



USER MANUAL

URS1600 SERIES URS2000 SERIES & RI 80



URS2000



URS1600

UNI-RAM CORPORATION • ONTARIO • CANADA

Revised 2019-10

CAUTIONS AND WARNINGS

- The solvent recycler must be connected to the mains by a qualified electrician with an **explosion proof** connection in compliance with applicable standards and regulations.
 - To stop recycling do not disconnect the plug. Press “STOP” on the recycler or pull the breaker.
 - The operator should wear protective clothing in accordance with local safety and environmental regulations, with a minimum of face goggles and gloves along with an apron and respirator.
 - Always disconnect the power source before performing maintenance.
 - **DO NOT SMOKE OR USE THIS EQUIPMENT NEAR A POTENTIAL SOURCE OF IGNITION.** This unit must be located at least 10 feet (3 m) from all potential sources of ignition including electrical receptacles, switches, pilot lights, fixtures and contacts.
 - Do not unplug this unit at the wall in the presence of solvent vapour. To stop the unit, press Stop at the unit or go to the electrical panel and break the circuit at the panel.
 - The unit must be used in-doors and the ambient temperature must be between 5°C (41°F) to 35°C (95°F).
 - **DO NOT RECYCLE NITROCELLULOSE WHICH IS EXTREMELY VOLATILE. IT AUTOMATICALLY IGNITES AT 135°C TO 166°C (275°F TO 330°F).** Do not install, operate or maintain this equipment where the auto ignition temperature of the solvent is lower than 250°C (482°F).
 - Do not install, operate or maintain this equipment where the auto ignition temperature of the hazardous atmosphere(s) is lower than 250°C (482°F).
 - Solvents that are recycled can be flammable. Establish and follow safe practices to store and handle solvents.
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- **Safety cover monitoring system** reinforces the above Warning Label.:
If the operator lifts the safety cover when the heater is on, the unit will beep to warn the Operator not to open the inner lid and to close the outer lid. Power is cut to the heater. If the operator presses “START” with the safety cover in the up position the heater will not turn on and the unit will beep warning the operator to close the safety cover.
 - Consider the area within 10 feet, 3 M from the solvent recycler as zone 2 rated, where any tools or receptacles are free from spark and rated for zone 1. Keep this work area open and clear from materials.
 - Ensure all pails and containers holding solvent are a closed top type and rated to contain solvent.

FEATURES AND SPECIFICATIONS

All Uni-ram Solvent Recyclers feature **rapid-start** direct electric heating of solvent and a **short cool-down time** due to high-efficiency condensers and air cooling with a motor driven fan.

MODEL	URS2000SS	URS2000PW	URS2000SS-TE	RI80	URS1600SS
VOLTAGE (V) SINGLE PHASE	220/240*	220/240*	220/240*	220/240*	220/240*
BRANCH CIRCUIT AMPS	20	20	20	20	20
EXPLOSION PROOF PLUG / RECEPTACLE	6-20P / 6-20R	6-20P / 6-20R	6-20P / 6-20R	6-20P / 6-20R	6-20P / 6-20R
MAX TEMPERATURE SET POINT	200°C	240°C**	200°C**	240°C**	200°C
TIME TO RECYCLE	8-10 HOURS	8-10 HOURS	8-10 HOURS	8-10 HOURS	8-10 HOURS
TANK CAPACITY	20 US GAL (80L)	20 US GAL (80L)	20 US GAL (80L)	20 US GAL (80L)	16 US GAL (60L)
LID GASKET	NEOPRENE	NEOPRENE	TEFLON	VITON	NEOPRENE
LINER BAGS	YES	YES	YES	NO	YES
SHIPPING DIMENSIONS (WDH")	47 X 27 X 50	47 X 27 X 50	47 X 27 X 50	47 X 27 X 50	43 X 27 X 50
WEIGHT (LB/KG)	450/205	450/205	450/205	450/205	420/145

***Note on VOLTAGE:**

Operating the unit at VOLTAGE lower than 220V (eg: 208V) may result in reduced performance.

****Note on MAX TEMPERATURE SET POINT:**

If a Liner Bag is used, do not use a SET POINT greater than 205 °C.

Note: Explosion Proof Plug:

An explosion proof plug comes with the unit.

The user is responsible to acquire the explosion proof receptacle.

Safety Features:

- **Certified** to UL standards U2208 and CSA standards C22.2 No. 30 and No. 88 by ETL. Approved for use in non hazardous locations as well as approved for use in hazardous locations Class 1, Division 1, Group D and Class 1, Division 2, Group D.
- **Explosion proof construction** and intrinsically safe electric circuitry.
- **Computer controlled** with many built-in safety programs including temperature control of all critical points including tank, condenser and fan motor. Power is cut when the temperature at any of these points rises above a pre-set level. Operation also terminates when other abnormal conditions exist (eg: boiling does not start on time or the distillation process takes too long).
- **Automatic pressure relief** lid system prevents pressure in the Distillation Tank from exceeding 0.5 to 1.0 psi. (0.035 to 0.070 kg/cm²).
- **Self Diagnostic** error messages are displayed on the Display Panel.
- **Dual lid** cover system.
- **Compact, enclosed cabinet** for safe storage of the Solvent Receiving Container inside the cabinet.

PREPARATION AND SETUP:

- Carefully inspect the shipping carton for any sign of transport damage.
- Carefully remove the unit from the shipping carton.
- Check the unit for damage. **Report any transport damage immediately to the carrier and your vendor. Initiate a freight claim with the carrier.** The manufacturer is not responsible for freight damage.
- A Liner Bag and Retainer Ring are already installed inside the distillation tank.
- Check the Accessory Kit for the parts listed below. If any parts are missing, contact your supplier. Additional consumables and accessories are also listed.
- Level the unit using the adjustable feet.

ACCESSORY KIT CONTENTS

Manual
Lid Gasket
Liner Bag, 2 Spares
Filler Hose and Suction Pipe Assembly

Note: Liner bags are not included with the model, RI80.

LOCATION AND CONNECTION:

This unit is certified for use in non-hazardous locations and hazardous locations Class 1, Division 1 Group D and Class 1, Division 2, Group D.

- **Warning: The solvent recycler in every situation must be connected to the building power using an explosion proof connection. The connection must be made by a qualified Electrician in accordance with the National Electrical Code.** This instruction is noted and required under Uni-ram's Certification to UL standard 2208 and CSA Standard 22.2 number 30 and 88.
- This solvent recycler comes complete with an explosion proof plug. You must purchase the corresponding explosion proof receptacle, specified in the earlier section, FEATURES AND SPECIFICATIONS from one of an Electrical Supply store, through your Electrician or from Uni-ram. (A direct connection to an explosion proof electrical box by a qualified Electrician is also acceptable.)
- **Non-Hazardous Location:** We advise that you consider the area in the room around the solvent recycler (16 inches at the back of the solvent recycler, 10 feet at each side and front) to be an explosion proof area, at a maximum, Class 1, Division 2, Group D. Therefore, this explosion proof area must be kept clear, free from other hot surfaces and hazards and free from all sources of ignition such as general receptacles. The solvent recycler must also be placed in a area that is well ventilated to dissipate any solvent vapour that arises from the operation of the solvent recycler.
- **Explosion Proof Location:** The solvent recycler can safely be put in a location with other vapours present of Class 1, Division 2, Group D.

Ventilation Required:

Solvents are heavier than air and accumulate near the floor.

The area or room where the solvent recycler is located must have sufficient natural or artificial ventilation to prevent the accumulation of solvent vapor air mixtures. If a ventilator is used it must be of class 1, division 1 and used in a way to safely exhaust fumes. Check the arrangement with local authorities.

Fire Extinguisher:

A fire extinguisher (dry chemical type) of class BC or ABC must be kept nearby.

SOLVENT REQUIREMENTS

2) Comply with the instructions in the section: CAUTIONS AND WARNINGS.

3) Ensure that the safety lid and door freely opens fully and a container for receiving the distilled solvent can freely move in and out of the cabinet. The unit must be in a location where people or equipment cannot disturb the cable or connection. The cord must be connected directly to the main power supply; an extension cord cannot be used.

4) Connect the unit to a dedicated, single phase 220/240V, 30 Amp branch circuit.

SOLVENT REQUIREMENTS

This unit recycles flammable solvents and combustible solvents. Flammable solvents include lacquer thinner, paint thinner, acetone and other paint diluents. Flammable Solvents have a flash point below 38.7°C (100°F). These solvents are commonly used in the industry as a cleaning solvent, or as a paint diluent.

Dirty solvent to be distilled must meet **each requirement** described below. The MSDS, material solvent data sheet, provides data on the properties of the virgin solvent.

- 1) The BP (Boiling Point) of the dirty solvent must be less than 200°C (392°F) for the URS2000 Series and 240°C (464°F) for the URS2000PW and the RI 80. BP increases with greater contamination.
- 2) The auto-ignition temperature of the solvent to be distilled must be higher than 250°C (482°F) for safe operation. Do not recycle Nitrocellulose. The auto ignition temperature is 135°C (275°F).

Notes:

- Recycle recently contaminated solvent only. Standing solvent can become acidic over time.
- To avoid "FISH EYE" problems, do not recycle both paint diluents and parts washer solvent in the same unit.

Waste Residue

The waste residue of some paints will remain moist after recycling due to the composition of the paint itself. A dry waste residue is not guaranteed.

Definitions

Flash Point:

The lowest temperature at which the vapor of a solvent can be made to ignite momentarily in air.

Auto-ignition Temperature (often referred to as "ignition Temperature" or "Ignition Point"):

The temperature at which solvent ignites by itself.

OPERATING PROCEDURES

Wear protective clothing in accordance with local safety and environmental regulations. Use face goggles and gloves as a minimum. Use an apron and respirator if required.

Summary of Operating Steps:

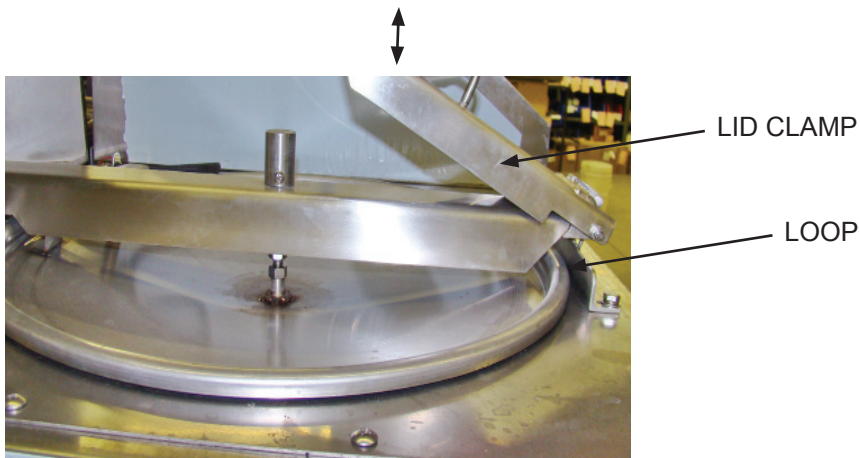
- 1) Open the Safety Cover and Tank Lid
- 2) Install the Receiving Container, the Transfer Hoses and the air Supply
- 3) Transfer Solvent to the Recycler Tank. Fill to 3" below retainer ring.
- 4) Check distillation conditions and change, if necessary, using SETUP MODE
- 5) Recycling
- 6) Finish Recycling
- 7) Transfer clean solvent
- 8) Remove waste debris
- 9) Clean Distillation Tank and Lid Surface
- 10) Install new liner bag
- 11) Inspect Lid Gasket, Remove and Replace if necessary

Each Step is described in detail below.

1) Open the Safety Cover and Tank Lid

- Open the safety cover.
- Open the inner lid by releasing the Lid Clamp.
- Make sure that Tank is empty and that a Liner Bag is properly installed in the Tank.

TO OPEN, LIFT UP LID CLAMP AND RELEASE LOOP. TO CLOSE, ATTACH LOOP AND PUSH DOWN TO LOCK.



2) Install the Receiving Container, the Transfer Hoses and the air Supply

Receiving Container

- A 20 US Gal (80 liter) container must be used to receive the distilled solvent. Make sure the Solvent Outlet Tube is properly inserted into the top opening of the Receiving Container by at least 1 inch (2.5 cm).
- When placing the Solvent Receiving Container, make sure the alligator clamp of the Grounding Strap is firmly connected to the exposed metal surface of the container.

Air Supply

- These models are equipped with an air operated Dual Diaphragm pump and require a supply of clean, dry air of at least 85 PSI (6 kg/cm²). A pre-set Pressure Regulator is included.
- Connect the air supply to the Air Inlet Fitting (1/4" NPT Female Threads) located at the right side of the unit. Make sure that there are no leakages at the connection. Make sure that the air is free of dust, rust and other contaminants. Use a Moisture Filter (not supplied), if necessary.

Hose Connections

- Place the drum/container with the dirty solvent to be distilled close to the unit.
- Connect the **Solvent In Hose** to the **Solvent In** port of the unit and insert the other end (with the Tank Filler Suction Pipe) into the drum/container.
- Connect the alligator clamp at the end of the Ground Strap to the container with dirty solvent.
- Place the drum/container for the clean solvent close to the unit.
- Connect the **Solvent Out Hose** to the **Solvent Out** port of the unit and insert the other end with the Outlet Tube into the drum/container. The Outlet Tube must extend below the rim of the pail to prevent solvent spillage.
- If the pail is metal, connect the alligator clamp of the Ground wire to the rim of the drum/container.

3) Transfer Solvent to the Recycler Tank

- Turn the Handle of the Filler Valve counter-clockwise to open the filling passage.
- Turn the Filler Timer Knob clockwise fully. After a few seconds, dirty solvent will start flowing into the Distillation Tank.
- **Fill to 3" below retainer ring.** After the filling process has been completed, turn the Handle of the Filler Valve clockwise and close the Tank Lid. Make sure that the sealing area around the top of the Tank is clean and damage free.
- Close the Distillation Tank Lid and secure with Lid Clamp. Make sure that the Lid is firmly seated to avoid leakage.
- Close the Safety Cover.

4) Check distillation conditions and change, if necessary, using SETUP MODE.

Estimate Boiling Point

Add 40°C (100°F) to the boiling point of the pure solvent as shown on the MSDS (Material Safety Data Sheet) or another reliable source.

Recycle more often

The boiling point of the waste solvent mixture increases as it gets dirtier. To reduce the boiling point, recycle more often.

Minimize Temperature Set Point

After recycling there will be a small amount of solvent, about 1/8 US gal (500 ml), remaining in the distillation tank due to condensation. Select the lowest Temperature Set Point that recycles the solvent to this level.

If all the settings are acceptable, press START to begin distillation.

To change settings, enter Setup Mode

SETUP

To change settings, enter Setup Mode: while pressing SETUP, press START. "SET-UP MODE" is displayed. **To change the temperature units from °C to °F, press and hold the + and - keys together for 2 seconds.**

STEP	SETTING	ADJUST	ACCEPT	DESCRIPTION
1	SET-PT = XXX°C (°F)	+ OR -	OK	To choose a SET POINT, look up the solvent's BP (boiling point (MSDS, online etc) and add about 40°C (100°F).
2	POWER = XXX%	+ OR -	OK	If boiling is too vigorous due to one or more of the following conditions, decrease POWER by one increment or more. <ul style="list-style-type: none"> • vapour leaks at the Lid Gasket • recycled solvent comes out too hot • waste material is carried into the recycled solvent Otherwise, use 100%.
3	SHUT-OFF = AUTO**	+ OR -	OK	If too much solvent remains in the Distillation Tank after recycling and the problems in the Troubleshooting Guide have been ruled out, over-ride the AUTO SHUT-OFF and manually select a heating time (eg: 4 hours). The heater will stay on for this amount of time and then cooling will begin.
4	BAKE TIME = XXM	+ OR -	OK	Only available when SHUT-OFF = AUTO. Increase if residue (puck) is too wet.
**WARNING: SHUT-OFF TIME MUST NOT BE SET TO MORE THAN 12 HOURS FOR THE URS2000 SERIES AND THE RI 80				

5) Recycling

On first power up and on RESET, the Display Panel shows the Software Version, then: "READY S.P. = XXX°C" (S.P. = SET POINT). When Setup is complete and START has been pressed, the "HEAT" light comes on and the recycling process begins. During the boiling phase, 3 temperatures will alternate on the Display: "SET-PT", "TANK" and "VAPOR EX." When the boiling phase is complete, "COOLING" will be displayed. Note: the fan may still be running; this is normal as it continues to run until the temperature drops below 50°C. To cancel the cycle, press the "STOP" key.

If your model is URS2000SSP, vacuum version, see the note at the bottom of the page.

6) Finish Recycling **CAUTION: DO NOT OPEN LID UNTIL COOLING IS COMPLETE**

The clean, recycled solvent is available for use when the display shows "READY S.P. = XXX°C". After the clean solvent is transferred, the unit will be ready for another cycle.

7) Transfer Clean Solvent

- a) For models without the Solvent Transfer System: remove the pail and replace with an empty one.
- b) For models with the Solvent Transfer System: turn the Transfer Timer knob clockwise fully. The clean solvent will flow out of the Solvent Receiving Pail into either a free-standing, external container or the Clean Solvent Pail of a Spray Gun Cleaner. The transfer will stop when the timer runs out.

8) Remove Debris:

Remove the Retainer Ring and slowly pull the Liner Bag containing the debris out of the distillation tank in a way that the Liner Bag does not break. Dispose of the debris in accordance with local regulations.

Note:

If your model is URS2000SSP follow the instructions below. Otherwise skip this section and continue to section 6, Finish Recycling.

Set Up:

Fill receiving container with 5 L of clean solvent. This level of solvent is needed to create a vacuum at the venturi. This step is done once, before the first recycling.

The set up temperature in degrees centigrade (C) is the boiling point of the solvent plus 40 degrees.

With vacuum, the set up temperature is the boiling point of the solvent plus 10 degrees C and not more than 200 degrees C. The power percentage is set to 80 % if the voltage is above 220 V. The power percentage is set to 90 % if the voltage is below 220 V.

Operating Procedures:

After the operator presses "ON" to turn on the solvent recycler, turn on the vacuum toggle switch. This step will start the vacuum pump.

Once the heat light has gone off, the recycler has gone into cooling, turn off the vacuum toggle switch. This step will stop the vacuum pump. If the operator forgets to turn off the toggle switch the clean recycled solvent from the receiving pail will return to the distillation tank due to a higher vacuum.

NOTE: If the bag sticks to the bottom of the tank, turn the recycler on for 5 minutes to loosen the bag from the bottom of the tank, then lift the bag out while the bag is warm.

9) Clean Distillation Tank and Lid Surface

Distillation Tank:

Wipe inside the Tank with a cloth.

Remove any remaining debris from the Distillation Tank using if necessary, plastic or wooden tools (not supplied). Do not clean with abrasive or hard metal instruments that can damage the tank. The warranty does not cover such damage.

Note: There will be about 1/8 Gal (500 ml) of solvent remaining in the Distillation Tank after recycling due to condensation. This solvent, if left in the tank, can cause corrosion. Dirt and debris left in the tank can prevent full heat from reaching the dirty solvent during recycling.

Caution: Acidic or chlorinated solvents typically cause corrosion on an aluminum tank. It appears as black pitting spots on the tank. Excessive pitting leads to an unsafe condition of holes in the walls of the tank and solvent leakage. Inspect your tank after each batch. If there is excessive pitting, call a Service Technician and replace the tank with a corrosive resistant, stainless steel one.

Lid Surface:

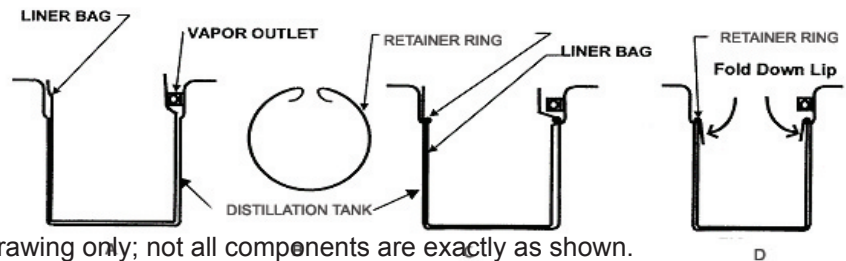
Use a cloth. Dry and clean the lid and the top of tank where the Lid Gasket sits to extend the life of the Lid Gasket and prevent leakage. Avoid rotating the lid during cleaning. The lid gasket is a wear item.

10) Install a new Liner Bag

Lift Recycler Safety Cover and Tank Lid fully; lids will stay in the open position.

- a) Install the Liner Bag so that the bottom of the Bag sits flat on the bottom of the Distillation Tank as shown.
- b) With thumb and index finger, squeeze the Retainer Ring and insert into inside of the Liner Bag. Let go and make sure it fits securely in the groove.
- d) Fold the flap of the liner bag over the retainer ring.

Caution: Ensure that the bag material does not block the Vapor Outlet.



NOTE: This is a schematic drawing only; not all components are exactly as shown.

11) Inspect Lid Gasket, Remove and Replace if necessary as required

Inspect the Lid Gasket for shrinking, hardness and cuts. The Lid Gasket is a wear item as it is exposed to high temperature and solvent vapor during distillation. Damage to the lid gasket will cause solvent to leak.

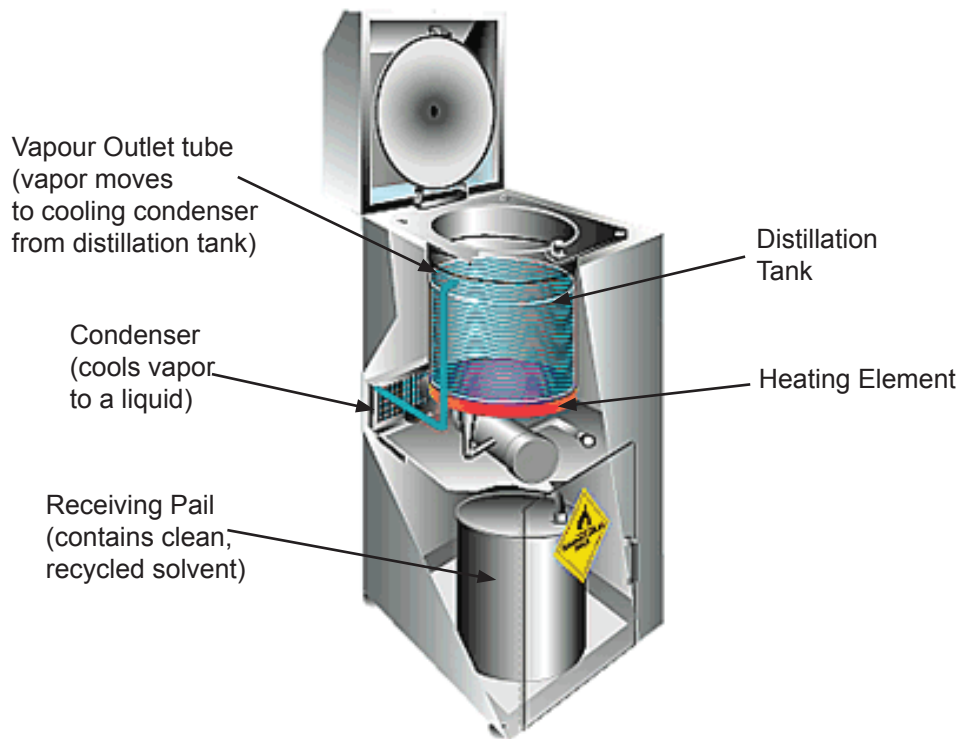
To remove, open the Safety Cover and Tank Lid. Lift out the old gasket by hand and clean the cavity with a cloth. To Install, place the new gasket in the cavity, rub solvent or soapy water on the gasket to make insertion easier. Press the gasket firmly into the cavity all around.

Note: Keep a spare in stock. One extra is included with the unit.

THEORY OF OPERATION - DISTILLATION PROCESS

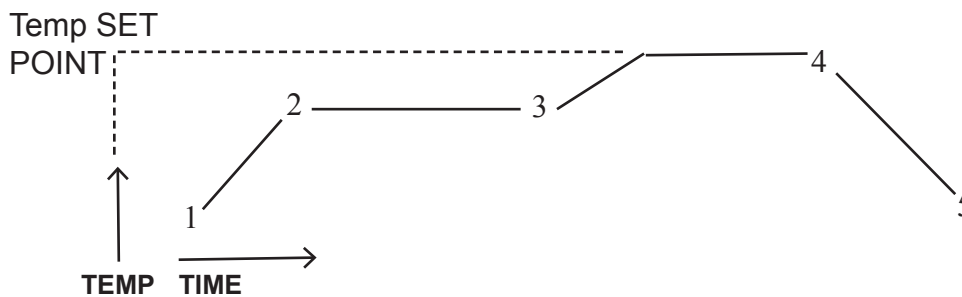
Waste solvent consists of the original solvent plus liquid and solid materials picked up during use of the solvent. Recycling separates the original solvent from the waste materials. During the recycling process, the distillation tank fills with dirty solvent and the heating element heats the mixture. The solvent mixture boils and the vapour passes through a cooling condenser where purified, clean solvent, ready for use condenses out. Waste materials in the dirty solvent boil at a temperature substantially above the Temperature Set Point so they remain in the distillation tank for disposal.

Solvent Recycling



Distillation Cycle

1. Heating starts, temperature rises
2. Vapourization starts
3. Vapourization ends, AUTO SHUT-OFF / BAKE TIME starts (see SETUP)
4. Baking finishes, cooling begins
5. Cooling is complete



TROUBLE SHOOTING GUIDE

Carry out each action step until a solution is found. If the recommended actions do not solve the problem call Uni-ram Service in North America or contact a qualified Service Technician.

Caution: Disconnect the power supply before conducting maintenance or service.

PROBLEM	CAUSE	ACTION STEPS
Unit is plugged in, power light is off, Display Panel is not working.	Power is not getting to the unit.	Reset breaker or replace fuse. If power is still not getting to the unit, call a Qualified Service Technician. Ensure that the unit is the only device on a circuit with sufficient capacity.
Unit is plugged in, power light is on, Display Panel is not working.	Power board or computer board not functioning.	Call Uni-ram Service
Recycled solvent is not clear	1) The solvent is reacting chemically.	1) Run SETUP and lower the Temperature Set Point.
	2) The solvent flow path is dirty. One cause is overfilling the distillation tank.	2) To clean the path, follow Service Procedure 2 and then recycle 3 gal of clean solvent.
	3) Orange colour due to rust in receiving pail.	3) Place a jar under outlet tube and capture some solvent. If the solvent is clear, replace the pail with a non-corrosive one.
	4) Milky colour due to presence of water.	4) Eliminate source of water in solvent.
Dirty solvent remains in Distillation Tank after recycling Note: 1/8 Gal (500 ml) of recycled solvent is expected due to condensation.	1) Poor heat transfer due to dirt and debris left in the tank.	1) Clean the tank, replace the Liner Bag, recycle with pure solvent to test. If successful, the problem is due to a dirty tank, debris left in the tank or the solvent is too contaminated. Adjust accordingly. Follow Operating Procedures closely. If the level of contamination is too high, recycle more often.
	2) Boiling point of solvent is above Temperature Set Point.	2) Run SETUP, raise the Temperature Set Point and repeat the recycling operation. The Temperature Set Point should be the BP of pure solvent (as determined from the MSDS or other source) plus 45°C (113°F) to allow for contamination. If the boiling point is above the maximum Temperature Set Point for your model (either 200°C or 240°C), dirty solvent cannot be recycled in this unit.
	3) The Auto Shut Off system is shutting the unit off too soon.	3) Run SETUP and over-ride the auto SHUT-OFF. Select a time period long enough to recycle the solvent. The heater will stay on for this duration. Repeat the recycling operation.
Liner Bag sticks		Turn unit on for 5 minutes and lift out bag while it is still warm.

PROBLEM	CAUSE	ACTION STEPS
Solvent vapor leaks from the Lid Gasket	1) The Lid Gasket has excessive wear as indicated by cracks, shrinkage, hardness etc	1) Replace the Lid Gasket (See Operating Procedure 11).
	2) The Solvent flow path is blocked.	2) Follow Service Procedure 2.
	3) Lid Tension is not adequate	3) Follow Service Procedure 4.
	3) The Lid is not seated correctly.	3) Follow Service Procedure 5.
	4) The temperature SET-PT is too high, resulting in excessively high solvent vapour pressure	4) Run SETUP, reduce the Temperature Set Point and repeat the recycling operation. If successful, continue to recycle using the lower Temperature Set Point. If not, reduce the POWER %.
Sections on Bag are brown and thin due to High Temperature	1) Use of inferior low temperature bag.	1) Use new genuine Uni-ram high temperature Liner Bag and recycle.
	2) The temperature SET-PT is too high.	2) Run SETUP, reduce the Temperature Set Point and repeat the recycling operation. If successful, continue to recycle using the lower Temperature Set Point.
The computer appears to be operating erratically.	The computer may require re-booting.	Disconnect the power supply for 30 seconds. Restore power and operate unit.
Residue (puck) in Tank is too wet.	1) BAKE TIME is not long enough.	1) Run SETUP and increase the BAKE TIME.
	2) Residue cannot be dried completely due to its composition.	2) None.

TEST MODE

Use this mode as part of your troubleshooting procedures.

1. Make sure Display Panel shows "READY SP = XXX °C".
2. Press and hold the OK key while pressing the "-" key for about 3 seconds or until the display shows the Model No. and software version followed by "TEST MODE". The testing cycle will begin.

TESTING CYCLE

- The Display shows "TC#1 = XXX °C, TC#2 = XXX°C".
 - Press "OK" to proceed to the next step.
 - The Display shows "FAN ON" for 5 seconds while the Cooling Fan runs.
 - The Display changes to "DO NOT TOUCH KEYS" for 5 seconds while a key check is performed.
 - If the keys are ok, the Display shows "NO KEY STUCK" for 5 seconds.
 - The Display changes to "HEATER TEST ON" for 10 minutes or until the computer detects a 3°C increase in temperature at TC#1, then the Display should change to "HEATER TEST OK".
3. If the display does not show "HEATER TEST OK", there is a problem in the heater circuit such as a defective Heater TRIAC, Heater Element or Fuse.
 4. Press "STOP" to end the test. The Display will return to "READY SP = XXX °C".

ERROR MESSAGES

If an abnormal condition is detected by the unit's Self-diagnostic System, the Display Panel shows one of the following error messages:

MESSAGE	POSSIBLE CAUSE	ACTION
BOILING TIME OUT (No change in vapour temperature was detected within the set time limit, usually 45 minutes)	<ul style="list-style-type: none"> Boiling did not occur within the set time limit because the dirty solvent mixture is too contaminated Blockage in the solvent flow path, most likely with leakage of solvent at the lid 	<ul style="list-style-type: none"> Run SETUP, raise the Temperature Set Point and repeat the recycling operation. See Troubleshooting Guide ("Dirty solvent remains in Distillation Tank after recycling"). Follow Sevice Procedure 2
READY TIME OUT	Recycling was not completed within 9 hours and/or dirty solvent remains in the Tank.	If dirty solvent remains in the Tank, see the Troubleshooting Guide.
RESET OCCURRED	The heater has stopped and the computer has reset due to a power interruption or drop in voltage.	Press the "STOP" button to restore the unit to the beginning of a new cycle. The display will read: "READY-SP = XXX° C".
CONDSR OVER-HEAT	Over-heating occurred at the Condenser.	The Condenser is dirty or the Fan stopped for another reason (see below). Clean the Condenser. When the Fan Motor has recovered (4-5 min), this message will disappear and normal operation will resume.
CHECK FAN	Appears 10 min after the message above if the problem is a loose fan blade, blown fuse (F3 or F4) or other fan-related problem. Also appears if the condenser is dirty.	Clean the Condenser. Run TEST MODE to check for defective fan motor. If necessary, check for a loose fan blade or blown fuse (see next section).
CHK HEATER FUSES	Appears if the computer does not detect a rise in tank temperature after 15 minutes.	There may be a short circuit in the Heater circuit causing fuse F3 and/or F4 to blow or poor electrical contact in the Heater circuit. Check circuit condition with a tester. Correct as required.
WARNING! VERY IMPORTANT! IF TRIAC IS FAULTY, DISCONTINUE USE IMMEDIATELY!		
CHK HEATER TRIAC	Short circuit in the TRIAC (a switching transistor that controls heater power, located on the Power Control Board).	To confirm, first disconnect and re-connect the power supply. If the Distillation Tank becomes hot to the touch and both the Heat Light and the Fan Light are off, the TRIAC is defective. Disconnect the power supply immediately and do not use again until the Power Control Board has been replaced.

SERVICE PROCEDURES

1) CLEAN CONDENSER

Remove the 2 screws at the back of the Side Cover and carefully move the Side Cover forward just enough to reach the front of the condenser with a vacuum. Using a brush attachment, vacuum the front of the condenser where most of the dust accumulates and then vacuum the back if necessary. Put the Side Cover back into position and re-install the screws.

2) CLEAR BLOCKED SOLVENT FLOW PATH

CAUTION: WEAR SAFETY GOGGLES.

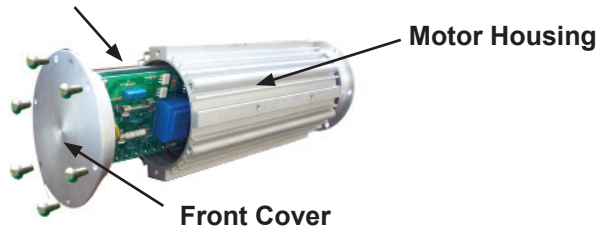
A blockage in the solvent flow path (Vapour Outlet - Condenser - Solvent Outlet Tube) can cause solvent to leak. To determine the location of the blockage, first check the Solvent Outlet Tube and the Vapour Outlet Fitting for visible signs of blockage or damage. If the problem is not in either of these locations, the Condenser is probably blocked. To clear the condenser, pour some clean solvent into the Vapour Outlet and check if it comes out of the Solvent Outlet Tube. If the blockage persists, blow air at about 30 PSI (2 kg/cm²) into the Vapour Outlet. If the air comes out of the Solvent Outlet Tube, the blockage has been cleared. If not, call for service.

3) REPLACE FUSES

Fuses are located on the Power Control Board inside the Motor Housing.

- Disconnect power supply.
- Remove the Guard Screen by unscrewing two metal screws to get access to the Motor Housing

Power Control Board



- Unscrew the 6 screws from the Front Cover and pull it gently from the motor housing to expose the fuses. **Note: Care should be taken not to pull the Front Cover too far as some wires may disconnect.**

Fuses F1 & F2: 240 VAC, 20A (URS2000) or 30A (URS2000PW & RI 80), 3AG, fast action, for Heater

Fuses F3 & F4: 25 VDC, 2.0 A, 3AG, slow action, for Fan Motor

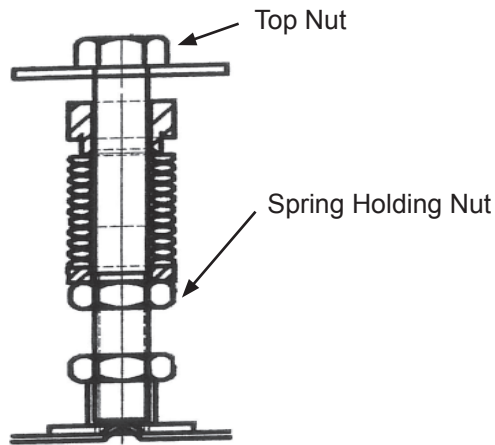
Fuse F5: 240 VAC, 0.0625 A, 3AG, fast action, for Computer Board

- Remove the fuses from the board and, using a meter, test each one and replace as needed.
- Carefully push the Power Control Board back into the Motor Housing.
- Ensure that the wire to the computer board is secure.
- Re-install the Front Cover using all 6 screws..
- Install the Guard Screen using two metal screws.
- Close the Door and re-connect the power supply.

4) INCREASE LID TENSION (BY ADJUSTING THE SPRING BOLT)

CAUTION:

SHOULD BE DONE ONLY AS A LAST RESORT - FIRST CHECK FOR A WORN LID GASKET, A BLOCKAGE IN THE SOLVENT FLOW PATH, LOOSE HINGE BOLTS OR A SET POINT THAT IS TOO HIGH FOR THE SOLVENT BEING RECYCLED.



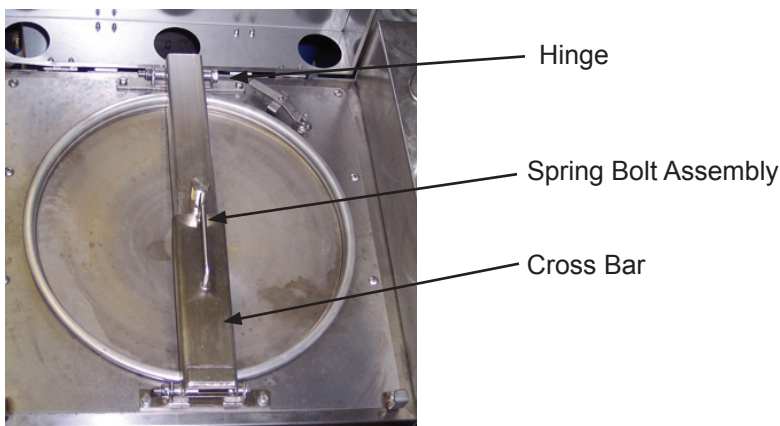
Spring Bolt Assembly

This procedure tightens the Lid by increasing the tension on the spring attached to the Lid Bar Spring Bolt Assembly. The Lid and Bolt Assembly is carefully designed as a Safety Pressure Relief system to prevent a dangerous build up of pressure inside the closed tank. **Do not adjust the Spring Holding Nut by more than 2 full turns maximum.** If 2 full turns do not solve the problem, call for service.

- While holding the top nut with a wrench, turn the Spring Holding Nut no more than a 1/2 turn at a time. Turn in a counter-clockwise direction (as you look down on it).
- After each 1/2 turn, operate the unit normally and check for leaks.

5) REPOSITION LID and TIGHTEN HINGE BOLTS

The Hinge bolts can loosen over time, causing the lid to shift off center. This can lead to an inadequate seal and leaking around the Gasket. Loosen the bolts, reposition the lid and re-tighten the bolts.



6) RECOMMENDED 6-MONTH MAINTENANCE

- Vacuum the condenser (see Service Procedure 1).
- Clean the solvent flow path by recycling 3 Gal of clean solvent.
- Inspect Distillation Tank for debris, pitting and/or other damage.
- Inspect Lid Gasket for wear or damage (see Operating Procedure 11).

REPLACEMENT PARTS

DESCRIPTION	PART NO.
SAFETY COVER	960-3310H
KEYPAD	900-3461
DIAPHRAGM PUMP	UDP4TA
RECEIVING CONTAINER	960-9010
LID GASKET, NEOPRENE, URS1600	790-2150NF
LID GASKET, NEOPRENE, URS2000	965-2150N
LID GASKET, VITON, RI 80	965-2150V
LID GASKET, TEFLON, URS2000TE	965-2150TE
RETAINER RING	960-9110
LINER BAG, PKG OF 10, URS1600	LB1600E-10
LINER BAG, PKG OF 10, URS2000, RI 80	LB2000E-10
FILLER HOSE AND SUCTION PIPE ASSY	960-8240
MECH.TIMER ASSY, MANUAL, 15 MIN MAX, WITH KNOB	115-20015

CAUTION:

USE ONLY GENUINE UNI-RAM LINER BAGS WHICH ARE 3 MIL THICK, LIGHT BLUE IN COLOUR.

THEY ARE SPECIALLY MANUFACTURED TO BE STRONG, HEAT RESISTANT AND CHEMICAL RESISTANT.

USE OF A NON-UNI-RAM LINER BAG MAY VOID THE WARRANTY.

Full Product Warranty

These Uni-ram products have been engineered and manufactured to high performance standards. Each unit has been subjected to detailed factory testing before shipment.

This product comes with a one-year full warranty from the date of purchase. Uni-ram Corporation reserves the right to repair or replace the unit, free of charge, to the original purchaser if a part is found to be defective in material or workmanship as determined by factory service personnel. The items listed below under "Conditions of Warranty" as consumables are not covered.

Uni-ram reserves the right to direct the customer to ship the unit collect to the Uni-ram factory or to an approved Service Center for repair using the Uni-ram Return Goods Procedure or to repair the unit on-site. To prevent damage in transport, the purchaser must ship the unit in the original packaging or use alternate adequate packaging. All units must be shipped clean and free of solvent.

Conditions of Warranty:

As Uni-ram Corporation has no control over the working conditions or circumstances under which the purchaser stores, handles or uses the product, Uni-ram makes no warranty or claim, either expressed or implied with respect to this product's fitness for any purpose or the result to be obtained from its use. This condition applies to the sale of all products and no representative or distributor of Uni-ram Corporation has the authority to waive or change these conditions.

This warranty applies only to the original purchaser and does not apply if the unit has been misused, overloaded, neglected, altered or used for any purpose other than those specified in the operating and installation instructions. Deterioration due to normal wear is not covered by this warranty. Damage due to accident, transportation, fire, floods or acts of God is also not covered. Units whose serial numbers have been altered or removed are not covered. The warranty is invalid if unauthorized abrasives are used in this unit. Unauthorized attempts at self-repair or alterations by the owner also invalidate this warranty. Interior or exterior finishes are not covered by this warranty.

Consumable Items are not covered by this warranty.

This warranty replaces all other warranties expressed or implied by statute or otherwise.

To make a claim, call Uni-ram Service at 1-800-417-9133 and quote the serial number of the unit.

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