronic circuitry that is static sensitive. Always wear a static strap when working with or near printed wiring boards. In addition, use static footstraps, grounding mats and grounded work surfaces when servicing microprocessor devices. Transport boards and devices in static protected bags.
- In order to ensure adherence to the applicable safety agency approvals, state, provincial, regional and national laws, replace components with SciCan approved parts only.

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4. Removing and Replacing Panels

4.1 Removing and reinstalling the top panel

1. Open door to remove 3 screws under the top cover's front edge. (Figure 9)
2. Pull top cover to the front and tip up to remove.

To reinstall, place the cover on top of unit and slightly forward. Push it to the back to engage the tabs. Replace 3 screws at the front.

Top panel – part # 01-113286S

Figure 9

4.2 Removing and reinstalling the left panel

1. Remove top cover.
2. Open front door to remove 4 screws in the front. (Figure 10)
3. Remove 3 screws on back of unit. (not shown)
4. Tip the panel back and slide it down to disengage the two tabs that insert into the chassis at bottom.

To reinstall, bring the panel into position slightly lower than the unit to be able to engage the two bottom tabs and the one at the top. Slide it up into place and replace 7 screws. Replace the top cover.

Left side panel – part # 01-113288S

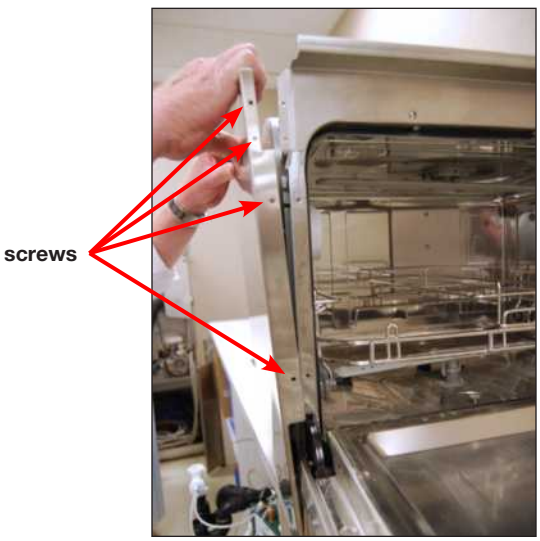

Figure 10

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4. Removing and Replacing Panels

4.3 Removing and reinstalling the right panel

1. Open the door to remove 3 screws in the front. (Figure 11)
2. Remove 3 screws at the back of the unit. (not shown)
3. There are 2 tabs at the bottom of the panel. To disengage these from the chassis, pull the panel out from the top and slide it down.

To reinstall, bring the panel into position slightly lower than the unit to be able to engage the two bottom tabs. Slide it up into position and push it into place at the top. Replace 3 screws at the back and 3 screws at the front.

Right side panel – part # 01-113290S

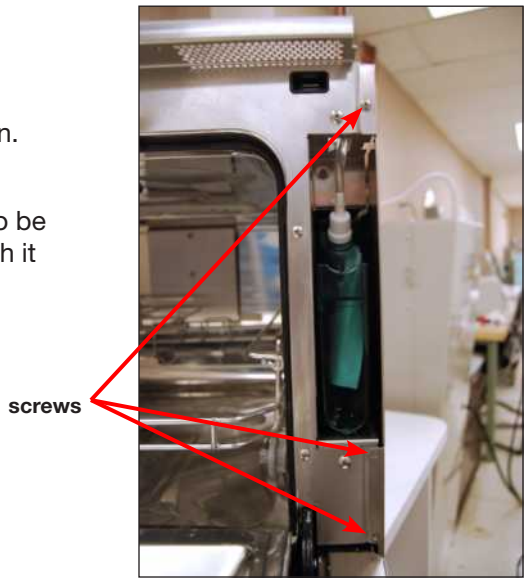

Figure 11

4.4 Removing and reinstalling the back panel

1. Remove 8 screws to release the panel. (Figure 12)

To reinstall, reverse procedure.

Back panel – part # 01-113297S

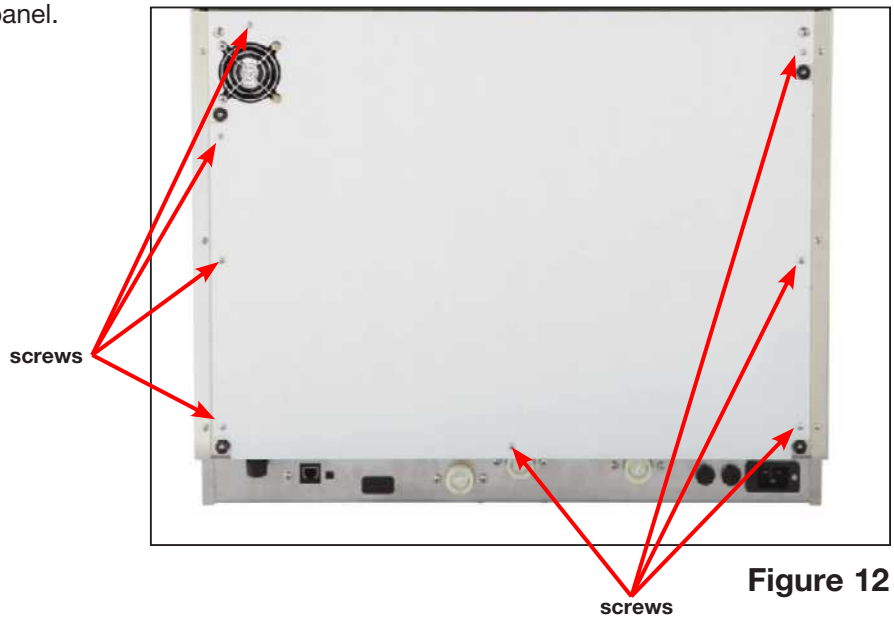

Figure 12

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4. Removing and Replacing Panels

4.5 Removing and reinstalling the bottom panel

1. With the unit still connected, start by disconnecting the cap from the chemical detergent pouch and then running a shipping cycle from the set-up menu. This will drain most of the water and detergent from the unit.
2. If you cannot run a shipping cycle because the unit is without power, pull the drainage tube out from under the middle of the kickplate and allow it to drain into a waste bottle. (Without power, you may have to manually unlock the door using the door latch.)
3. Remove the coarse filter and sump filter and use an absorbent cloth to soak up residual water from the sump.
4. After draining the unit, turn it off, disconnect the power and disconnect all water connections.
5. Slide an absorbent cloth under the unit to catch any remaining water.
6. Using the two handleholds located at the front under the kickplate, (Figure 13a) pull the unit towards you and tip it onto its back.
7. On the bottom panel there are 2 small rubber standoffs connecting the dryer inlet duct to the bottom panel. Push these through their holes to detach them from the panel. (Figure 13b)
8. Remove 6 screws and slide the panel up to release the tabs from the chassis. (Figure 13c)

To reinstall, slide the panel back into position, replace the screws and pull the rubber standoffs back through the panel.

(**NOTE:** if the rubber standoffs are not pulled through the panel, the dryer inlet duct will not function correctly.)

Bottom panel – part # 01-113296S

Figure 13a

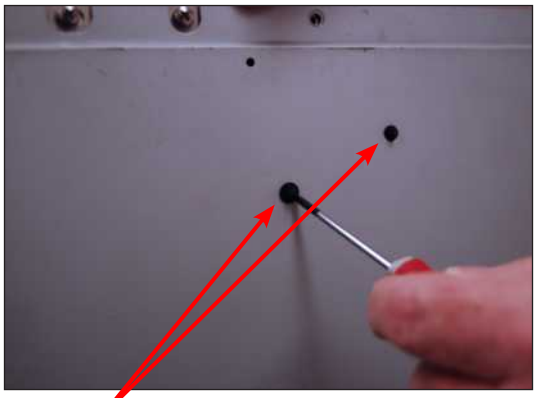

Figure 13b

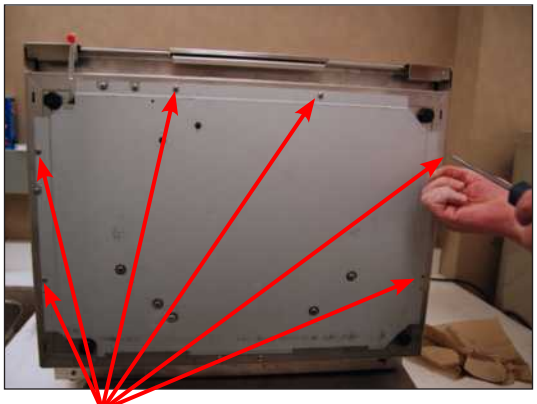

Figure 13c

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EXERCISE CAUTION

- Hazardous voltages are accessible when the cover is removed.
- Disconnect the power cord before servicing the power mains portion of the controller board and associated devices.
- Removing the panels will expose some sharp metal edges. Be careful and wear long sleeves and gloves.

PERFORM TESTS

- If you service or replace parts associated with the power main, perform a dielectric strength test (Hi-Pot) on the HYDR*IM*. Perform a second Hi-Pot test once the cover has been returned to the unit.
- If components of the protective earthing system are changed or if connections are broken and remade, perform a protective bonding impedance test (ground continuity). Perform both a second Hi-Pot test and a second ground continuity test once the cover has been returned to the unit.
- If any panel is removed, perform a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) on the HYDR*IM* when the work is completed and after the panel has been returned to the unit.

PROTECT THE UNIT

- The HYDR*IM* contains electronic circuitry that is static sensitive. Always wear a static strap when working with or near printed wiring boards. In addition, use static footstraps, grounding mats and grounded work surfaces when servicing microprocessor devices. Transport boards and devices in static protected bags.
- In order to ensure adherence to the applicable safety agency approvals, state, provincial, regional and national laws, replace components with SciCan approved parts only.

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5. Front Components

5.1 Removing and reinstalling the kickplate

CAUTION: cover sharp edges on the filter cutout with tape to protect hands.

1. Open kickplate and remove HEPA filter. (Figure 14a)
2. Detach the dryer inlet duct by pulling off the HEPA filter gasket and pulling the dryer inlet duct out of the groove so that you can push it free of the kickplate. (Figure 14c, 14d)
3. Unscrew the 2 magnets by hand and remove the 2 screws.
4. Unclip the plastic edge guard at the bottom right of the door and pull the wire harness free of the kickplate.
5. Remove the metal panel between the power switch and the HEPA filter to detach the microswitch wires at right. **NOTE:** If fitted with an LCS system, remove bacteria retentive filter and remove filter housing. (Figure 14b)
6. With the condenser exhaust still attached, support the kickplate door to keep it from falling and pull the kickplate off.
7. Detach the hose clamp on the exhaust duct hose and pull the kickplate free.

To reinstall:

1. Attach the exhaust duct hose using the hose clamp.
2. Attach the HEPA filter microswitch wires and push the kickplate into place.
3. Reattach the 2 magnets and the 2 bumpers with screws.
4. To reattach the dryer inlet duct, pull it through the kickplate and push it back to hook its edges into the grooves at the top and bottom of the dryer inlet duct cutout and over the tabs at the left and right of the cutout. **NOTE:** Be certain the gasket is properly positioned in the dryer inlet duct or replace with a new gasket.
5. Reinstall bacteria retentive filter housing and filter, if unit is fitted with LCS system

Kickplate – part # 01-113292S

Filter gasket – part # 01-113262S

Filter air – part # 01-113277S

Switch w/roller for air filter – part # 01-113327S

without bacteria retentive filter

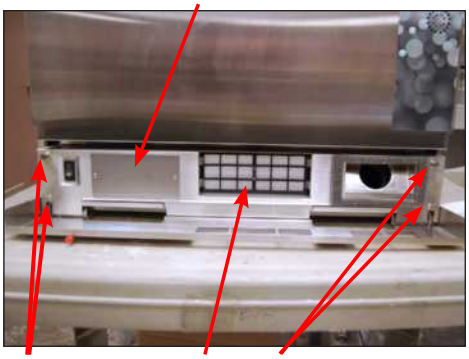

Figure 14a

Figure 14b

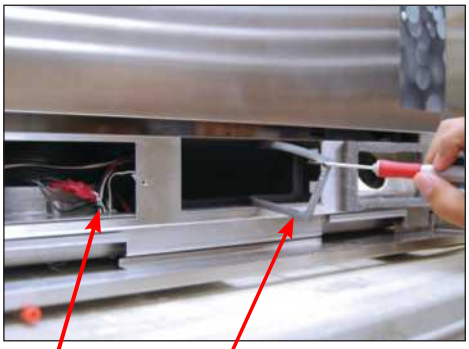

Figure 14c

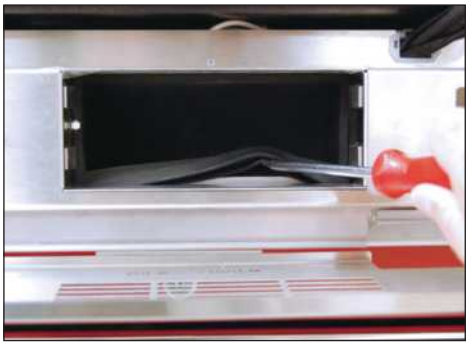

Figure 14d

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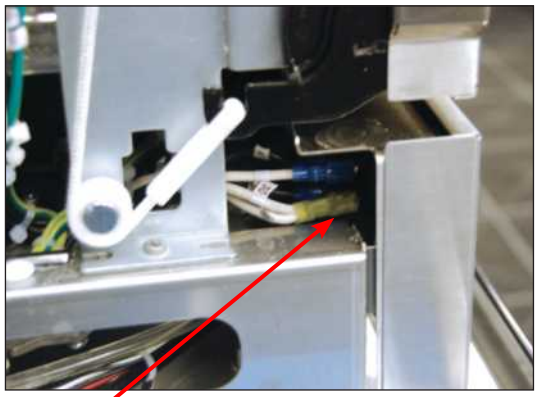
5. Front Components

5.2 Removing and reinstalling the power switch

1. Remove top cover and left panel.
2. Remove two contacts from the back of the power switch using needle nose pliers. This will help to pull the power switch through the cut out in the chassis. (Figure 15)
3. Carefully pry the switch out using a flat head screwdriver.
4. Remove all the remaining contacts.

NOTE: Switch wire connectors can also be accessed by removing steel plate (filter housing on LCS models) in front of kickplate. (Figure 14a)



power switch contacts

Figure 15

To reinstall:

1. Reattach contacts to power switch according to the table below and push into cut out in chassis.

Power switch terminal position	Corresponding Wire
1	3 BLU
1A	29/30 YEL
2	4 BLU
2A	5 BLU

2. Reinstall left panel and top cover.

Rocker switch – part # 01-112024S

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WARNINGS AND PRECAUTIONS

If you have questions about the unit you are repairing, please do not hesitate to contact your local SciCan representative for information. Also, the HYDR*IM* is heavy. Exercise caution and seek assistance when lifting or carrying units.

EXERCISE CAUTION

- Hazardous voltages are accessible when the cover is removed.
- Disconnect the power cord before servicing the power mains portion of the controller board and associated devices.
- Removing the panels will expose some sharp metal edges. Be careful and wear long sleeves and gloves.

PERFORM TESTS

- If you service or replace parts associated with the power main, perform a dielectric strength test (Hi-Pot) on the HYDR*IM*. Perform a second Hi-Pot test once the cover has been returned to the unit.
- If components of the protective earthing system are changed or if connections are broken and remade, perform a protective bonding impedance test (ground continuity). Perform both a second Hi-Pot test and a second ground continuity test once the cover has been returned to the unit.
- If any panel is removed, perform a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) on the HYDR*IM* when the work is completed and after the panel has been returned to the unit.

PROTECT THE UNIT

- The HYDR*IM* contains electronic circuitry that is static sensitive. Always wear a static strap when working with or near printed wiring boards. In addition, use static footstraps, grounding mats and grounded work surfaces when servicing microprocessor devices. Transport boards and devices in static protected bags.
- In order to ensure adherence to the applicable safety agency approvals, state, provincial, regional and national laws, replace components with SciCan approved parts only.

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6. Door Components

6.1 Removing and reinstalling the door fascia

1. Open door and remove 3 screws on right side of door, 2 on inside left and 2 on the inside top. (Figure 16a)
2. Slide the door fascia up just enough to disengage it. **CAUTION:** the LCD and controller are attached to the door fascia.
3. Pull door fascia up and out from the top and rest it on the worksurface in front of the unit to access the LCD bracket.
4. Unscrew the two nuts fastening the LCD bracket to the door fascia and lift the bracket out. (Figure 16b)
5. Hook the LCD bracket into its service position on the door (hooks into two slots and one spring lock at right on door). (Figure 16c, 16d)

Figure 16a

Figure 16b

Figure 16c

Figure 16d

To reinstall:

1. Remove the LCD bracket from its service position on the door, place it into position in the door fascia and fasten the two retaining nuts.
2. Bring the fascia into position onto the front of the door (start with the right side hooking it over the door latch assembly and align the three screw holes on the right side (Figure 16e).
3. Replace the middle screw on the right side and then replace the rest of the screws starting with the 2 on the inside left and the 2 on the inside top.

Cover stainless door C61wd part – # 01-113633S

Figure 16e

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6. Door Components

6.2 Removing and reinstalling the door springs

To remove the left side door spring:

1. Remove top cover
2. Remove left panel.
3. Unhook the door spring to replace. (Figure 17a)

To reinstall, reverse procedure.

Door spring kit – part # 01-113298S
(kit has set of two springs and rope)

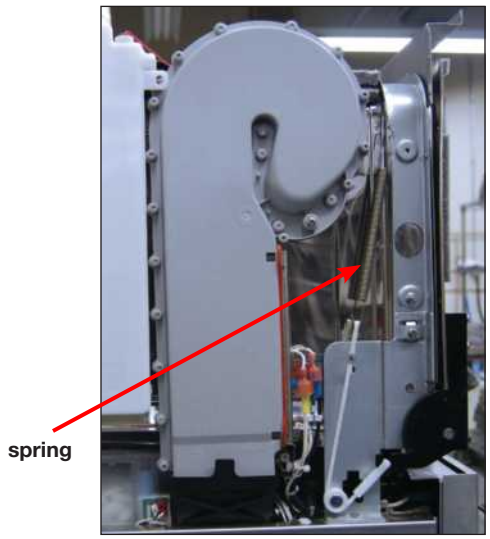

Figure 17a

To remove the right side door spring:

1. Remove top cover.
2. Remove left and right panel. (Left panel must be removed to remove chamber fascia.)
3. Remove 1 screw at rear of reservoir refill pump bracket. (Figure 17b)
4. Remove 6 screws on chamber fascia and remove chamber fascia. (Figure 17c)
5. Loosen 3 screws at base of chemical bracket. (Figure 17b)
6. Slide chemical bracket to rear and tip it back to access right door spring.
7. Unhook the door spring to replace. (Figure 17d)

To reinstall, reverse procedure.

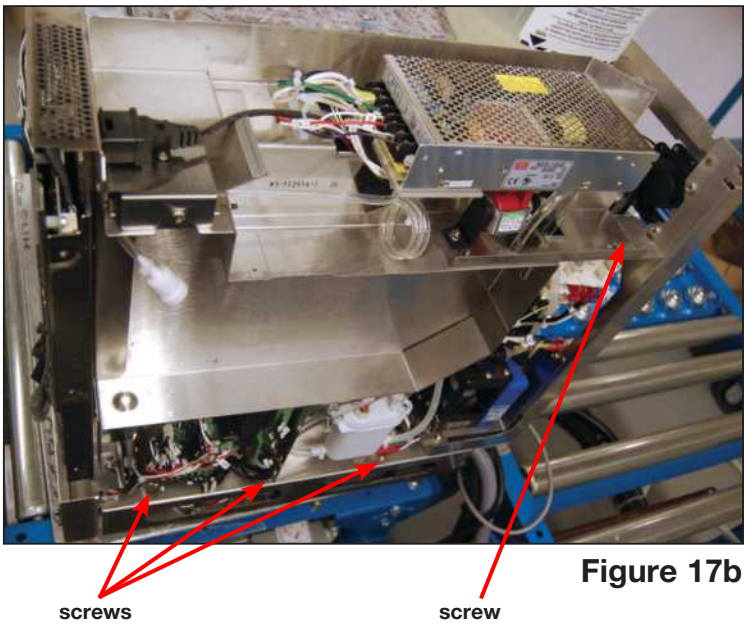

Figure 17b

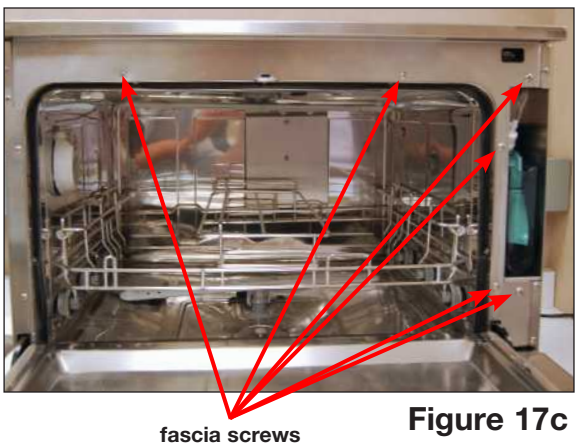

Figure 17c

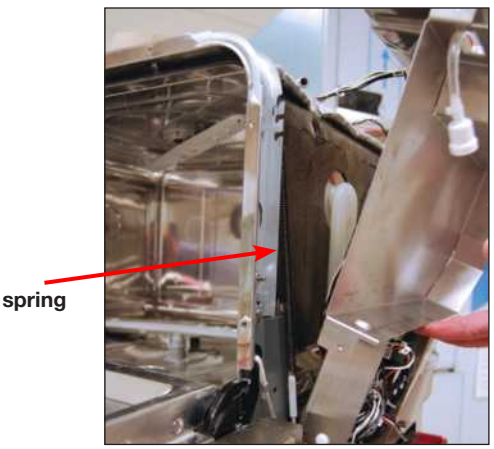

Figure 17d

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6. Door Components

6.3 Removing and reinstalling the door

1. Remove door fascia. (See 6.1 Removing and reinstalling door fascia)
2. Unhook LCD bracket from service position. (Figure 18a)
3. Remove door reinforcing bar by removing the 2 screws at left and 3 screws at right. Then sliding left side up and slide right side up to bring it up and out of position. (Figure 18b)
4. Remove latch assembly (see 6.7 Removing and reinstalling door latch assembly) but do not disconnect wires.
5. Remove 2 screws on the left inside of door and 2 screws on right inside of door. (Figure 18c)
6. Pull the door out. **CAUTION:** Door edges are extremely sharp.

To reinstall, push the door back into position and fasten screws. Reattach latch assembly, door reinforcing bar, and door fascia.

Inner door panel – part # 01-113299S

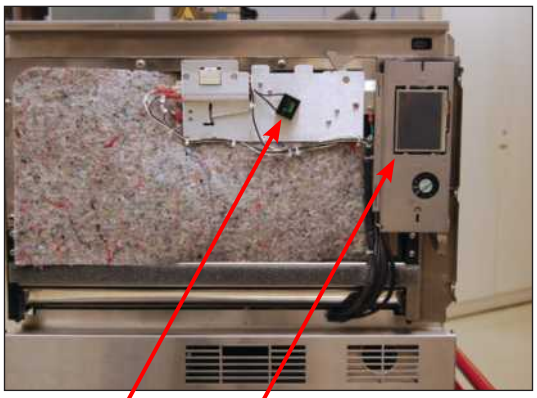

Figure 18a

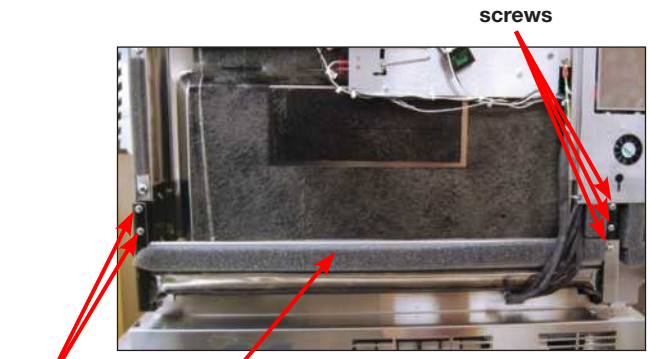

Figure 18b

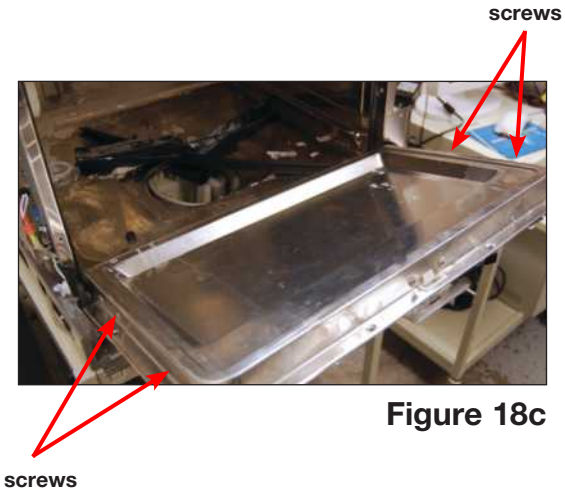

Figure 18c

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6. Door Components

6.4 Removing and reinstalling LCD and LCD controller

IMPORTANT INSTRUCTIONS FOR CHANGING LCD CONTROLLER BOARDS!

- **TRANSFER SD CARD:** To avoid losing the cycle data stored on the unit, remove the old SD card from the LCD controller board and insert it into the SD card slot on the new board. (Figure 19b)
- **ASSIGN SERIAL NUMBER:** When installing a new LCD controller board, you must manually assign the serial number and model number. For detailed instructions on how to access this secure menu, please contact SciCan technical service.

1. Remove the door fascia to access the LCD. (See 6.1 Removing and reinstalling door fascia)
2. Remove all wire connections from the controller board and cut cable ties affixing the wiring harness to the LCD. (Figure 19a)
3. Remove the retaining nuts on each corner of the board. **CAUTION:** Lift the board gently – it is attached to the LCD by a ribbon cable. (Figure 19a)
4. Flip the board over to expose the ribbon cable latch fastener. Using your fingernail, gently flip up the latch to release the ribbon cable. (Figure 19b)
5. The LCD is affixed to the bracket (replacement LCD will come attached to bracket).
6. Remove the speaker and fan if replacing the LCD so that these can be used on the replacement LCD bracket.

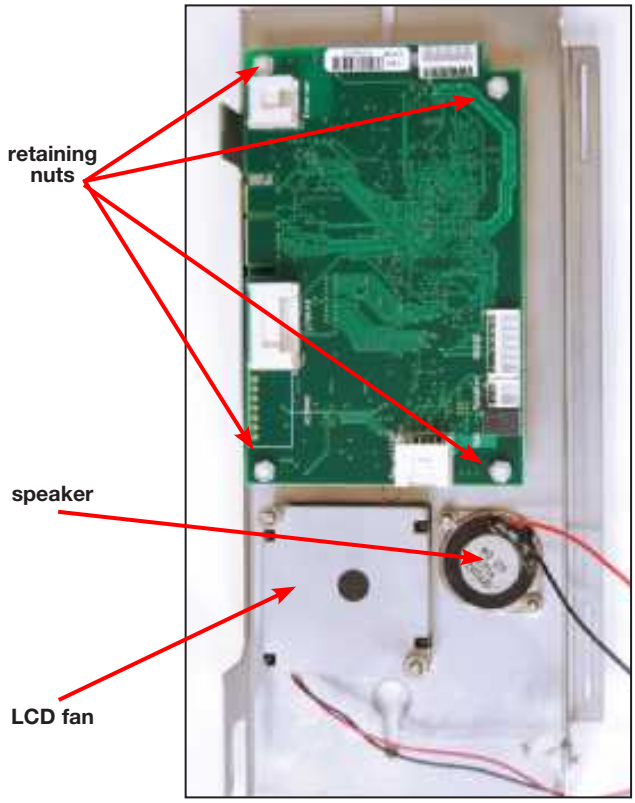

Figure 19a

To reinstall:

1. Place the controller board on a flat surface next to the LCD/LCD bracket and connect the ribbon cable.
2. Reattach the LCD controller board using the 4 retaining nuts.
3. Reattach all the wire connections to the LCD controller board and fasten with cable ties.
4. Reattach the LCD bracket to the door fascia using the 2 retaining nuts.
5. Reinstall the door fascia.

LCD Assembly – part # 01-113311S

LCD Controller C61wd – part # 01-113395S

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6. Door Components

6.5 Removing and reinstalling the LCD fan (Figure 19a, 19b)

1. Remove the LCD bracket.
2. Remove the 2 screws affixing the fan to the bracket.
3. Remove the fan.

To reinstall, reverse procedure.

Blower – part # 01-113284S

6.6 Removing and reinstalling the speaker (Figure 19a, 19b)

1. Remove the LCD bracket.
2. Remove the 2 screws affixing the speaker to the bracket.
3. Remove the speaker.

To reinstall, reverse procedure.

Speaker assembly – part # 01-113682S

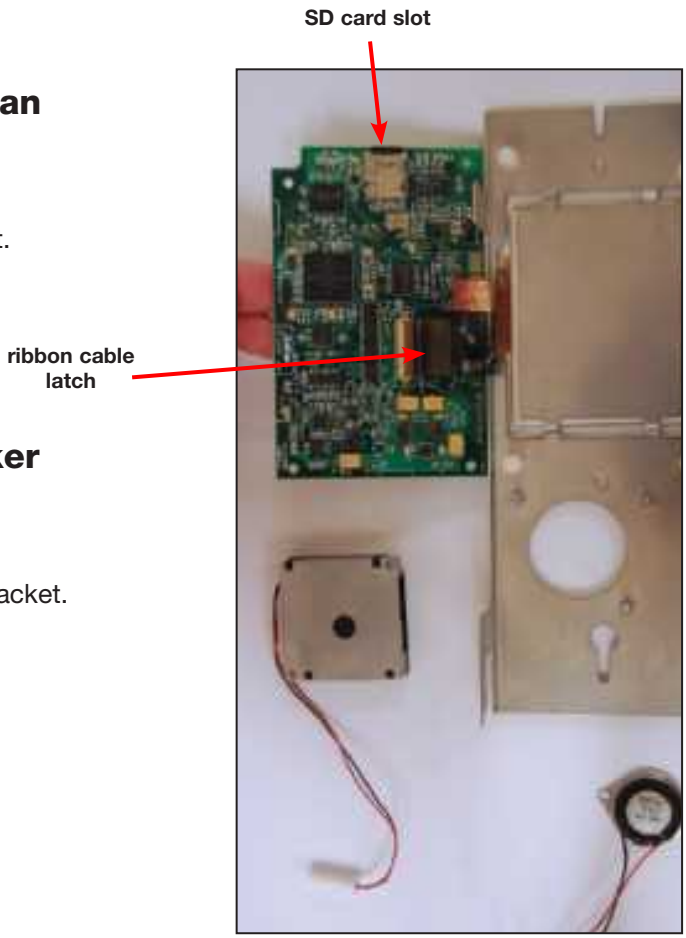

Figure 19b

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6. Door Components

6.7 Removing and reinstalling the door latch assembly

1. Remove the door fascia. (See 6.1 Removing and reinstalling door fascia)
2. Remove the 3 screws on the latch assembly (2 screws at inside top of door and 1 at right of assembly). (Figure 20a)
3. Disconnect the wires on the latching microswitch (wires 69, 70), the filter (wires 67, 68), and the door latching solenoid (wires 93, 94). Cut the cable ties holding the wires. (Figure 20a, 20b)
4. Unstick double-sided tape to remove capacitor, if required.

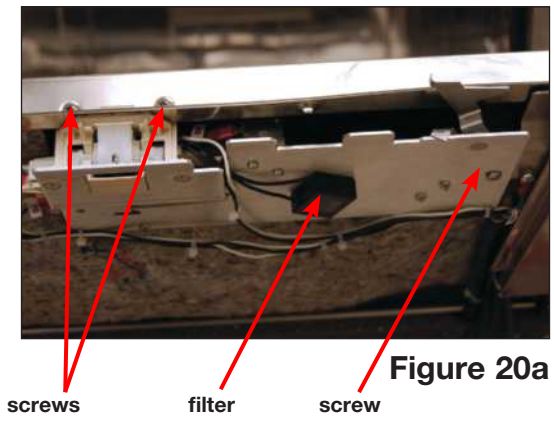

Figure 20a

To reinstall:

1. Reattach all the wires.
2. Re-stick capacitor to door latch assembly.
3. Fasten the 2 screws at the top of the door latch. (**CAUTION:** door has sharp edges)
4. Fasten the 1 screw into bracket at right.
5. Apply new cable ties.

Door latch – part # 01-113322S

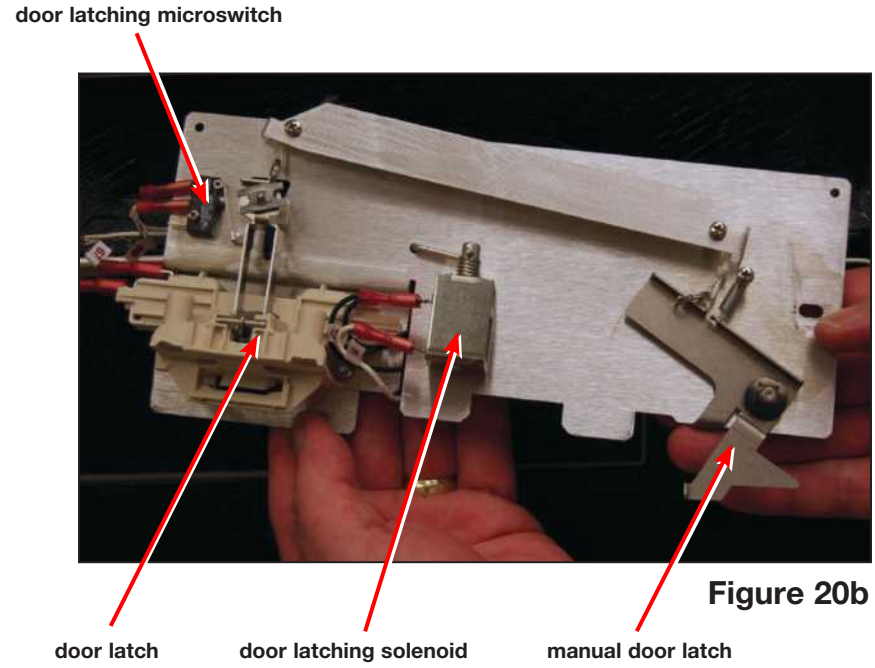

Figure 20b

6.8 Removing and replacing the door microswitch

1. Remove the door latch assembly.
2. Unscrew the 2 screws fastening the door miscroswitch to the door latch assembly and remove. (Figure 20b and 20c)

To reinstall:

1. Replace the door microswitch and fasten with the 2 screws.
2. Reinstall the door latch assembly and door fascia.

Door latch microswitch – part # 01-113605S

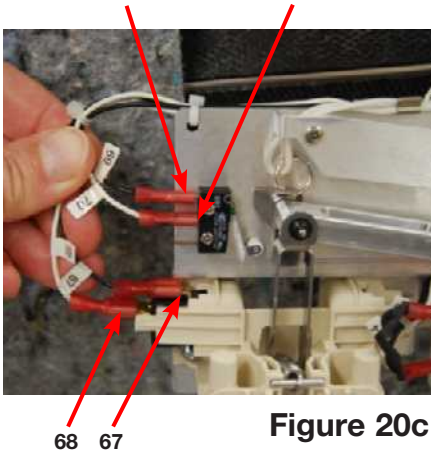

Figure 20c

6.9 Removing and replacing the door latch solenoid

1. Remove door latch assembly.
2. Remove 2 screws fixing solenoid to assembly.
3. Disconnect wiring. **CAUTION:** connector terminals are delicate. Hold terminals with pliers while pulling connections.

To reinstall, reverse procedure.

Door latch solenoid – part # 01-113319S

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6. Door Components

6.10 Removing and replacing the lower door seal

FOR UNITS WITH LOWER DOOR SEAL, NO BRACKET (Seal – part # 01-113661S)

1. Remove the door fascia (See 6.1 Removing and reinstalling door fascia).
2. Remove door screws to loosen door (Fig. 21a).

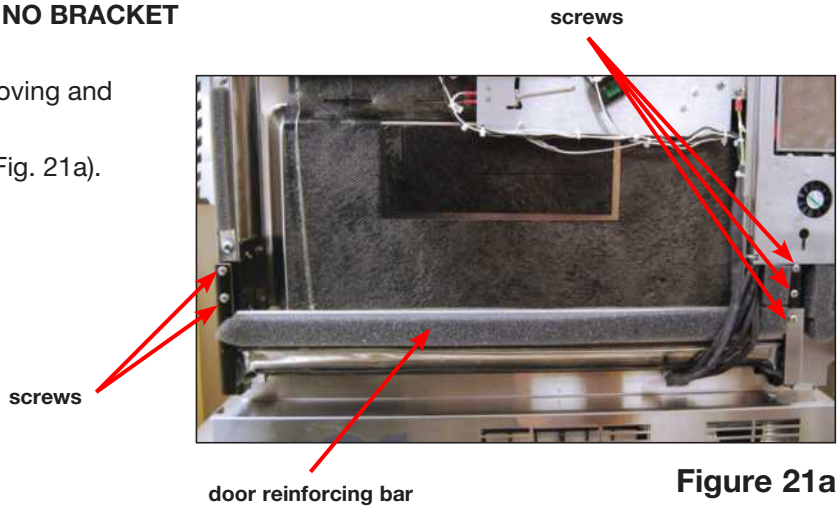

Figure 21a

3. Pull the door up enough to allow clear access to the lower chamber seal.
4. Remove the old seal and clean the chamber surface. Scrape any cured sealant from the chamber surfaces and clean or vacuum all seal and sealant debris from the chamber.
5. Clean the chamber surface with acetone. Wait a few minutes to let the acetone evaporate.
6. Apply primer (Dow Corning PR-1200 (# 01-114187S) OR Wacker Primer G790) with a brush or cloth on the chamber surfaces where the seal will sit (chamber bottom and side walls).

Figure 21b

CAUTION: Wear protective gloves, eyewear and mask when working with the primer. Follow instructions on the primer can.

7. Let the primer cure for (1-2 hours) before installing the seal.

IMPORTANT: Allow for cure time. If the seal is installed before the primer is cured, the seal will not stick to the chamber surfaces.

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6. Door Components

To replace the lower chamber seal:

1. Apply new sealant (Elastosil A 442 (# 01-114188S) to the chamber as shown in red in Figure 21c. Apply sealant liberally on the chamber front flange and front corners where the seal will be sitting.

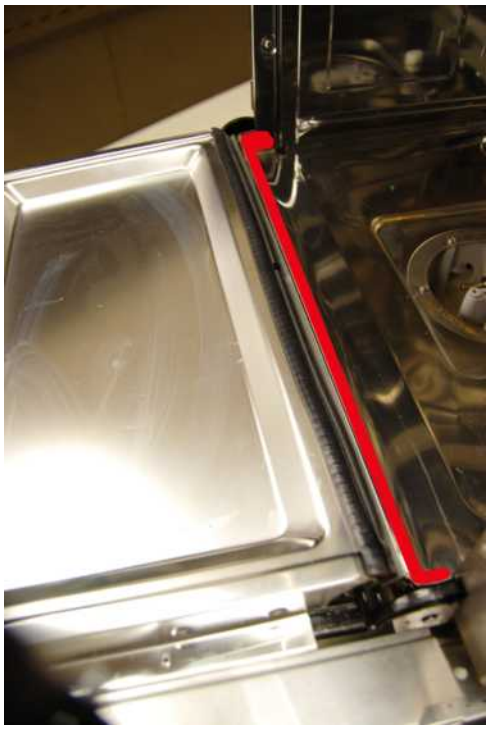

Figure 21c

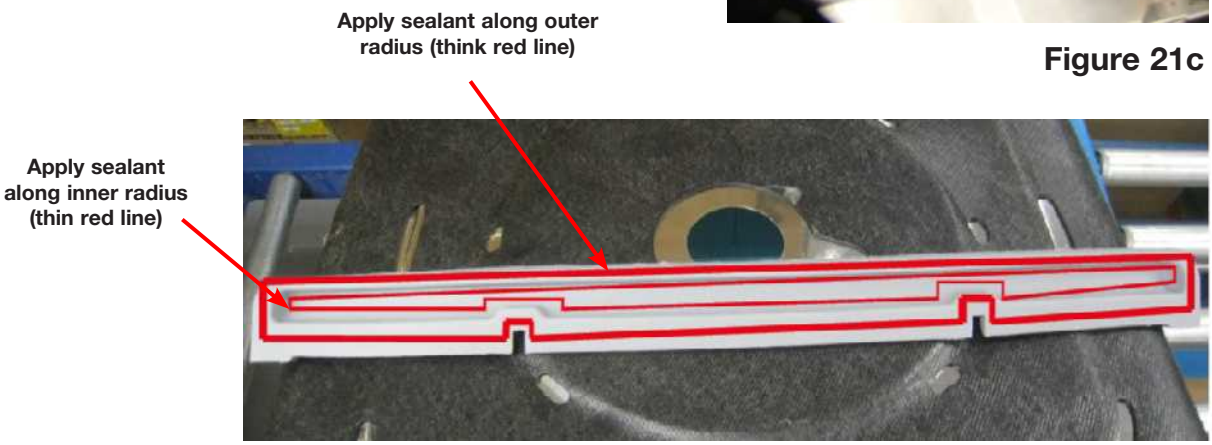

Figure 21d

2. Apply sealant to the new seal as shown in Figure 21d.

3. Place the seal into position in the chamber (notched side towards chamber) and press to bond. Make sure seal sits below the chamber's front flange, see Figure 21e.

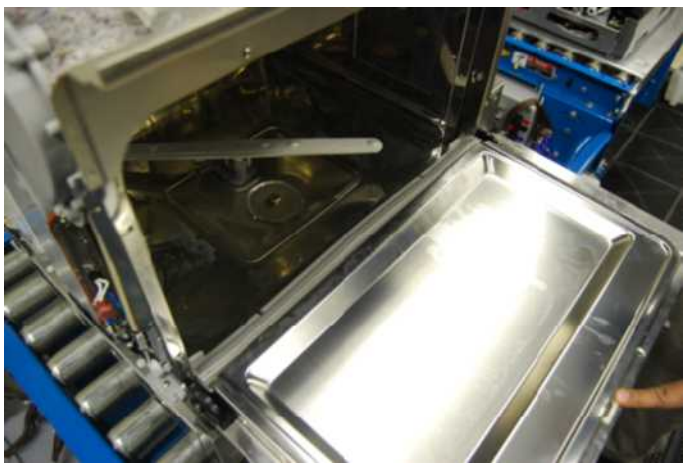

Figure 21e

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6. Door Components

4. Ensure the seal is sitting flat at both corners with the black chamber seal behind it. (Figure 21f)
5. Clean any excess sealant from the front of the chamber seal and chamber side walls after installation.
6. Slide the door back into place and reinstall screws.
7. Reinstall the door fascia (See 6.1 Removing and reinstalling the door fascia).

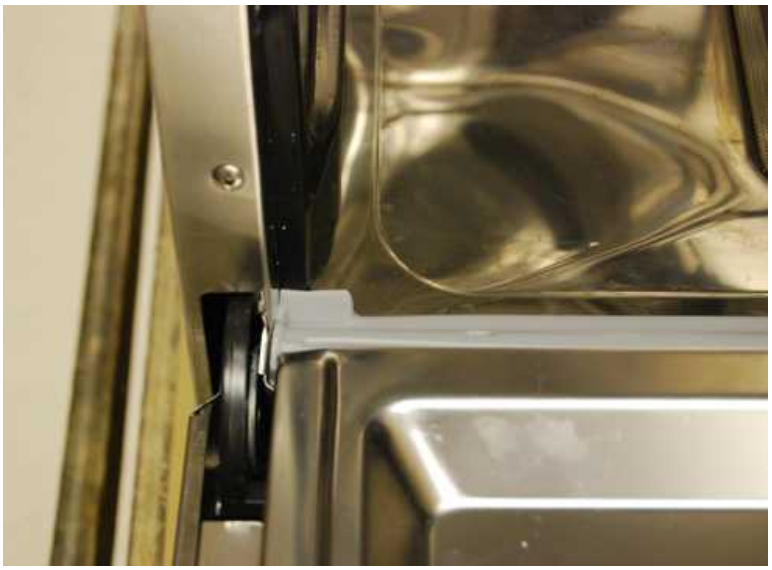

Figure 21f

8. Slowly close the door, holding the middle of the new door seal to keep it in position. (Figure 21g).
9. Let sealant cure for 3 days (72 hours) before running a cycle.

Figure 21g

Primer: Dow Corning PR-1200 - part # 01-114187S or Wacker Primer G790

RTV Sealant: Elastosil A 442 – part # 01-114188S

Seal – part # 01-113661S

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6. Door Components

FOR UNITS WITH A LOWER DOOR SEAL BRACKET (part # 01-114826S)

To remove:

1. Remove the four screws holding the lower door seal's top bracket and pull out the seal. (Figure 21h)

NOTE: Some lower door seals may be difficult to remove due to excess sealant used in manufacturing to fasten the lower plastic bracket to the chamber. In this case, pull the old seal out, remove any debris stuck to the chamber surfaces to provide a clean seat for the new seal.

Figure 21h

To replace:

2. Put the new lower door seal in place. Ensure the seal is sitting flat at both corners with the black chamber seal behind it. (Figure 21i)

Figure 21i

3. Put the lower door seal bracket in place. For the correct position, place the side with the black lines towards the door. (Figure 21j)

4. Reinstall the four screws. Close the door and run a cycle.

Figure 21j

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6. Door Components

6.11 Removing and replacing the chamber seal (Figure 22)

1. Before pulling the chamber seal, note how the bottom left and right edges touch the bottom of the chamber.
2. Pull the seal out from the seal recess.

To replace:

3. Place the bottom left and right ends of the new seal into position, ensuring that the ends touch the chamber bottom.
4. Ensure the lip of seal is directed towards the inside of the chamber when installed.
5. Tuck the corners into the seal recess and push the rest of the seal into place.

Chamber seal – part # 01-107786S

Figure 22

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7. Right Side Components

WARNINGS AND PRECAUTIONS

If you have questions about the unit you are repairing, please do not hesitate to contact your local SciCan representative for information. Also, the HYDR*IM* is heavy. Exercise caution and seek assistance when lifting or carrying units.

EXERCISE CAUTION

- Hazardous voltages are accessible when the cover is removed.
- Disconnect the power cord before servicing the power mains portion of the controller board and associated devices.
- Removing the panels will expose some sharp metal edges. Be careful and wear long sleeves and gloves.

PERFORM TESTS

- If you service or replace parts associated with the power main, perform a dielectric strength test (Hi-Pot) on the HYDR*IM*. Perform a second Hi-Pot test once the cover has been returned to the unit.
- If components of the protective earthing system are changed or if connections are broken and remade, perform a protective bonding impedance test (ground continuity). Perform both a second Hi-Pot test and a second ground continuity test once the cover has been returned to the unit.
- If any panel is removed, perform a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) on the HYDR*IM* when the work is completed and after the panel has been returned to the unit.

PROTECT THE UNIT

- The HYDR*IM* contains electronic circuitry that is static sensitive. Always wear a static strap when working with or near printed wiring boards. In addition, use static footstraps, grounding mats and grounded work surfaces when servicing microprocessor devices. Transport boards and devices in static protected bags.
- In order to ensure adherence to the applicable safety agency approvals, state, provincial, regional and national laws, replace components with SciCan approved parts only.

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7. Right Side Components

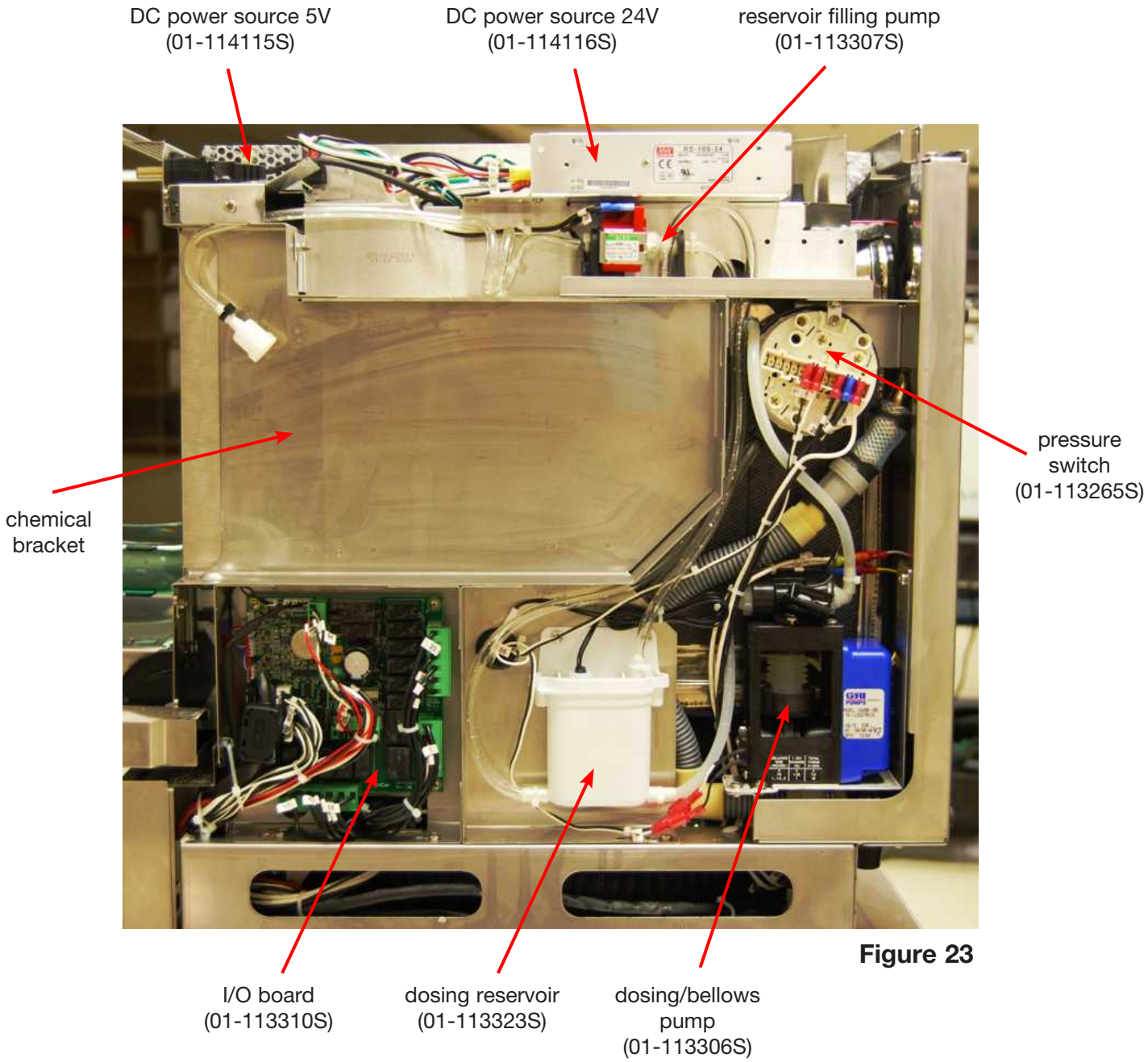

Figure 23

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7. Right Side Components

7.1 Removing and reinstalling DC power sources (5V and 24V)

1. Turn off unit and disconnect power cord.
2. Remove wire contacts from DC power source.
3. To remove 24V DC power source, remove 1 screw at the front right of the power supply bracket and loosen 1 screw at the back of the bracket. Slide forward to remove.
4. To remove 5V DC power source, remove the 2 screws affixing the power source to the chemical bracket.

To reinstall:

1. To reinstall the 24V DC power source, slide the bracket back into position, tighten the rear screw and replace the screw at front right. Reattach contacts according to Figure 24a.
2. To reinstall the 5V DC power source, put it into position and use the two screws to fasten it to the chemical bracket. Reattach contacts according to Figure 24b. Power supply – part # 01-114124S

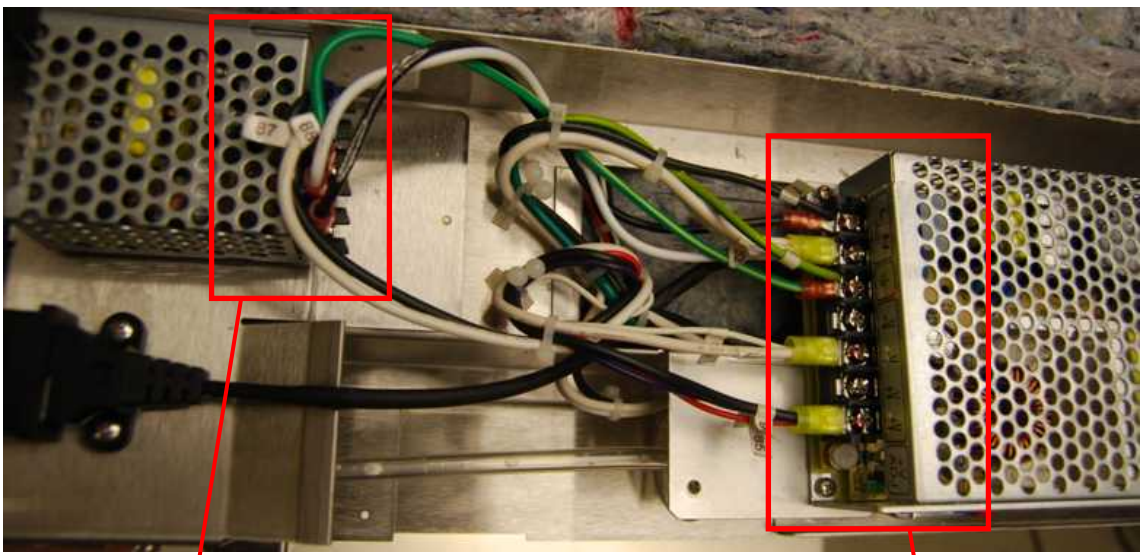

Figure 24

Figure 24a

Figure 24b

L	N	GRD	V	+V
Bk from 24V	Wh from 24V	from 24V	88	87

L		N			GRD		-V	-V		+V	+V		
7	Bk to 5V	31	32	Wh to 5V	41	GRD to 5V	unused	89	84	unused	90	85	81

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7. Right Side Components

7.2 Upgrading 5V and 24V single unit power supply with separate 5V and 24V power units

1. Turn off unit and disconnect power cord.
2. Remove top cover.
3. Remove 7 wire contacts from the DC power source.
4. Remove 1 screw at the front right of the power supply bracket and loosen 1 screw at the back of the bracket. Slide forward to remove.

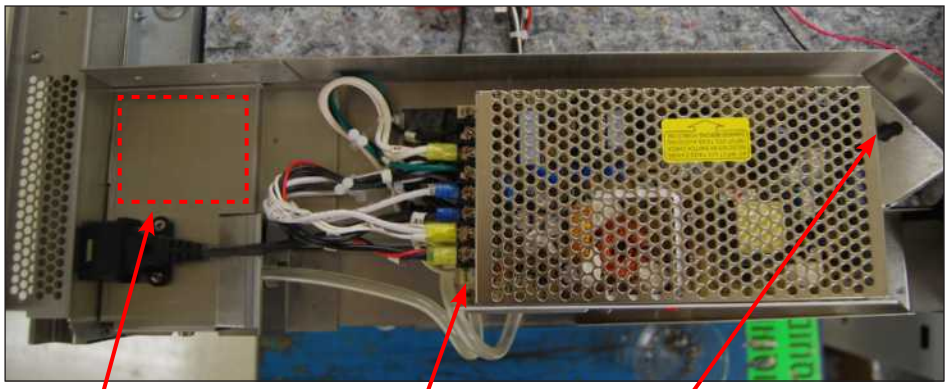

Figure 24c

To install the separate 5V and 24V power units:

1. Peel the foil from the adhesive pad on the 5V power unit and stick it into position next to the USB port as shown in Figure 24.
2. Reinstall the new 24V power supply using the 2 screws to fasten it to the chemical bracket.
3. Re-attach all wire contacts by referencing Figures 24, 24a and 24b.

Power supply – part #01-114124S

7.3 Removing and reinstalling the reservoir filling pump (Figure 25)

1. Disconnect chemical bag and run shipping cycle to drain dosing system.
2. Turn off unit and disconnect power cord.
3. Remove right panel.
4. Remove 2 wire connections at top of pump.
5. Cut cable ties on input and output tubing.
6. Pull pump out from between rubber mounts.

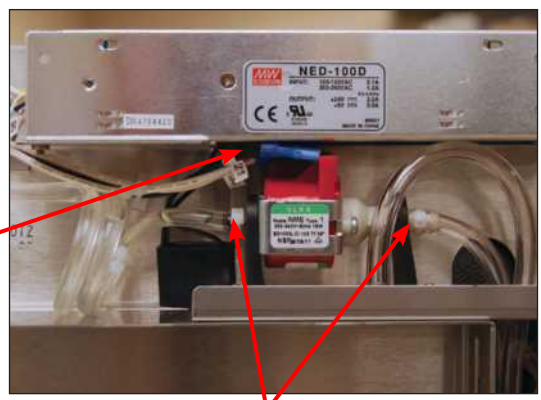

Figure 25

To reinstall:

1. Put pump into position between rubber mounts and attach tubing to inlet and outlet.
2. Fasten the tubing to the pump with cable ties.
3. Reattach 2 wire connections.
4. Run device test on service menu before replacing panel.
5. Reinstall right panel.

Chemical pump – part # 01-113307S

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7. Right Side Components

7.4 Removing and reinstalling the dosing/bellows pump (Figure 26a, 26b)

1. Disconnect chemical bag, run shipping cycle to drain system, power off unit, and disconnect power cord.
2. Remove right panel.
3. Cut the cable ties on the inlet and outlet tubes.
4. Disconnect wires 53 and 54 from microswitch.
5. Disconnect yellow wire from 22 and white wire from 33/34.
6. Remove 2 screws to detach bracket from chassis.
7. Pull tubing from inlet and outlet connections.
8. Lift the dosing/bellows pump out and remove 2 screws to detach dosing/bellows pump from bracket.

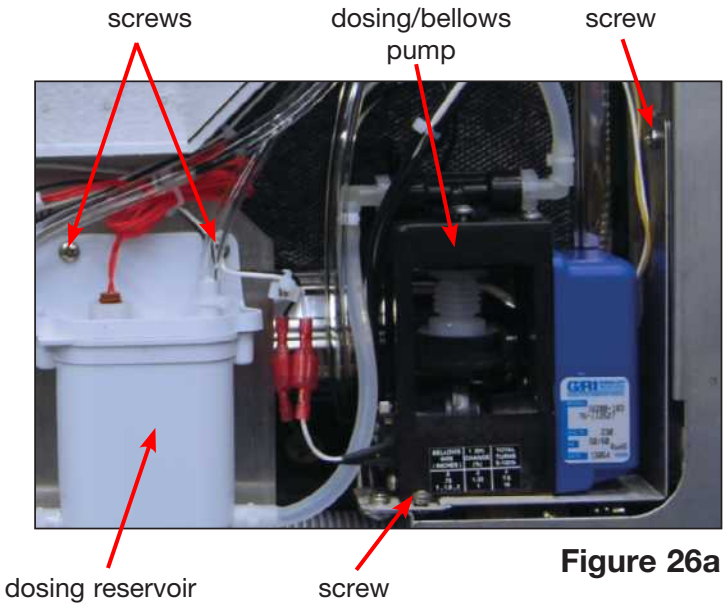

Figure 26a

To reinstall:

1. Reattach dosing/bellows pump to bracket using two screws.
2. Fasten bracket to chassis using 2 screws.
3. Connect wires 53/54 to microswitch, yellow wire to 22 and white to 33/34.
4. Reattach tubing with cable ties.
5. Reinstall right panel.

Dosing/bellows pump – part # 01-113306S

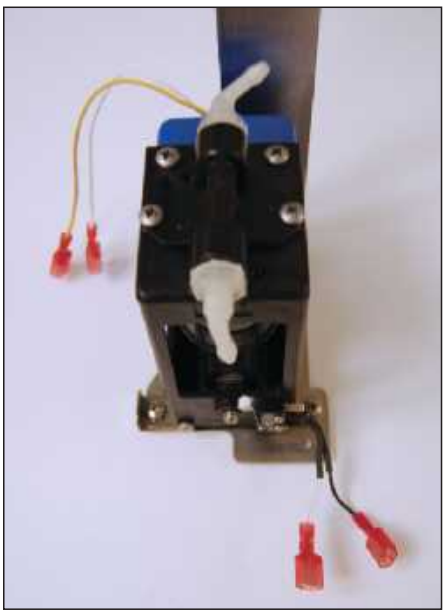

Figure 26b

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7. Right Side Components

7.5 Removing and reinstalling the dosing reservoir (See Figure 26a)

1. Disconnect chemical bag, run shipping cycle to drain system, power off unit, and disconnect power cord.
2. Remove right panel.
3. Cut cable ties and disconnect inlet and outlet tubing from reservoir bottom.
4. Disconnect snap connector on red wire 55/56 to the float switch.
5. Cut cable tie on overflow outlet tubing and detach.
6. Remove 2 screws to remove dosing reservoir from chemical bracket.

To reinstall:

1. Attach overflow outlet tubing using cable tie.
2. Attach inlet and outlet tubing using cable ties.
3. Put dosing reservoir into position and replace 2 screws to attach to chemical bracket.
4. Reconnect snap connector on red wire 55/56 to float switch.
5. Reinstall right panel.

Reservoir assembly – part # 01-113323S

7.6 Removing and reinstalling the I/O board (Figure 27a, 27b)

1. Turn off unit and disconnect from power source.
2. Remove right panel.
3. Disconnect all connectors on I/O board.
4. Remove 5 screws fastening I/O board.

Figure 27a

Figure 27b

To reinstall:

1. Ensure unit is disconnected from power source.
2. With IO board in place replace 5 screws.
3. Reconnect all connectors. **NOTE:** all connectors have unique ports. See Figures 27a, 27b, and the schematic in Appendix A for reference.

I/O PCB – part # 01-113310S

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7. Right Side Components

7.7 Removing and reinstalling the chemical bracket

1. Remove unit top panel.
2. Remove unit right panel.
3. Remove the chemical detergent drawer and bag.
4. Remove 1 screw at the back of the reservoir filling pump bracket. (Figure 28b)
5. Remove 4 screws on the chamber fascia. (Figure 28a)
6. Loosen the 3 screws at the base of the chemical bracket. (Figure 28b)
7. Slide it towards the back to release it from the screws at the base and pull it up and out from the unit.

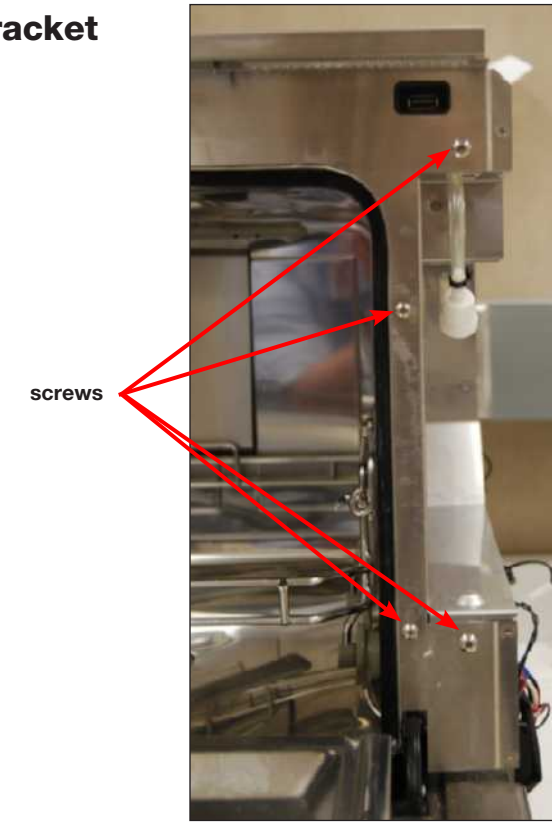

Figure 28a

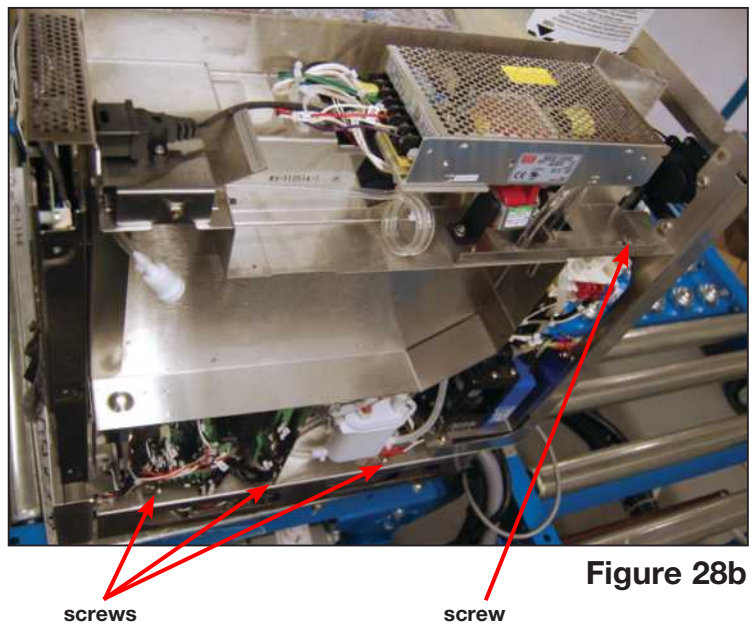

Figure 28b

To reinstall:

1. Slide the bracket back into position, engaging the 3 screws at the base. (Figure 28c)
2. Fasten the 4 screws on the chamber fascia.
3. Fasten the 1 screw at the back of the reservoir filling pump bracket.
4. Reinstall the chemical detergent drawer and bag, the right panel and the top panel.

Figure 28c

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7. Right Side Components

7.8 Removing and reinstalling the pressure switch (Previous Mounting Design)

1. Remove top cover, right panel and back panel.
2. Remove power supply fan.
3. Remove wiring from pressure switch.
4. Remove 2 screws connecting the rear upper cross-member of the chassis and the left upright to access the snap mount that fastens the pressure switch to the pressure switch bracket.
5. Remove the screw connecting the chemical bracket and the power source bracket.
6. Using needlenose pliers, squeeze the snap mount to release the pressure switch.
7. Unclip the locking clip on the tubing and pull the pressure switch free of the tubing.

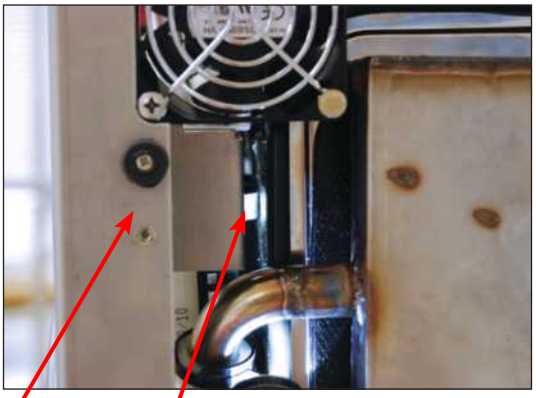

Figure 29a

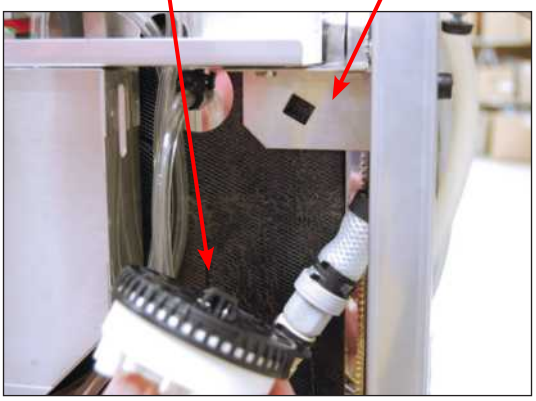

Figure 29b

To reinstall Previous Mounting Design:

1. Before reattaching the pressure switch male end to the tubing, use a syringe to pump a small amount of air into the tube. This will purge any fluid from the pressure tube.
2. Slide the locking clip over the tubing and insert the pressure switch outlet into the tubing and lock the clamp or cable tie.
3. Reconnect the rear upper cross-member and left upright.
4. Reconnect the chemical bracket and power source bracket.
5. Reinstall the power source fan.
6. Reconnect the wiring according to Figure 29e

Two-level pressure switch – part # 01-113265S

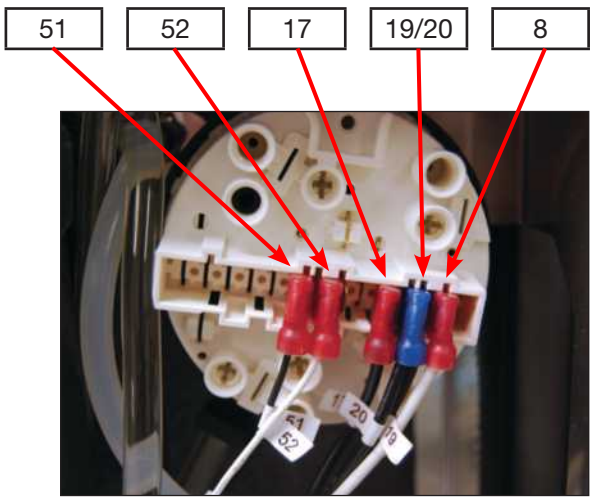

Figure 29e

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7. Right Side Components

7.9 Removing and reinstalling the pressure switch (New Mounting Design)

1. Remove top cover, right panel and back panel.
2. Remove wiring from pressure switch.
3. Remove the screw connecting pressure switch with the bracket (See figure 29c).
4. Slide the pressure switch down (slightly towards the left) and pull it out from the pressure switch bracket slot.
5. Unclip the locking clip on the tubing and pull the pressure switch free of the tubing.

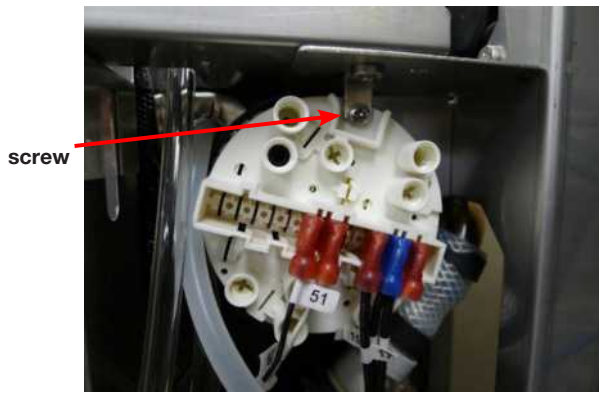

Figure 29c

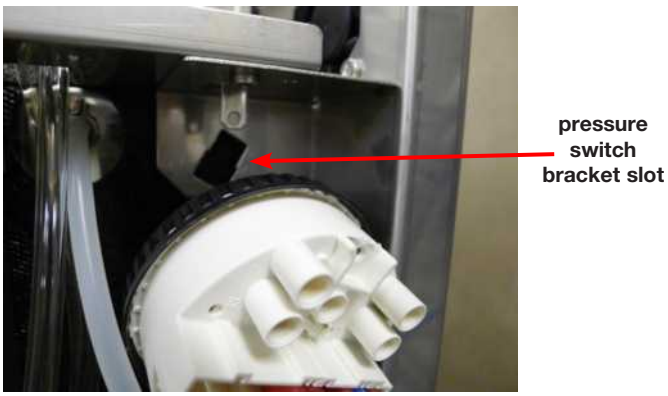

Figure 29d

To reinstall Current Mounting Design:

1. Before reattaching the pressure switch male end to the tubing, use a syringe to pump a small amount of air into the tube. This will purge any fluid from the pressure tube.
2. Slide the locking clip over the tubing and insert the pressure switch outlet into the tubing and lock the clamp or cable tie.
3. Insert pressure switch snap mount and fasten the screwn.
4. Reconnect the wiring according to Figure 29e (See previous page)

Two-level pressure switch – part # 01-113265S.

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8. Left Side Components

WARNINGS AND PRECAUTIONS

If you have questions about the unit you are repairing, please do not hesitate to contact your local SciCan representative for information. Also, the HYDR*IM* is heavy. Exercise caution and seek assistance when lifting or carrying units.

EXERCISE CAUTION

- Hazardous voltages are accessible when the cover is removed.
- Disconnect the power cord before servicing the power mains portion of the controller board and associated devices.
- Removing the panels will expose some sharp metal edges. Be careful and wear long sleeves and gloves.

PERFORM TESTS

- If you service or replace parts associated with the power main, perform a dielectric strength test (Hi-Pot) on the HYDR*IM*. Perform a second Hi-Pot test once the cover has been returned to the unit.
- If components of the protective earthing system are changed or if connections are broken and remade, perform a protective bonding impedance test (ground continuity). Perform both a second Hi-Pot test and a second ground continuity test once the cover has been returned to the unit.
- If any panel is removed, perform a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) on the HYDR*IM* when the work is completed and after the panel has been returned to the unit.

PROTECT THE UNIT

- The HYDR*IM* contains electronic circuitry that is static sensitive. Always wear a static strap when working with or near printed wiring boards. In addition, use static footstraps, grounding mats and grounded work surfaces when servicing microprocessor devices. Transport boards and devices in static protected bags.
- In order to ensure adherence to the applicable safety agency approvals, state, provincial, regional and national laws, replace components with SciCan approved parts only.

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8. Left Side Components

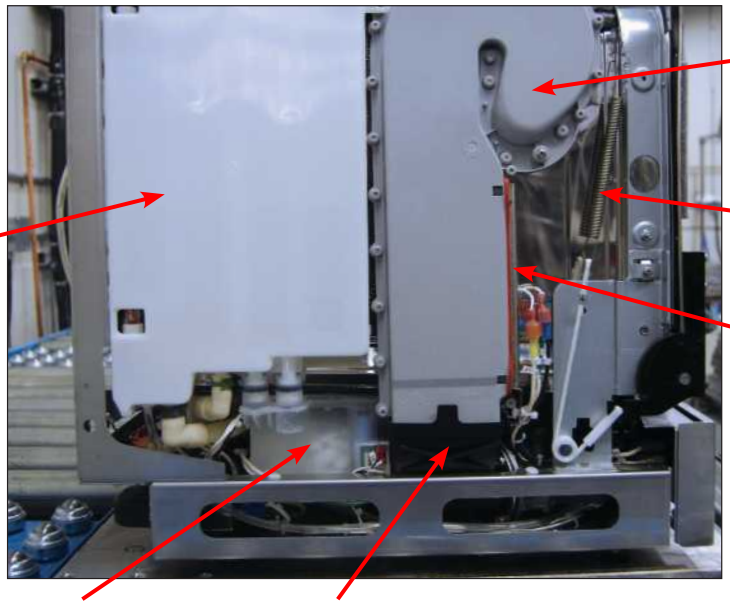

Figure 30

8.1 Removing and reinstalling the air gap

1. Disconnect the cleaning solution bag and run a shipping cycle to drain.
2. Remove the top panel, left panel and back panel. (See Section 4. Removing and Replacing Panels.)
3. From the top, follow the wire harness from the air gap to disconnect the Empty: 79/80; Full: 75/76 and Overflow: 78/77 wires (should be attached with color-coded cable ties – identify the wires if they are not)
4. Once labeled, disconnect the wires.
5. Disconnect the inlet hose at the top of the air gap. (Figure 31a)
6. Remove the 2 screws on the left of the air gap. Access these from the back of the unit through the two holes in the rear chassis upright. (Figure 31b)
7. Remove the 1 screw connecting the air gap and the dryer assembly. (Figure 31b)
8. Remove the drainage tube.

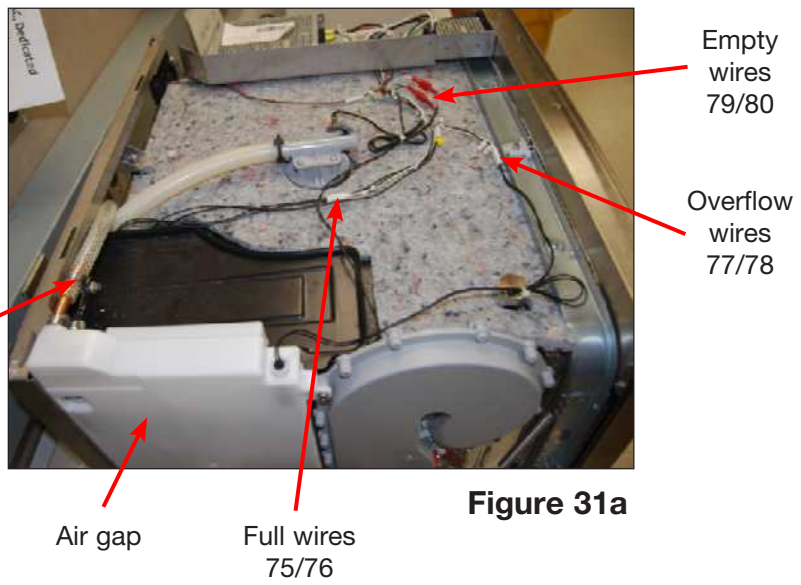

Figure 31a

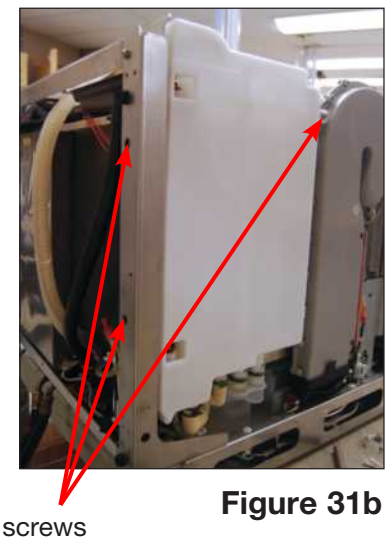

Figure 31b

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8. Left Side Components

9. Disconnect the pump breather tube at air gap. (Figure 31c)
10. Disconnect the 2 hose clamps using pliers to slide them down and out of the way. (Figure 31d)
11. To remove the air gap, pull it up to clear the water softener connections.

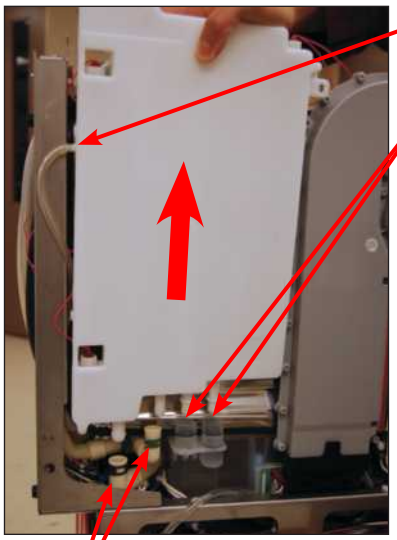

Figure 31c

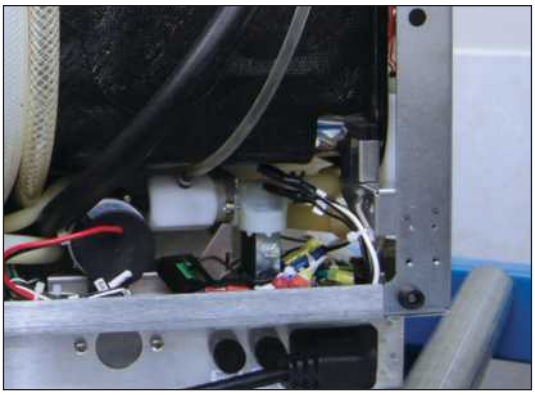

Figure 31d

To reinstall:

1. Reconnect the pump breather tube to air gap and fasten with a cable tie.
2. Apply soap (or silicone lubricant, if available) to the water softener connections and push the air gap down into position. Ensure the overflow outlet at the top of the air gap is properly aligned with the tray.
3. Fasten the 2 screws at the left side of the air gap.
4. Reconnect tubing and tighten hose clamps.
5. Reconnect the wire connections according to the color-coded cable ties or your own markings.
6. Reinstall panels.

Backflow preventer (Figure 31e) – part # 01-113318S

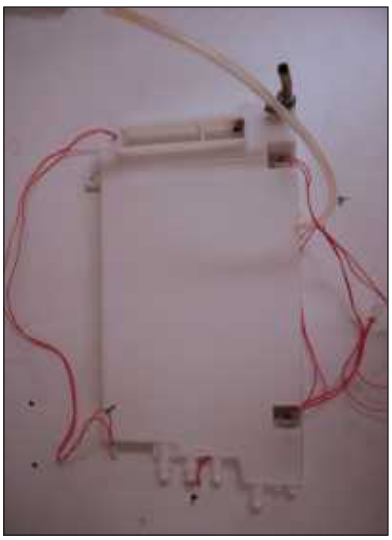

Figure 31e

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8. Left Side Components

8.2 Removing and reinstalling the dryer heater

1. Remove the top cover and then remove the left panel. (See Section 4. Removing and Replacing Panels.)
2. Disconnect the heater wiring.
3. Unscrew the 2 screws (Figure 32).
4. Cut the wiring cable tie.
5. Remove the door spring and tuck the wiring harness out of the way under the chamber to improve access.
6. Slide the heater out of the dryer duct housing.

To reinstall:

1. Put the heater back in the dryer assembly
2. Insert the screws and do not overtighten.
3. Reconnect the wiring.
4. Reinstall panels.

Heater-air – part # 01-113273S

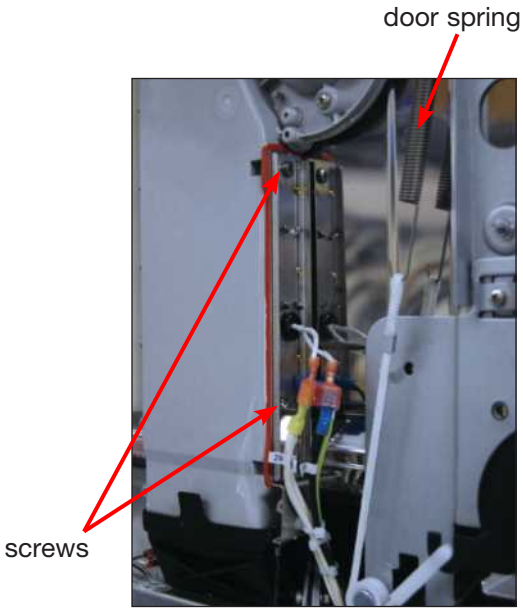

Figure 32

8.3 Removing and reinstalling the dryer assembly

1. Remove the top cover and then remove the left panel. (See Section 4. Removing and Replacing Panels.)
2. From inside the chamber, remove the 4 screws holding the dryer outlet cover. (Figure 33a)
3. Remove the screw connecting the dryer assembly to the air gap.
4. Disconnect the dryer heater wiring.
5. Pull the dryer free from the rubber air intake boot. (Figure 33b)

Figure 33a

Figure 33b

To reinstall:

1. Put the dryer assembly in place.
2. Reattach the rubber air intake boot.
3. Attach the dryer outlet cover on the chamber side and fasten with 4 screws.
4. Reattach the screw connecting the dryer assembly to the air gap.
5. Reattach the dryer heater wiring.
6. Reinstall panels.

Duct, vertical – part # 01-113324S

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8. Left Side Components

NOTE: if water leaks from the dryer assembly:

1. Remove the outlet cover inside the chamber.
2. Apply a small amount of silicone RTV along the joint of the dryer duct (See Figure 33c).
3. Attach the dryer outlet cover on the chamber side. Fasten screws 1, 2 and 3 first followed by 4 (see Figure 33c).
4. Wait 12 hrs for Silicone RTV to cure before running a cycle.

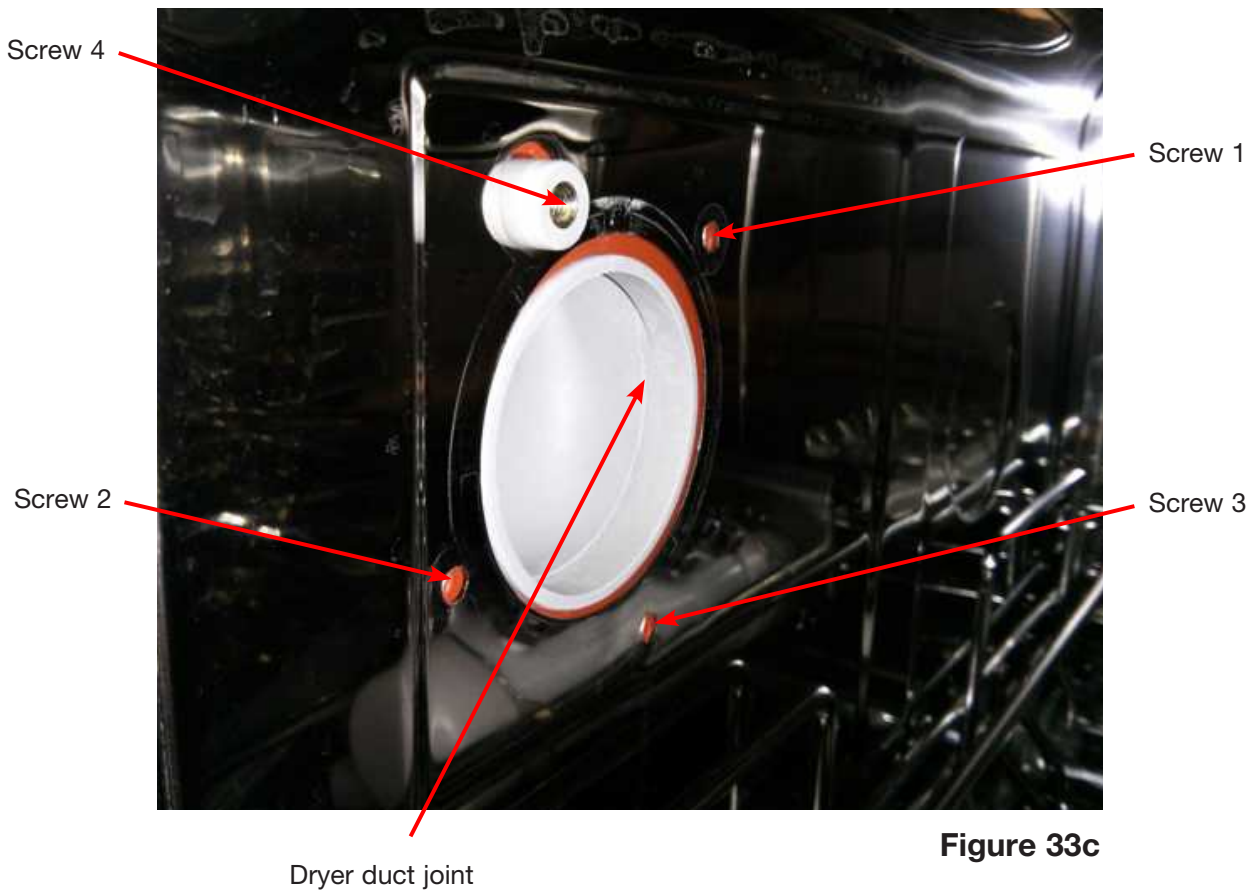

Figure 33c

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9. Rear Components

WARNINGS AND PRECAUTIONS

If you have questions about the unit you are repairing, please do not hesitate to contact your local SciCan representative for information. Also, the HYDR*IM* is heavy. Exercise caution and seek assistance when lifting or carrying units.

EXERCISE CAUTION

- Hazardous voltages are accessible when the cover is removed.
- Disconnect the power cord before servicing the power mains portion of the controller board and associated devices.
- Removing the panels will expose some sharp metal edges. Be careful and wear long sleeves and gloves.

PERFORM TESTS

- If you service or replace parts associated with the power main, perform a dielectric strength test (Hi-Pot) on the HYDR*IM*. Perform a second Hi-Pot test once the cover has been returned to the unit.
- If components of the protective earthing system are changed or if connections are broken and remade, perform a protective bonding impedance test (ground continuity). Perform both a second Hi-Pot test and a second ground continuity test once the cover has been returned to the unit.
- If any panel is removed, perform a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) on the HYDR*IM* when the work is completed and after the panel has been returned to the unit.

PROTECT THE UNIT

- The HYDR*IM* contains electronic circuitry that is static sensitive. Always wear a static strap when working with or near printed wiring boards. In addition, use static footstraps, grounding mats and grounded work surfaces when servicing microprocessor devices. Transport boards and devices in static protected bags.
- In order to ensure adherence to the applicable safety agency approvals, state, provincial, regional and national laws, replace components with SciCan approved parts only.

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9. Rear Components

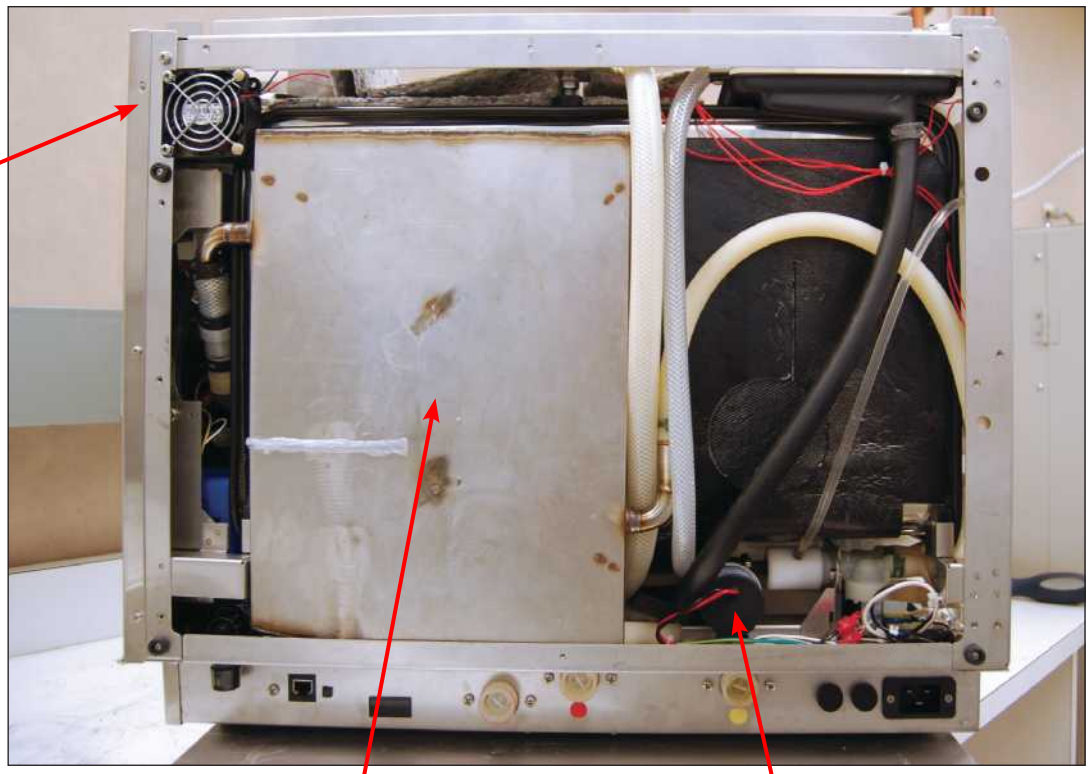

Figure 34

9.1 Removing and reinstalling the cooling fan (Figure 35)

1. Remove top cover and back cover. (See Section 4. Removing and Replacing Panels.)
2. Disconnect wires 91 and 92 from the snap connection on the top wiring harness.
3. Remove 2 screws holding fan to top left upright at the back of the unit and remove fan.

To reinstall:

1. Put fan into position and replace 2 screws.
2. Reconnect wires to wiring harness.
3. Reinstall panels.

Fan, 24V – part # 01-113329S

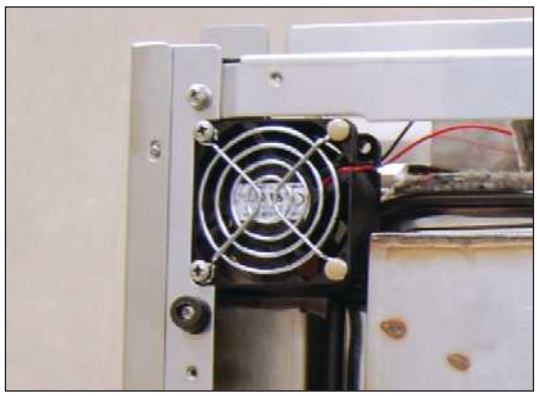

Figure 35

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9. Rear Components

9.2 Removing and reinstalling the air gap pump

1. Disconnect the chemical solution bag and run a shipping cycle to drain the unit.
2. Remove the top cover, left panel and back cover. (See Section 4. Removing and Replacing Panels.)
3. Remove the spring clips on hoses at the bottom of the air gap. One outlet to the pump and the other inlet from the valve.
4. Disconnect wiring from solenoids. (See Figure 36b)
5. Cut the cable tie and disconnect wires 85/86.
6. Remove the two screws holding the bracket to the chassis.
7. Take the pump assembly out and cut the cable tie on the pump breather tube to disconnect it from the pump. **CAUTION:** fitting is delicate; be careful while pulling the tube – it might damage the fitting threads.
8. Cut the cable tie to separate the pump motor from the bracket and pull the motor from the coupling.

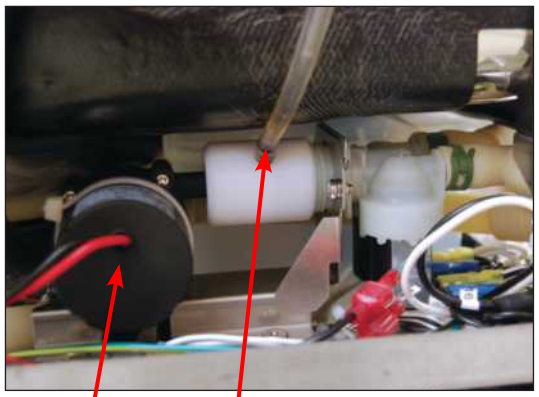

Figure 36a

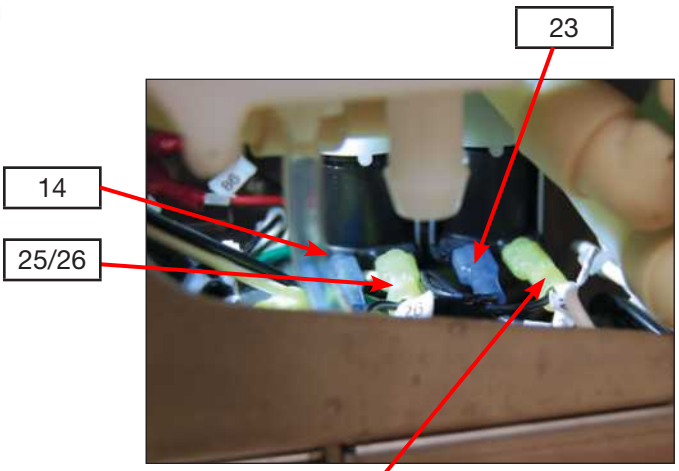

Figure 36b

To reinstall:

1. Use a cable tie to fasten the pump motor to the bracket.
2. Connect the pump breather tube to the pump, securing it with a cable tie, and bring the pump assembly into position.
3. Fasten the pump bracket to the chassis using two screws.
4. Re-connect the wires to the pump: red 85 to red and black 86 to black.
5. Reconnect solenoid wires. (See Figure 36b)
6. Replace the hoses on the air gap - one outlet to the pump and the other inlet from the valve. Slide spring clips into place to fasten hoses.
7. Reinstall panels.

Pump, 24V (See Figure 36c) – part # 01-113283S

Valve, 1 in 2 out (See Figure 36c) – part #01-113331S

Figure 36c

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9. Rear Components

9.3 Removing and reinstalling the condenser

1. Disconnect the chemical solution bag and run a shipping cycle to drain system, power off the unit and disconnect the power cord.
2. Remove top cover and back panel.
3. From inside the chamber, remove the 2 screws to release the splash shield. (Figure 37a)
4. Using a 7 mm nut driver, remove the condenser mounting ring. (Figure 37b)
5. From the back of the unit, remove the clamp on the condenser inlet hose.
6. Remove the lower hose clamp on the condenser outlet.
7. Push down gently on the condenser and tip it back to access the hose clamp on the condenser air exhaust. (Figure 37c)
8. Loosen and slide the hose clamp over the hose to free the condenser air exhaust.
9. Release the clamp on the condenser drain and remove the condenser.

Figure 37a

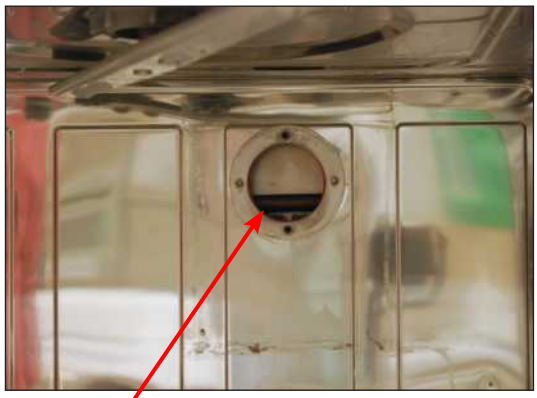

Figure 37b

To reinstall:

1. Attach the air exhaust and drain tube hose clamps.
2. Put the condenser back into place, aligning the screw posts to fit the holes in the chamber.
3. From inside the chamber, replace the mounting ring and fasten the 2 retaining nuts.
4. Replace the splash shield.
5. Reattach the inlet and outlet hoses.

Condenser assembly (Figure 37d) – part # 01-113334S

Push condenser in direction of thick arrows

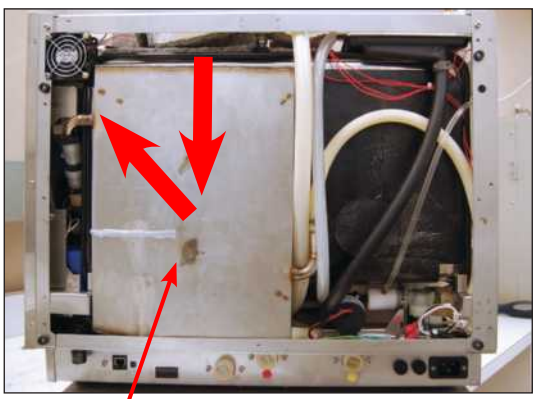

Figure 37c

Figure 37d

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10. Top Components

WARNINGS AND PRECAUTIONS

If you have questions about the unit you are repairing, please do not hesitate to contact your local SciCan representative for information. Also, the HYDR*IM* is heavy. Exercise caution and seek assistance when lifting or carrying units.

EXERCISE CAUTION

- Hazardous voltages are accessible when the cover is removed.
- Disconnect the power cord before servicing the power mains portion of the controller board and associated devices.
- Removing the panels will expose some sharp metal edges. Be careful and wear long sleeves and gloves.

PERFORM TESTS

- If you service or replace parts associated with the power main, perform a dielectric strength test (Hi-Pot) on the HYDR*IM*. Perform a second Hi-Pot test once the cover has been returned to the unit.
- If components of the protective earthing system are changed or if connections are broken and remade, perform a protective bonding impedance test (ground continuity). Perform both a second Hi-Pot test and a second ground continuity test once the cover has been returned to the unit.
- If any panel is removed, perform a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) on the HYDR*IM* when the work is completed and after the panel has been returned to the unit.

PROTECT THE UNIT

- The HYDR*IM* contains electronic circuitry that is static sensitive. Always wear a static strap when working with or near printed wiring boards. In addition, use static footstraps, grounding mats and grounded work surfaces when servicing microprocessor devices. Transport boards and devices in static protected bags.
- In order to ensure adherence to the applicable safety agency approvals, state, provincial, regional and national laws, replace components with SciCan approved parts only.

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10. Top Components

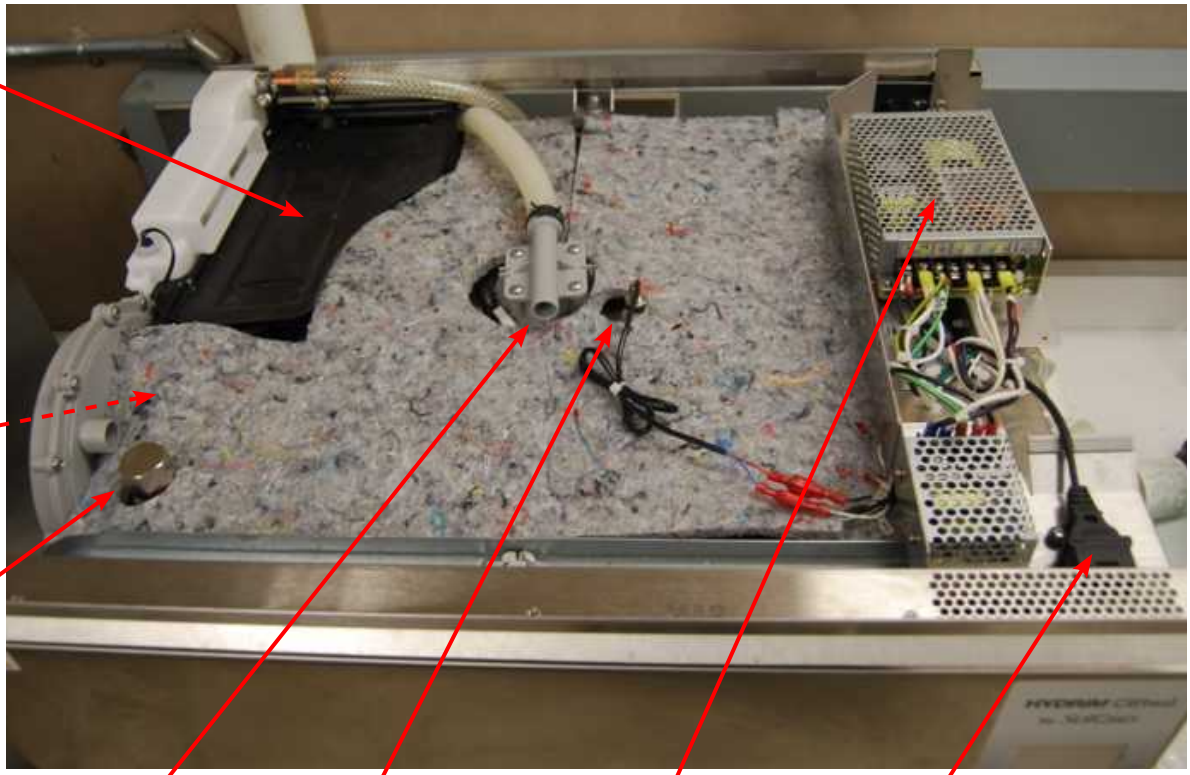

Figure 38

10.1 Removing and reinstalling the USB port (Figure 38)

1. Remove top cover, left and right panels. (See Section 4. Removing and Replacing Panels.)
2. Remove chemical bracket. (See Section 7.6 Removing and replacing the chemical bracket.)
3. Remove 2 screws holding USB port to chassis.
4. Remove door fascia. (See Section 6.1 Removing and replacing the door fascia.)
5. Remove kickplate. (See Section 5.1 Removing and replacing the kickplate.)
6. Disconnect USB from the LCD controller board.
7. Cut cable ties on wiring harness and pull cable through to remove.

To reinstall:

1. Thread USB cable to LCD controller board and connect.
2. Fasten USB port to chassis.
3. Reinstall kickplate, door fascia, chemical bracket and panels.

Cable, USB – part # 01-113261S

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10. Top Components

10.2 Disconnecting and reinstalling the upper wash arm inlet (Figure 38)

1. Remove the top cover. (See Section 4.1 Removing and reinstalling the top cover.)
2. Pull down on the upper wash arm inside the chamber to remove it.
3. Unscrew the mounting nut to release the upper wash arm input.

NOTE: If you have to remove/replace the water feed pipe, you will have to flip the unit on its back. Be sure to disconnect the chemical solution bag and run a shipping cycle to drain the unit. Then disconnect the power and water connections before flipping it on its back.

To reconnect the upper wash arm input:

1. Put the upper wash arm input into position.
2. Fasten the mounting nut on the inside.
3. Reinstall the upper wash arm by pushing it into position.
4. Reinstall top cover.

Top arm fitting – part # 01-113600S

10.3 Removing and reinstalling the upper wash arm sensor (Figure 38)

1. Remove the cover. (See Section 4.1 Removing and reinstalling the top cover.)
2. Disconnect black wires 73 and 74.
3. Unscrew the mounting nut to release the sensor.

To reinstall:

4. Place the sensor into position and hand-tighten the mounting nut.
5. Reconnect the black wires 73 and 74 to the wiring harness.
6. Reinstall top cover.

Proximity sensor – part # 01-113681S

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11. Bottom Components

WARNINGS AND PRECAUTIONS

If you have questions about the unit you are repairing, please do not hesitate to contact your local SciCan representative for information. Also, the HYDR*IM* is heavy. Exercise caution and seek assistance when lifting or carrying units.

EXERCISE CAUTION

- Hazardous voltages are accessible when the cover is removed.
- Disconnect the power cord before servicing the power mains portion of the controller board and associated devices.
- Removing the panels will expose some sharp metal edges. Be careful and wear long sleeves and gloves.

PERFORM TESTS

- If you service or replace parts associated with the power main, perform a dielectric strength test (Hi-Pot) on the HYDR*IM*. Perform a second Hi-Pot test once the cover has been returned to the unit.
- If components of the protective earthing system are changed or if connections are broken and remade, perform a protective bonding impedance test (ground continuity). Perform both a second Hi-Pot test and a second ground continuity test once the cover has been returned to the unit.
- If any panel is removed, perform a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) on the HYDR*IM* when the work is completed and after the panel has been returned to the unit.

PROTECT THE UNIT

- The HYDR*IM* contains electronic circuitry that is static sensitive. Always wear a static strap when working with or near printed wiring boards. In addition, use static footstraps, grounding mats and grounded work surfaces when servicing microprocessor devices. Transport boards and devices in static protected bags.
- In order to ensure adherence to the applicable safety agency approvals, state, provincial, regional and national laws, replace components with SciCan approved parts only.

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11. Bottom Components

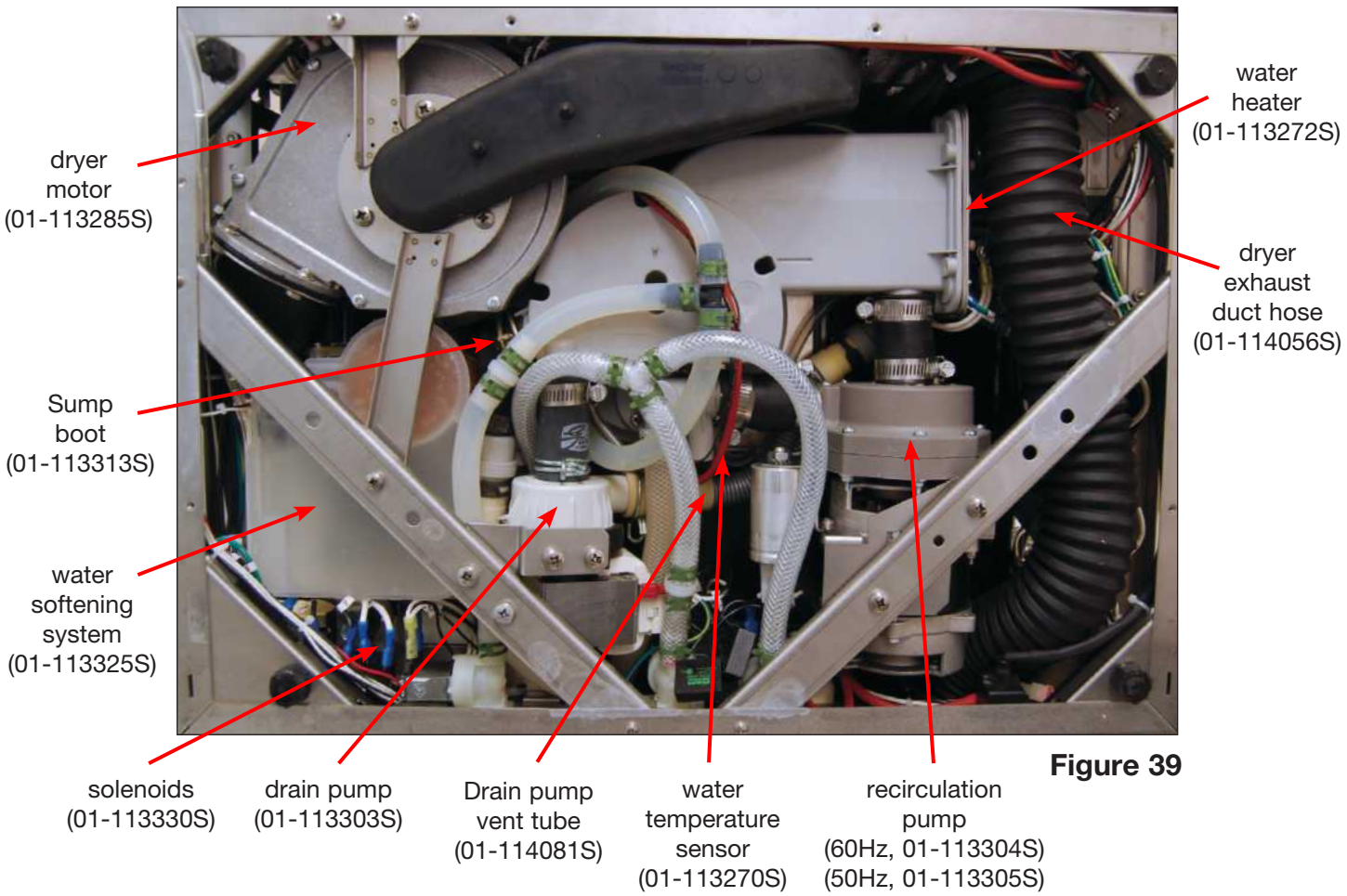

Figure 39

11.1 Removing and reinstalling the recirculation pump

1. Disconnect the detergent bag and remove bag and drawer.
2. Run a shipping cycle to drain the unit, disconnect power and water connections and flip unit onto its back. (For detailed instructions on flipping the unit, see Section 4.5 Removing and reinstalling the bottom panel.)
3. Remove bottom panel. (See Section 4.5 Removing and reinstalling the bottom panel.)
4. Remove the diagonal brace (4 screws). (Figure 40a)
5. Loosen and remove the hose clamps on both the inlet and outlet hoses of the recirculation pump.
6. Disconnect wires.
7. Pull down on the recirculation pump to disconnect it and pull it out.

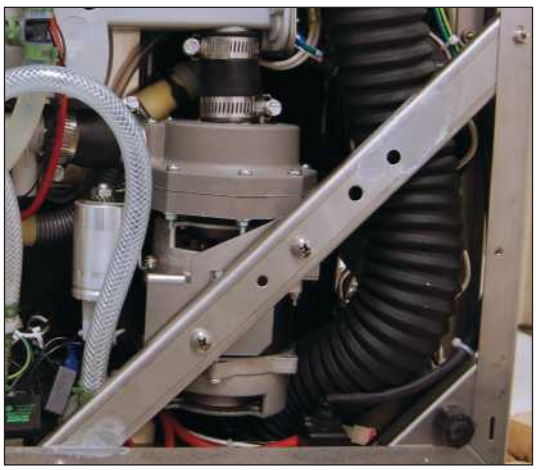

Figure 40a

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11. Bottom Components

To reinstall the recirculation pump:

1. Place pump into position.
2. Reattach wires in the following sequence.
   - red – 34/35
   - Yellow/green – 43
   - Brown – 18
3. Attach hoses and tighten hose clamps.
4. Reattach diagonal brace.
5. Reinstall bottom panel. To reinstall, slide the panel back into position, replace the screws and pull the rubber standoffs back through the panel. (**NOTE:** if the rubber standoffs are not pulled through the panel, the dryer inlet duct will not function correctly.)

Pump, circulation 50Hz (Figure 40b) – part # 01-113305S

Pump, circulation 60Hz – part # 01-113304S

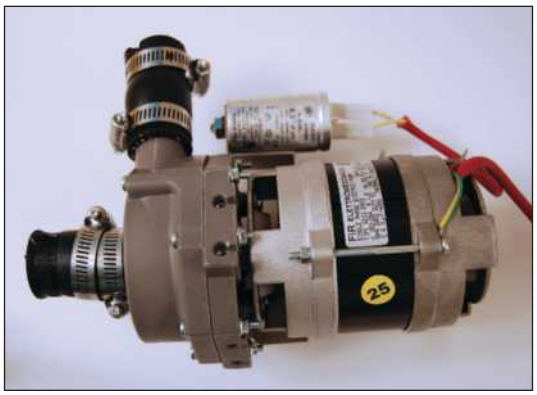

Figure 40b

11.2 Removing and reinstalling the water heater

1. Disconnect the detergent bag and remove bag and drawer.
2. Run a shipping cycle to drain the unit, disconnect power and water connections and flip unit onto its back. (For detailed instructions on flipping the unit, see Section 4.5 Removing and reinstalling the bottom panel.)
3. Remove bottom panel. (See Section 4.5 Removing and reinstalling the bottom panel.)
4. Disconnect the dryer exhaust tubing from the dryer outlet on the kickplate and pull it out of the way to access the heater.
5. Remove water heater wires.
6. Remove grounding wire nut
7. Remove 6 screws fixing heater to sump.
8. Pull the heater out gently.

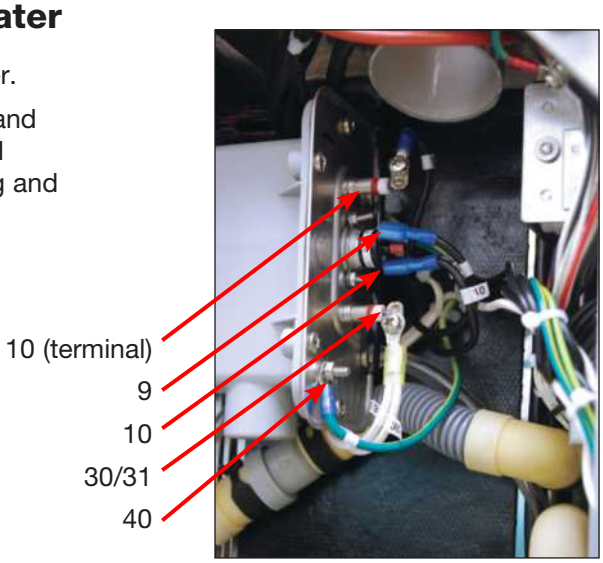

Figure 41a

To reinstall:

1. Insert gasket into gasket recess first, then insert heater and replace screws.
2. Connect wires. (Figure 41a)
3. Reattach dryer exhaust tubing to the outlet in kickplate.
4. Reinstall bottom panel. To reinstall, slide the panel back into position, replace the screws and pull the rubber standoffs back through the panel. (**NOTE:** if the rubber standoffs are not pulled through the panel, the dryer inlet duct will not function correctly.)

Heater-sump kit (Figure 41b) – part # 01-113272S

Seal sump (only) - part # 01-113328S

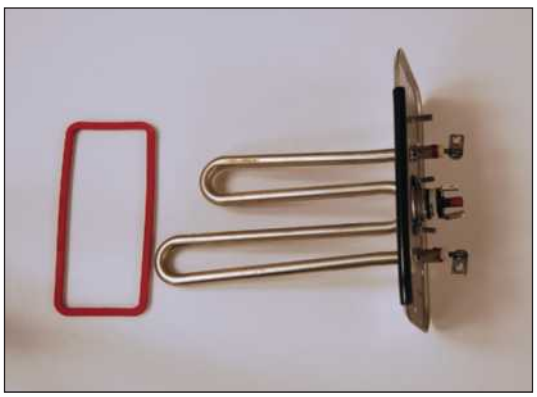

Figure 41b

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11. Bottom Components

11.3 Removing and reinstalling the drain pump

1. Disconnect the detergent bag and remove bag and drawer.
2. Run a shipping cycle to drain the unit, disconnect power and water connections and flip unit onto its back. (For detailed instructions on flipping the unit, see Section 4.5 Removing and reinstalling the bottom panel.)
3. Remove bottom panel. (See Section 4.5 Removing and reinstalling the bottom panel.)
4. Remove the screws from the bracket to detach the pump from the diagonal brace. (Figure 42a)
5. Remove diagonal brace.
6. Loosen the hose clamp to the sump.
7. Pull down on the drain pump (**CAUTION:** pump will still have residual water)
8. Pull drain pump out a bit to access the clamp on the outlet hose to the drain and remove this clamp.
9. Disconnect wiring.

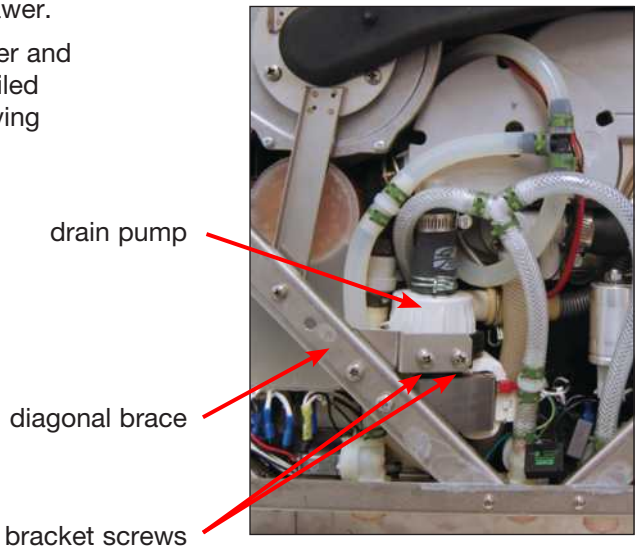

Figure 42a

To reinstall the drain pump:

1. Reconnect the wires.
2. Connect the outlet hose first and then the inlet hose, tightening clamp connections.
3. Reinstall bracket
4. Reinstall diagonal brace.
5. Reinstall bottom panel. To reinstall, slide the panel back into position, replace the screws and pull the rubber standoffs back through the panel. (**NOTE:** if the rubber standoffs are not pulled through the panel, the dryer inlet duct will not function correctly.)

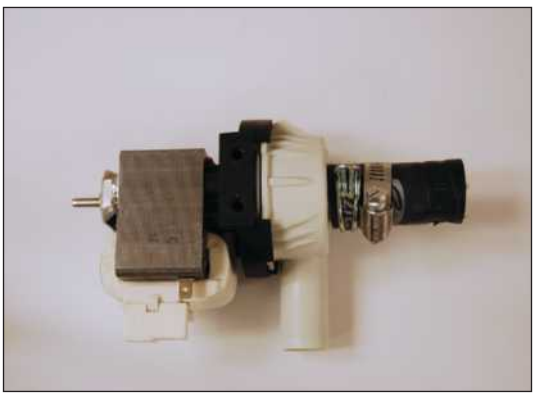

Figure 42b

Drain pump (Figure 42b) – part # 01-113303S

NOTE: Care must be taken when working around the RPM sensor, as the sensor is sensitive to impact and shocks.

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11. Bottom Components

11.4 Removing and reinstalling the sump temperature sensor

1. Disconnect the detergent bag and remove bag and drawer.
2. Run a shipping cycle to drain the unit, disconnect power and water connections and flip unit onto its back. (For detailed instructions on flipping the unit see Section 4.5 Removing and reinstalling the bottom panel.)
3. Remove bottom panel. (See Section 4.5 Removing and reinstalling the bottom panel.)
4. Remove the drain pump. (See Section 11.3 Removing and reinstalling the drain pump)
5. Inside chamber, remove coarse filter and fine filter to access sump.
6. Unscrew the nut on the inside by hand and pull it out from the unit bottom. (Figure 43b)
7. Disconnect wires 71 and 72 from the wiring harness. (Figure 43d)

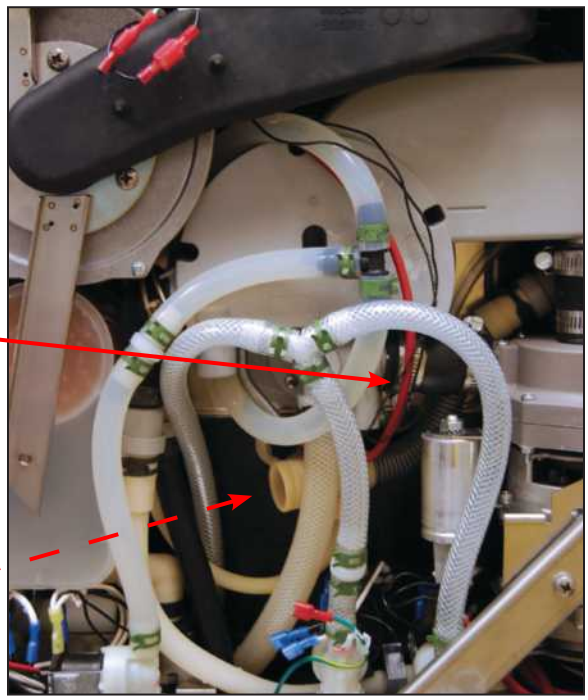

Figure 43a

NOTE: Resistance Value of the temperature sensor is 100 Ω @ 0°C

Figure 43b

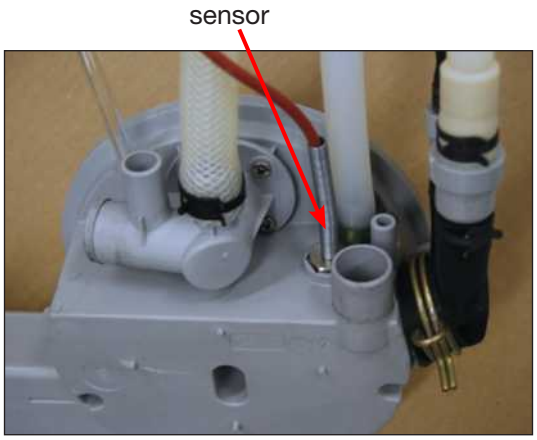

Figure 43c

To replace:

1. Reconnect the wires.
2. Hand-tighten the sensor into position.
3. Reinstall the drain pump.
4. Reinstall bottom panel. To reinstall, slide the panel back into position, replace the screws and pull the rubber standoffs back through the panel. (**NOTE:** if the rubber standoffs are not pulled through the panel, the dryer inlet duct will not function correctly.)

Dual temperature sensor – part # 01-113270S

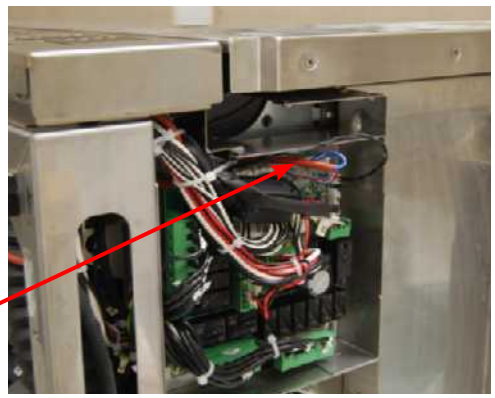

Figure 43d

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11. Bottom Components

11.5 Removing and reinstalling the bottom RPM sensor

1. Disconnect the detergent bag and remove bag and drawer.
2. Run a shipping cycle to drain the unit, disconnect power and water connections and flip unit onto its back. (For detailed instructions on flipping the unit, see Section 4.5 Removing and reinstalling the bottom panel.)
3. Remove bottom panel. (See Section 4.5 Removing and reinstalling the bottom panel.)
4. Remove the drain pump. (See Section 11.3 Removing and reinstalling the drain pump)
5. Disconnect wires 71 and 72 and pull from underneath the air intake manifold.
6. With the drain pump out, unscrew by hand the black mounting nut on the lower RPM sensor.
7. Unscrew sensor from the sensor housing.

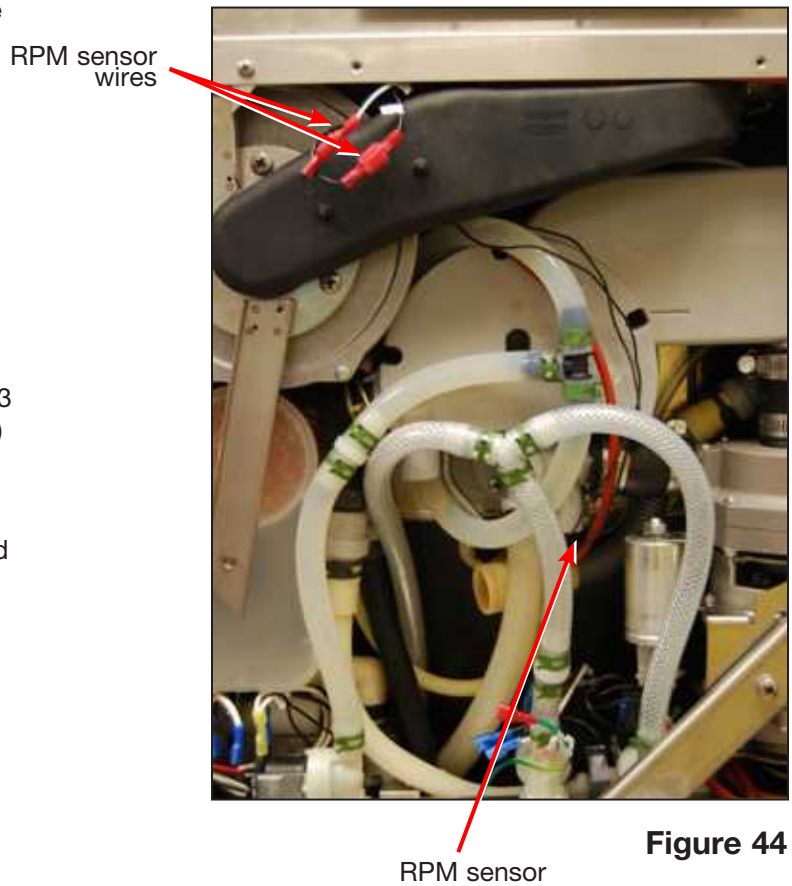

Figure 44

To replace:

1. Hand-tighten the black nut on the sensor (Do not over tighten).
2. Fish wires underneath the air intake manifold and reconnect terminals.
3. Reinstall the drain pump.
4. Reinstall bottom panel. To reinstall, slide the panel back into position, replace the screws and pull the rubber standoffs back through the panel. (**NOTE:** if the rubber standoffs are not pulled through the panel, the dryer inlet duct will not function correctly.)

NOTE: Care must be taken when working around the RPM sensor, as the sensor is sensitive to impact and shocks.

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11. Bottom Components

11.6 Removing and reinstalling the dryer motor (blower)

1. Disconnect the detergent bag and remove bag and drawer.
2. Run a shipping cycle to drain the unit, disconnect power and water connections and flip unit onto its back. (For detailed instructions on flipping the unit, see Section 4.5 Removing and reinstalling the bottom panel.)
3. Remove bottom panel. (See Section 4.5 Removing and reinstalling the bottom panel.)
4. Remove diagonal brace.
5. Remove 2 screws at the chassis and 3 screws on dryer motor bracket. (Figure 45a)
6. Disconnect dryer exhaust from exhaust outlet.
7. Pull dryer motor out (blower) with dryer boot attached. (Figure 45c)
8. Disconnect wiring.
9. Detach dryer boot from dryer motor (blower).

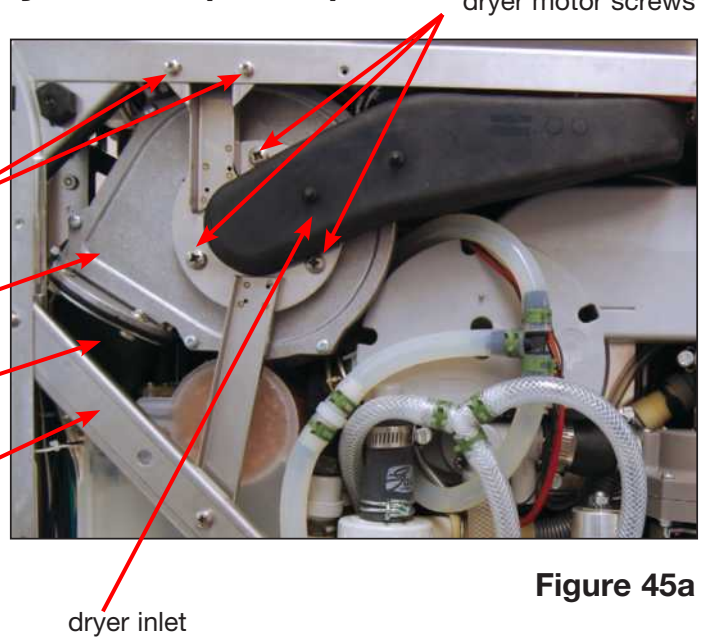

Figure 45a

Figure 45b

To reinstall:

1. Connect wires.
2. Put dryer motor (blower) into place.
3. Thread dryer exhaust back into position.
4. Fasten top of bracket to chassis with 3 screws.
5. Fasten dryer motor (blower) to dryer motor bracket with 3 screws.
6. Reattach the dryer motor (blower) exhaust boot to dryer duct. Make sure exhaust boot is properly attached to dryer duct, otherwise air/water will leak.
7. Reinstall bottom panel. To reinstall, slide the panel back into position, replace the screws and pull the rubber standoffs back through the panel. (**NOTE:** if the rubber standoffs are not pulled through the panel, the dryer inlet duct will not function correctly.)

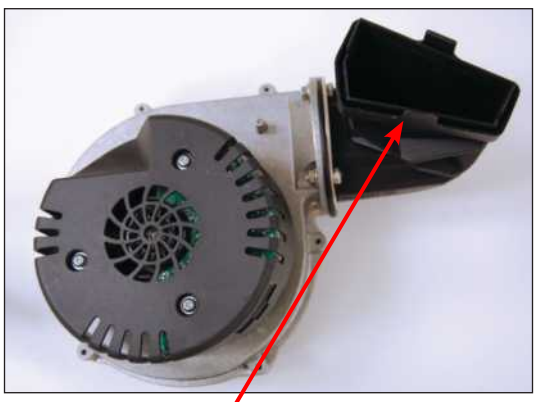

Figure 45c

Blower, 24V (Figure 45c) – part # 01-113285S

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11. Bottom Components

11.7 Removing and reinstalling the water softener system

1. Disconnect the detergent bag and remove bag and drawer.
2. Run a shipping cycle to drain the unit and disconnect power and water connections.
3. Remove the softener cap and soak/vacuum all the water inside the water softener.
4. Remove the top and left panels.
5. From inside the chamber, remove the water softener system ring nut. (Figure 46a)
6. Flip unit onto its back. (For detailed instructions on flipping the unit, see Section 4.5 Removing and reinstalling the bottom panel.)
7. Remove bottom panel. (See Section 4.5 Removing and reinstalling the bottom panel.)
8. Remove the diagonal brace.
9. Remove the 4 screws on the dryer bracket and the 2 screws connecting the bracket to the chassis. (Figure 46b)
10. Disconnect wires to the solenoid and wires for the salt level sensor.
11. Pull water softener outwards (**CAUTION:** will contain residual water) to access and disconnect the outlet hose and remove water softener.

Figure 46a

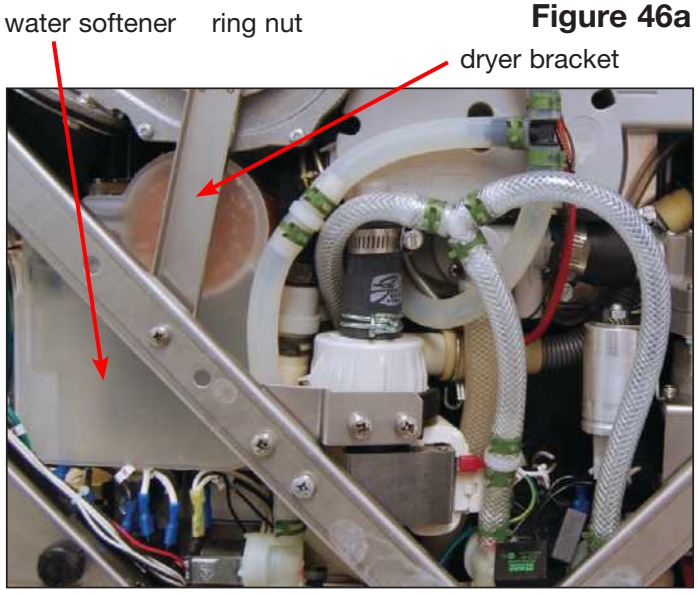

Figure 46b

To reinstall:

1. Reconnect the outlet hose and push the water softener system back into position (lubricate the air gap inlets with silicone if necessary).
2. From inside the chamber, fasten the ring nut tightly (**NOTE: DO NOT** tighten by hand. Fasten this nut properly to avoid leaks).
3. Reconnect tubing.
4. Reconnect wiring.
5. Reinstall bottom panel. To reinstall, slide the panel back into position, replace the screws and pull the rubber standoffs back through the panel. (**NOTE:** if the rubber standoffs are not pulled through the panel, the dryer inlet duct will not function correctly.)
6. Reinstall the top and left panels.

Figure 46c

Softener assembly (Figure 46c) – part # 01-113325S

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11. Bottom Components

11.8 Removing and reinstalling the water valves

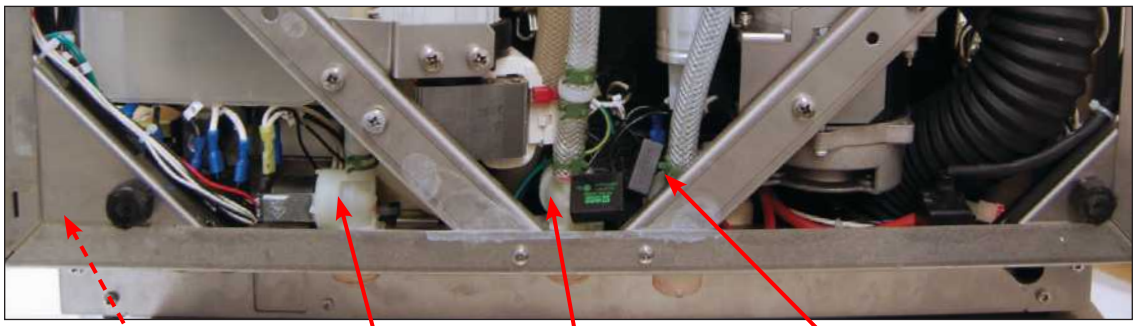

Figure 47

1. Valves for hot water, cold water and R/O water (if fitted) inlets can be accessed from the unit bottom.
2. Run a shipping cycle to drain the unit, disconnect power and water connections, and flip it on its back. (For detailed instructions on flipping the unit, see Section 4.5 Removing and reinstalling the bottom panel.)
3. Remove bottom panel. (See Section 4.5 Removing and reinstalling the bottom panel.)
4. Valves are accessible from this position. (Figure 47)
5. Unscrew valve from chassis to remove.

Valve	Color Coding
Cold water inlet	Blue
Hot water inlet	Red
R/O water inlet (if fitted)	Yellow

To reinstall, reverse instructions.

To reinstall the bottom panel, slide the panel back into position, replace the screws and pull the rubber standoffs back through the panel. (**NOTE:** if the rubber standoffs are not pulled through the panel, the dryer inlet duct will not function correctly.)

!

Valve, inlet 1-in,1-out (for both hot and cold) – part #01-113330S

RO Valve w/Restrictor – part #01-114110S

11.9 Removing and reinstalling the AC power inlet

1. Disconnect the detergent bag and remove bag and drawer.
2. Run a shipping cycle to drain the unit, disconnect power and water connections and flip unit onto its back. (For detailed instructions on flipping the unit, see Section 4.5 Removing and reinstalling the bottom panel.)
3. Remove bottom panel. (See Section 4.5 Removing and reinstalling the bottom panel.)
4. Remove contacts. (Figure 47)
5. Unscrew mounting screws to remove AC power inlet. (Figure 48)

Figure 48

To reinstall, reverse instructions.

!

To reinstall the bottom panel, slide the panel back into position, replace the screws and pull the rubber standoffs back through the panel. (**NOTE:** if the rubber standoffs are not pulled through the panel, the dryer inlet duct will not function correctly.)

Line filter, 20A – part # 01-110505S

RO Valve w/Restrictor – part #01-114110S

Fuse 15A – part# 01-103472S

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11. Bottom Components

11.10 Removing and replacing the sump boot

1. Disconnect the detergent bag and remove bag and drawer.
2. Run a shipping cycle to drain the unit and disconnect power and water connections.
3. Remove left panel and flip unit onto its back and remove the bottom panel. (For detailed instructions, see Section 4. Removing and Replacing Panels).

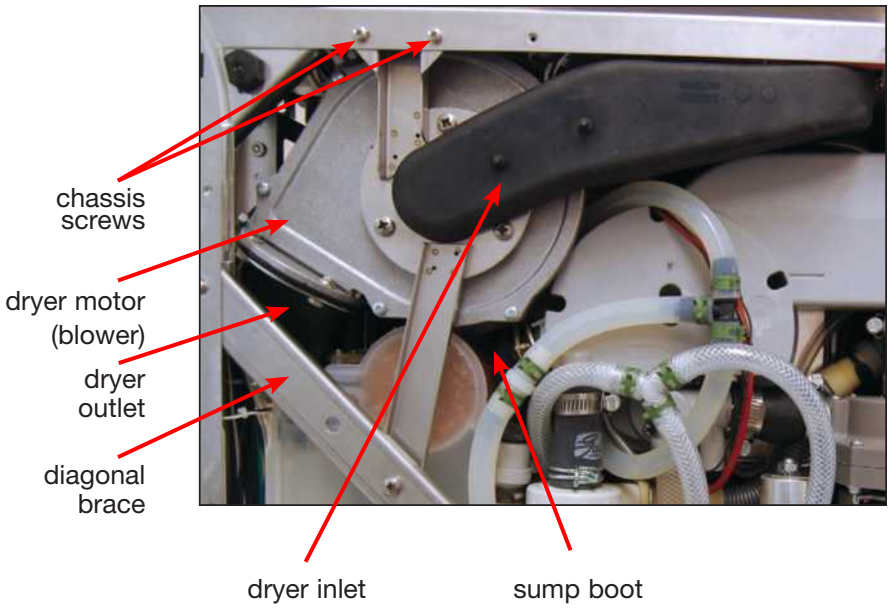

Figure 11.10-1

4. Remove the left diagonal brace (5 screws).
5. Remove 2 screws at the chassis and 3 screws on dryer motor bracket. (Figure 11.10-1) Fold the rubber inlet to the right and tuck it in the chassis to hold it out of the way.
6. From the left side of the unit, disconnect the dryer boot from the dryer assembly.
7. Pull dryer motor out, rotating it out from the bottom first (Figure 11.10-2) and disconnect the wiring.

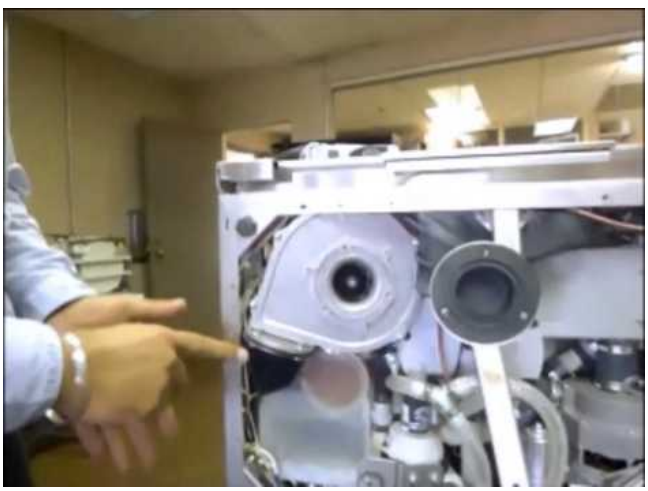

Figure 11.10-2

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11. Bottom Components

8. To remove the sump boot, pinch the spring clamp (Figure 11.10-3) and slide it away from the sump spout.
9. Pull the sump boot off the sump spout and out of the unit to access the spring clamps attaching the sump boot to the check valves.
10. Remove the spring clamps (keep for reinstallation) to release the sump boot from the check valves. (Figure 11.10-4)
11. Reconnect the new sump boot (part # 01-114528S) using the spring clamps you removed and put the sump boot back into position (NOTE: you may have to move the drain pump to tuck the drain tube in behind it. (Figure 11.10-5).

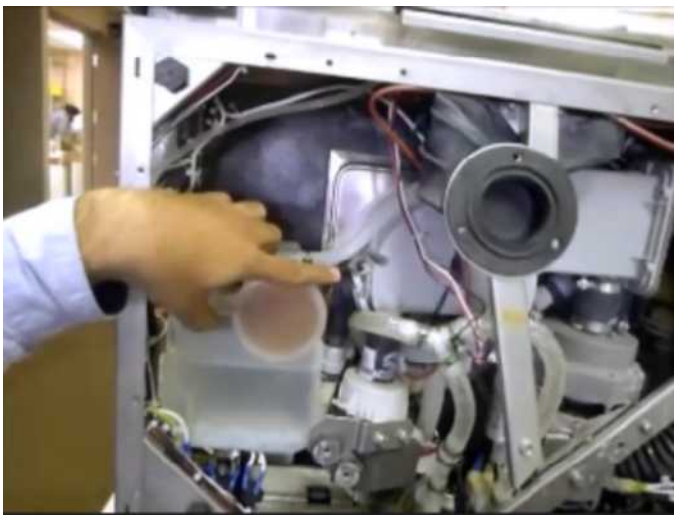

Figure 11.10-3

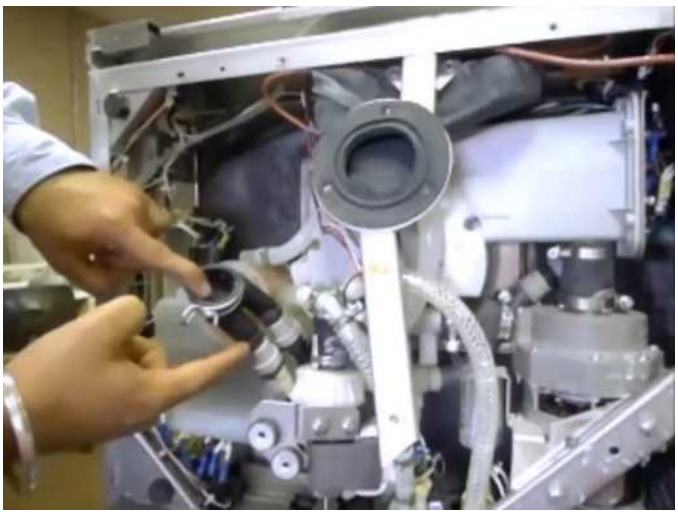

Figure 11.10-4

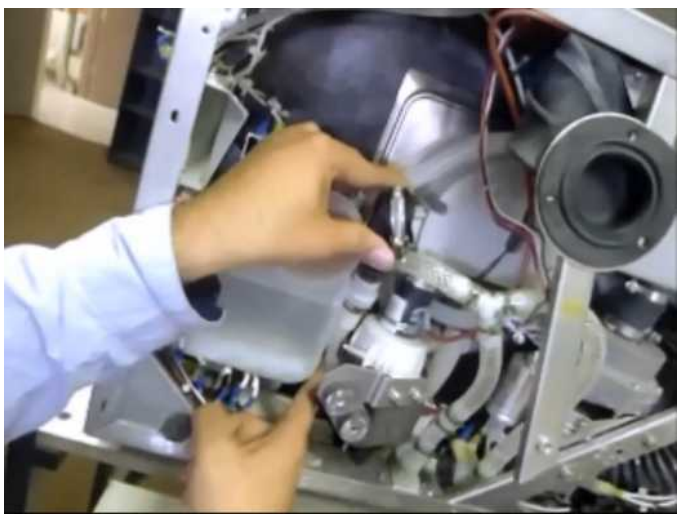

Figure 11.10-5

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11. Bottom Components

12. Take the new barbed insert from the kit (part # 01-114528S) and insert it into the sump spout. Line up the correct positioning (See Figures 11.10-6 and 11.10-7) and push it in until you hear a click.

Figure 11.10-6

Figure 11.10-7

13. Re-connect the sump boot to the sump spout (ensure the spring clamp is properly attached all the way around (Figure 11.10-8). NOTE: Use the spring clamp supplied. DO NOT use a gear clamp, which could damage the boot).
14. Reconnect the dryer motor wiring and reinstall the dryer motor.
15. Reattach the dryer motor bracket.
16. Insert the diagonal brace (tuck in the top left first then push on the drain pump to tuck in the lower portion) and reattach screws.

Figure 11.10-8

17. From the left side of the unit re-attach the dryer boot ensuring its double gasket is firmly in place all the way around the dryer assembly.
18. Reinstall the bottom panel. To reinstall, slide the panel back into position, replace the screws and pull the rubber standoffs back through the panel.

! (**NOTE:** if the rubber standoffs are not pulled through the panel, the dryer inlet duct will not function correctly.)

Sump rubber boot insert kit – part # 01-114528S

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11. Bottom Components

11.11 Removing and reinstalling the drain pump tube and check valve

1. Remove bottom panel. (See Section 4.5 Removing and reinstalling the bottom panel.)
2. Remove Recirculation pump. (See Section 11.1 Removing and reinstalling the recirculation pump.
3. Remove dryer motor (Blower). (See Section 11.6 Removing and reinstalling the dryer motor.)
4. Look carefully as to how the drain pump tubing routes within the unit. You need to follow the same routing to reinstall the tubing.
5. Disconnect drain pump tubing from drain pump outlet, see Figure 11.11-1. You may need to remove the drain pump if you cannot access the tubing clamp. (For instructions on removing and reinstalling the drain pump, see Section 11.3.)
6. Disconnect small tubing from sump, see Figure 11.11-1. Use small bent-nose pliers to remove the clamp. Pull the tube to disconnect.
7. Disconnect drain tubing from the anti-siphon device, see Figure 11.11-2. You will need long-nose pliers to remove the clamp. Pull the tube to disconnect.

Figure 11.11-1

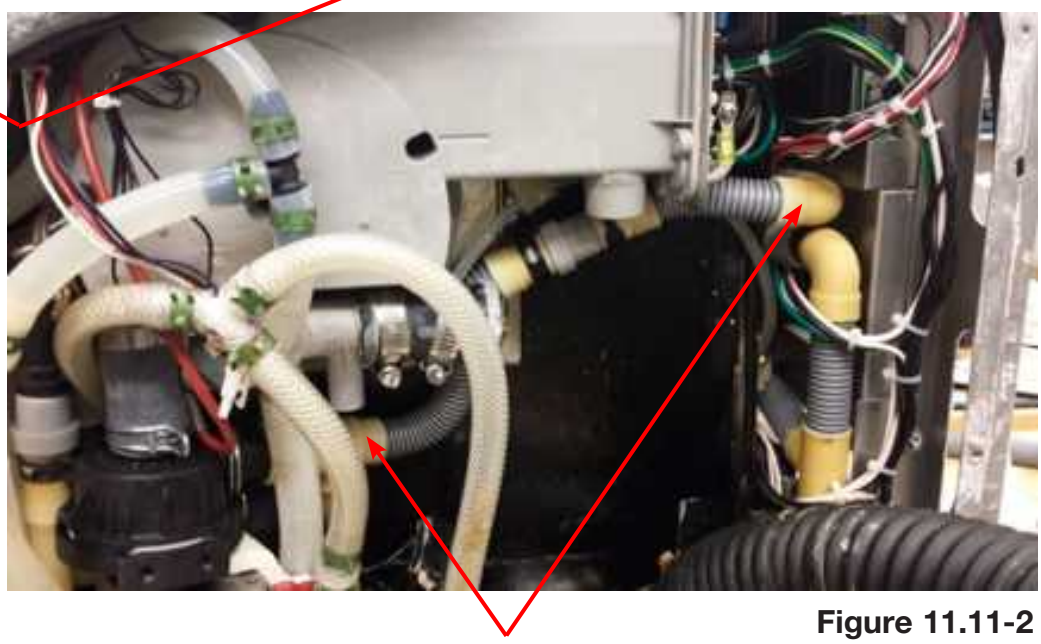

Figure 11.11-2

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11. Bottom Components

To reinstall:

IMPORTANT: Vent tube orientation is very important since it vents out the trapped air from the drain pump propeller housing.

When replacing the drain pump tubing, make sure to orient the vent outlet above the center axis of the drain pump outlet towards the chamber side. If it is oriented below axis towards the bottom plate, the drain pump will be unable to drain water due to the air trapped inside the propeller housing. Please see illustration below:

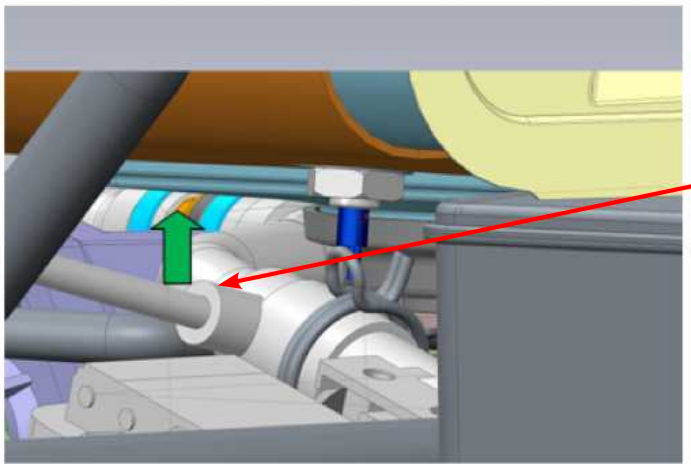

Figure 11.11-3

1. Route the small tubing of new drain tubing to the sump and connect as per Figure 11.11-2.
2. Connect the drain pump tubing to drain pump outlet and other end to anti-siphon device and apply clamps. See Figure 11.11-2 for tube routing.
3. Ensure correct vent tube orientation. See Figure 11.11-3
4. For the remaining components, reverse the removal instructions to reinstall.

Drain pump tubing and check valve kit – part # 01-114081S

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WARNINGS AND PRECAUTIONS

If you have questions about the unit you are repairing, please do not hesitate to contact your local SciCan representative for information. Also, the HYDR*IM* is heavy. Exercise caution and seek assistance when lifting or carrying units.

EXERCISE CAUTION

- Hazardous voltages are accessible when the cover is removed.
- Disconnect the power cord before servicing the power mains portion of the controller board and associated devices.
- Removing the panels will expose some sharp metal edges. Be careful and wear long sleeves and gloves.

PERFORM TESTS

- If you service or replace parts associated with the power main, perform a dielectric strength test (Hi-Pot) on the HYDR*IM*. Perform a second Hi-Pot test once the cover has been returned to the unit.
- If components of the protective earthing system are changed or if connections are broken and remade, perform a protective bonding impedance test (ground continuity). Perform both a second Hi-Pot test and a second ground continuity test once the cover has been returned to the unit.
- If any panel is removed, perform a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) on the HYDR*IM* when the work is completed and after the panel has been returned to the unit.

PROTECT THE UNIT

- The HYDR*IM* contains electronic circuitry that is static sensitive. Always wear a static strap when working with or near printed wiring boards. In addition, use static footstraps, grounding mats and grounded work surfaces when servicing microprocessor devices. Transport boards and devices in static protected bags.
- In order to ensure adherence to the applicable safety agency approvals, state, provincial, regional and national laws, replace components with SciCan approved parts only.

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12. Lumens Cleaning System (if fitted)

12.1 Removing and reinstalling the Lumens Cleaning System (LCS) water supply

1. Disconnect the detergent bag and remove bag and drawer.
2. Run a shipping cycle to drain the unit, disconnect power and water connections and flip unit onto its back. (For detailed instructions on flipping the unit, see Section 4.5 Removing and reinstalling the bottom panel.)
3. Remove bottom panel. (See Section 4.5 Removing and reinstalling the bottom panel.)
4. Disconnect the braided silicone tubing of the LCS system from the sump manifold inlet. (Figure 49 a)
5. Return the unit to an upright position and remove the back panel. (See Section 4.4 Removing and reinstalling the back panel.)
6. From inside the chamber, remove the 4 screws on the LCS mounting flange. (Figure 49b)
7. From the back, disconnect the LCS block . interface wires from the wiring harness (2 reed switches and 1 flow switch).
8. Disconnect the air inlet from the LCS block interface. (Figure 49c)
9. With the LCS tubing disconnected from the sump, pull the LCS block interface with the tubing attached, from the unit. **NOTE:** The tubing section contains a flow switch and check valve. (Figure 49d).

Figure 49a

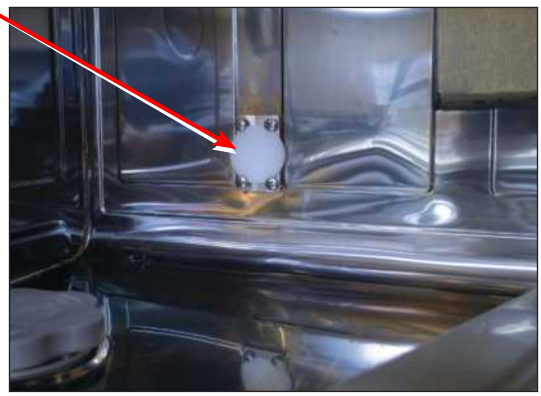

Figure 49b

To reinstall:

1. With the unit in an upright position fish the tubing from the back of the unit towards the sump.
2. Reconnect the air supply to the LCS block interface and wires to wire harness.
3. Reconnect the LCS block interface to the unit by attaching the flange inside the chamber.
4. Flip unit onto its back and attach tubing to sump manifold inlet.

Figure 49c

Figure 49d

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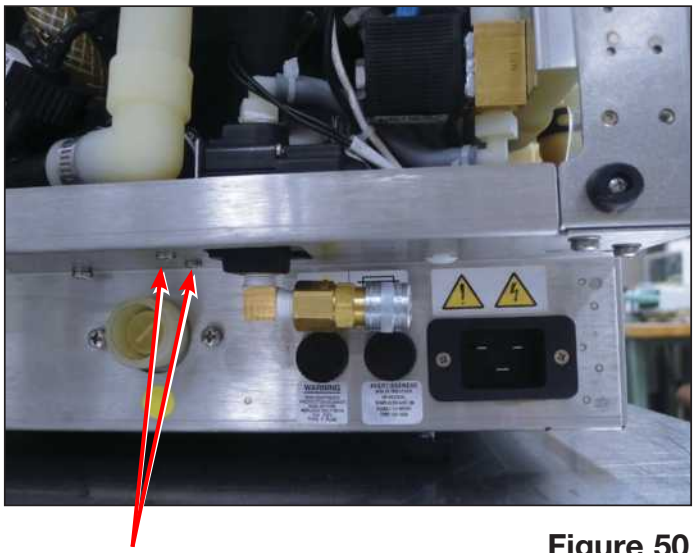
12. Lumens Cleaning System (if fitted)

12.2 Removing and reinstalling the Lumens Cleaning System air supply

1. Disconnect power and water connections and remove the back panel. (See Section 4.4 Removing and reinstalling the back panel.)
2. Disconnect the air supply tubing from the solenoid valve. (Figure 49c)
3. Remove the 2 screws fastening the air solenoid valve to the vertical upright and remove the solenoid.
4. Remove the 2 screws fastening the regulator bracket to the chassis and remove the regulator. (Figure 50)

To reinstall, reverse instructions.



Regulator bracket screws

Figure 50

NOTE: Any incoming air supply will be regulated to 8 PSI.

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13. Spare Parts

This spare part list was last updated on the date of the release of the unit.
To see an updated spare part list, please refer to my.scican.com.

01-113265S	2-Level Pressure Switch, C61
01-113253	3 Cassette/2 Basket Rack, C61
01-113252	4 Cassette Rack, C61
01-113251	6 Cassette Rack, C61
01-114595S	Air Gap Kit, Hydrim C61WD Japan
01-113547	Basket w/ Hinged Lid, C61
01-113285S	Blower, 24V, C61
01-113284S	Blower, 5V, C61
01-113258S	Cable, Communication, C61
01-113259S	Cable, Ethernet, C61
01-113260S	Cable, RS232, C61
01-113261S	Cable, USB, C61
01-114597S	Cap, Detergent Inlet, C61
01-113321S	Cap, Softener, C61
01-113394S	Check Valve, C61
01-113866S	Check Valve 3/8" C61/L110w/M2/G4
01-113282S	Chemical Carrier, C61
01-113395S	Color LCD Controller Board
01-113334S	Condenser Assem., C61
01-113296S	Cover Bottom, C61
01-114091S	Cover for LCD Module, C61
01-113297S	Cover Rear, C61
01-113294S	Cover Stainless, Door, C61
01-113288S	Cover Stainless, LHS, C61
01-113290S	Cover Stainless, RHS, C61
01-113286S	Cover Stainless, Top, C61
01-113314S	Decal, Door, C61W
01-113315S	Decal, Door, C61WD
01-113356S	Deflector Assem., C61
01-114597S	Detergent cap, no hose (pkg of 2)
01-113322S	Door Latch Assembly C61
01-113951S	Door Latch Kit Hydrim C61
01-113605S	Door Latch Microswitch, C61
01-113319S	Door Latch, Solenoid, C61
01-113661S	Door Seal, C61 (lower seal, unit no bracket)
01-113298S	Door Spring Kit, C61
01-113909S	DosingPump Vol.Valid. C61wd/M2 G4
01-114596S	Dosing Reservoir Kit, C61WD Japan
01-114081S	Drain Pump Tubing&Check Valve, C61
01-113270S	Dual Temperature Sensor, C61

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13. Spare Parts

01-113313S	Duct Elbow, C61
01-113312S	Duct Inlet, C61
01-113335S	Duct, Exhaust Assem., C61
01-113324S	Duct, Vertical, C61
01-114188S	Elastosil A442 Sealant
01-114188S	RTV Sealant Kit, Elastosil
01-114056S	Exhaust Hose, Hydrim C61
01-113329S	Fan, 24V, C61
01-113301S	Feet Adjustable, C61
01-113277S	Filter-Air, C61
01-113387S	Fixed Screen, Sump, C61
01-113545	Full Basket, C61
01-103472S	Fuse 15A, qty 2
01-113262S	Gasket, Air Filter, C61
01-113320S	Gasket-Nut, Softener, C61
01-113267S	Harness High Power, C61
01-113268S	Harness Low Power, C61
01-113273S	Heater-Air, C61
01-113272S	Heater-Sump Kit, C61
CS-HIPL-U	HIP chemical
01-113393S	Hose, Chemical Connection, C61
01-113968S	Housing for Bottom RPM Sensor, C61
01-114760S	Hot and Cold Water lines with check valve kit
01-113546	Hygiene Basket, C61
01-113299S	Inner Door Panel, C61
01-113263S	Insulation Door, C61
01-113264S	Insulation Top, C61
01-113310S	IO PCB, C61
01-113292S	Kickplate Stainless, C61
01-113311S	LCD Assembly, C61
01-114092S	LCS Intel Cap, C61
01-113934S	LCS Port Plug Assy Spare, C61
01-114513S	LCS Tubing Kit, C61WD LCS
01-110505S	Line Filter, 20A/250V
01-113255	Lumen Rack, C61
01-114026S	Operator Manual Hydrim C61W G4
01-114025S	Operator Manual Hydrim C61WD G4
01-113602S	Overflow Tray, C61
01-113317S	Packaging, C61
01-104343S	Plug for drain tubing
01-110281S	Power Cord N.A. 15A/250V, C61
01-110282S	Power Cord EU 16A/250V, C61

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13. Spare Parts

01-110283S	Power Cord AUS 15A/250V, C61
01-110284S	Power Cord S. Africa/India 16A/250V, C61
01-110286S	Power Cord Swiss 16A/250V, C61
01-110287S	Power Cord Israel 16A/250V, C61
01-110361S	Power Cord China 16A/250V, C61
01-113309S	Power Cord UK 13A/250V, C61
01-113308S	Power Cord Japan 13A/250V, C61
01-114124S	Power Supply upgrade kit C61
01-113681S	Proximity sensor, C61
01-113283S	Pump, 24V, C61
01-113306S	Pump, Bellows, C61
01-113307S	Pump, Chemical, C61
01-113305S	Pump, Circulation 50Hz, C61
01-113303S	Pump, Drain, C61
01-113304S	Pump, Circulation, 60 Hz, C61
01-113323S	Reservoir Assembly, C61
01-114110S	RO Valve w/Restrictor, C61
01-114187S	RTV Primer Kit
01-114055S	Salt Filler, Hydrim C61
01-107786S	Seal, Chamber, C61
01-114826S	Seal Door Removable Spare Kit (lower seal,for unit with bracket)
01-113328S	Seal, Sump, C61
01-114402S	C61 Service Door Kit
01-113325S	Softener, Assembly, C61
01-114798S	Spare Kit for C61 water softener cap
01-114796S	Spare Kit for 74-113363 Tubing
01-113682S	Speaker Assembly, C61
01-113332S	Strainer Assem., C61
01-113601S	Sump, C61
01-114528S	Sump Rubber Boot Insert Kit
01-113327S	Switch, w/ Roller, C61
01-113358S	Thermistor, C61
01-113600S	Top Arm Fitting, C61
01-113254	Tray/2 Basket Rack, C61
01-113256	Trolley Kit, C61
01-113257	Trolley, Center Support, C61
01-114461S	Upgrade Kit,Check-valve, C61
01-114114S	C61 Upgrade Reliability Kit
01-113330S	Valve, Inlet,1 in-1 out, C61 (same for hot and cold)
01-113331S	Valve, Inlet,1 in-2 out, C61 (for water softener on C61wd)
01-113302S	Wash Arm, C61
01-113333S	Wheel Set, Trolley C61

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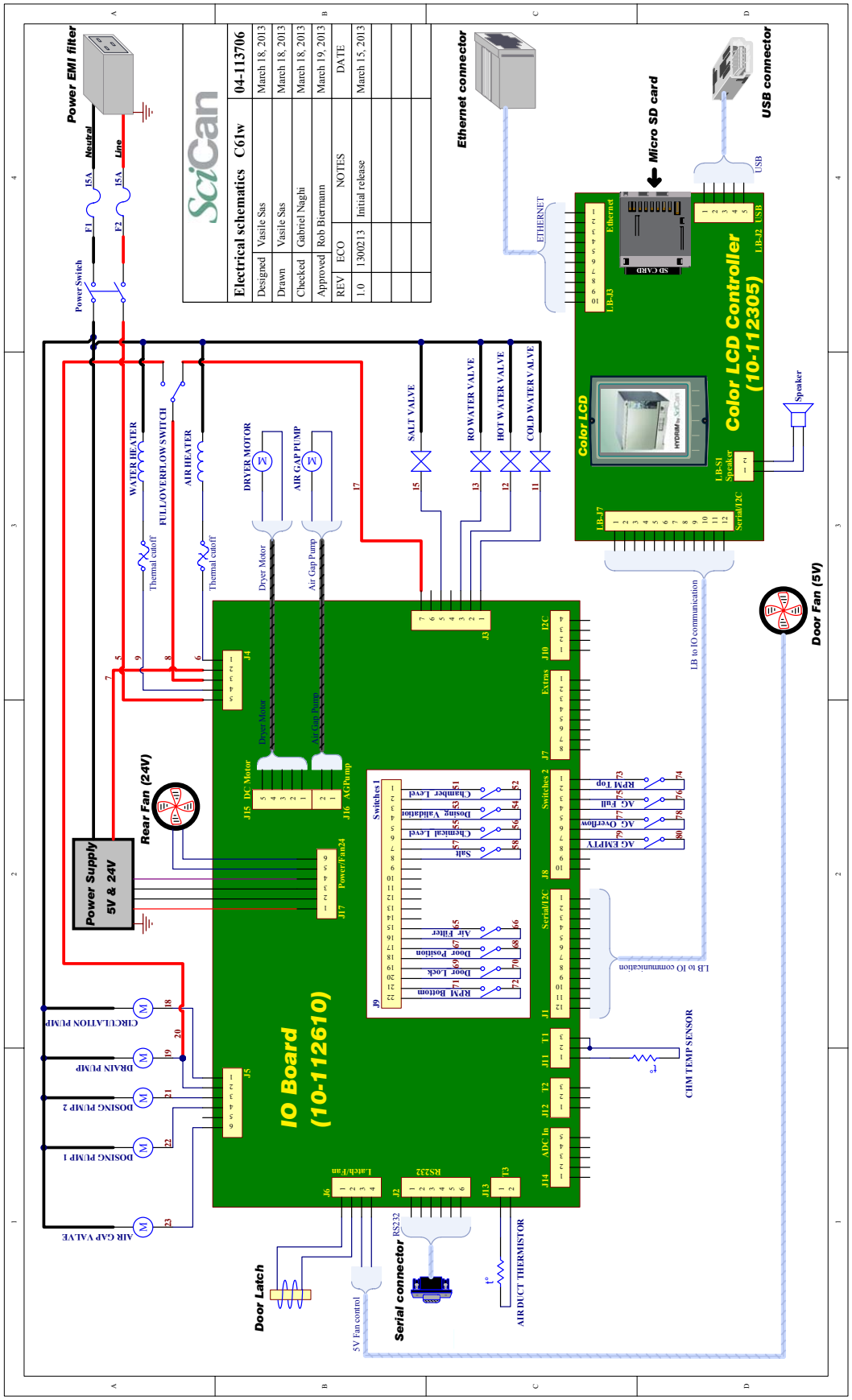
14. Appendix A

HYDR*IM* C61wd G4 Electrical Schematic



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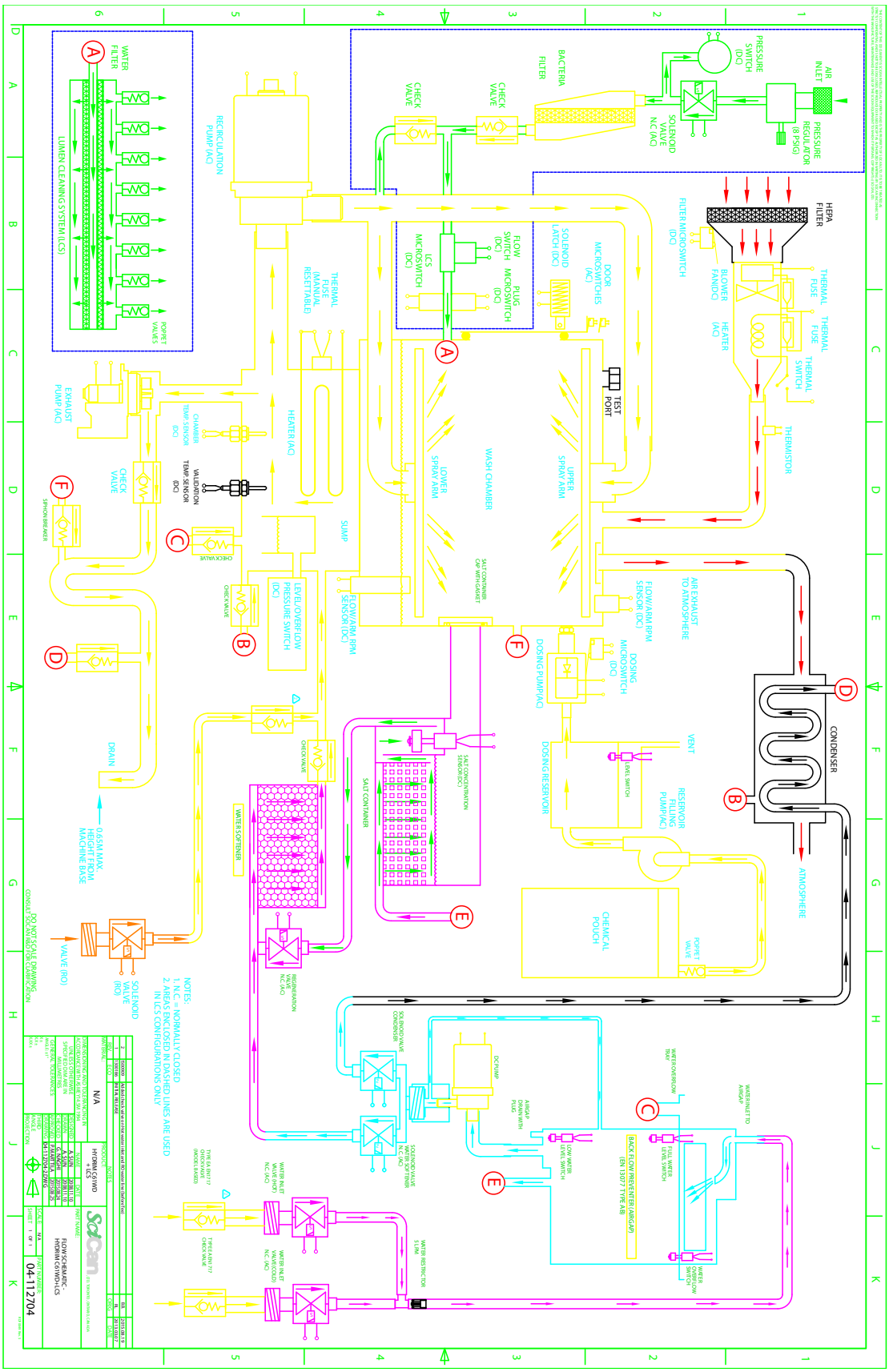
14. Appendix B

HYDR*IM* C61wd G4 & LCS Flow Diagram



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14. Appendix C

HYDRIM SOFTWARE SERVICE MENU – REFERENCE SHEET

Special Cycle*:
This is a technician access only cycle. It is designed for use in contamination situations when there are concerns over draining contaminants into local sewage systems. This cycle does not use a prewash and washes at a very high temperature to disinfect during the wash phase. The unit will not drain until after disinfection.

Wash Test:
A wash-only cycle used to diagnose problems in the wash stage.

Wash Validation*:
A special cycle that features a pause after the wash and a pause after the disinfection stages so that a technician can open the door at each interval and collect a water sample. Required in some jurisdictions.

Diagnostic Tools:
This menu contains a number of tools technicians can use to more accurately diagnose problems.

Self Diagnostic:
Runs a series of checks while displaying readable diagnostic text on the LCD that describes and evaluates each stage of the self diagnosis. This function is best used with the Self Diagnostic chart assessment tool available in the Appendix of the Service Manual, or online at MySciCan.

Error History:
Access information on the unit's last 5 successful cycles and last 5 cycles with errors.

Copy Error History:
Use to transfer cycle information to a memory stick. Transfers the last 5 successful cycles and the last 5 cycles with errors.

View IO Status:
Provides a real-time view of the ON/OFF status and temperature values for all the sensors in the unit.

Component Test:
Use to check the functionality of the following individual components: Cooling fans, Air gap and pump, RO valve (if fitted), Condenser valve and pump (if fitted), Chamber heater, Door latch, Salt regeneration valve, Dosing pump, Dryer speed, Dryer and heater, Hot water valve, Cold water valve, LCS solenoid valve (if fitted), Waste pump, Recirculation pump.

Set Debug Screen:
To display the debug screen while running a cycle, set Debug Screen to ON.

Set Calibration:
To calibrate the unit using a probe, set calibration to ON so that you can run a cycle and adjust the temperature offset.

*C61wd and M2 ONLY

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14. Appendix C

Cycle Settings:

Set Regeneration:
After testing the water hardness with test strip, use this function to adjust the salt regeneration level.

Chemical Setup:
Use to add HIP chemical to the final rinse by selecting setting “HIP”.

Cycle Selection:
Use to select and enable a cycle not currently visible on the home screen. Press on the cycle you want to enable.

Prewash:
Use to change prewash parameters on certain cycles.

Wash:
Use to change wash parameters on certain cycles.

Rinse:
Use to change rinse duration on certain cycles.

Set Drying Time:
Use to change drying time on certain cycles.

RO Selection:
Use to turn RO system ON once the RO connection is made. Make sure RO water connection is ON.

Set RO Water Level:
RO water level is calibrated at the time of manufacturing but some repairs (e.g., chamber level sensor replacement) may require calibrating the RO water level.

Rinse Continuous:
Use to add additional rinse and draining between the wash and final rinse cycles.

Factory Default:

Reset to Factory Settings:
Reset all values to factory settings. DO NOT USE unless instructed by SciCan.

Cycle Time/Cycle Count:
Will set display to: Time remaining in cycle, Average cycle time remaining (based on unit history) or cycle count (total number to date).

Back up Restore:
The submenus in this setting allow access to the unit information that is backed up and stored on the unit’s internal memory. For NVRAM and Web Portal values.

Intro:
Turning this Intro ON will enable the INTRO and CONNECTIVITY WIZARD screen on the next power up. To use, select the ON option under the INTRO menu and power off the unit. When it is next powered ON it will run this sequence of screens as it would for a new user.

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14. Appendix C

Repeater Mode:
Use to run a series of cycles in succession. Can be set to repeat 1 to 5 cycles in a row or set it to ON to run the same cycle over again until you stop it.

Productions Tools:

Prod Test Cycle:
For manufacturing use only.

Overheat Test*:
Checks safety switch. For manufacturing use only.

Filling Counts:
Sets number of times the air gap is filled. For manufacturing use only. Do not change the default value.

Set regeneration time:
Sets how many times the water flows from the air gap through the salt reservoir. For manufacturing use only. Do not change the default value.

Evacuation Cooling*:
Default setting is OFF. Enabled at time of manufacturing as required for some jurisdictions.

SW Upgrade:
View current software revisions for all components. Use to force a full software upgrade. Use password 5849 to access.

Network Setup:
If your unit has access to the network but no internet, the connectivity icon on the home screen will be yellow. You may need to manually enter a DNS value, for example: 008.008.008.008. A static IP address may be required for some network configurations. Consult the local network's administrator.

Automatic IP (DHCP):
To enable the use of a static IP address for your unit, select OFF.

Renew IP:
Use to renew the unit's IP address in case of a network error. Additionally, you can scan the QR code on this screen with a handheld device to create an instant Remote Access. (Device must be on same network as unit.)

IP Address:
Use to find the unit's IP address.

Subnetmask:
A network administrator tool. Use if you have selected a static IP address for the unit.

Router:
A network administrator tool. Use if you have selected a static IP address for the unit.

DNS:
A network administrator tool. Use if you have selected a static IP address for the unit.

*C61wd and M2 ONLY

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14. Appendix C

Dealer ID:
When unit is connected online, it will need this number to connect to a dealer. Call SciCan customer service for a dealer ID.

Preventative Maintenance:
Use to reset the ‘Maintenance Required’ message that displays on the LCD screen at certain user intervals.

Set Cleaning Warning:
Use to reset the ‘Cleaning Required’ message that displays on the LCD screen at certain user intervals.

Change Password:
Use to change technician password from the default 7919 password. If you are locked out of the technician menu, call SciCan and provide the unit serial number to access the unit’s unique ‘super password’.

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14. Appendix D

Typical Printout	Component to be Checked	Diagnostic Phase	Diagnostic Actions
Note: Timings may vary			
Self-Diagnostic Started Unit Type: Hydrim C61wd G4 Model No: C61W-D02 Serial No: 350515J00001	Start up	None	**Test will fail if:** N/A **Associated Cycle Fault: N/A** **Possible Cause:** **What to check:** **Possible Corrective action(s):**
Start of Test LCS Not Connected Start Drying T: 31.0 C Start Ambient T: 33.4 C Start Chamber T: 31.5 C Start Validation T: 31.5 C Door Lock=1, Door Position=1 Door Latch and Switches OK	Status check	Door latch Door lock	**Test will fail if:** Door is not closed Door latch does not activate **Associated Cycle Fault: N/A** **Possible Cause:** Door is open Door closed microswitch failed Door latch microswitch failed **What to check:** Visually check door position If door is closed, check door and latch status using component test menu **Possible Corrective action(s):** Change latch assembly
Testing Drain Pump Turning Drain Pump On.. Emptying Air Gap.. Chamber T: 31.5 C Validation T: 31.5 C Turning Air Gap Valve and Pump Off.. Drain Pump OK Turning Drain Pump Off.. Draining took 21s	Drain pump test Relay check only	Drain pump	**Test will fail if:** relay on I/O board has failed to switch **Associated Cycle Fault: 4** **Possible Cause:** Relay failure on I/O board **What to check:** Check relay status using component test menu. Pump should show as ON if relay active **Possible Corrective action(s):** Change I/O board
Testing Cold Water Filling Turning Cold Water Valve On.. Chamber T: 31.6 C Validation T: 31.5 C Air Gap Full. Cold Water Off.. Air Gap filled in 25s	Cold water filling of airgap	Airgap switches Cold fill valve Water flow	**Test will fail if:** filling time greater than 60 seconds empty or full airgap switches fail to turn ON **Associated Cycle Fault: 2, 15** **Possible Cause:** Cold water valve failed in closed position Water not turned on Water pressure below minimum required Empty or full airgap switch faulty **What to check:** Check water supply is ON Check water pressure > 1 bar Activate fill valve in component test and observe water flow Check airgap switch status in component test. Switches should trigger ON as water passes them. **Possible Corrective action(s):** Change cold fill valve Change airgap
Emptying the Air Gap Turning Air Gap Valve and Pump On.. Chamber T: 31.6 C Validation T: 31.6 C Air Gap Emptied Turning Air Gap Valve and Pump Off.. Air Gap emptied in 22s	Cold water emptying to chamber	Airgap switches Airgap valve Airgap pump	**Test will fail if:** empty time greater than 60 seconds empty or full airgap switches fail to turn OFF **Associated Cycle Fault: 2, 15** **Possible Cause:** Airgap pump failure Airgap valve failure Empty or full airgap switch faulty **What to check:** ~ Check if water drains from airgap ~ Check airgap valve status in component test ~ Check airgap pump status in component test(Pump should also be audible when operating) ~ Check airgap switch status in component test Switches should trigger OFF as water passes them. **Possible Corrective action(s):** Change airgap valve Change airgap pump Change airgap Change I/O board

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14. Appendix D

First Hot Water Filling Turning Hot Water Valve On.. Chamber T: 26.8 C Validation T: 26.7 C Air Gap Full. Hot Water Off.. Air Gap filled in 26s	Hot water filling of airgap **Note: repeats up to total of 3 hot fills**	Airgap switches Hot fill valve Water flow	**Test will fail if:** ~ filling time greater than 60 seconds ~ empty or full airgap switches fail to turn ON **Associated Cycle Fault: 2, 15** **Possible Cause:** Hot water valve failed in closed position Water not turned on Water pressure below minimum required Empty or full airgap switch faulty **What to check:** ~ Check water supply is ON ~ Check water pressure > 1 bar ~ Activate fill valve in component test and observe water flow ~Check airgap switch status in component test. Switches should trigger ON as water passes them. **Possible Corrective action(s):** Change hot fill valve Change airgap
Emptying the Air Gap Turning Air Gap Valve and Pump On.. Chamber T: 25.4 C Validation T: 25.3 C Air Gap Emptied Turning Air Gap Valve and Pump Off.. Air Gap emptied in 22s	Hot water emptying to chamber **Note: repeats up to total of 3 empties**	Airgap switches Airgap valve Airgap pump	**Test will fail if:** ~ empty time greater than 60 seconds ~ empty or full airgap switches fail to turn OFF ~ Chamber full switch fails to switch ON after 5 fills **Associated Cycle Fault: 2, 15** **Possible Cause:** Airgap pump failure Airgap valve failure Empty or full airgap switch faulty **What to check:** ~ Check if water drains from airgap ~ Check airgap valve status in component test ~ Check airgap pump status in component test (Pump should also be audible when operating) ~ Check airgap switch status in component test Switches should trigger OFF as water passes them. **Possible Corrective action(s):** Change airgap valve Change airgap pump Change airgap Change I/O board
Testing Circulation Pump Turning Circ Pump On.. 30 second ramp up Chamber T: 44.3 C Validation T: 44.3 C Current Chamber T: 44.4 C RPM Top: 0 RPM Bottom: 0 Current Chamber T: 41.5 C RPM Top: 0 RPM Bottom: 8 Current Chamber T: 39.4 C RPM Top: 4 RPM Bottom: 20 Current Chamber T: 38.7 C RPM Top: 8 RPM Bottom: 32 Current Chamber T: 38.4 C RPM Top: 12 RPM Bottom: 40 Current Chamber T: 38.3 C RPM Top: 16 RPM Bottom: 52 Circulation Pump OK Current Chamber T: 38.3 C RPM Top: 20 RPM Bottom: 60 Turning Circ Pump Off..	Circulation pump test	Recirculating pump Pressure switch	**Test will fail if:** ~ Recirculating pump fails Top wash arm RPM lower than 4 Bottom washarm RPM lower than 25 **Associated Cycle Fault: 23, 24** **Possible Cause:** Recirculating pump failure Blockage in hydraulic system Low water level Wash arm blocked Rotation sensor failure Relay failure on I/O board Foaming of HIP solution Split in wash arm **What to check:** ~ Check pump operational (audible) ~ Check switch status in component test Check system for blockages Check for debris on wash arm joint with unit Check for foam residue in chamber Check wash arm integrity **Possible Corrective action(s):** Flush unit manually (foam) Remove debris Run cleaning cycle Change wash arm Change recirculating pump Change rotation sensor Change I/O board

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14. Appendix D

Testing Heater and Temp Sensors Initial Chamber T: 38.3 C Initial Validation T: 38.3 C Turning Heater On.. Heating to 80.0 C Current Chamber T: 38.3 C Current Chamber T: 42.4 C Current Chamber T: 46.9 C Current Chamber T: 51.2 C Current Chamber T: 55.4 C Current Chamber T: 59.3 C Current Chamber T: 63.2 C Current Chamber T: 66.8 C Current Chamber T: 70.5 C Current Chamber T: 73.9 C Current Chamber T: 77.2 C Current Chamber T: 80.1 C dgrC/min = 3.8 C Heater and Temp Sensors OK Turning Heater Off.. Heater Test took 654s	Water heater and temperature sensor te	Water heater system Control and validation thermocouples	**Test will fail if:** ~ Control and Validation thermocouples differ by greater than +/- 1 degree ~ Rate of temperature increase is less than 2 degrees per minute - see entry in red below left **Associated Cycle Fault: 1, 3, 13** **Possible Cause:** Temperature sensor failure Calibration error Water heater element failure Relay failure on I/O board **What to check:** ~Check sensor continuity ~Check calibration ~Check heater status in component test **Possible Corrective action(s):** Recalibrate Replace sensors Replace water heater Replace I/O board
Testing Condenser Valve Turning Circulation Pump On.. Filling 1 for Condensor Check.. Initial Chamber T: 80.1 C Initial Validation T: 80.1 C Air Gap full. Cold Water Off.. Turning Condenser Valve and Air Gap Pump On.. Air Gap Empty Current Chamber T: 80.1 C Current Validation T: 80.1 C Filling 2 for Condenser Check.. Air Gap full. Cold Water Off.. Turning Condenser Valve and Air Gap Pump On.. Air Gap Empty Current Chamber T: 79.5 C Current Validation T: 79.5 C Filling 3 for Condenser Check.. Air Gap full. Cold Water Off.. Turning Condenser Valve and Air Gap Pump On.. Air Gap Empty Current Chamber T: 79.1 C Current Validation T: 79.1 C Filling 4 for Condenser Check.. Air Gap full. Cold Water Off.. Turning Condenser Valve and Air Gap Pump On.. Air Gap Empty. Circulation Pump and Condenser Valve Off.. After Condenser: Final Chamber T: 78.6 C Final Validation T: 78.6 C Condensor OK Condenser Test took 156s	Condenser system check	Condenser valve System leak check	**Test will fail if:** ~ Condenser valve fails ~ Chamber temperature drop is greater than 5 degrees in 2 minutes **Associated Cycle Fault: 5, 20** **Possible Cause:** Condenser valve fails closed Leak in condenser matrix (drains to chamber) Anti siphon check valve failure Drain pump check valve failure **What to check:** ~Check valve staus in component test ~Test condenser as per XXXXX Note: condenser test exists in draft document **Possible Corrective action(s):** Change condenser valve Change condenser Change relevent check valve
Checking Chem. Level Chamber T: 78.6 C Validation T: 78.6 C Chemical Level OK Chem. Level Test took 0s	Chemical level check	Dosing reservoir full	**Test will fail if:** ~ insufficiant chemical for next test **Associated Cycle Fault: N/A** **Possible Cause:** Unit has run out of chemical Chemical level switch failed in OFF position Blockage/kink in chemical tube Chemical reservoir fill pump failure **What to check:** ~Check chemical pouch ~Check chemical switch status in component test ~Visual check for blockages (chrystalisation/kinks) Check fill pump function **Possible Corrective action(s):** Replace chemical Replace dosing reservoir Flush/replace components affected Change fill pump

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Testing Bellows Pump Turning On Bellows Pump.. Chamber T: 78.6 C Validation T: 78.6 C click.. amt=29 click.. amt=28 click.. amt=27 click.. amt=26 click.. amt=25 click.. amt=24 click.. amt=23 Chem Level Switch=0 after 7 doses click.. amt=22 click.. amt=21 click.. amt=20 click.. amt=19 click.. amt=18 click.. amt=17 click.. amt=16 click.. amt=15 click.. amt=14 click.. amt=13 click.. amt=12 click.. amt=11 click.. amt=10 click.. amt=9 click.. amt=8 click.. amt=7 click.. amt=6 click.. amt=5 click.. amt=4 click.. amt=3 click.. amt=2 click.. amt=1 click.. amt=0 Turning Bellows Pump Off.. Bellows Pump OK	Dosing system check	Bellows pump Dosing reservoir	**Test will fail if:** ~Pump fails to register counts (counting down from 30) ~Chemical level switch fails to switch OFF before the end of the test. (See value in red below left) **Associated Cycle Fault: 21** **Possible Cause:** Dosing pump failure (no rotation) Dosing pump micro switch failure (no counts) Chemical level switch stuck ON **What to check:** ~Recheck system in component test and observe: pump rotation microswitch action chemical level switch status **Possible Corrective action(s):** Replace: dosing pump dosing pump micro switch dosing reservoir
Testing Chemical Pump Turning Chemical Pump On.. Chamber T: 77.7 C Validation T: 77.7 C Turning Chemical Pump Off.. Chemical Pump OK Chemical Pump Test took 11s	Chemical pump test	Chemical pump	**Test will fail if:** ~ Chemical level switch fails to turn from OFF to ON in 30 seconds **Associated Cycle Fault: N/A** **Possible Cause:** Unit has run out of chemical Chemical level switch stuck in OFF position Chemical fill pump failure **What to check:** ~Check chemical container ~Check level switch satatus in component test Check fill pump (audible) **Possible Corrective action(s):** Replace chemical Replace dosing reservoir Replace fill pump
Evacuating Chamber Turning Drain Pump On.. Chamber T: 77.2 C Validation T: 77.2 C Drain Pump OK Turning Drain Pump Off..	Chamber evacuation test	Drain pump Chamber full switch	**Test will fail if:** ~ Chamber full switch fails to turn from ON to OFFin 120 seconds **Associated Cycle Fault: 4** **Possible Cause:** Chamber full switch stuck in ON position Drain pump failure **What to check:** ~Check chamber full switch status in component test ~Check drain pump activity (audible) ~Check drain pump switch status in component test **Possible Corrective action(s):** Change chamber full switch Check for blockage in drain pump vent Change drain pump Change I/O board

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Note: On revision R415 software and above, Hot Water Filling & Emptying test will repeat at this stage of diagnostics test

Testing Drying Subsystem Start Drying T: 53.9 C Start Chamber T: 55.6 C Validation T: 55.7 C Starting Air Dryer for 90s.. After 90 sec: Current Chamber T: 55.7 C Current Drying T: 113.8 C Dryer & Thermistor OK Turning Dryer Off.. Drying Test took 91s	Dryer system check	Dryer motor	**Test will fail if:** ~ Dryer does not activate*Temperature of drying air (measured by the thermistor)is less than 80 degrees or greater than 140 degrees. **Associated Cycle Fault: N/A** **Possible Cause:** Failed dryer motor Failed dryer motor relay Failed thermistor in dryer duct Failed Dryer heater **What to check:** ~Check dryer RPM in dryer /heater component test ~Check relay status in component test Check 'Th' value in dryer/heater component test Check heater continuity **Possible Corrective action(s):** Change dryer motor Change I/O board Change thermistor Change dryer heater
Final Evacuation Turning All Devices Off.. Turning Drain Pump On.. Chamber T: 54.5 C Validation T: 54.5 C Drain Pump OK Turning Drain Pump Off..	Final evacuation of unit	Drain pump	**Test will fail if:** Drain unit ONLY - no failure modes **Associated Cycle Fault: N/A** **Possible Cause:** N/A **What to check:** N/A **Possible Corrective action(s):** N/A
TEST FINISHED Self-Diagnostic lasted 1530s	Test complete	N/A	**Test will fail if:** N/A **Associated Cycle Fault: N/A** **Possible Cause:** N/A **What to check:** N/A **Possible Corrective action(s):** N/A

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