HYDR*IM* M2 G4

INSTRUMENT WASHER-DISINFECTOR

- Service Manual

SciCan | Your Infection Control Specialist™

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1. Introduction

1.1 Overview

This guide provides instructions for the servicing and repair of the HYDR*IM*® M2 G4 Instrument Washer-Disinfector. Every attempt has been made to provide accurate, detailed instructions.

HYDR*IM* M2 G4 instrument washer-disinfector cycle description chart

Cycle	Prewash	Wash	Rinse	Dry	Total Time** w/o Drying	Water Consumption
P0 – Machine Cleaning Cycle No initial draining.	<30°C (cold) 3-10 minutes (default 3 minutes)	N/A	<30°C (cold) 2 minutes	N/A	6 minutes	16 L
P1 – Rinse and Hold Cycle* Use to prevent soil from drying on instruments when they will not be washed within one hour.	<30°C (cold) 3-10 minutes (default 3 minutes)	N/A	60°C 1 minute	N/A	18 minutes	16 L
P2 – Regular Cycle (no disinfection) – Use for moderately soiled loose instruments.	<30°C (cold) 3-10 minutes (default 3 minutes)	50°C 5-15 minutes (default 9 minutes)	60°C 1-10 minutes (default 1 minute)	20-60 minutes (default 30 minutes)	35 minutes	32L
P3 – Heavy Duty Cycle with disinfection – Use for heavily soiled instruments and cassettes.	<30°C (cold) 3-10 minutes (default 3 minutes)	50°C 5-15 minutes (default 9 minutes)	90°C 5 minutes	20-60 minutes (default 30 minutes)	60 minutes	40L***
P4 – Custom (Rinse: A_0 between A_0 = 3,500 and A_0 = 6,000)	<30°C (cold) 3-10 minutes (default 3 minutes)	50°C 5-15 minutes (default 9 minutes)	90°C adjust from 1 to 5 minutes	20-60 minutes (default 30 minutes)	Variable	40L***

* This is not a wash cycle. Always run a wash cycle following the rinse & hold cycle.

** Cycle times depend on the temperature and pressure of incoming water.

*** Water consumption includes drying phase.

1. Introduction

1.2 HYDR*IM* Unit at a glance – front and rear

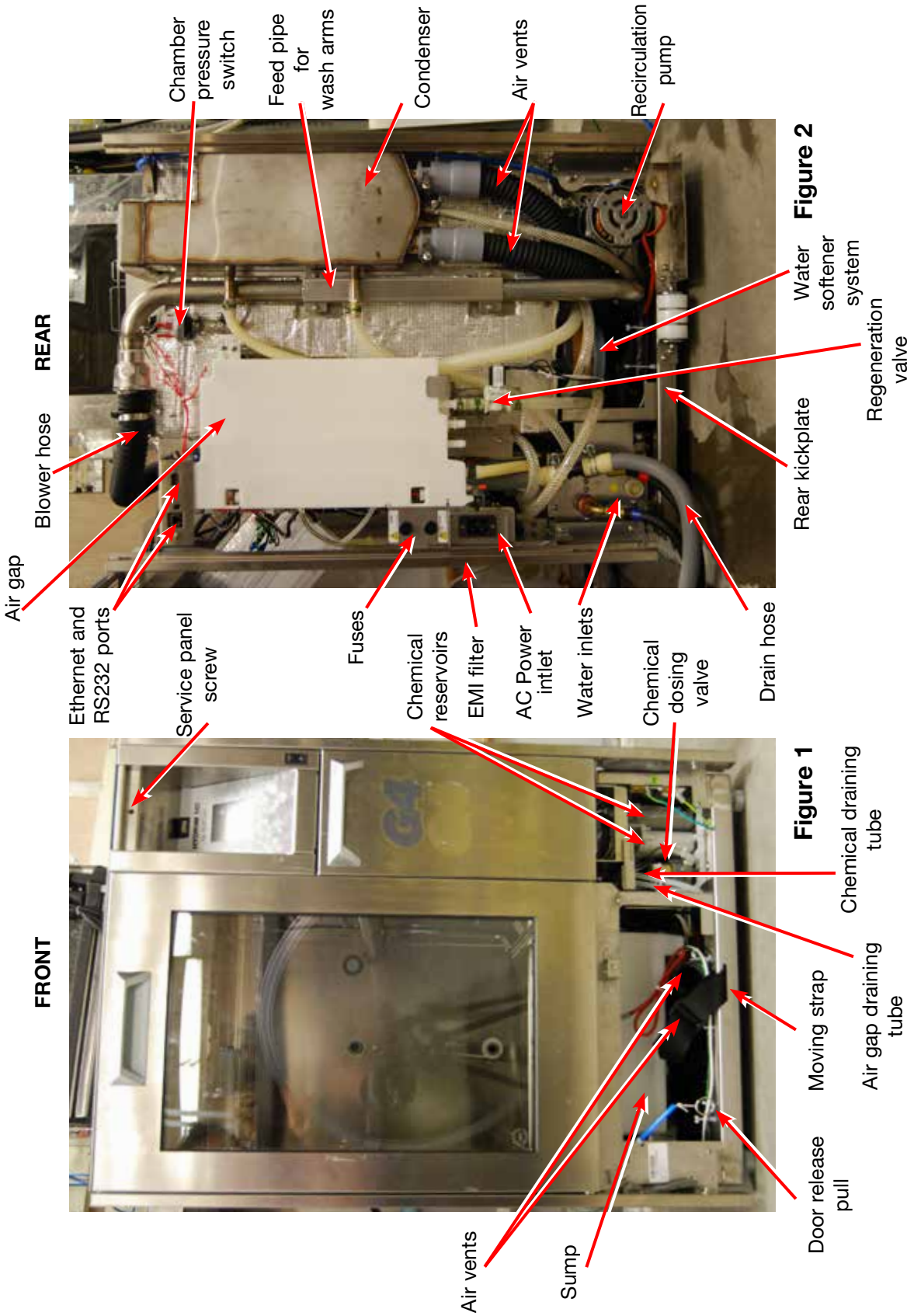

Figure 2

Figure 1

1. Introduction

1.2 HYDR*IM* Unit at a glance – left and right

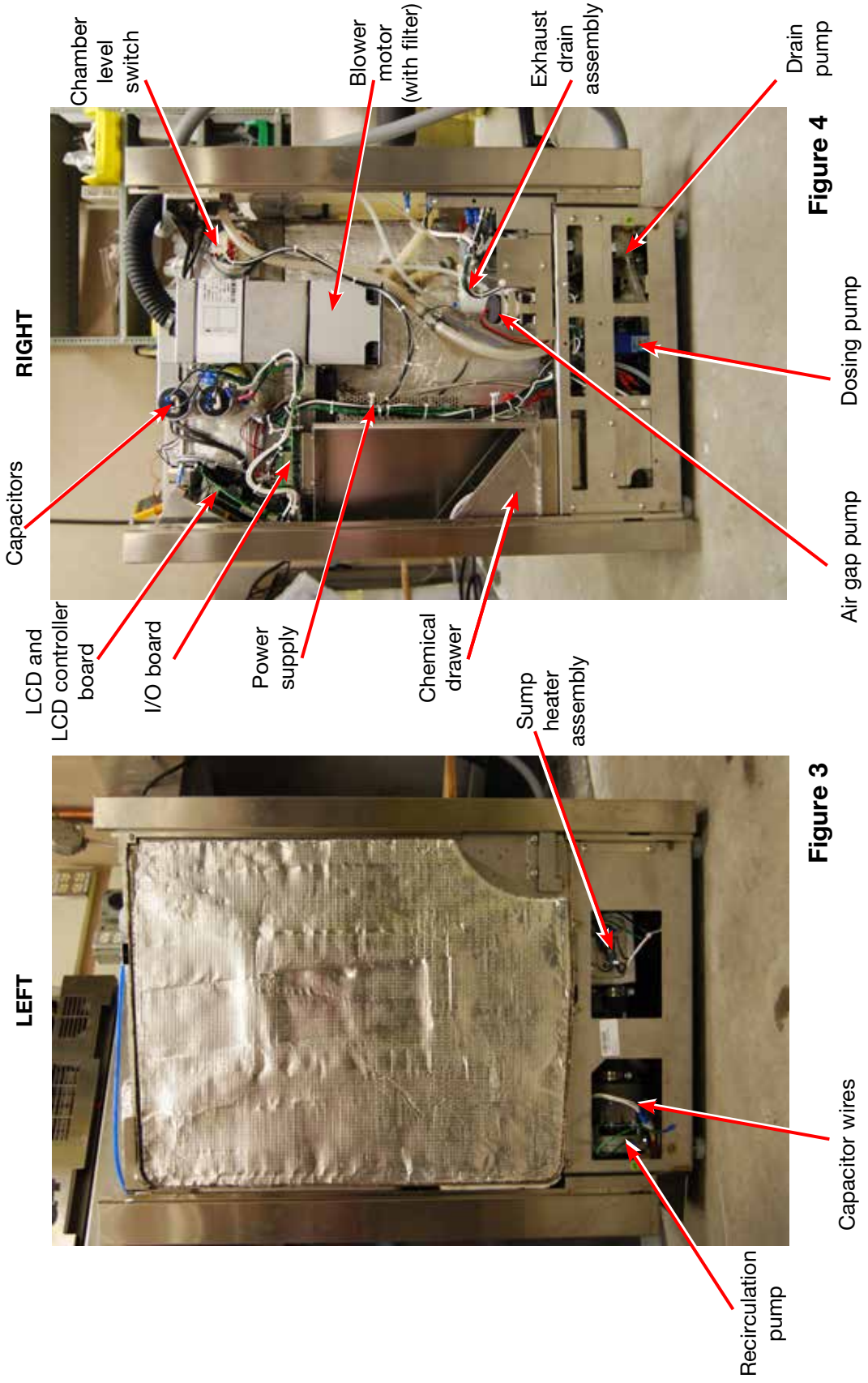

Figure 4

Figure 3

1. Introduction

1.3 Specifications

Applicable Standards		ISO 15883-1/2
Height (Standard height unit)		850 mm
Height (Short height unit)		830 mm
Width		600 mm
Depth (Door closed)		600 mm
Depth (Door open)		1200 mm
Weight		90 kg
Floor loading per support when full		310 N
Required clearance:	Top and Sides Rear	>10 mm >30 mm
Running Noise		<78 dB(A)
Inlet water connections		G 3/4” B
Inlet water pressure		2-5 bar
Drain		3/4”
Maximum water flow to drain		47 L/min
Maximum water discharge temperature to drain		95°C
Maximum water hardness		30.3dH, 31.6 US GPG, 540 PPM
Maximum water conductivity		844 µS/cm
pH range		>6.8 and <8.5
Water volume per process stage		8 L ± 1 L P3 has additional 8 ± 1L for drying
Total water consumption per cycle with drying		P1: 16 L ± 2 L P2: 32 L ± 4 L P3: 40 L ± 5 L
Maximum heat transmitted through fascia		2388 W
Water softener salt capacity		1.0 kg
Equipment installation category		II
Voltage		230 – 240 VAC ± 10%
Frequency*		50 Hz or 60 Hz
Rated load		2.5 kW
Current*		12A or 13A
Operating temperature range		5°C – 40°C
Maximum relative humidity		80% for temp up to 31°C 50% for temp up to 40°C
Maximum operating altitude		2000 m
Equipment pollution degree		2
Maximum deviation from plane horizontal surface.		2 mm
Suitable process chemicals for each stage		HIP
Total amount of process chemical		108 mL
Material Safety Data Sheet		Refer to website: http://www.scican.com
Cycle recording options		USB, G4 web portal, external printer

*Refer to Electrical Supply table

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When ordering supplies, spare parts or requesting service, please ensure that the information contained on the serial number plate is available (Model number, serial number etc.).

The serial number plate is located at the bottom left on the rear panel of the HYDR*IM* M2 G4 unit. The serial number can also be found on a label located on the left hand side of the chemical door.

Electrical Supply (Refer to model number for specific requirements)						
	Model Number Ending	Current (see Note 1)	Voltage	Frequency	Maximum power supply location for installation site	Rated load
HYDRIM M2 G4 (including short models)	-D01	12A	230-240 V	60 Hz	1.50 m / 5 ft	2.5 kW
	-D03	13A	230-240 V	60 Hz	1.50 m / 5 ft	2.5 kW
	-D02	13A	230-240 V	50 Hz	1.50 m / 5 ft	2.5 kW
	-D04	13A	230-240 V	50 Hz	1.50 m / 5 ft	2.5 kW
	-D10	13A	230-240 V	50 Hz	1.50 m / 5 ft	2.5 kW

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 should be routed away from the back panel and hot water inlet hose.

1. Introduction

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* M2 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* M2 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 or absorbent material to siphon the contents from the sump. 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
- Screwdrivers Philips 1 & 2
- Screwdriver slot
- Wire cutters
- Small slot screwdriver
- 8 mm Nut driver
- Allen key 3.0 mm
- Channel Locks
- Spring clamp pliers

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
- Hex socket pan head stainless steel machine screws
- Spring clamps
- Band / Gear clamps
- Cable ties

1.6 Disconnecting the unit

To disconnect the unit, follow these steps:

1. Turn the unit off and disconnect it from the power supply.
2. Turn off the water supply.
3. Disconnect the drain and water intake hoses.
4. Remove the screw at the center of the kickplate and remove the kickplate to access the moving strap.
5. Pull the unit out using the moving strap and carefully withdraw the hoses at the same time.

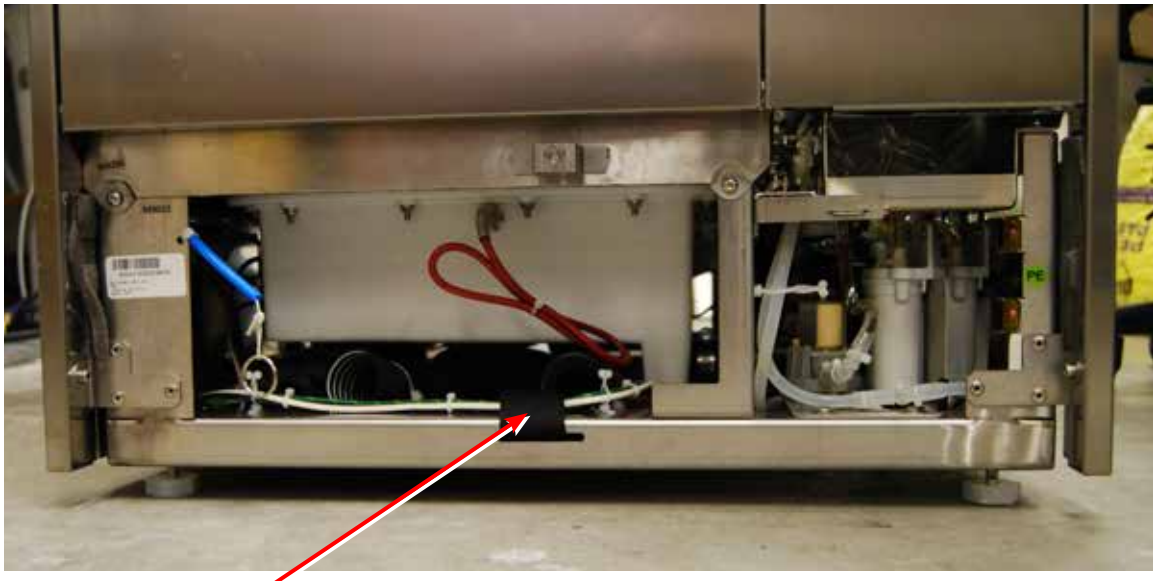

Figure 5

1. Introduction

1.7 Shipping instructions

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

- Run the ‘Prepare for Shipping’ cycle in the setup menu to remove most of the water from the system before shipping the unit.
- Waste water in the unit may contain biological contaminants. Use a mechanical means or absorbent material to siphon the contents from the sump. Wear disposable rubber gloves. Dispose of absorbent material according to biological waste disposal regulations.
- Disconnect and remove the cleaning pouch container and then drain the dosing reservoir.
- 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 # 01-113847S.
- Shipping outside of these conditions can affect warranty.

1. Introduction

1.8 Installation

IMPORTANT INFORMATION

!

Pre-Installation

The machine must be installed and leveled correctly for the unit to function as described. All electrical work must be carried out by a qualified electrician and in compliance with all local and national electrical codes.

Voltage:	230-240V ± 10%
Frequency:	50 Hz or 60 Hz (refer to unit serial number plate)
Rated load:	2.5 kW
Circuit breaker:	13A (12A for N.A. unit)

- The outlet needs to be accessible after the unit is installed.
- The appliance must be correctly grounded! The manufacturer cannot be held responsible for damage or injury caused by incorrect or missing grounding.
- The HYDR*IM* unit is heavy (90 Kg). Exercise caution and obtain assistance when lifting unit.
- If you need to extend the water inlet and drain hoses, ensure that you use commercial grade plumbing hose. The maximum length of the drain hose is 3.3 m.

Installation instructions

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* M2 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.

The HYDR*IM* M2 should only be installed and service by a qualified SciCan 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.

The machine must be installed and leveled (see leveling instructions on next page) correctly for the unit to function as described. All electrical work must be carried out by a qualified electrician and in compliance with all local and national electrical codes.

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Leveling the HYDRIM

The unit is standing on three supports: rollers (wheels) at the back and two legs at the front.

1. Remove the kickplate. Push the HYDR*IM* into place while lifting the strap at the front to allow the unit to roll on the rollers.
2. Adjust the front legs as required until the HYDR*IM* is level. Access the legs from inside the unit.
3. The rear two legs are used only if the floor is uneven or cannot provide support to the rollers.

Electrical connection

This appliance must be correctly grounded! The manufacturer cannot be held responsible for damage or injury caused by incorrect or missing grounding. Before making any connections check that the voltage shown on the serial number label corresponds to your power supply. The machine is supplied as standard for connection to 230-240V 50 Hz or 60Hz single-phase power supply and is fitted with a detachable power supply cord 2.5m. It should be connected to the main power supply according to the information below.

Voltage:	230-240V
Frequency:	50 Hz or 60 Hz (refer to unit serial number plate)
Rated load:	2.5 kW
Circuit breaker:	13A (12A N.A. unit)

Connection to the water supply

The unit must be connected to the water supply in accordance with all local and national plumbing codes. SciCan recommends a hard plumbing installation within 1.5m/5ft. of the unit. If additional distance is necessary, commercial grade plumbing hose must be used to minimize leaks. Connect inlet hoses to hot and cold water taps using the hoses connected to the unit and in accordance with the installation instructions.

Water Pressure:	2-5 bar
Water Temperature:	Cold water less than 30ºC
	Hot water up to 60-84ºC
Water inlet hoses (provided):	3/4" fitting, 2m length

Drainage

The unit is supplied with a 1.5m flexible drain hose with a 2cm barb inlet. The hose should not be shortened or attached to any fittings that would cause a reduction in water flow. The drain system is equipped with a non-return valve that prevents dirty water from flowing back into the unit.

The drain hose should not be further than 1.5m/5ft. from a hard plumbing drain. If this is not possible, then commercial grade plumbing hose must be used to minimize leaks.

The hose can be attached to an existing drain through the use of a 3.5cm or larger stand pipe/ P-trap combination. Alternatively, the hose can be connected directly to the existing drain lines, provided the fittings or adapters used do not reduce the water flow.
The drain hose should not exceed 3.3m in length, or be attached to the main drain at a point higher than 35cm above the floor.

1. Introduction

1.9 Setting the water softener

The HYDR*IM* M2 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”.
7. 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.
8. Unscrew the water softener container lid from the bottom left of the chamber and pour 1 litre (1 quart) of water into the water softener container.
9. Add 1 kg (22 lbs) 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 Conversion and salt regeneration levels

	°dH	US GPG	PPM (mg CaCO3 / Litre)	Regen.
Typically No Treatment Necessary (values from 18-143)	1	1.0	18	1
	2	2.1	36	
	3	3.1	54	
	4	4.2	71	
	5	5.2	89	
	5.6	5.8	100	
	6	6.3	107	2
	6.2	6.4	110	
	7	7.3	125	
	8	8.3	143	
May Require External Treatment (values from 150-535)	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	
	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	
	19	19.8	339	
	19.6	20.5	350	7
	20	20.9	357	
	20.2	21.0	360	
	21	21.9	375	
	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	8
	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	
External Treatment Required (values >535)	≥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.

1.10 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.

1.11 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.

1.12 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.

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.

1.13 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.

1.14 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.

1.15 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.

1. Introduction

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.

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. Introduction

1.20 Adjusting the salt regeneration

Salt regeneration should be set according to the local water hardness. See section 1.9 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:

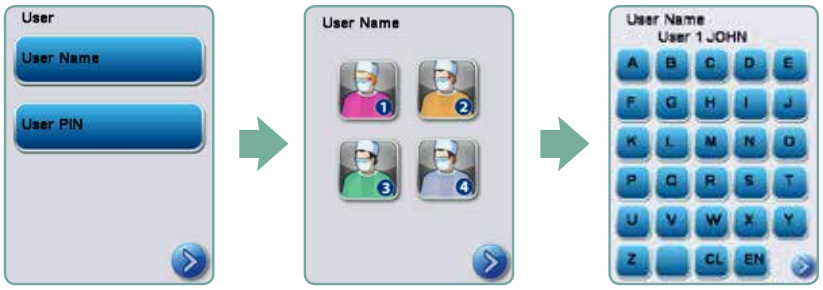
1. 
2. Scroll to **Theme** and select.
3. In the **Change Theme** screen, use  to scroll through your available options. As you scroll, each theme will display on the touchscreen. Press  to select your theme and return to the Setup menu.

1. Introduction

1.23 Creating a User Name

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

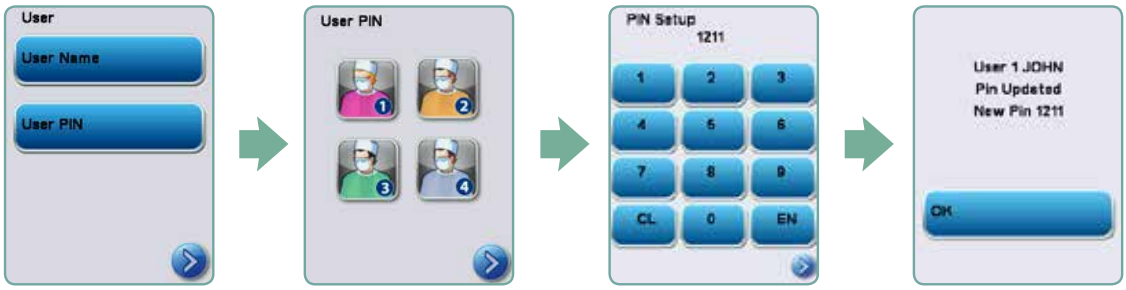
1. 
2. Scroll to **User** and select.
3. To assign a user name, select **User Name** and use the alphabetic keypad to enter a name (up to 12 characters) and press **EN** to save.



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.

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* M2 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.

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.

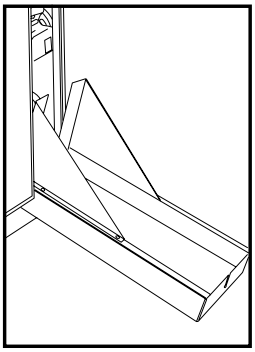
1.27 Connecting to a wireless network

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.

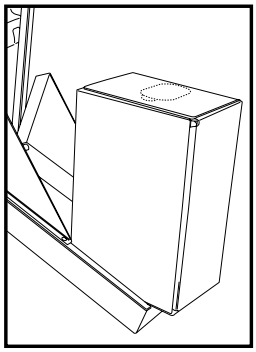
2. Routine Procedures and Maintenance

2.1 Replacing the cleaning solution

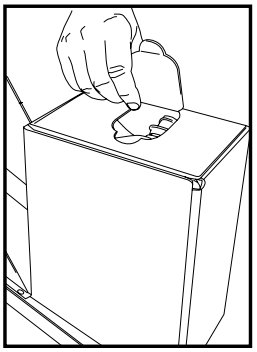
To replace the cleaning solution, follow these steps:



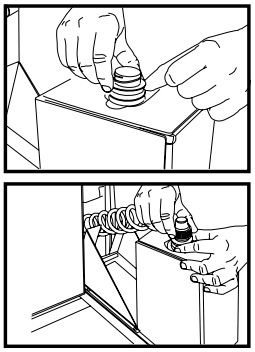
Open the cleaning solution drawer.



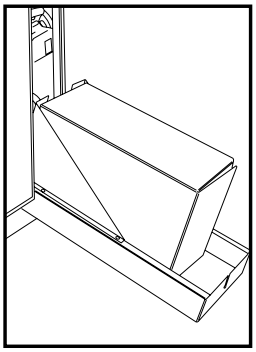
Put a new cleaning solution box into the drawer upside down.



Tear open the tab.



Pull out the spout and remove the protective cap. Connect the hose.



Place the box in the cleaning solution drawer and then close.

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.

2. Routine Procedures and Maintenance

2.2 Refilling the water softener

If the water softener system is set to any value above 0, the message “Salt Level Low” will appear on the display. To add water softening salts, follow these steps:

Figure 6

1. Unscrew the salt container lid.
2. On first using the HYDR*/M* M2 G4, pour 1 liter (1 quart) of water into the salt container, or until it is full with water. **NOTE:** It is not necessary to add water during subsequent refills of the salt container.
3. Replace the salt container lid.

After the salt has been added to the unit, the softening salt indicator will initially show that more salt is needed. The indicator will turn off when the salt solution has become sufficiently concentrated.

2.3 Filter and wash arm maintenance

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 the coarse filter, remove the filter, rinse under a tap and reinstall.

To clean the fine filter, remove the coarse filter, remove the two screws holding the fine filter and using a small screwdriver, gently pry the fine filter out. To replace, reinstall with the mesh side down.

Coarse filter – part # 01-113843S
Fine filter – part # 01-113844S

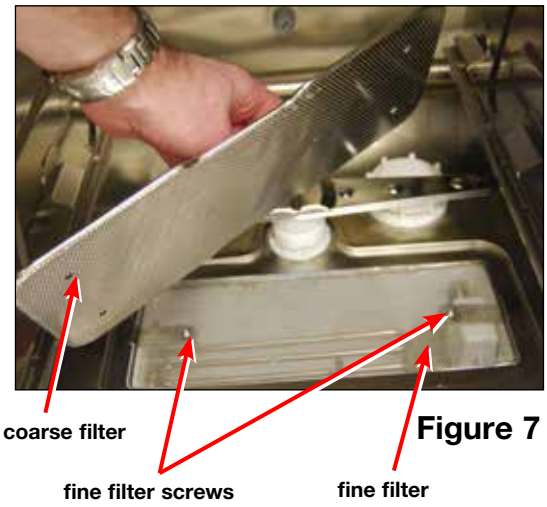


Figure 7

2. Routine Procedures and Maintenance

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 thread mounted. Turn the mounting ring counter clockwise to remove. Rinse under a tap, clear obstructions from outlet holes and reinstall.

To remove the middle wash arm, twist the mounting ring one half turn counter clockwise to remove.

Lower, upper spray arm – part # 01-109790S
Middle spray arm – part # 01-111495S

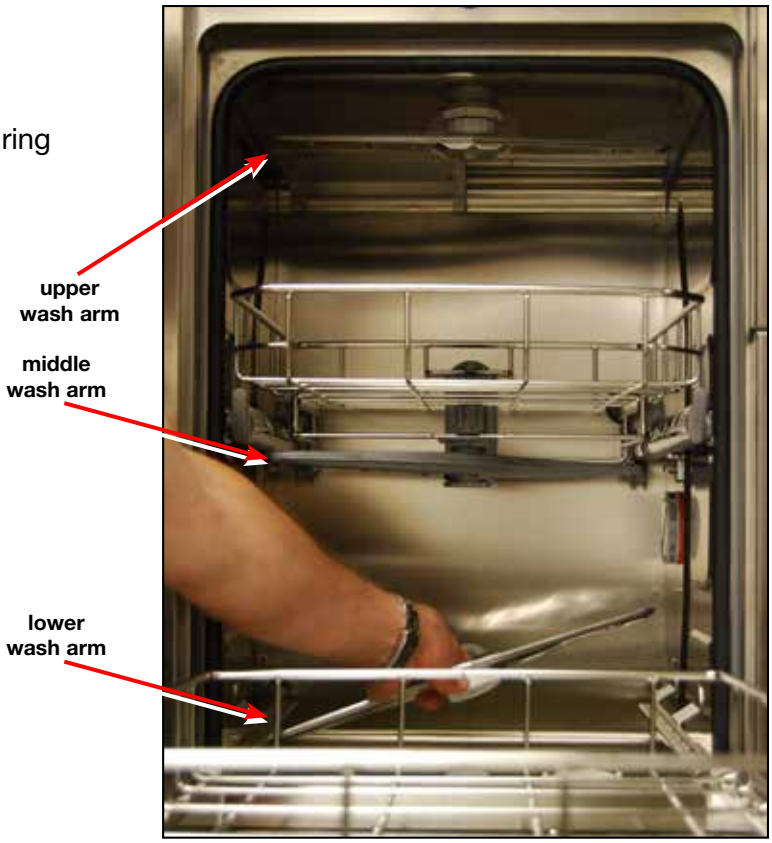


Figure 8

2.4 Replacing the blower filter

The HEPA filter in the blower should be changed every 750 cycles. To change this filter, remove the top and right panels and follow these steps:

1. Remove the blower assembly. (See section 7.9 Removing and reinstalling the blower assembly)
2. Remove 2 top hex bolts from the side of the blower to open the component and remove the filter.
3. Reinstall new filter in the correct orientation, following the direction-of-flow arrows on the side of the component and on the side of the filter.
4. Reinstall the blower assembly.
5. Reset the drying counter. (See section 1.15 Resetting dryer counter)

Dryer filter – part # 01-111780S

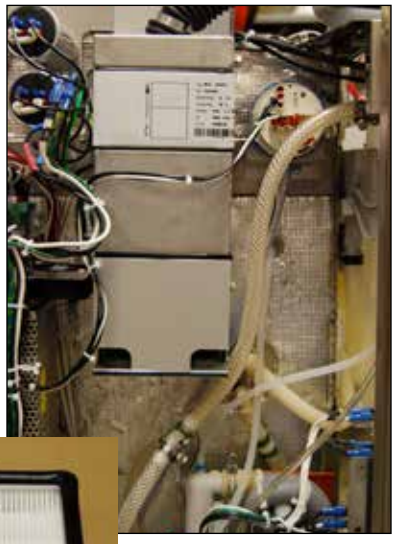


Figure 9a

Figure 9b

2. Routine Procedures and Maintenance

2.5 Cleaning the chamber

The HYDR*IM* M2 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 1 litre 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, or 75 cycles. To do this, enter the Technician menu.

2.6 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.

2.7 Upgrading the firmware

NOTE: Instructional videos are available on http://updates.scican.com

NOTE: Upgrading the Interface Software can be done from a USB drive, a MicroSD card or a web site. The easiest and fastest method is to use a USB drive.

To upgrade the firmware using a USB drive, proceed as follows:

1. Download new firmware. The firmware will be made available on updates.scican.com or emailed from SciCan upon request. It will be packed into a zip file (e.g. SHM2MRXXX.zip is the name of the current revision file, but the number will change with every revision) and must be extracted to a USB drive.
2. Check that you have the following files on the USB Drive:
   - firmware.ini
   - Firmware (Folder)
   - SHM2MRXXX_4_100_CAA29608.sci
3. With the unit powered OFF, insert the USB drive loaded with the firmware update.
4. Power ON the unit. The firmware will be updated automatically using the USB drive. This should take approximately 6 minutes. **NOTE:** The USB icon on the LCD touch-screen will flash green while it is active. Do not remove the USB key while it is active.
5. When it is complete, the “Firmware.log” file on the USB drive will include the result of the upgrade (file name, upgrade OK, or upgrade failed, and for what reason).

6. Whether the upgrade is successful or unsuccessful, the “firmware.ini” file on the USB drive will be automatically deleted.
7. To retry or upgrade another unit, insert the USB drive into the PC’s USB port.
8. Plug in the USB drive into the computer.
9. Double-click the FIRMWARE folder on the USB drive (e.g. Z:/FIRMWARE)
10. Copy the file 'firmware.ini' file into the root directory of the USB drive (eg. copy and paste the file 'firmeware.ini' from Z:\FIRMWARE\ to Z:\).

2.8 Using the HYDR*IM* remote access function

Users can allow offsite technicians to remotely access the LCD touchscreens and web portals of HYDR*IM* M2 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 1.27 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 HYDRIM 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 SETUP menu and scroll to REMOTE ACCESS and follow the prompts to enable remote 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.
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 LOCAL CONTROL. 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.

2.9 Annual Service Requirements

The HYDR*IM* M2 G4 is designed to be maintenance free; however, it is recommended that a SciCan-approved service technician perform an annual check. Testing protocols are available for download at MySciCan via www.scican.com.

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
- 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)
- Check wash arms for blockages and remove them for cleaning if required
- Review error history
- Software upgrade (if necessary)
- Replace dryer filter and reset dryer counter (only if required)

- 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)
    - 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
- Check dosing pump volume; dosing pump is pre-calibrated. Volume cannot be adjusted. (Dosing pump validation kit 01-113909S)
- Check thermocouple calibration and adjust if required
- Reset service cycle counter
- Clean machine
- Conduct electrical safety tests

- 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 90ºC 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)

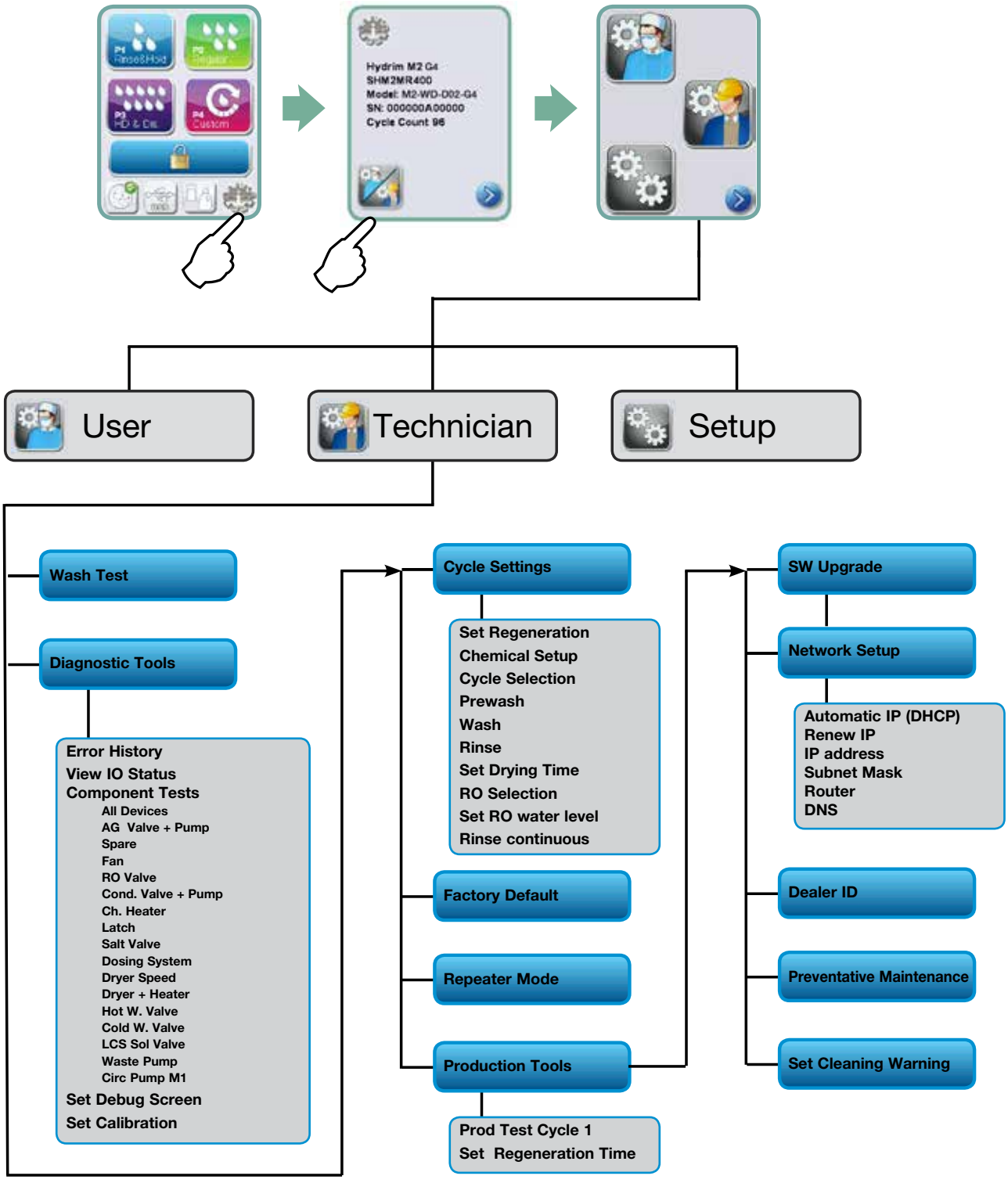
Equipment and parts requirements for annual service

- Dryer filter (HEPA) (Part number 01-111780S)
- Main chamber seal (Part number 01-113790S)
- Lower door seal (Part number 01-113789S)
- Service Manual (Part number 96-113787)
- Electrical safety test equipment
- Water hardness test strips (Part number 01-108305S)
- Calibrated independant temperature measuring device
- 100ml granulated measuring cylinder

3. Diagnostics and Troubleshooting

3.1 Using the service menu

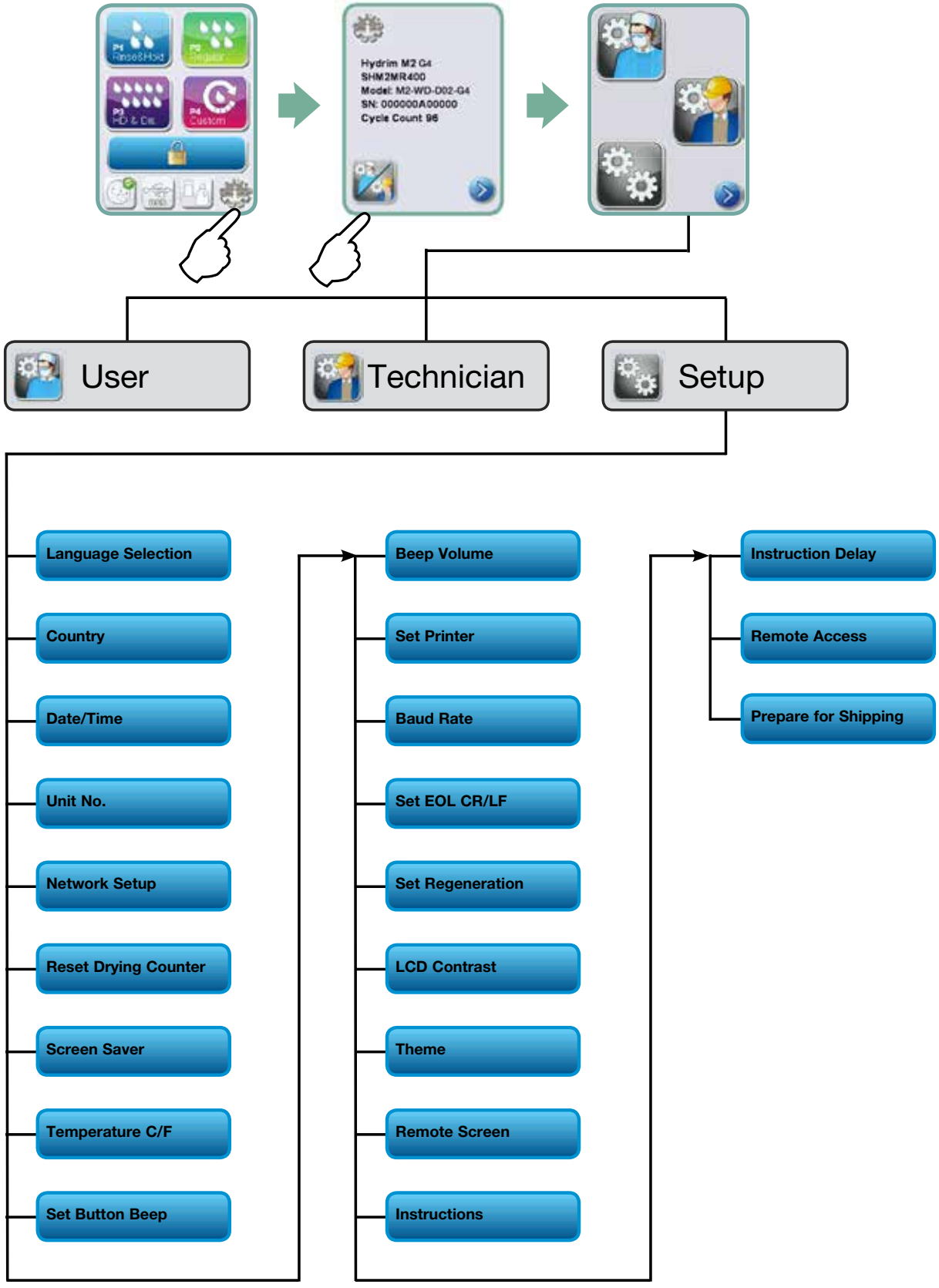
To access the service menu, select the image of the technician and enter the service code 7919 on the keypad.



3. Diagnostics and Troubleshooting

3.2 Using the setup menu

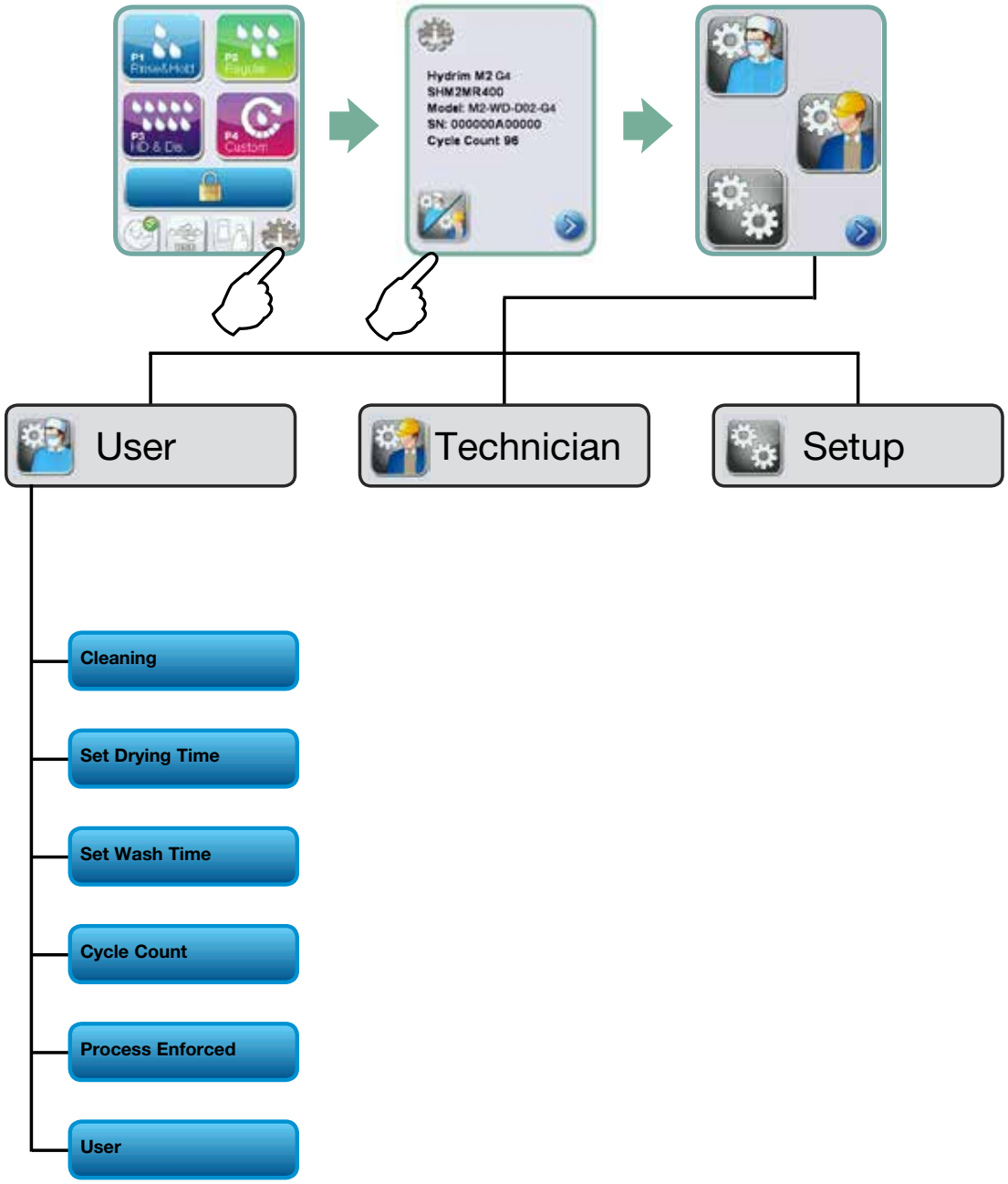
To access functions and settings on the setup menu, proceed as follows:



3. Diagnostics and Troubleshooting

3.3 Using the user menu

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



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 I/O status screen.

Debug Screen

The Debug screen is used when running a cycle to view the I/O status of components. Active components are colored while inactive components remain white.

To access the debug screen, select Diagnostic Tools from the service menu and select Set Debug Screen, then go to the main menu and select a cycle. The LCD screen will display the following:

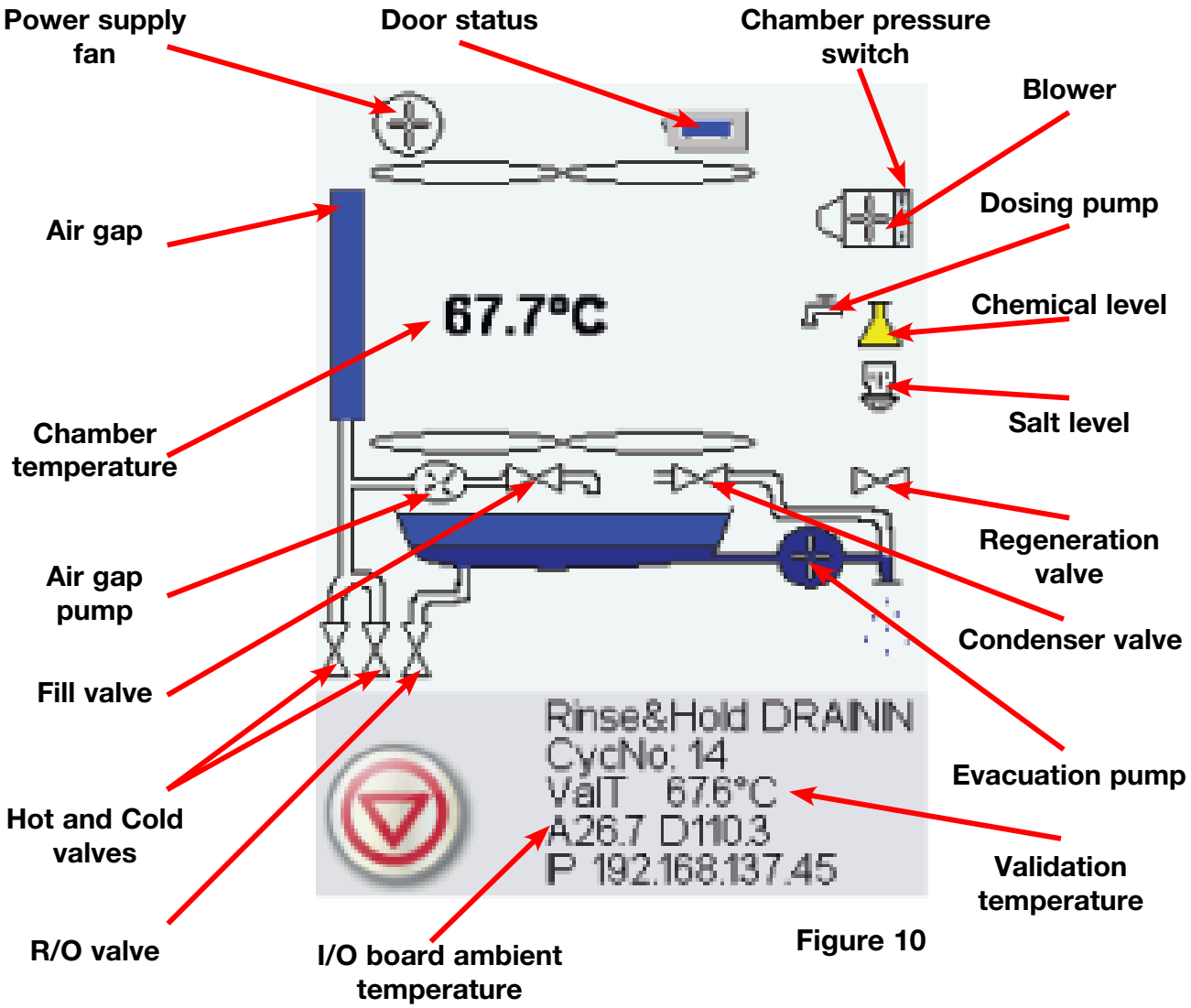
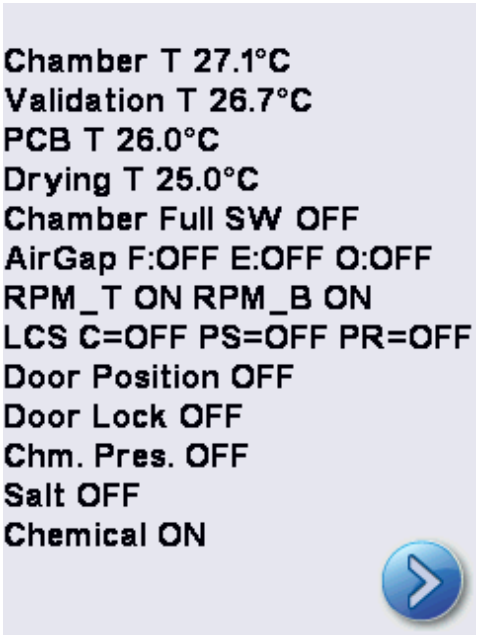


Figure 10

3. Diagnostics and Troubleshooting

I/O status screen

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



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	• Blocked drain tube • Chamber water level switch malfunction • Chamber water evacuation pump failure • Drain pump priming connection hole in the sump blocked

3. Diagnostics and Troubleshooting

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 • Check temperature sensors • Check water heater • Check I/O board (hardware failure)
CF 7	Cycle aborted or interrupted	Power failure	• Restore power to the unit. • Restart program.
CF 9 Program Timeout	System Failure	Defective PCB and/or software failure	• Restart program. • If message persists, replace color LCD controller.
CF 13 Temperature Reading Failure	Cycle aborted or interrupted	Temperature sensor readings are out of limits.	The temperature sensor is out of range: • Check temperature sensor wires for loose contacts. • Run a cycle to monitor that the water temperature is below 96°C. • Replace sensor and verify if the CF persists. • Replace I/O board.
CF 14 Water Too Hot	Cycle aborted or interrupted	Water temperature higher than the target	• Check water connections.
CF 15 Water Reservoir Overflow	Cycle aborted or interrupted	Operating temperature for one or both logic boards is too high	The water reservoir overflow switch was triggered: • Restart program, if message persists, check the water reservoir full switch.
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.

3. Diagnostics and Troubleshooting

Cycle Fault	Effect	Problem	Possible Causes
CF 19 Defective Pressure Sensor	Cycle aborted or interrupted	Pressure sensor failure	This is caused by a stuck pressure switch: • Check pressure sensor (stuck closed) • Check wiring • Check I/O board (hardware failure).
CF 20 Condenser System Failure	Cycle aborted or interrupted	Drying aborted	Check that the water hoses are not kinked: • Restart program. • If message persists, this may be because the unit was not able to cool down after disinfection phase. • Verify cold water connection.
CF 21 Dosing System Error	Dosing System failure Cycle interrupted	Dosing system failed to dispense the preset amount in a predefined time (time-out 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: • Verify bellows dosing pump • Verify bellows dosing pump switch
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 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.

3. Diagnostics and Troubleshooting

Cycle Fault	Effect	Problem	Possible Causes
CF 28 No Water Pressure	Cycle interrupted	Not enough water during cycle	• Check that the water hoses are not kinked. Check that water shut-off valves are open. Check for leaks. If message persists, this could be caused by stuck pressure switch or not enough water during wash phase. • Check pressure sensor (stuck open). • Check wiring. • Check I/O board (hardware failure).
Touchscreen is blank/ white			Check power source
USB storage device does not contain the last print out			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			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 to NETWORK SETUP and select. 2. Select RENEW IP.
Not receiving emails from the unit			Check user's spam filter. Be certain the unit has been identified as an accepted email source.

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 panels are removed, a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) must be performed on the HYDR*IM* when the work is completed and after the cover has been returned to the unit.
- A dielectric strength test (hi-pot) must be performed on the unit if parts associated with the power main are serviced or replaced.
- A protective bonding impedance test (ground continuity) must be performed on the unit if components of the protective earthing system are changed or if connections are broken and remade.

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.

4. Removing and Replacing Panels

4.1 Removing and reinstalling the top panel

1. Turn the unit off, disconnect the power and open the door to remove 2 screws under the top panel's front edge. (Figure 11a). **NOTE:** For units with the low profile top cover, you must also remove the two screws at the back.
2. Pull the top panel to the front and shift it left and right to release it from the tabs at the front. (Figure 11b)

NOTE: the top panel is attached to a ground wire at the back right. Tip the panel up and disconnect the ground screw to release.

Figure 11a

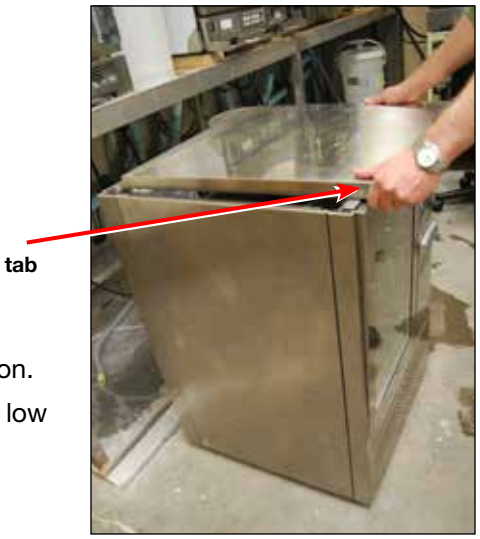


Figure 11b

To reinstall:

1. Reattach the ground wire, place the panel on top of the unit, slightly forward and re-engage the tabs under the front edge.
2. With the front tabs engaged, push it to the back to bring it into position.
3. Replace the 2 screws under the front edge. **NOTE:** For units with the low profile top cover, replace the two screws at the back.

Cover top – part # 01-111469S
Cover top, low profile – part # 01-113832S

4.2 Removing and reinstalling the side and rear panels

1. Turn the unit off, disconnect the power and remove the top panel.
2. With the top panel removed, the left and right panels can be removed by pulling up to disengage them from the tabs at the bottom, then tip them back and disconnect the ground wire to remove.
3. For the rear panel, remove the two screws at the bottom, pull it up, disconnect the ground wire and remove.

To reinstall these panels, connect the ground wires and slide them down into position, engaging the tabs at the bottom of each panel into the slots in the chassis.

Cover left side - part # 01-111466S
Cover right side – part # 01-111468S
Cover rear – part # 01-111467S

WARNINGS AND PRECAUTIONS

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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 panels are removed, a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) must be performed on the HYDR*IM* when the work is completed and after the cover has been returned to the unit.
- A dielectric strength test (hi-pot) must be performed on the unit if parts associated with the power main are serviced or replaced.
- A protective bonding impedance test (ground continuity) must be performed on the unit if components of the protective earthing system are changed or if connections are broken and remade.

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.

5. Front Components

5.1 Removing and reinstalling the kickplate

1. Remove the screw at the center of the kickplate. (Figure 12a)
2. Insert a flat-blade screwdriver at the top to pry it back.
3. Disconnect the ground wire at right and remove.

To reinstall, connect the ground wire, tip it back into position and fasten the center screw.

Kickplate front – part # 01-111476S.

Figure 12a

Figure 12b

5.2 Opening the door with the manual door release

To open the door in case of a power failure, turn the unit off and remove the kickplate to access the door manual release pull-ring in the blue tube located on the left. (Figure 13)

NOTE: Exercise caution when opening the door in a power failure situation. There may be fluid remaining in the unit and instruments may be hot. Instruments that have not completed the cycle should not be used and should be reprocessed.

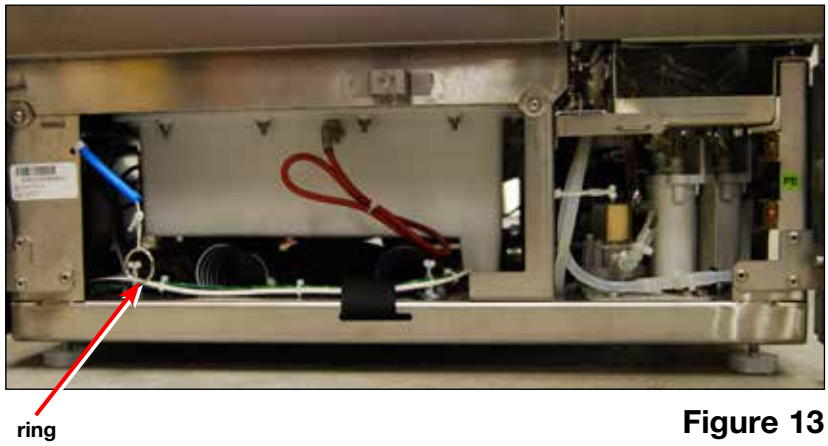


Figure 13

5. Front Components

5.3 Removing and reinstalling the sump temperature sensor

1. Turn the unit off, disconnect the power and remove the kickplate, top and right panels.
2. Remove the coarse and fine filters inside the chamber.
3. Remove the mounting nut from the sensor inside the sump.
4. From the outside, pull the sensor out, follow the wire with red insulation jacket to the I/O board and disconnect the connector at the T1 and T2 positions.

To reinstall:

1. Starting from below the sump, fish the sensor wire to the I/O board and reattach it to the wiring harness, ensuring it is clear of the door springs.
2. Connect the sensor to I/O board at the T1 (red wires) and T2 (blue wires) positions.
3. Using a wrench, fasten the sensor to the sump by tightening the nut from the inside.
4. Reinstall the panels.

Dual temperature sensor – part # 01-113270S

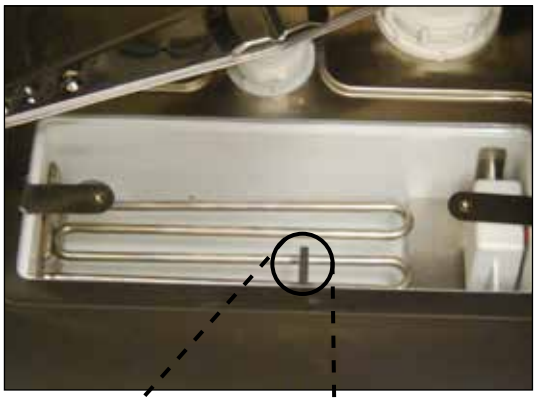


Figure 14a

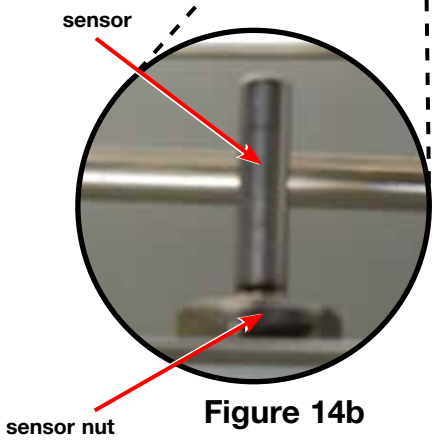


Figure 14b

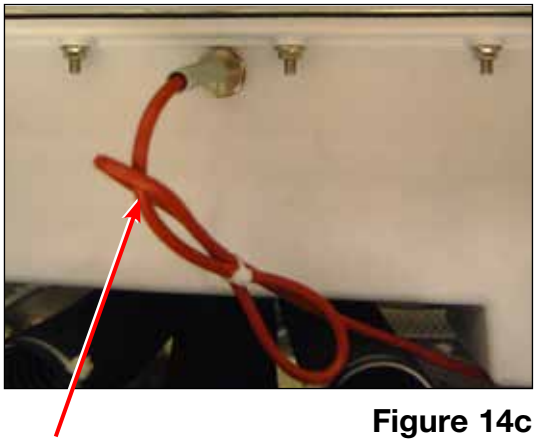


Figure 14c

5. Front Components

5.4 Removing and reinstalling the chemical dosing valve

1. Disconnect the chemical pouch, run a “Prepare for shipping cycle” to drain the system, turn the unit off, and disconnect the power cord.
2. Remove the kickplate, top and right panels.
3. Empty the reservoir using the dosing reservoir draining tube. (Figure 15a)
4. Disconnect T-connection tubing from reservoir A and the elbow connection tubing from the chemical dosing valve. (Figure 15a)
5. Remove 2 screws and pull out bracket. (Figure 15b) **NOTE:** The dosing reservoir has a vent tube attached.
6. Disconnect the tubing between the dosing valve and reservoir.
7. Remove the dosing valve from bracket (2 screws).

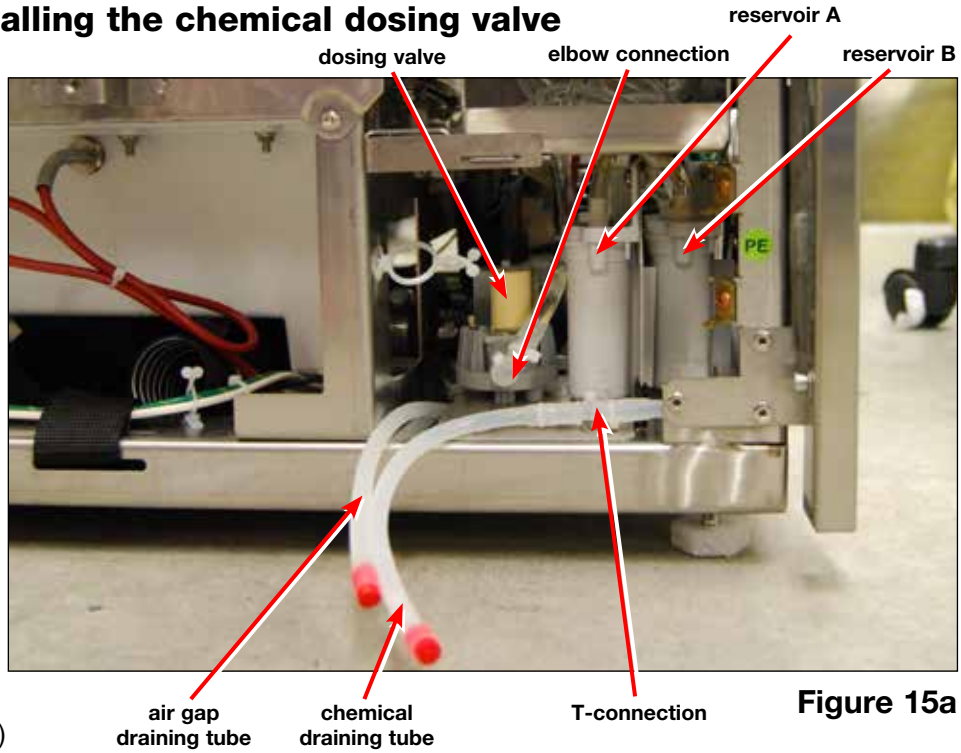


Figure 15a

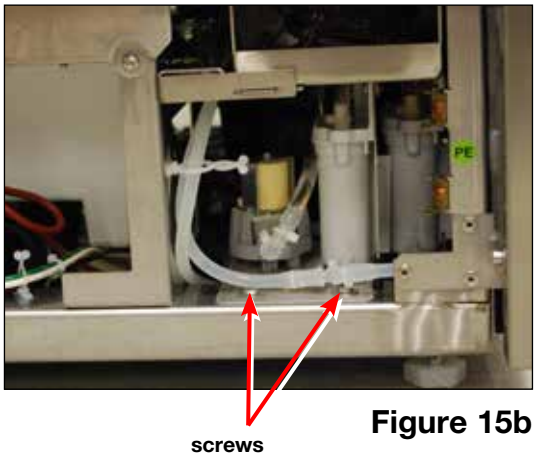
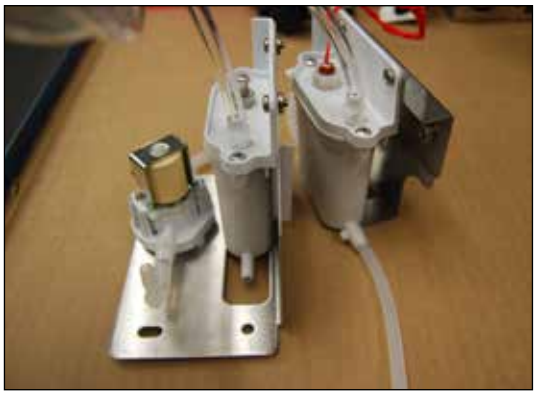


Figure 15b

To reinstall:

1. Fasten the dosing valve to bracket.
2. Connect the outlet tubing to the dosing valve.
3. Connect the wiring (wires 20, 27/28).
4. Connect the inlet tubing (ensure it is clear of door spring).
5. Connect tubing to reservoir.
6. Fasten the bracket screws and reinstall the kickplate and panels.



Dosing valve – part # 01-113860S

5. Front Components

5.5 Removing and reinstalling the chemical reservoirs

There are two dosing reservoirs, one with a plug (reservoir A) and the other with a switch (reservoir B). A must be removed before B.

To remove reservoir A:

1. Disconnect the chemical pouch, run a “Prepare for shipping cycle” to drain the system, turn the unit off, and disconnect the power cord.
2. Remove the kickplate, top and right panel.
3. Empty the reservoir using the dosing reservoir draining tube. (Figure 16a)
4. Disconnect T-connection tubing from reservoir A and the elbow connection tubing from the chemical dosing valve. (Figure 16a)
5. Remove 2 screws and pull out the bracket. (Figure 16b) **NOTE:** The dosing reservoir has a vent tube attached.
6. Disconnect tubing between the dosing valve and reservoir.
7. Remove the reservoir from bracket (2 screws).

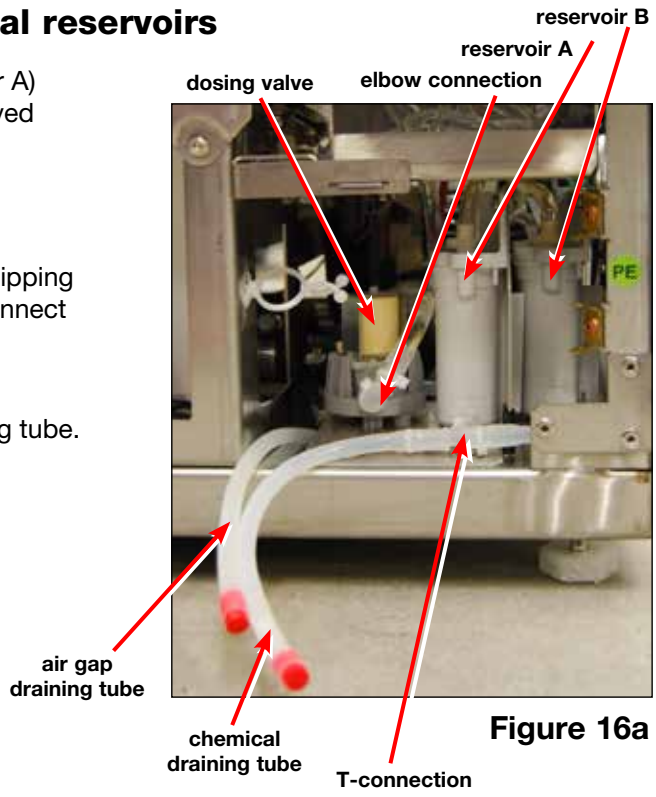


Figure 16a

To remove reservoir B:

1. Remove reservoir A. (See instructions above)
2. Disconnect the bracket for reservoir B by removing the 2 screws from the unit’s right side. (Figure 16c)
3. Disconnect the tubing from the reservoir to the pump and disconnect the switch wiring.
4. Pull the reservoir out and detach it from the bracket by removing the 2 screws.

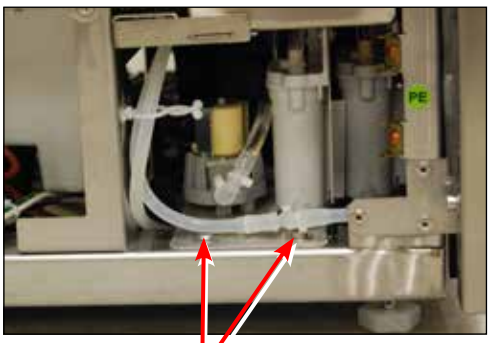


Figure 16b

To reinstall:

1. Fasten reservoir B to the bracket and connect the tubing and wiring (wires 55 and 56) then fasten to chassis.
2. Fasten reservoir A to the bracket. Connect the tubing and fasten the reservoir to the chassis.
3. Reinstall the kickplate and panels

Dosing reservoir with plug (Reservoir A) – part # 01-113859S
Dosing reservoir with switch (Reservoir B) – part # 01-113858S

Figure 16c

6. Door 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 panels are removed, a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) must be performed on the HYDR*IM* when the work is completed and after the cover has been returned to the unit.
- A dielectric strength test (hi-pot) must be performed on the unit if parts associated with the power main are serviced or replaced.
- A protective bonding impedance test (ground continuity) must be performed on the unit if components of the protective earthing system are changed or if connections are broken and remade.

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.

6. Door Components

6.1 Removing and reinstalling the chamber seal

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.

Figure 17a

To reinstall:

1. Place the bottom left and right ends of the new seal into position, ensuring that the ends touch the chamber bottom.
2. Tuck the corners into the seal recess and push the rest of the seal into place, ensuring that it is seated evenly throughout.

Figure 17b

Figure 17c

Main chamber seal – part # 01-113790S

6. Door Components

6.2 Removing and reinstalling the lower door seal

1. Turn the unit off.
2. Remove the 4 screws on the plate at the base of the door on the inside. (Figure 18a)
3. Remove the lower door seal.

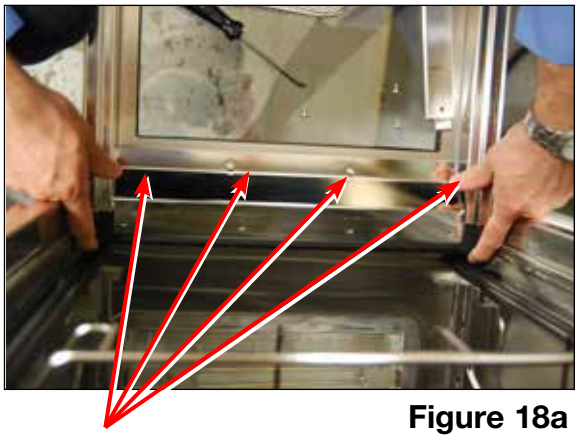


Figure 18a

To reinstall,

1. Push the door seal on tightly, ensuring that it is seated properly and evenly.
2. Re-fasten the plate to the door.

Figure 18b

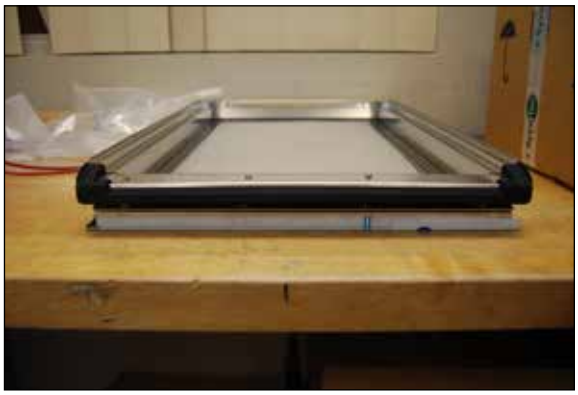


Figure 18c

Lower door seal – part # 01-113789S

6. Door Components

6.3 Removing and reinstalling the door

1. Turn the unit off.
2. Remove the 4 screws on each side. (Figure 19a)
3. Pull the door off. **CAUTION:** The right hinge is spring-loaded and will snap up.

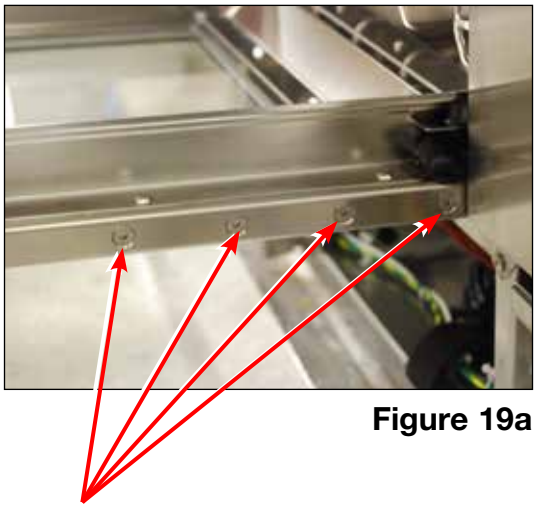


Figure 19a

To reinstall:

1. Slide the door back onto the two hinges, tipping it onto the left hinge to start and then the right hinge. Push the door until it connects with the hinge.
2. Using a flat-blade screwdriver, gently pry the hinges out to allow the door to slide into position. (Figure 19c)
3. Reinstall the screws.

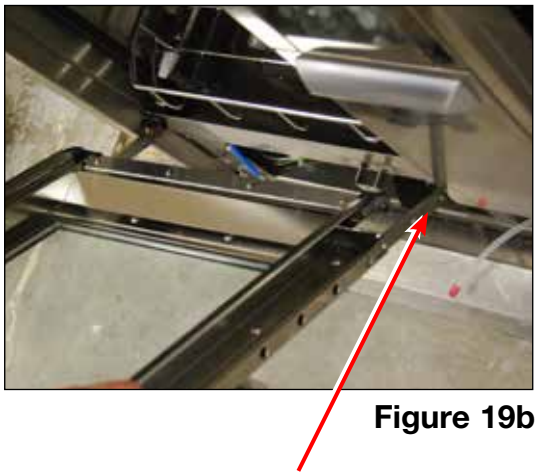


Figure 19b

Figure 19c

Door wash chamber – part # 01-113836S
Hinge left – part # 01-113840S
Hinge right – part # 01-113841S

6. Door Components

6.4 Removing and reinstalling the lower door D-seal

1. Remove the door (See 6.3 Removing and reinstalling the door).
2. Remove the D-seal and remove any adhesive residue.

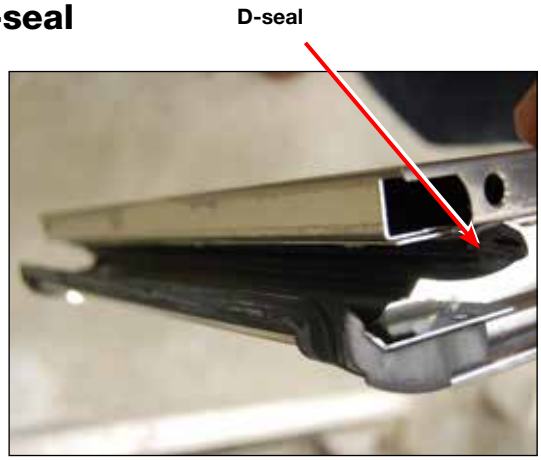


Figure 20a

To reinstall, press the D-seal into place, ensuring it is seated evenly, and reattach door. **NOTE:** D-seal should protrude from the door frame on both sides by 1-2 mm (0.4-0.8 inches).

D-strip door seal - part # 01-113654S

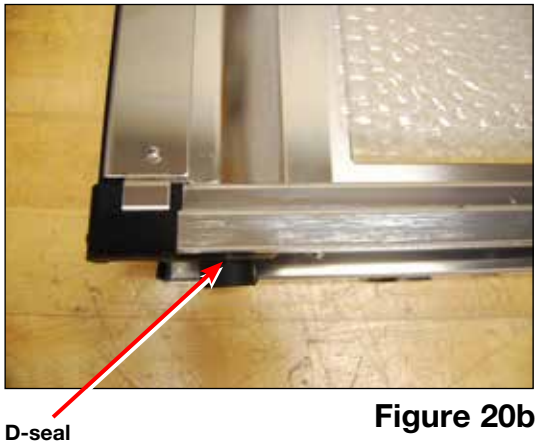


Figure 20b

6.5 Removing and reinstalling the door latch

1. Turn the unit off, disconnect the power and remove the top panel.
2. Disconnect the door release cord and wiring from the latch assembly. (Figure 21)
3. Remove the screws from each side and remove the latch assembly. (Figure 21)

To reinstall

1. Insert the latch assembly into position.
2. Hold the latch tight to the front of the unit and reattach the screws, wiring and door release cord.
3. Run a cycle to check for leaks. To adjust the fit, slide the latch back from the door to tighten the door seal.

Door latch assembly – part # 01-111783S
Door latch cord assembly – part # 01-112080S

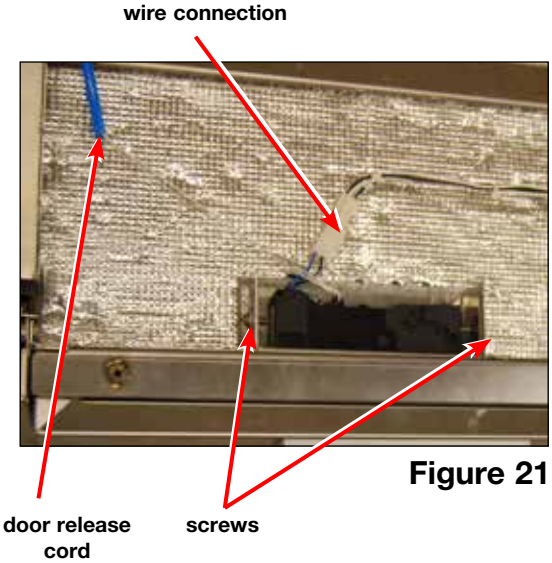


Figure 21

6. Door Components

6.6 Removing and reinstalling the door springs

1. Turn the unit off and disconnect the power.
2. Remove the top and right panels.
3. Ensure the door is closed.
4. Access the door springs from the right side to unhook. **CAUTION:** Door is heavy. To protect the technician and the unit, ensure it is correctly closed and will not accidentally fall open during this procedure.

To reinstall, reverse removal instructions.

Dual spring – part # 01-112730S

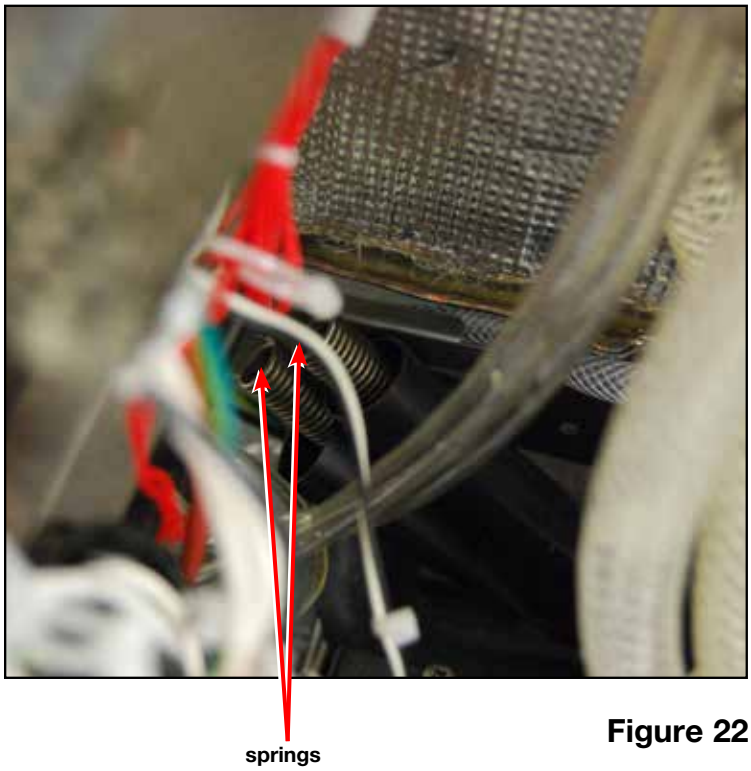


Figure 22

7. Right Side Components

WARNINGS AND PRECAUTIONS

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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 panels are removed, a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) must be performed on the HYDR*IM* when the work is completed and after the cover has been returned to the unit.
- A dielectric strength test (hi-pot) must be performed on the unit if parts associated with the power main are serviced or replaced.
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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.

7. Right Side Components

7.1 Removing and reinstalling the LCD touchscreen and LCD controller

NOTE: ***When installing a new LCD controller board, you must manually assign the serial number and model number. For detailed instructions on how to do this, please contact SciCan technical service.***

To remove the LCD controller board:

1. Turn the unit off and disconnect the power.
2. Remove the screw above the touchscreen and tip the service panel forward to access the LCD controller. (Figure 23a)
3. Remove all wire connections from the LCD controller to the I/O board and cut cable ties affixing the wiring harness to the LCD.
4. Remove the 4 retaining nuts on each corner of the board. **CAUTION:** Lift the board gently – it is attached to the LCD by a ribbon cable. (Figure 23b)
5. Flip the board over to expose the ribbon cable latch fastener. Using your fingernail, gently flip up the latch to release the ribbon cable, and separate the LCD controller board from the LCD touchscreen. **CAUTION:** Do not use a screwdriver for this. Excess force can break the ribbon cable latch. (Figure 23c)

Figure 23a

Figure 23b

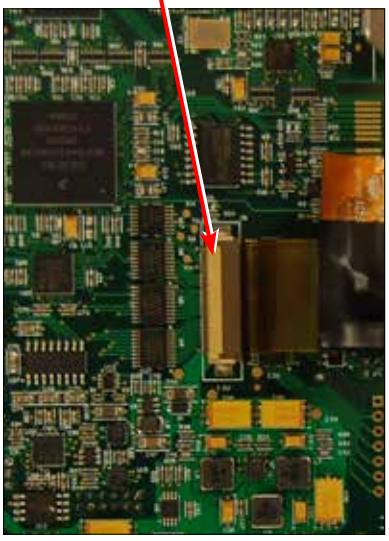


Figure 23c

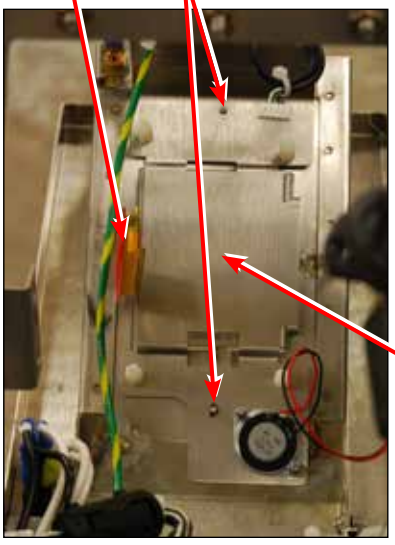


Figure 23d

7. Right Side Components

To remove the LCD touchscreen:

1. Remove the 2 retaining nuts to remove LCD bracket. (Figure 23d)
2. Separate the LCD from the bracket. The LCD may be glued or taped to the bracket. Push evenly with two thumbs to remove LCD from the bracket. (Figure 23e)

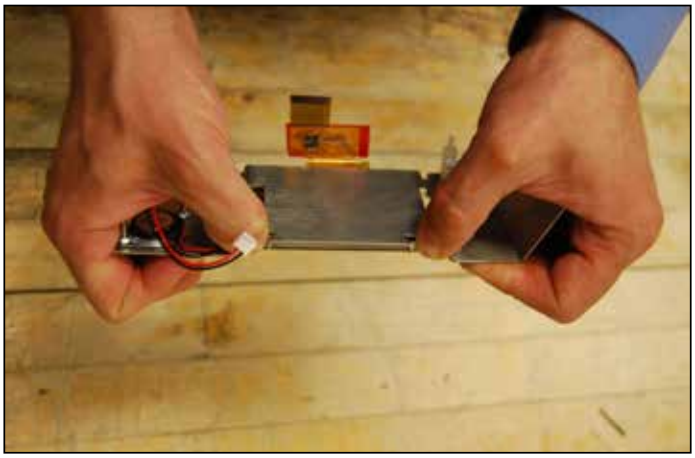


Figure 23e

To reinstall the LCD touchscreen:

1. Remove any residual adhesive from the LCD bracket and, using the adhesive strips supplied with the new LCD kit, set the new LCD flush with left and bottom tabs as shown in Figure 23f.
2. Reinstall LCD bracket onto the 2 threaded posts and fasten with retaining nuts.
   NOTE: Remember to remove protective film from LCD.

To reinstall the LCD controller board:

1. Reconnect LCD ribbon cable to controller board. (**CAUTION:** ensure ribbon cable is properly seated into ribbon cable latch).
2. Flip the board onto the four threaded posts and fasten with retaining nuts.
3. Reconnect the wire connectors.

NOTE: When installing a new LCD controller board, you must manually assign the serial number and model number. For detailed instructions on how to do this, please contact SciCan technical service.

LCD assembly - part # 01-113856S
Colour LCD controller board, M2 – part# 01-113669S

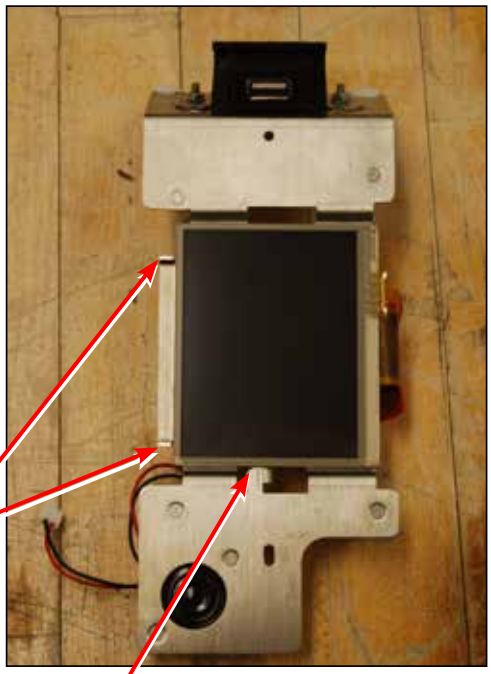


Figure 23f

7. Right Side Components

7.2 Removing and reinstalling the I/O board

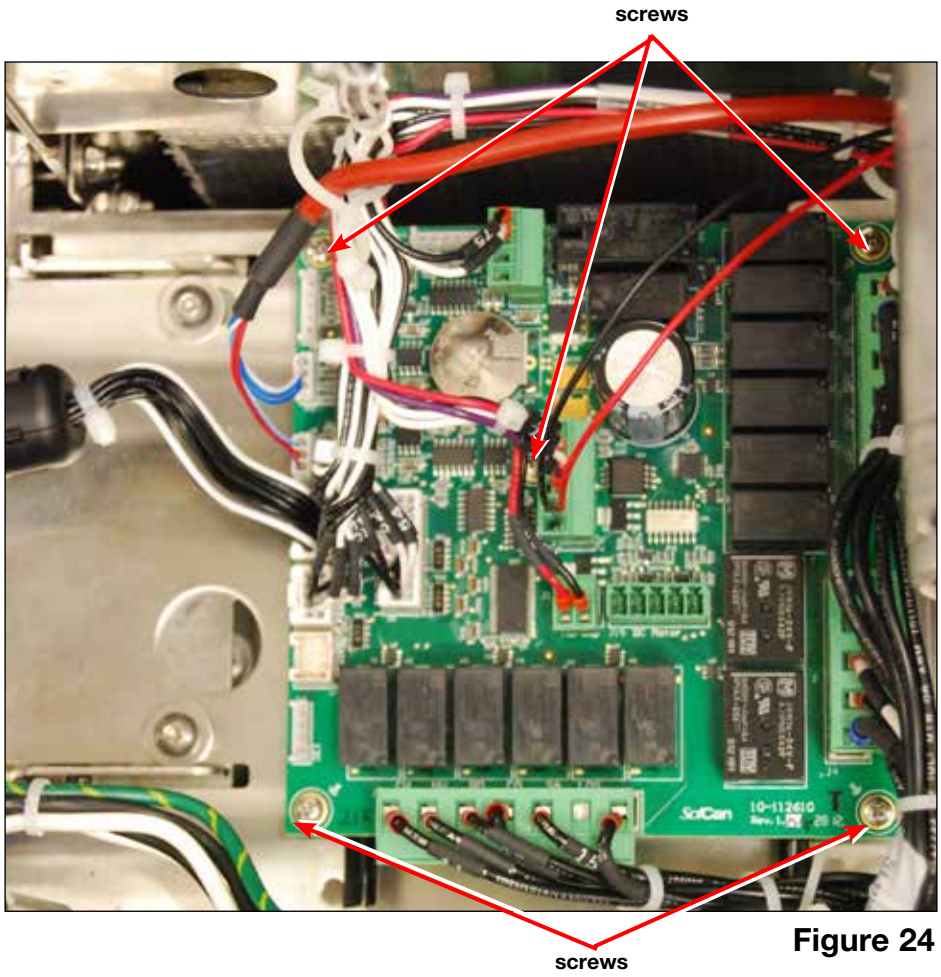


Figure 24

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

To reinstall:

1. Ensure the unit is disconnected from power source.
2. With I/O board in place, reinstall the 5 screws.
3. Reconnect all connectors. **NOTE:** all connectors have unique ports. See Figure 24 and the electrical schematic in Appendix A for reference.

IO PCB – part # 01-113310S

7. Right Side Components

7.3 Removing and reinstalling the power supply

1. Turn off the unit and disconnect the power cord.
2. Remove the wire contacts from the power supply.
3. Loosen the screw at the top left of the power supply bracket and remove the screw at the bottom right.
4. Slide power supply down to remove.

To reinstall:

1. Slide the bracket back into position, tighten screws.
2. Reattach contacts according to Figure 25b.

Power supply 5V/24V – part # 01-113266S

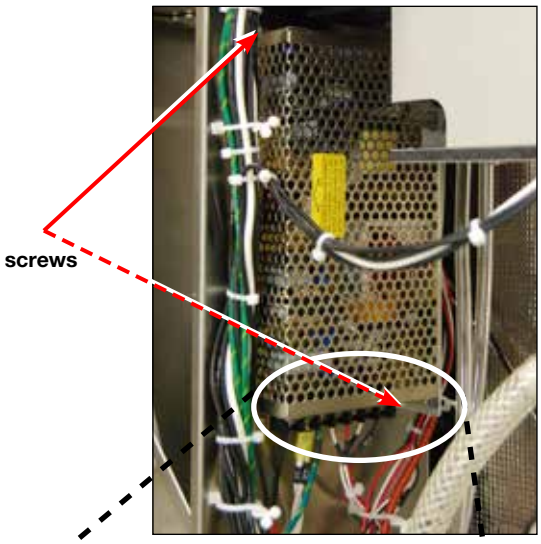


Figure 25a

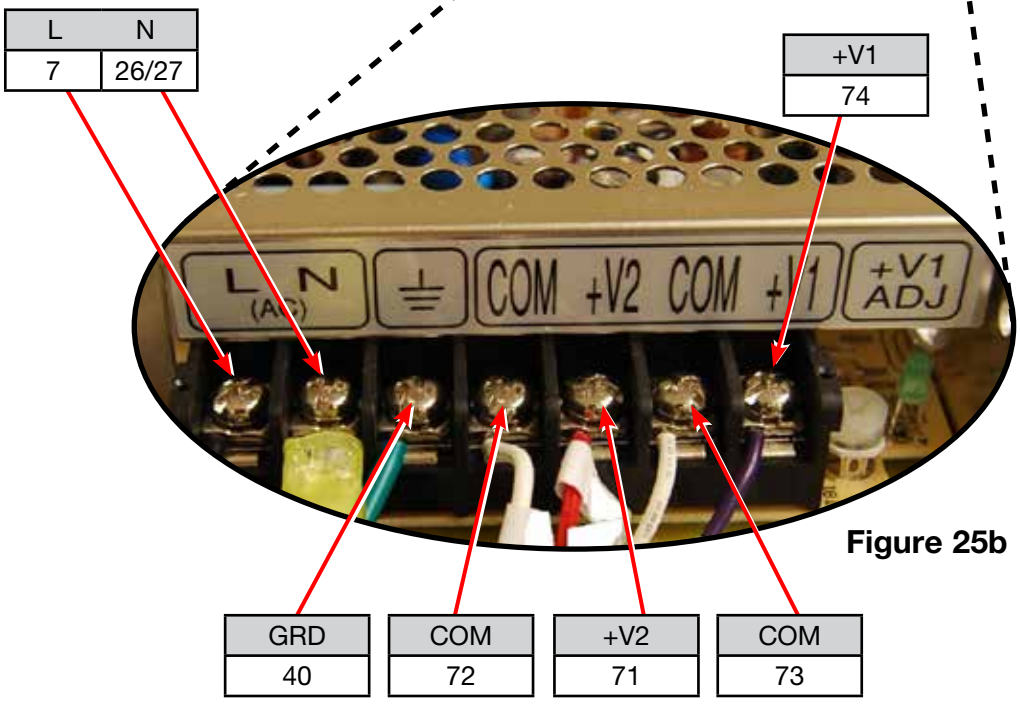


Figure 25b

7. Right Side Components

7.4 Removing and reinstalling the dosing pump

1. Disconnect the chemical pouch, run a “Prepare for shipping cycle” to drain the system, turn the unit off, and disconnect the power cord.
2. Remove the kickplate and drain the detergent reservoirs using the drain tube.
3. Remove the top and right panel.
4. Disconnect the wires from the microswitch.
5. Disconnect the pump wires.
6. Disconnect the outlet tube at the chamber connection.
7. Disconnect the inlet tube.
8. To remove the pump, remove the bracket screw on the outside edge of the pump and loosen the bracket screw on the chamber side.
9. Slide the pump to the outside edge and pull it out with the outlet tube still attached.

To reinstall:

1. Install the pump.
2. Connect the outlet and inlet tubes.
3. Connect the pump wires: yellow wire to 21 and white wire to 28/29.
4. Connect the microswitch wires: black wire to 53 and white wire to 54.
5. Reinstall the panels.

Dosing pump bellows – part # 01-113837S

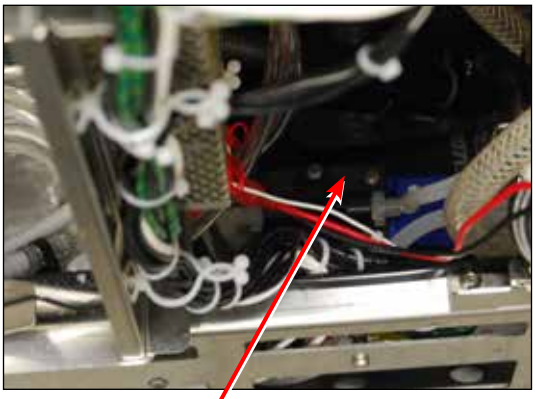


Figure 26a

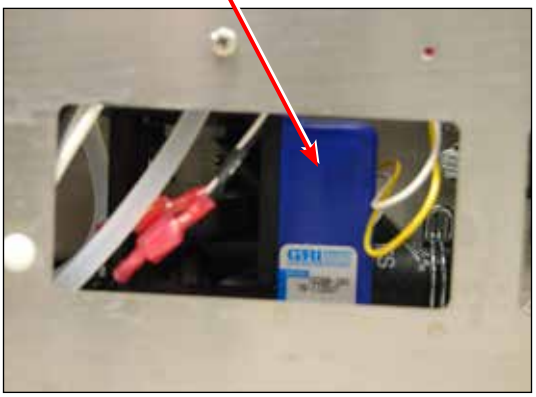


Figure 26b

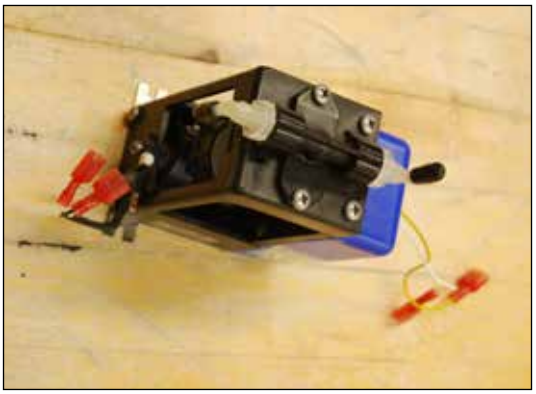


Figure 26c

7. Right Side Components

7.5 Removing and reinstalling the chamber level/overflow switch

1. Turn the unit off, disconnect the power and remove the top and right panels.
2. Remove the wiring from the switch.
3. Disconnect the tubing.
4. Remove the screw fastening the switch bracket to the unit and remove the switch and bracket.

Figure 27a

To reinstall:

1. Before reattaching the pressure switch's 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 tube.
2. Reattach the bracket and switch to the unit.
3. Reattach the tubing.
4. Reconnect the wiring according to Figure 27b.

Chamber level switch – part # 01-111408S

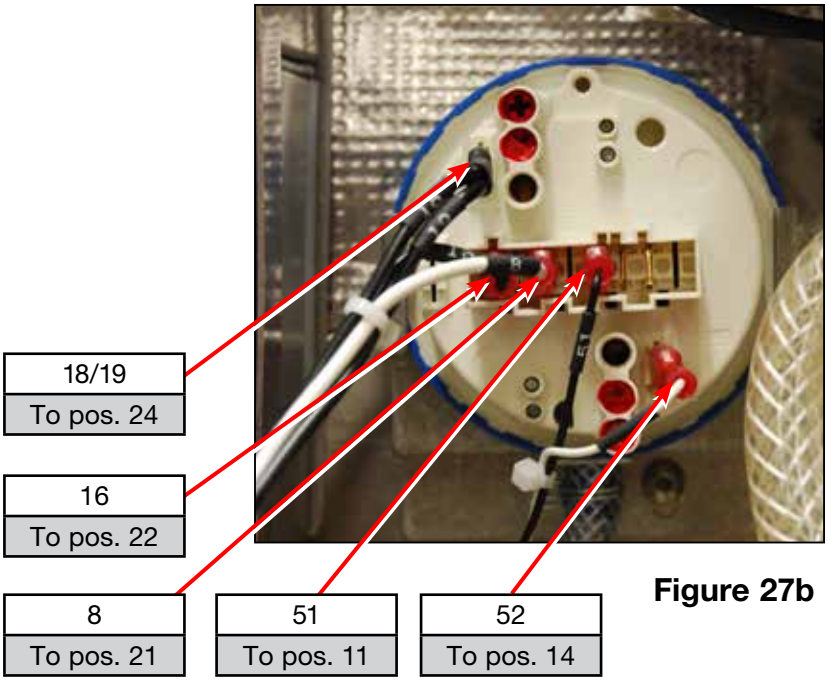


Figure 27b

7. Right Side Components

7.6 Removing and reinstalling the air gap pump

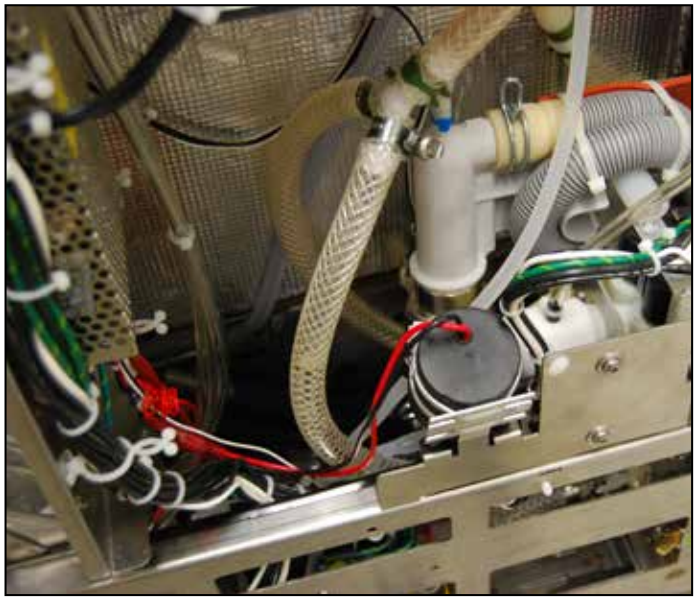


Figure 28a

1. Turn the unit off and disconnect the power. Remove the top cover, right and rear panels. **CAUTION:** Water will remain in the air gap. Remove kickplate and use the air gap draining tube to drain. (Figure 28b)
2. Disconnect the wires.
3. Cut the cable ties fastening the air gap pump to the bracket.
4. Pull the pump to the left to separate it from the outlet adaptor.
5. Disconnect the pump from the inlet tube, and remove pump.

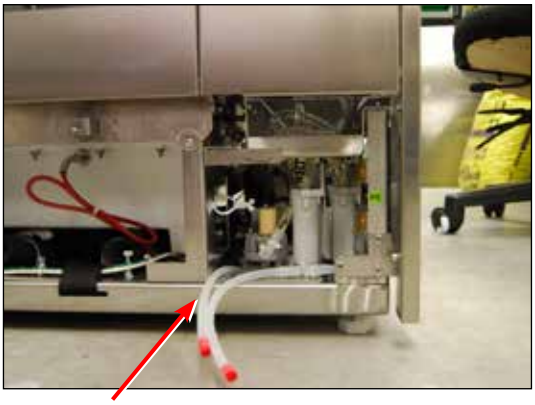


Figure 28b

To reinstall, reconnect the inlet tube, reconnect the pump to the outlet adaptor, fasten the pump to the bracket with cable ties and reconnect the wires (red wire to red 69; black wire to black 70).

Air gap pump – part # 01-113283S

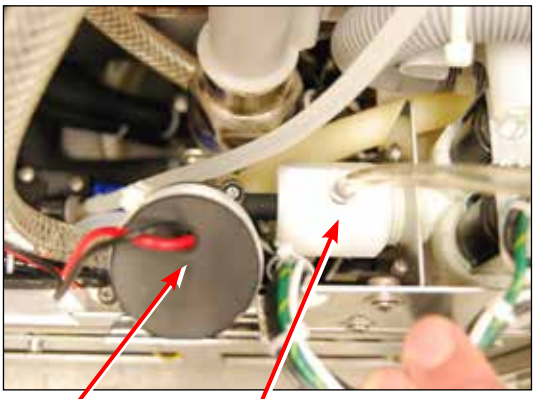


Figure 28c

7. Right Side Components

7.7 Removing and reinstalling the air gap valves

1. Turn the unit off and disconnect the power. Remove the top cover, right and rear panels. **CAUTION:** Water will remain in the air gap. Remove kickplate and use the air gap drain tube to drain.
2. Disconnect the air gap pump wires and cut the air gap pump cable ties to separate it from the bracket. Leaving the inlet attached, set it aside.
3. Disconnect the wires from the air gap valves.
4. Remove the 2 screws on the air gap pump bracket (located unit right).
5. Remove the 2 screws on the valve bracket (located unit rear).
6. Pull the air gap valve assembly out from the back of the unit.
7. Disconnect tubing and the air gap breather tube. (Figure 29a, 29c)
8. Unscrew the outlet adaptor from air gap valve assembly.
9. To remove the valve from the bracket, remove the 2 fastening screws.

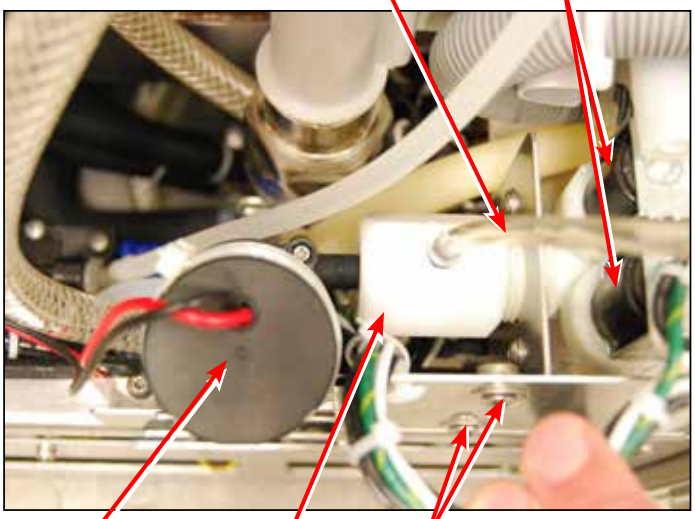


Figure 29a

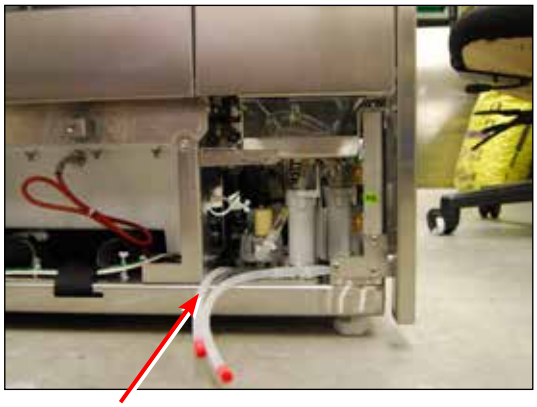


Figure 29b

To reinstall:

1. Fasten the valves to the bracket using the 2 screws.
2. Screw the adaptor to the air gap valve assembly. Be sure it is tight and that the air gap breather tube connection is rotated in the top position.
3. Connect the tubing and put the air gap valve assembly into position from the back of the unit.
4. Replace the bracket screws at the side and back.
5. Connect the breather tube to the adaptor.
6. Reconnect the wires to the valves.
7. Put the pump back into position, connecting it to the adaptor and fasten it with cable ties.
8. Reconnect the pump wires.
9. Reinstall the panels.

Valve 1 in, 2 out – part # 01-113331S

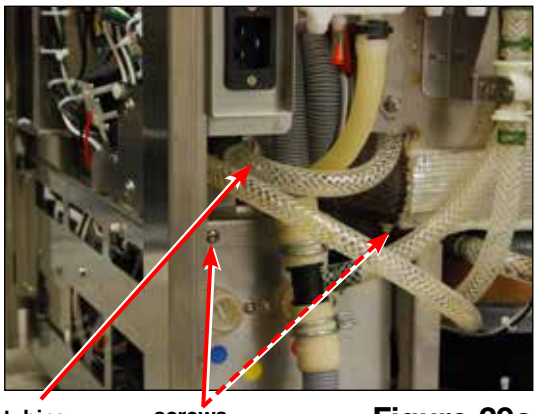


Figure 29c

7. Right Side Components

7.8 Removing and reinstalling the drain pump and exhaust assembly

1. Turn the unit off and disconnect the power. Remove the top cover, right and rear panels. Remove kickplate and use the air gap drain tube to drain.
   CAUTION: Water will remain in the drain assembly. Suction out any remaining water from the drain exhaust.
2. Remove the air gap pump (See section 7.6) and air gap valve assembly (See section 7.7).
3. Remove the exhaust assembly bracket (2 nuts at back of unit). (Figure 30c)
4. Loosen the hose clamp from pump outlet (Figure 30d)
5. Remove the exhaust assembly.
6. Loosen the hose clamp from inlet of pump and remove the 2 screws holding pump to bracket.
7. Disconnect the wires and remove the pump

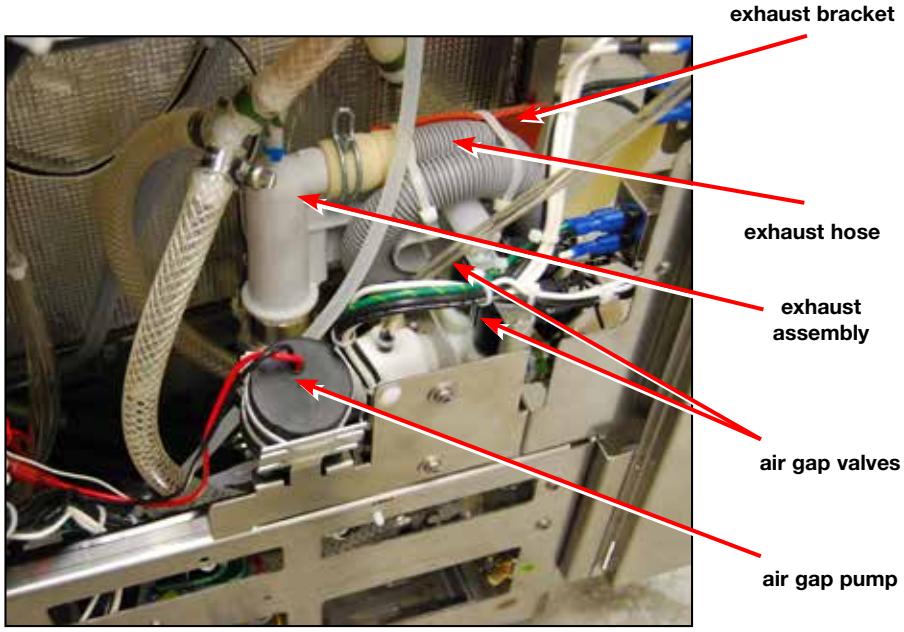


Figure 30a

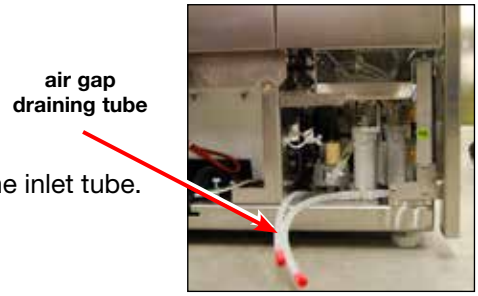


Figure 30b

To reinstall the drain pump:

1. Put the pump into position and tighten the hose clamp connecting the inlet tube.
2. Connect the pump wiring.
3. Fasten the pump (2 screws) to the pump bracket.
4. Reattach the exhaust assembly and tighten the hose clamp on the outlet.
5. Reattach the exhaust assembly bracket to the unit rear (2 nuts).
6. Reinstall the air gap valve assembly, and air gap pump.
7. Reinstall the panels

Drain pump – part # 01-111412S

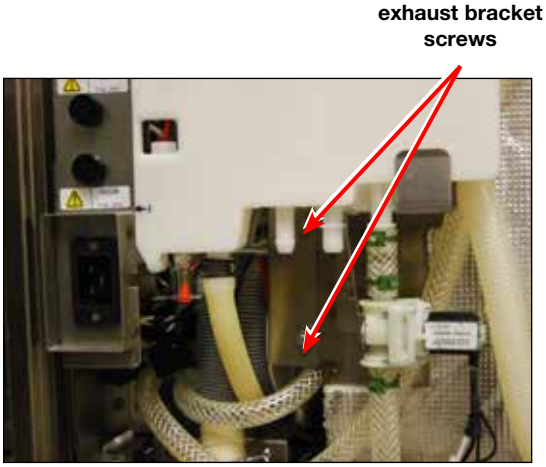


Figure 30c

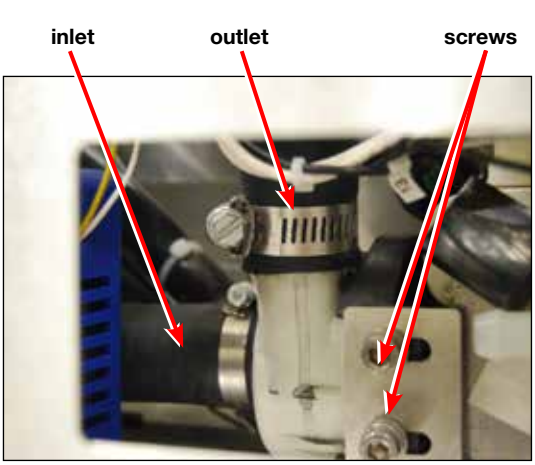


Figure 30d

7. Right Side Components

7.9 Removing and reinstalling the blower assembly

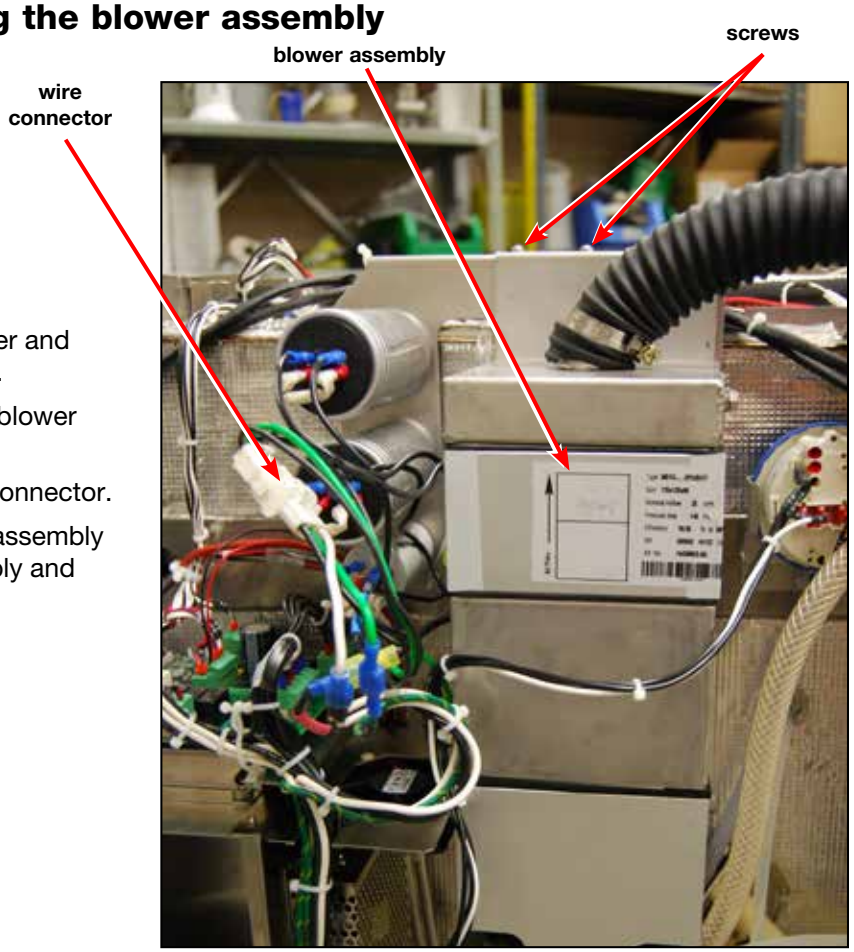


Figure 31

1. Turn the unit off, disconnect the power and remove the top cover and right panel.
2. Loosen the hose clamp between the blower hose to the blower assembly.
3. Disconnect the wiring from the wire connector.
4. Remove the 2 screws on the blower assembly bracket to release the blower assembly and remove.

To reinstall:

1. Attach the blower assembly to the unit (2 screws)
2. Connect the blower hose to the blower assembly and tighten hose clamp.
3. Re-connect the wire connector.
4. Reinstall the panels.

Blower complete assembly – part # 01-111779S
Brushes motor blower – part # 01-113464S
Blower motor – part # 01-113535S
Dryer filter – part # 01-111780S

7. Right Side Components

7.10 Removing and reinstalling the power switch

1. Turn off the unit and disconnect the power.
2. Remove the screw above the LCD touchscreen.
3. Open the service panel.
4. Disconnect the wires from the power switch and press down the locking tabs to remove, pushing the switch through the panel.

To reinstall, push the switch into position and reconnect wiring according to Figure 32b. Be sure to pull out the locking tabs at the top left and bottom right as shown in Figure 32a.

Rocker switch – part # 01-112024S

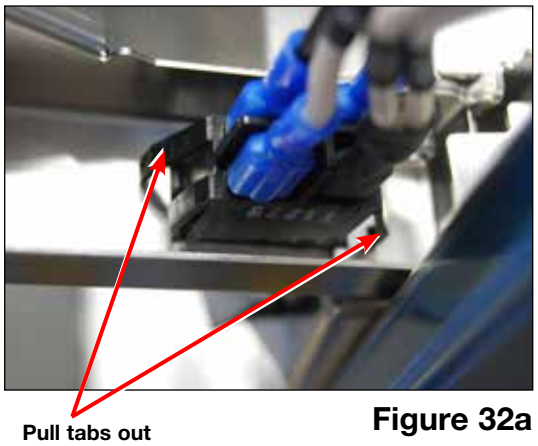


Figure 32a

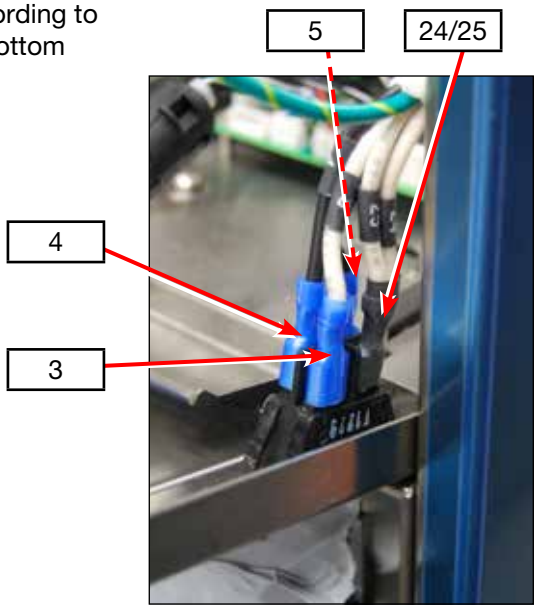


Figure 32b

7.11 Removing and reinstalling the USB port

1. Turn unit off and disconnect the power.
2. Remove the screw above the touchscreen to tip open the service panel.
3. Remove the retaining nuts from the threaded posts, remove the bracket and disconnect the USB port from the LCD touchscreen controller board.

To reinstall, reverse removal instructions.

Cable USB – part # 01-112398S

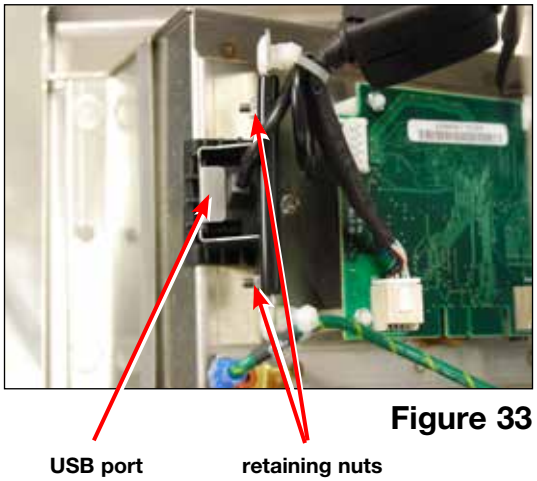


Figure 33

7. Right Side Components

7.12 Removing and reinstalling the power supply cooling fan

1. Turn unit off and disconnect the power.
2. Remove the top and right panels.
3. Disconnect fan wires from I/O board.
4. Fan is fixed to the bracket with 4 plastic fasteners. Push up from below to remove the fasteners and take out the fan.

To reinstall, reverse instructions. Ensure wires are correctly connected to the I/O board. (see Figure 34b)

Fan 24V – part#01-113855S

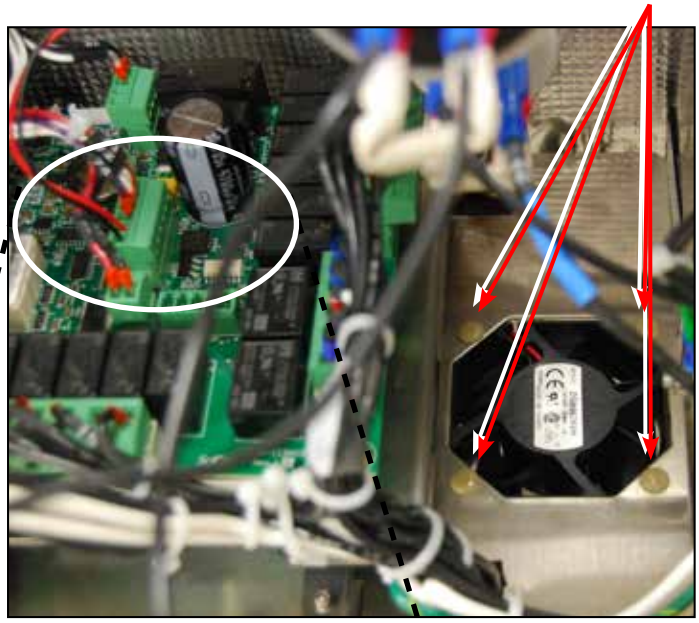


Figure 34a

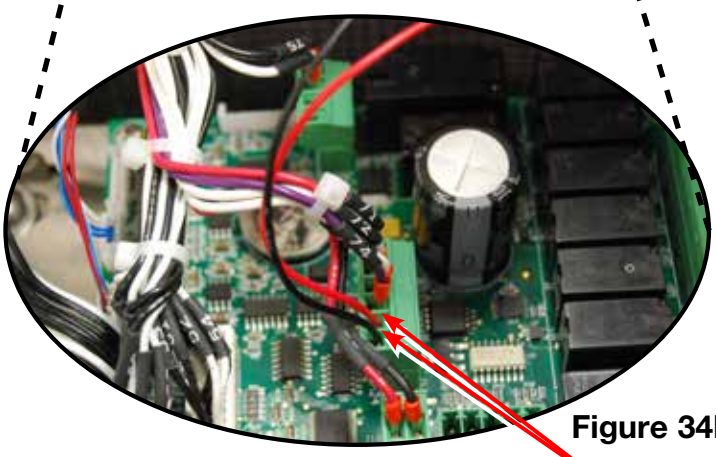


Figure 34b

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 panels are removed, a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) must be performed on the HYDR*IM* when the work is completed and after the cover has been returned to the unit.
- A dielectric strength test (hi-pot) must be performed on the unit if parts associated with the power main are serviced or replaced.
- A protective bonding impedance test (ground continuity) must be performed on the unit if components of the protective earthing system are changed or if connections are broken and remade.

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.

8. Left Side Components

8.1 Removing and reinstalling the sump water heater

1. Turn the unit off and disconnect the power.
   CAUTION: Water will remain in the drain assembly. Suction out any remaining water.
2. Remove the top cover and left panel.
3. Disconnect the wiring.
4. Remove the 4 retaining nuts and remove the plate.
5. From inside the chamber, remove the coarse and fine filters and pull the heater out from the sump side.

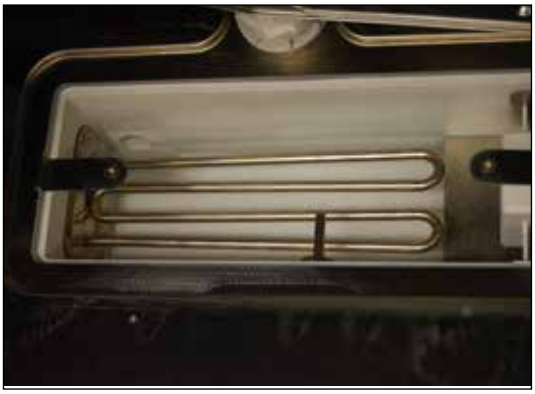


Figure 35a

To reinstall:

1. Reinstall the gasket on the heater's base and insert it into position from the sump side.
2. From the left side of the unit, put the heater plate into position and fasten using the retaining nuts.
3. Connect the wiring, see Figure 35b.
4. Reinstall the panels.

Water heater HYDR/*M* – part # 01-113839S

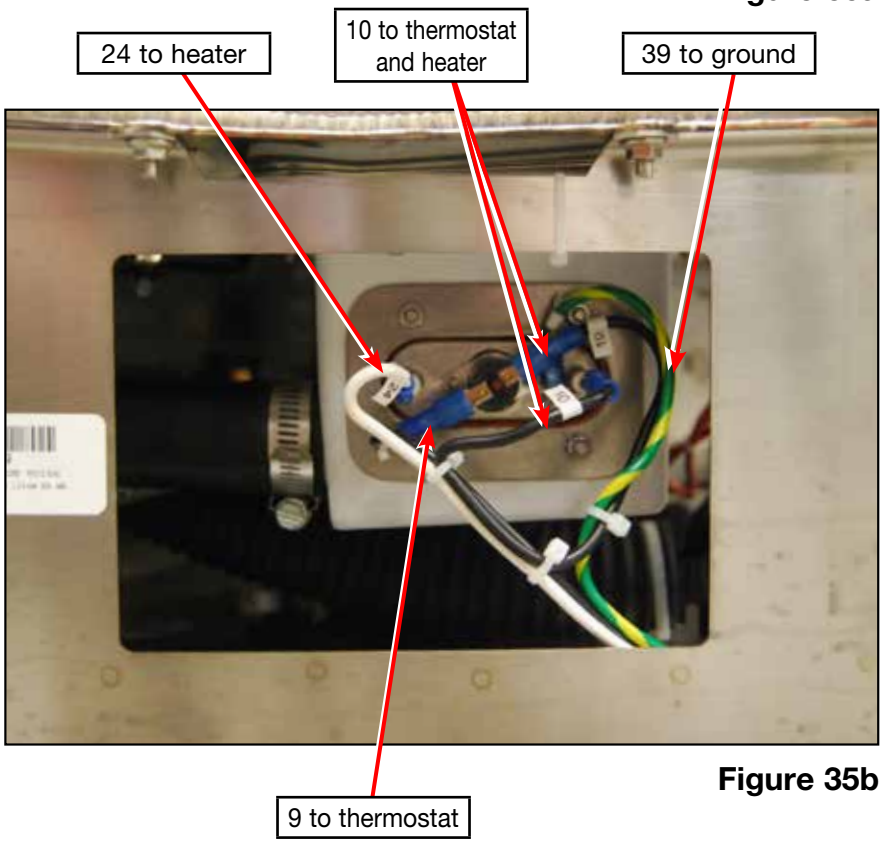


Figure 35b

8. Left Side Components

8.2 Removing and reinstalling recirculation pump

1. Turn the unit off and disconnect the power.
   CAUTION: Water will remain in the drain assembly. Suction out any remaining water.
2. Remove the top, rear and left panels.
3. Disconnect the rear kickplate by removing the screws on either side. (Figure 36a)
4. Remove the kickplate from the front and cut the cable ties fastening the air vent outlets.
5. From the back, pull the air vent outlets out of the way.
6. Disconnect the pump wires.
7. Place an absorbent cloth under the pump to catch residual water and loosen hose clamp to disconnect outlet hose at the pump side.
8. From the left side of the unit, loosen the hose clamp to disconnect the inlet hose at the pump side.
9. From left side of the unit, disconnect the capacitor wires. (Figure 36b)
10. From the rear of the unit, remove the 3 screws fastening the bracket. (Figure 36c)
11. Pull the pump out and separate the pump from the bracket.

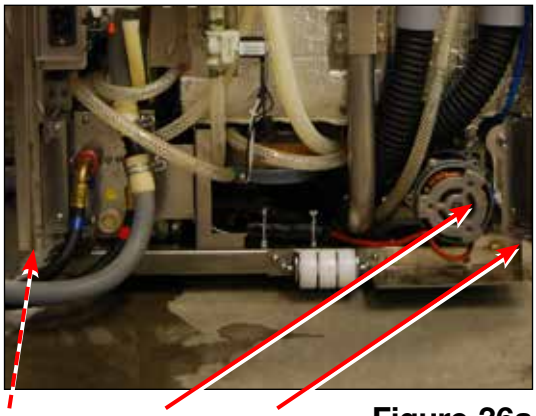


Figure 36a

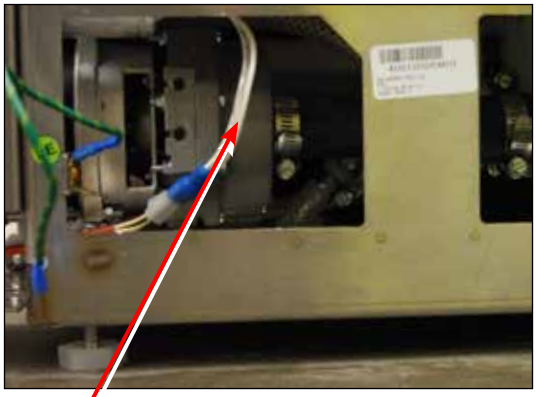


Figure 36b

To reinstall:

1. Install new pump onto the bracket.
   NOTE: Use the new vibration mount that comes with the new pump.
2. Reattach the pump to the inlet and outlet tubings and tighten the hose clamps.
3. Fasten the bracket into place.
4. Attach the wiring and capacitor wires.
5. Thread the air vents back through to the front and fasten with new cable ties.
6. Reinstall the panels.

Circulation pump 50Hz –
part # 01-111782S

Circulation pump 60Hz –
part # 01-113201S

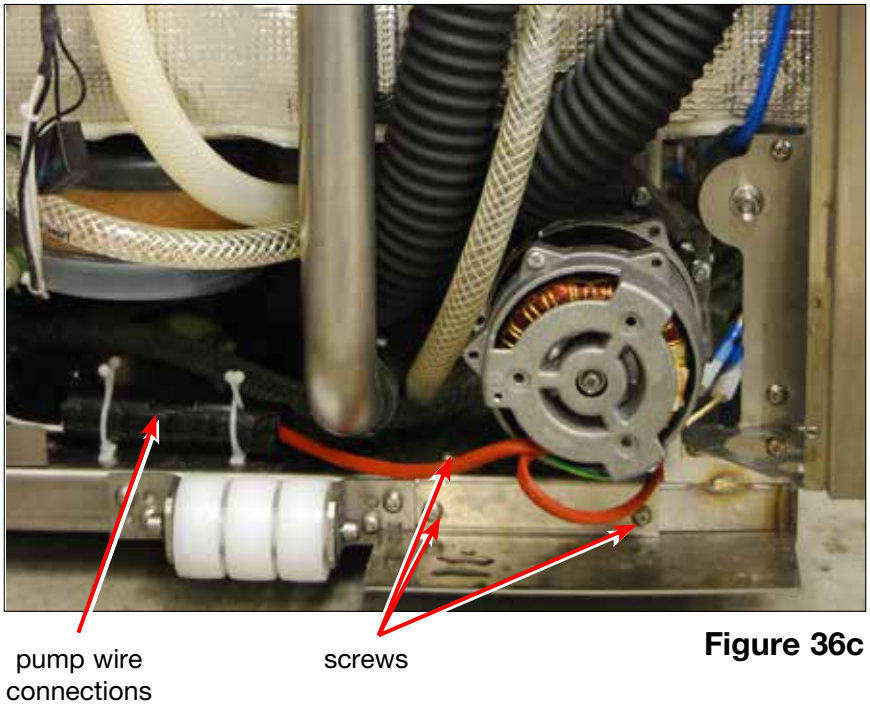


Figure 36c

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 panels are removed, a dielectric strength test (Hi-Pot) AND a protective bonding impedance test (ground continuity) must be performed on the HYDR*IM* when the work is completed and after the cover has been returned to the unit.
- A dielectric strength test (hi-pot) must be performed on the unit if parts associated with the power main are serviced or replaced.
- A protective bonding impedance test (ground continuity) must be performed on the unit if components of the protective earthing system are changed or if connections are broken and remade.

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.

9. Rear Components

9.1 Removing and reinstalling the Ethernet and RS232 ports

1. Disconnect the power and remove the top cover and back panel.
2. To remove Ethernet port, remove the screw on the left of the port, disengage the tab from the bracket, and disconnect the wiring from the I/O board.
3. To remove the RS232 port, remove the fastening nuts, and disconnect wiring from the LCD controller board.

To replace, reverse removal instructions.

Cable, Ethernet – part # 01-113854S
Cable, RS232 port – part #01-113260S

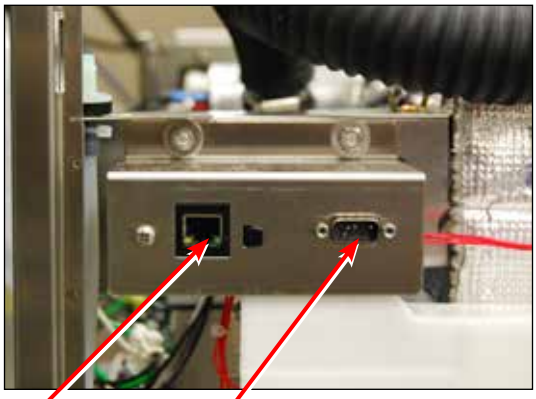


Figure 37

9.2 Removing and reinstalling the chamber pressure switch

1. Turn the unit off, disconnect the power and remove the top and rear panels.
2. Disconnect the wiring from the chamber pressure switch.
3. Loosen the hose clamp and remove the chamber pressure switch from the metal tubing.

To reinstall:

1. Push the chamber pressure switch onto metal tubing and fasten with the hose clamp.
2. Reconnect wiring. (Figure 38b)

Chamber pressure switch – part # 01-111409S

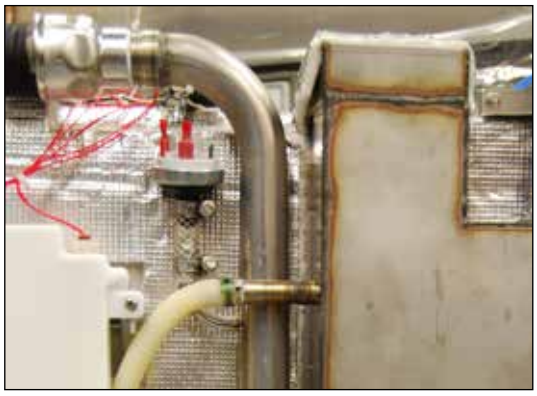


Figure 38a

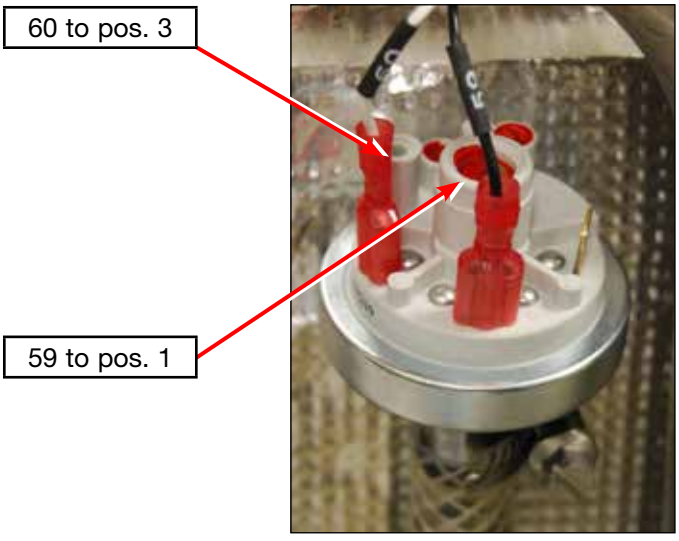


Figure 38b

9. Rear Components

9.3 Removing and reinstalling the water softener system

1. Turn unit off and disconnect the power.
2. Remove the top, rear and left panels.
3. From inside the chamber, remove the water softener cap and siphon the remaining water from the water softener system.
4. From the unit's right side, locate and disconnect the sensor wire. (Figure 39a)
5. At the rear of the unit, number the water softener hoses according to Figure 39c.
6. From inside the chamber, remove the water softener system mounting nut.
7. From the rear of the unit, pull the water softener out.
8. Disconnect the hoses (hoses may need to be heated to be removed).

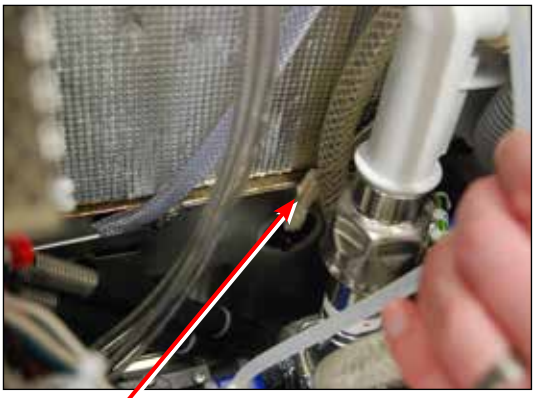


Figure 39a

To reinstall:

1. Connect hoses matching the hose number to the number embossed on the water softener.
2. Position the water softening system and from the chamber side, fasten the mounting ring tightly. **NOTE:** The mounting nut should not be tightened by hand. Use a tool to get a good seal.
3. Connect the sensor wire.
4. To refill the water softener, unscrew the salt container lid and pour 1 litre / 1 quart of water into the water softener. Add 1 kg / 2.2 lbs of water softening salt in the same manner. Screw the salt container cap on tightly.
5. Reinstall panels.

Water softener – part # 01-113857S

Figure 39b

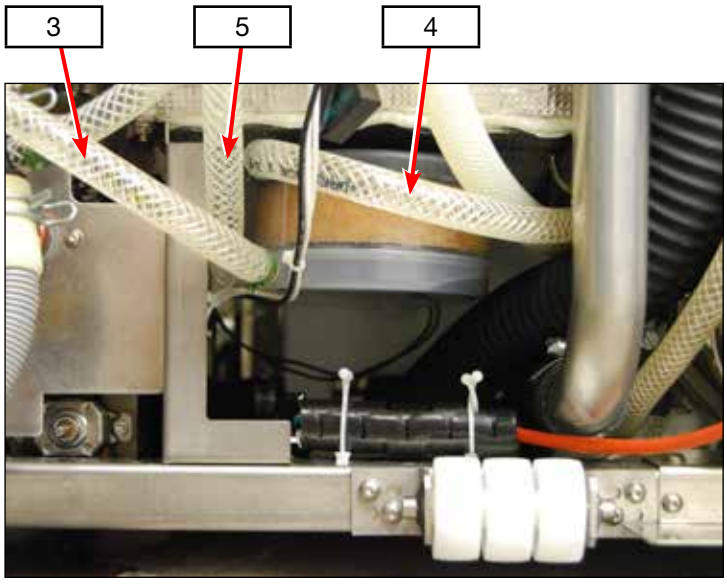


Figure 39c

Figure 39d

9. Rear Components

9.4 Removing and reinstalling the air gap

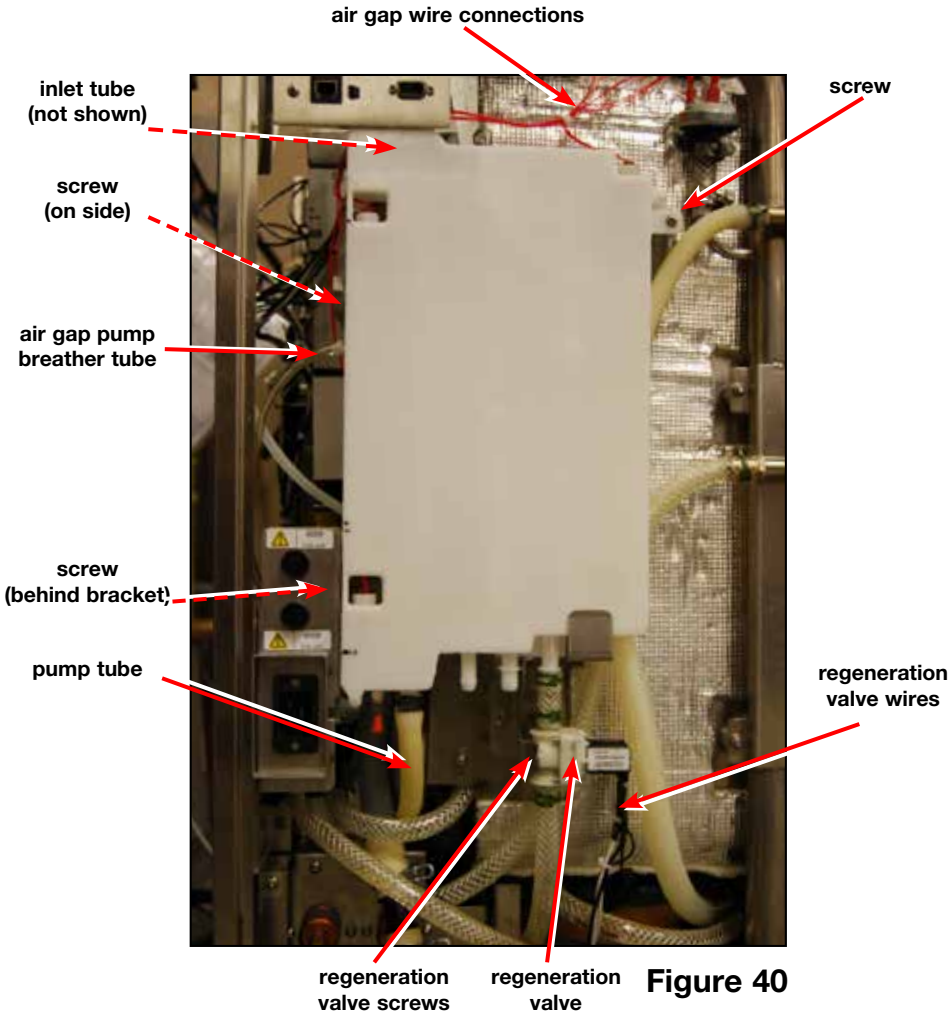


Figure 40

1. Turn the unit off and disconnect the power. Remove the top cover, right and rear panels.
   CAUTION: Water will remain in the air gap. Remove kickplate and use air gap draining tube to drain.
2. Disconnect 3 switch wiring connections from the top of the air gap (note colour codes).
3. Disconnect the air gap pump tube.
4. Disconnect the air gap from the regeneration valve.
5. Disconnect the air gap inlet tube.
6. Disconnect air gap pump breather tube.
7. Remove the 3 mounting screws, and remove the air gap.

To reinstall:

1. Put the air gap back into position and reinstall the screws.
2. Reconnect the tubing.
3. Reconnect the switch wiring connections (green to 67/68; Yellow to 63/64; unmarked wire to 65/66).

Back flow preventer AB air gap – part # 01-113853S

9. Rear Components

9.5 Removing and reinstalling the regeneration valve

1. Turn the unit off and disconnect the power. Remove the top cover, right and rear panels.
   CAUTION: Water will remain in the air gap. Remove kickplate and use air gap drain tube to drain.
2. Disconnect the wires from the regeneration valve. (Figure 40)
3. Disconnect the outlet tube.
4. Remove the 2 screws from the bracket. (Figure 40)
5. Disconnect the inlet tube, and remove the valve (note valve orientation).

To reinstall, connect the inlet, connect the valve to the bracket, connect the outlet tube, and reconnect the wires (wires 15 and 35/36). **NOTE:** Install the valve with directional flow arrow pointing downwards.

Regeneration valve part # 01-113861S

9.6 Removing and reinstalling the water inlet valves

1. Turn the unit off and disconnect the power.
2. Remove the top, right and rear panels.
3. Valves for hot water, cold water and RO water inlets can be accessed from the rear and right side of the unit.
4. Disconnect the wiring.
5. Remove the fastening screws to remove a valve from the bracket.
6. Disconnect the tubing.

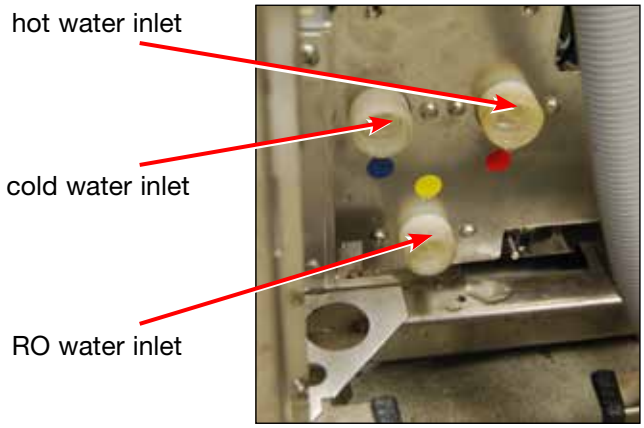


Figure 41a

To reinstall, reverse instructions.

Valve	Color Coding	Wiring	
Cold water inlet	Blue	11	31/32
Hot water inlet	Red	12	33/34
RO water inlet	Yellow	13	32/33

Cold: Valve 1 in, 1 out – part # 01-113330S
Hot: Valve 1 in, 1 out – part # 01-113330S
RO: Valve 1 in, 1 out – part # 01-113330S
Inlet hose (cold, hot) NA – part # 01-107788S
Inlet hose (RO) NA – part # 01-113863S
Inlet hose (cold, hot) Europe – part # 01-107787S
Inlet hose (RO) Europe – part # 01-113864S
Check valve EA type EN1717 – part# 01-113865S

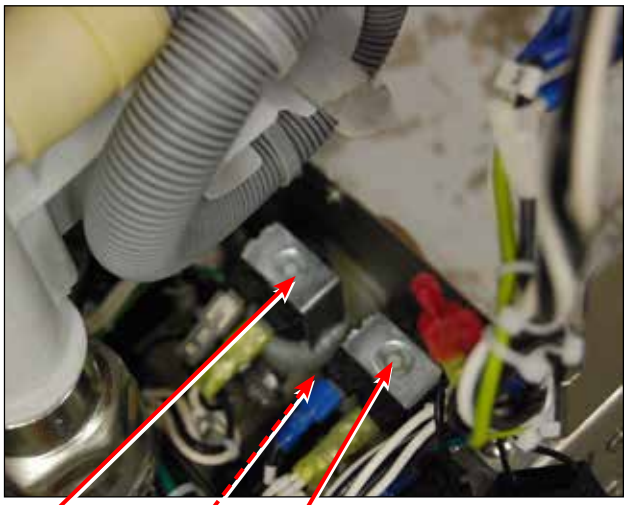


Figure 41b

9. Rear Components

9.7 Removing and reinstalling the fuses and fuse holders

1. Turn the unit off, disconnect the power and remove top and rear panels.
2. For continued protection against the risk of fire, replace fuses with 15A, 250V type F only.
3. To remove fuse holders, disconnect wires and remove mounting nut fastening holder to bracket.

To replace, reverse instructions and reference Figure 42a for wire connections.

Fuse 15 A (2 pcs) – part # 01-103472S

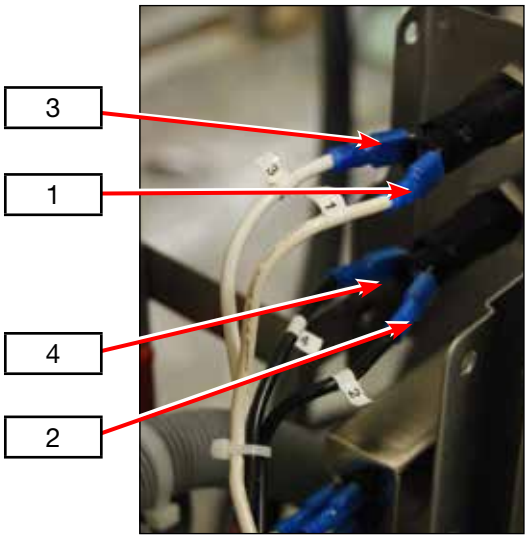


Figure 42a

Figure 42b

9.8 Removing and reinstalling the AC power inlet / EMI Filter

1. Turn unit off and disconnect power and remove top and rear panels.
2. Disconnect wiring from back of EMI Filter.
3. Remove mounting screws to release from bracket.

To replace:

1. Place EMI Filter into position in correct orientation. (Figure 42b)
2. Reconnect wiring. (Figure 43)

EMI filter – part # 01-110505S

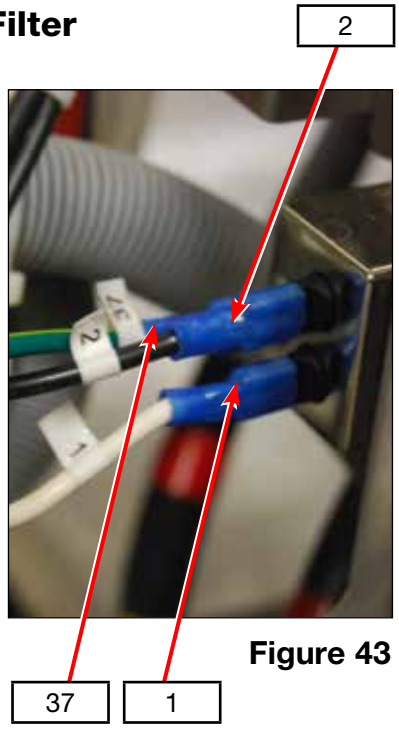


Figure 43

9. Rear Components

9.9 Removing and reinstalling the condenser

1. Turn the unit off and disconnect the power.
   CAUTION: Water will remain in the drain assembly and condenser. Suction out any remaining water from the drain exhaust.
2. Remove the top and rear panels.
3. Disconnect the inlet tube, the outlet tube and the drain tube.
4. Disconnect the air vent hoses.
5. Remove the fastening nut from the bottom center of the condenser.
6. From inside the chamber, remove the splash shield (4 screws).
7. Remove the 4 screws fastening the condenser to the chamber.
   NOTE: These 4 screws have O-rings.
8. Pull the condenser off the unit from the back.

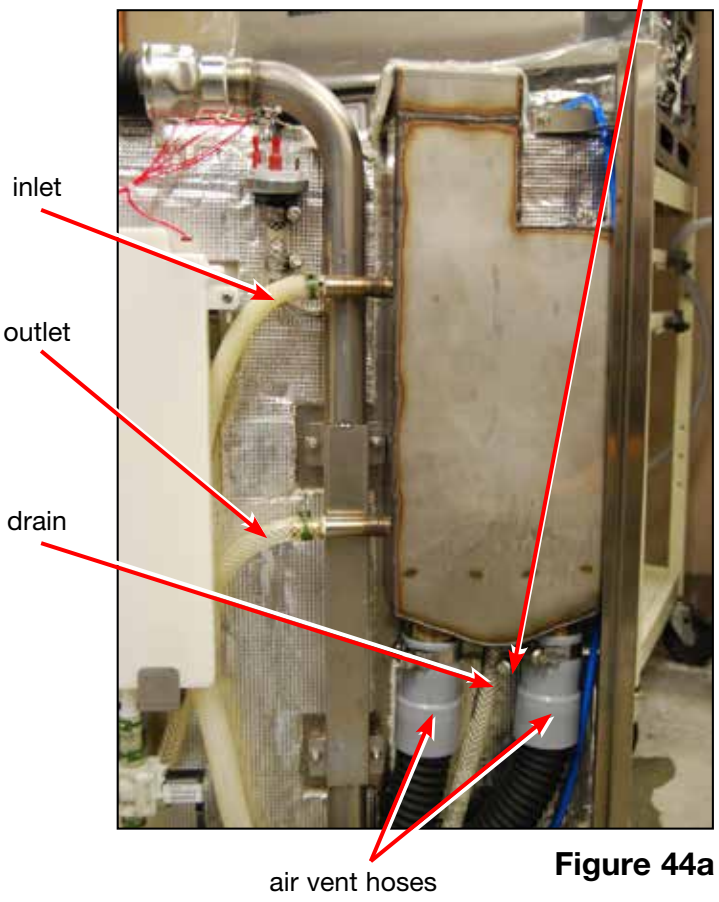


Figure 44a

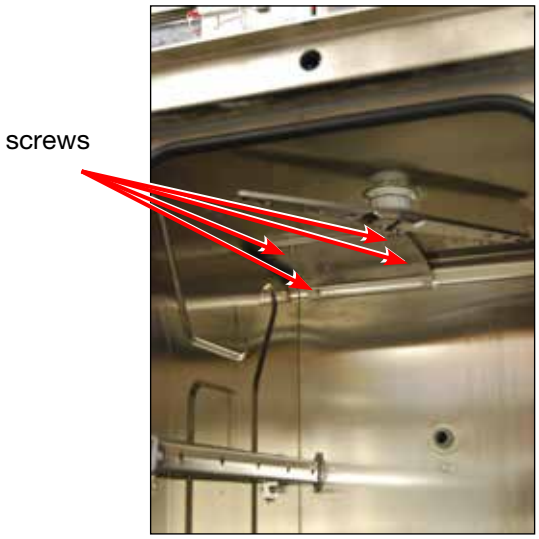


Figure 44b

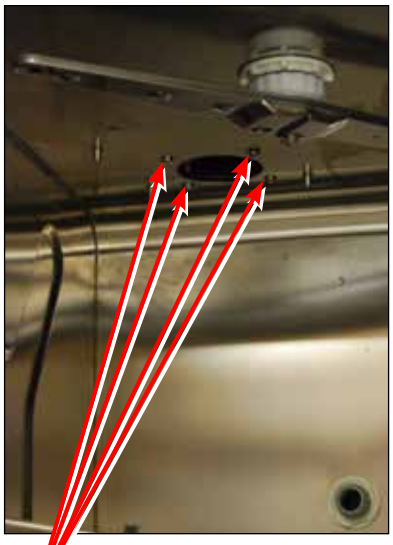


Figure 44c

9. Rear Components

To reinstall:

1. Put the gasket into its position on top of the chamber.
2. Put the condenser into position.
3. Install the condenser screws (**IMPORTANT:** use the 4 screws with O-rings) inside the chamber to fasten the condenser, and install splash shield.
4. Install fastening nut at middle centre bottom of condenser (on unit rear).
5. Re-connect tubing and hoses.
6. Reinstall panels.

Condenser – part # 01-113912S

Figure 44d

condenser gasket

10. Spare Parts & Accessories

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.

01-112051S	40uF Motor Run Capacitor, Spare
01-113831S	Breather Check Valve, L110w/M2 G4
01-111408S	Chamber Level Switch, L110w/M2/G4
01-111409S	Chamber Pressure Switch, L110w/M2/G4
01-111782S	Circulation Pump,M2,50Hz
01-113201S	Circulation Pump,M260Hz
01-111898S	Coupling Kit Circular Press. Pipe, K
01-111466S	Cover Left Side HYDRIM L110w/M2/G4
01-111467S	Cover Rear HYDRIM L110w/M2 G4
01-111468S	Cover Right Side HYDRIM L110w/M2/G4
01-111469S	Cover Top HYDRIM L110w/M2/G4
01-113832S	Cover Top Low Profile HYDRIM M2 G4
01-113834S	Decal HYDRIM M2 G4
01-111670S	Detergent Coiled Tubing and Cap,K
01-113835S	Door, Chemical HYDRIM L110w/M2 G4
01-113836S	Door Wash Chamber HYDRIM L110w/M2 G4
01-111783S	Door Latch Assembly, L110w/M2/G4
01-112080S	Door Latch Cord Assy L110w/M2/G4
01-113837S	Dosing Pump Bellows L110w/M2 G4
01-111412S	Drain Pump, HYDRIM L110w/M2/G4
01-111780S	Dryer Filter, M2/G4
01-111779S	Blower Complete w/ Filter, M2/G4
01-112730S	Dual Spring Replace, Door, L110W/M2/G4
01-113838S	Extension Low Spray Arm L110w/M2 G4
01-111899S	Fitting Adapt. Trolley Handpiece M2
01-112593S	Foam Kickplate, L110/M2
01-112545S	Fuse Holder, Qty2, Bravo/HYDRIMs
01-113839S	Water Heater HYDRIM L110w/M2 G4
01-113840S	Hinge Left, HYDRIM L110w/M2 G4
01-113841S	Hinge Right, HYDRIM L110w/M2 G4
01-113842S	HYDRIM M2 G4 Reference Guide
01-108305S	HYDRIM Water Test Kit,J/K
01-107787S	Inlet Hose Europe C61/M2/G4
01-107788S	Inlet Hose N.A. C61/L110w/M2/G4
01-111476S	Kickplate Front, HYDRIM L110/M2/G4
01-111477S	Kickplate Rear, HYDRIM L110w/M2/G4
01-113464S	Kit Brushes Motor Blower HYDRIM M2
01-112438S	Lower Basket Rail L110/M2 Kit
01-113843S	Coarse Filter, HYDRIM L110w/M2 G4

10. Spare Parts & Accessories

01-113844S	Fine Filter, HYDRIM L110w/M2 G4
01-113845S	Operator Manual HYDRIM M2 G4
01-113847S	Packaging HYDRIM M2/G4
01-112682S	Resistor Blower HYDRIM M2 (3pcs)
01-112024S	Rocker Switch Spare Kit ,L110W/M2
01-112594S	Salt, Water Softener
01-111484S	Screw, Back Cover & Service Door, K
01-111485S	Screw Kickplate HYDRIM L110w/M2/G4
01-111483S	Screw Top Cover HYDRIM L110/M2/G4
01-113849S	Trolley Lower HYDRIM M2 G4
01-113850S	Trolley Upper HYDRIM L110w/M2 G4
01-113852S	Tubing Drain HYDRIM M2 G4
01-109790S	Upper Spray Arm HYDRIM
01-110411S	Vertical Instrument Rack, M2, S
01-111495S	Wash Arm Middle L110w/M2/G4
01-113853S	Backflow Preventer AB AirGap, M2 G4
01-113854S	Cable, Ethernet, L110w/M2 G4
01-113260S	Cable, RS232, C61/L110/M2 G4
01-113394S	Check Valve w/FLap, C61/M2 G4
01-113270S	Dual Temp. Sensor, C61wd/M2 G4
01-113855S	Fan, 24V, M2 G4
01-113310S	IO PCB, C61/L110w/M2 G4
01-113856S	LCD Assembly, L110w/M2 G4
01-110505S	EMI Filter 20A/250V
01-113308S	Power Cord Japan 13A/250V
01-113309S	Power Cord UK 13A/250V
01-110281S	Power Cord N.A. 15A/250V
01-113266S	Power Supply 5V/24V,C61/L110w/M2 G4
01-113682S	Speaker Assy, C61/L110w/M2 G4
01-113331S	Valve,1in-2out, C61/L110w/M2 G4
01-113330S	Valve,1in-1out, C61/L110w/M2 G4
01-110282S	Power Cord EU 16A/250V
01-110283S	Power Cord Aus 15A/250V
01-110284S	Power Cord Africa/India 16A/250V
01-110286S	Power Cord Swiss 16A/250V
01-110287S	Power Cord Israel 16A/250V
01-110361S	Power Cord China 16A/250V
01-113669S	Colour LCD Controller, M2
96-113787	Service Manual HYDRIM M2 G4
95-113756	M2 G4 Installation & Maintenance
01-113790S	Main Chamber Seal L110w/M2 G4

10. Spare Parts & Accessories

01-113789S	Lower Door Seal L110w/M2 G4
01-112398S	Cable, USB, Statim/HYDRIML/M G4
01-113857S	Water Softener, L110w/M2/G4
01-113858S	Dosing Reservoir w/Switch L/M G4
01-113859S	Dosing Reservoir w/Plug L/M G4
01-113860S	Dosing Valve, L110w/M2 G4
01-113861S	Regeneration Valve, M2 G4
01-113862S	Air Gap Pump, HYDRIM M2 G4
01-113863S	Inlet hose NA Straight L110w/M2 G4
01-113864S	Inlet hose EU Straight L110w/M2 G4
01-113865S	Check Valve EA type EN1717
01-113866S	Check Valve 3/8" C61/L110w/M2/G4
01-113867S	Check Valve 1" L110w/M2/G4
01-113868S	Cable, Communication L110w/M2 G4
01-113654S	L110w/M2/G4 D-Strip Door Seal Spare
01-103472S	Fuses 15A (2 pcs), B/C/D/HYDRIMs
01-113535S	Blower Motor, HYDRIM M2/G4
01-113912S	Condenser, HYDRIM M2 G4
01-113909S	Dosing Pump Vol. Valid. C61wd/M2 G4

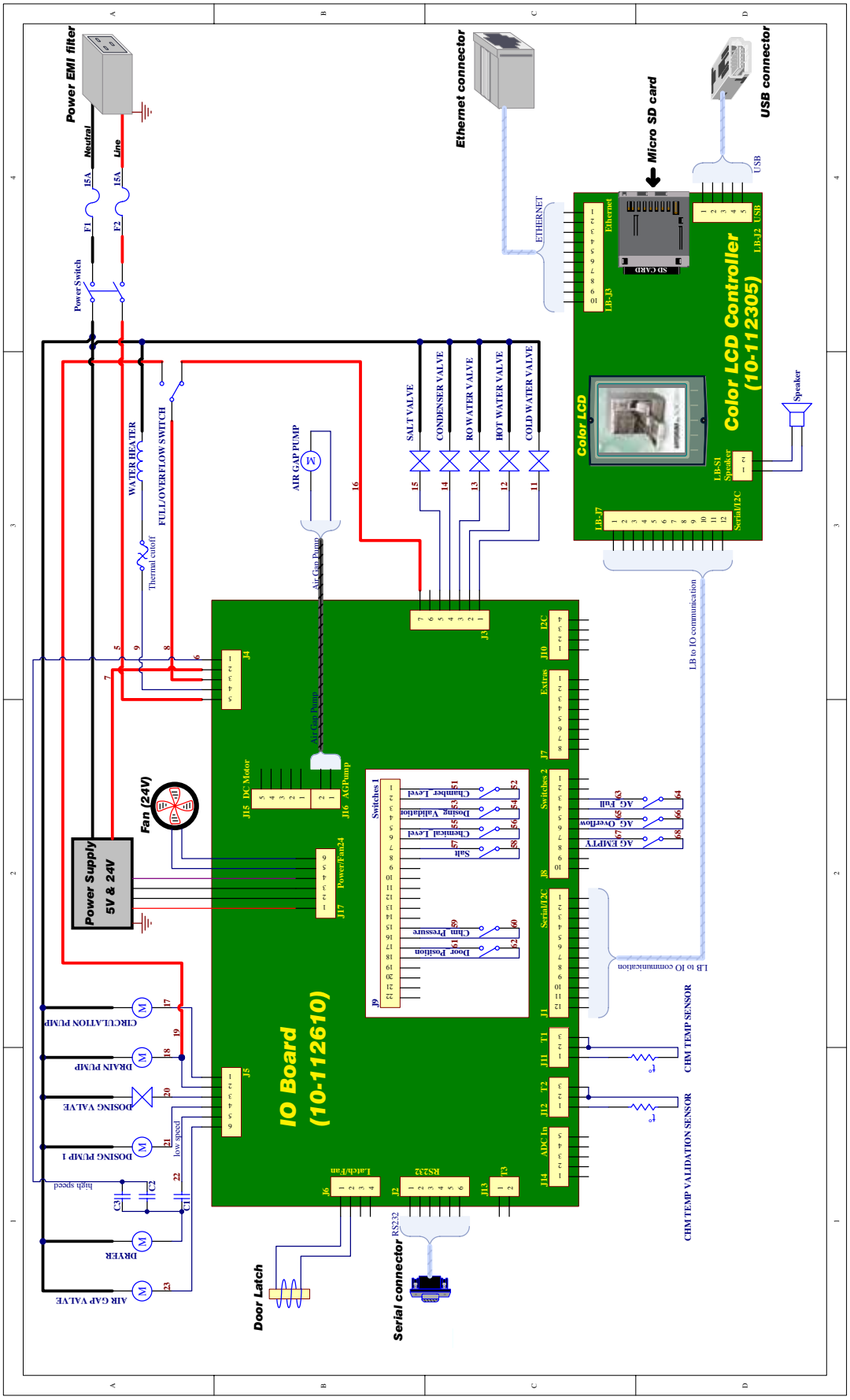
10. Spare Parts & Accessories

This accessory 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.

01-109965S	4XL Cassette Rack, 1/1, HYDRIM L/M2
01-109963S	5 Cassette Rack, 1/1, HYDRIM L/M2
01-109964S	5 Cassette Rack, 1/1, HYDRIM L/M2
01-111598	Basket, full size HYDRIM L110W/M2,K
01-109967S	Basket, Hygiene, 1/4, HYDRIM L/M2
01-109966S	Basket with lid, 1/4, HYDRIM L/M2
01-110409S	Hinged Instrument Rack, S
01-107240	Kit 2000 Basket, J
01-107241	Kit 5000 Basket, J
01-108232	Kit Basket Long, K
01-108294	Kit Basket with Hinged Lid,K
01-108371	Kit Lower Rack 4XL Cassettes, K
01-108370	Kit Upper Rack 3XL Cassettes, K
01-110412S	Tray Rack, L110/M2, S
01-113776S	Handpiece Adapter Assembly M2 G4

11. Appendix A

HYDR*IM* M2 G4 Electrical Schematic



11. Appendix B

HYDR*IM* M2 G4 Flow Diagram