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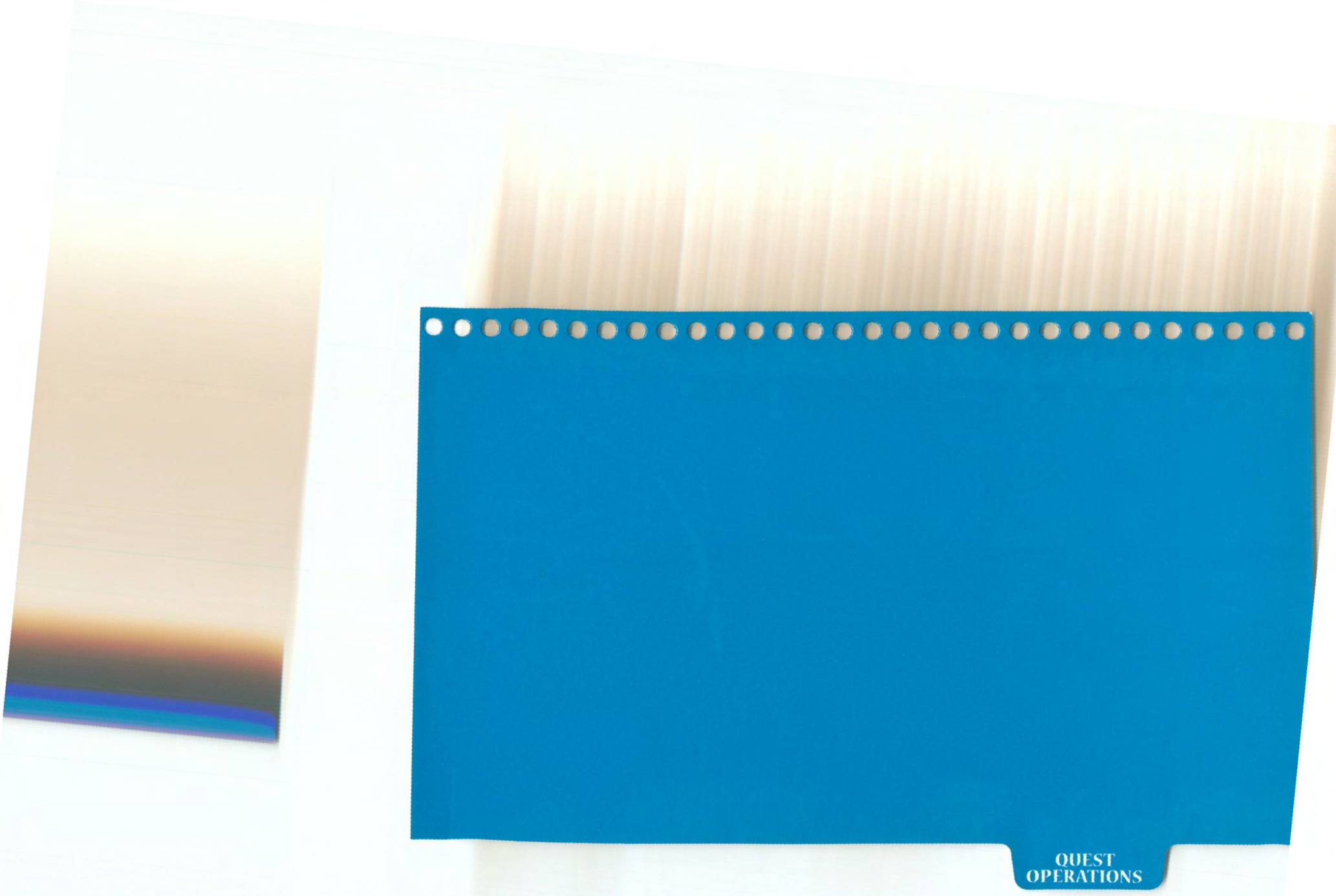
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Find the *Argonaut Technologies Quest 210* at our website: ***Click HERE***



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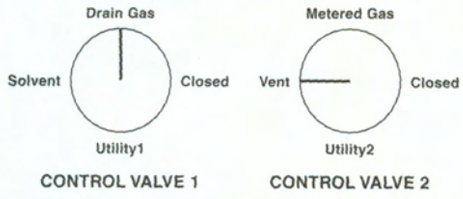


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Bank A: RV's 1-10
Bank B: RV's 11-20

Purging Manifold Delivery Lines

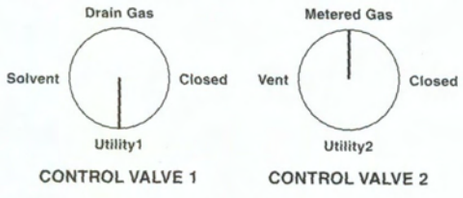
Upper Manifold Membrane Valve: OPEN



Open lower manifold drain valves to empty RVs.

Purging RVs with Inert Gas

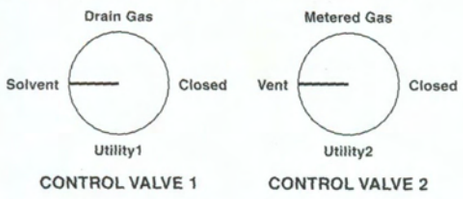
Upper Manifold Membrane Valve: OPEN



1. Attach Bubbler to Utility 1 Port.
2. Adjust inert gas flow rate with Metered Gas Needle Valve.

Manual Solvent Addition

Upper Manifold Membrane Valve: OPEN



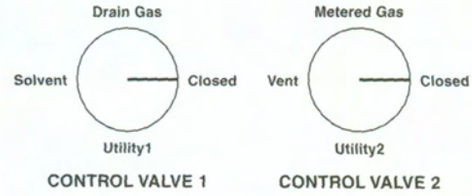
To stop solvent flow, turn Control Valve 1 past drain gas to Closed. Set Control Valve 2 to Closed.

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Quest Operations

Seal RVs/ "Reflux"

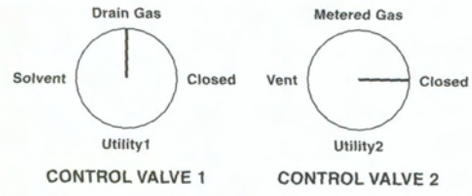
Upper Manifold Membrane Valve: CLOSED



1. For "reflux", program reaction temperature to solvent boiling point.
2. After heating period is complete, vent reaction vessels.
3. Cool RVs to room temperature.

Drain RVs

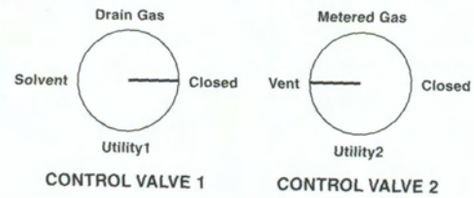
Upper Manifold Membrane Valve: OPEN



Open lower manifold drain valves to empty RVs.

Vent RVs

Upper Manifold Membrane Valve: OPEN

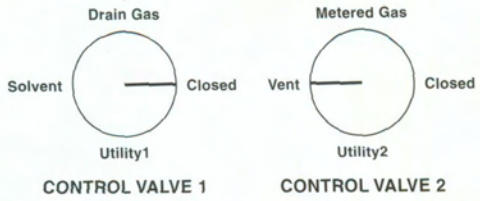


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Filling Frit Dead Volume

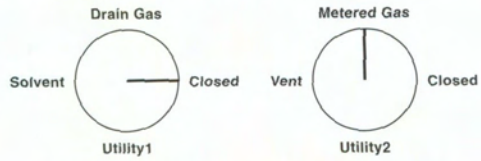
Upper Manifold Membrane Valve: OPEN

1. Fill RVs with 2 mL of solvent (see Manual Solvent Addition).
2. Vent RVs:



CONTROL VALVE 1 CONTROL VALVE 2

3. Close Metered Gas Needle Valve (turn completely clockwise).
4. Select Metered Gas delivery:



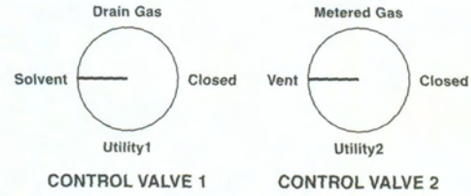
CONTROL VALVE 1 CONTROL VALVE 2

5. Open one lower manifold drain valve.
6. Slowly open Metered Gas Needle Valve (turn counter-clockwise) and drain solvent to the top of the reaction vessel frit.
7. Close lower manifold drain valve. Proceed to the next reaction vessel.

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Manual Solvent Delivery using Automated Solvent Wash Module

Upper Manifold Membrane Valve: OPEN



CONTROL VALVE 1 CONTROL VALVE 2

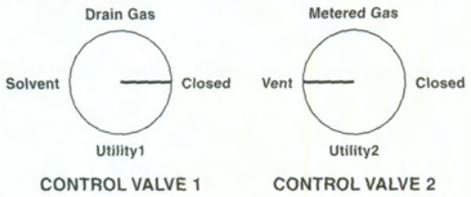
1. Select solvent on ASW Module (flip A,B,C, or D up).
2. Stop solvent delivery (flip A,B,C, or D down).
3. Flip PURGE Valve up for 30 sec. and then flip down.

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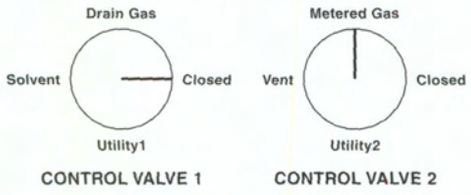
Metered Draining/Individual Product Collection/Draining of Lower Extraction Layer from a RV

Upper Manifold Membrane Valve: OPEN

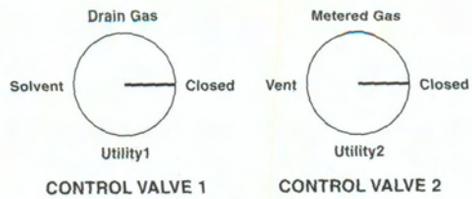
1. Vent RVs:



2. Close the Metered Gas Needle Valve (turn completely clockwise).
3. Select Metered Gas delivery.



4. Open lower manifold drain valve.
5. Slowly open Metered Gas Needle Valve (counterclockwise) for appropriate draining.
6. Close lower manifold valve.



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Liquid Extraction: Upper Layer Removal

Assemble the illustrated filtration device:



1. Press *Agitation* ▼ key.
2. Remove upper manifold luer fitting to access RV.
3. Use the flexible narrow bore tubing to remove the upper layer in the Quest reaction vessel through the upper manifold opening.

Adjusting Magnet Height

1. Push the *Agitation* ▲ key.
2. Loosen the Agitation Stops with 7/64" hex wrench.
3. Adjust the Agitation Stops so the magnet height is ~1 cm below the solvent level in the RVs.
4. Tighten the Agitation Stops.

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Agitation Programming

1. Press Controller [Mode] key to display agitation menu.
2. Move cursor to adjust MIXEVERY and % UPWARDS.
3. Increase or decrease agitation parameters ([+] or [−] keys).
4. START AGITATION: Press *Agitation* [ON]
5. STOP AGITATION: Press *Agitation* [ON]

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Agitation Settings for Resins

ArgoGel

The recommended agitation parameters for gel-type resins (polyethylene glycol-polystyrene graft copolymer or lightly-crosslinked polystyrene-codivinyl benzene) are:

MixEvery:	3.0-4.0 sec
UpStroke:	1.8-2.6 sec
%Upwards	60%

Adjust the agitation parameters accordingly to achieve the desired mixing.

ArgoPore (Macroporous) Resins

Use the following procedure to achieve effective mixing of ArgoPore and macroporous resins.

1. Press the Mode key on the Controller Unit until the LCD displays the agitation menu. Using the left and right and PARAMETER SETTING (⊞ and ⊟) keys, adjust the agitation parameters to:

MixEvery:	5.0 sec
UpStroke:	4.8 sec
%Upwards	96%

2. Turn on the agitator and mix the solution for 5 agitation strokes. Decrease the % Upwards by 1% per 5 agitation strokes until the % Upwards equals 90%.
3. Decrease the % Upwards to 60% and agitate the resin for the desired time period.



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Controller Programming

Temperature Programming

1. Press Controller Unit [Mode] key to display Set Temperature menu.

Set Temperature			
A:	60C	03:00	ON
B:	20C	00:00	OFF
RV Size	5mL	5mL	

2. Use the [◀] [▶] keys to move cursor to line A or B.
3. Use the [◀] [▶] keys to move cursor to the temperature parameter.
4. Use [+] [−] keys to program the temperature.
5. Move cursor [▶] to the time parameter.
6. Set time with [+] [−] (hh:mm).
7. Move cursor [▶] to RV volume and adjust to nearest mL with [+] [−] keys.
8. Move cursor ([◀] [▶]) to either line A or B, whichever is being heated.
9. Switch the Upper Manifold Membrane Valve to closed.
10. Press the red and blue Start/Stop key to turn heaters on.
11. Press the [Mode] key to view the Monitor Temperature display.

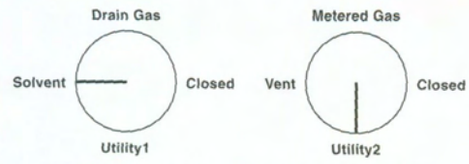
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Controller Programming

Automated Solvent Delivery using the Automated Solvent Wash Module

Upper Manifold Membrane Valve: OPEN

1. Select reactor side for solvent wash.
2. Select automated solvent delivery:



CONTROL VALVE 1 CONTROL VALVE 2

3. Open all lower manifold drain valves.
4. Press Controller [Mode] key to access *Automated Solvent Wash* menu.

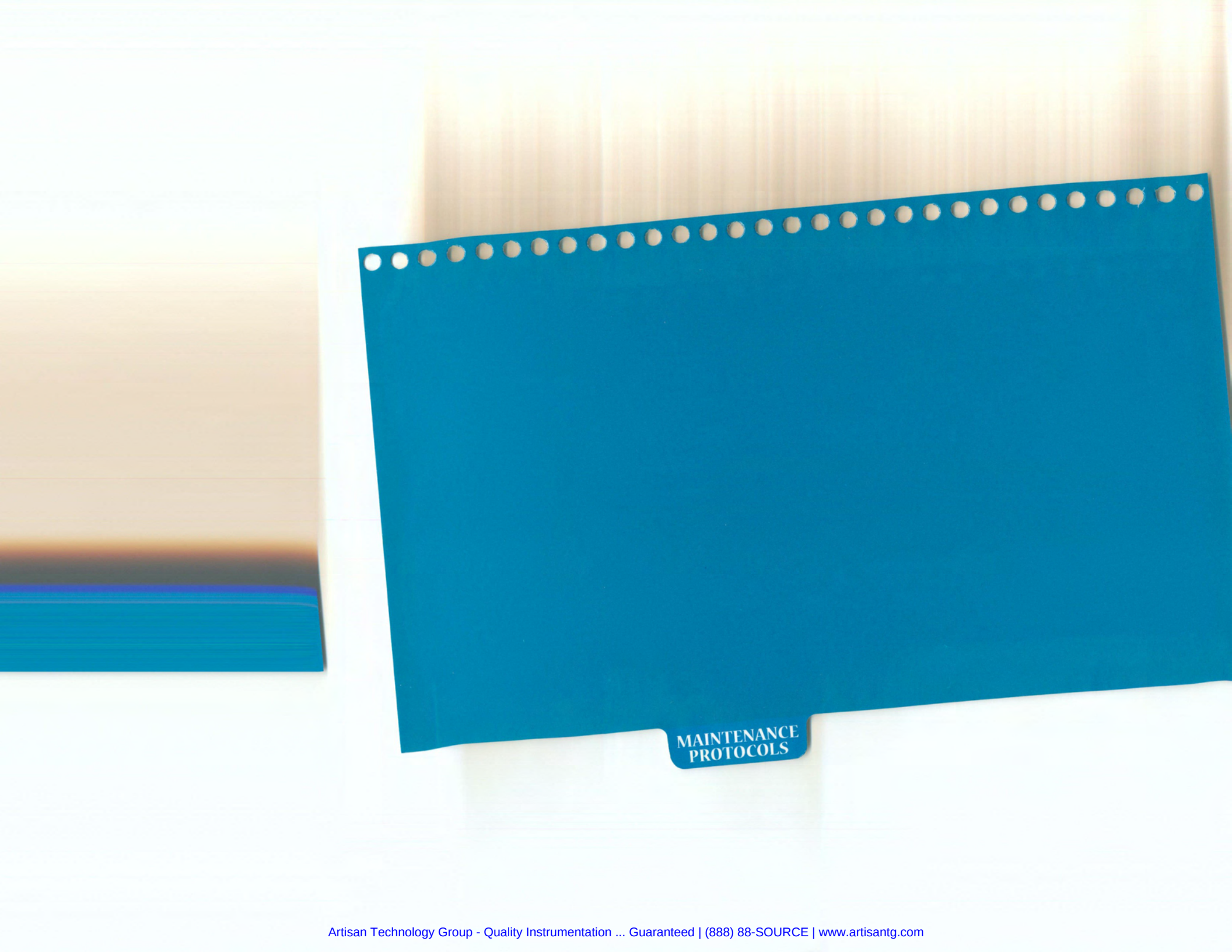
Pgm:	0	5ml	✳	Side:A&B
#	R S	Add	Mix	Pul
1	3xA	60	5:00	25
2	3XC	72	6:40	25

5. Use the [▶] key to move the cursor to the wash parameters. Program the the following:
   - R: Number of washes with a solvent
   - S: Solvent A, B, C, or D
   - Add: Solvent delivery time in sec.
   - Mix: Agitation time (min:sec)
   - Pul/Drn: Pul (RV drain cycles) Drn (RV drain time in sec.)

Once programming is complete press the Agitation [ON] key to start the solvent wash:

- If wash cycle uses > 3 L of solvent attach a drain line from the Waste Reservoir Drain Valve to an external waste container.
- To pause, press [Mode] or agitator [ON].

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Maintenance Protocols

RV Removal and Installation

INSTALLATION:

1. Inspect manifold assemblies for cleanliness.
2. Place RV into clean reaction bank.
3. Use RV installation tool to seat RV such that the frit seats against the male fitting of the lower manifold.
4. Carefully align and lock upper manifold into position.

REMOVAL:

1. Raise upper manifold and lock in highest position.
2. Insert an upside down upper manifold port plug into RV opening.
3. Grasp RV top with red RV extraction tool and pull up with a twisting motion (Heater block or safety shield can act as leverage point for 5 mL RV).
4. Remove RV after separation from lower manifold.

CLEANING PROCEDURES

Upper Manifold Membrane Valve: OPEN

1. Fill RVs to 75% full with cleaning solvent.
2. Agitate: 5 min.
3. Drain.
4. Repeat steps 1-3 three times.
5. After the last drain, leave drain valves open for 10 min. to purge all the solvent from the system.
6. Return Control Valves to Closed.
7. Remove and clean luer plugs with acetone.
8. Clean luer ports with cotton swab wetted with acetone.
9. Reinstall cleaned luer plugs. Inspect upper manifold delivery tubes and replace if needed.
10. Clean lower manifold and lower manifold delivery tubes with cotton swab wetted with acetone.
11. Leave used RVs in reactor unit for storage, or if using Quest 210 immediately, remove and replace RVs.

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Changing Upper Manifold Delivery Tubes

1. Inspect delivery tubes (restrictors) for particulates or damage.
2. Remove delivery tube using RV extraction tool.
3. Clean ports with acetone.
4. Install new delivery tube by gently pressing in by hand.

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Quest 210 Parts and Accesories

PART #	DESCRIPTION
900073	Polyethylene solvent reagent filters
900085	Magnetic stir bars (5/pkg)
900086	5 mL RVs with frit (100/pkg)
900087	10 mL RVs with frit (40/pkg)
900118	Upper manifold delivery tubes (100/pkg)
900119	Lower manifold delivery tubes (100/pkg)
900102	Upper manifold port plug (10/pkg)
900047	Bottle cap seal (4/pkg)
900101	Reaction Vessel extraction tool
900122	Reaction Vessel insertion tool
900145	Septum luer plugs (10/pk)
900146	5 ml blank Reaction Vessels
900147	10 ml blank Reaction Vessels
900117	1/4" -28 Union

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